INNOVATIONS

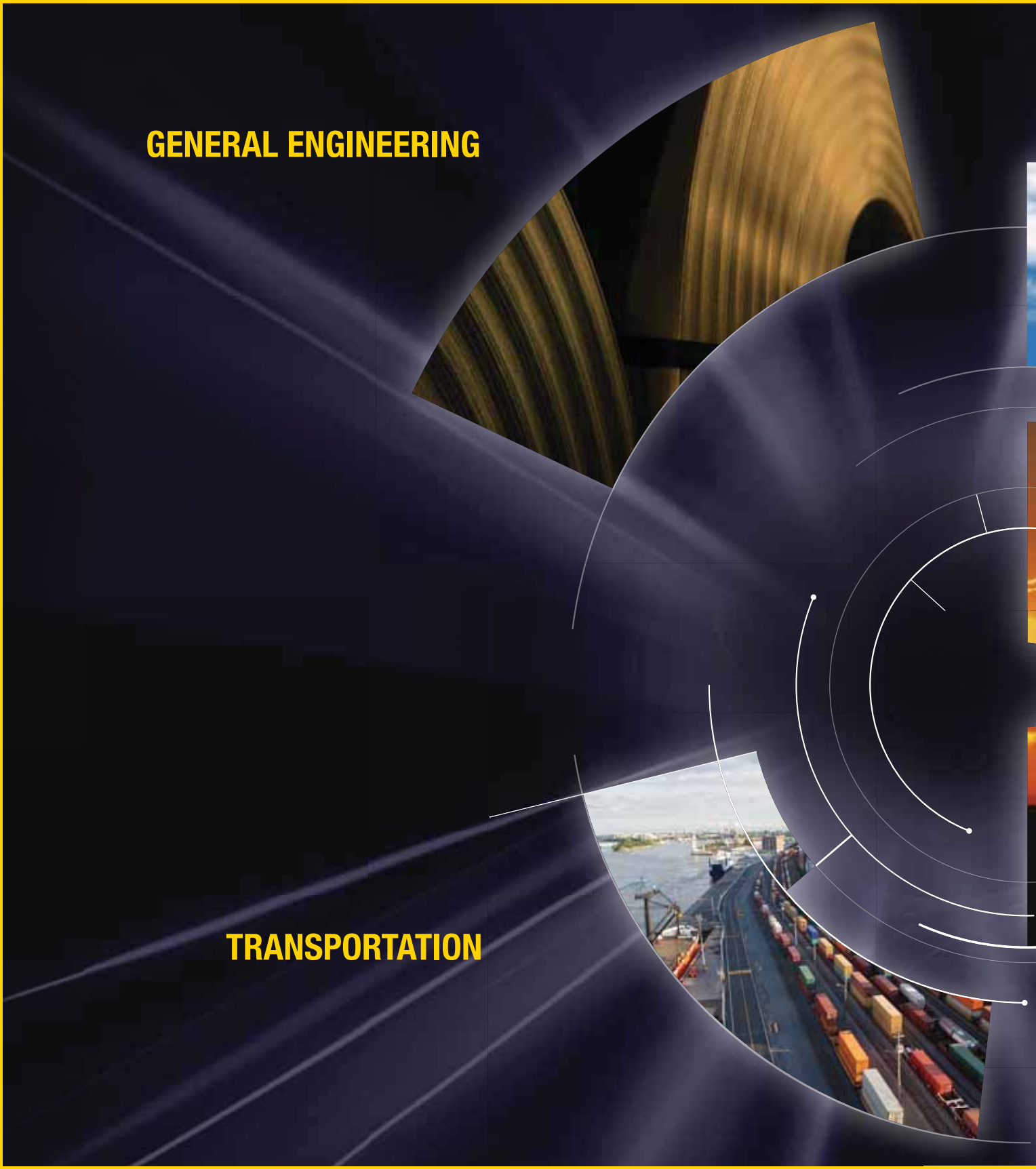
MASTER CATALOG

TOOLING SYSTEMS
2013

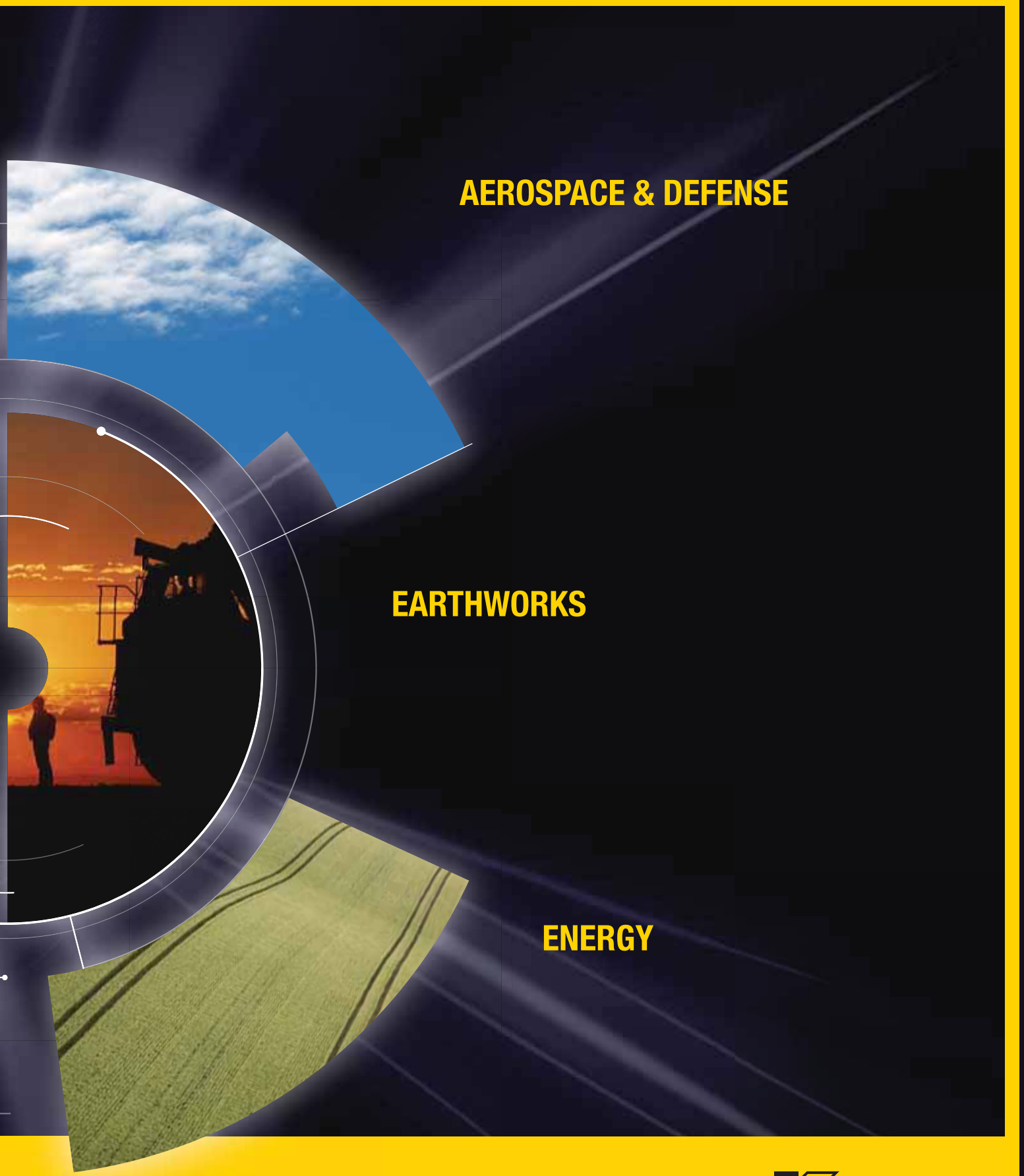


www.kennametal.com

KENNAMETAL®



www.kennametal.com



KENNAMETAL®



Since its inception in 1938, Kennametal has understood precisely how to improve manufacturing performance and profitability — by introducing unparalleled products and services to reduce operating costs and lead times.

These 1500+ pages bring you the latest tooling systems products and superior services — all specifically engineered to enhance overall productivity, even in the most challenging metalworking applications. Rely on Kennametal to significantly boost manufacturing competitiveness. To learn more, contact your Kennametal Representative or Authorized Kennametal Distributor.

Visit us at www.kennametal.com.

Table of Contents

Introduction . . . . . i–xix
Services and Support . . . . . xx–xxxv
KM Quick Change A1–A635
KM Selection Guide A18–A28
ERICKSON Selection Guide B4–B19
HSK Shank Tools C1–C166
BTKV Shank Tools D1–D37
CVKV Shank Tools D38–D67
BT Shank Tools E1–E95
CV Shank Tools F1–F83
DV Shank Tools G1–G77
QC Shank Tools H1–H22
R8 Shank Tools H24–H27
Straight Shank Tools I1–I27
Collets and Sleeves J1–J81
VDI Adapters K1–K13
Accessories L1–L58
Technical Information M1–M105
Index by Order Number N2–N32
Index by Catalog Number N33–N63
Global Contacts O2–O3
Icon Legend O4–O5


KENNAMETAL
Less
Environmental
Impact
To learn more about our sustainable solutions for your industry,
please contact your Kennametal Representative or
Authorized Kennametal Distributor, or visit www.kennametal.com.

Environment

Kennametal's intimate understanding of the energy marketplace — including customer processes and applications — allows us to proactively address production and sustainability concerns with solutions tailored to your needs. We deliver superior value because we listen closely to you, our customer, and innovate based on your feedback. Our goal is to help you be more competitive — both at home and on a global scale.

PROTECTING OUR PLANET

KENNAMETAL®

Best Practices in Productivity

As your trusted partner for optimized production, Kennametal offers customers a unique commitment to research and development excellence, continually delivering highly innovative ways to enhance productivity. Certification to ISO 9001, QS 9000 TES, and VDA 6.4 provides the highest possible quality standards.

Best Performance, Less Environmental Impact

With technology, we can do both. Kennametal helps customers focus on the root causes of unsustainable behavior in highly complex manufacturing systems, while at the same time improving cost structure, quality, and performance. In addition to offering the latest in metalcutting tools and technology, our Advanced Engineering team will analyze your existing production processes and help identify new methods to improve your overall performance.

Kennametal Innovations Master

Cutting Tools

2013 Catalog

The comprehensive, 2,000+ page Kennametal Innovations Master 2013 Catalog includes all our standard milling, holemaking, and turning products. By compiling our full metalworking portfolio together, and including new application guidelines, tool selectors, and technical information, Kennametal addresses key industry segments and the services that support that vision.

We Had the Environment in Mind

By combining the contents of four catalogs into one, we were able to identify overlaps and make the most of the pages we printed. In doing so, we reduced our overall page count by 25%.





2,000+ pages of Kennametal's best tooling — all in one book!
See complete Rotating and Stationary tooling in our new **Master 2013 catalog!**
Download the INCH or METRIC version from **www.kennametal.com,** or request a printed copy!

Tooling Systems

Product Highlights

KM4X™ • The New Choice for Heavy-Duty Milling

KM4X is the latest version of the KM™ spindle interface targeted at heavy-duty machining operations and is a top choice for machining large, structural, tough-to-machine materials, like titanium, for the aerospace industry. The portfolio consists of rotating adapters and static tooling to support the tough and heavy machining markets. Additional products include spindle component packages as well as static clamping units to support turning and mill-turn opportunities.



*To learn more, **scan here**.*
For instructions on how to scan, please see page xxxiii.



KM™ Quick Change

KM Quick Change Tooling is a central component in achieving dramatic improvement in machine and cutting tool use. It's the choice of manufacturers requiring maximum machine output. The necessary tasks of changing, setting up, and gaging tools create an excess of machine downtime. For small batch manufacturing operations requiring these frequent setups, KM Quick Change Tooling is the most efficient method for reducing lost time and improving the overall quality of the machining process by generating greater productivity and increasing profits.



HSK Shank Tools

ERICKSON™ HSK Face Contact short taper tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form A versions are generally used in machining centers and milling machines with automatic tool changers.





BTKV and CVKV

Manufactured from premium materials and to the latest JIS B 6339 specification standard with an AT3 7/24 Taper per ISO-1974, the BTKV and CVKV series offers controlled, increased flange thickness to the rear of the flange, rigid connection, and higher torque and productivity. Tools are prebalanced to a high specification that will perform effectively up to 20,000 RPM. For any applications higher than 20,000 RPM, Kennametal recommends that the complete toolholder assembly (toolholder, retention knobs, collets, hardware, and cutting tools) be balanced as one identity.

HPMC Milling Chucks

The HPMC System is ideal for holding round shank cutting tools and extensions on various applications because it offers greater versatility. This makes it an excellent choice for end mills, reamers, indexable cutters, drills, straight shank extensions, and boring systems. The HPMC System, with its powerful gripping torque, provides the maximum performance for tough roughing and high metal removal applications, as well as delivering first-rate accuracy for finishing applications — all with the same chuck.



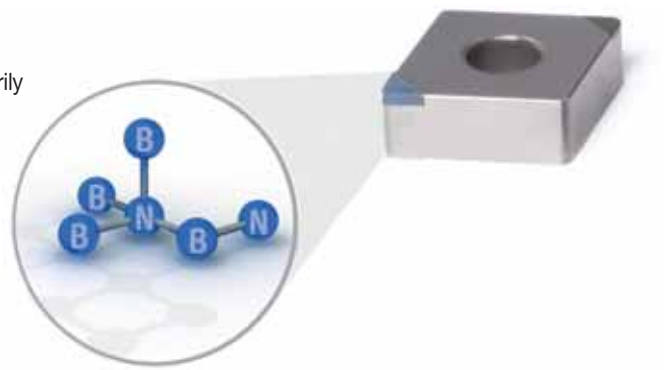
Turning

Product Highlights

Superhard Materials • PCBN and PCD

Abrasion resistance and toughness are the two most important properties in assessing the efficiency of cutting tool materials. Abrasion resistance is primarily a function of hardness, and, in this respect, diamond (PCD) and cubic boron nitride (CBN) are superior to all other known materials.

For more information, see pages B132–B197 of the Innovations Master Catalog Cutting Tools 2013.





Beyond BLAST™

An entirely different approach to machining high-temperature alloys. We determined that the most effective way to deliver coolant would be to channel it through the insert — ensuring that it hits exactly where it does the most good. That means, more efficient coolant delivery at a fraction of the cost of high-pressure coolant systems. By precisely controlling coolant application, Beyond BLAST enables you to lower your energy consumption, saving you even more money and reducing your impact on the environment.

For more information, see pages F2–F11 of the Innovations Master Catalog Cutting Tools 2013.



Beyond™ PVD Grades

Advanced PVD coatings using Beyond technology are well suited to resist the high temperatures associated with machining tough alloys. By offering increased tool life (by 30–40%), the general engineering, transportation, aerospace, energy, and earthworks markets can experience benefits in their profitability. They can also realize benefits by utilizing the strength of the new PVD coating in combination with the broad product offering to perform turning, grooving, and cut-off operations in a wide array of materials and applications while maintaining consistent chip control and minimizing insert edge wear.

For more information, see pages B2–B115 of the Innovations Master Catalog Cutting Tools 2013.





Grooving and Cut-Off : -CL and -GUP Geometries

The A2™ CL geometry maximizes your cut-off productivity. The A2-CL geometry offers tighter chipbreaker capabilities when machining low-carbon steel, excellent chip evacuation in low-feed applications, and improved stability and rigidity. The A4-GUP geometry, available in molded and precision-ground styles, provides a positive rake angle, enhanced chip control, and lower cutting forces. The -GUP geometry offers up to 180% longer tool life and higher productivity in steel, stainless steel, and high-temperature alloy materials.

For more information, see pages A2-CL: D13 and A4-GUP: D70 and D73–D74 of the Innovations Master Catalog Cutting Tools 2013.

Kennametal Select

Kennametal Select products make it simple to get the most out of your inserts — and your money. Every insert is gold, which exposes wear as the tool continues to be used. This makes it easy to detect when an insert is ready to be changed — maximizing the product's value and protecting the workpiece. Also, because Kennametal Select inserts can be used in most applications, a single insert can take on any number of tasks, thus reducing your inventory. Kennametal Select products are also reliable enough to cut steel, stainless steel, cast iron, and high-temperature alloys, enabling quick changes in workpiece materials without the need to swap inserts, saving time and money.

For more information, see pages F106–F130 of the Innovations Master Catalog Cutting Tools 2013.



Holemaking

Product Highlights



Hole Finishing with Kennametal

Only Kennametal is capable of offering you the best, customized solution for your application. Kennametal owns the entire process chain, from raw material, insert pressing, tool body design, brazing, sintering, grinding, coating, and so on, up to reconditioning. Kennametal is the only source in the metalworking industry from where you can get all types of hole finishing tooling, from reaming and fine boring to motion tooling, directly from one hand. Therefore, Kennametal can offer you the best-fitting solution for your machining challenge, giving you the choice of tooling without any limitations in regard to portfolio or capability.

For more information, see pages K1–K205 of the
Innovations Master Catalog Cutting Tools 2013, Metric version.
See pages K1–K212 of the Innovations Master Catalog
Cutting Tools 2013, Inch version.

Drill Fix™ DFS™

Drill Fix DFS combines the economical squared-outboard insert with the superior centering capabilities of the trigon inboard insert. The DFS indexable drills offer increased metal removal rates combined with high surface quality and hole straightness.

For more information, see pages J14–J22 of the
Innovations Master Catalog Cutting Tools 2013, Metric version.
See pages J19–J35 of the Innovations Master Catalog
Cutting Tools 2013, Inch version.

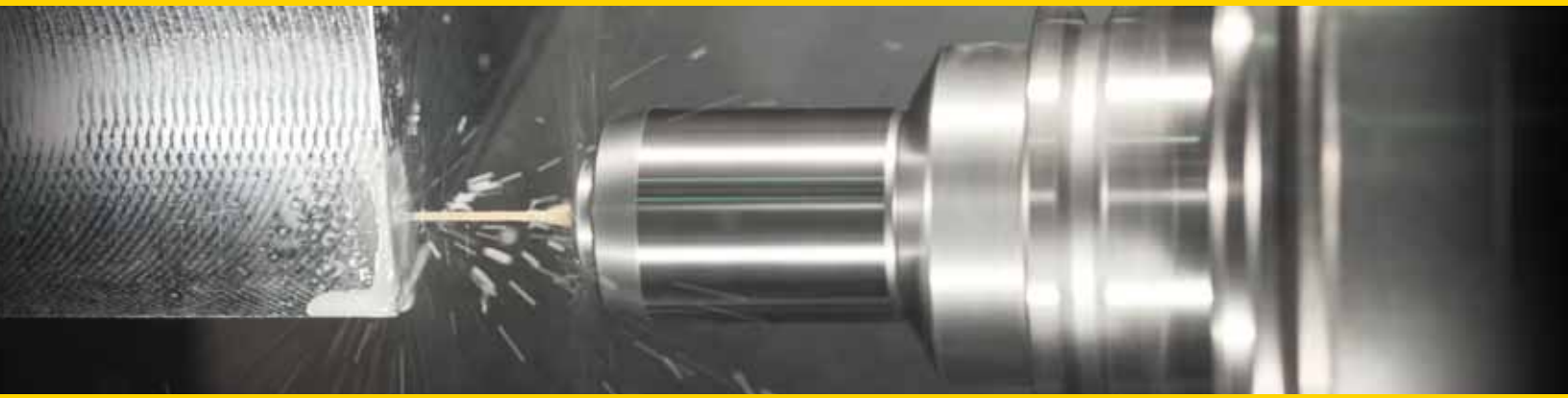




GOdrill™ • Kennametal's First Microdrill

The all new GOdrill addresses drilling operations in a diameter range of .0394–.5" (1–12,7mm) in a broad variety of materials and applications, such as fuel systems or medical components. Due to its very unique design, the GOdrill expands the advantages of modular drills into the small diameter range: high-end grades, wear-indicator coating, and new, proprietary geometries enable full utilization of the drill's tool life capacity.

For more information, see pages G5–G14 of the
Innovations Master Catalog Cutting Tools 2013, Metric version.
See pages G5–G15 of the Innovations Master Catalog
Cutting Tools 2013, Inch version.





HP Beyond™ Drills for Steel and Stainless Steel

HP Beyond Series Solid Carbide Drills are designed specifically for stainless steel and steel applications, offering high performance and long tool life in regular steel, titanium, and iron materials. By combining unique Kennametal technologies, such as the HP point, flute geometry, and a new Beyond grade technology into one tool, the B2_HP Beyond is the ultimate high-volume production tool.

For more information, see pages G21–G37 of the Innovations Master Catalog Cutting Tools 2013, Metric version. See pages G25–G43 of the Innovations Master Catalog Cutting Tools 2013, Inch version.

KSEM PLUS™ Modular Drill System

The KSEM PLUS drill concept is simple but effective. It combines the benefits of the KSEM™ modular drill (high feeds and length-to-diameter [L/D] ratios) with the benefits of an indexable drill (high speeds and low consumable costs).

For more information, see pages H36–H47 of the Innovations Master Catalog Cutting Tools 2013, Metric version. See pages H46–H59 of the Innovations Master Catalog Cutting Tools 2013, Inch version.





Beyond™ High-Performance Solid Carbide Taps

Solid carbide taps offer higher productivity and outstanding performance in a wider range of materials than formerly possible. Get more production from a single tool and superior accuracy of product thread that surpasses the competition. Kennametal High-Performance Solid Carbide Taps are available in various specifications with enhanced precision and design, which translates into longer tool life, excellent performance, and exceptional wear resistance.

For more information, see pages L2–L29 of the Innovations Master Catalog Cutting Tools 2013, Metric version. See pages L2–L33 of the Innovations Master Catalog Cutting Tools 2013, Inch version.

Solid End Milling

Product Highlights



HARVI™ High-Performance End Mills for Roughing and Finishing with One Tool

HARVI takes high-performance roughing, semi-finishing, slotting, and profiling to the next level. The line is designed to provide maximum metal removal rates by achieving supreme surface conditions. A wide range of diameters and corner radii are available from stock.

For more information, see pages M10–M25 of the Innovations Master Catalog Cutting Tools 2013, Metric version.
See pages M8–M30 of the Innovations Master Catalog Cutting Tools 2013, Inch version.



KenFeed™ End Mills for High-Feed Milling

A unique tool with new, 6-flute style for high productivity, the KenFeed end mill is specifically engineered to machine hardened steel up to 67 HRC at extreme speeds and feeds. Necked shanks provide extended reach in deep cavities and high feed rates up to .0230" per tooth on a 3/4" tool. Machine hardened materials at 2–3x the metal removal rate of competitive end mills. Wide range of cutting diameters, down to 6mm for small- and medium-pocket work. Innovative new geometry maximizes metal removal rates and lowers manufacturing costs.

For more information, see pages M26–M30 of the Innovations Master Catalog Cutting Tools 2013, Metric version.
See pages M31–M34 of the Innovations Master Catalog Cutting Tools 2013, Inch version.



KCN05™ Diamond Coated Carbide Routers

Kennametal has the correct milling solutions engineered for machining difficult CFRP (Carbon-Fiber Reinforced Polymer) and non-ferrous components. KCN05 solid carbide router products provide excellent tool life and produce smooth finishes with improved edge quality. The unique geometries are free cutting, reduce heat generation, and provide high-quality machined surfaces.

For more information, see pages M65–M71 of the Innovations Master Catalog Cutting Tools 2013, Metric version.
See pages M62–M68 of the Innovations Master Catalog Cutting Tools 2013, Inch version.



GOmill™ • The Economical Milling Cutter Line

The GOmill line is specifically engineered to work on short length-of-cut applications in multiple workpiece materials, like soft and hard steels up to 48 HRC, stainless steels, high-temperature alloys, and cast iron. With the very short overall length and soft cutting geometries, the line is made to conform to the growing market of mill-turn machines. The 3-flute sharp and 4-flute chamfer versions support roughing, semi-finishing, and finishing applications; the 3-flute ball nose tool supports roughing and semi-finishing applications; and the 2-flute ball nose version supports finishing applications. All three geometries work in slotting as well as side milling applications up to 1 x D depth of cut.

For more information, see pages M117, M122, M126, and M130 of the Innovations Master Catalog Cutting Tools 2013, Metric version.
See pages M85, M87, M92, and M95 of the Innovations Master Catalog Cutting Tools 2013, Inch version.





MaxiMet™ Carbide End Mills for High Metal Removal Rates and Superior Surface Finishes

Designed to significantly reduce machining time in aluminum! The innovative geometry designs include a wiper facet for superior surface finish on aluminum parts. MaxiMet takes roughing and finishing cuts with one tool. Slotting is effective up to full 1 x D axial depth. Side milling is effective up to 0.5 x D radial and 1.5 x D axial depth. The 3-flute series uses unequal flute spacing for chatter-free performance. Effective in a full range of machine speeds. Multiple corner radii and extended neck configurations are available as standard.

For more information, see pages M52–M53 of the Innovations Master Catalog Cutting Tools 2013, Metric version.
See pages M42–M47 of the Innovations Master Catalog Cutting Tools 2013, Inch version.

Indexable Milling

Product Highlights

Dodeka™ Series • Leader in Advanced Face Milling Applications

Dodeka Mini and Dodeka MAX™ are the most comprehensive face milling boosters on the market today. Twelve true cutting edges per insert mean low cost per edge and high productivity. With Beyond™ premium milling grades, you will see higher Metal Removal Rates (MRR), lower cutting forces due to real soft cutting action, and better tool life in light to heavy machining.

For more information, see pages O2–O29 of the Innovations Master Catalog Cutting Tools 2013, Metric version. See pages O2–O26 of the Innovations Master Catalog Cutting Tools 2013, Inch version.





MEGA Series • Superior Heavy-Duty Milling

With four true cutting edges per heavy-duty MEGA insert, you know you are getting the low cost per edge and high productivity you need and have come to expect from Kennametal. The soft cutting edge design enables 30% lower cutting forces, and the carbide shim provides protection to the cutter body. Choose MEGA inserts for all of your steel and cast iron indexable milling needs.

For more information, see pages O30–O47 of the Innovations Master Catalog Cutting Tools 2013, Metric version. See pages O28–O43 of the Innovations Master Catalog Cutting Tools 2013, Inch version.



Beyond BLAST™ • More Than Just the Right Tool — The Ultimate Solution

The Beyond BLAST KSSM™ 45° and KSRM™ platforms utilize Precision Coolant Technology (PCT) to aggressively apply coolant directly to the cutting area. Not only does this reduce heat at the cutting edge, but it also assists with reducing tool and chip friction, increasing chip evacuation, and relieving shear stress.

For more information, see pages O48–O53 of the Innovations Master Catalog Cutting Tools 2013, Metric version. See pages O44–O48 of the Innovations Master Catalog Cutting Tools 2013, Inch version.





Rodeka™ • The New Round Insert Generation

Kennametal introduces a new and revolutionary double-sided round milling insert capable to run in multiple types of milling operations and workpiece materials, providing the latest double-sided insert technology to boost your productivity with the most efficient cost per edge.

For more information, see pages R12–R19 of the Innovations Master Catalog Cutting Tools 2013.

Mill 1™ • High-Performance Shoulder Milling Platform

The multifunctional Mill 1 platform works with all tool materials in shoulder, ramp, slot, plunge, and helical milling with one insert style to improve productivity and reduce inventory and machining costs. The super positive cutting rake, soft cutting action, and low cutting forces enable higher feed rates and spindle protection. Innovative insert and cutter body designs offer improved ramping capabilities.

For more information, see pages P2–P62 of the Innovations Master Catalog Cutting Tools 2013, Metric version. See pages P2–P64 of the Innovations Master Catalog Cutting Tools 2013, Inch version.





Engineered Solutions

Coordinated global resources with world-class manufacturing process development and implementation capabilities.

Whether it's a single tailored tool required to address a specific part feature or the development of a comprehensive manufacturing process for use on existing or newly acquired production equipment, Kennametal's team can manage the development, personnel training, and successful implementation of the complete solution.

Global implies just that. Globally coordinated manufacturing process development, implementation, and optimization support at machine tool builders, end user engineering or corporate offices, and end user production facilities, regardless of their respective geographies. Well-organized, highly linked staff reside in the Americas, Europe, and Asia/Pacific regions. Globally standardized design and manufacturing systems enable highly coordinated project management and implementation results.

Key alliances with machine tool builders and other leading manufacturing technology enablers ensure a complete solution, optimizing the entire process — not just portions of it. This results in the most effective and efficient manufacturing process possible, leading to low implementation time and cost and rapid return on investment.

For more information, please contact us at 1.866.646.7113.

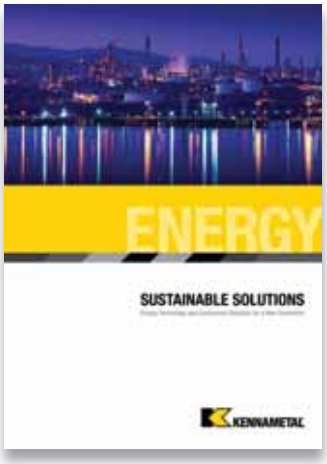




Energy

Energy Engineered Solutions

Kennametal is more than a supplier of tooling solutions. With a thorough understanding of the energy segment's process and application challenges, we proactively address production concerns to deliver productivity to customers seeking peak performance in demanding environments. Kennametal's success is based on our capabilities — our ability to work with you on customized solutions to optimize your results and our willingness to engage with a broad spectrum of materials, metalworking solutions, application and custom component manufacturing, and supply expertise. Our drive for success, enabled through our advanced materials sciences, application knowledge, and commitment to a sustainable environment, results in a broad portfolio of innovative, custom, wear-resistant solutions.



Please also see the new Kennametal Energy catalog (B-11-02786).







Engineered Solutions

Automotive

Automotive Engineered Solutions

Traditionally, Kennametal has been a strong player in the transportation field, pioneering innovative solutions with automotive, shipbuilding, and railroad customers. We deliver global services and products that exceed our customers' expectations and continually push the boundaries of science. In today's competitive world, no one can support our customers better, and in turn, deliver the continued service and quality that has become Kennametal's trademark.

Kennametal's global reach has helped our customers standardize processes and products to improve both cost and quality. We offer an intimate understanding of the economics of the automotive value chain and unparalleled customized solutions tailored to your needs. We can deliver superior value by listening closely and innovating based on what our customers say. Our goal is to help you be more competitive, at home and on a global scale.







If it rolls, floats, or flies,



Aerospace

Aerospace Engineered Solutions

From lightweight composite materials to exotic alloys, Kennametal is committed to reducing risks and costs in the manufacture of aerospace and defense programs. We partner with customers to implement standard and customized solutions with minimum cost per part and high repeatability in mind. Kennametal has unique capabilities and resources to cover the total manufacturing equation from roughing to automated deburring and finishing. Kennametal's best-in-class technologies and services deliver up to 30% cost reduction and 60% cycle time reduction.



Aerospace component surfaces are one of the key battlegrounds in environmentally friendly manufacturing. Surface treatments not only improve appearance of the part but also enhance wear resistance, provide corrosion protection, and improve friction control. These subtle manufacturing enhancements provide big dividends in the form of fuel efficiency, reliability, performance, and longer part life.



Kennametal has a solution that delivers innovation and productivity.

KENNAMETAL

KENNAMETAL REPAIR SERVICES

Milling cutters

Boring bars — standard, tunable, and de-vibe

Indexable drills

Line boring bars

Feed-out heads

Motion tools

Standard indexable tooling

ModBORE™ boring heads

Romicron™ boring heads

Eccentric toolholders

Electronic tightening fixtures

Floating toolholders

Hydraulic chucks

KM™ clamping units (manual and spring packs)

Repair Services

Tools are valuable. Protect them and get the most from your investment.

You can be assured that when your advanced tooling products need to be serviced, the Kennametal Service and Repair Department has the highly trained, experienced staff to provide expert assistance. For about half the cost of a new tool purchase, you can have your existing, damaged tools serviced and repaired to like-new condition.



www.kennametal.com



Getting Started, and Getting Finished, Is Easy.

Follow these 4 simple steps and be on your way to restored tools and great savings.

1. Visit www.kennametal.com to find the tool you're looking to have repaired.
2. Download and complete the form. Mail the completed form and the tooling to the Kennametal Service and Repair Department.
3. Kennametal will quickly respond to your request with a cost estimate and timetable for the completion of the repair.
4. Within 60 days of receiving the estimate, notify Kennametal whether you'd like the tooling repaired, returned, or scrapped.

**Please note that the tap adapters are not cost effective to repair.*

KM-LOC™ and KM-LOC II™ clamping units

KSEM™ bodies

Live/driven tooling

Bearing milling chucks

Right-angle heads

SEFAS™ combination tools

Tapping holders (excluding tap adapters*)

Integral tapping tools (excluding tap adapters*)

Presetters

Tuned tooling units

ToolBOSS — Tool Management System





Service and Support

Kennametal Extrude Hone™

Precision Surface Management

- Fuel efficiency through fine flow tuning — Diesel Fuel System (DFS) and Gasoline Direct Injection (GDI).
- Emission reduction due to better spray shaping.
- Noise, friction, and wear reduction for automatic gearbox components.
- Air flow path enhancement to improve jet or helicopter turbine performance.
- Energy savings with centrifugal impeller pump increased efficiency.
- Surface stress relief on high-pressured thin wall component for extreme safety.

Core Technologies Offer

- **Electrochemical Machining (ECM): Generator, fixture, and cathodes**
  Radiusing, shaping, polishing, surface stress relief.
- **Abrasive Flow Machining (AFM): Media and fixture design**
  Radiusing, polishing, surface stress relief.
- **Thermal Energy Method (TEM): Controlled combustion**
  Minimising risk of hidden burrs and contamination.



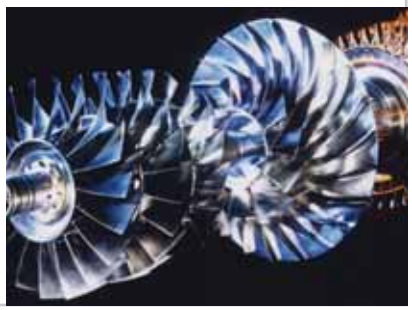


Proven Solutions

Easy Access to Service and Support

- Engineering and Feasibility departments.
- Capital equipment solutions.
- Contract Shop activities (ramp up and production).
- Spare parts availability program.
- Metalcutting tooling combined with Precision Surface Management.
- Benefits of worldwide Kennametal logistics.
- Lean expertise to conduct global projects with customers.
- Cost per part solutions/Clic model for equipment.
- Parameters, cathodes, fixtures designs.
- Media design to part.
- Global Full Circle Program increases productivity resulting in less downtime of your equipment.







Service and Support

Kennametal Extrude Hone™

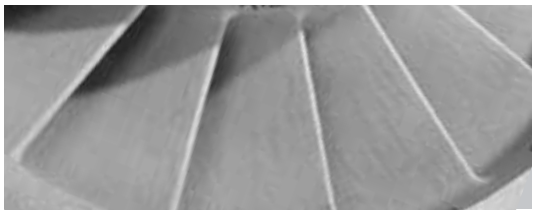
Proven Solutions: Save Energy, Save Money

- Improving closed pump impellers inner flow passage roughness to increase up to 11% peak efficiency and lower energy consumption.
- A coal-powered plant equipped with six boiler feed pumps can reduce parasitic loss, representing at least $500,000 annual savings (driving the pumps) by 1% of the power generated.
- This process and savings can also be applied to natural gas centrifugal closed pump impellers.

Precision Surface Management Matters

Kennametal Extrude Hone Abrasive Flow Machining (AFM) surface and flow enhancement solutions provide the energy segment with significant savings in pump efficiency improvements.

- The AFM process is the method of choice for material removal at the area of greatest restriction and surface improvement of passages not accessible by other methods.
- AFM has documented efficiency proven solutions in the automotive and aerospace industries.
- Two-way flow AFM process is a natural fit for closed impellers and diffusers.
- Inner flow passages of the impellers and diffusers benefit from AFM's selective material removal as well as surface finish improvement — both contributing to improved pump efficiency.



Before



After



Proven Solutions
Delivering Results throughout the Value Chain



Working with You

We have a strong focus on customer solutions, which helps develop an accurate understanding of industry needs. This is achieved through collaborative work with key players throughout the value chain:

Original Equipment Manufacturer (OEM)
Our business expertise is providing OEMs with key components, such as pumps, that deliver greater efficiency.

Foundry
Kennametal Extrude Hone™ specialists can bring added value early in the manufacturing chain, so you can deliver more than just a key component and exceed expectations every time.

End User
Currently in the best position to measure efficiency improvements, end users understand the direct impact of savings — anywhere along the value chain. They help us measure performance of the processed component against non-processed, providing a better understanding of efficiency improvement related to the Kennametal Extrude Hone AFM operation. The AFM Center of Excellence, in Irwin, PA, can perform feasibility testing with customer-specific parts to provide the optimal media needed for each process.

Media Is the Edge

The Kennametal Extrude Hone lab provides the energy industry with specific, engineered medias that deliver the highest performance for closed impeller polishing. We also have specific media with dedicated characteristics to enhance productivity and quality when polishing a closed impeller.



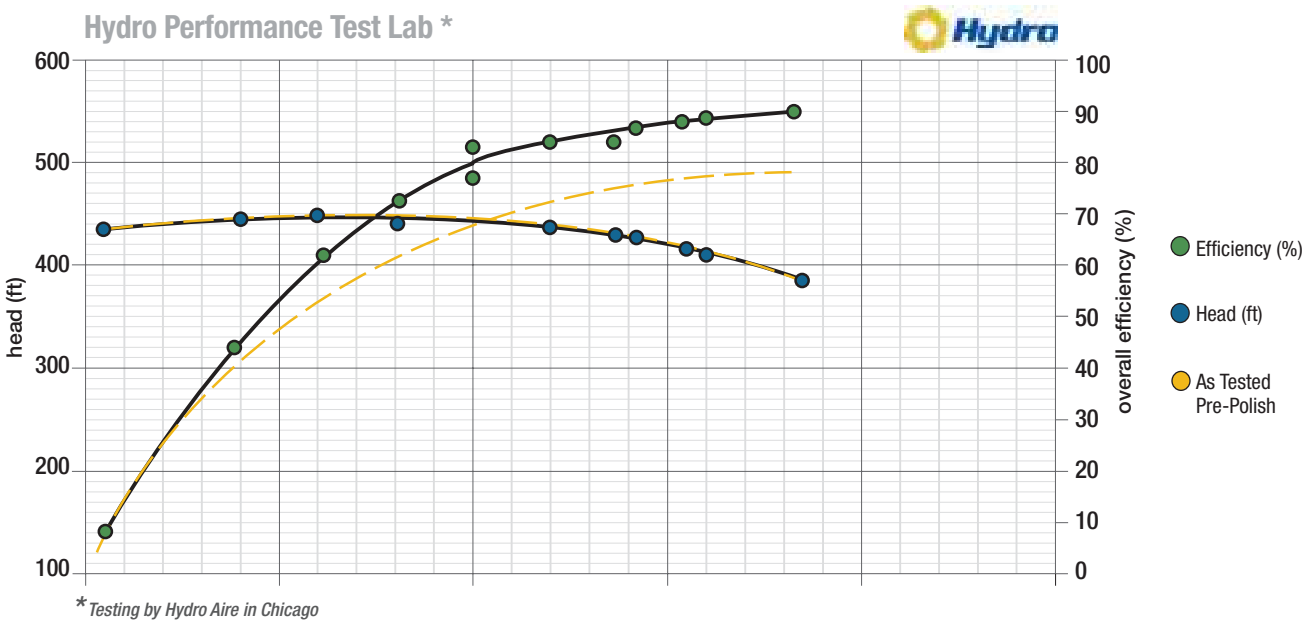


Service and Support

Kennametal Extrude Hone™

Abrasive Flow Machining for Pump Market Validation Testing

Formed in 1969 by a small group of pump engineers in Chicago, Hydro Aire is now the largest independent pump rebuilder with service centers throughout the world. A complete 5000 hp, 42,000 GPM pump test stand, designed in compliance with Hydraulic Institute standard and API 610, is located in Chicago. This is the ONLY independent non-OEM facility with this capability able to generate pump efficiency curves using LabView software.



*Testing by Hydro Aire in Chicago



Proven Solutions
The Energy Story

Proving the Pump Efficiency Improvement from the AFM Process

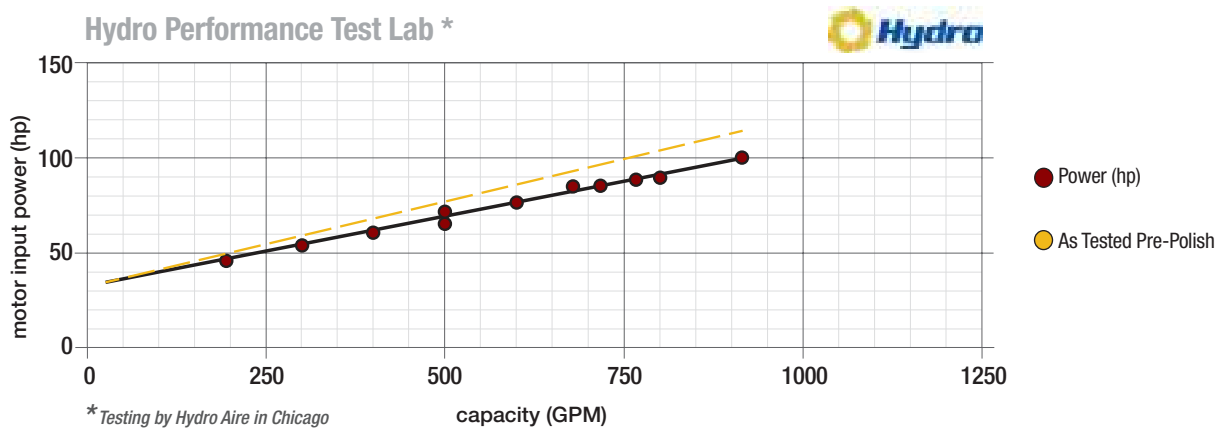
We have selected a 100 hp 1,200 GPM, single impeller overhung process pump as an example to validate the potential efficiency improvement able to be achieved with the AFM process.

1) New PACO™ pump purchased, which is about 79% efficient according to the manufacturer's data.
2) Pump tested and performance curve generated to confirm initial efficiency pre-AFM. Manufacturer data confirmed by our "before AFM" testing.
3) Pump was disassembled and impeller removed to AFM process. Pump was then reassembled.
4) Re-tested pump and generated performance curve.

Results: **Peak efficiency gain of +11%**, bringing the pump to 90% total efficiency! Gains were realized over the full usable range of the pump with **significant power savings** at given pressure and flow rate.

Test Component

Pump Type:	ITT Goulds 12BF
Pump Size:	3 x 4–10
Serial No.:	G1162372
Stages:	1
SG:	1.00
NPSHr:	n/a
Speed:	3600 RPM



*Testing by Hydro Aire in Chicago

Service and Support

Kennametal ToolBOSS™



Kennametal ToolBOSS™

Secure, High-Capacity Solutions

ToolBOSS™ quickly and consistently delivers quantifiable savings in hundreds of metalworking companies worldwide. Much more than a vending unit, the Kennametal ToolBOSS system is a secure, electronically locked tool storage cabinet that can establish 24-hour tool control for high-value items. It issues tools, returns tools, sends to re-work, supports EDI ordering, and provides for multi-vendor security.

Efficiency
Multiple drawers can be selected in one transaction, minimizing the time required to manage large stock volumes.

Future-Port
USB interface, as well as a DCS expansion port, for use with RFID and other ancillary equipment.

High-Speed Access
Rapid search and selection of an item is enhanced with LED identification system, guiding users to the correct drawer.

Traceability
Software provides a complete audit trail, tracking component usage details.

Expandability
Expandable up to 10 units per system, providing up to 1,121 secure locations.







To learn more about ToolBOSS, contact your local Authorized Distributor or visit **www.kennametal.com**

Reconditioning Services



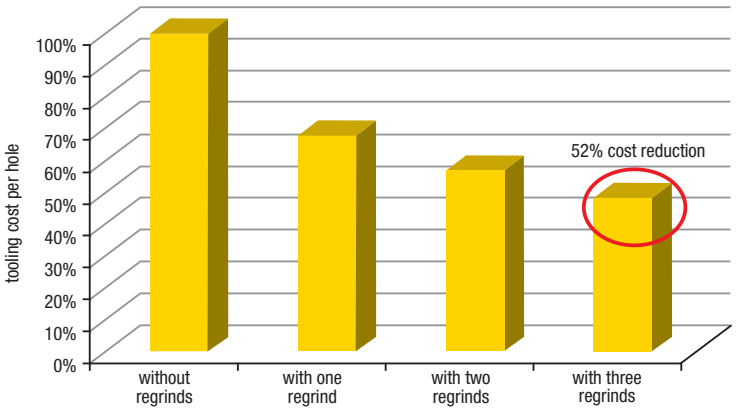
Reconditioning Services

Our Reconditioning Services help optimize the total value of your metalcutting tools throughout their entire life cycle by giving the "like-new" performance characteristics — with rapid turnaround time — so the tools you need are always on-hand and perform just like new.



Reduce Tooling Cost by More than 50%

Example: 4" (10,5mm) HP-Drill B225A10500 KC7315 Material: Alloy steel 30 RC



Using Kennametal's Reconditioning Services provides considerable savings throughout the life of your cutting tools and can reduce your overall tooling costs more than 50%.

For more information or to find the nearest reconditioning location, contact your local Authorized Distributor or visit www.kennametal.com

Service and Support

Carbide Recycling

Help Preserve and Protect Our Planet!

It's easy for your company to be environmentally conscious with the Kennametal Carbide Recycling Program.

By sending us your used carbide tools, you help preserve and protect the environment and ensure that these products are recycled responsibly. Kennametal accepts any coated or non-coated carbide items, including inserts, drills, reamers, and taps.

By using the Kennametal Carbide Recycling Program, you will receive:

- A partner who cares about a sustainable environment.
- Easy-to-use web portal to value your used carbide.
- Access to our popular Green Box™ options for carbide collection.
- Systematic and efficient disposal of carbide materials.
- Improved profitability.

Program is not currently available in all geographical areas. For more information, please visit ***www.kennametal.com/carbiderecycling***

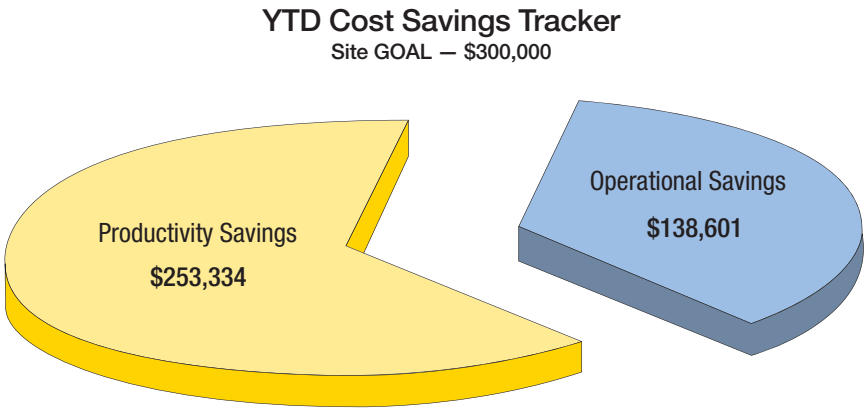


Service and Support

Cost per Part Services Program (CPP)

Build a Long-Term Relationship with the Leader in Metalworking Solutions that Provides:

- Monthly cost savings documented and captured in standardized KPI reports.
- Availability of Kennametal's latest technology to increase productivity and lower cost of operations.
- Onsite technical support available on a constant basis.
- Billing based on the output of your plant that eliminates inventory risk.



Cost per Part Services Programs Are Designed to Take Advantage of Our Wear Solutions Expertise by Outsourcing Your Metalworking Requirements that:

- Improve productivity.
- Reduce risk.
- Manage inventory.
- Lower operational costs.

For more information, contact your local Authorized Distributor or visit **www.kennametal.com**

Service and Support

Customer Application Support (CAS)

Customer Application Support

Get Fast and Reliable Answers to Your Toughest Metalcutting Problems

Our Customer Application Support (CAS) Team is the metalworking industry's leading help desk resource for tooling application solutions and problem resolution.

Easy Access to Proven Metalworking Expertise!

Kennametal Customer Application Engineers assist customers and engineering groups throughout the world with expert tool selection and application recommendations for the entire range of Kennametal tooling.

Service Level Excellence

- Fast telephone response.
- Quick technical solutions.
- Efficient case management.

Services

- Operating parameters.
- Process optimization.
- Hardware support.
- Tooling selection.
- Troubleshooting.

Best-in-Class Support Tools and Technology

- Materials database.
- Application calculators.
- Tooling performance experts.

Convenient Access Options:

Originating Country	Language	Phone	Fax	E-mail
Australia	English	1800 674037	+1-724-539-6830	ap-kmt.techsupport@kennametal.com
Austria	German	0800 202873 *	0800 202874	eu-kmt.techsupport@kennametal.com
Belgium	English/French	0800 80850 *	0800 80868	eu-kmt.techsupport@kennametal.com
China	Chinese	440-889-2238	21-5834-2200	k-cn.techsupport@kennametal.com
Denmark	English	80889298*	80889296	na-kmt.techsupport@kennametal.com
Finland	English	0800919412 *	800919414	na-kmt.techsupport@kennametal.com
France	French	0805540367*	0805540028*	eu-kmt.techsupport@kennametal.com
Germany	German	0800 0006651 *	0800 0006649	eu-kmt.techsupport@kennametal.com
India	English	+1-724-539-6830	+1-724-539-6830	ap-kmt.techsupport@kennametal.com
Israel	English	1809 449889	1809 449918	na-kmt.techsupport@kennametal.com
Italy	Italian	800 916561 *	800 917505	eu-kmt.techsupport@kennametal.com
Japan	English	0120 225429	+1-724-539-6830	ap-kmt.techsupport@kennametal.com
Korea (South)	English	080 728 0880	+1-724-539-6830	ap-kmt.techsupport@kennametal.com
Malaysia	English	1800 812 990 *	+1-724-539-6830	ap-kmt.techsupport@kennametal.com
Netherlands	English	0800 0201130 *	0800 0201132	eu-kmt.techsupport@kennametal.com
New Zealand	English	0800 450941 *	0800 450921	ap-kmt.techsupport@kennametal.com
Norway	English	80010080 *	80010082	na-kmt.techsupport@kennametal.com
Poland	Polish	00800 4411887 *	00800 4411888	eu-kmt.techsupport@kennametal.com
Singapore	English	1800 6221031	+1-724-539-6830	ap-kmt.techsupport@kennametal.com
South Africa	English	0800 981643 *	+1-724-539-6830	na-kmt.techsupport@kennametal.com
Sweden	English	20799246	20795474	na-kmt.techsupport@kennametal.com
Taiwan	English	0800 666 197 *	+1-724-539-6830	ap-kmt.techsupport@kennametal.com
Thailand	English	1800 4417820 *	+1-724-539-6830	ap-kmt.techsupport@kennametal.com
United Kingdom	English	0800 032 8339 *	0800 028 5803 *	na-kmt.techsupport@kennametal.com
USA	English	800-835-3668 *	724-539-6830	na-kmt.techsupport@kennametal.com

** Toll-free number.*



Kennametal QR Codes

Looking for More Products or Product Information?

Use your smartphone or tablet to scan the QR codes throughout this catalog.

Throughout the Kennametal Innovations Master Catalog Tooling Systems, you will find codes like the one shown here that will activate links containing more information about various products and services offered.

The QR codes that you will find within this catalog are designed to relate to the products or product families on the page where they are found. These codes will link you to expanded product information, such as application videos, informative drawings and animations, extra product charts and graphs, or simply to an expanded online catalog of products offered by Kennametal for all your drilling, turning, and milling needs.

Helpful Information to Get You Scanning

QR codes are activated when scanned with a dedicated QR scanning application using the onboard camera of your smartphone or tablet.

If you currently have a QR scanner on your smartphone or tablet, look for codes to learn more information about our products. Don't have a QR scanner on your device? It's simple to get one. Just go to your device's application store, and search for a "QR code scanner". Follow your application store's directions on downloading an application, and then launch your QR scanner.

- With your scanner, center the QR code in the camera window of your application.
- When the scanner locks onto the image, you will be on your way to the embedded information in the QR code.
- Once the webpage, video, or other information linked to the QR code opens or loads, you can freely interact.

When you need information quickly on a product or an extended product catalog, skip the web search and long website URLs and scan the provided QR codes in this catalog.

Scan the code at the top of the page to visit our website and online product catalog.

QR Code is a registered trademark of Denso Wave Incorporated.

SHOP. BUY. PROMOTE.

Service and Support

Branded Merchandise

New Kennametal Branded Merchandise Available! Place Your Order Today!

Introducing a new line of Kennametal merchandise. Place an order for any of the following quality products with your Authorized Kennametal Distributor or visit www.kennametal.corpmerchandise.com.



Global Online Ordering Made Simple.

Place Your Online Orders in 3 Easy Steps!



1. Visit **www.kennametal.corpmerchandise.com**.
2. Click on the region to where your merchandise will be delivered.
3. Follow the region-specific instructions for ordering.

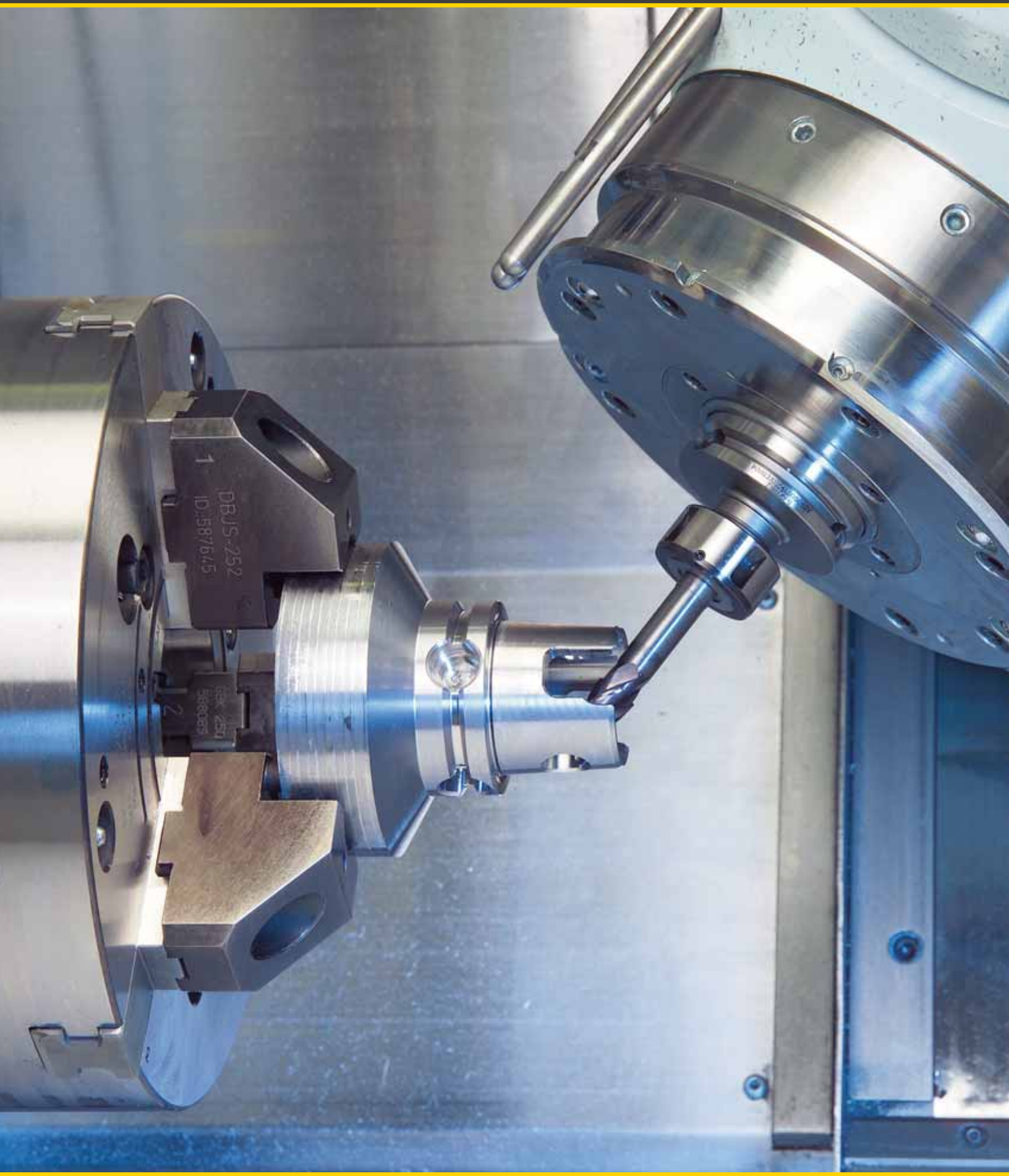






Please note that the prices are adjusted by the region of delivery.

Visit **www.kennametal.corpmerchandise.com** to see all available merchandise and for ordering details.


DBJS-252
ID:587645

KM™ Quick Change

KM Quick Change Introduction A2–A17
KM Micro and KM Mini A4–A5
KM Clamping System A6
Specific KM Designs A7
KM4X Features and Benefits A8–A9
Tooling Introduction A10–A11
Clamping Introduction A12–A14
Machine Utilization Strategy A15
Productivity Worksheet A16–A17
KM Selection Guide A18–A29
Catalog Numbering Systems A34–A51
External Turning A34–A35
Internal Turning A36–A37
External Threading, Grooving, and Cut-Off A38–A39
Internal Threading, Grooving, and Cut-Off A40–A41
Tools for Mill-Turn Machines A42–A43
KM Micro and KM Mini A44–A51
KM Micro A52–A117
KM Mini A118–A189
KM Clamping Units A190–A218
Conversion and Clamping System A30–A33
KM-LOC and KM-LOC II Clamping A190–A200
Rapid and Rapid Plus Clamping A201–A203
Manual Clamping A204–A214
Automatic Clamping A215–A218
KM32TS Series A220–A263
KM40TS Series A264–A343
KM50TS Series A344–A429
KM63TS Series A430–A515
KM80TS Series A516–A551
KM63XMZ Series A552–A589
KM80ATC Series A590–A619
KM4X Series A620–A635

*To learn more, **scan here**.*
For instructions on how to scan, please see page xxxiii.

KM™ Quick Change

KM™ Quick Change Tooling is a central component in achieving dramatic improvement in machine and cutting tool use. It's the choice of manufacturers requiring maximum machine output.

The necessary tasks of changing, setting up, and gaging tools create an excess of machine downtime. For small batch manufacturing operations requiring these frequent setups, KM™ Quick Change Tooling is the most efficient method for reducing lost time and improving the overall quality of the machining process by generating greater productivity and increasing profits.

Aside from Quick Change Clamping units, KM™ has other economical means to improving machine utility. For example, Shrink Fit technology and Hydraulic Chucks are other methods offered for Quick Change Tooling.

There's no better way to begin maximizing production than switching to KM™ Quick Change Tooling. Whether you're looking to purchase a new machine or to gain greater output from your current equipment, Kennametal offers a variety of methods to upgrade your tooling system. The cost of these improvements will be justified by time saved, production increased, and profits.

The KM™ portfolio has three distinctive sub-families, KM Micro™ and KM™ Mini, KM-TS™ (ISO), and KM4X™:

KM Micro and KM Mini: This unique quick-change system is specially designed to support and mount on Swiss-style turning centers, gang machines, and smaller lathes.

KM-TS: The ISO 26622 quick-change tooling system delivers the greatest value to customers by maximizing down time and gaining optimum productivity with rigidity, accuracy, and enabling pre-gaging off line. This tooling system supports both lathe and machining centers.

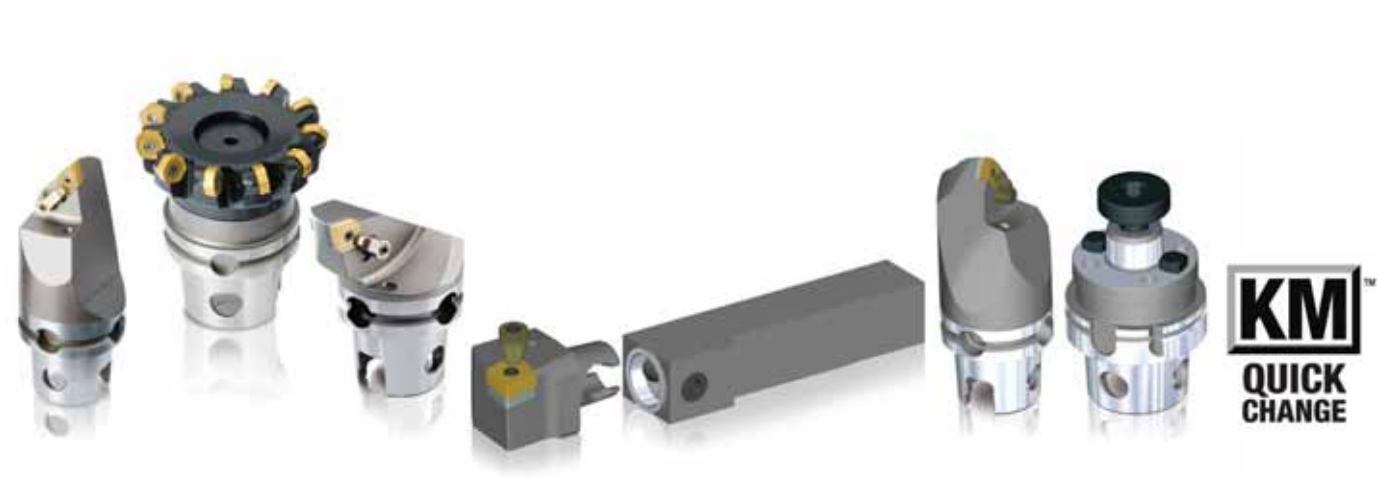
KM4X: The next generation of KM offers higher clamping forces and interference levels that lead to a robust connection and extremely high stiffness and bending load capacity resulting in unmatched performance from both lathe and machining centers.



Uniquely Designed

A uniquely designed clamping mechanism is the driving force of KM™ Quick Change Tooling technology, which is designed around a single shank tapered at a shallow angle.

Using a simple mechanism involving lock rods and a ball track, a high clamping force is generated from a minimal amount of input force. This design is universal, and enables faster tool changes, reducing downtime.





Extremely Rigid

The most heavy-duty, rigid modular quick-change tooling available on the market today. The strength of the metal-to-metal locking device is extremely rigid, reducing vibration between components.



Reliability

Not only is KM™ Quick Change Tooling faster and more economical, it's also more reliable. The rigid coupling design enables a high degree of accuracy and repeatability. Low activation forces and decreased vibration provide longer life for clamping units and protect the mechanism in the event of a crash. Clamp strength enables operators to run machines at high maximum speeds without loss of force after continuous use.



Versatility

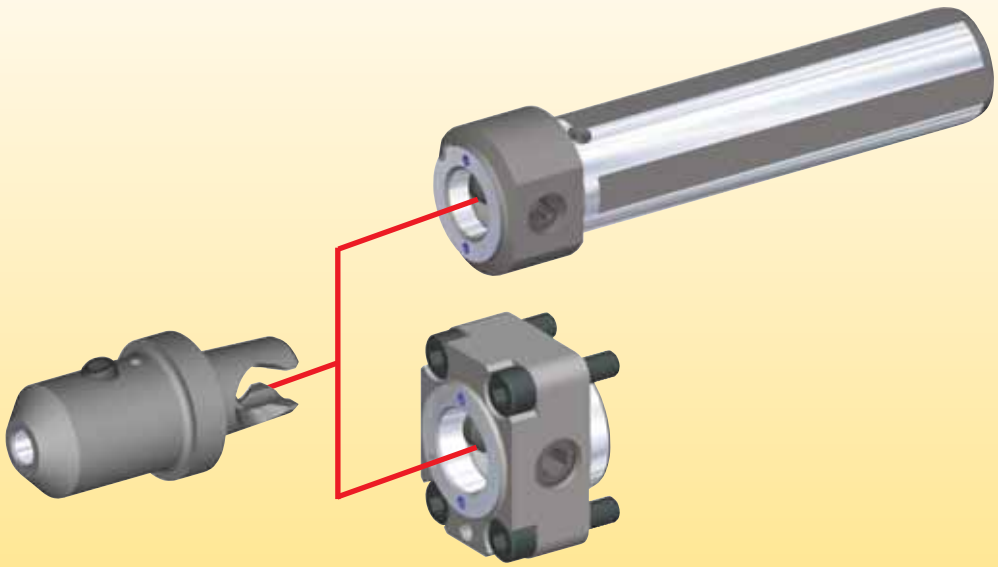
The KM™ System is a true modular system. It has been designed for all metalcutting operations and provides a standard platform for use throughout your shop. The KM™ clamping mechanism is designed to be used on all types of manufacturing equipment. Available in manual, VDI, KM-LOC II™, automatic, and rotating spindles.

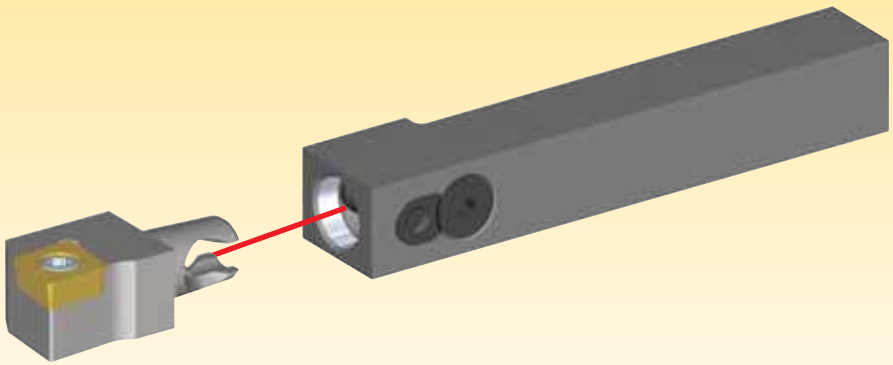
KM™ QUICK CHANGE



KM Micro™ — Quick-Change Tooling System

Kennametal has developed yet another revolutionary quick-change tooling system. The KM Micro tooling system is a further development of the internationally renowned KM™ system, but is a smaller, more compact version. It is an outstanding quick-change tooling system utilizing face and taper contact design.





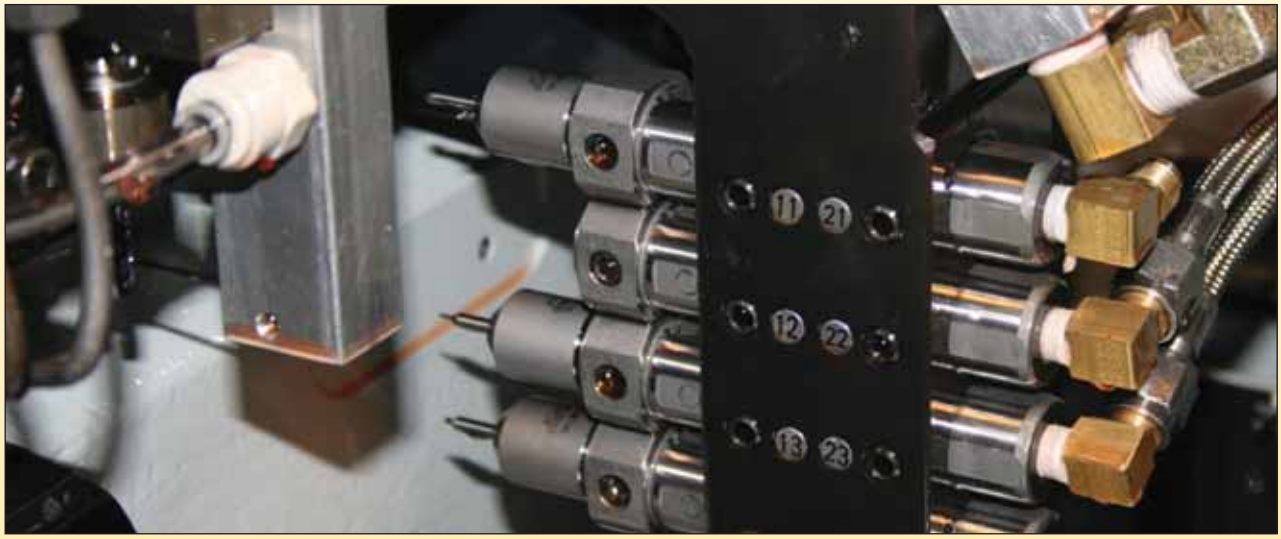
What is KM Micro™ and KM™ Mini?

The KM Micro and KM Mini system have been specially designed for use with automatic lathes, as well as smaller universal lathes. The quick-change cutting heads reduce indexing and setup times on machines by up to 66%.

The unique flange attachment system enables an additional one to three tool spaces to be used on a single tool block. This considerably increases the tool capacity of the machine.

A further advantage is the high level of stability of the block, as rigidity is greatly improved during deep tool turning operations by removing the tool slots.

- Reduce indexing and setup times by 66%.
- Quick and easy installation.
- The new KM Micro and KM Mini square shank adapters can be installed quickly and easily in existing tool block adapters.
- Existing clamp-type toolholders are replaced by KM Micro and KM Mini adapters with the same dimensions, and the machine is then ready for use.
- Kennametal provides a comprehensive range of KM Micro and KM Mini solutions to meet any requirement.



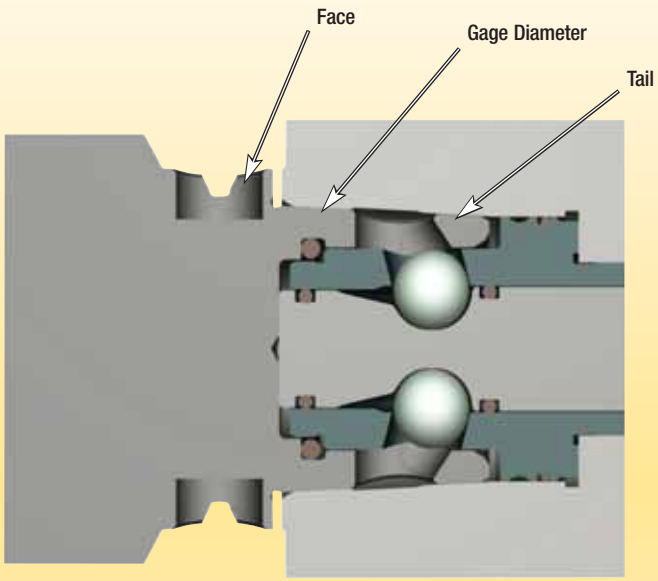


KM Mechanism

The KM Quick Change clamp is a self-locking system with a mechanical amplification of 3:1 to 7:1. This system is effective because it locks by having three contact areas, and the mechanism is sealed with Viton® O-rings to prevent component contamination.

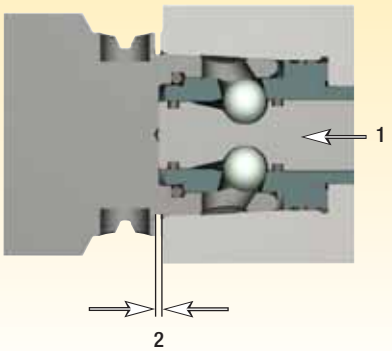
When in the locked position, there is increased interference between contact surfaces, resulting in superior rigidity. Because the face and taper contact within the unit is simultaneous, this provides accurate radial and axial repeatability. Elastic deformation provides greater static and dynamic stiffness.

Three effective contact areas:



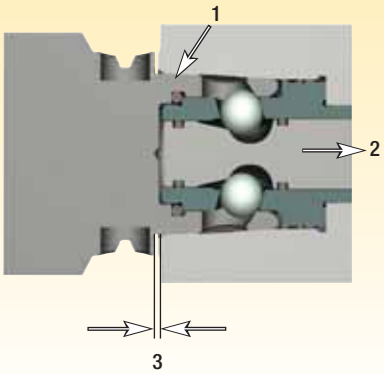
Load/Release Position

1. Bump-off force
2. Bump-off



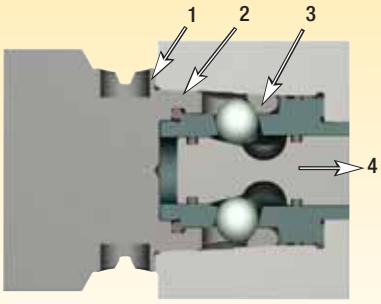
First Contact Position

1. Point of first contact
2. Clamping force
3. Stand-off



Locked Position

1. Face contact
2. Interference at gage line
3. Tail contact
4. Clamping force



KM Today

All KM Quick Change tooling is made from H13 high-strength steel and comes in a silver satin finish. After the parts are heat treated, qualified pads are machined into the part, which increases the repeatability of the clamping mechanism. KM is an ISO standard (26622).

The addition of the ATC configuration and data carrier capability provides machine tool builders with one standard KM design. Integrating these components also enables customers to use data carriers to record tool offsets and tool life information on the tool.

KM-TS Standardized System

1. Addition of ATC configuration and data carrier capability:

a. Provides machine tool builders with one standard KM design.

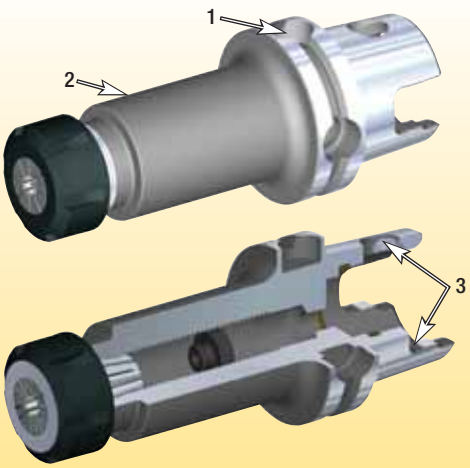
b. Enables customers to use data carriers to record tool offsets and tool life information on the tool.

2. H13 high-strength steel, silver satin finish.

3. Qualification after heat-treat process:

a. Heat-treated, qualified pads are machined into the part, increasing the repeatability.

b. Qualification of the ball tracks after heat treat.

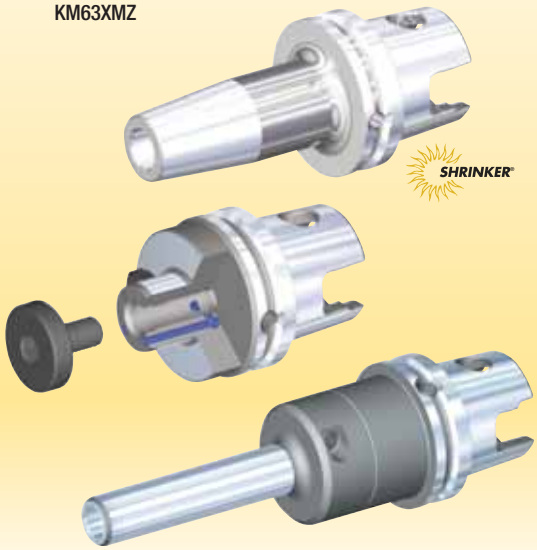


KM Specific Systems

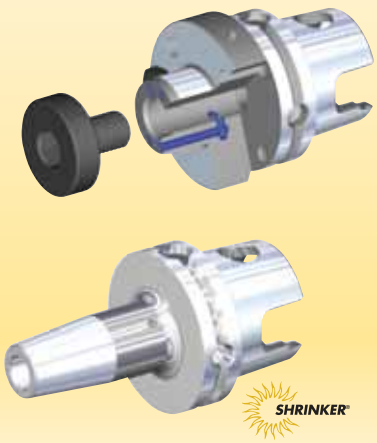
KM63XMZ™ — Designed and used exclusively on Mazak® INTEGREX® Mark IV Series, i-Series, and J-Series machines.

KM80ATC™ — Designed for and used on Giddings & Lewis™ VTLs.

KM63XMZ

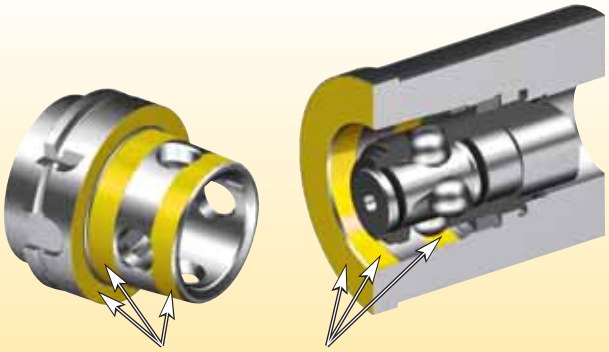


KM80ATC



KM4X — The Next Generation Spindle Connection System

- Heavy-duty, rigid configuration with evenly distributed clamping force.
- Simple design enables front-loaded spindle configuration.
- Balanced-by-design for high spindle speed capacity.
- Capable of performing in a wide range of operations from low speed, high torque to high speed, low torque.

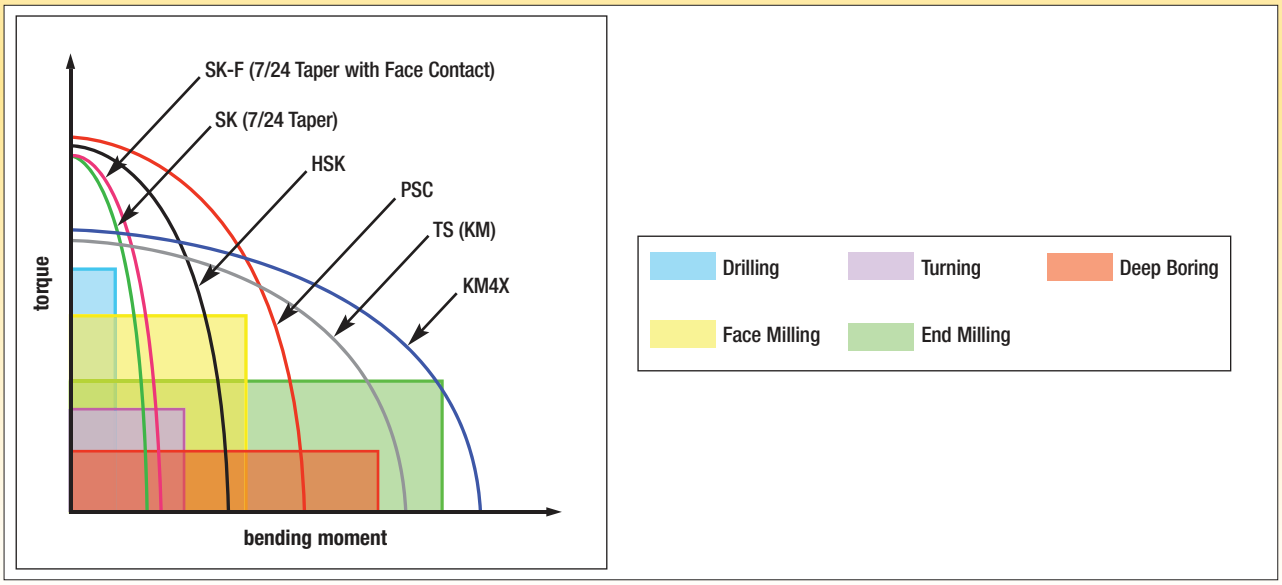


KM4X three-surface contact for improved stability and accuracy. Optimized clamping force distribution and interference fit provides higher stiffness.

The graph below represents the load capacity of HSK, PSC, and KM4X. The shaded areas represent the typical requirements for heavy duty in various machining processes. KM4X is the only system that can deliver the torque and bending required to achieve high-performance machining.

Some systems may be able to transmit considerable amount of torque, but the cutting forces also generate bending moments that will exceed the interface's limits before torque limits are exceeded.





Choosing What's Right

When machining tough materials like titanium, cutting speeds are relatively low due to thermal effects on cutting tools. In response, machine tool builders have improved stiffness and damping on spindles and machine structures over the years. Spindles have been designed with abundant torque at low rotational speeds. Nevertheless, the spindle connection remains the weak link in the system.

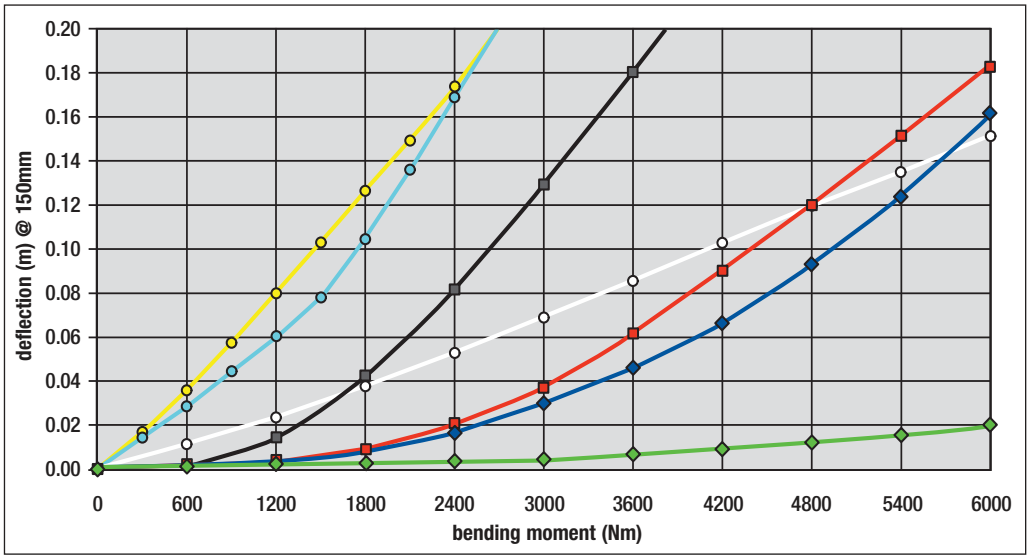
The spindle connection must provide torque and bending capacity compatible with the machine tool specifications and the requirements for higher productivity. It becomes obvious that in end-milling applications where the projection lengths are typically greater, the limiting factor is bending capacity of the spindle interface.

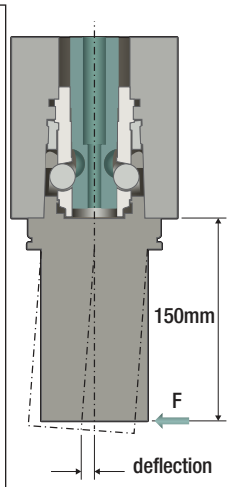
With more materials that are tougher to machine and require considerably higher cutting forces from the machine tool, choosing wisely on the spindle interface to maximize cutting edge performance is the key to success.

The KM spindle connections greatly outperform the conventional 7/24 steep taper and its face taper contact derivative. HSK and PSC systems with their greater stiffness advantages help minimize undesirable vibrations, gaining the best possible productivity from the machine tool. The KM4X is the best large, heavy-duty spindle connection, where optimal rigidity is necessary. It has superb balance between bending and torsion capabilities from the machine tool.

As an example, an indexable helical cutter with 250mm projection from spindle face and 80mm in diameter generates 4620 Nm of bending moment and less than 900 Nm of torque.

Chart shows a comparison of Steep Taper with and without face contact, HSK, and KM4X.





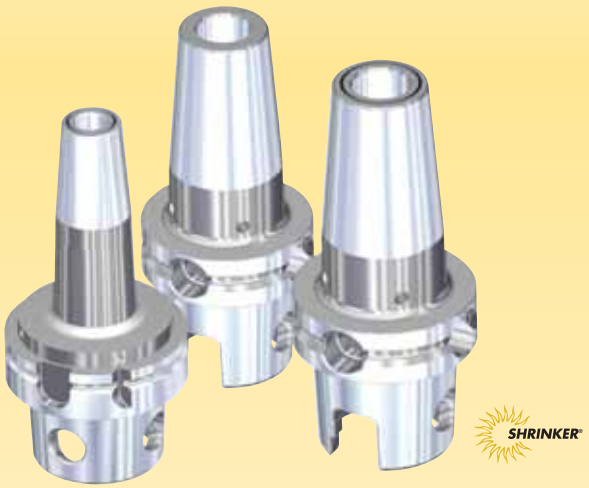
7/24 Taper — Size 50
7/24 Taper — Size 50 with Face Contact
7/24 Taper — Size 60
HSK100A
KM4X100
HSK125A
KM4X125

Milling and Holemaking

Shrink Fit Technology
How it works...

Heat shrinking is not new technology in the tooling industry, but only recently has it been applied to quick-change toolholding systems. Shrink fitting works by having toolholders with an internal bore that is slightly smaller than the connecting end of a cutting shank.

When the toolholder is heated, the bore expands and the shank is able to slip inside the bore. As the toolholder cools, it shrinks, clamping the two pieces together. This creates evenly distributed pressure with minimal vibration between the toolholder and shank that resembles a monoblock tool.



Advantages of Shrink Fit Tooling:

- Evenly distributed pressure 360° along the length of the cutting tool.
- Slim and short toolholder designs can be achieved due to the lack of moveable parts.
- Absolute symmetry of the grip provides the best possible balance for high-speed operations.
- Stronger clamping force than collet or hydraulic chucks.
- Can be repeated thousands of times.
- Capable of greater speeds and feeds.
- Adapts to various shank types.
- Increased productivity.

Hydraulic Chucks

Kennametal Hydraulic Chucks provide optimum performance when clamping full-cylindrical straight shanks such as solid carbide drills and end mills. Turning a piston pressurizes hydraulic fluid, which expands a thin-walled membrane along the length of the clamping bore.

This creates a secure grip that reduces vibration and eliminates micro-cracking on cutting tools. All chucks are capable of utilizing reducer sleeves to maximize their versatility. Hydraulic chucks require virtually no maintenance, aside from routinely cleaning the bore and removing any grease.



Slim Line

Slim-shaped hydraulic chucks for universal use with maximum precision.



Standard/HP Line

Prebalanced chucks with an external screw for radial adjustments. This eliminates the need for removing cutting tools to make fine adjustments.

Collet Chucks



TG Collet Series

A single angle collet that grips 1:3 tightening torque versus grip torque without a stop screw.

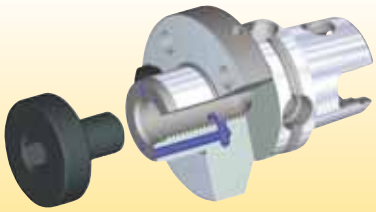


ER Collet Series

An international standard-style collet that can be used in machining applications such as milling, reaming, tapping, and grinding.

Shell Mill Adapters

All units come standard with a new coolant to the cutting edge capability. This improves tool life and chip control. Shell mill adapters are available in extended lengths and a range of small mounting diameters.



Selection Guide for KM Clamping Systems

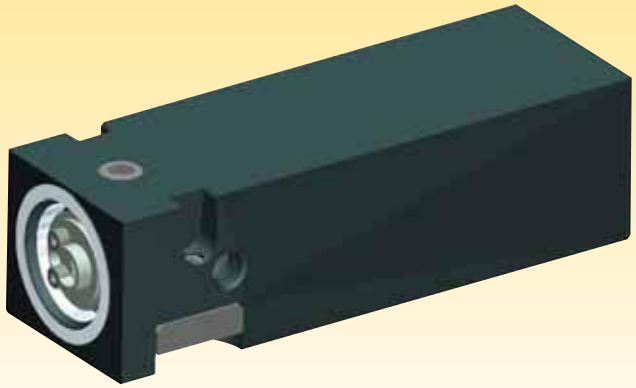
There are several things to consider before choosing the correct KM clamping mechanism. Manufacturers should take an account of how much time is spent setting up a machine or changing the tool. Customers should know if they are comfortable with using a torque wrench regularly, as well.

Other issues may arise when considering the machine tool mounting configurations needed to maximize production and cut downtime. KM clamping has options for manufacturers to upgrade their existing machinery and customize it to fit their needs.

KM Manual Clamping Units

KM Manual Quick Change Tooling is the most economical way to reduce costly downtime caused by setup and tool change. With approximately three turns of a readily accessible activation screw, a specified amount of torque is generated, locking the device. KM Manual Clamping Units accept internal and external cutting tools, as well as left- and right-handed tools.

The units also enable tools to be inverted if necessary. Variants of machine tool mounting configurations for KM Manual Quick Change Tooling include flange mounts, square, round, and VDI shanks.





KM-LOC II™ Clamping Units

KM-LOC II Quick Change units have an increased mechanical advantage of up to 7:1. Due to the compact styling of these units, users are able to mount the clamping unit directly into the machine turret. KM-LOC II units require less activation torque when clamping tools, which reduces the overall stress on the component's clamping mechanism.

The KM-LOC II Quick Change system is available in various square shank sizes that have a 40–50% greater wedge surface area than comparable units. The cartridge style of these units enables the user to manufacture their own machine-specific blocks. A flange style is available as well.



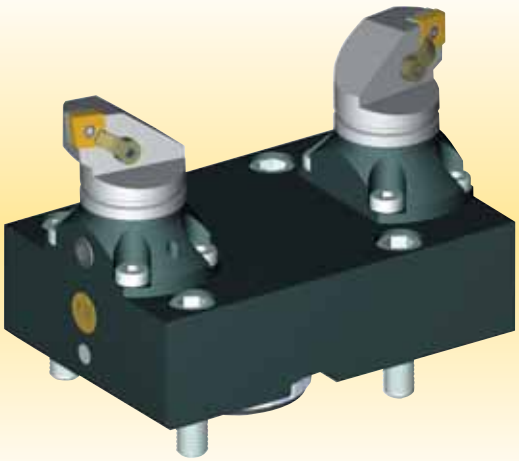
VDI to KM Clamping Units

KM Quick Change lets users upgrade VDI tooling without the need to modify their machines. This is because the KM clamping units act as a direct replacement for standard VDI tooling. VDI-style units are available to be used with KM Manual, KM-LOC, and KM-LOC II clamping units.



Builder-Specific Blocks

There are a variety of builder-specific blocks offered that provide customers a way to easily modify and upgrade their current tooling system to the KM Quick Change. These blocks are supported by Mori Seiki®, Mazak®, Hardinge™, Daewoo™, Nakamura-Tome™, Okuma®, HAAS, and other machine builders.



The KM Mechanical Advantage

A comparatively increased mechanical advantage is one of the central reasons why the KM Quick Change Tooling system is superior to other tooling methods. The high mechanical advantage is achieved through the system's rigid interference fit that is generated by additional forces in the clamping mechanism. A clamping device with greater than ordinary mechanical advantage offers many benefits in regard to tool life, downtime, and overall machine cost.

In the following sections, you'll find expanded information about the KM Quick Change Tooling system's mechanical advantage and how enhanced levels of these forces make Kennametal tooling superior to other quick-change systems.

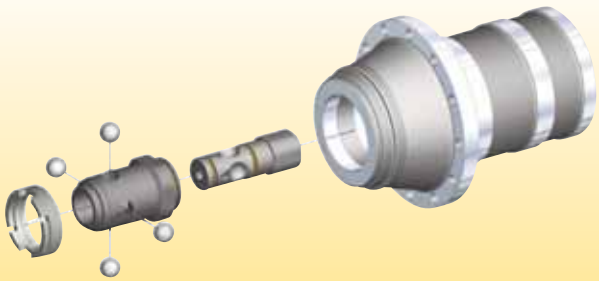
Front-Loading Spindle Design

The KM Advantage

KM spindle designs are front loading; this enables easy access to the KM spindle if repairs are necessary.

The Competitor Disadvantage

Most other spindle systems are not a front-load design, and when repairs are necessary, the entire spindle must be removed. This causes the machine to be down for an extended period of time.



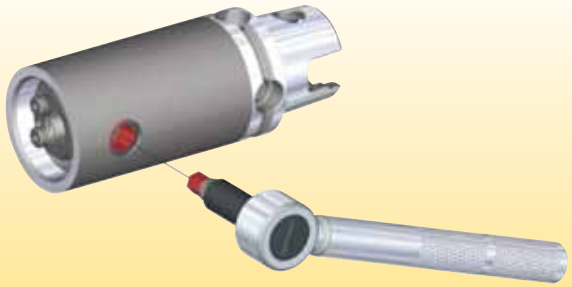
Side-Activated Tools

The KM Advantage

All KM extensions and reducers are side activated. This enables you to change tools without disassembling the entire setup.

The Competitor Disadvantage

Competing modular systems do not offer side activation. For these systems, you must completely disassemble tooling in order to change cutting units.



Mechanical Advantage in Clamping Force

The KM Advantage

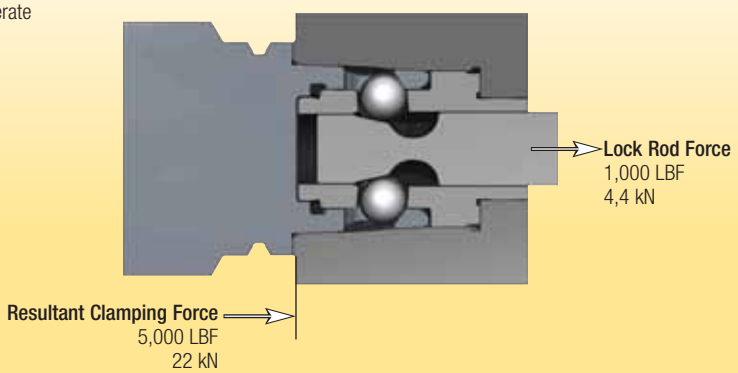
The KM design is an interference fit that enables the KM system to generate 4:1 and upwards of 7:1 mechanical advantage in clamping force.

The Competitor Disadvantage

CV, BT, HSK, and PSC mechanisms require a high degree of pull-back force to generate clamping force. The design generates a high amount of pent-up force within the spindle. When a crash occurs, the forces are released and could possibly damage the entire spindle mechanism.

Mechanical Advantage Provides:

- Lower tool release forces.
- Smaller clamping mechanism envelope.



Machine Utilization Strategy (MUS)

Tool change and setup/gaging can significantly decrease production time. Kennametal recommends the implementation of a Machine Utilization Strategy (MUS). This system incorporates the products, technologies, and procedures that generate the maximum utility from capital equipment.

Listed below are the products and services Kennametal recommends to provide the most time and cost savings, which are principle to the MUS.



This manufacturing strategy hastens every aspect of the production process from the machine to the tool room. It will improve tool maintenance, increase machining time and productivity, and decrease non-conforming percentages.

*To learn more, **scan here**.*
For instructions on how to scan, please see page xxxiii.

1. **KM Quick Change Tooling**

   Reduces downtime and increases productivity by cutting the time spent on tool change and setup.

2. **Advanced Cutting Tool Materials**

   Increase production through the utilization of the most advanced cutting tools that enable machines to run longer and faster between tool changes.

3. **Tool Kitting**

   Provides all the tooling (fixturing included) required to complete a production run or shift operation.

4. **Pregaged Tooling**

   Eliminates measuring cuts from the setup process, reduces the risk of human error at the machine control, and provides a quick and efficient method for changing worn tools.

5. **Advanced Tool Management Systems**

   Specifically designed to facilitate the effective management of cutting tools but are equally capable of controlling other types of inventory and consumable goods.

ISO 26622

The power of Kennametal



Kennametal is a world leader in the development, manufacture, application, and supply of metalcutting tools and services — and the undisputed top global maker of mining and highway-construction tooling. No matter what your industry, Kennametal will significantly boost your manufacturing competitiveness.

Our products are proven to significantly increase machining productivity and competiveness, as well as generate cost-savings of up to 30% annually. Our unique Productivity Worksheet can calculate just how much time and money Kennametal KM™ Quick Change products can save. Enter your data to see how Kennametal can maximize your competiveness!

Benefits of the Productivity Worksheet:

- See documented savings of 10–30% in machining costs.
- Uses your unique data to compare current productivity to potential savings.
- Relative and flexible to your specific machines and operation rates.
- Highlights how lost time can cost your business.
- Tracks weaknesses in machining setup that can reduce production time.
- Proves the Machine Utilization Strategy (MUS) is the ultimate way to optimize performance.

The way to increase productivity is simple — complete the Productivity Worksheet and see how much Kennametal could be saving you. If you're impressed by the increase in manufacturing productivity that the calculations show, contact us. Our application experts are accessible when you need them and will work with you to solve production problems. Switching to Kennametal will bring about the manufacturing capability and profits your business needs to strengthen customer loyalty and thrive in an increasingly competitive marketplace.





KM™ QUICK CHANGE

KM Tooling Increase Your Productivity

Issued by: _____

Machine Manufacturer: _____ Date: _____

Hourly Cost for Machine: _____ Model and Year: _____



			conventional tooling		KM Quick Change Tooling*	time savings (minutes)
Step 1 • Enter number of setups on machine per shift:	1					
Step 2 • Enter number of shifts per day:	2					
Step 3 • Enter number of insert changes per shift:	10					
Step 4 • Enter set-up time for conventional tooling (minutes):			10	-	2.5	= 7.5
Step 5 • Enter insert change time (minutes):			3	-	0.5	= 2.5
Step 6 • Enter trial cut time (minutes):			5	-	0	= 5

		shifts per day		days per year		shifts per year
Step 7 • Multiply the number of shifts per day (see Step 2) by number of days per year the machine will be used.		2	x	200	=	400

		insert changes per shift		shifts per year		insert changes per year
Step 8 • Multiply the number of insert changes per shift (see Step 3) by the number of shifts per year (see Step 7).		10	x	400	=	4,000

		insert changes per year		% required trial cuts		trial cuts per year
Step 9 • Multiply the number of insert changes per year (see Step 8) by the % of required trial cuts.		4,000	x	0.25	=	1,000

Annual Time Savings with KM Quick Change Tooling Package

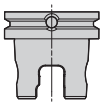
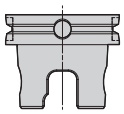
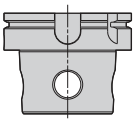
		number		time savings (minutes)		total (minutes)
Step 10 • Enter shifts per year from Step 7.		400	x	7.5	=	3,000
Step 11 • Enter insert changes per year from Step 8.		4,000	x	2.5	=	10,000
Step 12 • Enter trial cuts per year from Step 9.		1,000	x	5	=	5,000
						18,000

18,000 minutes divided by 60 minutes = 300 hours

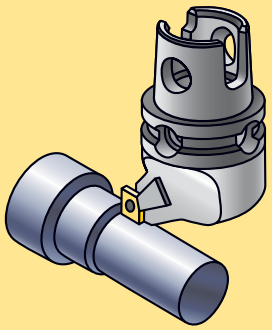
total hours saved		hourly machine cost		annual $$ saved**
300	x	$50.00	=	$15,000.00

*Data provided by your Authorized Kennametal Representative. **Annual savings per machine. Multiply by number of machines to see total overall annual savings.

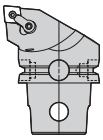
KM Quick Change Toolholder Options

KM Micro™ KM12 • KM1612 KM16 • KM2016	KM™ Mini KM20 • KM2520 KM25 • KM3225	KM32TS • KM40TS KM50TS • KM63TS KM80TS	KM63XMZ	KM80ATC	KM4X100
					

External Turning

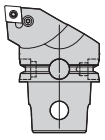


M-Clamping



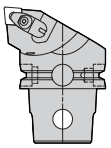
KM12	—
KM16	Pages: A84–A85
KM20	Pages: A134–A142
KM25	Pages: A134–A142
KM32TS	Pages: A221–A226
KM40TS	Pages: A278–A288
KM50TS	Pages: A358–A368
KM63TS	Pages: A447–A458
KM80TS	Pages: A521–A527
KM63XMZ	Pages: A558–A561
KM80ATC	Pages: A597–A600
KM4X100	—

P-Clamping



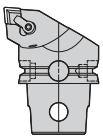
KM12	—
KM16	
KM20	Pages: A143–A144
KM25	—
KM32TS	Pages: A227–A229
KM40TS	Pages: A288–A295
KM50TS	Pages: A370–A376
KM63TS	Pages: A458–A466
KM80TS	Pages: A528–A530
KM63XMZ	Pages: A561–A562
KM80ATC	Page: A600
KM4X100	—

Kenclamp™



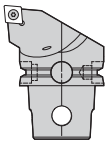
KM12	—
KM16	
KM20	
KM25	
KM32TS	
KM40TS	Pages: A265–A277
KM50TS	Pages: A345–A357
KM63TS	Pages: A435–A446
KM80TS	Pages: A519–A520
KM63XMZ	—
KM80ATC	Pages: A593–A596
KM4X100	—

C-Clamping



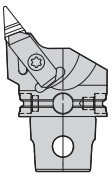
KM12	—
KM16	
KM20	
KM25	
KM32TS	Page: A232
KM40TS	—
KM50TS	Pages: A378–A382
KM63TS	Pages: A469–A472
KM80TS	—
KM63XMZ	
KM80ATC	
KM4X100	

S-Clamping



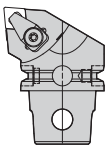
KM12	Pages: A78–A83
KM16	Pages: A78–A83, A94–A97
KM20	Pages: A145–A147, A151–A153
KM25	Pages: A145–A152
KM32TS	Pages: A230–A231
KM40TS	Pages: A297–A302
KM50TS	Pages: A376–A377
KM63TS	Pages: A466–A468
KM80TS	—
KM63XMZ	Page: A562
KM80ATC	—
KM4X100	

Top Notch™ Profiling



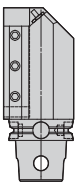
KM12	—
KM16	
KM20	
KM25	
KM32TS	Pages: A232–A235
KM40TS	Pages: A303–A306
KM50TS	Pages: A383–A384
KM63TS	Pages: A473–A476
KM80TS	—
KM63XMZ	
KM80ATC	
KM4X100	

Top Notch™ Turning (TNT)



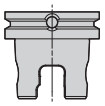
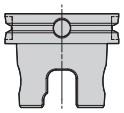
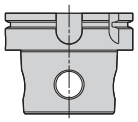
KM12	—
KM16	
KM20	
KM25	
KM32TS	
KM40TS	
KM50TS	Pages: A379–A382
KM63TS	—
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	

STA, ETA, and 45° TA Square Shank Adapters



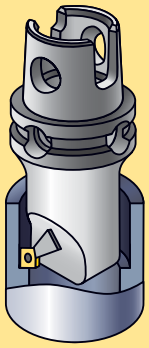
KM12	—
KM16	
KM20	
KM25	
KM32TS	
KM40TS	
KM50TS	
KM63TS	Pages: A432–A433
KM80TS	Pages: A517–A518
KM63XMZ	Pages: A554–A557
KM80ATC	Pages: A591–A592
KM4X100	—

— Indicates "Not Available".

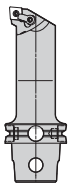
KM Micro™ KM12 • KM1612 KM16 • KM2016	KM™ Mini KM20 • KM2520 KM25 • KM3225	KM32TS • KM40TS KM50TS • KM63TS KM80TS	KM63XMZ	KM80ATC	KM4X100
					

KM Quick Change Toolholder Options

Internal Turning

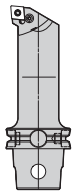


M-Clamping



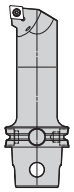
KM1612	
KM2016	
KM2520	Pages: A168, A171–A174
KM3225	Pages: A166–A174
KM32TS	Pages: A240–A241
KM40TS	Pages: A314–A316
KM50TS	Pages: A392–A396
KM63TS	Pages: A481–A487
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	

P-Clamping



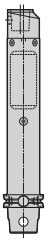
KM1612	
KM2016	
KM2520	Pages: A175–A176
KM3225	Pages: A175–A176
KM32TS	Pages: A242–A243
KM40TS	Pages: A317–A319
KM50TS	Pages: A397–A398
KM63TS	Pages: A488–A491
KM80TS	
KM63XMZ	Pages: A565–A566
KM80ATC	
KM4X100	

S-Clamping



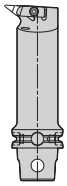
KM1612	Pages: A103–A111
KM2016	Pages: A100–A101, A109, A111
KM2520	
KM3225	
KM32TS	Pages: A244–A246
KM40TS	
KM50TS	Pages: A399–A402
KM63TS	Pages: A491–A492
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	

Tunable System KM™



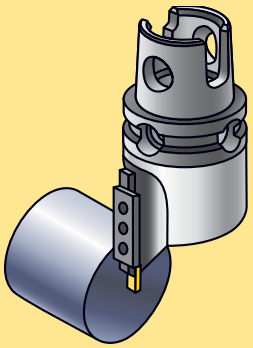
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	
KM50TS	
KM63TS	Page: A494
KM80TS	
KM63XMZ	Page: A568
KM80ATC	
KM4X100	

Top Notch™ Profiling

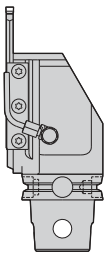


KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	
KM50TS	Pages: A403–A404
KM63TS	
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	

External Cut-Off

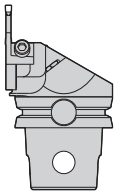


A2™



KM12	Page: A87
KM16	Page: A87
KM20	
KM25	Pages: A161–A162
KM32TS	
KM40TS	Page: A312
KM50TS	Page: A391
KM63TS	Pages: A481–A482
KM80TS	
KM63XMZ	Page: A564
KM80ATC	
KM4X100	

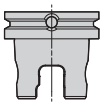
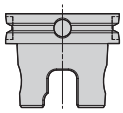
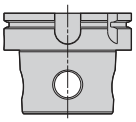
A3™/A4™



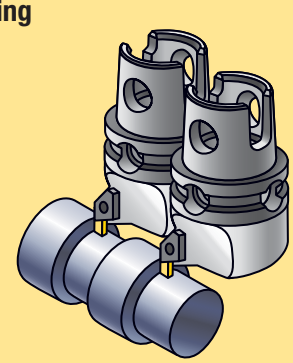
KM12	Pages: A86, A88
KM16	Pages: A86, A88
KM20	Pages: A156–A160
KM25	Pages: A156–A159
KM32TS	
KM40TS	Page: A311
KM50TS	Pages: A389–A390
KM63TS	Pages: A479–A480
KM80TS	Pages: A532–A535
KM63XMZ	Page: A563
KM80ATC	Pages: A602–A603
KM4X100	

Indicates "Not Available".

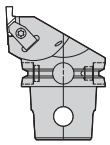
KM Quick Change Toolholder Options

KM Micro™ KM12 • KM1612 KM16 • KM2016	KM™ Mini KM20 • KM2520 KM25 • KM3225	KM32TS • KM40TS KM50TS • KM63TS KM80TS	KM63XMZ	KM80ATC	KM4X100
					

External Grooving

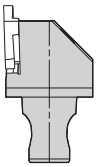


Top Notch™ Grooving



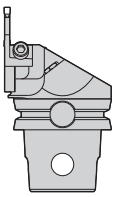
KM12	Page: A89
KM16	Pages: A88–A89, A97
KM20	Pages: A153–A154
KM25	Pages: A153–A154
KM32TS	Pages: A235–A236
KM40TS	Pages: A307–A308
KM50TS	Pages: A385–A386
KM63TS	Page: A477
KM80TS	Page: A531
KM63XMZ	—
KM80ATC	Page: A601
KM4X100	—

On-Edge Grooving



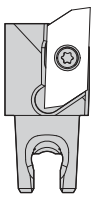
KM12	Page: A90
KM16	Page: A90
KM20	—
KM25	—
KM32TS	—
KM40TS	—
KM50TS	—
KM63TS	—
KM80TS	—
KM63XMZ	—
KM80ATC	—
KM4X100	—

A3™/A4™



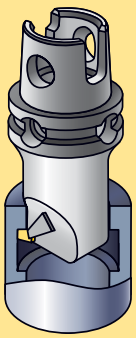
KM12	Pages: A86, A88
KM16	Pages: A86, A88
KM20	Pages: A156–A160
KM25	Pages: A156–A159
KM32TS	—
KM40TS	Page: A311
KM50TS	Pages: A389–A390
KM63TS	Pages: A479–A480
KM80TS	Pages: A532–A535
KM63XMZ	Page: A563
KM80ATC	Pages: A602–A603
KM4X100	—

Kenna Precision™

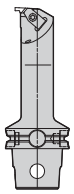


KM12	Pages: A89–A90
KM16	Pages: A89–A90
KM20	—
KM25	—
KM32TS	—
KM40TS	—
KM50TS	—
KM63TS	—
KM80TS	—
KM63XMZ	—
KM80ATC	—
KM4X100	—

Internal Grooving

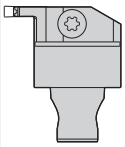


Top Notch™ Grooving



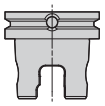
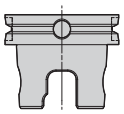
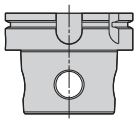
KM1612	—
KM2016	Page: A102
KM2520	Page: A177
KM3225	Page: A177
KM32TS	Page: A247
KM40TS	Pages: A320–A322
KM50TS	Pages: A406–A407
KM63TS	Page: A477
KM80TS	Page: A492
KM63XMZ	—
KM80ATC	—
KM4X100	—

A3™/A4™



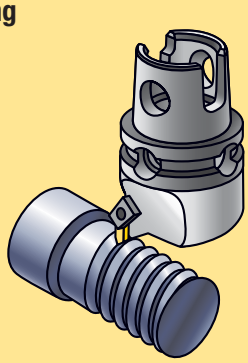
KM1612	—
KM2016	—
KM2520	Pages: A180–A182
KM3225	Pages: A180–A182
KM32TS	—
KM40TS	—
KM50TS	—
KM63TS	—
KM80TS	—
KM63XMZ	—
KM80ATC	—
KM4X100	—

— Indicates "Not Available".

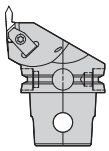
KM Micro™ KM12 • KM1612 KM16 • KM2016	KM™ Mini KM20 • KM2520 KM25 • KM3225	KM32TS • KM40TS KM50TS • KM63TS KM80TS	KM63XMZ	KM80ATC	KM4X100
					

KM Quick Change Toolholder Options

External Threading

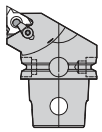


Top Notch™ Threading



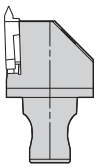
KM12	Page: A89
KM16	Pages: A88–A89, A97
KM20	Pages: A153–A154
KM25	Pages: A153–A154
KM32TS	Pages: A235–A236
KM40TS	Pages: A307–A308
KM50TS	Pages: A385–A386
KM63TS	Page: A477
KM80TS	Page: A531
KM63XMZ	—
KM80ATC	Page: A601
KM4X100	—

LT Threading



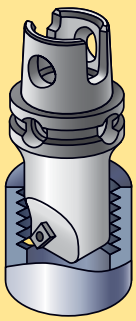
KM12	Page: A91
KM16	Pages: A91, A97
KM20	Page: A155
KM25	Page: A155
KM32TS	Pages: A237–A238
KM40TS	Pages: A309–A310
KM50TS	Pages: A386–A388
KM63TS	Page: A478
KM80TS	—
KM63XMZ	—
KM80ATC	—
KM4X100	—

On-Edge Threading

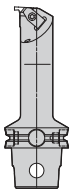


KM12	Page: A90
KM16	Page: A90
KM20	—
KM25	—
KM32TS	—
KM40TS	—
KM50TS	—
KM63TS	—
KM80TS	—
KM63XMZ	—
KM80ATC	—
KM4X100	—

Internal Threading

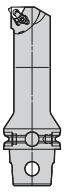


Top Notch™ Threading



KM1612	—
KM2016	Page: A102
KM2520	Page: A177
KM3225	Page: A177
KM32TS	Page: A247
KM40TS	Pages: A320–A322
KM50TS	Pages: A406–A407
KM63TS	Page: A492
KM80TS	—
KM63XMZ	—
KM80ATC	—
KM4X100	—

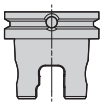
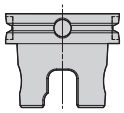
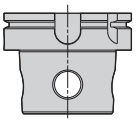
LT Threading



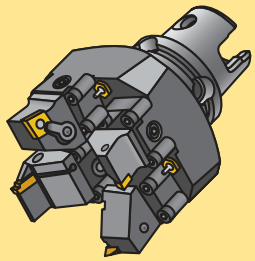
KM1612	—
KM2016	—
KM2520	Page: A178
KM3225	Page: A178
KM32TS	Page: A248
KM40TS	Page: A323
KM50TS	Page: A408
KM63TS	—
KM80TS	—
KM63XMZ	—
KM80ATC	—
KM4X100	—

— Indicates "Not Available".

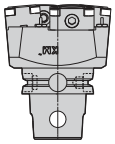
KM Quick Change Toolholder Options

KM Micro™ KM12 • KM1612 KM16 • KM2016	KM™ Mini KM20 • KM2520 KM25 • KM3225	KM32TS • KM40TS KM50TS • KM63TS KM80TS	KM63XMZ	KM80ATC	KM4X100
					

External Multi-Tasking

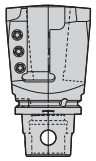


4X STA — KM™



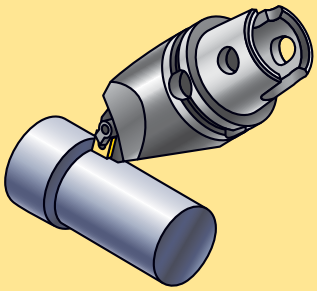
KM12	
KM16	
KM20	
KM25	
KM32TS	
KM40TS	
KM50TS	
KM63TS	Page: A431
KM80TS	
KM63XMZ	Page: A553
KM80ATC	
KM4X100	

2X/4X STA — Square Shanks

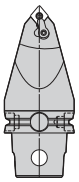


KM12	
KM16	
KM20	
KM25	
KM32TS	
KM40TS	
KM50TS	
KM63TS	
KM80TS	
KM63XMZ	Page: A556
KM80ATC	
KM4X100	

External Centerline

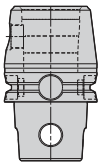


M-Clamping



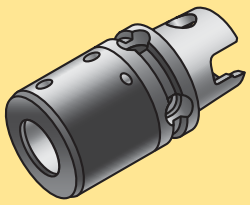
KM12	
KM16	
KM20	
KM25	
KM32TS	
KM40TS	
KM50TS	Pages: A368–A370
KM63TS	Pages: A456–A458
KM80TS	
KM63XMZ	Pages: A559–A561
KM80ATC	
KM4X100	

KM™ Reducers

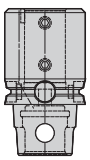


KM12	
KM16	
KM20	
KM25	
KM32TS	
KM40TS	
KM50TS	
KM63TS	Page: A515
KM80TS	
KM63XMZ	Page: A588
KM80ATC	
KM4X100	

Turning Adapters

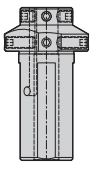


Boring Bar Adapters



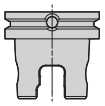
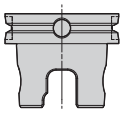
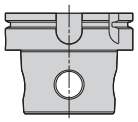
KM1612	
KM2016	
KM2520	Page: A184
KM3225	Page: A184
KM32TS	Pages: A249–A251
KM40TS	Pages: A324–A325
KM50TS	Pages: A409–A410
KM63TS	Page: A495
KM80TS	Page: A536
KM63XMZ	Page: A569
KM80ATC	Page: A604
KM4X100	

Boring Bar Sleeves



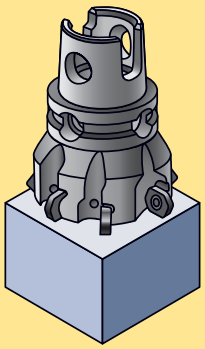
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	Page: A251
KM40TS	
KM50TS	
KM63TS	
KM80TS	Page: A570
KM63XMZ	Page: A570
KM80ATC	Page: A570
KM4X100	

Indicates "Not Available".

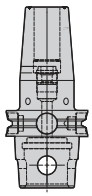
KM Micro™ KM12 • KM1612 KM16 • KM2016	KM™ Mini KM20 • KM2520 KM25 • KM3225	KM32TS • KM40TS KM50TS • KM63TS KM80TS	KM63XMZ	KM80ATC	KM4X100
					

KM Quick Change Toolholder Options

Milling

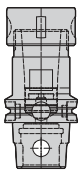


Shrink Fit



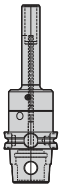
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	
KM50TS	
KM63TS	Pages: A496–A499
KM80TS	Pages: A538–A541
KM63XMZ	Pages: A572–A575
KM80ATC	Pages: A606–A609
KM4X100	Pages: A622–A625

TG Collet Chucks



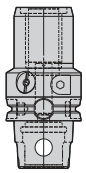
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	Pages: A252–A253
KM40TS	Pages: A320–A329
KM50TS	Pages: A412–A413
KM63TS	Page: A502
KM80TS	Page: A542
KM63XMZ	Page: A578
KM80ATC	Page: A610
KM4X100	Page: A626

Slim Line Hydraulic



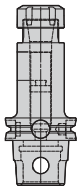
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	
KM50TS	
KM63TS	Page: A501
KM80TS	
KM63XMZ	Page: A577
KM80ATC	
KM4X100	

Hydraulic Chucks



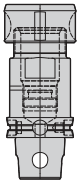
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	Page: A326
KM50TS	Page: A411
KM63TS	Page: A500
KM80TS	
KM63XMZ	Page: A576
KM80ATC	
KM4X100	

ER Collet Chucks



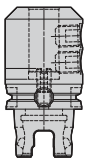
KM1612	Page: A112
KM2016	Pages: A112–A113
KM2520	
KM3225	Page: A183
KM32TS	Pages: A254–A255
KM40TS	Pages: A330–A331
KM50TS	Page: A414
KM63TS	Pages: A504–A505
KM80TS	Pages: A542–A544
KM63XMZ	Pages: A580–A581
KM80ATC	Page: A611
KM4X100	Page: A627

DA Collet Chucks



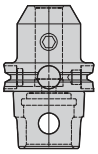
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	Pages: A256–A257
KM40TS	Pages: A332–A333
KM50TS	Pages: A416–A417
KM63TS	
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	

Whistle Notch™ Adapters



KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	Page: A334
KM50TS	Page: A418
KM63TS	Page: A500
KM80TS	Page: A545
KM63XMZ	Pages: A582–A583
KM80ATC	Page: A613
KM4X100	Page: A628

End Mill Adapters

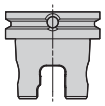
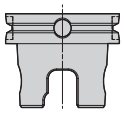
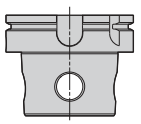


KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	Page: A258
KM40TS	Page: A335
KM50TS	Page: A419
KM63TS	Page: A507
KM80TS	Page: A546
KM63XMZ	Pages: A583–A584
KM80ATC	Pages: A613–A614
KM4X100	Page: A630

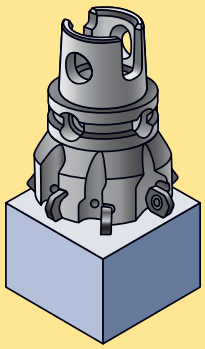
Indicates "Not Available".

(continued)

KM Quick Change Toolholder Options

KM Micro™ KM12 • KM1612 KM16 • KM2016	KM™ Mini KM20 • KM2520 KM25 • KM3225	KM32TS • KM40TS KM50TS • KM63TS KM80TS	KM63XMZ	KM80ATC	KM4X100
					

Milling *(continued)*

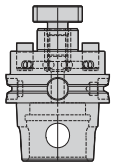


Tunable Shell Mill Adapters



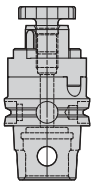
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	
KM50TS	
KM63TS	
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	Page: A631

Shell Mill Adapters



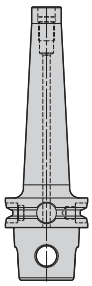
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	Page: A336
KM50TS	Pages: A420–A421
KM63TS	Page: A508
KM80TS	Page: A547
KM63XMZ	Page: A586
KM80ATC	Page: A616
KM4X100	Pages: A632–A633

Combi-Shell Mill Adapters



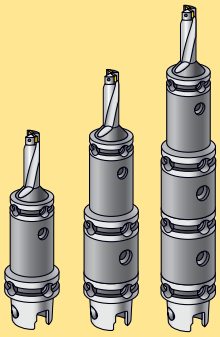
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	Page: A337
KM50TS	Page: A421
KM63TS	Page: A509
KM80TS	Page: A548
KM63XMZ	Page: A587
KM80ATC	
KM4X100	

Screw-On Adapters

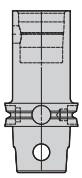


KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	
KM50TS	Page: A422
KM63TS	Page: A510
KM80TS	Page: A548
KM63XMZ	
KM80ATC	
KM4X100	

Modular Extensions and Reducers

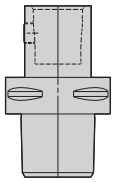


KM™ Modular



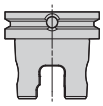
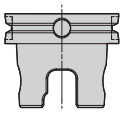
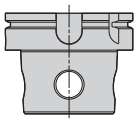
KM1612	
KM2016	
KM2520	Page: A185
KM3225	Page: A185
KM32TS	Page: A262
KM40TS	Page: A342
KM50TS	Pages: A427–A428
KM63TS	Pages: A314–A315
KM80TS	Pages: A549–A550
KM63XMZ	Pages: A588–A589
KM80ATC	Pages: A617–A618
KM4X100	Page: A634

PSC to KM Modular



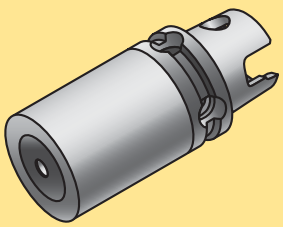
PSC63	Page: A619
PSC80	Page: A619

Indicates "Not Available".

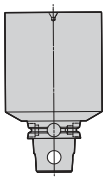
KM Micro™ KM12 • KM1612 KM16 • KM2016	KM™ Mini KM20 • KM2520 KM25 • KM3225	KM32TS • KM40TS KM50TS • KM63TS KM80TS	KM63XMZ	KM80ATC	KM4X100
					

KM Quick Change Toolholder Options

Auxiliary

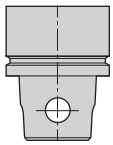


Blanks



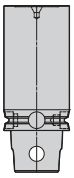
KM12	Page: A115
KM1612	Page: A115
KM16	Page: A115
KM2016	Page: A115
KM20	Page: A186
KM2520	Page: A186
KM25	Page: A186
KM3225	Page: A186
KM32TS	Page: A263
KM40TS	Page: A343
KM50TS	Page: A428
KM63TS	Page: A515
KM80TS	Page: A551
KM63XMZ	Page: A589
KM80ATC	Page: A618
KM4X100	Page: A635

Plugs



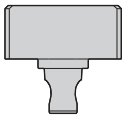
KM12	Page: A117
KM1612	Page: A117
KM16	Page: A117
KM2016	Page: A117
KM20	Page: A186
KM2520	Page: A186
KM25	Page: A186
KM3225	Page: A186
KM32TS	Page: L42
KM40TS	Page: L42
KM50TS	Page: L42
KM63TS	Page: L42
KM80TS	Page: L42
KM63XMZ	
KM80ATC	
KM4X100	

Gage Bars



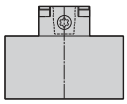
KM12	Page: A115
KM16	Page: A115
KM20	Page: A187
KM25	Page: A187
KM32TS	Page: A261
KM40TS	Page: A343
KM50TS	Page: A426
KM63TS	Page: A514
KM80TS	
KM63XMZ	Page: A587
KM80ATC	
KM4X100	Page: A635

Timing Heads



KM12	Page: A116
KM16	Page: A116
KM2520	
KM3225	
KM32TS	
KM40TS	
KM50TS	
KM63TS	
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	

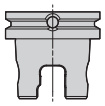
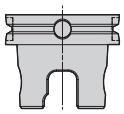
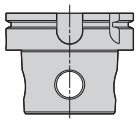
Tumble Block



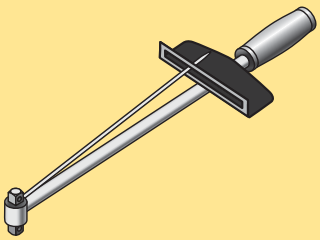
KM12	Page: A117
KM16	Page: A117
KM2520	Page: A189
KM3225	Page: A189
KM32TS	
KM40TS	
KM50TS	
KM63TS	
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	

Indicates "Not Available".

KM Quick Change Toolholder Options

KM Micro™ KM12 • KM1612 KM16 • KM2016	KM™ Mini KM20 • KM2520 KM25 • KM3225	KM32TS • KM40TS KM50TS • KM63TS KM80TS	KM63XMZ	KM80ATC	KM4X100
					

Accessories

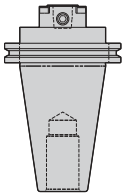


Torque Wrenches



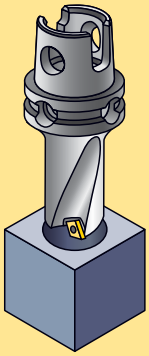
KM12	Page: L52
KM1612	Page: L52
KM16	Page: L52
KM2016	Page: L52
KM20	Page: L52
KM2520	Page: L52
KM25	Page: L52
KM3225	Page: L52
KM32TS	Page: L52
KM40TS	Page: L52
KM50TS	Page: L52
KM63TS	Page: L52
KM80TS	Page: L52
KM63XMZ	Page: L52
KM80ATC	Page: L52
KM4X100	◀

Presetter Shanks

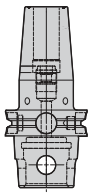


KM12	Page: A114
KM1612	◀
KM16	Page: A114
KM2016	◀
KM20	Page: A188
KM2520	Page: A188
KM25	Page: A188
KM3225	Page: A188
KM32TS	◀
KM40TS	
KM50TS	
KM63TS	
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	

Drilling

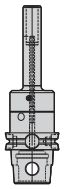


Shrink Fit



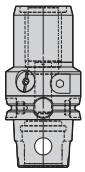
KM1612	◀
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	
KM50TS	
KM63TS	Pages: A496–A499
KM80TS	Pages: A538–A541
KM63XMZ	Pages: A572–A575
KM80ATC	Pages: A606–A609
KM4X100	Pages: A622–A625

Slim Line Hydraulic



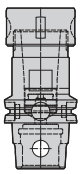
KM1612	◀
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	
KM50TS	
KM63TS	Page: A501
KM80TS	◀
KM63XMZ	Page: A577
KM80ATC	◀
KM4X100	

Hydraulic Chucks



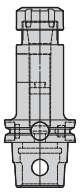
KM1612	◀
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	Page: A326
KM50TS	Page: A411
KM63TS	Page: A500
KM80TS	◀
KM63XMZ	Page: A576
KM80ATC	◀
KM4X100	

TG Collet Chucks



KM1612	◀
KM2016	
KM2520	
KM3225	
KM32TS	Pages: A252–A253
KM40TS	Pages: A320–A329
KM50TS	Pages: A412–A413
KM63TS	Page: A502
KM80TS	Page: A542
KM63XMZ	Page: A578
KM80ATC	Page: A610
KM4X100	Page: A626

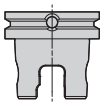
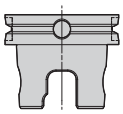
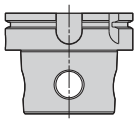
ER Collet Chucks



KM1612	Page: A112
KM2016	Pages: A112–A113
KM2520	◀
KM3225	Page: A183
KM32TS	Pages: A254–A255
KM40TS	Pages: A330–A331
KM50TS	Page: A414
KM63TS	Pages: A504–A505
KM80TS	Pages: A542–A544
KM63XMZ	Pages: A580–A581
KM80ATC	Page: A611
KM4X100	Page: A627

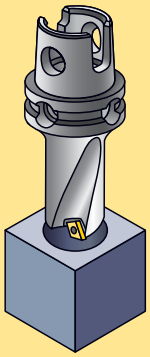
◀ Indicates "Not Available".

(continued)

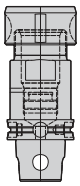
KM Micro™ KM12 • KM1612 KM16 • KM2016	KM™ Mini KM20 • KM2520 KM25 • KM3225	KM32TS • KM40TS KM50TS • KM63TS KM80TS	KM63XMZ	KM80ATC	KM4X100
					

KM Quick Change Toolholder Options

Drilling *(continued)*



DA Collet Chucks



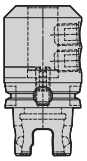
KM1612	✓
KM2016	✓
KM2520	✓
KM3225	✓
KM32TS	Pages: A256–A257
KM40TS	Pages: A332–A333
KM50TS	Pages: A416–A417
KM63TS	✓
KM80TS	✓
KM63XMZ	✓
KM80ATC	✓
KM4X100	✓

Drill Chucks



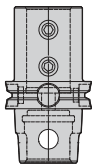
KM1612	✓
KM2016	✓
KM2520	✓
KM3225	✓
KM32TS	✓
KM40TS	Page: A333
KM50TS	Page: A418
KM63TS	✓
KM80TS	✓
KM63XMZ	Page: A582
KM80ATC	✓
KM4X100	✓

Whistle Notch™ Adapters



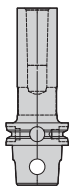
KM1612	✓
KM2016	✓
KM2520	✓
KM3225	✓
KM32TS	✓
KM40TS	Page: A334
KM50TS	Page: A418
KM63TS	Page: A500
KM80TS	Page: A545
KM63XMZ	Pages: A582–A583
KM80ATC	Page: A613
KM4X100	Page: A628

Straight Shanks



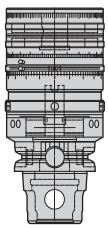
KM1612	✓
KM2016	✓
KM2520	✓
KM3225	✓
KM32TS	✓
KM40TS	✓
KM50TS	✓
KM63TS	Page: A511
KM80TS	✓
KM63XMZ	Page: A585
KM80ATC	Pages: A612–A615
KM4X100	Page: A629

Morse Tapers



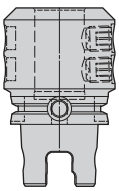
KM1612	✓
KM2016	✓
KM2520	✓
KM3225	✓
KM32TS	✓
KM40TS	Page: A338
KM50TS	Page: A427
KM63TS	✓
KM80TS	✓
KM63XMZ	✓
KM80ATC	✓
KM4X100	✓

Romicron™



KM1612	✓
KM2016	✓
KM2520	✓
KM3225	✓
KM32TS	✓
KM40TS	✓
KM50TS	✓
KM63TS	✓
KM80TS	✓
KM63XMZ	Page: A585
KM80ATC	✓
KM4X100	✓

Drill Fix™ Adapters

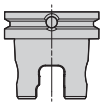
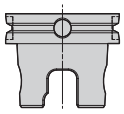
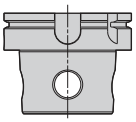


KM1612	✓
KM2016	✓
KM2520	✓
KM3225	✓
KM32TS	✓
KM40TS	✓
KM50TS	✓
KM63TS	Page: A511
KM80TS	✓
KM63XMZ	✓
KM80ATC	✓
KM4X100	✓

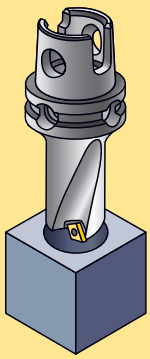
✓ Indicates "Not Available".

(continued)

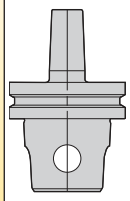
KM Quick Change Toolholder Options

KM Micro™ KM12 • KM1612 KM16 • KM2016	KM™ Mini KM20 • KM2520 KM25 • KM3225	KM32TS • KM40TS KM50TS • KM63TS KM80TS	KM63XMZ	KM80ATC	KM4X100
					

Drilling *(continued)*

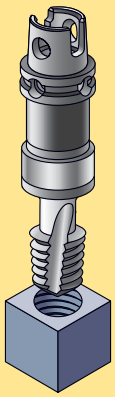


Jacobs/DIN

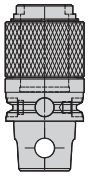


KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	Pages: A259
KM40TS	
KM50TS	
KM63TS	
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	

Tapping

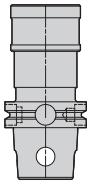


Solid Tapping



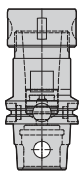
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	Page: A259
KM40TS	Page: A338
KM50TS	Page: A423
KM63TS	
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	

RC Rapid Change



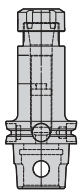
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	
KM40TS	
KM50TS	
KM63TS	Page: A511
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	

TG Collet Chucks



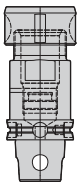
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	Pages: A252–A253
KM40TS	Pages: A320–A329
KM50TS	Pages: A412–A413
KM63TS	Page: A502
KM80TS	Page: A542
KM63XMZ	Page: A578
KM80ATC	Page: A610
KM4X100	Page: A626

ER Collet Chucks



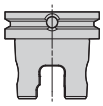
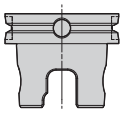
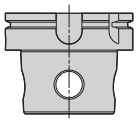
KM1612	Page: A112
KM2016	Pages: A112–A113
KM2520	
KM3225	Page: A183
KM32TS	Pages: A254–A255
KM40TS	Pages: A330–A331
KM50TS	Page: A414
KM63TS	Pages: A504–A505
KM80TS	Pages: A542–A544
KM63XMZ	Pages: A580–A581
KM80ATC	Page: A611
KM4X100	Page: A627

DA Collet Chucks



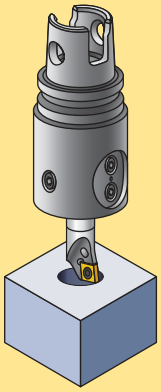
KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	Pages: A256–A257
KM40TS	Pages: A332–A333
KM50TS	Pages: A416–A417
KM63TS	
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	

Indicates "Not Available".

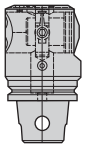
KM Micro™ KM12 • KM1612 KM16 • KM2016	KM™ Mini KM20 • KM2520 KM25 • KM3225	KM32TS • KM40TS KM50TS • KM63TS KM80TS	KM63XMZ	KM80ATC	KM4X100
					

KM Quick Change Toolholder Options

Boring



ModBORE™



KM1612	
KM2016	
KM2520	
KM3225	
KM32TS	Pages: A260–A261
KM40TS	Pages: A339–A341
KM50TS	Pages: A424–A426
KM63TS	Pages: A512–A513
KM80TS	
KM63XMZ	
KM80ATC	
KM4X100	

 Indicates "Not Available".

Looking for a product that's not shown in this catalog?
Check the Kennametal website!



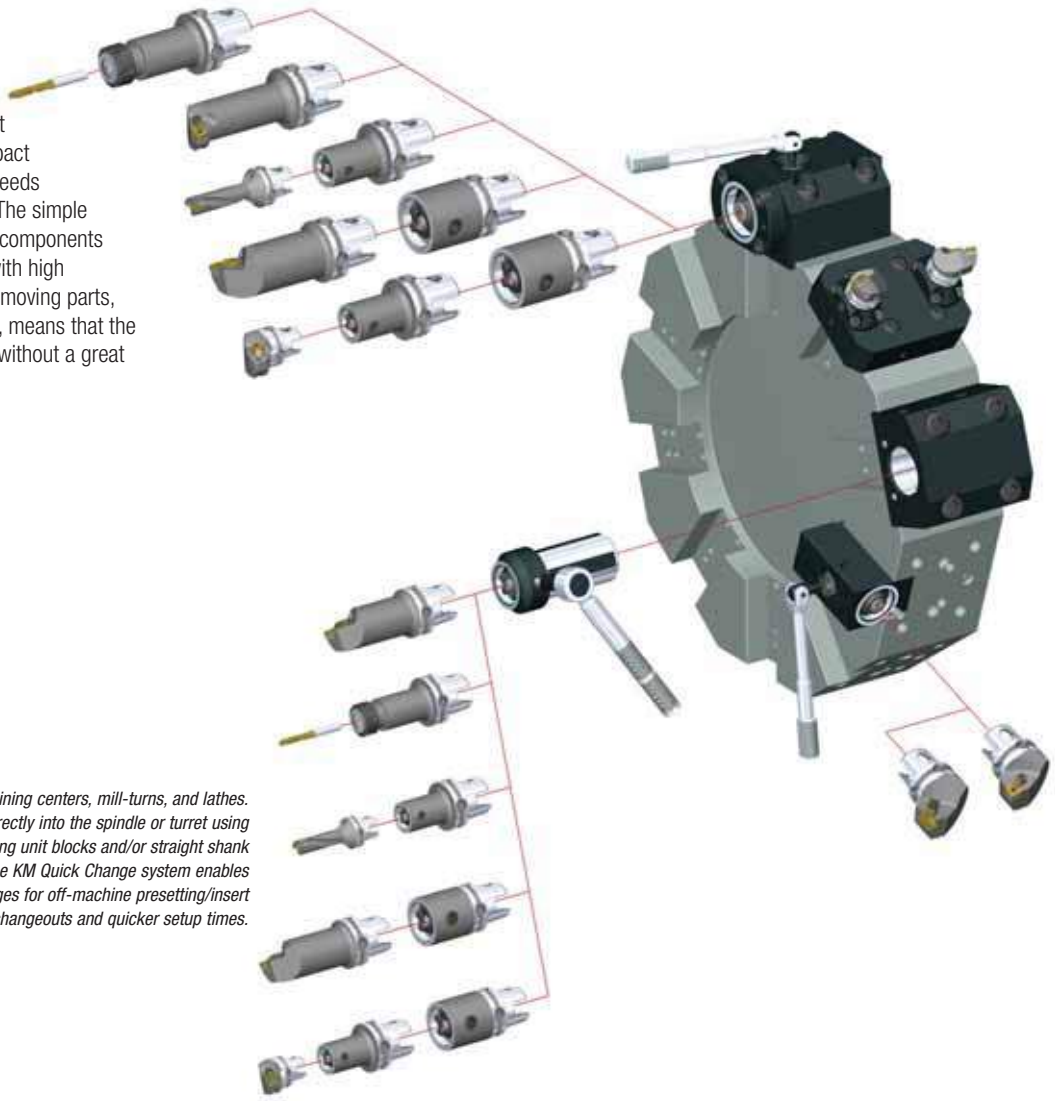
Online product catalog available 24/7

Visit **http://www.kennametal.com/toolingsystems/** to browse our electronic catalog any time you're looking for Kennametal's best tooling solutions. It's fast, free, and always available. The online e-catalog is updated weekly with products and solutions for milling, turning, holemaking, and tooling systems applications.

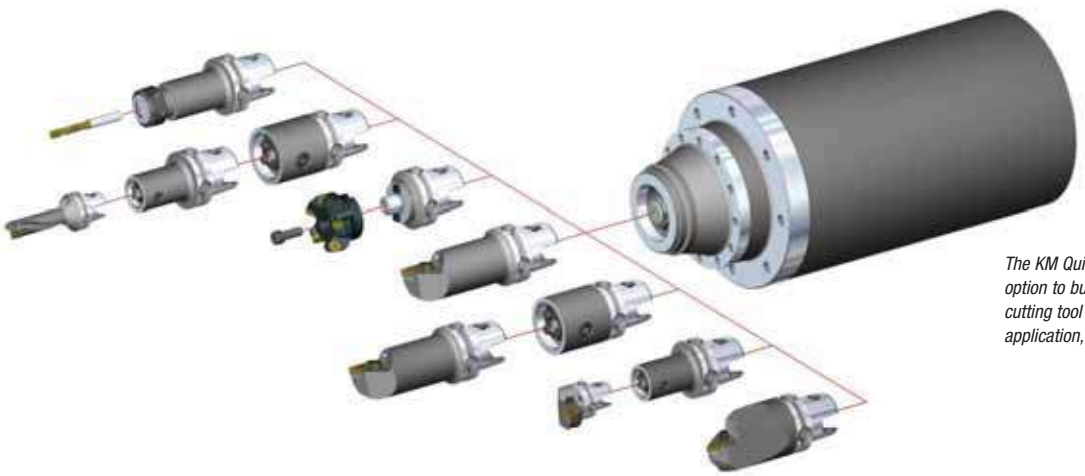
KENNAMETAL®

Conversion and Clamping System
Clamping Units

KM™ offers a variety of different clamping designs to suit manufacturing needs. Each unit design comes in a portfolio of compact options to further diversify tooling needs across a multitude of applications. The simple design of the units utilizes minimal components to create a strong clamping force with high mechanical advantage. Having few moving parts, and requiring a low activation force, means that the KM Quick Change Clamps operate without a great deal of maintenance or error.



One system for machining centers, mill-turns, and lathes. Can be integrated directly into the spindle or turret using standardized clamping unit blocks and/or straight shank conversions to KM. The KM Quick Change system enables speedy tool changes for off-machine presetting/insert changeouts and quicker setup times.



The KM Quick Change modular system offers the option to build a combination of many possible cutting tool lengths for best rigidity for the application, optimizing costs and inventory.

Manual and Automatic Clamping Units


KM Manual Square Shank Replacements


KM Manual Round Shanks


KM Manual Flange Mounts


Rapid/ Rapid Plus


KM-LOC II™ Square Shanks


KM-LOC II Round Shanks


KM-LOC II VDI Axial


KM Automatic Static

KM Manual Clamping Units

- Simple, compact design for use in many applications.
- Single- or four-pin clamping designs.
- Torque values used to clamp/unclamp tooling — 2-1/2 turns to activate.
- Available options: square shank, straight shank, flange mount, VDI, extensions/reduces, and machine tool blocks.

KM Rapid/Rapid Plus

- Simple and very compact design.
- Cam activation lock/unlock.
- Preferred for stationary applications.
- Low activation force required.
- Available style: Flange mount, VDI shank and mounting cartridge

KM-LOC™ Clamping Units

- First generation of turn-to-turn clamping units.
- Low activation torque required.
- Stop-to-stop activation.
- Cam-driven spring pack.
- KM-LOC clamping units are available in a limited portfolio to meet the needs of previous installations.

KM-LOC II Clamping Units

- Newest design in positive stop clamping units.
- Compact design with fewer components.
- Virtually maintenance free.
- Increased clamping force.
- Available options: flange cartridge, boring cartridge, straight shank, and VDI.
- 100 bar (1,500 psi) coolant capability.

Automatic Spring Packs

NACA, RACA Units

- Based on VDI turret concept.
- Common release point.
- Flexible turret.
- Right-angle mechanism.

KM80 XGL Design

- Compact and rigid.
- More than 14,000 lbs of clamping force.

Rotating Spindle Cartridge

- Easily incorporated into machine tool applications.
- Over 5:1 mechanical clamping force.
- Front-loading design for easy access maintenance that reduces downtime.
- No gripping fingers or retention knobs to reduce long-term performance.

Toolholding Systems


45° Centerline


Multi-station


Single-Square Shank Adapters


Cutting Units


Boring Bar Adapters



Shrink Fit Toolholders


Slim Line Hydraulic Chucks


Single-Angle Collet Chucks


Drills


KM Reducers

Clamping Units

KM offers a variety of different clamping designs to suit manufacturing needs. Each unit design comes in a portfolio of compact options to further diversify tooling needs across a multitude of applications.

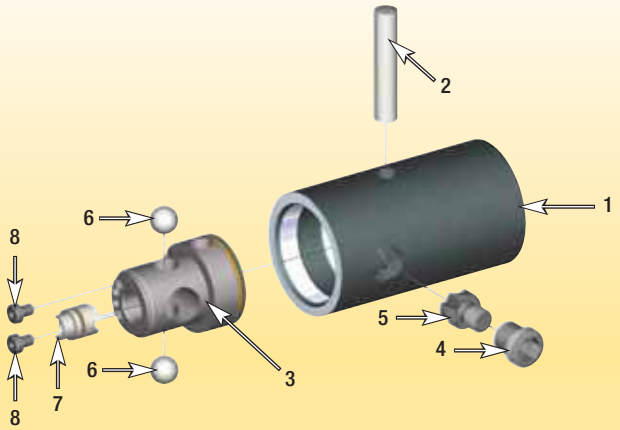
The simple design of the units utilizes minimal components to create a strong clamping force with high mechanical advantage. Having few moving parts and requiring a low activation force, means that the KM Quick Change clamps operate without a great deal of maintenance or error.

Manual Clamping Units

- Simple, compact design for use in many applications.
- Single- or four-pin clamping mechanisms.
- Torque values used to clamp/unclamp tooling — 2-1/2 turns to activate.
- Available options: square shank, straight shank, flange mount, VDI, extensions/reducers, and machine tool blocks.

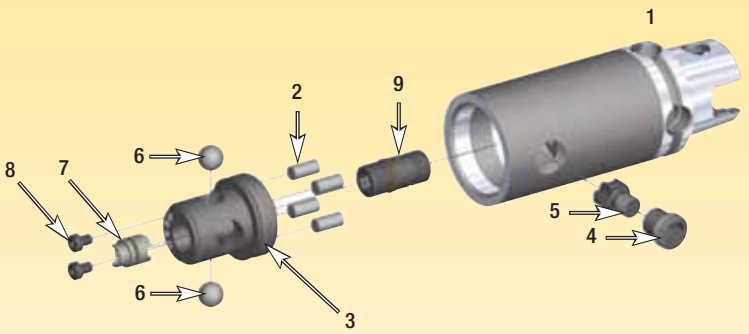
Single-Pin Design

1. Steel Body
2. Canister Pin
3. Canister
4. Torque Screw
5. Lockrod
6. Locking Balls
7. Bump-Off Pin
8. Bump-Off Pin Screws



Four-Pin Design

1. Steel Body
2. Canister Pin (4x)
3. Canister
4. Torque Screw
5. Lockrod
6. Locking Balls
7. Bump-Off Pin
8. Bump-Off Pin Screws
9. Canister Screw

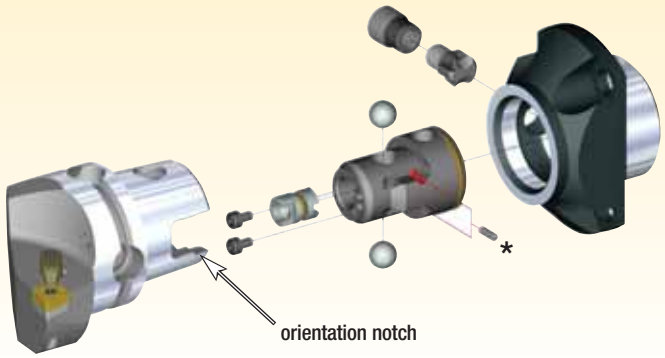


Error-Proofing Capability for KM Manual Clamping Units

KM Manual units must be disassembled in order to be error proofed. After disassembling the unit, you will find two holes within the canister. To error-proof the unit, insert a metric slotted pin* into one of the holes within the canister. Reassemble, and the clamping unit is now error-proofed.

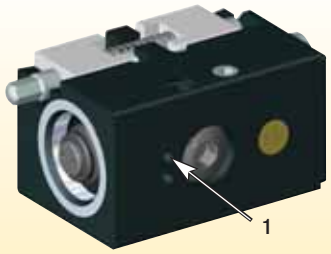
*Metric Slotted Pins:

- KM40TS — 3mm x 6mm long.
- KM50TS — 4mm x 8mm long.
- KM63TS — 5mm x 10mm long.
- KM80TS — 5mm x 10mm long.
- KM63XMZ — 5mm x 10mm long.
- KM80ATC — 5mm x 10mm long.

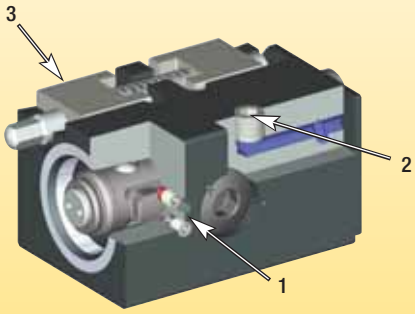


KM-LOC II™ Clamping Units

- Newest design in turn-to-turn clamping.
- Compact design with fewer components.
- Single- and two-piece designs.
- Virtually maintenance free.
- Increased clamping force.
- Available options: flange cartridge, boring cartridge, straight shank, and VDI.
- 100 bar (1,500 psi) coolant.



1. Error Proofing
2. Coolant Port
3. Locking Wedges



KM-LOC II clamping units offer an increased mechanical advantage of up to 7:1. They require less activation torque, which creates less stress on the clamp's components. The readily adaptable design of the KM-LOC II clamping unit enables the device's user to manufacture the tool block as they choose.

Automatic Spring Packs

NACA, RACA Units

- Based on VDI turret concept.
- Common release point.
- Flexible turret.
- Axial and right-angle mechanism.
- Clamping force provided by disk spring package.





KM80 XGL Static

- Compact and rigid.
- More than 14,000 lbs of clamping force.
- Clamping force provided by disk spring package.

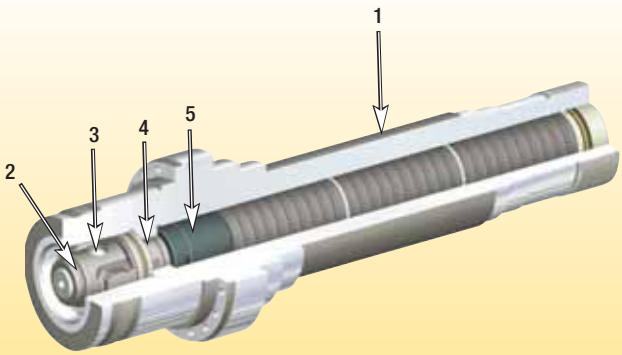




Rotating Spindle

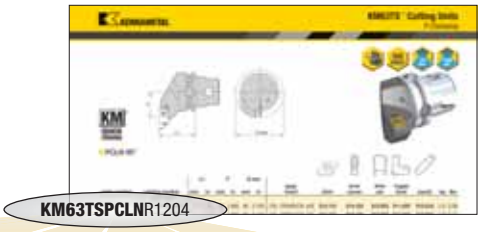
- Easily incorporated into machine tool applications.
- Over 5:1 mechanical clamping force.
- Front-loading design for easy access maintenance that reduces downtime.
- No gripping fingers or retention knobs to reduce long-term performance.

1. KM Spindle Cartridge
2. Canister
3. Clamping Balls
4. Lockrod
5. Canister Nut



How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM — KM Quick Change

63 — System Size

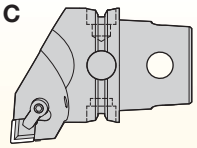
- **40** = 40mm
- **50** = 50mm
- **63** = 63mm
- **80** = 80mm
- **100** = 100mm



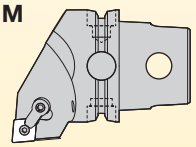
TS — Feature

- **TS**
- **XMZ**
- **ATC**
- **4X**

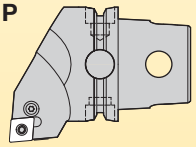
P — Insert Holding Method



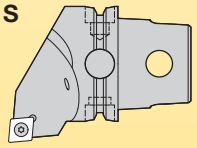
C-Clamping
Top clamping by clamping finger for inserts without hole



M-Clamping
Top and hole clamping for inserts with hole

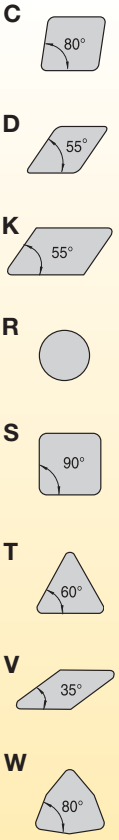


P-Clamping
Insert clamping by toggle lever for insert with hole

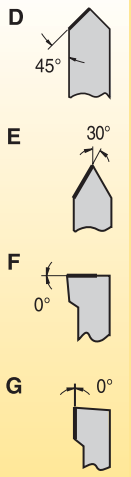


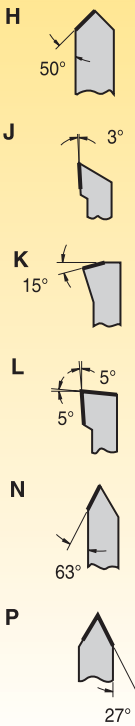
S-Clamping
Center clamping by screw for inserts with hole

C — Insert Shape

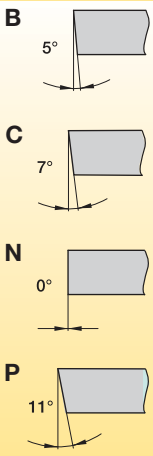


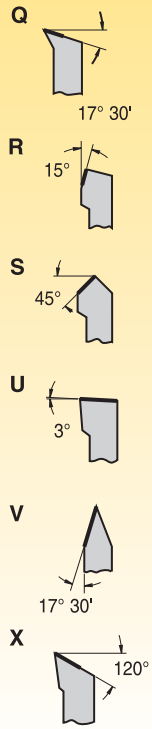
L — Toolholder Style





N — Insert Clearance Angle



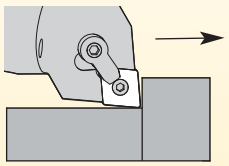


By referencing this easy-to-use guide, you can identify the correct product to meet your needs.

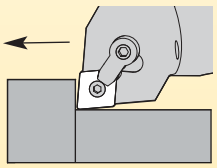


R	**12**		**04**		
Hand of Tool	Insert Size Cutting Edge Length L10	Additional Information	Insert Thickness	Gage Length	Special Features
R = Right hand **L** = Left hand **N** = Neutral		**MX** = Ceramic inserts	**03** = .125" **T3** = .156" **04** = .188" **06** = .250" **07** = .312"	**30** = 30mm **45** = 45mm **120** = 120mm	**Y** = Mazak® INTEGREX® **M** = Metric

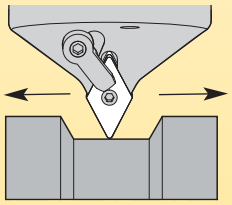
R



L



N



Metric

IC	C	D	K	R	S	T	V	W
3,97		04		03	03	06		
4,76	04	05		04	04	08	08	S3
5,56	05	06	03	05	05	09	09	03
6,00				06				
6,35	06	07	04	06	06	11	11	04
7,94	08	09	05	07	07	13	13	05
8,00				08			11	
9,52	09	11	06	09	09	16	16	06
9,52								
10,00				10				
11,11	11	13	07	11	11	19	19	07
12,00				12				
12,70	12	15	08	12	12	22	22	08
14,29	14	17	09	14	14	24	24	09
15,88	16	19	10	15	15	27	27	10
16,00				16				
17,46	17	21	11	17	17	30	30	11
19,05	19	23	13	19	19	33	33	13
20,00				20				
22,22	22	27	15	22	22	38	38	15
25,00				25				
25,40	25	31	17	25	25	44	44	17
31,75	32	38	21	31	31	54	54	21
32,00				32				

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM63TSS32GMCLNR1204

KM — KM Quick Change

63 — System Size

- **40** = 40mm
- **50** = 50mm
- **63** = 63mm
- **80** = 80mm
- **100** = 100mm

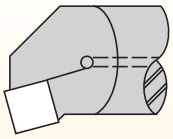


TS — Feature

- **TS**
- **XMZ**
- **ATC**
- **4X**

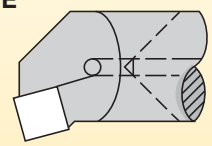
S — Bar Type

S



Steel with through coolant

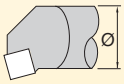
E



Carbide with through coolant

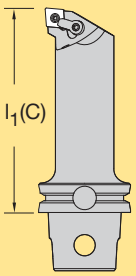
32 — Bar Diameter

- **10** = 10mm
- **12** = 12mm
- **16** = 16mm
- **20** = 20mm
- **25** = 25mm
- **32** = 32mm
- **40** = 40mm
- **50** = 50mm



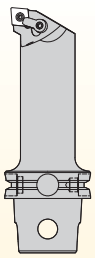
G — Bar Gage Length

C	50
D	60
E	70
F	80
G	90
H	100
J	110
K	125
L	140
M	150
N	160
P	170
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
Y	500
X	Special



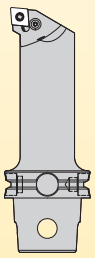
M — Insert Holding Method

M



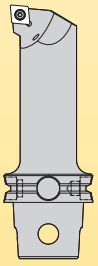
M-Clamping
Top and hole clamping for inserts with hole

P



P-Clamping
Insert clamping by toggle lever for insert with hole

S



S-Clamping
Center clamping by screw for inserts with hole

C — Insert Shape

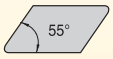
C



D



K



R



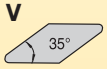
S



T



V



W

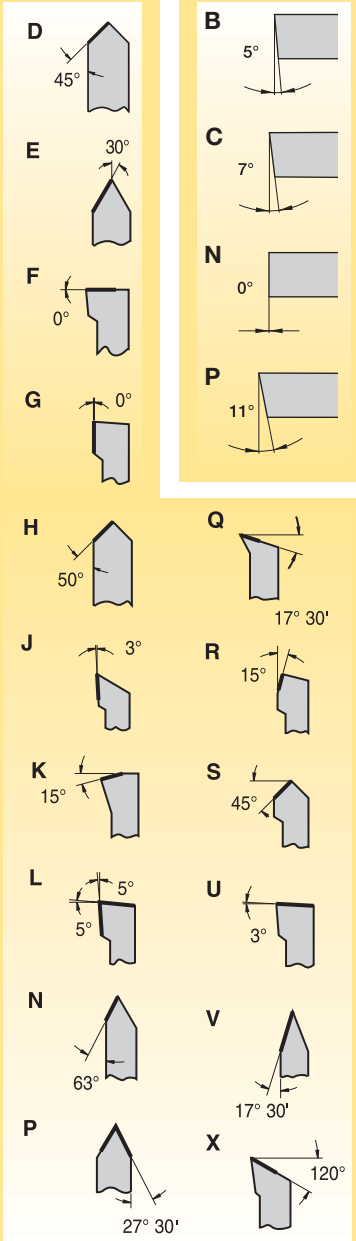


By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



KM63TSS32GMC**LNR1204**

L — Toolholder Style or Lead Angle

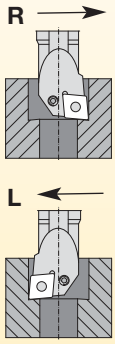


N — Insert Clearance Angle

R — Hand of Tool

R = Right hand

L = Left hand



12 — Insert Size Cutting Edge Length L10

04 — Insert Thickness

03 = .125"

T3 = .156"

04 = .188"

06 = .250"

07 = .312"

Special Features

Y = Mazak® INTEGREX®

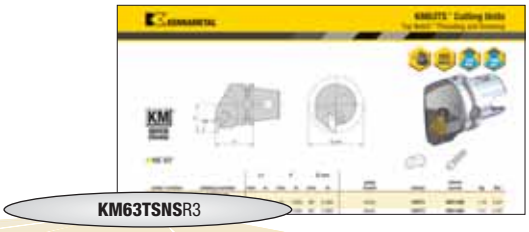
M = Metric

Metric

IC	C	D	K	R	S	T	V	W
3,97		04		03	03	06		
4,76	04	05		04	04	08	08	S3
5,56	05	06	03	05	05	09	09	03
6,00				06				
6,35	06	07	04	06	06	11	11	04
7,94	08	09	05	07	07	13	13	05
8,00				08			11	
9,52	09	11	06	09	09	16	16	06
9,52								
10,00				10				
11,11	11	13	07	11	11	19	19	07
12,00				12				
12,70	12	15	08	12	12	22	22	08
14,29	14	17	09	14	14	24	24	09
15,88	16	19	10	15	15	27	27	10
16,00				16				
17,46	17	21	11	17	17	30	30	11
19,05	19	23	13	19	19	33	33	13
20,00				20				
22,22	22	27	15	22	22	38	38	15
25,00				25				
25,40	25	31	17	25	25	44	44	17
31,75	32	38	21	31	31	54	54	21
32,00				32				

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.

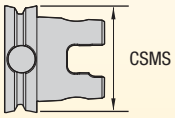


KM63TSNSR3

KM
KM Quick Change

63
System Size

40 = 40mm
50 = 50mm
63 = 63mm
80 = 80mm
100 = 100mm

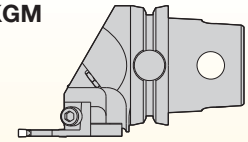


TS
Feature

TS
XMZ
ATC
4X

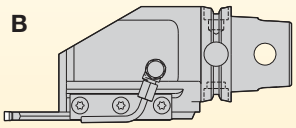
N
Insert Holding Method

KGM



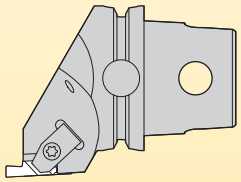
A3™/A4™
Modular grooving

B



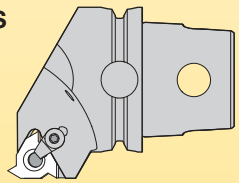
A2™
Deep grooving and cut-off

N



Top Notch™
Grooving and threading

LS

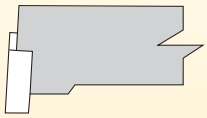


LT Threading

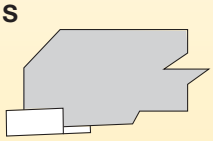
S
Insert Location

E = End mount
S = Side mount
R = Angle mount

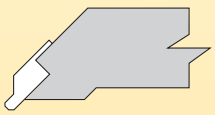
E



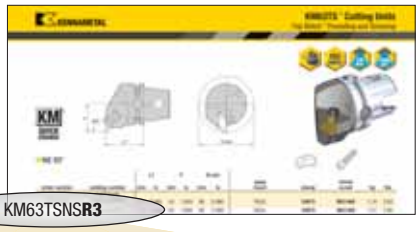
S



R



By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



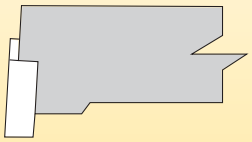
R	**3**		
Hand of Tool	Insert Size	Additional Information	Special Features

R = Right hand

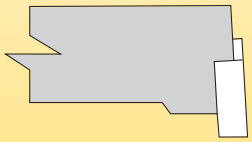
L = Left hand

End mount

R

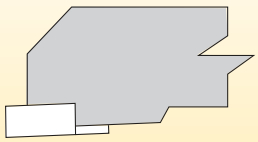


L

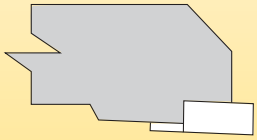


Side mount

R

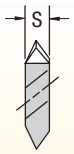


L



Top Notch™

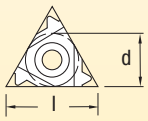
N = Insert size



2	3,18
3	4,95
4	6,48
5	9,65
6	11,13

LT Threading

l = Cutting edge length



l	d (IC)
16	9,52
22	12,70
27	15,88

A2, A3, and A4

seat size
1
1B
2
2B
3
4
5

KGM

cartridge size
50
65

E = External only

N = Internal only

Y = Mazak® INTEGREX®

M = Metric

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM63TSS32LNER3

KM — KM Quick Change

63 — System Size

40 = 40mm
50 = 50mm
63 = 63mm
80 = 80mm
100 = 100mm

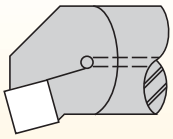


TS — Feature

TS
XMZ
ATC
4X

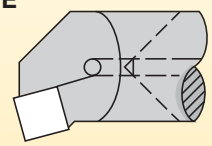
S — Bar Type

S



Steel with through coolant

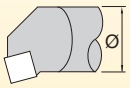
E



Carbide with through coolant

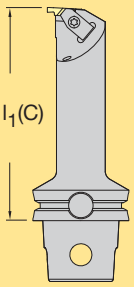
32 — Bar Diameter

10 = 10mm
12 = 12mm
16 = 16mm
20 = 20mm
25 = 25mm
32 = 32mm
40 = 40mm
50 = 50mm



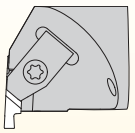
L — Bar Gage Length

C	50
D	60
E	70
F	80
G	90
H	100
J	110
K	125
L	140
M	150
N	160
P	170
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
Y	500
X	Special



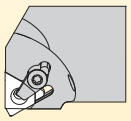
N — Insert Holding Method

N



Top Notch™
Grooving and threading

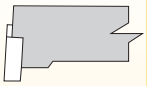
LS



LT Threading

E — Insert Location

E



E = End mount

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



KM63TSS32LNE**R3**

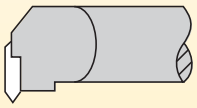
R	**3**		
Hand of Tool	Insert Size	Additional Information	Special Features

R = Right hand

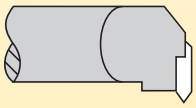
L = Left hand

End mount

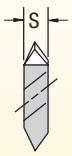
R



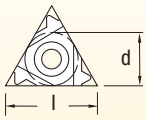
L



N = Insert size



l = Cutting edge length



N	S	l	d (IC)
2	3,18	11	6,35
3	4,95	16	9,52
4	6,48	22	12,70
5	9,65	27	15,88
6	11,13	—	—

E = External

N = Internal

Y = Mazak® INTEGREX®

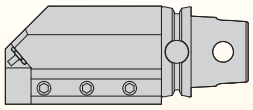
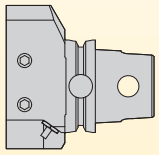
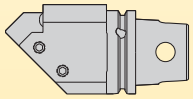
M = Metric

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM63TSSTAL

KM	63	TS		STA	L	
KM Quick Change	System Size	Feature	Variance	Toolholder Style	Hand of Tool	Special Features
	40 = 40mm **50** = 50mm **63** = 63mm **80** = 80mm **100** = 100mm 	**TS** **XMZ** **ATC** **4X**	**2X** **4X** **45**	**STA**  **Side mount** **ETA**  **End mount** **TA**  **45° Mount**	**L** = Left hand **R** = Right hand	**Y** = Mazak® INTEGREX®

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



KM63TSTG100100M

KM	63	TS	TG	100	100	M	
KM Quick Change	System Size	Feature	Toolholder Style	Toolholder Style Size	Tool Gage Length	Metric	Special Features
	40 = 40mm **50** = 50mm **63** = 63mm **80** = 80mm **100** = 100mm	**TS** **XMZ** **ATC** **4X**		Varies according to toolholder style	**100** = 100mm		**Y** = Mazak® INTEGREX®

BN	=	Blank	**JT**	=	Jacobs taper adapter
CS	=	Combi shell mill adapter	**MT**	=	Morse taper adapter
DA	=	Double-angle collet chuck	**P**	=	Spindle plug
DAT	=	Drill adapter	**RDC**	=	Drill chuck
DFX	=	Indexable drill	**S**	=	KM extensions-reducers
DFT	=	Indexable drill	**SMC**	=	Shell mill adapter with coolant
EM	=	Weldon® end mill adapter	**SSF**	=	Adapter for straight shanks with flat (drills)
ER	=	DIN 6499 single-angle collet chuck	**ST**	=	Solid tap adapter
ES	=	KM offset extensions	**SWN**	=	Whistle Notch™ 2° — short — not to DIN standard
GB	=	Gage bar	**TC**	=	Tension-compression tap adapter
HC	=	Hydraulic chuck — Standard Line	**TG**	=	Tremendous Grip single-angle collet chuck
HCSL	=	Hydraulic chuck — Slim Line	**TT**	=	Shrink Fit thermo toolholder
HCSLT	=	Hydraulic chuck — Slim Line — Trend	**WD**	=	Whistle Notch with drill
HPHC	=	Hydraulic chuck — high performance	**WN**	=	Whistle Notch (2° metric; 5° inch)
HPMC	=	Milling chuck — high performance	**WN/EM**	=	Whistle Notch — Weldon chuck

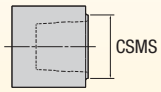
How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM12NCMSS

KM	12	N	C	M	SS
Kennametal Modular	System Size	Version	Clamping Unit	Control	Type
KM Micro™ and KM™ Mini Quick Change Tooling Systems	**12** = 12mm **16** = 16mm **20** = 20mm **25** = 25mm	**N** = Neutral **L** = Left hand **R** = Right hand **E** = Offset		**M** = Manual **A** = Automatic	**E** = Carbide round shank **S** = Round shank **SEF** = Extended flange mount **SF** = Flange mount **SS** = Round shank with shoulders



Looking for a product that's not shown in this catalog?

Check the Kennametal website!



Tooling Systems

Online product catalog available 24/7

Visit **http://www.kennametal.com/toolingsystems/** to browse our electronic catalog any time you're looking for Kennametal's best tooling solutions. It's fast, free, and always available. The online e-catalog is updated weekly with products and solutions for milling, turning, holemaking, and tooling systems applications.

KENNAMETAL

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM Micro™ QUICK-CHANGE TOOLING KM™ Mini QUICK-CHANGE TOOLING

KM	12	S	C	G
Kennametal Modular	System Size	Clamping System	Insert Shape	Cutting Unit Shape

KM

KM Micro™ and KM™ Mini Quick Change Tooling Systems

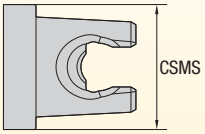
12

12 = 12mm

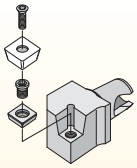
16 = 16mm

20 = 20mm

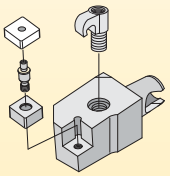
25 = 25mm



S

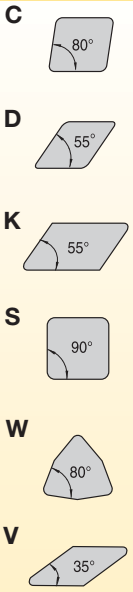


S-Clamping
Clamped from above with a screw for indexable inserts with hole

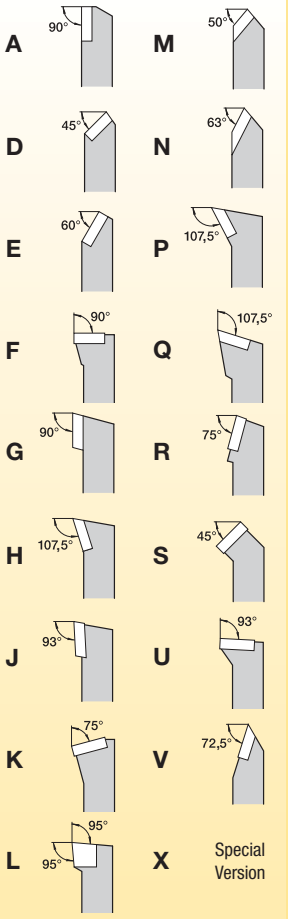


M-Clamping
Clamped from above and through hole with using a pin for indexable inserts with hole

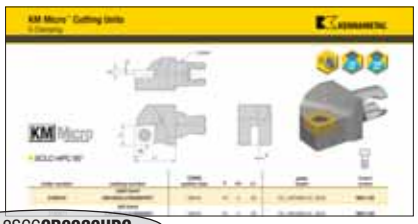
C



G

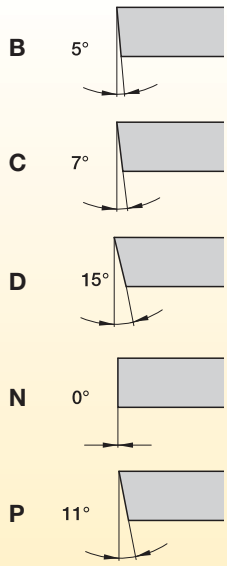


By referencing this easy-to-use guide, you can identify the correct product to meet your needs.

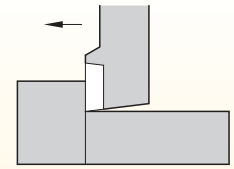


KM12SCG**CR0920HPC**

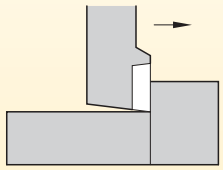
C — Clearance Angle



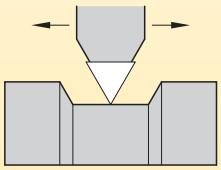
R — Direction



L = Left-hand cutting unit

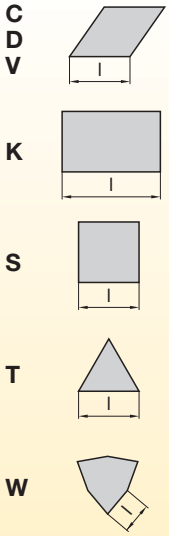


R = Right-hand cutting unit

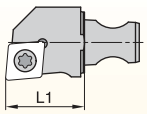


N = Neutral cutting unit

09 — Insert Size



20 — Gage Length



L1 = Gage length

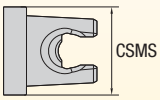
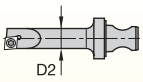
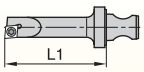
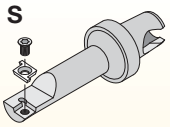
HPC — Coolant

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM1612S0424SCLDR04S

KM	1612	S	04	24	S
Kennametal Modular	System Size	Boring Bar Features	Shank Diameter	Gage Length	Clamping System
KM Micro™ and KM™ Mini Quick Change Tooling Systems	**1612** = Ø 16mm **2016** = Ø 20mm **2520** = Ø 25mm **3225** = Ø 32mm 	**S** = Tool steel **E** = Carbide	 The code is shank diameter D2. Ignore digits after the decimal point. If the shank diameter D2 code is a single digit, it is preceded by a 0 (zero). (e.g., for Ø 8mm = code 08).	 The code is gage length L1. Ignore digits after the decimal point.	 **S-Clamping** Clamped from above with a screw for indexable inserts

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



KM1612S0424S**CLDR04S**

C — Insert Shape

- **C** — 80°
- **D** — 55°
- **G** — 45°
- **T** — 60°
- **V** — 35°
- **X** — Special Version

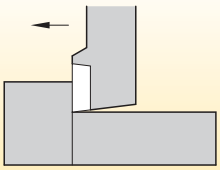
L — Cutting Unit Shape

- **F** — 90°
- **J** — 93°
- **K** — 75°
- **L** — 95° / 95°
- **P** — 107,5°
- **Q** — 107,5°
- **U** — 93°
- **X** — Special Version

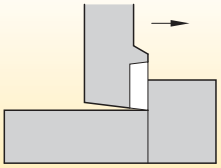
D — Clearance Angle

- **B** — 5°
- **C** — 7°
- **D** — 15°
- **P** — 11°

R — Direction



L = Left-hand cutting unit

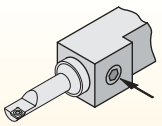


R = Right-hand cutting unit

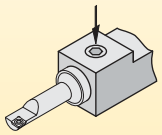
04 — Insert Size

- **C D G V**
- **T**
- **W**

S — Clamping Access



S = Side access

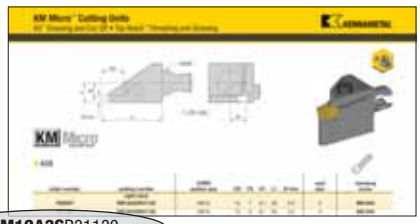


T = Top access

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.

KM Micro™ QUICK-CHANGE TOOLING KM Mini™ QUICK-CHANGE TOOLING



KM12A3SR31130

KM

Kennametal Modular

KM Micro™ and KM™ Mini Quick Change Tooling Systems

12

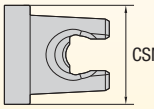
System Size

12 = 12mm

16 = 16mm

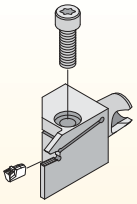
20 = 20mm

25 = 25mm

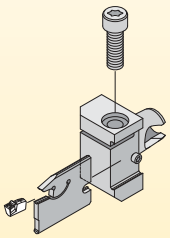


A3

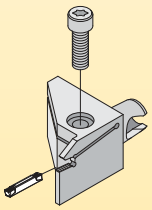
Clamping Systems



A3 = Deep grooving



A2 = Cut-off



A4 = Grooving

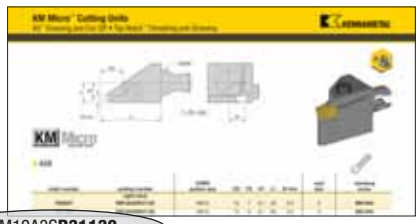
S

Holder Version

S = Side mount

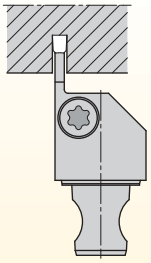
E = End mount

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.

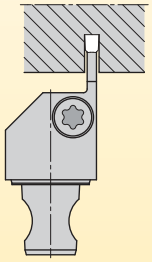


KM12A3S**R31130**

R
Direction



R = Right hand

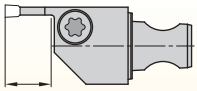


L = Left hand

3
Insert Seat Size

insert seat size
1
1B
2
2B
3
4
5

11
Cutting Depth

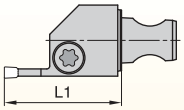


07 = 7mm

11 = 11mm

16 = 16mm

30
Gage Length



L1 = Gage length

KM Micro and KM Mini
Quick-Change Tooling Systems

Kennametal has developed yet another revolutionary quick-change tooling system. The KM Micro and KM Mini tooling systems are further developments of the internationally renowned KM™ system but are smaller, more compact versions.

Reduces Indexing and Setup Times by 66%

The KM Micro and KM Mini systems have been specially designed for use with automatic lathes, as well as smaller universal lathes. The quick-change cutter heads reduce indexing and setup times on machines by up to 66%.

The unique flange attachment system enables an additional one to three tool spaces to be used on a single tool block. This considerably increases the tool capacity of the machine. A further advantage is the high level of stability of the block, as rigidity is greatly improved during deep tool turning operations by removing the tool slots.

Quick and Easy Installation

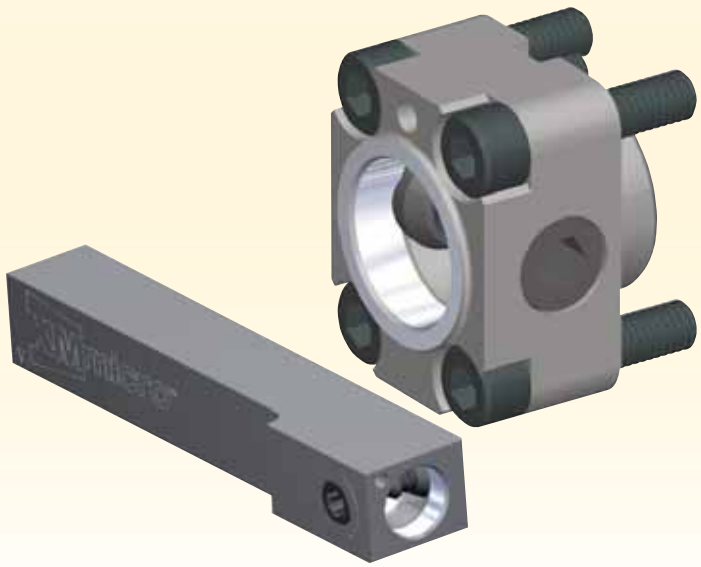
The new KM Micro and KM Mini square shank adapters can be installed quickly and easily in existing tool block adapters. Existing clamp-type toolholders are replaced by KM Micro and KM Mini adapters with the same dimensions, and the machine is then ready for use.

Kennametal provides you with a comprehensive range of KM Micro and KM Mini solutions to meet your requirements.



What are KM Micro and KM Mini?

They are a revolutionary quick-change tooling systems utilizing face and taper contact designs.The KM Micro and KM Mini tooling systems are designed for, but not limited to, the Swiss-style machine tool industry.



1

Step 1: Typical Swiss tool block.

Difficult to change the insert.



2

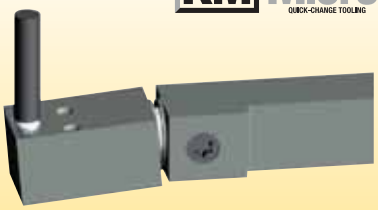
Step 2: Change the cutting unit, not the insert!

Actual tool change.



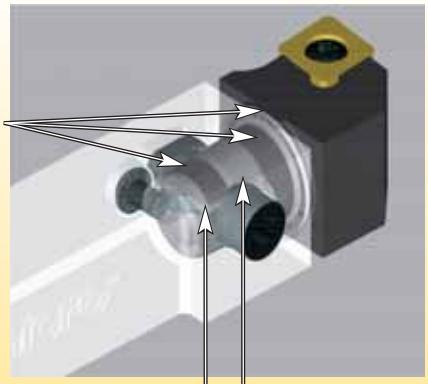
Selection Guide for KM™ Clamping Systems

Face and Taper Contact Systems Stiffness Depends on Interference Level and Clamping Force.

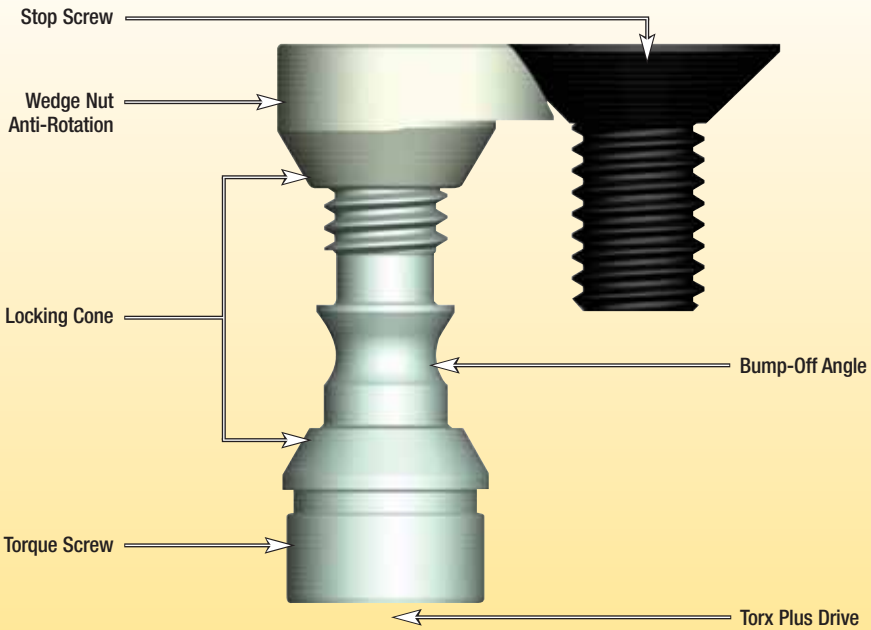


Taper Features

- Three Surface Contact — Provides bands at face, gage, and tail.
- 10:1 Taper Angle — Same as standard KM system. Interference level optimized to provide maximum rigidity.
- Features are generally the same as the standard KM system but with wedge (cone) locking rather than balls.



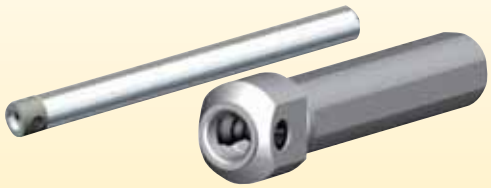
Mechanism Features



What is KM1612™/KM2016™/KM2520™/KM3225™ for I.D. Machining?

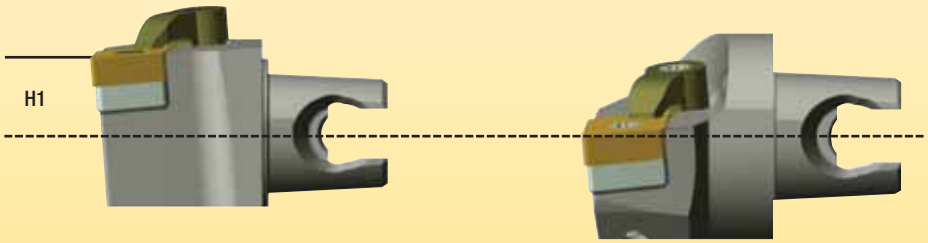
The KM1612/KM2016/KM2520/KM3225 is the I.D. end-working tooling product line to complement the KM12™/KM16™/KM20™/KM25™ O.D. turning tooling product line.

- Products are through-coolant capable.
- External tapers are the same as KM12/KM16/KM20/KM25.



Round Shank Clamping Units

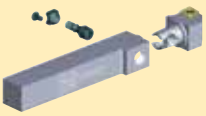
The major difference is center height location of the insert:



KM12/KM16/KM20/KM25
Square shank cutting units.
Insert is above centerline.

KM1612/KM2016/KM2520/KM3225
Centerline cutting units.
Insert is on centerline.

KM Micro and KM Mini • Features, Functions, and Advantages

features	functions	advantages
KM Micro and KM Mini are a compact quick-change tooling system.	• The complete cutting unit (including indexable insert) can be easily changed. 	• Indexable inserts can be changed outside the machine: – Reduces the time required for changing indexable inserts by up to 60%. – Reduces the machine setup time by up to 80%.
Face and taper surface contact between the cutting unit and clamping units.	• Precise and repeatable cutting edge position is in both directions of cut.	• Test cuts are minimized or no longer required. • Premeasured tools can be installed in the machine: – Once the deviation/correction value has been specified, the tools are ready for use.
Mating taper clamping surfaces.	• Maximum possible surface contact between the clamping mechanism and the cutting unit. • Precise radial positioning. • The KM design induces positive expansion of the taper, resulting in secure clamping.	• Large contact surface increases interface life. • High radial and center height repeatability. 
Simple, but highly effective, clamping mechanism.	• Secure and release via a screw using a torque wrench: – 6,75–8 Nm for KM12™; 3 turns – 9,5–11 Nm for KM16™; 3 turns – 19–22 Nm for KM20™ – 34–40 Nm for KM25™	• Cutting units can be easily changed. • High clamping forces through low clamping torques.
Square shank adapters for standard tool blocks.	• Clamping unit sizes in accordance with industrial standards. • Fits standard tool adapters. • Designed for: – Fixed and sliding headstock machines. – Small universal lathes.	This system does not require special tool adapters or adapter blocks for installation or replacement operations on your machine.  Square-shank adapter
Universal flange clamping units are a versatile alternative to square shank adapters.	• Flange attachment systems can also be retrofitted to existing machines. As a result, additional tool spaces can become available.	• Increased tool capacity (up to 3 additional tools per tool block). • Increased rigidity and stability as clamp-type toolholder slots are not required.  Flange attachment system
Flange attachment units in a wide range of configurations with or without coolant facility.	Kennametal offers various flange attachment units that can be used for a wide range of turret and tool block configurations and combinations of modern machines.	• The tool block/flange combination can be optimized to meet the requirements of a machine or a specific workpiece range. • Very close fitting flange attachment system. • Optimization of tool length. 



KM Micro™ Quick Change Tooling System

A smaller, more compact version of the internationally renowned KM™ system.

- Quick-change cutter heads reduce indexing and setup times by 66%.
- Specially designed for use with automatic and smaller universal lathes.
- Unique flange attachment system increases machine tool capacity.
- KM Micro square-shank adapters can be installed quickly and easily in existing tool block adapters.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®



KM Micro™ • Quick-Change Tooling System

Primary Application

- Quick-change cutter heads reduce indexing and setup times by 66%.
- Specially designed for use with automatic and smaller universal lathes.
- Unique flange attachment system increases machine tool capacity.
- KM Micro square-shank adapters can be installed quickly and easily in existing tool block adapters.

Features and Benefits

Features

- KM Micro is a compact quick-change tooling system.
- Face and taper surface contact between the cutting unit and clamping units.
- Mating taper clamping surfaces.
- Square-shank adapters for standard tool blocks.

Functions

- The complete cutting unit (including indexable insert) can be easily changed.
- Precise and repeatable cutting edge position is in both directions of cut.
- Maximum possible surface contact between the clamping mechanism and the cutting unit.
- Precise radial positioning.
- The KM design induces positive expansion of the taper, resulting in secure clamping.
- Clamping unit sizes in accordance with industrial standards.
- Fits standard tool adapters.
- Designed for:
  - Fixed and sliding headstock machines.
  - Small universal lathes.



Advantages

- Indexable inserts can be changed outside the machine:
  - Reduces the time required for changing indexable inserts by up to 60%.
  - Reduces the machine setup time by up to 80%.
- Test cuts are minimized or no longer required.
- Premeasured tools can be installed in the machine:
  - Once the deviation/correction value has been specified, the tools are ready for use.

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM12NCM1212100

KM	12	N	C	M
Kennametal Modular	System Size	Version	Clamping Unit	Control
KM Micro™ Quick Change tooling system	**12** = Ø 12 x 12mm **16** = Ø 16 x 16mm	**N** = Neutral **L** = Left-hand version **R** = Right-hand version		**M** = Manual **A** = Automatic

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



KM12NCM**1212100**

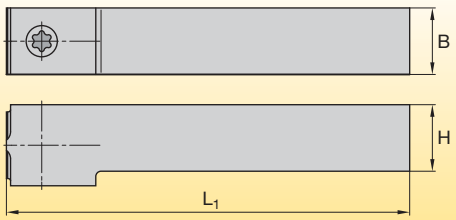
	12	**12**	**100**
Type	Shank Height	Shank Width	Shank Length

Square shank

H = Shank height

B = Shank width

L_1 = Shank length

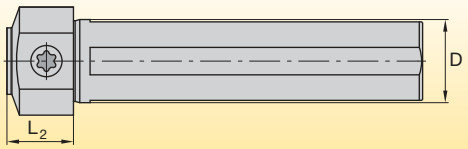


SS	**19**	**14**
Type	Shank Diameter	Shoulder Length

SS = Square shank with shoulders

D = Shank diameter

L_2 = Shoulder length

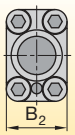


SF	**27**
Type	Flange Width

SF = Flange mount

SEF = Extended flange mount

B_2 = Flange width



How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM12NCM1212100HPC

KM	12	N	C	M
Kennametal Modular	System Size	Version	Clamping Unit	Control
KM Micro™ Quick Change tooling system	**12** = Ø 12 x 12mm **16** = Ø 16 x 16mm	**N** = Neutral **L** = Left-hand version **R** = Right-hand version		**M** = Manual **A** = Automatic



By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



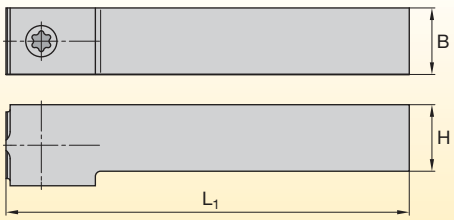
KM12NCM**1212100HPC**

	12	12	100	HPC
Type	Shank Height	Shank Width	Shank Length	Coolant
Square shank				

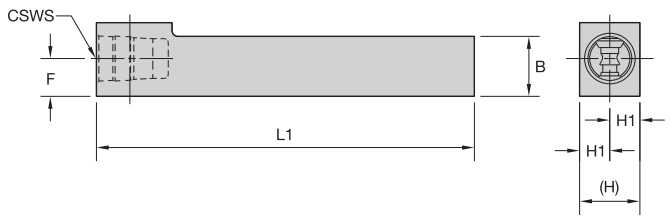
H = Shank height

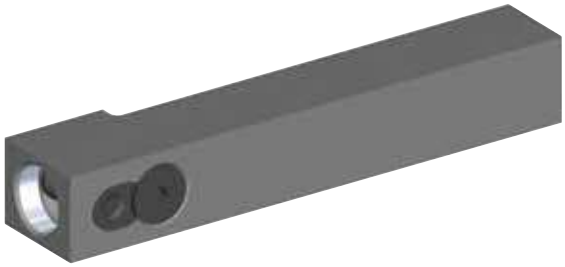
B = Shank width

L_1 = Shank length









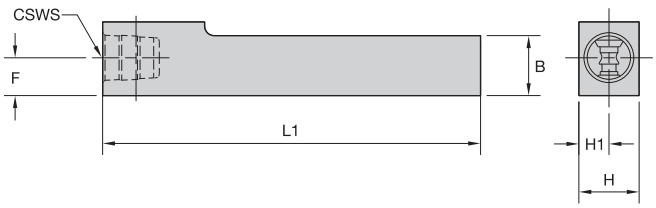
KM Micro™ QUICK-CHANGE TOOLING

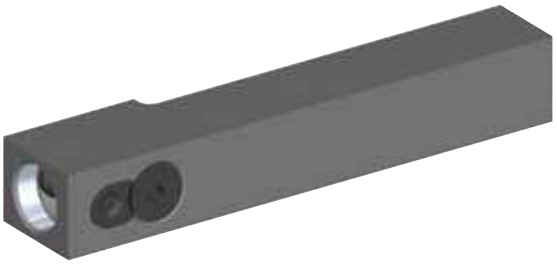
NCM • Metric

order number	catalog number	CSWS system size	B	H	H1	F	L1	spare parts package	wrench size actuation screw	Nm
1922492	KM12NCM1212100	KM12	12,00	11,95	6,00	8,00	100,00	KM12NAPKG	25 IP	7-8
2238505	KM16NCM1616100	KM16	16,00	16,00	8,00	10,00	100,00	KM16NAPKG	27 IP	10-11

NCM • Inch

order number	catalog number	CSWS system size	B	H	H1	F	L1	spare parts package	wrench size actuation screw	ft. lbs.
2238506	KM16NCM10400	KM16	.600	.600	.310	.390	4.000	KM16NAPKG	27 IP	7-8

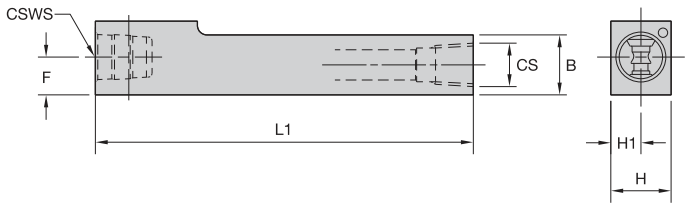


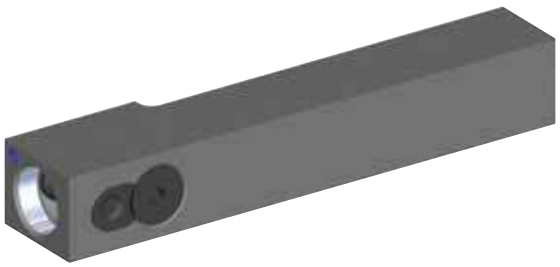


R/LCM • Inch

order number	catalog number	CSWS system size	B	H	H1	F	L1	spare parts package	wrench size actuation screw	ft. lbs.
	right hand									
1920380	KM12RCM08400	KM12	.495	.500	.264	.315	4.000	KM12NAPKG	25 IP	5-6
	left hand									
1925740	KM12LCM08400	KM12	.495	.500	.264	.310	4.000	KM12NAPKG	25 IP	5-6







KM Micro™ QUICK-CHANGE TOOLING

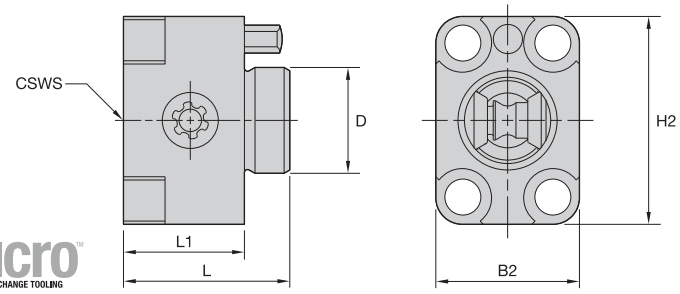
R/LCM-HPC • Metric

order number	catalog number	CSWS system size	B	H	H1	F	L1	CS	spare parts package	wrench size actuation screw	Nm
	right hand										
3397255	KM16RCM1616100HPC	KM16	16,00	16,00	8,0	10,00	100,00	1/8NPT	KM16NAPKG	27 IP	10-11
	left hand										
3397256	KM16LCM1616100HPC	KM16	16,00	16,00	8,0	10,00	100,00	1/8NPT	KM16NAPKG	27 IP	10-11

R/LCM-HPC • Inch

order number	catalog number	CSWS system size	B	H	H1	F	L1	CS	spare parts package	wrench size actuation screw	ft. lbs.
	right hand										
3134823	KM16RCM10400HPC	KM16	.620	.620	.310	.394	4.000	1/8NPT	KM16NAPKG	27 IP	7-8
	left hand										
3134824	KM16LCM10400HPC	KM16	.620	.620	.310	.394	4.000	1/8NPT	KM16NAPKG	27 IP	7-8





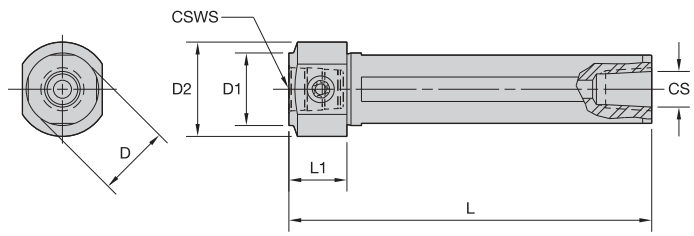


KM Micro™ QUICK-CHANGE TOOLING

NCM-SF

order number	catalog number	CSWS system size	B2	D	H2	L	L1	spare parts package	wrench size actuation screw	Nm	ft. lbs.
1925741	KM12NCMSF1522	KM12	15,75	10	21,5	18	14	KM12NRPKG	25 IP	7-8	5-6
1898043	KM16NCMSF1928	KM16	19,00	14	27,5	22	16	KM16NRPKG	27 IP	10-11	7-8

NOTE: For mounting controls, see page M70.





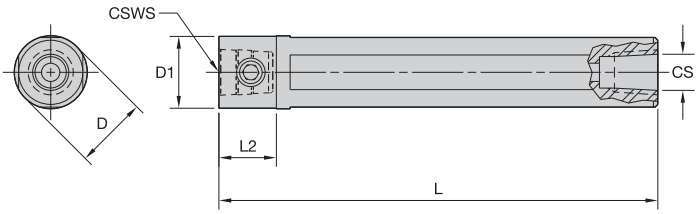
KM Micro™ QUICK-CHANGE TOOLING

NCM-SS • Metric

order number	catalog number	CSWS system size	CS	D	D1	D2	L	L1	spare parts package	wrench size actuation screw	Nm
2439977	KM1612NCMSS1614	KM1612	1/8-27 NPT	16	16	22	100	14	KM12NRPKG	25 IP	7-8
1925739	KM1612NCMSS1914	KM1612	1/8-27 NPT	19	16	25	100	14	KM12NRPKG	25 IP	7-8
2439981	KM1612NCMSS2014	KM1612	1/8-27 NPT	20	16	26	100	14	KM12NRPKG	25 IP	7-8
2439978	KM1612NCMSS2514	KM1612	1/4-18 NPT	25	16	31	100	14	KM12NRPKG	25 IP	7-8
2439979	KM2016NCMSS1616	KM2016	1/8-27 NPT	16	20	25	100	16	KM16NRPKG	27 IP	10-11
1898050	KM2016NCMSS2016	KM2016	1/8-27 NPT	20	20	26	100	16	KM16NRPKG	27 IP	10-11
1898051	KM2016NCMSS2216	KM2016	1/4-18 NPT	22	20	28	100	16	KM16NRPKG	27 IP	10-11
2439980	KM2016NCMSS2516	KM2016	1/4-18 NPT	25	20	31	100	16	KM16NRPKG	27 IP	10-11

NCM-SS • Inch

				D		D1		D2		L		L1				
order number	catalog number	CSWS system size	CS	mm	in	mm	in	mm	in	mm	in	mm	in	spare parts package	wrench size actuation screw	ft. lbs.
2439982	KM1612NCMSS08055	KM1612	—	12,7	.500	16	.630	20	.787	100	3.937	14	.551	KM12NRPKG	25 IP	5-6
1939520	KM1612NCMSS10055	KM1612	1/8-27 NPT	15,9	.625	16	.630	22	.866	100	3.937	14	.551	KM12NRPKG	25 IP	5-6
1925738	KM1612NCMSS12055	KM1612	1/8-27 NPT	19,1	.750	16	.630	25	.984	100	3.937	14	.551	KM12NRPKG	25 IP	5-6
2440003	KM2016NCMSS08063	KM2016	—	12,7	.500	20	.787	23	.906	100	3.937	16	.630	KM16NRPKG	27 IP	7-8
2440004	KM2016NCMSS10063	KM2016	1/8-27 NPT	15,9	.625	20	.787	25	.984	100	3.937	16	.630	KM16NRPKG	27 IP	7-8
1898048	KM2016NCMSS12063	KM2016	1/8-27 NPT	19,1	.750	20	.787	25	.984	100	3.937	16	.630	KM16NRPKG	27 IP	7-8
1898049	KM2016NCMSS16063	KM2016	1/4-18 NPT	25,4	1.000	20	.787	32	1.260	100	3.937	16	.630	KM16NRPKG	27 IP	7-8







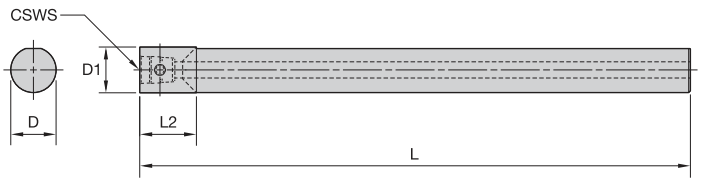
KM Micro™ QUICK-CHANGE TOOLING

NCM-S • Metric

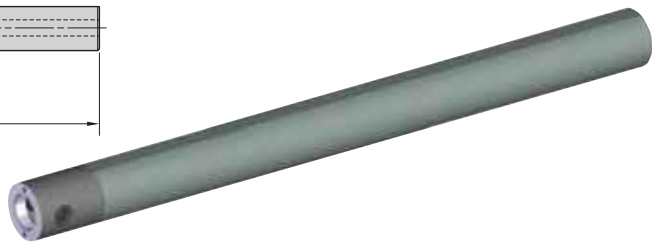
order number	catalog number	CSWS system size	CS	D	D1	L	L2	spare parts package	wrench size actuation screw	Nm
3016744	KM2016NCMS20	KM2016	1/8 - 27 NPT	20	20	230	20	KM16NRPKG	27 IP	10-11

NCM-S • Inch

order number	catalog number	CSWS system size	CS	D	D1	L	L2	spare parts package	wrench size actuation screw	ft. lbs.
3016743	KM2016NCMS12	KM2016	1/8 - 27 NPT	.75	.79	9.213	.787	KM16NRPKG	27 IP	7-8







KM Micro™ QUICK-CHANGE TOOLING

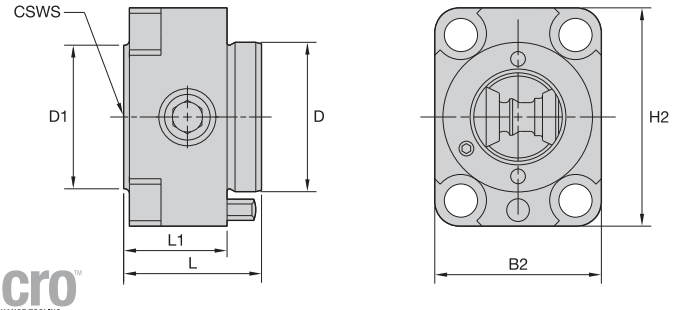
NCM-E • Carbide • Metric

order number	catalog number	CSWS system size	D	D1	L	L2	spare parts package	wrench size actuation screw	Nm
3016721	KM2016NCME12	KM2016	19	20	243,56	25,00	KM16NRPKG	27 IP	10-11

NCM-E • Carbide • Inch

order number	catalog number	CSWS system size	D	D1	L	L2	spare parts package	wrench size actuation screw	ft. lbs.
3016721	KM2016NCME12	KM2016	.75	.79	9.589	.984	KM16NRPKG	27 IP	7-8







KM Micro™ QUICK-CHANGE TOOLING

NCMSF

order number	catalog number	CSWS system size	B2	D	D1	H2	L1	L	spare parts package	wrench size actuation screw	Nm	ft. lbs.
3735627	**KM1612NCMSF2127**	KM1612	21	17	16	27	14	18	**KM12NRPKG**	25 IP	7-8	5-6
3735628	**KM2016NCMSF2533**	KM2016	25	20	20	33	16	22	**KM16NRPKG**	27 IP	10-11	7-8

NOTE: For mounting controls, see page M71.



KM4X™

The Next Generation Spindle Interface for Heavy-Duty Machining!

KM4X is designed to take on your most aggressive machining jobs. This next generation KM™ spindle interface should be your first choice for heavy-duty machining applications. It's especially suited for large structural components, like titanium aerospace components.

We engineered these rotating and static tool adaptors to handle 3x more bending capacity than similar competitive models.

What does this mean for you?

- Enables full use of machine and cutting tools for the highest productivity.
- Higher metal removal rates.
- Can retrofit to existing machines to boost throughput without buying new equipment.
- Ideal for aerospace and transportation industry machining jobs.

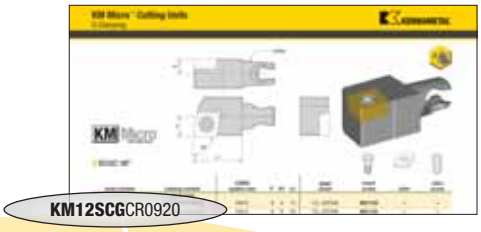
Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

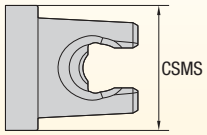
How Do Catalog Numbers Work?

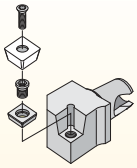
Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM Micro™ QUICK-CHANGE TOOLING

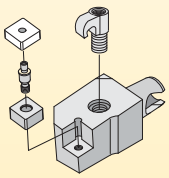
KM	12	S	C	G
Kennametal Modular	System Size	Clamping System	Insert Shape	Cutting Unit Shape
KM Micro™ Quick Change tooling system	**12** = Ø 12 x 12mm **16** = Ø 16 x 16mm	**S**	**C** 80° **D** 55° **K** 55° **S** 90° **V** 35° **W** 80°	**A** 90° **D** 45° **G** 90° **J** 93° **L** 95° 95° **M** 50°





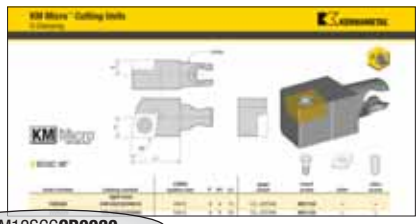
S-Clamping
Clamped from above with a screw for indexable inserts with hole

M



M-Clamping
Clamped from above and through hole with using a pin for indexable inserts with hole

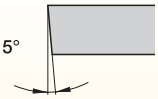
By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



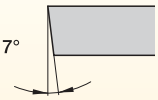
KM12SCG**CR0920**

C
Clearance Angle

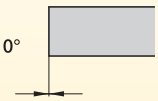
B 5°



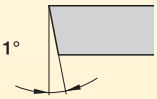
C 7°



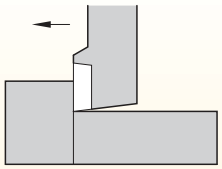
N 0°



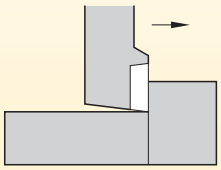
P 11°



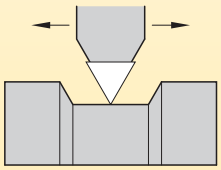
R
Direction



L = Left-hand cutting unit



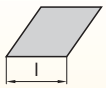
R = Right-hand cutting unit



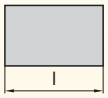
N = Neutral cutting unit

09
Insert Size

C
D
V



K



S



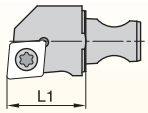
T



W



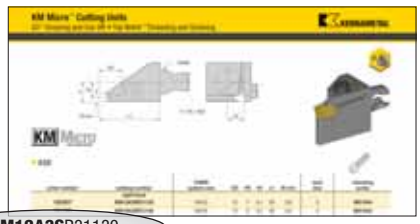
20
Gage Length



L1 = Gage length

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM12A3SR31130

KM Micro™ QUICK-CHANGE TOOLING

KM

Kennametal Modular

KM Micro™ and KM™ Mini Quick Change tooling systems

12

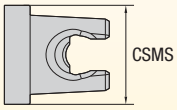
System Size

12 = 12mm

16 = 16mm

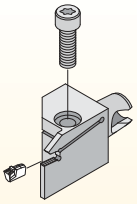
20 = 20mm

25 = 25mm

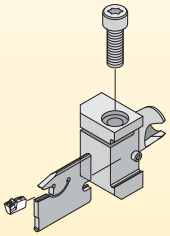


A3

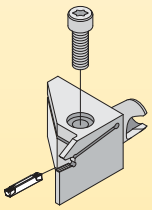
Clamping Systems



A3 = Deep grooving



A2 = Cut-off



A4 = Grooving

S

Holder Version

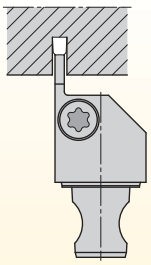
S = Side mount

E = End mount

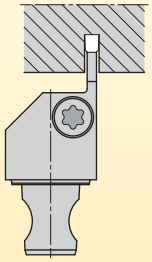
By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



R
Direction



R = Right hand

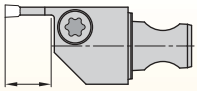


L = Left hand

3
Insert Seat Size

insert seat size
1
1B
2
2B
3
4
5

11
Cutting Depth

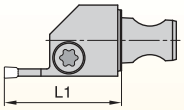


07 = 7mm

11 = 11mm

16 = 16mm

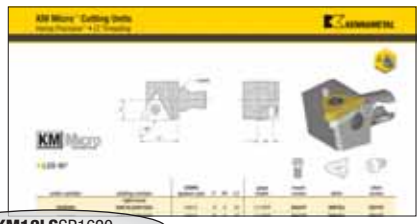
30
Gage Length



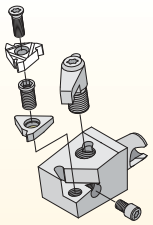
L1 = Gage length

How Do Catalog Numbers Work?

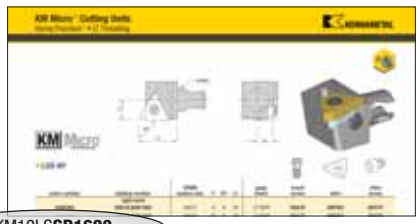
Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM12LSSR1620

KM	12	LS
Kennametal Modular	System Size	Clamping Systems
KM Micro™ Quick Change tooling system	**12** = Ø 12 x 12mm **16** = Ø 16 x 16mm	 **LT Threading** = Clamped from above with a screw

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.

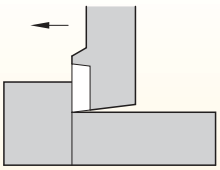


S
Application

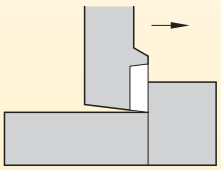
E = End mount

S = Side mount

R
Direction



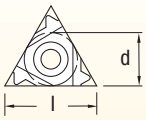
L = Left-hand cutting unit



R = Right-hand cutting unit

16
Insert Size

l = Cutting edge length



l	d (IC)
11	6,35
16	9,52
22	12,70
27	15,88

20
Gage Length

L_1 = Gage length

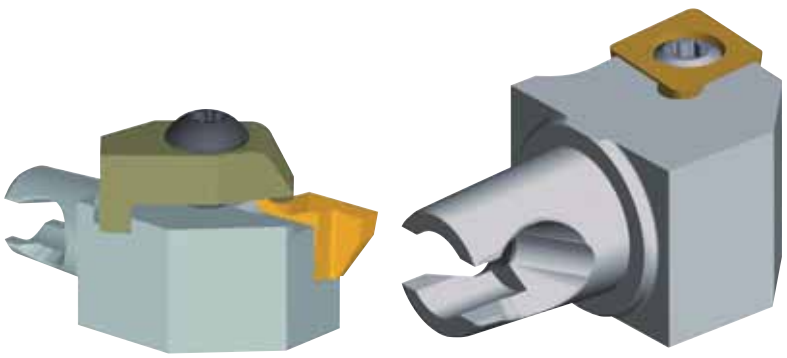
How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM12NCM1212100HPC

KM	12	N	C	M
Kennametal Modular	System Size	Version	Clamping Unit	Control
KM Micro™ Quick Change tooling system	**12** = Ø 12 x 12mm **16** = Ø 16 x 16mm	**N** = Neutral **L** = Left-hand version **R** = Right-hand version		**M** = Manual **A** = Automatic



By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



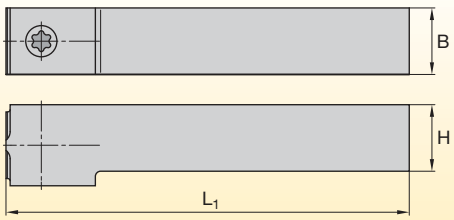
KM12NCM**1212100HPC**

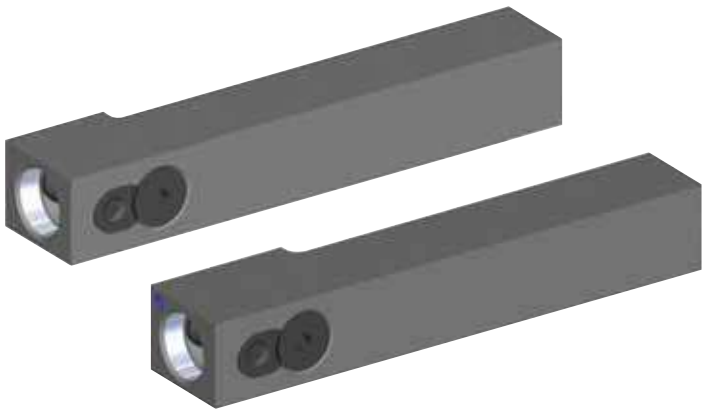
	12	**12**	**100**	**HPC**
Type	Shank Height	Shank Width	Shank Length	Coolant
Square shank				

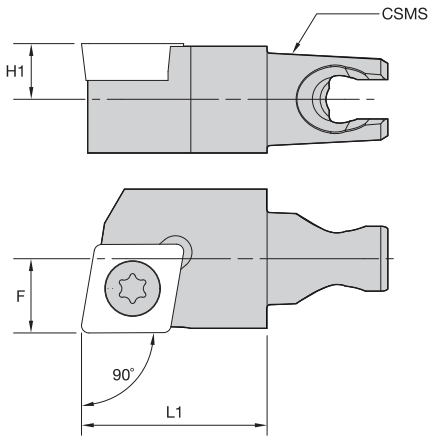
H = Shank height

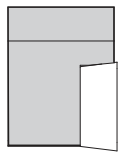
B = Shank width

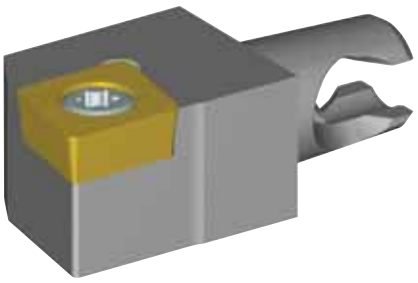
L_1 = Shank length











KM Micro™ QUICK-CHANGE TOOLING

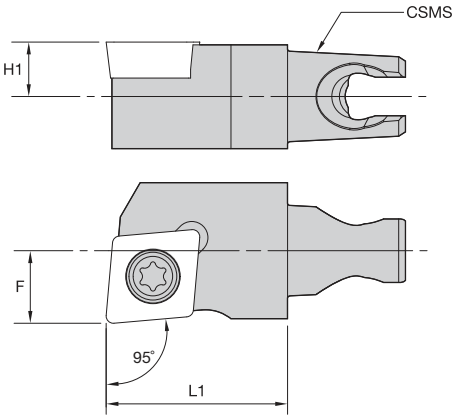
SCGC 90°

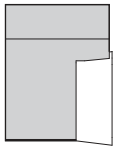


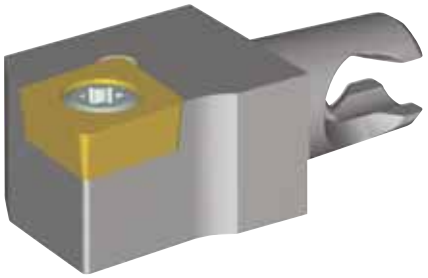




order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw	shim	shim screw
	right hand								
1920382	**KM12SCGCR0915**	KM12	8	6	15	CC..09T308	**MS1155**	**–**	**–**
2226229	**KM12SCGCR0920**	KM12	8	6	20	CC..09T308	**MS1155**	**–**	**–**
1831207	**KM16SCGCR0920**	KM16	10	8	20	CC..09T308	**MS1156**	**SKCP343**	**SRS3**
	left hand								
1925742	**KM12SCGCL0915**	KM12	8	6	15	CC..09T308	**MS1155**	**–**	**–**
2226230	**KM12SCGCL0920**	KM12	8	6	20	CC..09T308	**MS1155**	**–**	**–**
1846447	**KM16SCGCL0920**	KM16	10	8	20	CC..09T308	**MS1156**	**SKCP343**	**SRS3**







KM Micro™ QUICK-CHANGE TOOLING

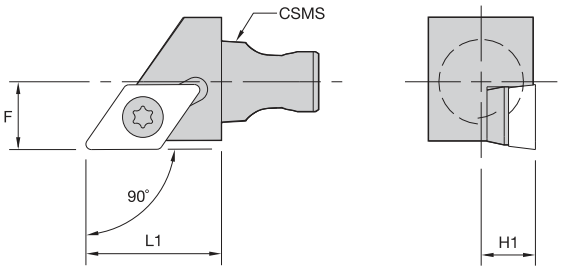
SCLC 95°

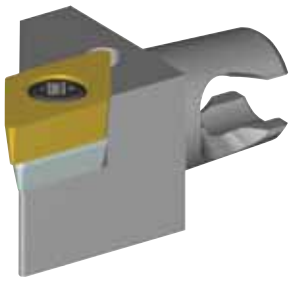






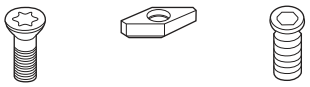
order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw	shim	shim screw
	right hand								
1920413	**KM12SCLCR0915**	KM12	8	6	15	CC..09T308	**MS1155**	**–**	**–**
2226231	**KM12SCLCR0920**	KM12	8	6	20	CC..09T308	**MS1155**	**–**	**–**
1831206	**KM16SCLCR0920**	KM16	10	8	20	CC..09T308	**MS1156**	**SKCP343**	**SRS3**
	left hand								
1925805	**KM12SCLCL0915**	KM12	8	6	15	CC..09T308	**MS1155**	**–**	**–**
2226232	**KM12SCLCL0920**	KM12	8	6	20	CC..09T308	**MS1155**	**–**	**–**
1851750	**KM16SCLCL0920**	KM16	10	8	20	CC..09T308	**MS1156**	**SKCP343**	**SRS3**



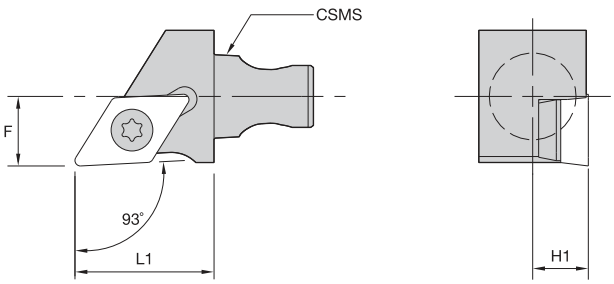


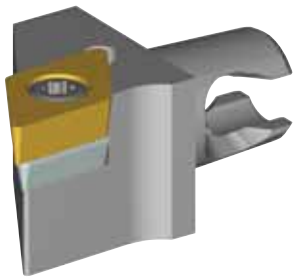
KM Micro™ QUICK-CHANGE TOOLING

SDAC 90°



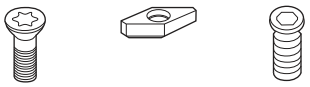
order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw	shim	shim screw
	right hand								
1920414	KM12SDACR1120	KM12	8	6	20	DC..11T308	MS1155	–	–
1831208	KM16SDACR1120	KM16	10	8	20	DC..11T308	MS1156	SKDP343	SRS3
	left hand								
1925809	KM12SDACL1120	KM12	8	6	20	DC..11T308	MS1155	–	–
1851752	KM16SDACL1120	KM16	10	8	20	DC..11T308	MS1156	SKDP343	SRS3



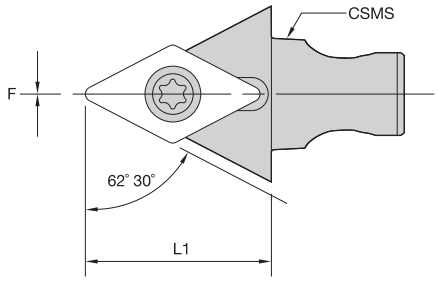


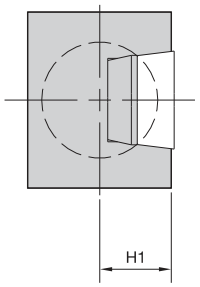
KM Micro™ QUICK-CHANGE TOOLING

SDJC 93°



order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw	shim	shim screw
	right hand								
1925810	KM12SDJCR1120	KM12	8	6	20	DC..11T308	MS1155	–	–
1831209	KM16SDJCR1120	KM16	10	8	20	DC..11T308	MS1156	SKDP343	SRS3
	left hand								
1925811	KM12SDJCL1120	KM12	8	6	20	DC..11T308	MS1155	–	–
1851763	KM16SDJCL1120	KM16	10	8	20	DC..11T308	MS1156	SKDP343	SRS3







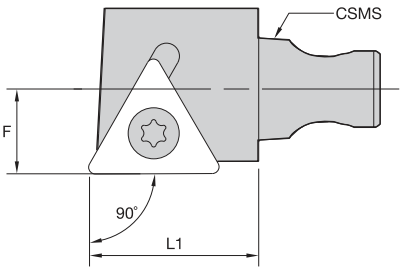
KM Micro™ QUICK-CHANGE TOOLING

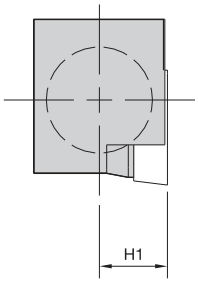
SDPC 62° 30'

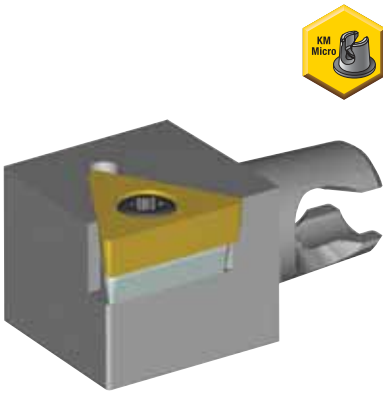




order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw	shim	shim screw
2226253	KM12SDPCN1120	KM12	0	6	20	DC..11T308	MS1155	–	–
2226254	KM16SDPCN1120	KM16	0	8	20	DC..11T308	MS1156	SKDP343	SRS3







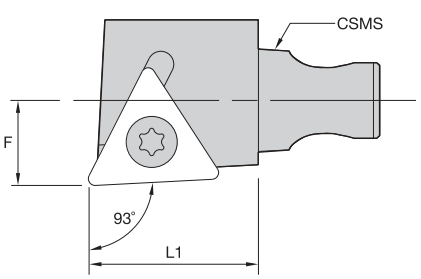
KM Micro™ QUICK-CHANGE TOOLING

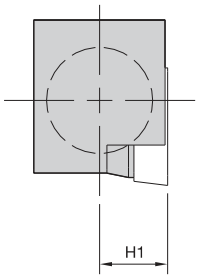
STGC 90°

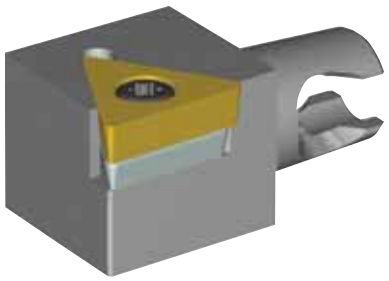




order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw	shim	shim screw
	right hand								
2226255	KM12STGCR1120	KM12	8	6	20	TC..110204	MS1153	–	–
1831211	KM16STGCR1120	KM16	10	8	20	TC..110204	MS1153	–	–
1831212	KM16STGCR1620	KM16	10	8	20	TC..16T308	MS1156	SKTP343	SRS3
	left hand								
1925814	KM12STGCL1115	KM12	8	6	15	TC..110204	MS1153	–	–
2226256	KM12STGCL1120	KM12	8	6	20	TC..110204	MS1153	–	–
1851764	KM16STGCL1120	KM16	10	8	20	TC..110204	MS1153	–	–
1851765	KM16STGCL1620	KM16	10	8	20	TC..16T308	MS1156	SKTP343	SRS3







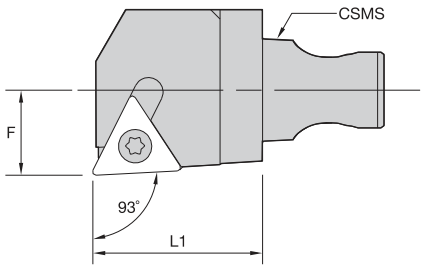
KM Micro™ QUICK-CHANGE TOOLING

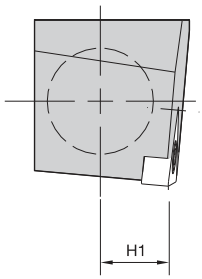
STJC 93°

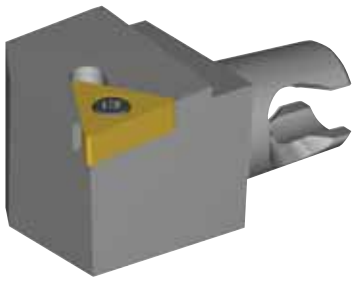




order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw	shim	shim screw
	right hand								
1925817	**KM12STJCR1115**	KM12	8	6	15	TC..110204	**MS1153**	**–**	**–**
2226257	**KM12STJCR1120**	KM12	8	6	20	TC..110204	**MS1153**	**–**	**–**
1831213	**KM16STJCR1120**	KM16	10	8	20	TC..110204	**MS1153**	**–**	**–**
1831214	**KM16STJCR1620**	KM16	10	8	20	TC..16T308	**MS1156**	**SKTP343**	**SRS3**
	left hand								
2226258	**KM12STJCL1120**	KM12	8	6	20	TC..110204	**MS1153**	**–**	**–**
1851766	**KM16STJCL1120**	KM16	10	8	20	TC..110204	**MS1153**	**–**	**–**
1851767	**KM16STJCL1620**	KM16	10	8	20	TC..16T308	**MS1156**	**SKTP343**	**SRS3**





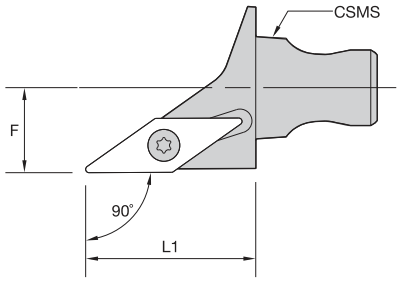


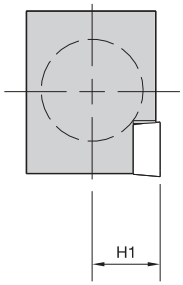
KM Micro™ QUICK-CHANGE TOOLING

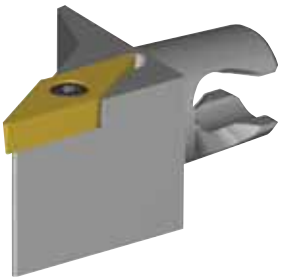
STJN 93°



order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw
	right hand						
1884833	**KM16STJNR11**	KM16	10	8	20	T221N	**S1990**
	left hand						
1898054	**KM16STJNL11**	KM16	10	8	20	T221N	**S1990**





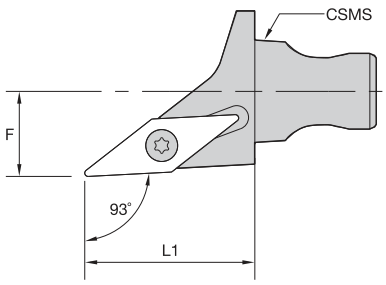


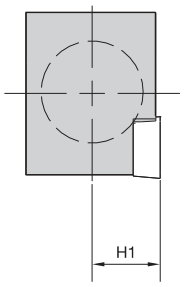
KM Micro™ QUICK-CHANGE TOOLING

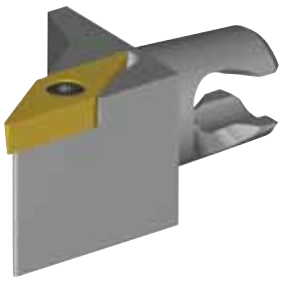
SVGB 90°



order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw
	right hand						
1925821	**KM12SVGBR1120**	KM12	8	6	20	VB..110304	**MS1153**
2226259	**KM16SVGBR1120**	KM16	10	8	20	VB..110304	**MS1153**
1831215	**KM16SVGBR1630**	KM16	10	8	30	VB..160408	**MS1155**
	left hand						
1925822	**KM12SVGBL1120**	KM12	8	6	20	VB..110304	**MS1153**
2226260	**KM16SVGBL1120**	KM16	10	8	20	VB..110304	**MS1153**
1851768	**KM16SVGBL1630**	KM16	10	8	30	VB..160408	**MS1155**





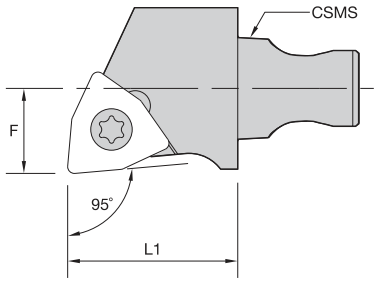


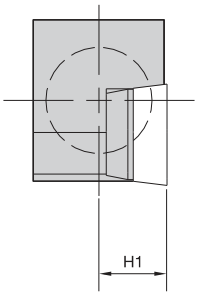
KM Micro™ QUICK-CHANGE TOOLING

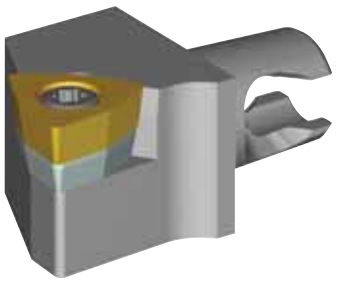
SVJB 93°



order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw
	right hand						
1920381	**KM12SVJBR1120**	KM12	8	6	20	VB..110304	**MS1153**
1884683	**KM16SVJBR1120**	KM16	10	8	20	VB..110304	**MS1153**
1831216	**KM16SVJBR1630**	KM16	10	8	30	VB..160408	**MS1155**
	left hand						
1925823	**KM12SVJBL1120**	KM12	8	6	20	VB..110304	**MS1153**
1898056	**KM16SVJBL1120**	KM16	10	8	20	VB..110304	**MS1153**
1851770	**KM16SVJBL1630**	KM16	10	8	30	VB..160408	**MS1155**







KM Micro™ QUICK-CHANGE TOOLING

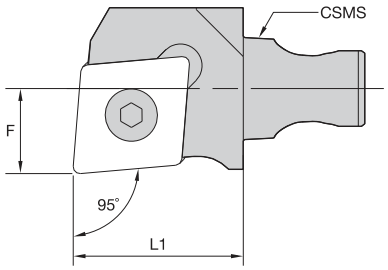
SWLC 95°

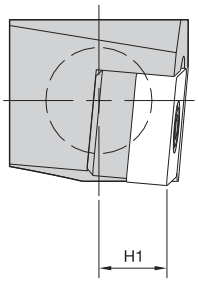


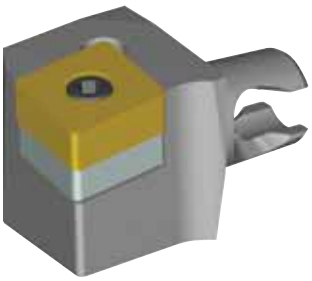




order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw	shim	shim screw
	right hand								
1925824	**KM12SWLCR0615**	KM12	8	6	15	WC..06T308	**MS1155**	**–**	**–**
2226261	**KM12SWLCR0620**	KM12	8	6	20	WC..06T308	**MS1155**	**–**	**–**
1851771	**KM16SWLCR0620**	KM16	10	8	20	WC..06T308	**MS1156**	**SKWP343**	**SRS3**
	left hand								
1925825	**KM12SWLCL0615**	KM12	8	6	15	WC..06T308	**MS1155**	**–**	**–**
2226262	**KM12SWLCL0620**	KM12	8	6	20	WC..06T308	**MS1155**	**–**	**–**
1851772	**KM16SWLCL0620**	KM16	10	8	20	WC..06T308	**MS1156**	**SKWP343**	**SRS3**







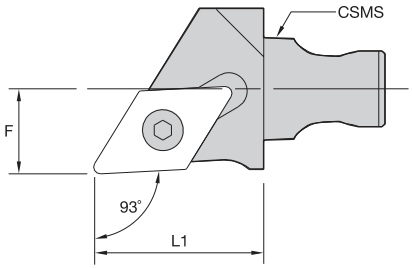
KM Micro™ QUICK-CHANGE TOOLING

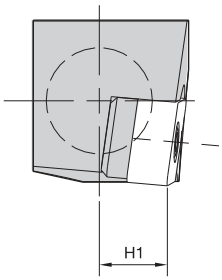
MCLN 95°





order number	catalog number	CSMS system size	F	H1	L1	gage insert	shim	lock pin
	right hand							
2226263	KM16MCLNR0920	KM16	10	8	20	CN..090308	ICSN332	KLM34L
2226265	KM16MCLNR1220	KM16	10	8	20	CN..090308	ICSN432	KLM46
	left hand							
2226264	KM16MCLNL0920	KM16	10	8	20	CN..090308	ICSN332	KLM34L
2226266	KM16MCLNL1220	KM16	10	8	20	CN..090308	ICSN432	KLM46







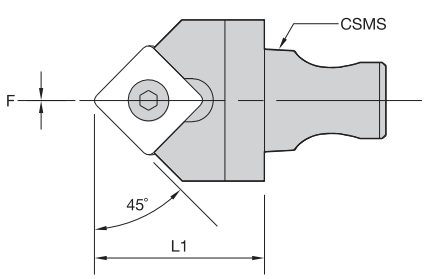
KM Micro™ QUICK-CHANGE TOOLING

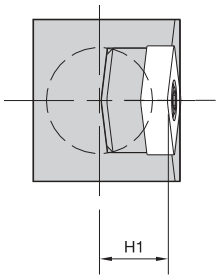
MDJN 93°

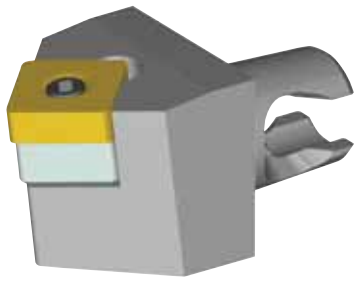




order number	catalog number	CSMS system size	F	H1	L1	gage insert	shim	lock pin
	right hand							
2226267	KM16MDJNR1120	KM16	10	8	20	DN..110408	IDSN322	KLM34L
	left hand							
2226268	KM16MDJNL1120	KM16	10	8	20	DN..110408	IDSN322	KLM34L







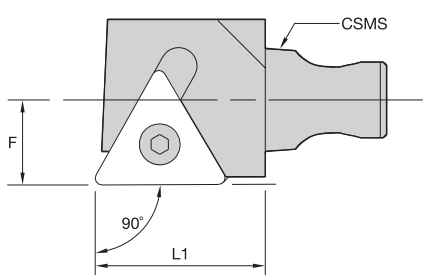
KM Micro QUICK-CHANGE TOOLING

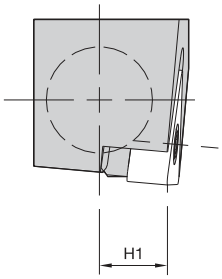
MSDN 45°

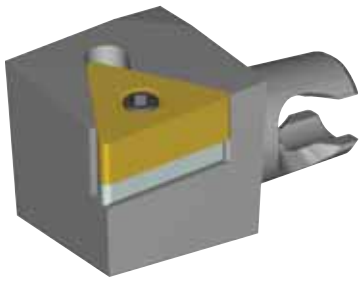




order number	catalog number	CSMS system size	F	H1	L1	gage insert	shim	lock pin
2226269	**KM16MSDNN0920**	KM16	0	8	20	SN..090308	**ISSN332**	**KLM34L**







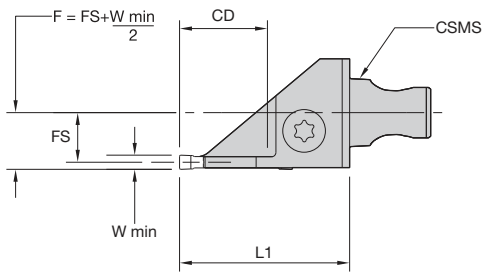
KM Micro QUICK-CHANGE TOOLING

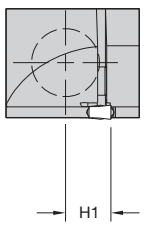
MTGN 90°





order number	catalog number	CSMS system size	F	H1	L1	gage insert	shim	lock pin
	right hand							
2226270	**KM16MTGNR1620**	KM16	10	8	20	TN..160408	**ITSN322**	**KLM34L**
	left hand							
2226271	**KM16MTGNL1620**	KM16	10	8	20	TN..160408	**ITSN322**	**KLM34L**







KM Micro™ QUICK-CHANGE TOOLING

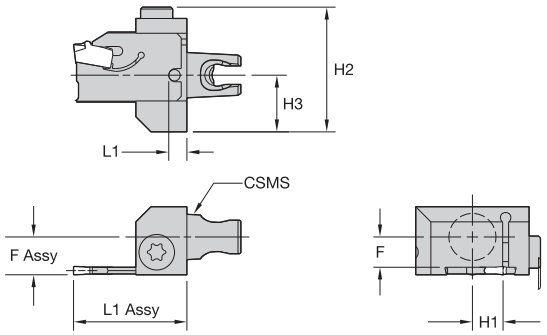
A4S





order number	catalog number	CSMS system size	CD	H1	FS	L1	W min	seat size	clamping screw	clamping screw
	right hand									
3377362	**KM12A4SCR011330**	KM12	13,5	6	7,25	30	1,5	1	**MS1156**	–
3377360	**KM12A4SCR021630**	KM12	16,0	6	7,00	30	2,0	2	–	**MS1944**
2226288	**KM12A4SCR031630**	KM12	16,0	6	6,50	30	3,0	4	–	**MS1944**
3377284	**KM16A4SCR011330**	KM16	13,5	8	9,25	30	1,5	1	**MS1156**	–
3377202	**KM16A4SCR021630**	KM16	16,0	8	9,00	30	2,0	2	–	**MS1160**
2226282	**KM16A4SCR031630**	KM16	16,0	8	8,44	30	3,0	4	–	**MS1944**
3377200	**KM16A4SCR2B1630**	KM16	16,0	8	8,75	30	2,5	2B	–	**MS1160**
	left hand									
3377361	**KM12A4SCL011330**	KM12	13,5	6	7,25	30	1,5	1	**MS1156**	–
3377359	**KM12A4SCL021630**	KM12	16,0	6	7,00	30	2,0	2	–	**MS1944**
2226289	**KM12A4SCL031630**	KM12	16,0	6	6,50	30	3,0	4	–	**MS1944**
3377283	**KM16A4SCL011330**	KM16	13,5	8	9,25	30	1,5	1	**MS1156**	–
3377201	**KM16A4SCL021630**	KM16	16,0	8	9,00	30	2,0	2	–	**MS1160**
2226283	**KM16A4SCL031630**	KM16	16,0	8	8,44	30	3,0	4	–	**MS1944**
3377199	**KM16A4SCL2B1630**	KM16	16,0	8	8,75	30	2,5	2B	–	**MS1160**

NOTE: W min supplied for reference only. See the Kennametal Innovations Master Catalog Cutting Tools 2013 for actual insert width.
Always match seat size of insert to seat size of holder.
Seat size 2B cutting units only accept 2B inserts. Seat size 2 cutting units accept size 2 or 2B inserts.



L1 Assy = L1 + L1 Blade
F Assy = F + F Blade



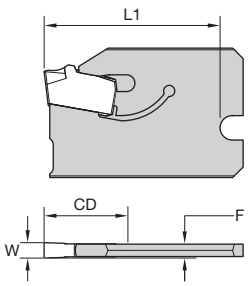
KM Micro™ QUICK-CHANGE TOOLING

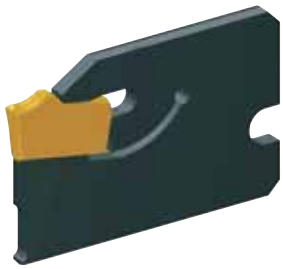
BS



order number	catalog number	CSMS system size	F	H1	H2	H3	L1	clamping screw
	right hand							
1925842	**KM12BSR**	KM12	5,936	6,1	31,3	15,3	4,8	**MS1898PKG**
1831217	**KM16BSR**	KM16	8,012	8,1	33,0	15,0	4,8	**MS1898PKG**
	left hand							
1925843	**KM12BSL**	KM12	5,936	6,1	31,3	15,3	4,8	**MS1898PKG**
1851793	**KM16BSL**	KM16	8,012	8,1	33,0	15,0	4,8	**MS1898PKG**

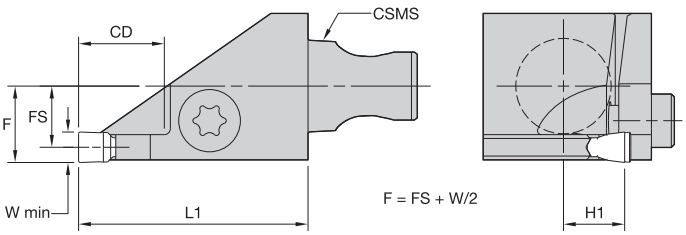
NOTE: For A2 blades, see page A162.

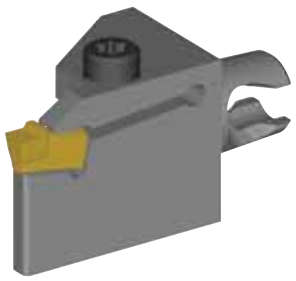




A2BHSN

order number	catalog number	seat size	CD	W	F	L1
1984998	**A2BHSN19X0116**	1	16,0	1,6	1,7	25,2
1851800	**A2BHSN19X0211**	2	11,0	2,2	2,0	20,2
1851799	**A2BHSN19X0216**	2	16,0	2,2	2,0	25,2





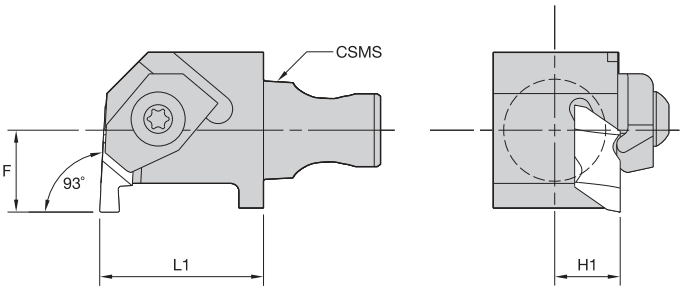
KM Micro™ QUICK-CHANGE TOOLING

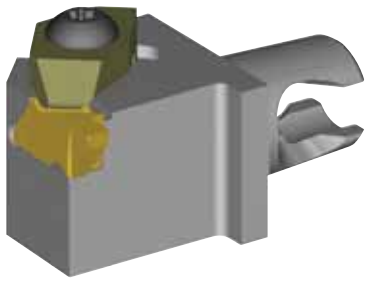
A3S



order number	catalog number	CSMS system size	CD	FS	H1	L1	W min	seat size	clamping screw
	right hand								
1925837	**KM12A3SR31130**	KM12	12	7	6,1	30	3,0	3	**MS1944**
1917367	**KM16A3SR31130**	KM16	12	9	8,1	30	3,0	3	**MS1944**
1831218	**KM16A3SR41130**	KM16	12	8	8,0	30	4,0	4	**MS1944**
	left hand								
1925861	**KM12A3SL31130**	KM12	12	7	6,1	30	3,0	3	**MS1944**
1925856	**KM16A3SL31130**	KM16	12	9	8,1	30	3,0	3	**MS1944**
1851798	**KM16A3SL41130**	KM16	12	8	8,0	30	4,0	4	**MS1944**

NOTE: W min supplied for reference only. See the Kennametal Innovations Master Catalog Cutting Tools 2013 for actual insert width.
Always match seat size of insert to seat size of holder.





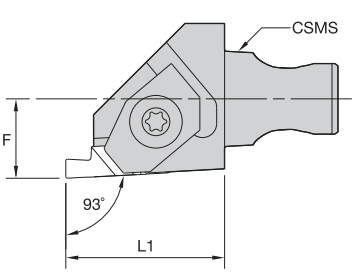
KM Micro™ QUICK-CHANGE TOOLING

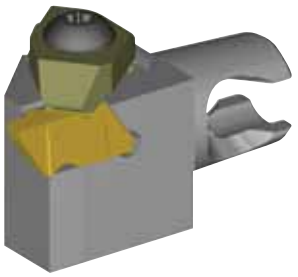
NE 93°





order number	catalog number	CSMS system size	F	H1	L1	gage insert	clamp	clamping screw
	right hand							
1884834	**KM16NER220**	KM16	10	8	20	NG2L	**CM147**	**MS1200**
	left hand							
1898053	**KM16NEL220**	KM16	10	8	20	NG2R	**CM146**	**MS1200**



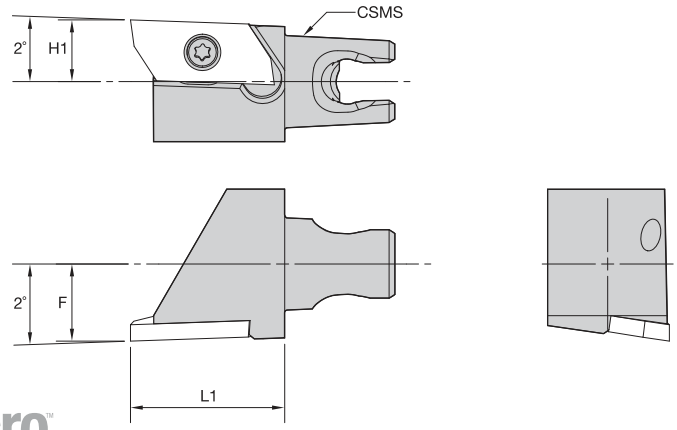


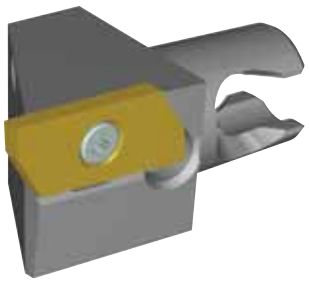
KM Micro™ QUICK-CHANGE TOOLING

NS 93°




order number	catalog number	CSMS system size	F	H1	L1	gage insert	clamp	clamping screw
	right hand							
1920416	**KM12NSR220**	KM12	8	6	20	NG2R	**CM146**	**MS1200**
1831203	**KM16NSR220**	KM16	10	8	20	NG2R	**CM146**	**MS1200**
1831204	**KM16NSR330**	KM16	10	8	30	NG3R	**CM168**	**MS1220**
	left hand							
1925830	**KM12NSL220**	KM12	8	6	20	NG2L	**CM147**	**MS1200**
1846446	**KM16NSL220**	KM16	10	8	20	NG2L	**CM147**	**MS1200**
1851748	**KM16NSL330**	KM16	10	8	30	NG3L	**CM169**	**MS1220**



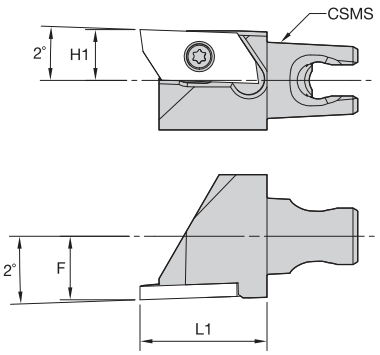


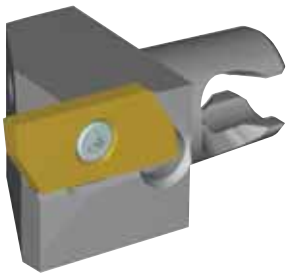
KM Micro™ QUICK-CHANGE TOOLING

WSJ 2°



order number	catalog number	CSMS system size	F	H1	L1	gage insert	clamping screw
	right hand						
3851787	**KM12WSJ15ER20**	KM12	8	6	20	KPJ15ER...	**MS1969PKG**
3522575	**KM16WSJ15ER20**	KM16	10	8	20	KPJ15ER...	**MS1969PKG**
	left hand						
3851786	**KM12WSJ15EL20**	KM12	8	6	20	KPJ15EL...	**MS1969PKG**
3522574	**KM16WSJ15EL20**	KM16	10	8	20	KPJ15EL...	**MS1969PKG**



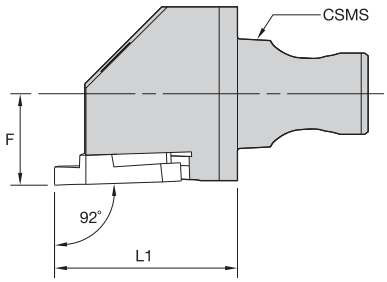


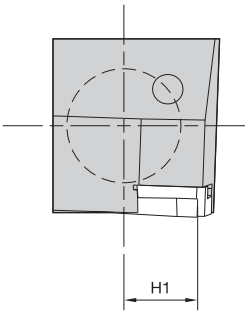
KM Micro™ QUICK-CHANGE TOOLING

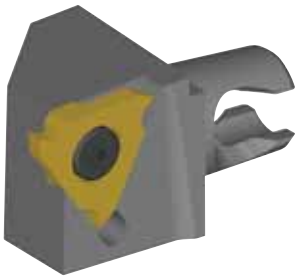
WSK 2°



order number	catalog number	CSMS system size	F	H1	L1	gage insert	clamping screw
	right hand						
3851789	**KM12WSK15ER20**	KM12	8	6	20	KPK15ER...	**MS1969PKG**
3522577	**KM16WSK15ER20**	KM16	10	8	20	KPK15ER...	**MS1969PKG**
	left hand						
3851788	**KM12WSK15EL20**	KM12	8	6	20	KPK15EL...	**MS1969PKG**
3522576	**KM16WSK15EL20**	KM16	10	8	20	KPK15EL...	**MS1969PKG**





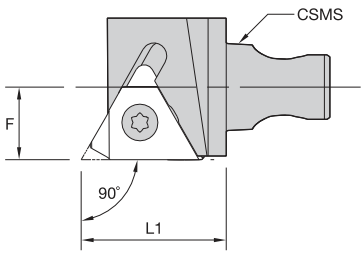


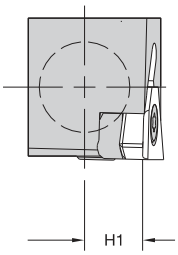
KM Micro™ QUICK-CHANGE TOOLING

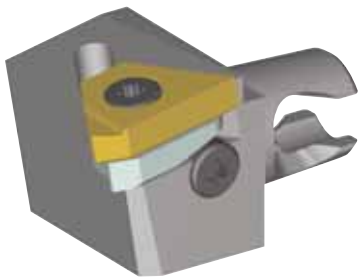
STG 92°



order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw
	right hand						
1925831	**KM12STGR1620**	KM12	8	6	20	T20G1603R200/T20G32R079	**CSTB4SDPKG**
1892495	**KM16STGR1620**	KM16	10	8	20	T20G1603R200/T20G32R079	**CSTB4SDPKG**
	left hand						
1925832	**KM12STGL1620**	KM12	8	6	20	T20G1603L200/T20G32L079	**CSTB4SDPKG**
1898055	**KM16STGL1620**	KM16	10	8	20	T20G1603L200/T20G32L079	**CSTB4SDPKG**







KM Micro™ QUICK-CHANGE TOOLING

LSS 90°





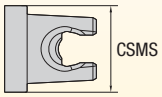
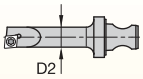
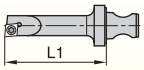
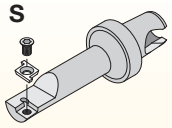
order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw	shim	shim screw
	right hand								
2226280	**KM12LSSR1620**	KM12	8	6	20	LT16ER	**SSA3T**	**SMYE3**	**SSY3T**
2226290	**KM16LSSR1620**	KM16	10	8	20	LT16ER	**SSA3T**	**SMYE3**	**SSY3T**
	left hand								
2226281	**KM12LSSL1620**	KM12	8	6	20	LT16EL	**SSA3T**	**SMYI3**	**SSY3T**
2226291	**KM16LSSL1620**	KM16	10	8	20	LT16EL	**SSA3T**	**SMYI3**	**SSY3T**

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM1612S0424SCLDR04S

KM	1612	S	04	24	S
Kennametal Modular	System Size	Boring Bar Features	Shank Diameter	Gage Length	Clamping System
KM Micro™ Quick Change tooling system	**1612** = Ø 16mm **2016** = Ø 20mm 	**S** = Tool steel	 The code is shank diameter D2. Ignore digits after the decimal point. If the shank diameter D2 code is a single digit, it is preceded by a 0 (zero). (e.g., for Ø 8mm = code 08).	 The code is gage length L1. Ignore digits after the decimal point.	S  **S-Clamping** Clamped from above with a screw for indexable inserts

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



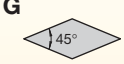
KM1612S0424S**CLDR04S**

C	L	D	R	04	S
Insert Shape	Cutting Unit Shape	Clearance Angle	Direction	Insert Size	Clamping Access

C



G



T



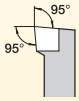
F



J

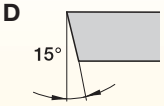


L

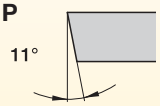


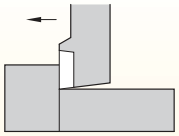
X Special Version

D

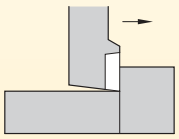


P



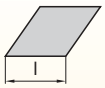


L = Left-hand cutting unit



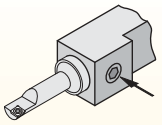
R = Right-hand cutting unit

C
G

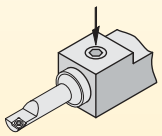


T

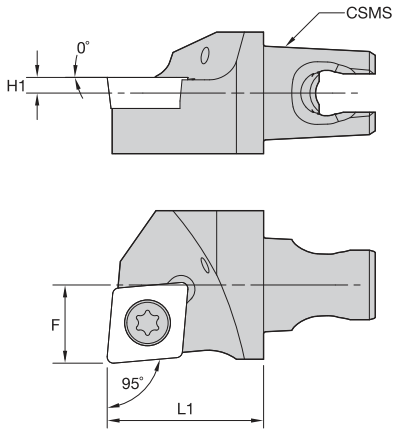




S = Side access



T = Top access





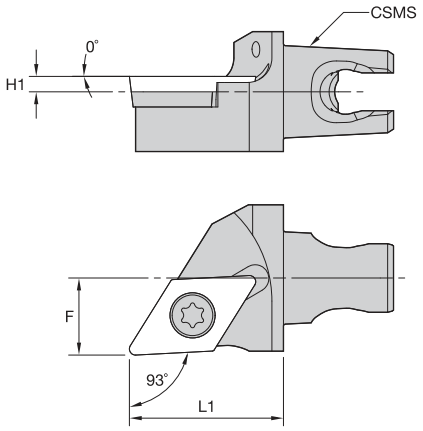


KM Micro™ QUICK-CHANGE TOOLING

SCLC-HPC 95°



order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw
	right hand						
3180670	KM16SCLCR0920HPC	KM16	10	2	20	CC..09T308/CC..3252	MS1155
	left hand						
3180671	KM16SCLCL0920HPC	KM16	10	2	20	CC..09T308/CC..3252	MS1155





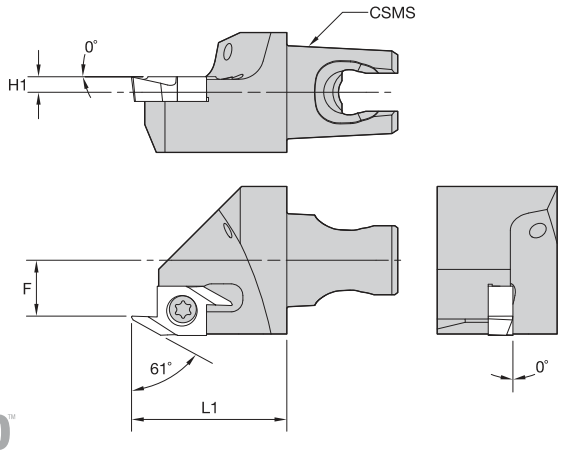


KM Micro™ QUICK-CHANGE TOOLING

SDJC-HPC 93°



order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw
	right hand						
3176692	KM16SDJCR1120HPC	KM16	10	2	20	DC..11T308/DC..3252	MS1155
	left hand						
3180663	KM16SDJCL1120HPC	KM16	10	2	20	DC..11T308/DC..3252	MS1155







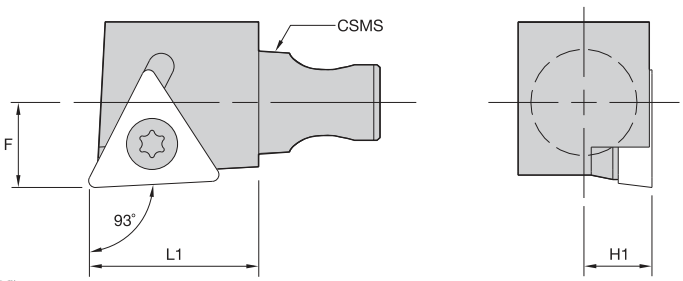
KM Micro™ QUICK-CHANGE TOOLING

SSP-HPC 61°



order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw
	right hand						
3180664	**KM16SSPR0620HPC**	KM16	7	2	20	S10P0603R010/S10P22R004	**CSTB25PKG**
	left hand						
3180665	**KM16SSPL0620HPC**	KM16	7	2	20	S10P0603L010/S10P22L004	**CSTB25PKG**





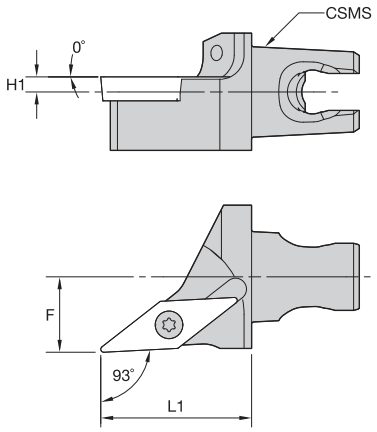


KM Micro™ QUICK-CHANGE TOOLING

STJC-HPC 93°



order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw
	right hand						
3180666	**KM16STJCR1620HPC**	KM16	10	2	20	TC..16T308/TC..3252	**MS1155**
	left hand						
3180667	**KM16STJCL1620HPC**	KM16	10	2	20	TC..16T308/TC..3252	**MS1155**





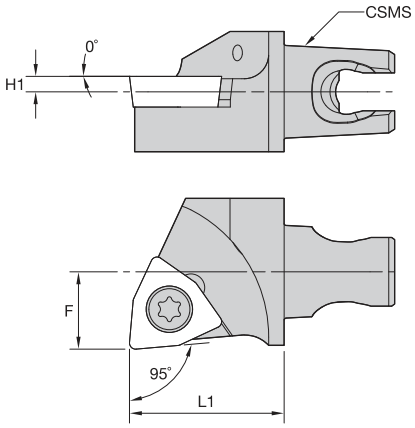


KM Micro™ QUICK-CHANGE TOOLING

SVJB-HPC 93°



order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw
	right hand						
3180672	**KM16SVJBR1120HPC**	KM16	10	2	20	VB..110304/VB..221	**MS1153**
	left hand						
3180673	**KM16SVJBL1120HPC**	KM16	10	2	20	VB..110304/VB..221	**MS1153**





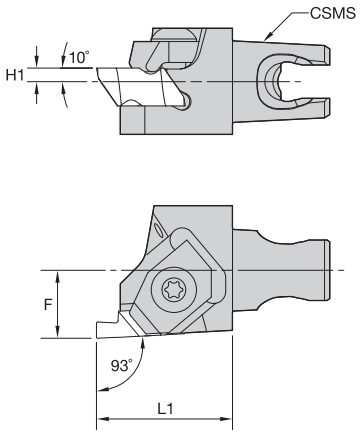


KM Micro™ QUICK-CHANGE TOOLING

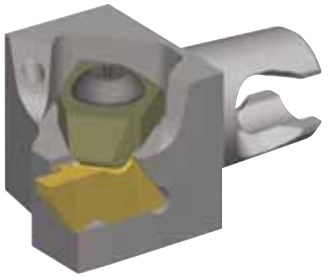
SWLC-HPC 95°



order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw
	right hand						
3180668	**KM16SWLCR0620HPC**	KM16	10	2	20	WC..06T308/WC..3252	**MS1155**
	left hand						
3180669	**KM16SWLCL0620HPC**	KM16	10	2	20	WC..06T308/WC..3252	**MS1155**







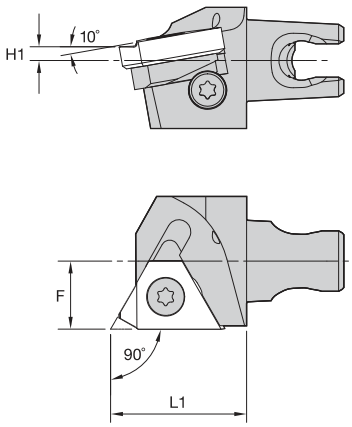
KM Micro™ QUICK-CHANGE TOOLING

NS-HPC





order number	catalog number	CSMS system size	F	H1	L1	gage insert	clamp	clamping screw
	right hand							
3180674	**KM16NSR220HPC**	KM16	10	2	20	NG2R	**CM146**	**MS1200**
	left hand							
3180675	**KM16NSL220HPC**	KM16	10	2	20	NG2L	**CM147**	**MS1200**







KM Micro™ QUICK-CHANGE TOOLING

LSS-HPC







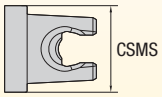
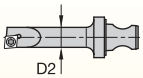
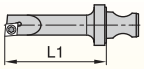
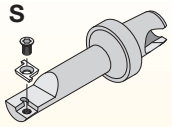
order number	catalog number	CSMS system size	F	H1	L1	gage insert	insert screw	shim	shim screw
	right hand								
3180676	**KM16LSSR1620HPC**	KM16	10	2	20	LT16ER	**SSA3T**	**SMYE3**	**SSY3T**
	left hand								
3180677	**KM16LSSL1620HPC**	KM16	10	2	20	LT16EL	**SSA3T**	**SMYI3**	**SSY3T**

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM1612S0424SCLDR04S

KM	1612	S	04	24	S
Kennametal Modular	System Size	Boring Bar Features	Shank Diameter	Gage Length	Clamping System
KM Micro™ Quick Change tooling system	**1612** = Ø 16mm **2016** = Ø 20mm 	**S** = Tool steel	 The code is shank diameter D2. Ignore digits after the decimal point. If the shank diameter D2 code is a single digit, it is preceded by a 0 (zero). (e.g., for Ø 8mm = code 08).	 The code is gage length L1. Ignore digits after the decimal point.	S  **S-Clamping** Clamped from above with a screw for indexable inserts

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



KM1612S0424S**CLDR04S**

C — Insert Shape

C — 80°

G — 45°

T — 60°

L — Cutting Unit Shape

F — 90°

J — 93°

L — 95° / 95°

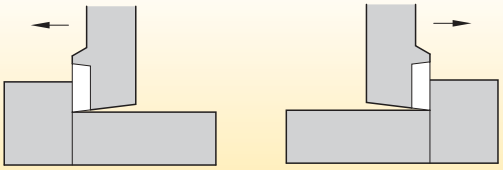
X — Special Version

D — Clearance Angle

D — 15°

P — 11°

R — Direction



L = Left-hand cutting unit

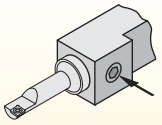
R = Right-hand cutting unit

04 — Insert Size

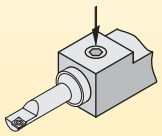
C
G

T

S — Clamping Access

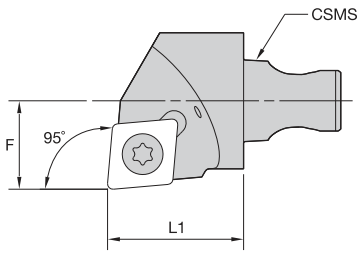


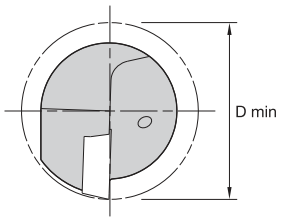
S = Side access



T = Top access









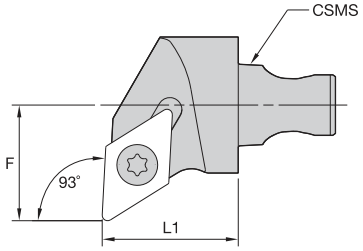
KM Micro™ QUICK-CHANGE TOOLING

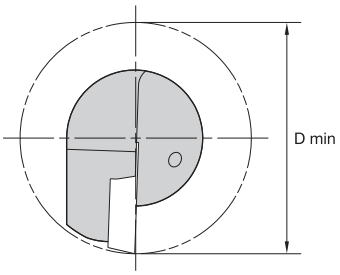
SCLP 95°



order number	catalog number	CSMS system size	D min	F	L1	gage insert	insert screw
	right hand						
3016745	**KM2016SCLPR0920**	KM2016	25	13	20	CP..09T308/CP..3252	**MS1155**
	left hand						
3016746	**KM2016SCLPL0920**	KM2016	25	13	20	CP..09T308/CP..3252	**MS1155**







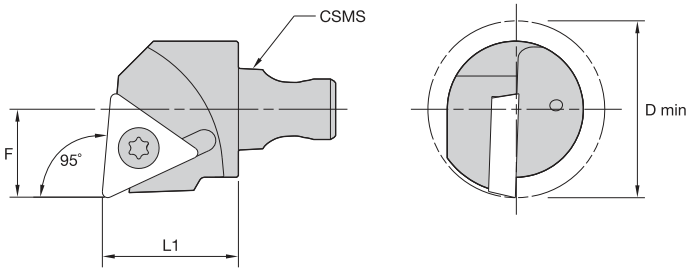


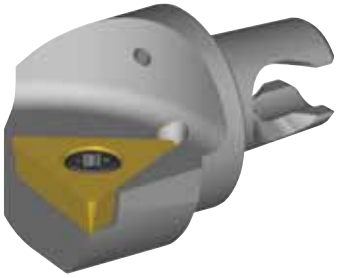
KM Micro™ QUICK-CHANGE TOOLING

SDUP 93°



order number	catalog number	CSMS system size	D min	F	L1	gage insert	insert screw
	right hand						
3016747	**KM2016SDUPR1120**	KM2016	32	17	20	DP..11T308/DP..3252	**MS1155**
	left hand						
3016748	**KM2016SDUPL1120**	KM2016	32	17	20	DP..11T308/DP..3252	**MS1155**



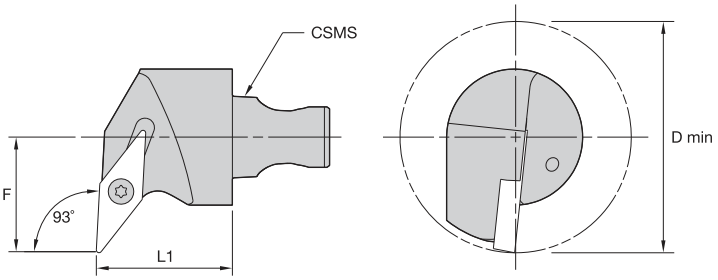


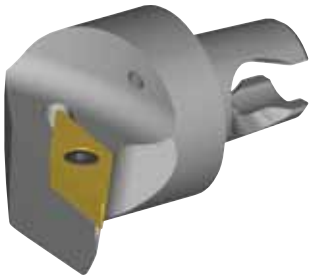
KM Micro™ QUICK-CHANGE TOOLING

STLP 95°



order number	catalog number	CSMS system size	D min	F	L1	gage insert	insert screw
	right hand						
3016753	**KM2016STLPR1620**	KM2016	25	13	20	TP..16T308/TP..3252	**MS1155**
	left hand						
3016754	**KM2016STLPL1620**	KM2016	25	13	20	TP..16T308/TP..3252	**MS1155**





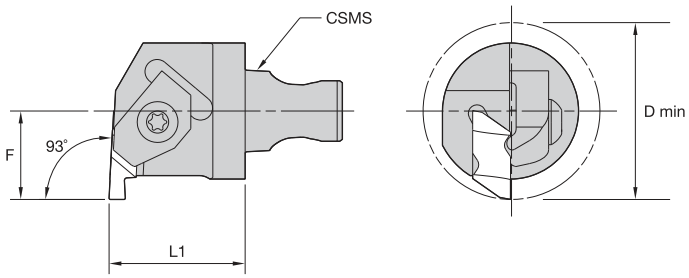
KM Micro™ QUICK-CHANGE TOOLING

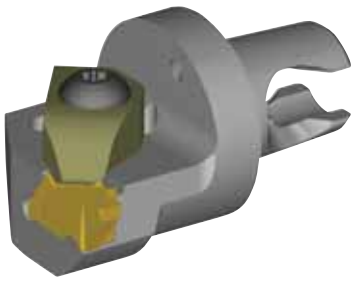
SVUB 93°



order number	catalog number	CSMS system size	D min	F	L1	gage insert	insert screw
	right hand						
3016749	**KM2016SVUBR1120**	KM2016	32	17	20	VB..110304/VB..221	**MS1153**
	left hand						
3016750	**KM2016SVUBL1120**	KM2016	32	17	20	VB..110304/VB..221	**MS1153**







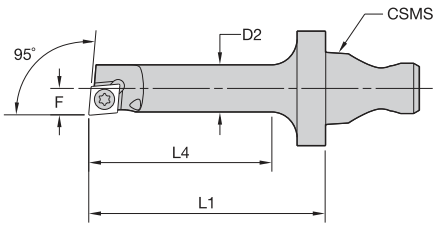
KM Micro™ QUICK-CHANGE TOOLING

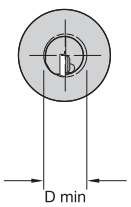
NE

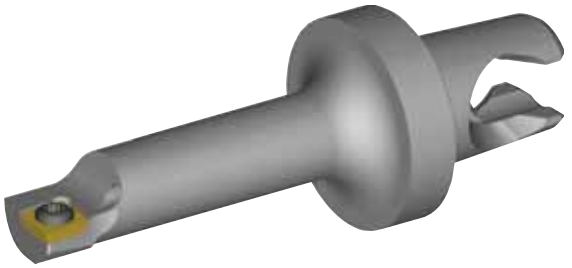




order number	catalog number	CSMS system size	D min	F	L1	gage insert	clamp	socket-head cap screw
	right hand							
3016751	**KM2016NER220**	KM2016	25	13	20	NG2L	**CM183**	**MS1200**
	left hand							
3016752	**KM2016NEL220**	KM2016	25	13	20	NG2R	**CM182**	**MS1200**





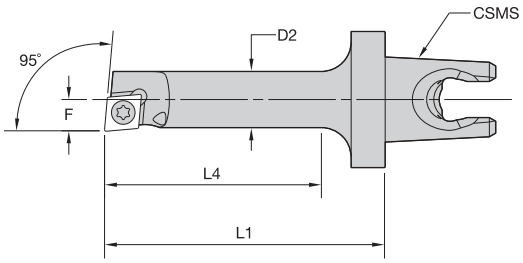


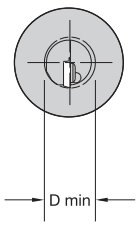
KM Micro™ QUICK-CHANGE TOOLING

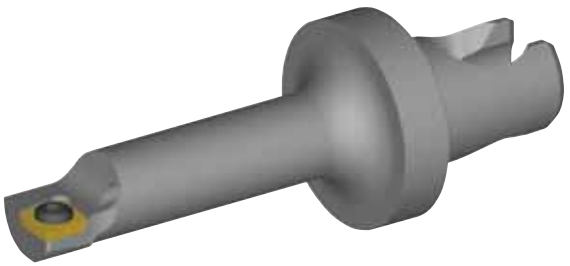
SCLD-S 95°



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2253213	**KM1612S0424SCLDRS4S**	KM1612	4,77	4,22	2,42	24	17	CD..S4T002/CD..120605	**CC09**
2253215	**KM1612S0528SCLDRS4S**	KM1612	5,78	5,16	2,95	28	21	CD..S4T002/CD..120605	**CC11**
2253217	**KM1612S0633SCLDRS4S**	KM1612	7,09	6,20	3,73	33	25	CD..S4T002/CD..120605	**CC11**
	left hand								
2253214	**KM1612S0424SCLDLS4S**	KM1612	4,77	4,22	2,40	24	17	CD..S4T002/CD..120605	**CC09**
2253216	**KM1612S0528SCLDLS4S**	KM1612	5,78	5,16	2,95	28	21	CD..S4T002/CD..120605	**CC11**
2253218	**KM1612S0633SCLDLS4S**	KM1612	7,09	6,20	3,73	33	25	CD..S4T002/CD..120605	**CC11**





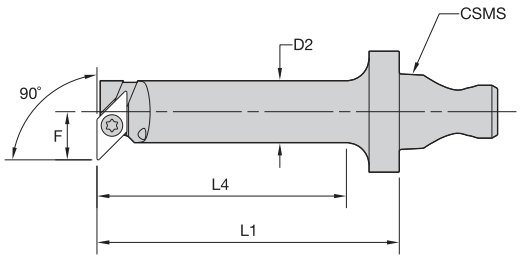


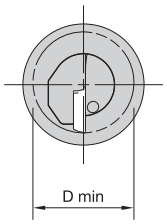
KM Micro™ QUICK-CHANGE TOOLING

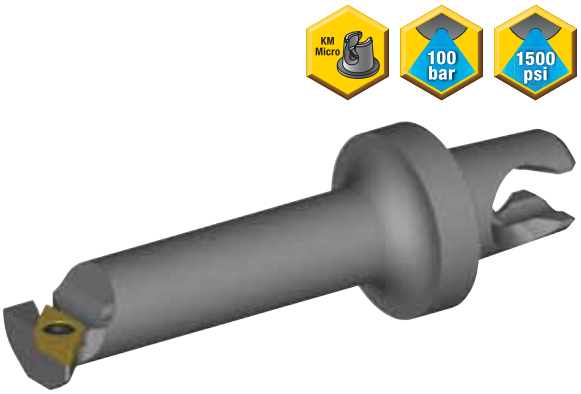
SCLD-T 95°



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2253219	**KM1612S0424SCLDRS4T**	KM1612	4,77	4,22	2,40	24	17	CD..S4T002/CD..120605	**CC09**
2253221	**KM1612S0528SCLDRS4T**	KM1612	5,78	5,16	2,95	28	21	CD..S4T002/CD..120605	**CC11**
2253223	**KM1612S0633SCLDRS4T**	KM1612	7,09	6,20	3,73	33	25	CD..S4T002/CD..120605	**CC11**
	left hand								
2253220	**KM1612S0424SCLDLS4T**	KM1612	4,77	4,22	2,40	24	17	CD..S4T002/CD..120605	**CC09**
2253222	**KM1612S0528SCLDLS4T**	KM1612	5,78	5,16	2,95	28	21	CD..S4T002/CD..120605	**CC11**
2253224	**KM1612S0633SCLDLS4T**	KM1612	7,09	6,20	3,73	33	25	CD..S4T002/CD..120605	**CC11**





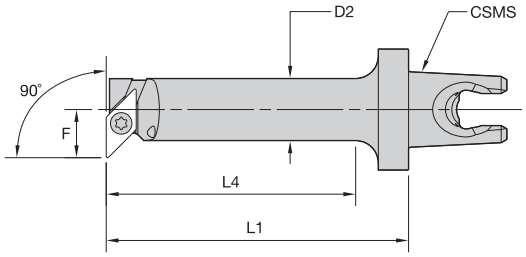


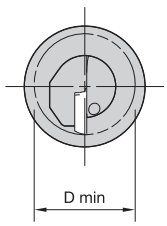
KM Micro™ QUICK-CHANGE TOOLING

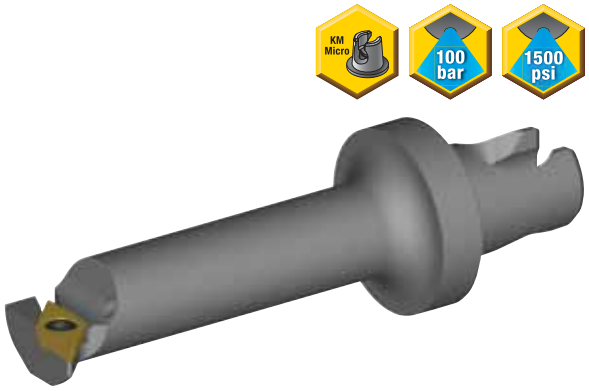
SGFP-S 90°



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2253225	**KM1612S0633SGFPR05S**	KM1612	9,14	6,6	5,58	33	26,4	GP..050102/GP.505	**CT15**
2253227	**KM1612S0840SGFPR05S**	KM1612	10,72	8,2	6,37	40	33,0	GP..050102/GP.505	**CT15**
	left hand								
2253226	**KM1612S0633SGFPL05S**	KM1612	9,14	6,6	5,58	33	26,4	GP..050102/GP..12105	**CT15**
2253228	**KM1612S0840SGFPL05S**	KM1612	10,72	8,2	6,37	40	33,0	GP..050102/GP..12105	**CT15**





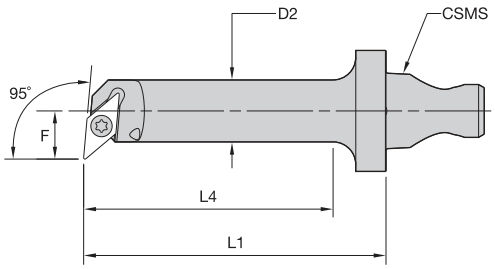


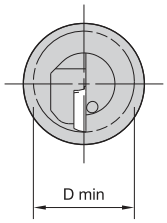
KM Micro™ QUICK-CHANGE TOOLING

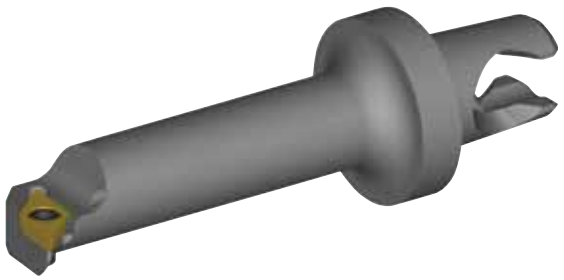
SGFP-T 90°



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2253229	**KM1612S0633SGFPR05T**	KM1612	9,14	6,6	5,58	33	26,4	GP..050102/GP.505	**CT15**
2253231	**KM1612S0840SGFPR05T**	KM1612	10,72	8,2	6,37	40	33,0	GP..050102/GP.505	**CT15**
	left hand								
2253230	**KM1612S0633SGFPL05T**	KM1612	9,14	6,6	5,58	33	26,4	GP..050102/GP.505	**CT15**
2253232	**KM1612S0840SGFPL05T**	KM1612	10,72	8,2	6,37	40	33,0	GP..050102/GP.505	**CT15**





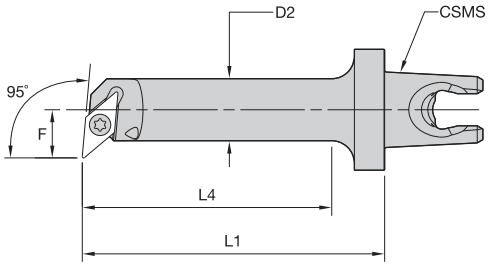


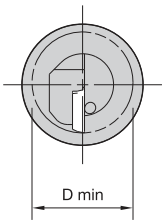
KM Micro™ QUICK-CHANGE TOOLING

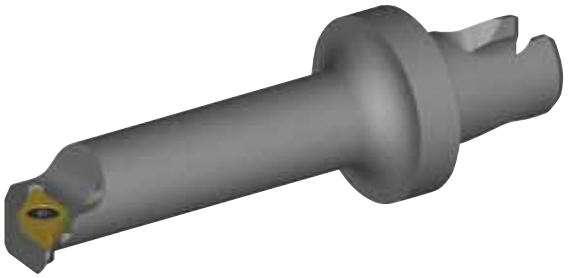
SGLP-S 95°



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2253233	**KM1612S0633SGLPR05S**	KM1612	9,14	6,60	5,58	33	26	GP..050102/GP..12105	**CT15**
2253235	**KM1612S0840SGLPR05S**	KM1612	10,72	8,20	6,37	40	33	GP..050102/GP..12105	**CT15**
	left hand								
2253234	**KM1612S0633SGLPL05S**	KM1612	9,14	6,60	5,58	33	26	GP..050102/GP..12105	**CT15**
2253236	**KM1612S0840SGLPL05S**	KM1612	10,72	8,20	6,37	40	33	GP..050102/GP..12105	**CT15**





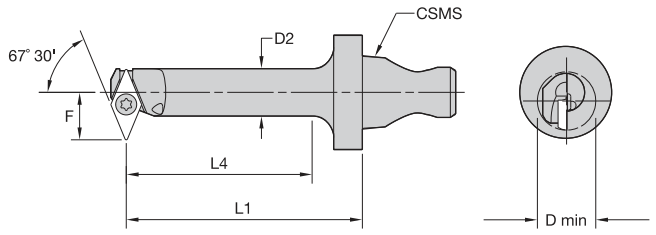


KM Micro™ QUICK-CHANGE TOOLING

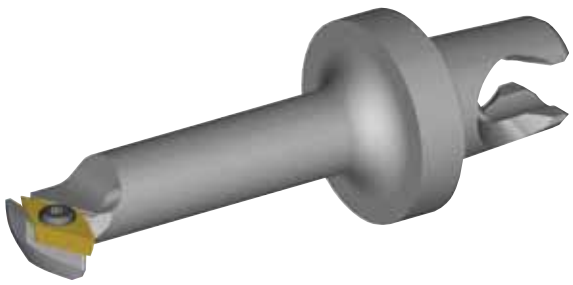
SGLP-T 95°



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2253237	**KM1612S0633SGLPR05T**	KM1612	9,14	6,60	5,58	33	26	GP..050102/GP..12105	**CT15**
2253239	**KM1612S0840SGLPR05T**	KM1612	10,72	8,20	6,37	40	33	GP..050102/GP..12105	**CT15**
	left hand								
2253238	**KM1612S0633SGLPL05T**	KM1612	9,14	6,60	5,58	33	26	GP..050102/GP..12105	**CT15**
2253240	**KM1612S0840SGLPL05T**	KM1612	10,72	8,20	6,37	40	33	GP..050102/GP..12105	**CT15**





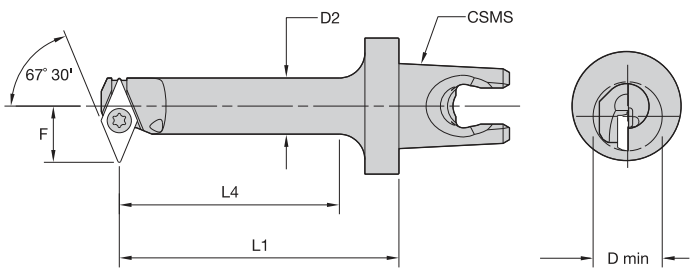


KM Micro™ QUICK-CHANGE TOOLING

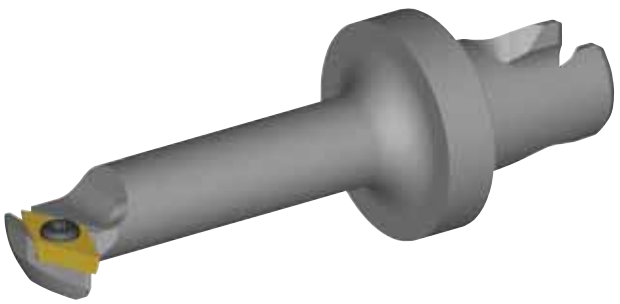
SGXP-S 67° 30'



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2253288	KM1612S0633SGXPR05S	KM1612	10,16	6,6	6,61	33	26	GP..050102/GP..12105	CT15
	left hand								
2253289	KM1612S0633SGXPL05S	KM1612	10,16	6,6	6,61	33	26	GP..050102/GP..12105	CT15





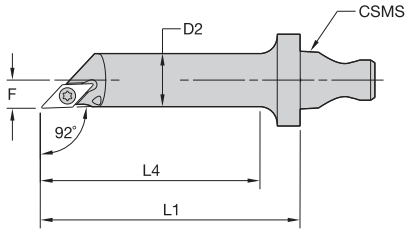


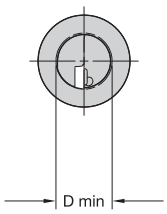
KM Micro™ QUICK-CHANGE TOOLING

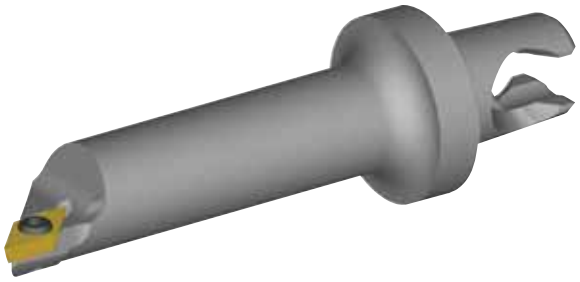
SGXP-T 67° 30'



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2253241	KM1612S0633SGXPR05T	KM1612	10,16	6,6	6,61	33	26	GP..050102/GP..505	CT15
	left hand								
2253242	KM1612S0633SGXPL05T	KM1612	10,16	6,6	6,61	33	26	GP..050102/GP..12105	CT15





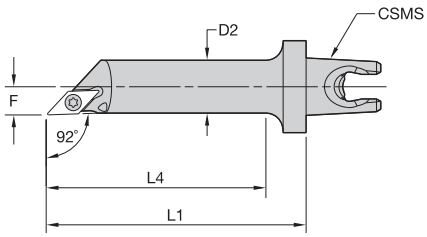


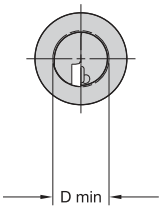
KM Micro QUICK-CHANGE TOOLING

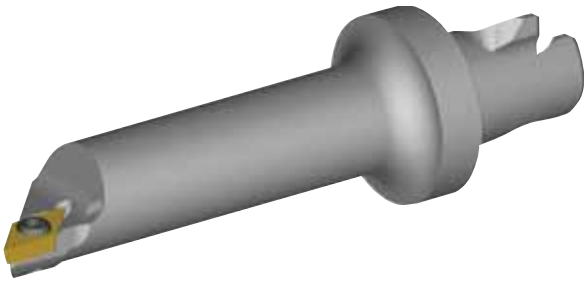
SGJP-S 92°



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2253243	**KM1612S0840SGJPR05S**	KM1612	8,68	8,20	4,34	40	33	GP..050102/GP..12105	**CT11**
2253247	**KM1612S0945SGJPR05S**	KM1612	9,75	9,25	4,89	45	38	GP..050102/GP..12105	**CT11**
	left hand								
2253244	**KM1612S0840SGJPL05S**	KM1612	8,68	8,20	4,34	40	33	GP..050102/GP..12105	**CT11**
2253248	**KM1612S0945SGJPL05S**	KM1612	9,75	9,25	4,89	45	38	GP..050102/GP..12105	**CT11**





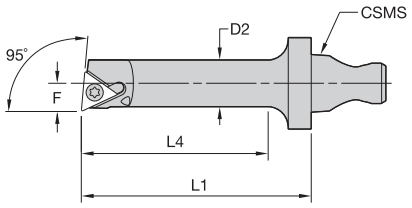


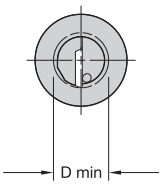
KM Micro QUICK-CHANGE TOOLING

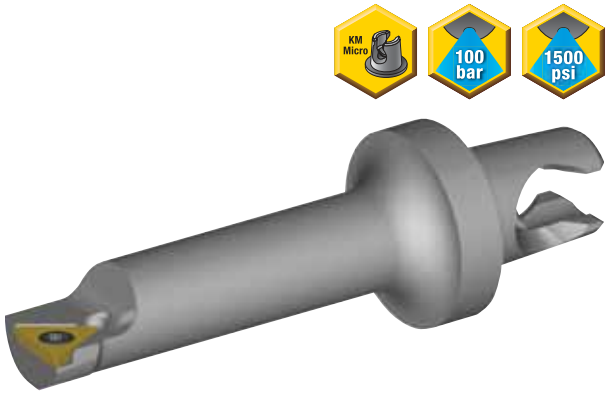
SGJP-T 92°



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2253249	**KM1612S0840SGJPR05T**	KM1612	8,68	8,20	4,34	40	33	GP..050102/GP..12105	**CT11**
2253251	**KM1612S0945SGJPR05T**	KM1612	9,75	9,25	4,89	45	38	GP..050102/GP..12105	**CT11**
	left hand								
2253250	**KM1612S0840SGJPL05T**	KM1612	8,68	8,20	4,34	40	33	GP..050102/GP..12105	**CT11**
2253252	**KM1612S0945SGJPL05T**	KM1612	9,75	9,25	4,89	45	38	GP..050102/GP..12105	**CT11**





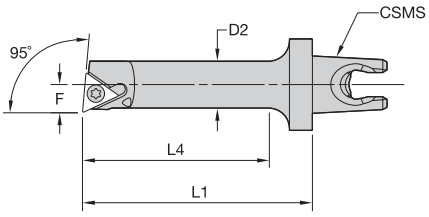


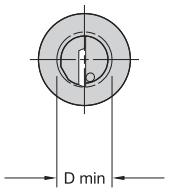
KM Micro™ QUICK-CHANGE TOOLING

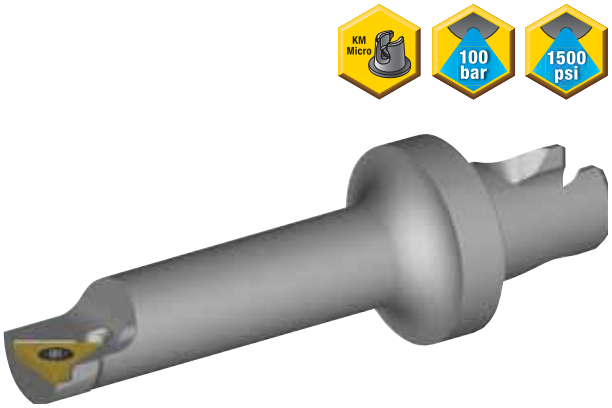
STLD-S 95°



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2253253	**KM1612S0633STLDR07S**	KM1612	7,06	6,2	3,71	33	26	TD..07S1202/TD..130805	**FC11**
2253255	**KM1612S0840STLDR07S**	KM1612	9,14	8,2	4,80	40	33	TD..07S1202/TD..130805	**FC11**
	left hand								
2253254	**KM1612S0633STLDL07S**	KM1612	7,06	6,2	3,71	33	26	TD..07S1202/TD..130805	**FC11**
2253256	**KM1612S0840STLDL07S**	KM1612	9,14	8,2	4,80	40	33	TD..07S1202/TD..130805	**FC11**





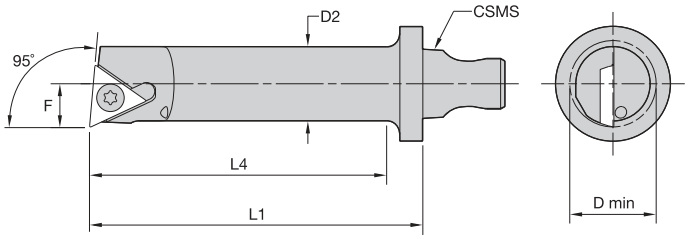


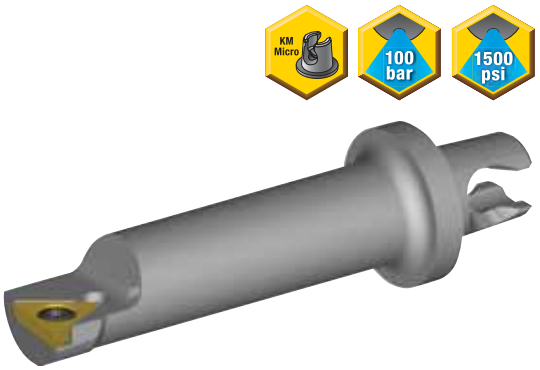
KM Micro™ QUICK-CHANGE TOOLING

STLD-T 95°



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2253257	**KM1612S0633STLDR07T**	KM1612	7,06	6,2	3,71	33	26	TD..07T1202/TD..12807505	**FC11**
2253259	**KM1612S0840STLDR07T**	KM1612	9,14	8,2	4,80	40	33	TD..07T1202/TD..12807505	**FC11**
	left hand								
2253258	**KM1612S0633STLDL07T**	KM1612	7,06	6,2	3,71	33	26	TD..07T1202/TD..12807505	**FC11**
2253260	**KM1612S0840STLDL07T**	KM1612	9,14	8,2	4,80	40	33	TD..07T1202/TD..12807505	**FC11**

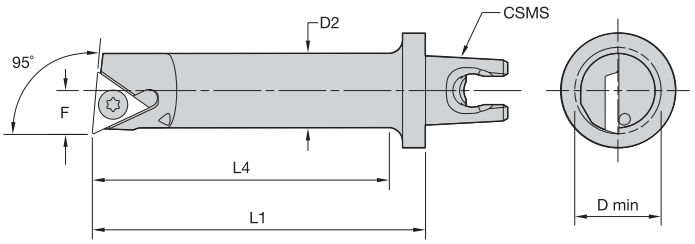


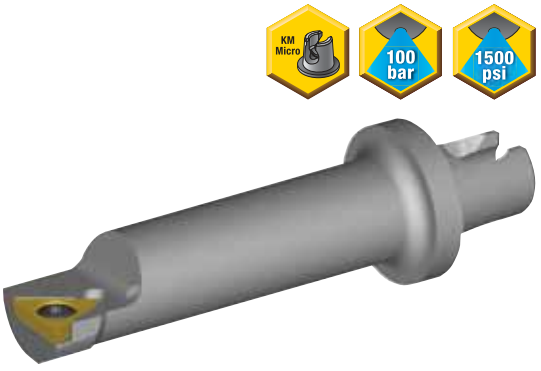


KM Micro™ QUICK-CHANGE TOOLING

STLP-S 95°

order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2253261	**KM1612S1046STLPR11S**	KM1612	11,15	10,21	5,79	46	41	TP..110202/TP..21505	**QC21**
2253263	**KM2016S1046STLPR11S**	KM2016	11,15	10,21	5,79	46	41	TP..110202/TP..21505	**QC21**
2253265	**KM2016S1358STLPR11S**	KM2016	14,25	12,95	7,52	58	52	TP..110202/TP..21505	**QC21**
	left hand								
2253262	**KM1612S1046STLPL11S**	KM1612	11,15	10,21	5,79	46	41	TP..110202/TP..21505	**QC21**
2253264	**KM2016S1046STLPL11S**	KM2016	11,15	10,21	5,79	46	41	TP..110202/TP..21505	**QC21**
2253266	**KM2016S1358STLPL11S**	KM2016	14,25	12,95	7,52	58	52	TP..110202/TP..21505	**QC21**

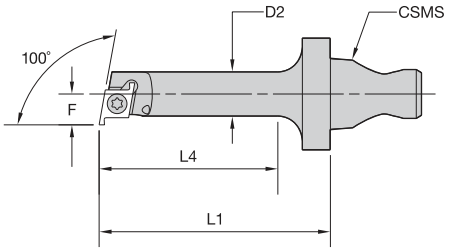


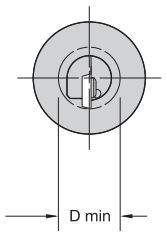


KM Micro™ QUICK-CHANGE TOOLING

STLP-T 95°

order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2250067	**KM1612S1046STLPR11T**	KM1612	11,15	10,21	5,79	46	41	TP..110202/TP..21505	**QC21**
2250069	**KM2016S1046STLPR11T**	KM2016	11,15	10,21	5,79	46	41	TP..110202/TP..21505	**QC21**
2250071	**KM2016S1358STLPR11T**	KM2016	14,25	12,95	7,52	58	52	TP..110202/TP..21505	**QC21**
	left hand								
2250068	**KM1612S1046STLPL11T**	KM1612	11,15	10,21	5,79	46	41	TP..110202/TP..21505	**QC21**
2250070	**KM2016S1046STLPL11T**	KM2016	11,15	10,21	5,79	46	41	TP..110202/TP..21505	**QC21**
2250072	**KM2016S1358STLPL11T**	KM2016	14,25	12,95	7,53	58	52	TP..110202/TP..21505	**QC21**





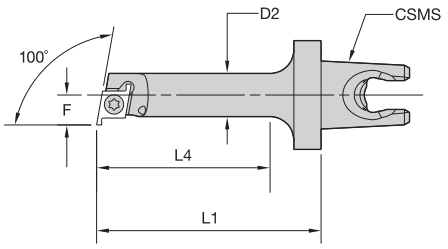


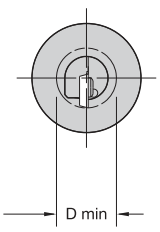
KM Micro™ QUICK-CHANGE TOOLING

SCXD-S 100°



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2250073	**KM1612S0529SCXDRS**	KM1612	6,93	5,56	3,91	29	22	CD.50302R	**CC11**
2250074	**KM1612S0633SCXDRS**	KM1612	7,82	6,35	4,40	33	26	CD.50302R	**CC11**





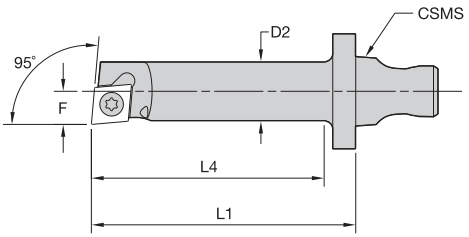


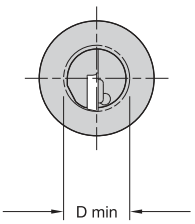
KM Micro™ QUICK-CHANGE TOOLING

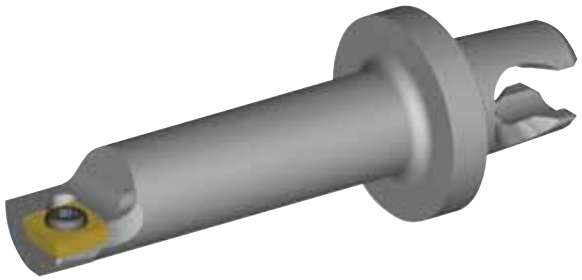
SCXD-T 100°



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2250037	**KM1612S0529SCXDRT**	KM1612	6,93	5,56	3,91	29	22	CD..40762/CD.120302	**CC11**
2250038	**KM1612S0633SCXDRT**	KM1612	7,82	6,35	4,40	33	26	CD..40762/CD.120302	**CC11**





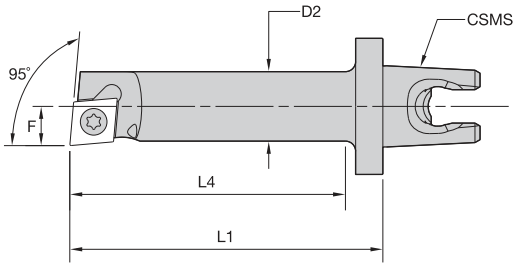


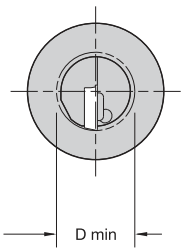
KM Micro™ QUICK-CHANGE TOOLING

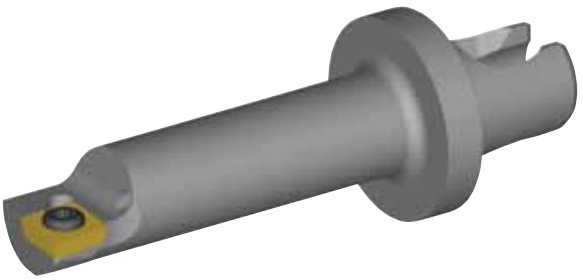
SCXP-S 95°



order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2250039	**KM1612S1046SCXPRS**	KM1612	11,10	10,21	5,75	46	41	CP..06T102/CP..21205	**QC15**
2250041	**KM2016S1046SCXPRS**	KM2016	11,10	10,21	5,75	46	41	CP..06T102/CP..21205	**QC15**
	left hand								
2250040	**KM1612S1046SCXPLS**	KM1612	11,10	10,21	5,75	46	41	CP..06T102/CP..21205	**QC15**
2250042	**KM2016S1046SCXPLS**	KM2016	11,10	10,21	5,75	46	41	CP..06T102/CP..21205	**QC15**





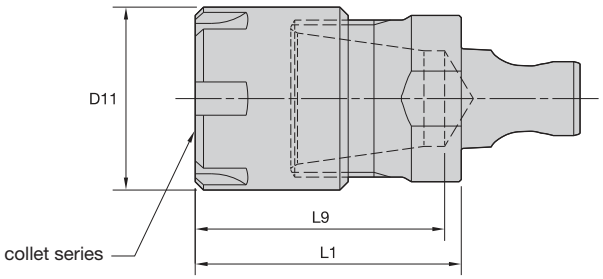


KM Micro™ QUICK-CHANGE TOOLING

SCXP-T 95°



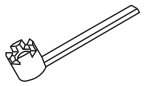
order number	catalog number	CSMS system size	D min	D2	F	L1	L4	gage insert	insert screw
	right hand								
2250063	**KM1612S1046SCXPRT**	KM1612	11,10	10,21	5,75	46	41	CP..06T102/CP..21205	**QC15**
2250065	**KM2016S1046SCXPRT**	KM2016	11,10	10,21	5,75	46	41	CP..06T102/CP..21205	**QC15**
	left hand								
2250064	**KM1612S1046SCXPLT**	KM1612	11,10	10,21	5,75	46	41	CP..06T102/CP..21205	**QC15**
2250066	**KM2016S1046SCXPLT**	KM2016	11,10	10,21	5,75	46	41	CP..06T102/CP..21205	**QC15**





ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER8	0,5	5,0	.02	.20
ER11	0,5	7,0	.02	.28
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50

ER

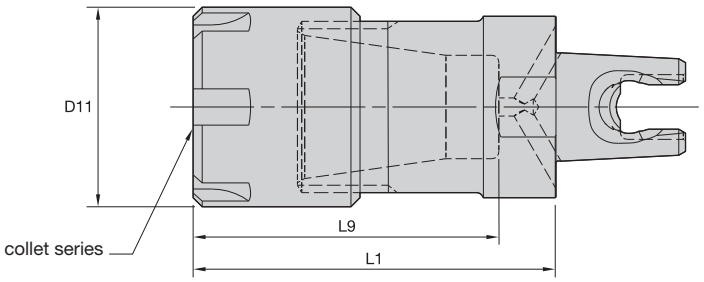



order number	catalog number	CSMS system size	collet series	D11	L1	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)
2607067	**KM1612ER08017**	KM1612	ER8	12	17	**LER08M**	**ER08WEM**	4.8	4.0
1925844	**KM1612ER11020**	KM1612	ER11	16	20	**LER11M**	**ER11WEM**	12.0	16.0
1925845	**KM1612ER16032**	KM1612	ER16	22	32	**LER16M**	**ER16WEM**	24.0	24.0
2607068	**KM2016ER08017**	KM2016	ER8	12	17	**LER08M**	**ER08WEM**	4.8	4.0
1898057	**KM2016ER11020**	KM2016	ER11	16	20	**LER11M**	**ER11WEM**	12.0	16.0
1898058	**KM2016ER16032**	KM2016	ER16	22	32	**LER16M**	**ER16WEM**	24.0	24.0
1925857	**KM2016ER20035**	KM2016	ER20	28	35	**LER20M**	**ER20WEM**	28.0	28.0

(continued)

(ER continued)

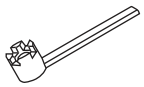






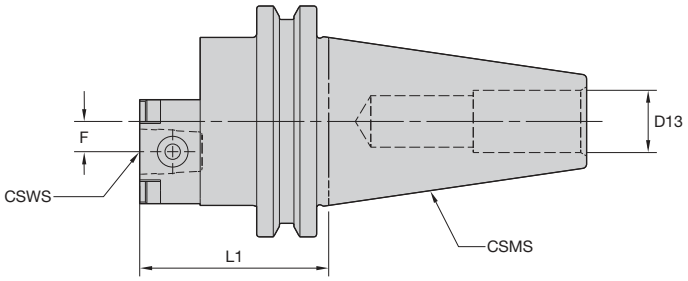
ER-C





order number	catalog number	CSMS system size	collet series	D11	L1	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)
3741453	**KM2016ER08025C**	KM2016	ER08	12	25	**LER08M**	**ER08WEM**	4.8	4.0
3741454	**KM2016ER11030C**	KM2016	ER11	16	30	**LER11M**	**ER11WEM**	12.0	16.0
3741455	**KM2016ER16040C**	KM2016	ER16	22	40	**LER16M**	**ER16WEM**	24.0	24.0
3741456	**KM2016ER20045C**	KM2016	ER20	28	45	**LER20M**	**ER20WEM**	28.0	28.0

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut.
Locknut wrench must be ordered separately.
Interchangeable coolant-style locknuts and coolant disks are available and must be ordered separately; see page L19.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58-J59.
ER TCT tension-only tap collets, see page J60.



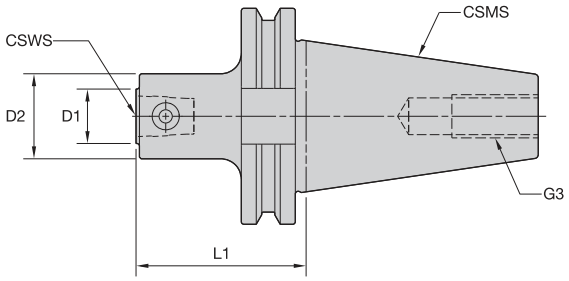


KM Micro™ QUICK-CHANGE TOOLING

ECTRA • Offset

order number	catalog number	CSWS system size	CSMS system size	F	L1	D13	spare parts package	socket-head cap screw
2213872	CV40KM12ECTRA	KM12	CV40	6	40	16,47	KM12NRPKG	125.316
2213903	CV40KM16ECTRA	KM16	CV40	8	50	16,47	KM16NRPKG	MS319
2430343	CV50KM12ECTRA	KM12	CV50	6	40	–	KM12NRPKG	125.316
2430344	CV50KM16ECTRA	KM16	CV50	8	50	–	KM16NRPKG	MS319

NOTE: The CV40 and CV50 are only intended to be used in a presetter fixture.





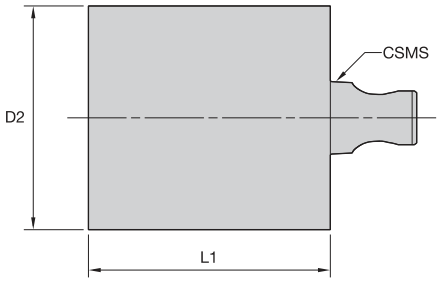
KM Micro™ QUICK-CHANGE TOOLING

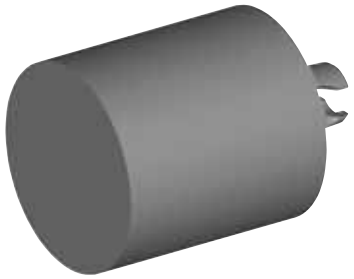
TRA • On Center

order number	catalog number	CSWS system size	CSMS system size	D1	D2	G3	L1	spare parts package
1925846	CV40KM12TRA	KM12	CV40	12	22	1/4-13 UNC	40	KM12NRPKG
1887781	CV40KM16TRA	KM16	CV40	16	25	1/4-13 UNC	50	KM16NRPKG

NOTE: The CV40 is only intended to be used in a presetter fixture.

• Machinable front 38–42 HRC.

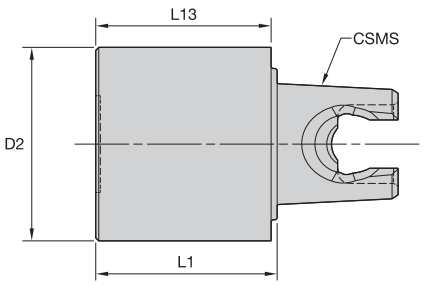


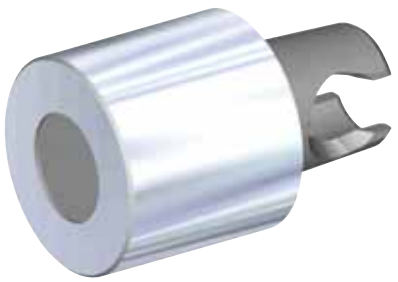


KM Micro™ QUICK-CHANGE TOOLING

BN • Blank

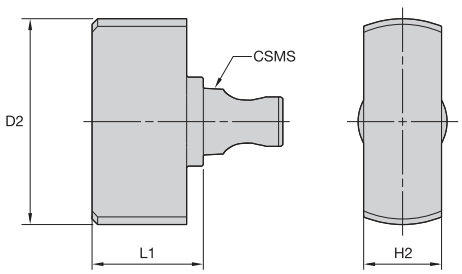
order number	catalog number	CSMS system size	D2	L1	kg	lbs
1925849	**KM12BN3133**	KM12	31	33	0,19	.43
3836822	**KM1612BN1650**	KM1612	16	50	0,08	.18
3836820	**KM1612BN2430**	KM1612	24	30	0,11	.23
1851739	**KM16BN3740**	KM16	37	40	0,34	.74
3836821	**KM2016BN2060**	KM2016	20	60	0,15	.34
3836819	**KM2016BN3035**	KM2016	31	35	0,20	.44

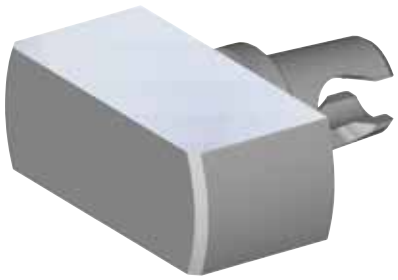




GB • Gage Bar

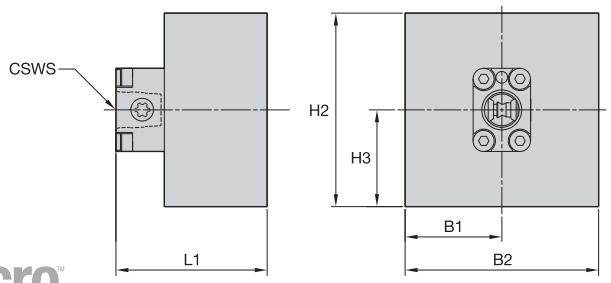
order number	catalog number	CSMS system size	D2	L1	L13	kg	lbs
2417677	**KM12GB1620**	KM12	16	20	19	0,04	.08
2417676	**KM16GB2020**	KM16	20	20	20	0,06	.13





TIM • Timing Head

order number	catalog number	CSMS system size	D2	L1	H2
1925847	**KM12TIM0915**	KM12	31	15	9
1886774	**KM16TIM1420**	KM16	37	20	14

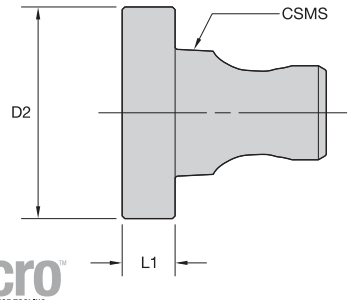


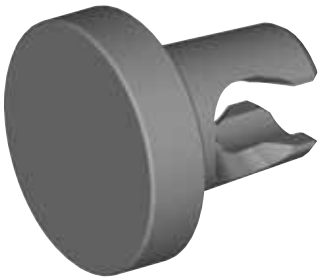


KM Micro™ QUICK-CHANGE TOOLING

TB • Tumble Block

order number	catalog number	CSWS system size	B1	B2	H2	H3	L1	spare parts package	kg	lbs
2430347	**KM12TB**	KM12	32	64	64	32	50	**KM12NRPKG**	1,18	2.60
2430348	**KM16TB**	KM16	32	64	64	32	50	**KM16NRPKG**	1,13	2.49





KM Micro™ QUICK-CHANGE TOOLING

P • Plug

order number	catalog number	CSMS system size	D2	L1
1925848	**KM12P**	KM12	12	5
3397220	**KM1612P**	KM1612	16	5
1851741	**KM16P**	KM16	16	5
3397219	**KM2016P**	KM2016	20	5



KM™ Mini • Quick Change Tooling System

Primary Application

The KM Mini coupling offers a very rigid joint with a high degree of repeatability while maintaining a very compact envelope. This permits a high degree of versatility without sacrificing cutting performance.

Features and Benefits

Features

- KM Mini is a compact quick-change tooling system.
- Face and taper surface contact between the cutting unit and clamping units.
- Mating taper clamping surfaces.
- Square shank adapters for standard tool blocks.

Functions

- The mechanism design consists of two components: the torque screw and the wedge nut.
- Precise and repeatable cutting edge position is in both directions of cut
- Maximum possible surface contact between the clamping mechanism and the cutting unit.
- Designed around a short 10:1 tapered shank.
- The taper is self-centering to promote easy tool loading and unloading.



Advantages

- Reduce downtime, increase productivity.
- Replaces conventional square-shank tooling.
- No machine modifications required.
- KM™ Mini is ideal for machines up to 30 hp (22 kW).

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM20NCM2020100

KM	20	N	C	M
Kennametal Modular	System Size	Version	Clamping Unit	Control
KM™ Mini Quick Change tooling system	**20** = 20 x 20mm **26** = 25 x 25mm	**N** = Neutral **L** = Left-hand version **R** = Right-hand version		**M** = Manual **A** = Automatic

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



KM20NCM**2020100**

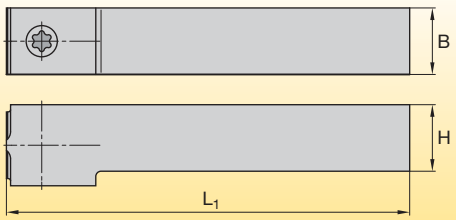
	20	**20**	**100**
Type	Shank Height	Shank Width	Shank Length

Square Shank

H = Shank height

B = Shank width

L_1 = Shank length

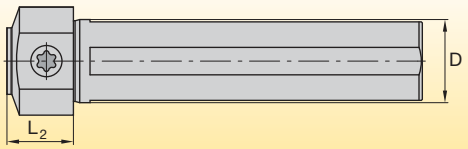


SS	**20**	**25**
Type	Shank Diameter	Shoulder Length

SS = Square shank with shoulders

D = Shank diameter

L_2 = Shoulder length

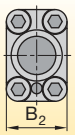


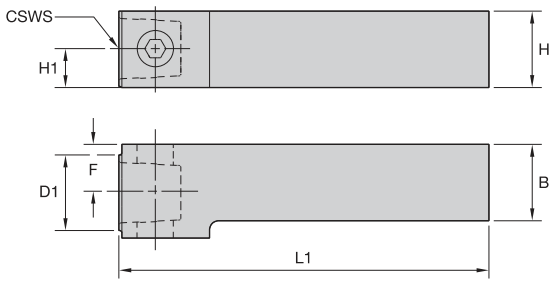
SF	**27**
Type	Flange Width

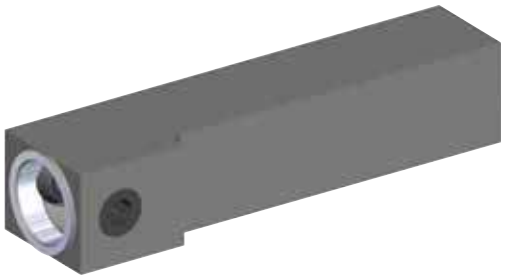
SF = Range mount

SEF = Extended flange mount

B_2 = Flange width







KM™ Mini QUICK-CHANGE TOOLING

R/L CM • Metric

order number	catalog number	CSWS system size	D1 mm	L1 mm	L1 in	F mm	F in	B mm	B in	H mm	H in	H1 mm	H1 in
	right hand												
3482938	**KM20RCM2020100**	KM20	20	100	3.937	13	.492	20	.787	20	.787	10	.413
	left hand												
3482939	**KM20LCM2020100**	KM20	20	100	3.937	13	.492	20	.787	20	.787	10	.413

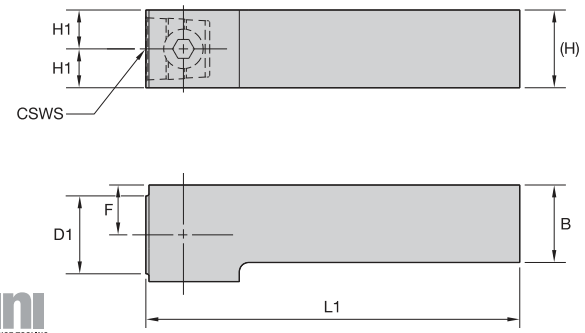
R/L CM • Inch

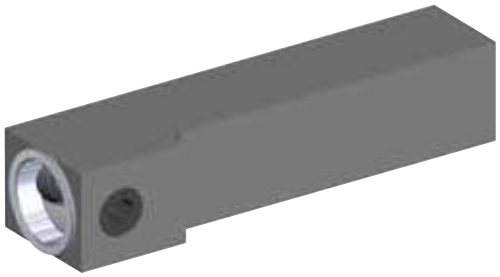
order number	catalog number	CSWS system size	D1 mm	L1 mm	L1 in	F mm	F in	B mm	B in	H mm	H in	H1 mm	H1 in
	right hand												
2385942	**KM25RCM16382**	KM25	25	97	3.819	16	.630	25	1.000	25	1.000	13	.508
2386034	**KM25RCM16482**	KM25	25	122	4.819	16	.630	25	1.000	25	1.000	13	.508
	left hand												
2386033	**KM25LCM16382**	KM25	25	97	3.819	16	.630	25	1.000	25	1.000	13	.508
2265206	**KM25LCM16482**	KM25	25	122	4.819	16	.630	25	1.000	25	1.000	13	.508

Spare Parts

catalog number	spare parts package	wrench size actuation screw	Nm	ft. lbs.
right hand				
KM20RCM2020100	**KM20NAPKG**	5mm	19-22	14-16
KM25RCM16382	**KM25NAPKG**	6mm	34-40	25-30
KM25RCM16482	**KM25NAPKG**	6 mm	34-40	25-30
left hand				
KM20LCM2020100	**KM20NAPKG**	5mm	19-22	14-16
KM25LCM16382	**KM25NAPKG**	6mm	34-40	25-30
KM25LCM16482	**KM25NAPKG**	6mm	34-40	25-30

NOTE: For torque wrench, see page L52–L53.





KM™ Mini QUICK-CHANGE TOOLING

NCM • Metric

order number	catalog number	CSWS system size	D1 mm	L1 mm	L1 in	F mm	F in	H mm	H in	H1 mm	H1 in	B mm	B in
2277879	**KM25NCM2525120**	KM25	25	120	4.724	16	.630	25	.984	13	.492	25	.984

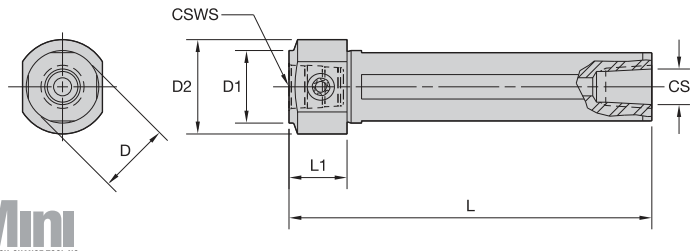
NCM • Inch

order number	catalog number	CSWS system size	D1 mm	L1 mm	L1 in	F mm	F in	H mm	H in	H1 mm	H1 in	B mm	B in
3482940	**KM20NCM12352**	KM20	20	89	3.516	13	.493	19	.750	10	.375	19	.750

Spare Parts

catalog number	spare parts package	wrench size actuation screw	Nm	ft. lbs.
KM20NCM12352	**KM20NAPKG**	5mm	19-22	14-16
KM25NCM2525120	**KM25NAPKG**	6mm	34-40	25-30

NOTE: For torque wrench, see page L52–L53.





NCM-SS • Round Shank • Metric

order number	catalog number	CSWS system size	D1 mm	D mm	D in	D2 mm	D2 in	L mm	L in	L1 mm	L1 in	CS
3483039	KM2520NCMSS2025	KM2520	25	20	.787	28	1.102	90	3.543	25	.984	1/8-27 NPT
2594730	KM3225NCMSS2525	KM3225	32	25	.984	36	1.417	90	3.543	25	.984	1/4-18 NPT
2656549	KM3225NCMSS3225	KM3225	32	32	1.260	44	1.732	90	3.543	25	.984	1/4-18 NPT
2656550	KM3225NCMSS4025	KM3225	32	40	1.575	50	1.969	90	3.543	25	.984	1/4-18 NPT

Spare Parts

catalog number	spare parts package	wrench size actuation screw	Nm	ft. lbs.
KM2520NCMSS2025	KM2520NRPKG	5mm	19-22	14-16
KM3225NCMSS2525	KM3225NRPKG	6mm	34-40	25-30
KM3225NCMSS3225	KM3225NRPKG	6mm	34-40	25-30
KM3225NCMSS4025	KM3225NRPKG	6mm	34-40	25-30

NCM-SS • Round Shank • Inch

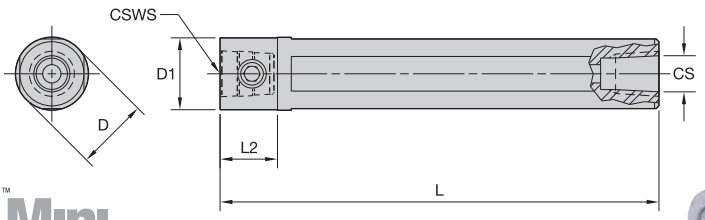
order number	catalog number	CSWS system size	D1 mm	D mm	D in	D2 mm	D2 in	L mm	L in	L1 mm	L1 in	CS
3483040	KM2520NCMSS12098	KM2520	25	19	.750	28	1.102	90	3.543	25	.984	1/4-18 NPT
2594729	KM3225NCMSS16098	KM3225	32	25	1.000	36	1.417	90	3.543	25	.984	1/4-18 NPT
2656547	KM3225NCMSS20098	KM3225	32	32	1.250	44	1.732	90	3.543	25	.984	1/4-18 NPT
2656548	KM3225NCMSS24098	KM3225	32	38	1.500	50	1.969	90	3.543	25	.984	1/4-18 NPT

Spare Parts

catalog number	spare parts package	wrench size actuation screw	Nm	ft. lbs.
KM2520NCMSS12098	KM2520NRPKG	5mm	19-22	14-16
KM3225NCMSS16098	KM3225NRPKG	6mm	34-40	25-30
KM3225NCMSS20098	KM3225NRPKG	6mm	34-40	25-30
KM3225NCMSS24098	KM3225NRPKG	6mm	34-40	25-30

NOTE: For torque wrench, see page L52–L53.





KM™ Mini QUICK-CHANGE TOOLING



NCM-S • Round Shank • Metric

order number	catalog number	CSWS system size	D1 mm	D mm	D in	L mm	L in	L2 mm	L2 in	CS
3483037	**KM2520NCMS25**	KM2520	25	25	.984	150	5.906	20	.787	1/4-18 NPT
2541837	**KM3225NCMS32**	KM3225	32	32	1.260	220	8.661	25	.984	1/4-18 NPT

Spare Parts

catalog number	spare parts package	wrench size actuation screw	Nm
KM2520NCMS25	**KM2520NRPKG**	5mm	19-22
KM3225NCMS32	**KM3225NRPKG**	6mm	34-40

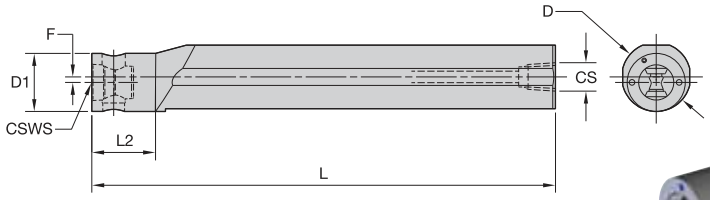
NCM-S • Round Shank • Inch

order number	catalog number	CSWS system size	D1 mm	D mm	D in	L mm	L in	L2 mm	L2 in	CS
3483038	**KM2520NCMS16**	KM2520	25	25	1.000	153	6.016	20	.787	1/4-18 NPT
2541835	**KM3225NCMS20**	KM3225	32	32	1.250	171	6.750	25	.984	1/4-18 NPT

Spare Parts

catalog number	spare parts package	wrench size actuation screw	ft. lbs.
KM2520NCMS16	**KM2520NRPKG**	5mm	14-16
KM3225NCMS20	**KM3225NRPKG**	6mm	25-30

NOTE: For torque wrench, see page L52–L53.





KM™ Mini QUICK-CHANGE TOOLING

ECM-S • Round Shank, Offset • Metric

order number	catalog number	CSWS system size	D1 mm	D mm	D in	L mm	L in	L2 mm	L2 in	F mm	F in	CS
2541836	**KM3225ECMS40**	KM3225	32	40	1.575	270	10.630	35	1.378	4	.157	1/4-18 NPT

Spare Parts

catalog number	spare parts package	wrench size actuation screw	Nm
KM3225ECMS40	**KM3225NRPKG**	6mm	34-40

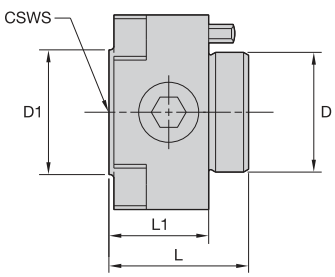
ECM-S • Round Shank, Offset • Inch

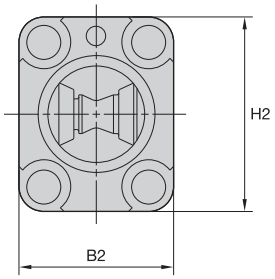
order number	catalog number	CSWS system size	D1 mm	D mm	D in	L mm	L in	L2 mm	L2 in	F mm	F in	CS
2541730	**KM3225ECMS24**	KM3225	32	38	1.500	254	10.000	35	1.378	3	.120	1/4-18 NPT

Spare Parts

catalog number	spare parts package	wrench size actuation screw	ft. lbs.
KM3225ECMS24	**KM3225NRPKG**	6mm	25-30

NOTE: For torque wrench, see page L52–L53.







KM™ Mini QUICK-CHANGE TOOLING

NCM-SF • Flange Mount

order number	catalog number	CSWS system size	D1 mm	D mm	D in	L mm	L in	L1 mm	L1 in	B2 mm	B2 in	H2 mm	H2 in
3482941	**KM20NCMSF2434**	KM20	20	18	.709	24	.945	18	.709	24	.945	33	1.299
2386035	**KM25NCMSF3140**	KM25	25	24	.945	28	1.102	20	.787	31	1.221	39	1.535

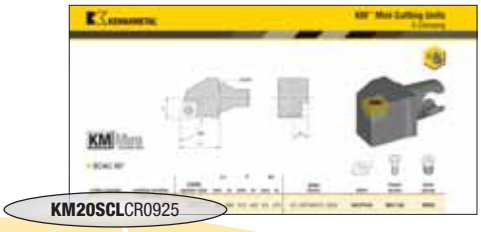
Spare Parts

catalog number	spare parts package	wrench size actuation screw	Nm	ft. lbs.
KM20NCMSF2434	**KM2520NRPKG**	5mm	19-22	14-16
KM25NCMSF3140	**KM25NRPKG**	6mm	34-40	25-30

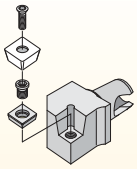
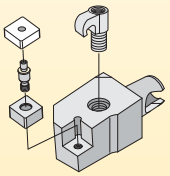
NOTE: For torque wrench, see page L52–L53.
For mounting controls, see page M70.

How Do Catalog Numbers Work?

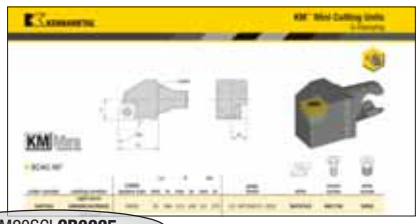
Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM™ Mini QUICK-CHANGE TOOLING

KM	20	S	C	L
Kennametal Modular	System Size	Clamping System	Insert Shape	Cutting Unit Shape
KM™ Mini Quick Change tooling system	**20** = Ø 20 x 20mm **25** = Ø 25 x 25mm	**S**  **S-Clamping** Clamped from above with a screw for indexable inserts with hole **M**  **M-Clamping** Clamped from above and through hole using a pin for indexable inserts with hole	**C** 80° **D** 55° **K** 55° **S** 90° **V** 35° **W** 80°	**A** 90° **D** 45° **G** 90° **J** 93° **L** 95° 95° **M** 50°

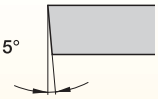
By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



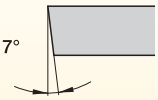
KM20SCL**CR0925**

C
Clearance Angle

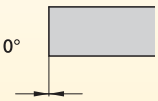
B 5°



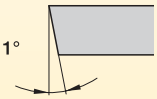
C 7°



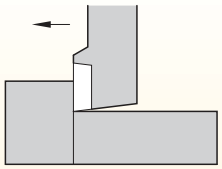
N 0°



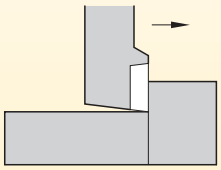
P 11°



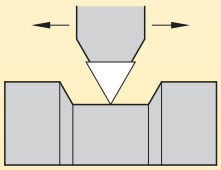
R
Direction



L = Left-hand cutting unit



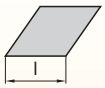
R = Right-hand cutting unit



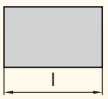
N = Neutral cutting unit

09
Insert Size

C
D
V



K



S



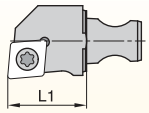
T



W



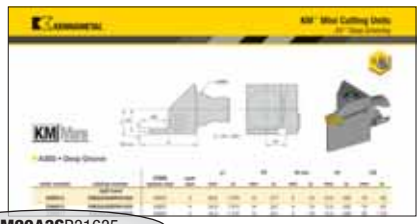
25
Gage Length



L1 = Gage length

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM20A3SR31635

KM™ Mini QUICK-CHANGE TOOLING

KM
Kennametal Modular

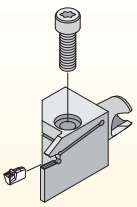
KM™ Mini Quick Change tooling system

20
System Size

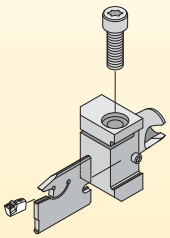
12 = Ø 12 x 12mm

16 = Ø 16 x 16mm

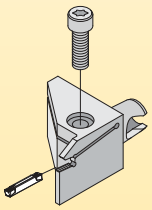
A3
Clamping Systems



A3 = Deep grooving



A2 = Cut-off



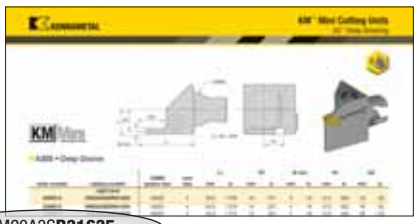
A4 = Grooving

S
Holder Version

S = Side mount

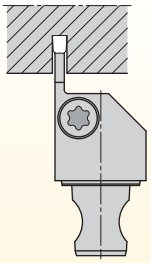
E = End mount

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.

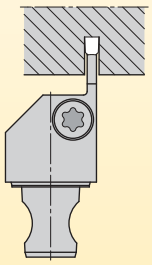


KM20A3S**R31635**

R
Direction



R = Right hand

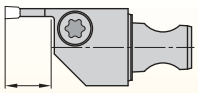


L = Left hand

3
Insert Seat Size

insert seat size
1
1B
2
2B
3
4
5

16
Cutting Depth

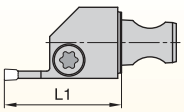


07 = 7mm

11 = 11mm

16 = 16mm

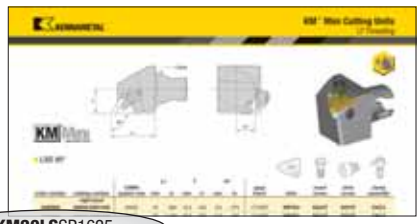
35
Gage Length



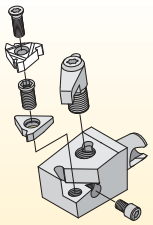
L1 = Gage length

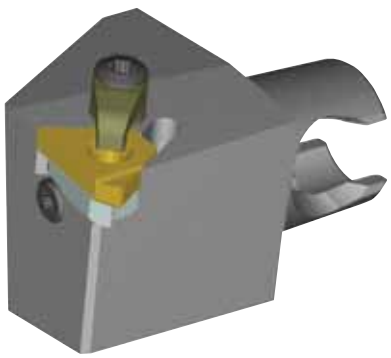
How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.

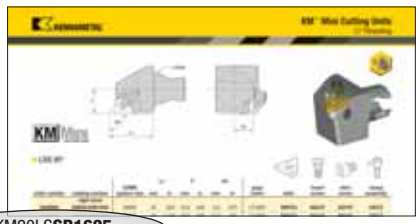


KM20LSSR1625

KM	20	LS
Kennametal Modular	System Size	Clamping Systems
KM™ Mini Quick Change tooling system	**20** = Ø 20 x 20mm **25** = Ø 25 x 25mm	 **LT Threading** = Clamped from above with a screw



By referencing this easy-to-use guide, you can identify the correct product to meet your needs.

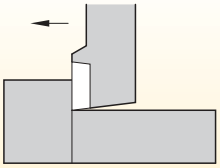


S
Location

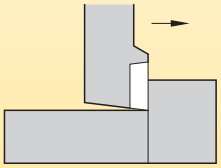
E = End mount

S = Side mount

R
Direction



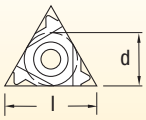
L = Left-hand cutting unit



R = Right-hand cutting unit

16
Insert Size

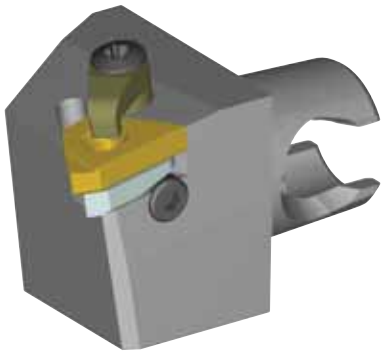
l = Cutting edge length

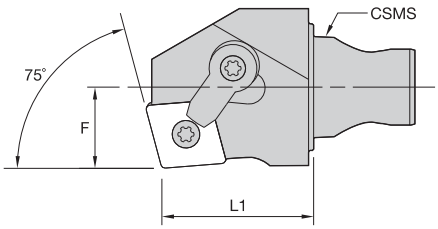


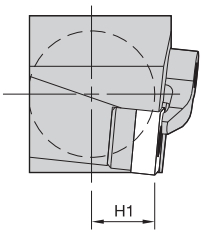
l	d (IC)
11	6,35
16	9,52
22	12,70
27	15,88

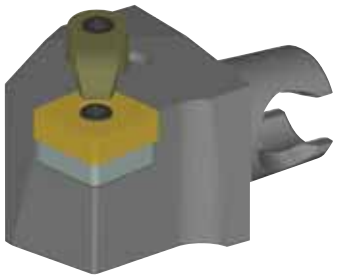
25
Gage Length

L_1 = Gage length



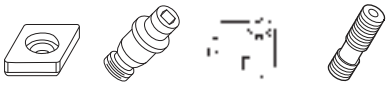




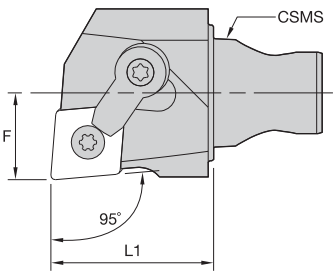


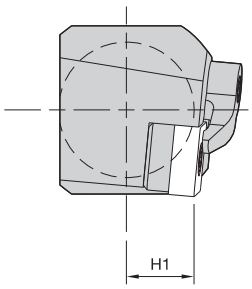
KM™ Mini QUICK-CHANGE TOOLING

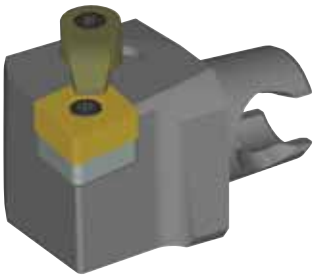
MCKN 75°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
3487534	**KM20MCKNR1225**	KM20	25	.984	12,5	.492	9,5	.375	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20LP**	**STCM11**
2398793	**KM25MCKNR1230**	KM25	30	1.181	16,0	.630	12,5	.492	CN..120408/CN..432	**ICSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**
	left hand												
3487533	**KM20MCKNL1225**	KM20	25	.984	12,5	.492	9,5	.375	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20LP**	**STCM11**
2398794	**KM25MCKNL1230**	KM25	30	1.181	16,0	.630	12,5	.492	CN..120408/CN..432	**ICSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**





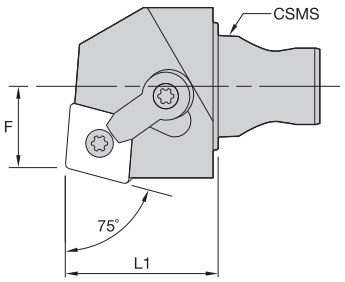


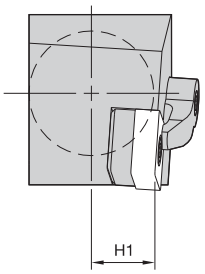
KM™ Mini QUICK-CHANGE TOOLING

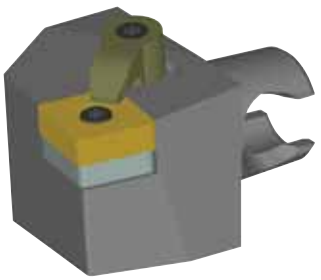
MCLN 95°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
3487520	**KM20MCLNR0925**	KM20	25	.984	12,5	.492	9,5	.375	CN..090308/CN..322	**ICSN332**	**KLM34L**	**CKM7LP**	**STCM9**
3487522	**KM20MCLNR1225**	KM20	25	.984	12,5	.492	9,5	.375	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20LP**	**STCM11**
2265207	**KM25MCLNR1230**	KM25	30	1.181	16,0	.630	12,5	.492	CN..120408/CN..432	**ICSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**
	left hand												
3487519	**KM20MCLNL0925**	KM20	25	.984	12,5	.492	9,5	.375	CN..090308/CN..322	**ICSN332**	**KLM34L**	**CKM7LP**	**STCM9**
3487521	**KM20MCLNL1225**	KM20	25	.984	12,5	.492	9,5	.375	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20LP**	**STCM11**
2398795	**KM25MCLNL1230**	KM25	30	1.181	16,0	.630	12,5	.492	CN..120408/CN..432	**ICSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**

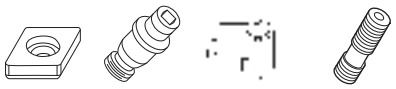




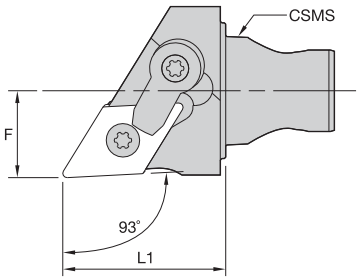


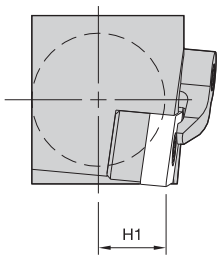
KM Mini QUICK-CHANGE TOOLING

MCRN 75°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
2398796	KM25MCRNR1230	KM25	30	1.181	16	.630	12,5	.492	CN..120408/CN..432	ICSN433	KLM4615IP	CKM20LP	STCM1115IP
	left hand												
2398797	KM25MCRNL1230	KM25	30	1.181	16	.630	12,5	.492	CN..120408/CN..432	ICSN433	KLM4615IP	CKM20LP	STCM1115IP





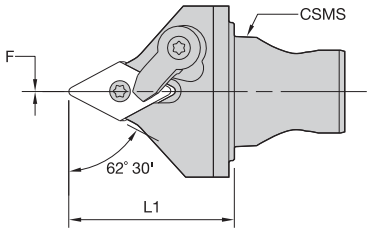


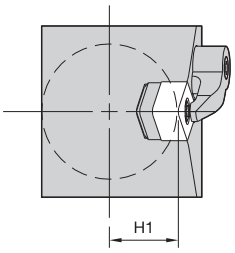
KM Mini QUICK-CHANGE TOOLING

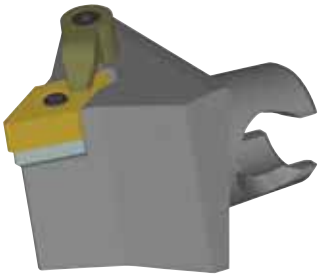
MDJN 93°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
3487536	KM20MDJNR1125	KM20	25	.984	12,5	.492	9,5	.375	DN..110408/DN..332	IDSN322	KLM34L	CKM7LP	STCM9
3487538	KM20MDJNR150425	KM20	25	.984	12,5	.492	9,5	.375	DN..150408/DN..432	IDSN442	KLM46L	CKM7LP	STCM9
3487540	KM20MDJNR150625	KM20	25	.984	12,5	.492	9,5	.375	DN..150608/DN..442	IDSN432	KLM46L	CKM7LP	STCM9
3176217	KM25MDJNR1130	KM25	30	1.181	16,0	.630	12,5	.492	DN..110408/DN..332	IDSN322	KLM34LT9PKG	CKM7LP	STCM9T9
2398798	KM25MDJNR150430	KM25	30	1.181	16,0	.630	12,5	.492	DN..150408/DN..432	IDSN442	KLM46L15IP	CKM20LP	STCM1115IP
3397312	KM25MDJNR150630	KM25	30	1.181	16,0	.630	12,5	.492	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11
	left hand												
3487535	KM20MDJNL1125	KM20	25	.984	12,5	.492	9,5	.375	DN..110408/DN..332	IDSN322	KLM34L	CKM7LP	STCM9
3487537	KM20MDJNL150425	KM20	25	.984	12,5	.492	9,5	.375	DN..150408/DN..432	IDSN442	KLM46L	CKM7LP	STCM9
3487539	KM20MDJNL150625	KM20	25	.984	12,5	.492	9,5	.375	DN..150608/DN..442	IDSN432	KLM46L	CKM7LP	STCM9
3176218	KM25MDJNL1130	KM25	30	1.181	16,0	.630	12,5	.492	DN..110408/DN..332	IDSN322	KLM34LT9PKG	CKM7LP	STCM9T9
2398799	KM25MDJNL150430	KM25	30	1.181	16,0	.630	12,5	.492	DN..150408/DN..432	IDSN442	KLM46L15IP	CKM20LP	STCM1115IP
3397311	KM25MDJNL150630	KM25	30	1.181	16,0	.630	12,5	.492	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11







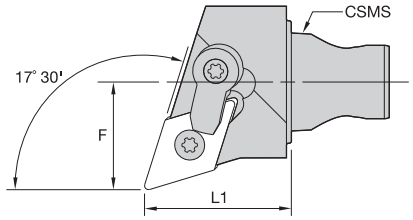
KM Mini QUICK-CHANGE TOOLING

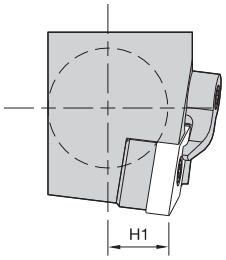
MDPN 62° 30'

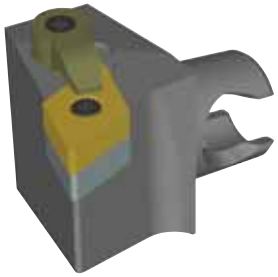





order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
2398800	**KM25MDPNN1130**	KM25	30	1.181	0,0	.000	12,5	.492	DN..110408/DN..332	**IDSN322**	**KLM34LT9PKG**	**CKM7LP**	**STCM9T9**







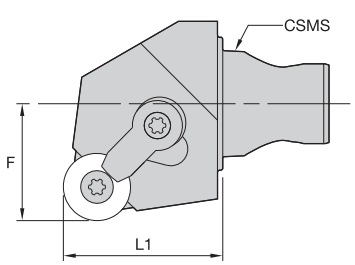
KM Mini QUICK-CHANGE TOOLING

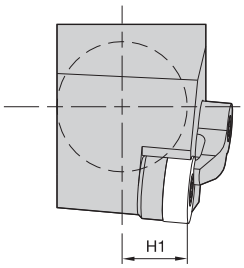
MDQN 107° 30'

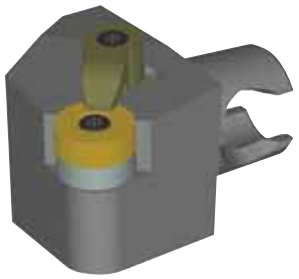





order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
2398801	**KM25MDQNR150430**	KM25	30	1.181	22	.866	12,5	.492	DN..150408/DN..432	**IDSN442**	**KLM46L15IP**	**CKM20LP**	**STCM1115IP**
	left hand												
2398802	**KM25MDQNL150430**	KM25	30	1.181	22	.866	12,5	.492	DN..150408/DN..432	**IDSN442**	**KLM46L15IP**	**CKM20LP**	**STCM1115IP**





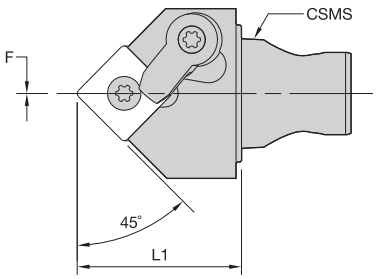


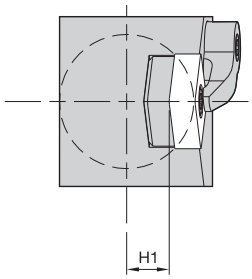
KM™ Mini QUICK-CHANGE TOOLING

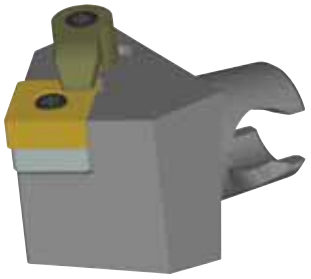
MRGN 0°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
2629139	**KM25MRGNR0930**	KM25	30	1.181	16	.630	12,5	.492	RN..090300/RN..32	**IRSN33**	**KLM34LT9PKG**	**CKM7LP**	**STCM9T9**
2398803	**KM25MRGNR1230**	KM25	30	1.181	22	.866	12,5	.492	RN..120400/RN..43	**IRSN43**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**
	left hand												
2629140	**KM25MRGNL0930**	KM25	30	1.181	16	.630	12,5	.492	RN..090300/RN..32	**IRSN33**	**KLM34LT9PKG**	**CKM7LP**	**STCM9T9**
2398804	**KM25MRGNL1230**	KM25	30	1.181	22	.866	12,5	.492	RN..120400/RN..43	**IRSN43**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**





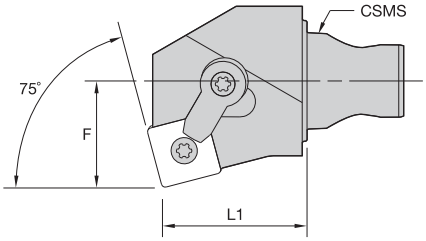


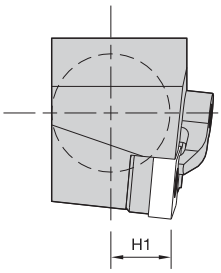
KM™ Mini QUICK-CHANGE TOOLING

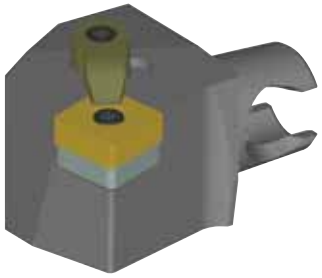
MSDN 45°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
2398805	**KM25MSDNN1230**	KM25	30	1.181	0	.000	12,5	.492	SN..120408/SN..432	**ISSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**

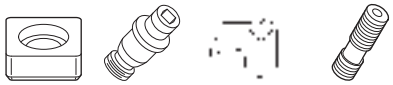




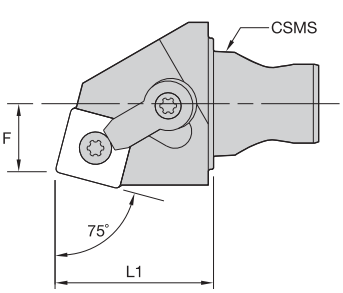


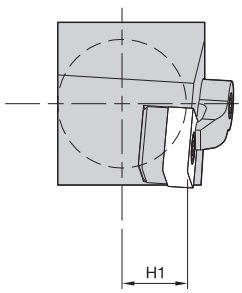
KM™ Mini QUICK-CHANGE TOOLING

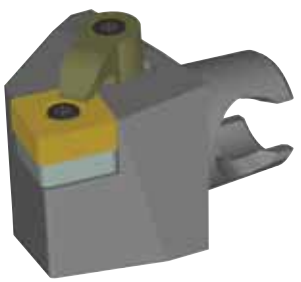
MSKN 75°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
2398806	**KM25MSKNR1230**	KM25	30	1.181	22	.866	12,5	.492	SN..120408/SN..432	**ISSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**
	left hand												
2398807	**KM25MSKNL1230**	KM25	30	1.181	22	.866	12,5	.492	SN..120408/SN..432	**ISSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**

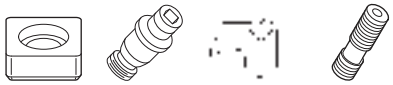




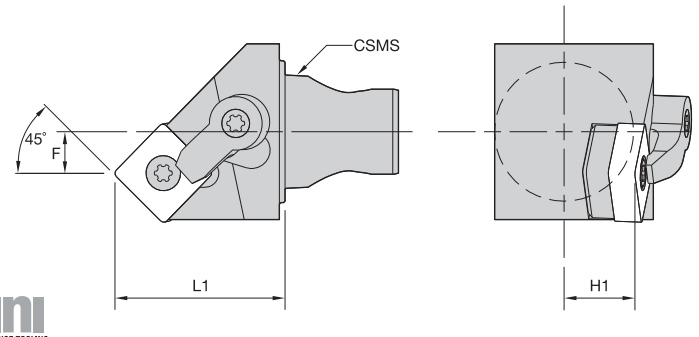


KM™ Mini QUICK-CHANGE TOOLING

MSRN 75°



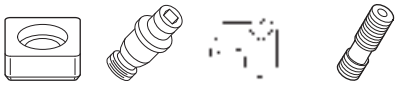
order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
2398808	**KM25MSRNR1230**	KM25	30	1.181	13	.512	12,5	.492	SN..120408/SN..432	**ISSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**
	left hand												
2398809	**KM25MSRNL1230**	KM25	30	1.181	13	.512	12,5	.492	SN..120408/SN..432	**ISSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**



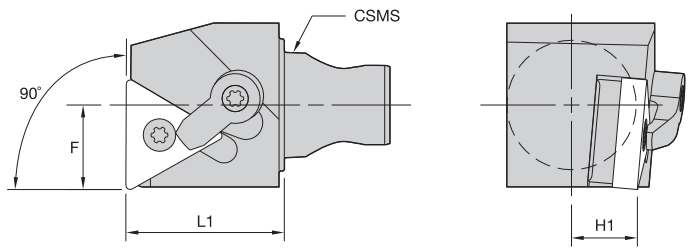


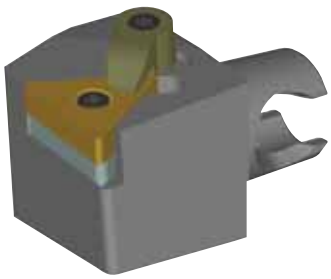
KM™ Mini QUICK-CHANGE TOOLING

MSSN 45°



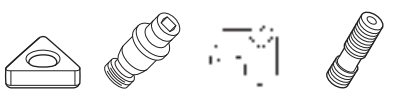
order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
2398810	**KM25MSSNR1230**	KM25	30,0	1.181	7,35	.289	12,5	.492	SN..120408/SN..432	**ISSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**
	left hand												
2398811	**KM25MSSNL1230**	KM25	30,0	1.181	7,35	.289	12,5	.492	SN..120408/SN..432	**ISSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**



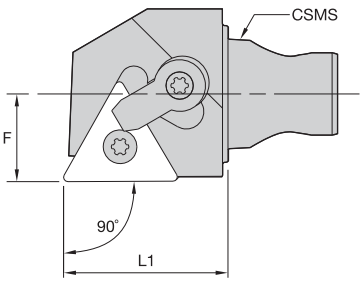


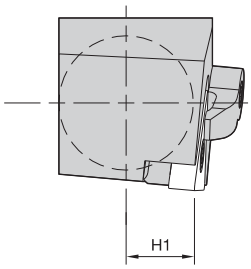
KM™ Mini QUICK-CHANGE TOOLING

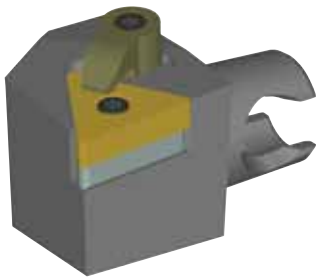
MTFN 90°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
2655560	**KM25MTFNR1630**	KM25	30	1.181	16	.630	12,5	.492	TN..160408/TN..332	**ITSN323**	**KLM34L9IP**	**CKM20LP**	**STCM119IP**
2398812	**KM25MTFNR2230**	KM25	30	1.181	16	.630	12,5	.492	TN..220408/TN..432	**ITSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**
	left hand												
2655561	**KM25MTFNL1630**	KM25	30	1.181	16	.630	12,5	.492	TN..160408/TN..332	**ITSN323**	**KLM34L9IP**	**CKM20LP**	**STCM119IP**
2398813	**KM25MTFNL2230**	KM25	30	1.181	16	.630	12,5	.492	TN..220408/TN..432	**ITSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**

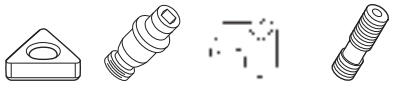




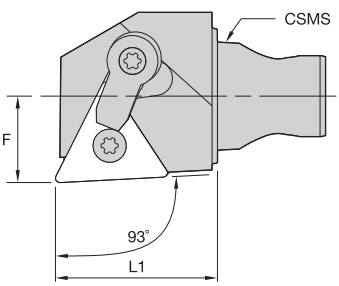


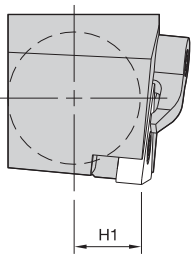
KM Mini QUICK-CHANGE TOOLING

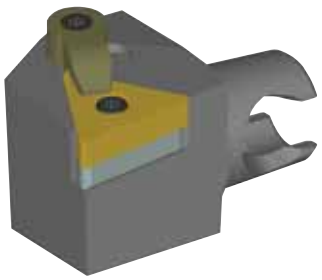
MTGN 90°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
3487542	KM20MTGNR1625	KM20	25	.984	12,5	.492	9,5	.375	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9
2655562	KM25MTGNR1630	KM25	30	1.181	16,0	.630	12,5	.492	TN..160408/TN..332	ITSN323	KLM34L9IP	CKM20LP	STCM119IP
2398814	KM25MTGNR2230	KM25	30	1.181	16,0	.630	12,5	.492	TN..220408/TN..432	ITSN433	KLM4615IP	CKM20LP	STCM1115IP
	left hand												
3487541	KM20MTGNL1625	KM20	25	.984	12,5	.492	9,5	.375	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9
2655593	KM25MTGNL1630	KM25	30	1.181	16,0	.630	12,5	.492	TN..160408/TN..332	ITSN323	KLM34L9IP	CKM20LP	STCM119IP
2398815	KM25MTGNL2230	KM25	30	1.181	16,0	.630	12,5	.492	TN..220408/TN..432	ITSN433	KLM4615IP	CKM20LP	STCM1115IP

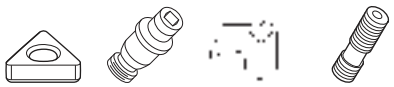




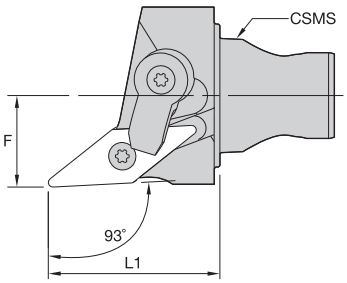


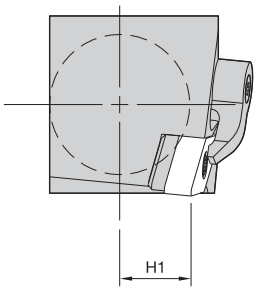
KM Mini QUICK-CHANGE TOOLING

MTJN 93°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
2655594	KM25MTJNR1630	KM25	30	1.181	16	.630	12,5	.492	TN..160408/TN..332	ITSN323	KLM34L9IP	CKM20LP	STCM119IP
2398816	KM25MTJNR2230	KM25	30	1.181	16	.630	12,5	.492	TN..220408/TN..432	ITSN433	KLM4615IP	CKM20LP	STCM1115IP
	left hand												
2655595	KM25MTJNL1630	KM25	30	1.181	16	.630	12,5	.492	TN..160408/TN..332	ITSN323	KLM34L9IP	CKM20LP	STCM119IP
2398817	KM25MTJNL2230	KM25	30	1.181	16	.630	12,5	.492	TN..220408/TN..432	ITSN433	KLM4615IP	CKM20LP	STCM1115IP

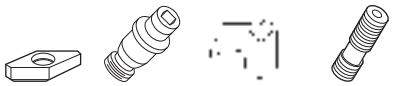




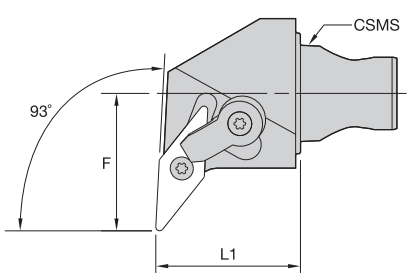


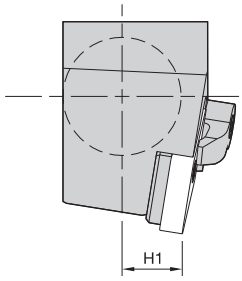
KM™ Mini QUICK-CHANGE TOOLING

MVJN 93°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
3487548	KM20MVJNR1630	KM20	30	1.181	12,50	.492	9,5	.375	VN..160408/VN..332	IVSN322	KLM34L	CKM7LP	STCM9
2398818	KM25MVJNR1630	KM25	30	1.181	16,00	.630	12,5	.492	VN..160408/VN..332	IVSN322	KLM34L9IP	CKM20LP	STCM119IP
	left hand												
3487547	KM20MVJNL1630	KM20	30	1.181	12,50	.492	9,5	.375	VN..160408/VN..332	IVSN322	KLM34L	CKM7LP	STCM9
2398819	KM25MVJNL1630	KM25	30	1.181	16,00	.630	12,5	.492	VN..160408/VN..332	IVSN322	KLM34L9IP	CKM20LP	STCM119IP

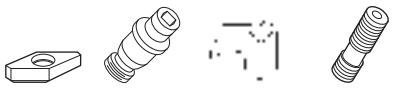




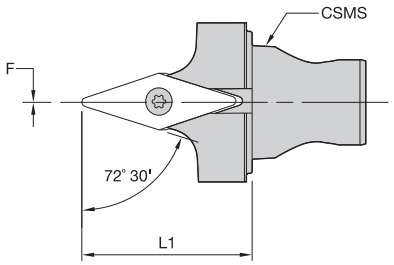


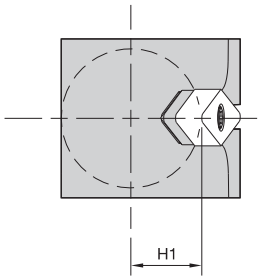
KM™ Mini QUICK-CHANGE TOOLING

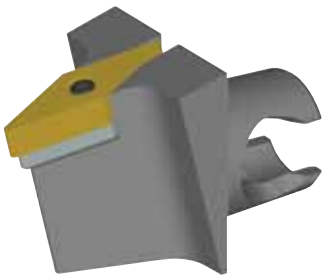
MVUN 93°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
2398820	KM25MVUNR1630	KM25	30	1.181	28,5	1.122	12,5	.492	VN..160408/VN..332	IVSN322	KLM34L9IP	CKM20LP	STCM119IP
	left hand												
2398821	KM25MVUNL1630	KM25	30	1.181	28,5	1.122	12,5	.492	VN..160408/VN..332	IVSN322	KLM34L9IP	CKM20LP	STCM119IP







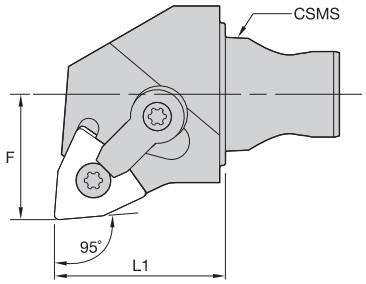
KM Mini QUICK-CHANGE TOOLING

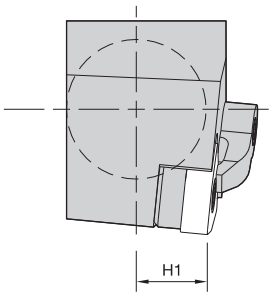
MVVN 72° 30'





order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin
2398822	**KM25MVVNN1630**	KM25	30	1.181	0	.000	12,5	.492	VN..160408/VN..332	**IVSN322**	**KLM34L9IP**







KM Mini QUICK-CHANGE TOOLING

MWLN 95°

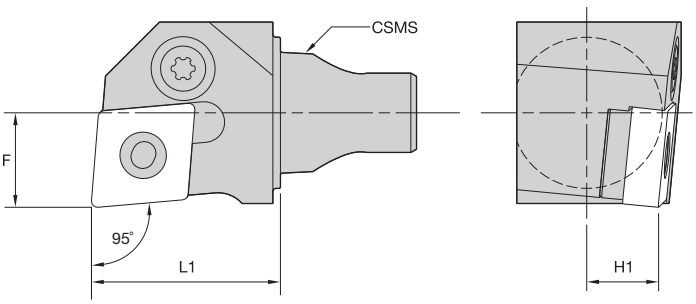






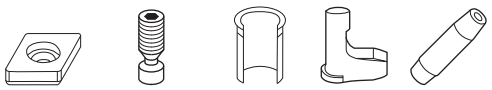


order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
3487544	**KM20MWLNR0625**	KM20	25	.984	12,5	.492	9,5	.375	WN..060408/WN..332	**IWSN322**	**KLM34L**	**CKM7LP**	**STCM9**
3487550	**KM20MWLNR0825**	KM20	25	.984	12,5	.492	9,5	.375	WN..080408/WN..432	**IWSN433**	**KLM46**	**CKM7LP**	**STCM9**
2398823	**KM25MWLNR0830**	KM25	30	1.181	22,0	.866	12,5	.492	WN..080408/WN..432	**IWSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**
	left hand												
3487543	**KM20MWLNL0625**	KM20	25	.984	12,5	.492	9,5	.375	WN..060408/WN..332	**IWSN322**	**KLM34L**	**CKM7LP**	**STCM9**
3487549	**KM20MWLNL0825**	KM20	25	.984	12,5	.492	9,5	.375	WN..080408/WN..432	**IWSN433**	**KLM46**	**CKM7LP**	**STCM9**
2398824	**KM25MWLNL0830**	KM25	30	1.181	22,0	.866	12,5	.492	WN..080408/WN..432	**IWSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**

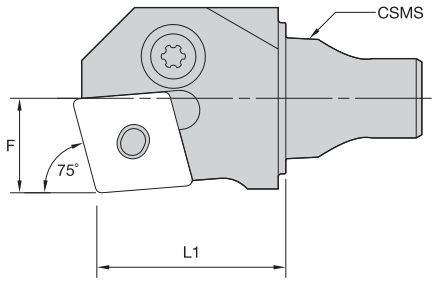


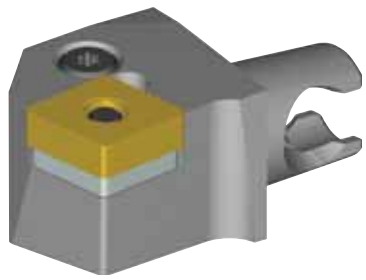


PCLN 95°

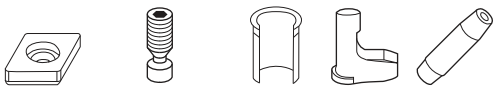


order number	catalog number	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lever screw	shim pin	toggle lever	punch
	right hand												
3397169	KM20PCLNR1225	25,00	.984	12,5	.492	9,5	.375	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018
	left hand												
3397168	KM20PCLNL1225	25,00	.984	12,5	.492	9,5	.375	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018

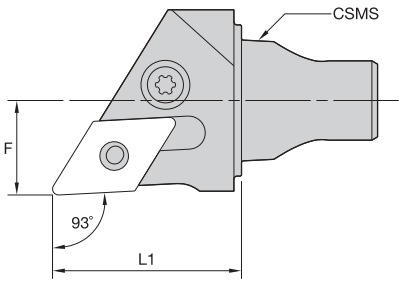


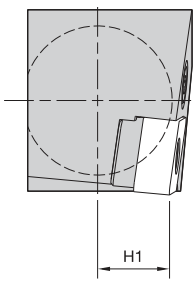


PCKN 75°



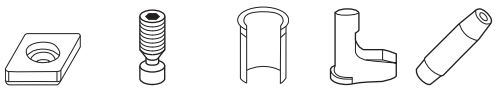
order number	catalog number	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lever screw	shim pin	toggle lever	punch
	right hand												
3397171	KM20PCKNR1225	25	.984	12,5	.492	9,5	.375	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018
	left hand												
3397170	KM20PCKNL1225	25	.984	12,5	.492	9,5	.375	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018



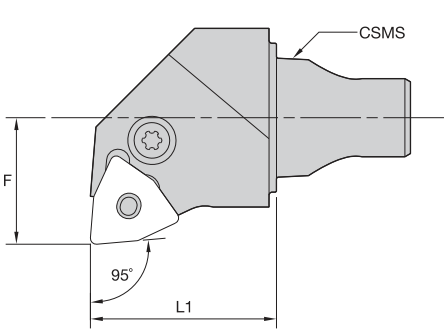


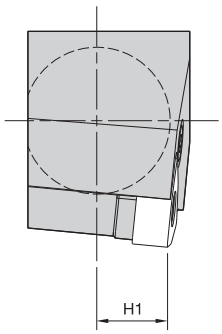


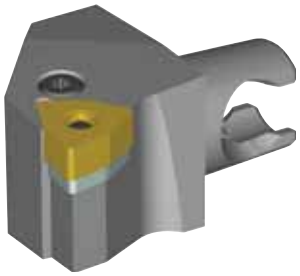
PDJN 93°



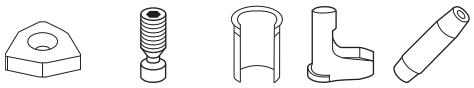
order number	catalog number	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lever screw	shim pin	toggle lever	punch
	right hand												
3397213	KM20PDJNR1125	25	.984	12,5	.492	9,5	.375	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018
	left hand												
3397172	KM20PDJNL1125	25	.984	12,5	.492	9,5	.375	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018



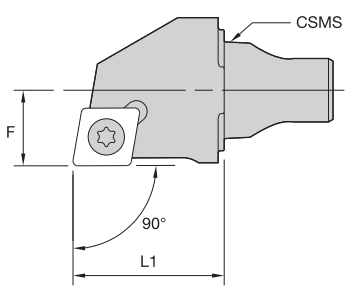


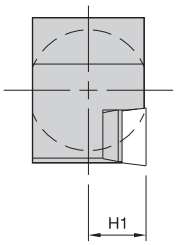


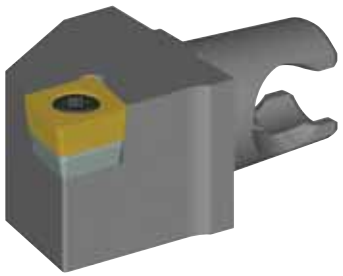
PWLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	lever screw	shim pin	toggle lever	punch
	right hand												
3397215	KM20PWLNR0625	25	.984	17,0	.669	9,5	.375	WN..060408/WN..332	512.134	514.118	513.018	511.018	515.018
	left hand												
3397214	KM20PWLNL0625	25	.984	17,0	.669	9,5	.375	WN..060408/WN..332	512.134	514.118	513.018	511.018	515.018







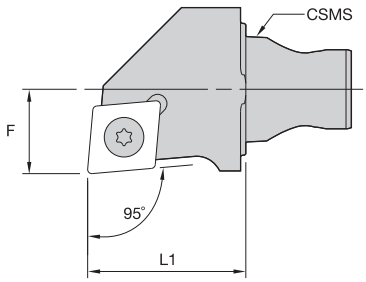
KM™ Mini QUICK-CHANGE TOOLING

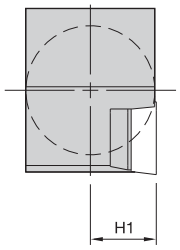
SCAC 90°

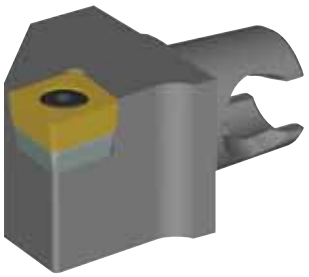




order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
	right hand											
3487553	**KM20SCACR0925**	KM20	25	.984	12,5	.492	9,5	.375	CC..09T308/CC..3252	**SKCP343**	**MS1156**	**SRS3**
	left hand											
3487512	**KM20SCACL0925**	KM20	25	.984	12,5	.492	9,5	.375	CC..09T308/CC..3252	**SKCP343**	**MS1156**	**SRS3**







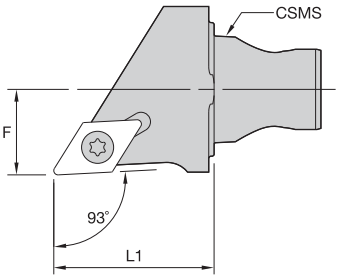
KM™ Mini QUICK-CHANGE TOOLING

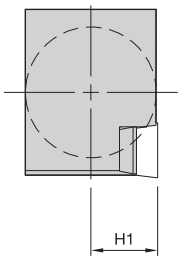
SCLC 95°





order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
	right hand											
3487555	**KM20SCLCR0925**	KM20	25	.984	12,5	.492	9,5	.375	CC..09T308/CC..3252	**SKCP343**	**MS1156**	**SRS3**
3487557	**KM20SCLCR1225**	KM20	25	.984	12,5	.492	9,5	.375	CC..120408/CC..432	**SKCP453**	**MS1158**	**SRS4**
2399472	**KM25SCLCR0930**	KM25	30	1.181	16,0	.630	12,5	.492	CC..09T308/CC..3252	**SKCP343**	**MS1156**	**SRS3**
2399474	**KM25SCLCR1230**	KM25	30	1.181	16,0	.630	12,5	.492	CC..120408/CC..432	**SKCP453**	**MS1158**	**SRS4**
	left hand											
3487554	**KM20SCLCL0925**	KM20	25	.984	12,5	.492	9,5	.375	CC..09T308/CC..3252	**SKCP343**	**MS1156**	**SRS3**
3487556	**KM20SCLCL1225**	KM20	25	.984	12,5	.492	9,5	.375	CC..120408/CC..432	**SKCP453**	**MS1158**	**SRS4**
2399473	**KM25SCLCL0930**	KM25	30	1.181	16,0	.630	12,5	.492	CC..09T308/CC..3252	**SKCP343**	**MS1156**	**SRS3**
2399475	**KM25SCLCL1230**	KM25	30	1.181	16,0	.630	12,5	.492	CC..120408/CC..432	**SKCP453**	**MS1158**	**SRS4**







KM™ Mini QUICK-CHANGE TOOLING

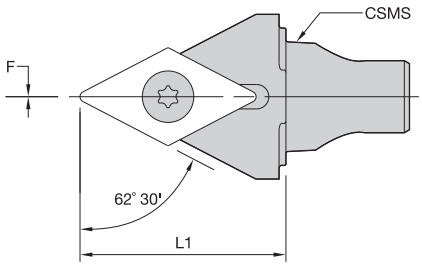
SDJC 93°

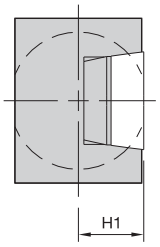


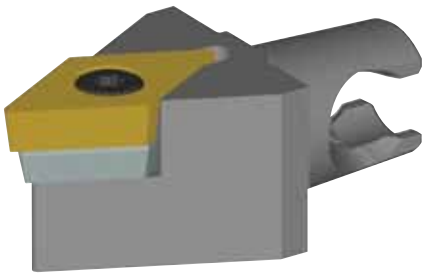




order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
	right hand											
3487495	**KM20SDJCR1125**	KM20	25	.984	12,5	.492	9,5	.375	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**
3487497	**KM20SDJCR1525**	KM20	25	.984	12,5	.492	9,5	.375	DC..150408/DC..432	**.SKDP453**	**MS1158**	**SRS4**
2399476	**KM25SDJCR1130**	KM25	30	1.181	16,0	.630	12,5	.492	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**
	left hand											
3487494	**KM20SDJCL1125**	KM20	25	.984	12,5	.492	9,5	.375	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**
3487496	**KM20SDJCL1525**	KM20	25	.984	12,5	.492	9,5	.375	DC..150408/DC..432	**SKDP453**	**MS1158**	**SRS4**
2399477	**KM25SDJCL1130**	KM25	30	1.181	16,0	.630	12,5	.492	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**







KM™ Mini QUICK-CHANGE TOOLING

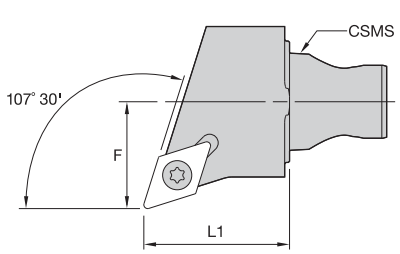
SDPC 62° 30'

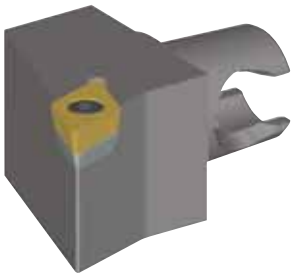






order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
3487508	**KM20SDPCN1530**	KM20	30	1.181	0	.000	9,5	.375	DC..150408/DC..432	**SKDP453**	**MS1158**	**SRS4**
2399478	**KM25SDPCN1130**	KM25	30	1.181	0	.000	12,5	.492	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**





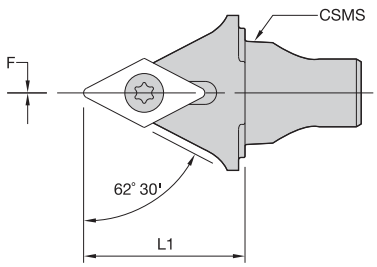
KM Mini QUICK-CHANGE TOOLING

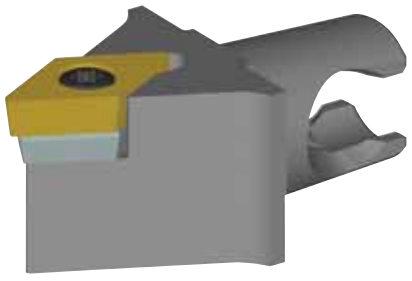
SDQC 107° 30'





order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
	right hand											
3487499	**KM20SDQCR1125**	KM20	25	.984	17	.669	9,5	.375	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**
3487501	**KM20SDQCR1525**	KM20	25	.984	17	.669	9,5	.375	DC..150408/DC..432	**SKDP453**	**MS1158**	**SRS4**
2399479	**KM25SDQCR1130**	KM25	30	1.181	22	.866	12,5	.492	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**
	left hand											
3487498	**KM20SDQCL1125**	KM20	25	.984	17	.669	9,5	.375	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**
3487500	**KM20SDQCL1525**	KM20	25	.984	17	.669	9,5	.375	DC..150408/DC..432	**SKDP453**	**MS1158**	**SRS4**
2399480	**KM25SDQCL1130**	KM25	30	1.181	22	.866	12,5	.492	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**





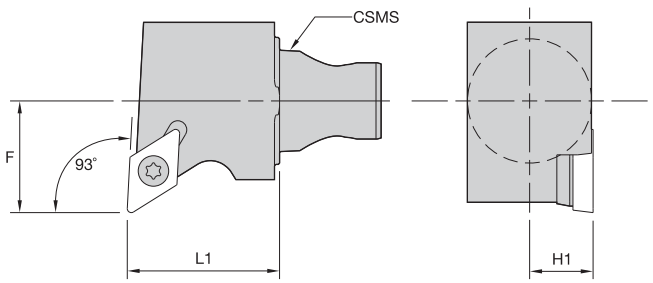
KM Mini QUICK-CHANGE TOOLING

SDNC 62° 30'





order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
3487506	**KM20SDNCN1125**	KM20	25	.984	0	.000	9,5	.375	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**
3487507	**KM20SDNCN1530**	KM20	30	1.181	0	.000	9,5	.375	DC..150408/DC..432	**SKDP453**	**MS1158**	**SRS4**





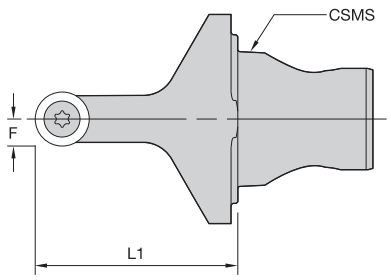
KM™ Mini QUICK-CHANGE TOOLING

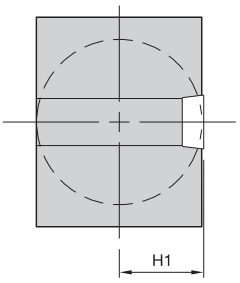
SDUC 93°

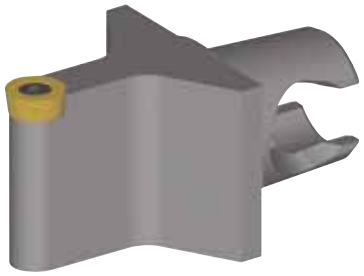




order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
	right hand											
2399481	**KM25SDUCR1130**	KM25	30	1.181	22	.866	12,5	.492	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**
	left hand											
2399482	**KM25SDUCL1130**	KM25	30	1.181	22	.866	12,5	.492	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**







KM™ Mini QUICK-CHANGE TOOLING

SRDC 0°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	insert screw
2399483	KM25SRDCN0830	KM25	30	1.181	4	.158	12,5	.492	RC..0803M0	MS1154



KM™ Mini QUICK-CHANGE TOOLING

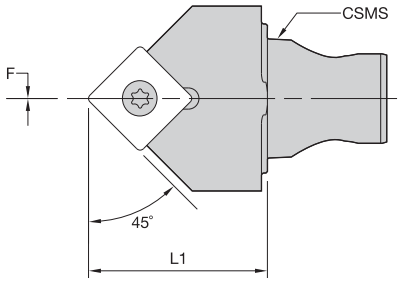
SRGC 90°

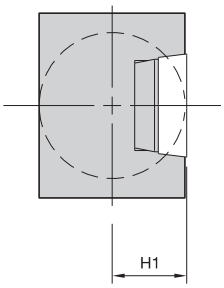


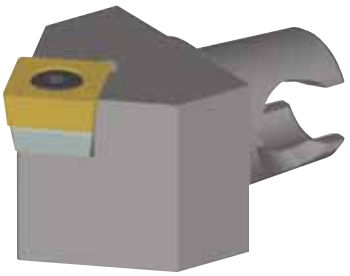




order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
	right hand											
2399484	KM25SRGCR1030	KM25	30	1.181	22	.866	12,5	.492	RC..10T3M0	SKRN100300	MS1156	SRS3
	left hand											
2399485	KM25SRGCL1030	KM25	30	1.181	22	.866	12,5	.492	RC..10T3M0	SKRN100300	MS1156	SRS3







KM™ Mini QUICK-CHANGE TOOLING

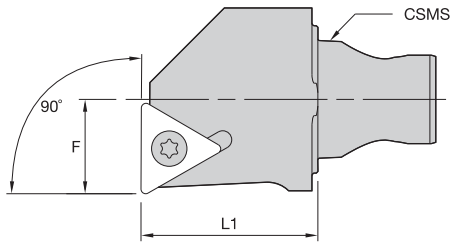
SSDC 45°

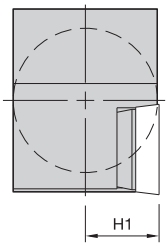


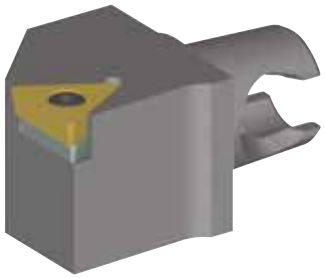




order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
2399486	**KM25SSDCN1230**	KM25	30	1.181	0	.000	12,5	.492	SC..120408/SC..432	**SKSP453**	**MS1158**	**SRS4**







KM™ Mini QUICK-CHANGE TOOLING

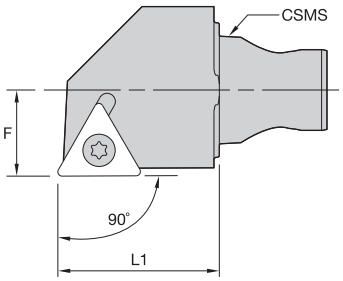
STFC 90°

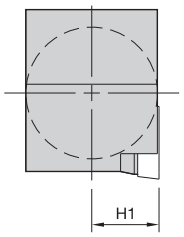


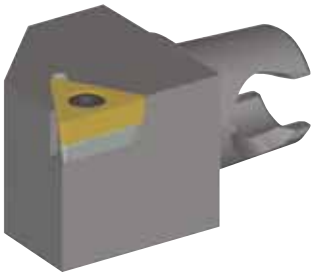




order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
	right hand											
2399487	**KM25STFCR1630**	KM25	30	1.181	16	.630	12,5	.492	TC..16T308/TC..3252	**SKTP343**	**MS1156**	**SRS3**
	left hand											
2399488	**KM25STFCL1630**	KM25	30	1.181	16	.630	12,5	.492	TC..16T308/TC..3252	**SKTP343**	**MS1156**	**SRS3**



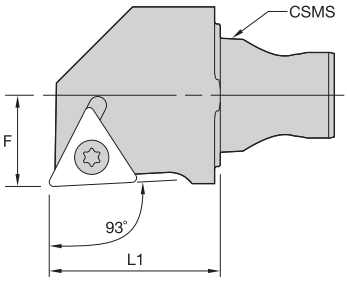


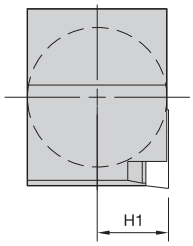


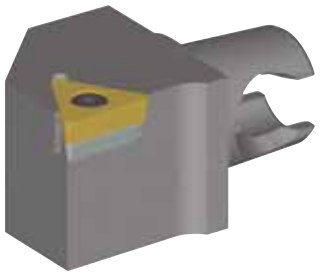
KM™ Mini QUICK-CHANGE TOOLING

STGC 90°

order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
	right hand											
3487559	KM20STGCR1625	KM20	25	.984	12,5	.492	9,5	.375	TC..16T308/TC..3252	SKTP343	MS1156	SRS3
2399489	KM25STGCR1630	KM25	30	1.181	16,0	.630	12,5	.492	TC..16T308/TC..3252	SKTP343	MS1156	SRS3
	left hand											
3487558	KM20STGCL1625	KM20	25	.984	12,5	.492	9,5	.375	TC..16T308/TC..3252	SKTP343	MS1156	SRS3
2399490	KM25STGCL1630	KM25	30	1.181	16,0	.630	12,5	.492	TC..16T308/TC..3252	SKTP343	MS1156	SRS3



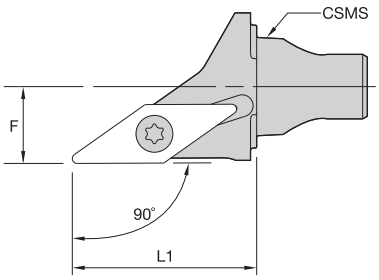


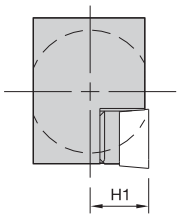


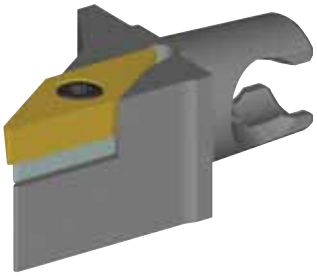
KM™ Mini QUICK-CHANGE TOOLING

STJC 93°

order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
	right hand											
3487561	KM20STJCR1625	KM20	25	.984	12,5	.492	9,5	.375	TC..16T308/TC..3252	SKTP343	MS1156	SRS3
2399491	KM25STJCR1630	KM25	30	1.181	16,0	.630	12,5	.492	TC..16T308/TC..3252	SKTP343	MS1156	SRS3
	left hand											
3487560	KM20STJCL1625	KM20	25	.984	12,5	.492	9,5	.375	TC..16T308/TC..3252	SKTP343	MS1156	SRS3
2399492	KM25STJCL1630	KM25	30	1.181	16,0	.630	12,5	.492	TC..16T308/TC..3252	SKTP343	MS1156	SRS3



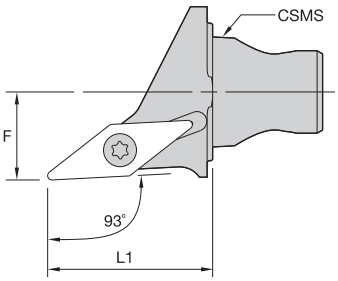


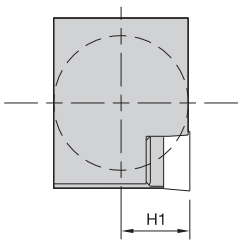


KM Mini QUICK-CHANGE TOOLING

SVAB 90°

order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
	right hand											
3487563	**KM20SVABR1630**	KM20	30	1.181	12,5	.492	9,5	.375	VB..160408/VB..332	**SKVN343**	**MS1156**	**SRS3**
	left hand											
3487562	**KM20SVABL1630**	KM20	30	1.181	12,5	.492	9,5	.375	VB..160408/VB..332	**SKVN343**	**MS1156**	**SRS3**



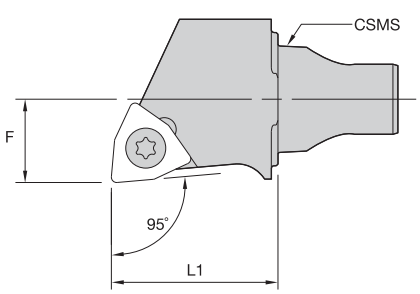


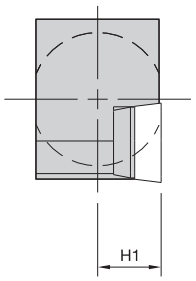


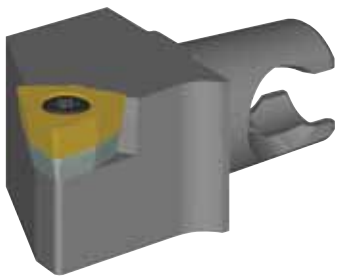
KM Mini QUICK-CHANGE TOOLING

SVJB 93°

order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
	right hand											
3487565	**KM20SVJBR1125**	KM20	25	.984	12,5	.492	9,5	.375	VB..110304/VB..221	–	**MS1153**	–
3487567	**KM20SVJBR1630**	KM20	30	1.181	12,5	.492	9,5	.375	VB..160408/VB..332	**SKVN343**	**MS1156**	**SRS3**
3397261	**KM25SVJBL1130**	KM25	30	1.181	16,0	.630	12,5	.492	VB..110304/VB..221	–	**MS1153**	–
3397262	**KM25SVJBR1130**	KM25	30	1.181	16,0	.630	12,5	.492	VB..110304/VB..221	–	**MS1153**	–
3365589	**KM25SVJBR1630**	KM25	30	1.181	16,0	.630	12,5	.492	VB..160408/VB..332	**SKVN343**	**MS1156**	**SRS3**
	left hand											
3487564	**KM20SVJBL1125**	KM20	25	.984	12,5	.492	9,5	.375	VB..110304/VB..221	–	**MS1153**	–
3487566	**KM20SVJBL1630**	KM20	30	1.181	12,5	.492	9,5	.375	VB..160408/VB..332	**SKVN343**	**MS1156**	**SRS3**
3365590	**KM25SVJBL1630**	KM25	30	1.181	16,0	.630	12,5	.492	VB..160408/VB..332	**SKVN343**	**MS1156**	**SRS3**







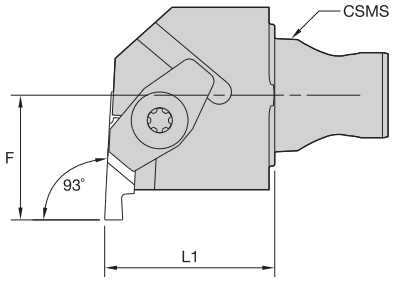
KM Mini QUICK-CHANGE TOOLING

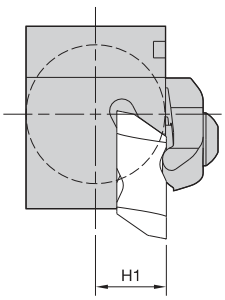
SWLC 95°

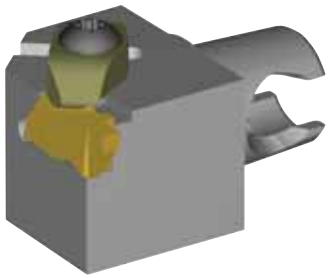




order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw
	right hand											
3487569	**KM20SWLCR0625**	KM20	25	.984	12,5	.492	9,5	.375	WC..06T308/WC..3252	**SKWP343**	**MS1156**	**SRS3**
	left hand											
3487568	**KM20SWLCL0625**	KM20	25	.984	12,5	.492	9,5	.375	WC..06T308/WC..3252	**SKWP343**	**MS1156**	**SRS3**





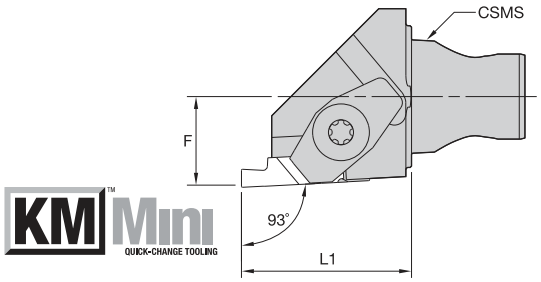


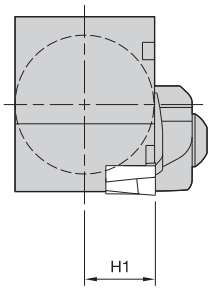
KM Mini QUICK-CHANGE TOOLING

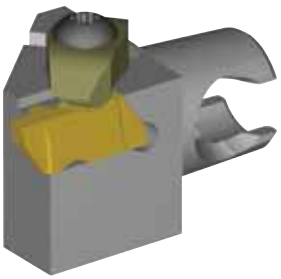
NE 93° • End Mount




order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	clamp	clamp screw
	right hand										
3483036	**KM20NER225**	KM20	25	.984	17	.669	9,5	.375	NG2L	**CM75**	**MS1200**
3483034	**KM20NER325**	KM20	25	.984	17	.669	9,5	.375	NG3L	**CM73LP**	**MS524**
2399462	**KM25NER230**	KM25	30	1.181	22	.866	12,5	.492	NG2L	**CM75**	**MS1200**
2399494	**KM25NER330**	KM25	30	1.181	22	.866	12,5	.492	NG3L	**CM73LP**	**MS2111**
2399496	**KM25NER430**	KM25	30	1.181	24	.945	12,5	.492	NG4L	**CM73LP**	**MS2111**
	left hand										
3483035	**KM20NEL225**	KM20	25	.984	17	.669	9,5	.375	NG2R	**CM74**	**MS1200**
3483033	**KM20NEL325**	KM20	25	.984	17	.669	9,5	.375	NG3R	**CM72LP**	**MS524**
2399493	**KM25NEL230**	KM25	30	1.181	22	.866	12,5	.492	NG2R	**CM74**	**MS1200**
2399495	**KM25NEL330**	KM25	30	1.181	22	.866	12,5	.492	NG3R	**CM72LP**	**MS2111**
2399497	**KM25NEL430**	KM25	30	1.181	24	.945	12,5	.492	NG4R	**CM72LP**	**MS2111**





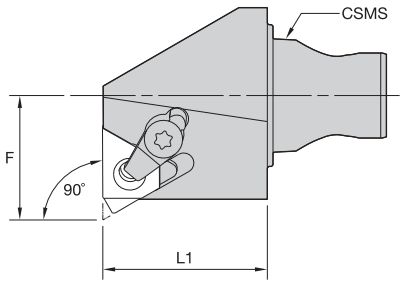


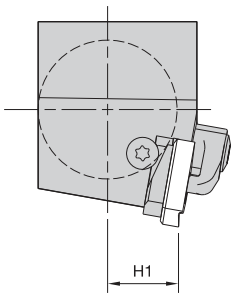
■ NS 93° • Side Mount

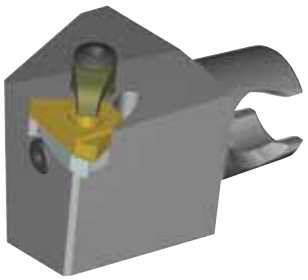




order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	clamp	clamp screw
	right hand										
3483030	**KM20NSR230**	KM20	30	1.181	12,5	.492	9,5	.375	NG2R	**CM74**	**MS1200**
3483028	**KM20NSR330**	KM20	30	1.181	12,5	.492	9,5	.375	NG3R	**CM72LP**	**MS524**
2399498	**KM25NSR230**	KM25	30	1.181	16,0	.630	12,5	.492	NG2R	**CM74**	**MS1200**
2399500	**KM25NSR330**	KM25	30	1.181	16,0	.630	12,5	.492	NG3R	**CM72LP**	**MS2111**
2399502	**KM25NSR430**	KM25	30	1.181	16,0	.630	12,5	.492	NG4R	**CM212LP**	**MS2111**
	left hand										
3483029	**KM20NSL230**	KM20	30	1.181	12,5	.492	9,5	.375	NG2L	**CM75**	**MS1200**
3483027	**KM20NSL330**	KM20	30	1.181	12,5	.492	9,5	.375	NG3L	**CM73LP**	**MS524**
2399499	**KM25NSL230**	KM25	30	1.181	16,0	.630	12,5	.492	NG2L	**CM75**	**MS1200**
2399501	**KM25NSL330**	KM25	30	1.181	16,0	.630	12,5	.492	NG3L	**CM73LP**	**MS2111**
2399503	**KM25NSL430**	KM25	30	1.181	16,0	.630	12,5	.492	NG4L	**CM213LP**	**MS2111**

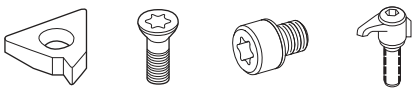






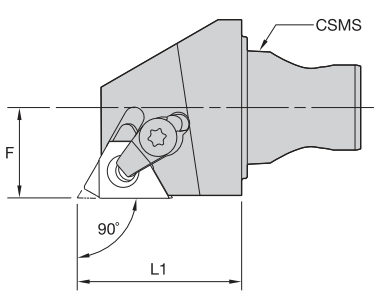
KM™ Mini QUICK-CHANGE TOOLING

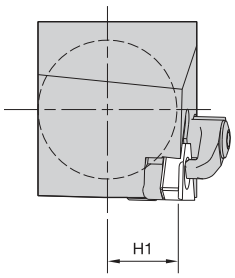
LSE 90°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw	clamp assembly
	right hand												
3482966	**KM20LSER1625**	KM20	25	.984	17	.669	9,5	.375	LT16EL	**SMYI3**	**SSA3T**	**SSY3T**	**CKC3**
2399506	**KM25LSER1630**	KM25	30	1.181	22	.866	12,5	.492	LT16EL	**SMYI3**	**SSA3T**	**SSY3T**	**CKC3**
	left hand												
3482965	**KM20LSEL1625**	KM20	25	.984	17	.669	9,5	.375	LT16ER	**SMYE3**	**SSA3T**	**SSY3T**	**CKC3**
2399507	**KM25LSEL1630**	KM25	30	1.181	22	.866	12,5	.492	LT16ER	**SMYE3**	**SSA3T**	**SSY3T**	**CKC3**

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.

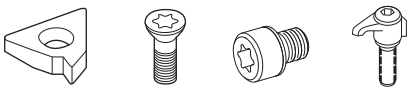






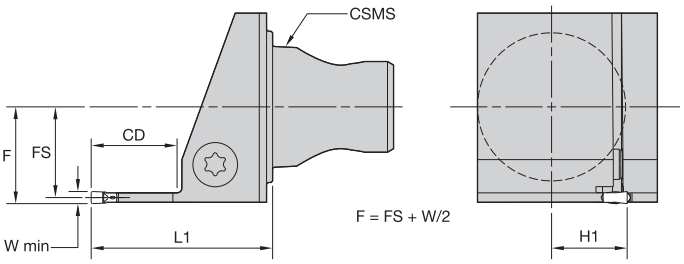
KM™ Mini QUICK-CHANGE TOOLING

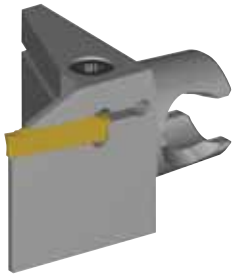
LSS 90°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	gage insert	shim	insert screw	shim screw	clamp assembly
	right hand												
3482968	**KM20LSSR1625**	KM20	25	.984	12,5	.492	9,5	.375	LT16ER	**SMYE3**	**SSA3T**	**SSY3T**	**CKC3**
2399504	**KM25LSSR1630**	KM25	30	1.181	16,0	.630	12,5	.492	LT16ER	**SMYE3**	**SSA3T**	**SSY3T**	**CKC3**
3176219	**KM25LSSR2230**	KM25	30	1.181	16,0	.630	12,5	.492	LT22ER	**SMYE4**	**SSA4T**	**SSY4T**	**CKC4**
	left hand												
3482967	**KM20LSSL1625**	KM20	25	.984	12,5	.492	9,5	.375	LT16EL	**SMYI3**	**SSA3T**	**SSY3T**	**CKC3**
2399505	**KM25LSSL1630**	KM25	30	1.181	16,0	.630	12,5	.492	LT16EL	**SMYI3**	**SSA3T**	**SSY3T**	**CKC3**
3176220	**KM25LSSL2230**	KM25	30	1.181	16,0	.630	12,5	.492	LT22EL	**SMYI4**	**SSA4T**	**SSY4T**	**CKC4**

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.





KM™ Mini QUICK-CHANGE TOOLING

A4SM • Side Mount

order number	catalog number	CSMS system size	seat size	L1 mm	L1 in	FS mm	FS in	W min mm	W min in	H1 mm	H1 in	CD mm	CD in
	right hand												
3482929	**KM20A4SMR011330**	KM20	1.5	30	1.181	11,8	.463	1,5	.059	9,5	.375	13,5	.53
3482931	**KM20A4SMR021430**	KM20	2	30	1.181	11,5	.453	2,0	.079	9,5	.375	14,0	.55
3482935	**KM20A4SMR031430**	KM20	3	30	1.181	11,0	.433	3,0	.118	9,5	.375	14,0	.55
3482937	**KM20A4SMR041430**	KM20	4	30	1.181	10,5	.413	4,0	.157	9,5	.375	14,0	.55
3482933	**KM20A4SMR2B1430**	KM20	2B	30	1.181	11,3	.443	2,5	.098	9,5	.375	14,0	.55
3377363	**KM25A4SMR011330**	KM25	1	30	1.181	15,3	.600	1,5	.059	12,5	.492	13,5	.53
3377291	**KM25A4SMR021430**	KM25	2	30	1.181	15,0	.591	2,0	.079	12,5	.492	14,0	.55
2399464	**KM25A4SMR031430**	KM25	3	30	1.181	14,5	.571	3,0	.118	12,5	.492	14,0	.55
2399466	**KM25A4SMR041430**	KM25	4	30	1.181	14,0	.551	4,0	.157	12,5	.492	14,0	.55
2399468	**KM25A4SMR051935**	KM25	5	35	1.378	13,5	.531	5,0	.197	12,5	.492	19,0	.75
3377289	**KM25A4SMR2B1430**	KM25	2B	30	1.181	14,8	.581	2,5	.098	12,5	.492	14,0	.55
	left hand												
3482928	**KM20A4SML011330**	KM20	1.5	30	1.181	11,8	.463	1,5	.059	9,5	.375	13,5	.53
3482930	**KM20A4SML021430**	KM20	2	30	1.181	11,5	.453	2,0	.079	9,5	.375	14,0	.55
3482934	**KM20A4SML031430**	KM20	3	30	1.181	11,0	.433	3,0	.118	9,5	.375	14,0	.55
3482936	**KM20A4SML041430**	KM20	4	30	1.181	10,5	.413	4,0	.157	9,5	.375	14,0	.55
3482932	**KM20A4SML2B1430**	KM20	2B	30	1.181	11,3	.443	2,5	.098	9,5	.375	14,0	.55
3377292	**KM25A4SML011330**	KM25	1	30	1.181	15,3	.600	1,5	.059	12,5	.492	13,5	.53
3377290	**KM25A4SML021430**	KM25	2	30	1.181	15,0	.591	2,0	.079	12,5	.492	14,0	.55
2399465	**KM25A4SML031430**	KM25	3	30	1.181	14,5	.571	3,0	.118	12,5	.492	14,0	.55
2399467	**KM25A4SML041430**	KM25	4	30	1.181	14,0	.551	4,0	.157	12,5	.492	14,0	.55
2399469	**KM25A4SML051935**	KM25	5	35	1.378	13,5	.531	5,0	.197	12,5	.492	19,0	.75
3377288	**KM25A4SML2B1430**	KM25	2B	30	1.181	14,8	.581	2,5	.098	12,5	.492	14,0	.55

(continued)

(A4SM • Side Mount continued)

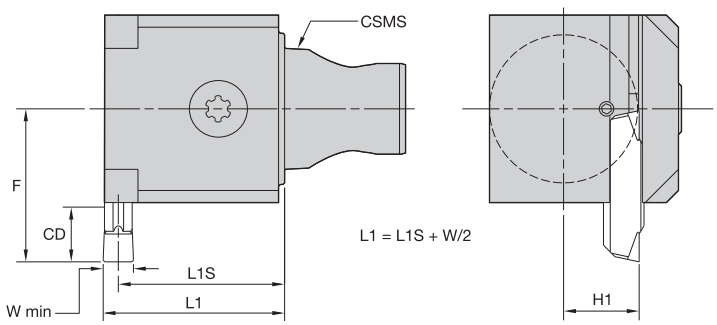
Spare Parts

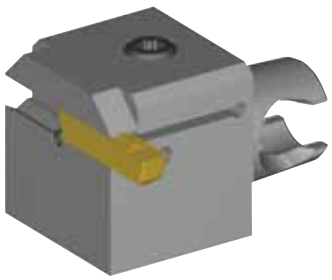




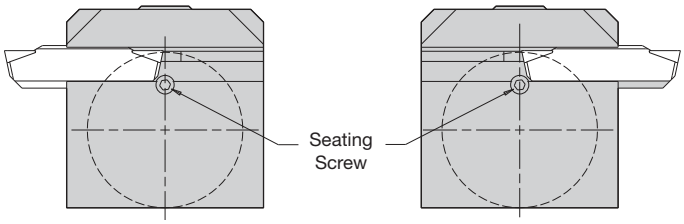
catalog number	clamp screw	clamp screw
right hand		
KM20A4SMR011330	MS1156	–
KM20A4SMR021430	MS1160	–
KM20A4SMR031430	MS1160	–
KM20A4SMR041430	MS1160	–
KM20A4SMR2B1430	MS1160	–
KM25A4SMR011330	MS1156	–
KM25A4SMR021430	MS1160	–
KM25A4SMR031430	–	MS2091
KM25A4SMR041430	–	MS2091
KM25A4SMR051935	–	MS2091
KM25A4SMR2B1430	MS1160	–
left hand		
KM20A4SML011330	MS1156	–
KM20A4SML021430	MS1160	–
KM20A4SML031430	MS1160	–
KM20A4SML041430	MS1160	–
KM20A4SML2B1430	MS1160	–
KM25A4SML011330	MS1156	–
KM25A4SML021430	MS1160	–
KM25A4SML031430	–	MS2091
KM25A4SML041430	–	MS2091
KM25A4SML051935	–	MS2091
KM25A4SML2B1430	MS1160	–

NOTE: W min supplied for reference only. See the Kennametal Innovations Master Catalog Cutting Tools 2013 for actual insert width.
Always match seat size of insert to seat size of holder.
Seat size 2B cutting units only accepts 2B inserts.
Seat size 2 cutting units accepts 2 or 2B inserts.





A4EN Insert Mounting



A4EN-style cutting units can be used for either left- or right-hand applications.

A4EN • End Mount

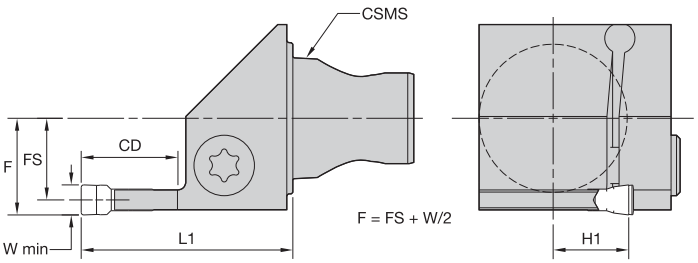
order number	catalog number	CSMS system size	seat size	L1S mm	L1S in	F mm	F in	W min mm	W min in	H1 mm	H1 in	CD mm	CD in
2399470	**KM25A4ENN040730**	KM25	4	28	1.102	23	.906	4,0	.157	12,5	.492	7	.276
2399471	**KM25A4ENN050930**	KM25	5	28	1.083	25	.996	5,0	.197	12,5	.492	9	.354

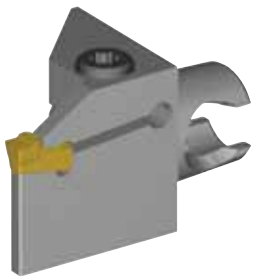
Spare Parts



catalog number	clamp screw
KM25A4ENN040730	**MS2091**
KM25A4ENN050930	**MS2091**

NOTE: A4EN-style cutting units are designed without steel support for face grooving capacity. Cutting feed recommendations should be reduced by 25–30%.
W min supplied for reference only. See the Kennametal Innovations Master Catalog Cutting Tools 2013 for actual insert width.
Always match seat size of insert to seat size of holder.





KM™ Mini QUICK-CHANGE TOOLING

A3SS • Deep Groove

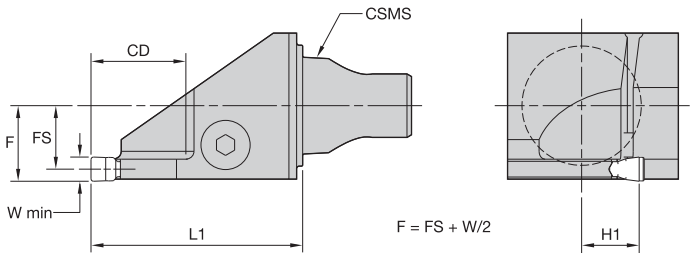
order number	catalog number	CSMS system size	seat size	L1 mm	L1 in	FS mm	FS in	W min mm	W min in	H1 mm	H1 in	CD mm	CD in
	right hand												
2399513	**KM25A3SSR031635**	KM25	3	35,0	1.378	15	.571	3	.12	12,5	.492	16	.63
2399515	**KM25A3SSR041635**	KM25	4	34,9	1.374	14	.551	4	.16	12,5	.492	16	.63
2399517	**KM25A3SSR042645**	KM25	4	45,0	1.772	14	.551	4	.16	12,5	.492	26	1.02
2399519	**KM25A3SSR051635**	KM25	5	35,0	1.378	14	.531	5	.20	12,5	.492	16	.63
2399521	**KM25A3SSR052645**	KM25	5	45,0	1.772	14	.531	5	.20	12,5	.492	26	1.02
	left hand												
2399514	**KM25A3SSL031635**	KM25	3	35,0	1.378	15	.571	3	.12	12,5	.492	16	.63
2399516	**KM25A3SSL041635**	KM25	4	34,9	1.374	14	.551	4	.16	12,5	.492	16	.63
2399518	**KM25A3SSL042645**	KM25	4	45,0	1.772	14	.551	4	.16	12,5	.492	26	1.02
2399520	**KM25A3SSL051635**	KM25	5	35,0	1.378	14	.531	5	.20	12,5	.492	16	.63
2399522	**KM25A3SSL052645**	KM25	5	45,0	1.772	14	.531	5	.20	12,5	.492	26	1.02

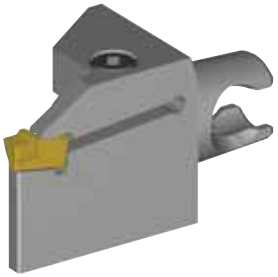
Spare Parts



catalog number	clamp screw
right hand	
KM25A3SSR031635	**MS1944**
KM25A3SSR041635	**MS1595**
KM25A3SSR042645	**MS1595**
KM25A3SSR051635	**MS1595**
KM25A3SSR052645	**MS1595**
left hand	
KM25A3SSL031635	**MS1944**
KM25A3SSL041635	**MS1595**
KM25A3SSL042645	**MS1595**
KM25A3SSL051635	**MS1595**
KM25A3SSL052645	**MS1595**

NOTE: W min supplied for reference only. See the Kennametal Innovations Master Catalog Cutting Tools 2013 for actual insert width.
Always match seat size of insert to seat size of holder.





KM™ Mini QUICK-CHANGE TOOLING

A3SC • Cut-Off

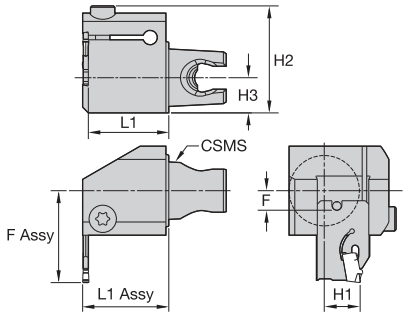
order number	catalog number	CSMS system size	seat size	L1 mm	L1 in	FS mm	FS in	W min mm	W min in	H1 mm	H1 in	CD mm	CD in
	right hand												
3482925	**KM20A3SCR031635**	KM20	3	35	1.378	11,00	.433	3,0	.118	9,5	.375	16	.63
3482927	**KM20A3SCR041635**	KM20	4	35	1.378	10,50	.413	4,0	.157	9,5	.375	16	.63
	left hand												
3482924	**KM20A3SCL031635**	KM20	3	35	1.378	11,00	.433	3,0	.118	9,5	.375	16	.63
3482926	**KM20A3SCL041635**	KM20	4	35	1.378	10,50	.413	4,0	.157	9,5	.375	16	.63

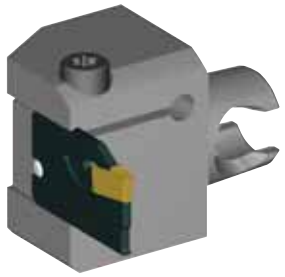
Spare Parts



catalog number	clamp screw
right hand	
KM20A3SCR031635	**MS1322**
KM20A3SCR041635	**MS1322**
left hand	
KM20A3SCL031635	**MS1322**
KM20A3SCL041635	**MS1322**

NOTE: W min supplied for reference only. See the Kennametal Innovations Master Catalog Cutting Tools 2013 for actual insert width.
Always match seat size of insert to seat size of holder.





KM Mini QUICK-CHANGE TOOLING

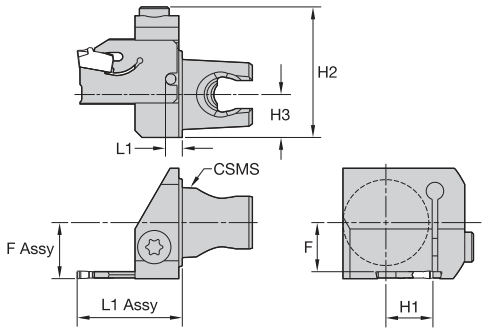
L1 Assy = L1 + F Blade
F Assy = F + L1 Blade

BE • End Mount



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	H2 mm	H2 in	H3 mm	H3 in	clamp screw	cartridge 1
	right hand													
2426882	**KM25BER**	KM25	28	1.103	6,8	.268	12,5	.492	37,3	1.466	12,3	.482	**MS1898PKG**	A2BHSN19X...
	left hand													
2427293	**KM25BEL**	KM25	28	1.103	6,8	.268	12,5	.492	37,3	1.466	12,3	.482	**MS1898PKG**	A2BHSN19X...

NOTE: For blades, see page A162.





KM Mini QUICK-CHANGE TOOLING

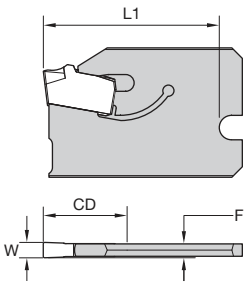
L1 Assy = L1 + L1 Blade
F Assy = F + F Blade

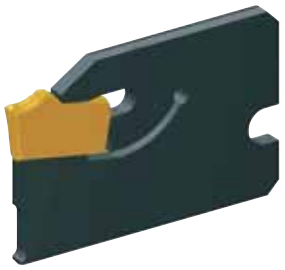
BS • Side Mount



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	H1 mm	H1 in	H2 mm	H2 in	H3 mm	H3 in	clamp screw	cartridge 1
	right hand													
2426880	**KM25BSR**	KM25	4,8	.189	14	.552	12,5	.492	37,3	1.466	12,3	.482	**MS1898PKG**	A2BHSN19X...
	left hand													
2426881	**KM25BSL**	KM25	4,8	.189	14	.552	12,5	.492	37,3	1.466	12,3	.482	**MS1898PKG**	A2BHSN19X...

NOTE: For blades, see page A162.





A2BHSN

order number	catalog number	seat size	CD	W	F	L1
1984998	**A2BHSN19X0116**	1	16,0	1,6	1,7	25,2
1851800	**A2BHSN19X0211**	2	11,0	2,2	2,0	20,2
1851799	**A2BHSN19X0216**	2	16,0	2,2	2,0	25,2



ERICKSON™ & KM™
Names You Can Trust

For hydraulic chucks — ERICKSON and KM — the industry names you can trust.

- Most accurate chuck, ≤3µm (.0001"), achieves maximum performance from your cutting edge.
- Inherent dampening design extends tool life and improves surface finish.
- Pre-balanced to high specifications.
- Versatile as a collet chuck with the use of reduction sleeves.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM2520MCLNR0925

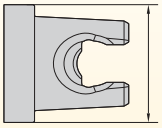
KM Mini QUICK-CHANGE TOOLING

KM — Kennametal Modular

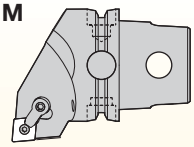
2520 — System Size

2520 = 25mm

3225 = 32mm

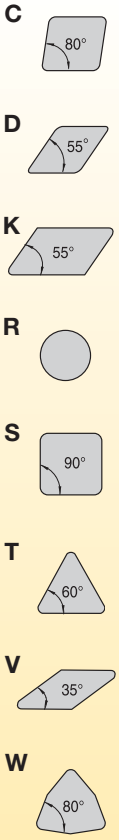


M — Insert Holding Method

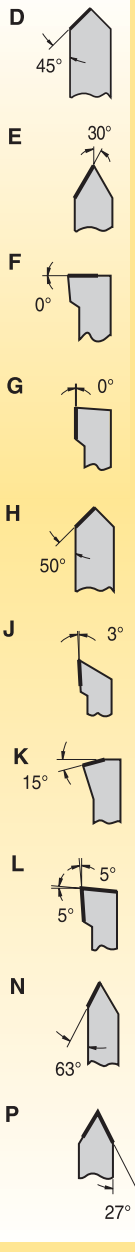


M-Clamping
Top and/or hole clamping for inserts with hole

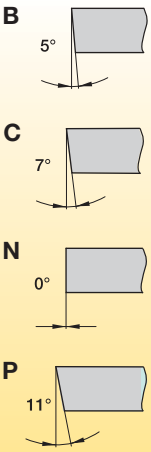
C — Insert Shape

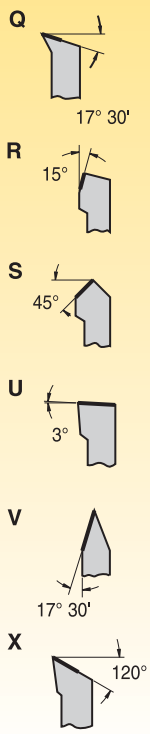


L — Toolholder Style



N — Insert Clearance Angle



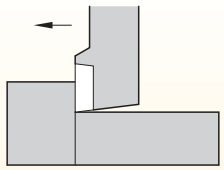


By referencing this easy-to-use guide, you can identify the correct product to meet your needs.

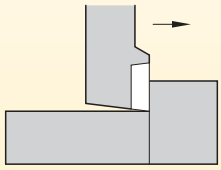


R

Hand of Tool



L = Left-hand cutting unit



R = Right-hand cutting unit

09

Insert Size
Cutting Edge
Length L10

Metric

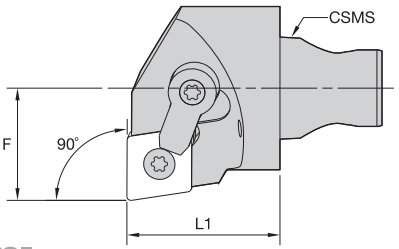
IC	C	D	K	R	S	T	V	W
3,97		04		03	03	06		
4,76	04	05		04	04	08	08	S3
5,56	05	06	03	05	05	09	09	03
6,00				06				
6,35	06	07	04	06	06	11	11	04
7,94	08	09	05	07	07	13	13	05
8,00				08			11	
9,52	09	11	06	09	09	16	16	06
9,52								
10,00				10				
11,11	11	13	07	11	11	19	19	07
12,00				12				
12,70	12	15	08	12	12	22	22	08
14,29	14	17	09	14	14	24	24	09
15,88	16	19	10	15	15	27	27	10
16,00				16				
17,46	17	21	11	17	17	30	30	11
19,05	19	23	13	19	19	33	33	13
20,00				20				
22,22	22	27	15	22	22	38	38	15
25,00				25				
25,40	25	31	17	25	25	44	44	17
31,75	32	38	21	31	31	54	54	21
32,00				32				

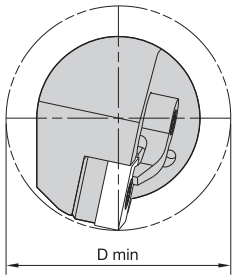
25

Gage
Length

25 = 25mm
30 = 30mm
45 = 45mm
120 = 120mm



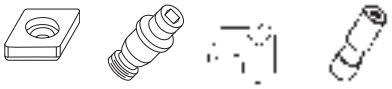




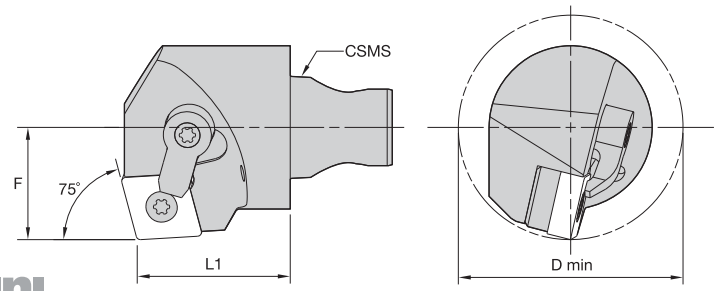


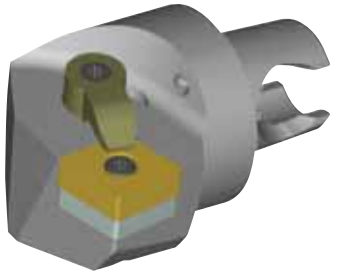
KM™ Mini QUICK-CHANGE TOOLING

MCFN 90°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
2527431	**KM3225MCFNR1230**	KM3225	30	1.181	22	.866	40	1.575	CN..120408/CN..432	**ICSN432**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**
	left hand												
2527432	**KM3225MCFNL1230**	KM3225	30	1.181	22	.866	40	1.575	CN..120408/CN..432	**ICSN432**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**





KM™ Mini QUICK-CHANGE TOOLING

MCKN 75°

order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert
	right hand								
2527433	KM3225MCKNR1230	KM3225	30	1.181	22	.866	40	1.57	CN..120408/CN..432
	left hand								
2527434	KM3225MCKNL1230	KM3225	30	1.181	22	.866	40	1.57	CN..120408/CN..432

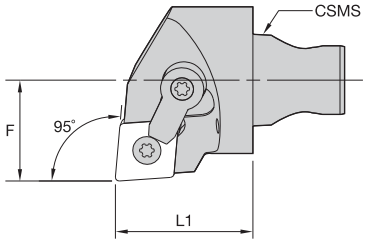
Spare Parts

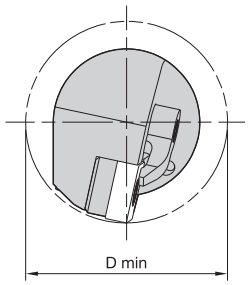


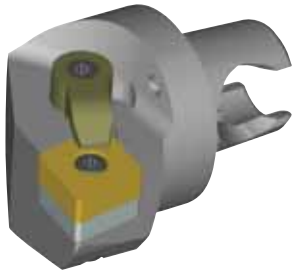



catalog number	shim	lock pin	clamp	clamp screw
right hand				
KM3225MCKNR1230	ICSN432	KLM4615IP	CKM20LP	STCM1115IP
left hand				
KM3225MCKNL1230	ICSN432	KLM4615IP	CKM20LP	STCM1115IP









KM™ Mini QUICK-CHANGE TOOLING

MCLN 95°

order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert
	right hand								
3503780	KM2520MCLNR0925	KM2520	25	.984	17	.669	32	1.260	CN..090308/CN..332
3503782	KM2520MCLNR1225	KM2520	25	.984	17	.669	32	1.260	CN..120408/CN..432
2527435	KM3225MCLNR0930	KM3225	30	1.181	22	.866	40	1.575	CN..090308/CN..322
2527437	KM3225MCLNR1230	KM3225	30	1.181	22	.866	40	1.575	CN..120408/CN..432
	left hand								
3503779	KM2520MCLNL0925	KM2520	25	.984	17	.669	32	1.260	CN..090308/CN..332
3503781	KM2520MCLNL1225	KM2520	25	.984	17	.669	32	1.260	CN..120408/CN..432
2527436	KM3225MCLNL0930	KM3225	30	1.181	22	.866	40	1.575	CN..090308/CN..322
2527438	KM3225MCLNL1230	KM3225	30	1.181	22	.866	40	1.575	CN..120408/CN..432

Spare Parts



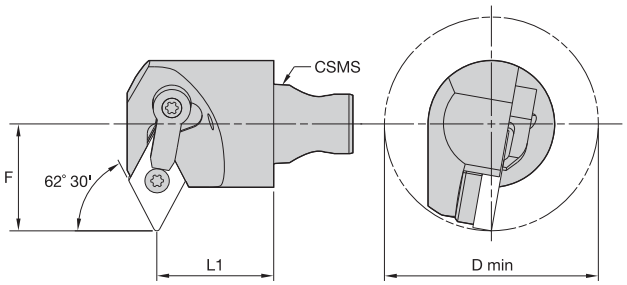


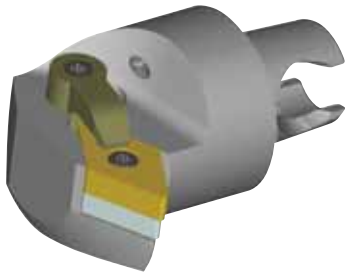




catalog number	shim	lock pin	clamp	clamp screw
right hand				
KM2520MCLNR0925	–	KLM33	CKM7LP	STCM38
KM2520MCLNR1225	–	KLM43	CKM20LP	STCM35
KM3225MCLNR0930	ICSN332	KLM34LT9PKG	CKM7LP	STCM9T9
KM3225MCLNR1230	ICSN432	KLM4615IP	CKM20LP	STCM1115IP
left hand				
KM2520MCLNL0925	–	KLM33	CKM7LP	STCM38
KM2520MCLNL1225	–	KLM43	CKM20LP	STCM35
KM3225MCLNL0930	ICSN332	KLM34LT9PKG	CKM7LP	STCM9T9
KM3225MCLNL1230	ICSN432	KLM4615IP	CKM20LP	STCM1115IP







MDPN 62° 30'

order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert
	right hand								
2527441	**KM3225MDPNR1130**	KM3225	30	1.181	22	.866	40	1.57	DN..110408/DN..332
2527439	**KM3225MDPNR150430**	KM3225	30	1.181	27	1.063	50	1.97	DN..150408/DN..432
	left hand								
2527442	**KM3225MDPNL1130**	KM3225	30	1.181	22	.866	40	1.57	DN..110408/DN..332
2527440	**KM3225MDPNL150430**	KM3225	30	1.181	27	1.063	50	1.97	DN..150408/DN..432

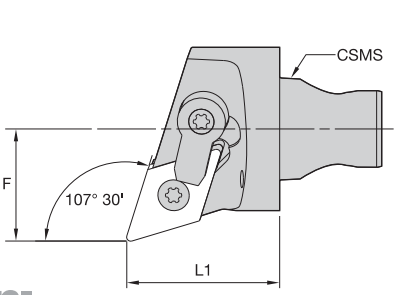
Spare Parts

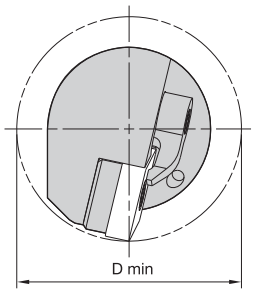





catalog number	shim	lock pin	clamp	clamp screw
right hand				
KM3225MDPNR1130	**IDSN322**	**KLM34LT9PKG**	**CKM7LP**	**STCM9T9**
KM3225MDPNR150430	**IDSN432**	**KLM4615IP**	**CKM23LP**	**STCM1115IP**
left hand				
KM3225MDPNL1130	**IDSN322**	**KLM34LT9PKG**	**CKM7LP**	**STCM9T9**
KM3225MDPNL150430	**IDSN432**	**KLM4615IP**	**CKM23LP**	**STCM1115IP**









KM™ Mini QUICK-CHANGE TOOLING

MDQN 107° 30'

order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert
	right hand								
2527445	KM3225MDQNR1130	KM3225	30	1.181	22	.866	40	1.57	DN..110408/DN..332
2527443	KM3225MDQNR150430	KM3225	30	1.181	22	.866	40	1.57	DN..150408/DN..432
	left hand								
2527446	KM3225MDQNL1130	KM3225	30	1.181	22	.866	40	1.57	DN..110408/DN..332
2527444	KM3225MDQNL150430	KM3225	30	1.181	22	.866	40	1.57	DN..150408/DN..432

Spare Parts



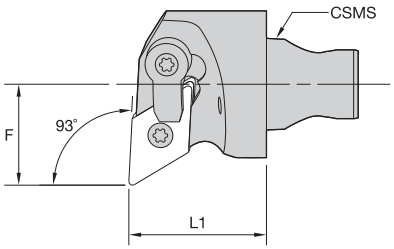


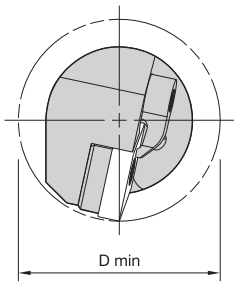


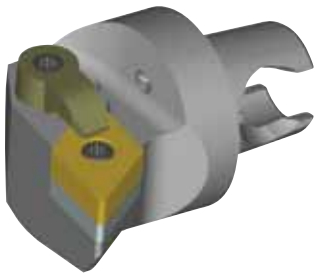


catalog number	shim	lock pin	clamp	clamp screw
right hand				
KM3225MDQNR1130	IDSN322	KLM34LT9PKG	CKM7LP	STCM9T9
KM3225MDQNR150430	IDSN432	KLM4615IP	CKM20LP	STCM1115IP
left hand				
KM3225MDQNL1130	IDSN322	KLM34LT9PKG	CKM7LP	STCM9T9
KM3225MDQNL150430	IDSN432	KLM4615IP	CKM20LP	STCM1115IP









KM™ Mini QUICK-CHANGE TOOLING

MDUN 93°

order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert
	right hand								
3503814	**KM2520MDUNR1125**	KM2520	25	.984	17	.669	32	1.26	DN..110408/DN..332
3503816	**KM2520MDUNR1525**	KM2520	25	.984	17	.669	32	1.26	DN..150408/DN..432
2527449	**KM3225MDUNR1130**	KM3225	30	1.181	22	.866	40	1.57	DN..110408/DN..332
2527447	**KM3225MDUNR150430**	KM3225	30	1.181	22	.866	40	1.57	DN..150408/DN..432
	left hand								
3503813	**KM2520MDUNL1125**	KM2520	25	.984	17	.669	32	1.26	DN..110408/DN..332
3503815	**KM2520MDUNL1525**	KM2520	25	.984	17	.669	32	1.26	DN..150408/DN..432
2527450	**KM3225MDUNL1130**	KM3225	30	1.181	22	.866	40	1.57	DN..110408/DN..332
2527448	**KM3225MDUNL150430**	KM3225	30	1.181	22	.866	40	1.57	DN..150408/DN..432

Spare Parts



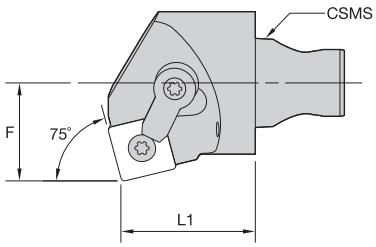


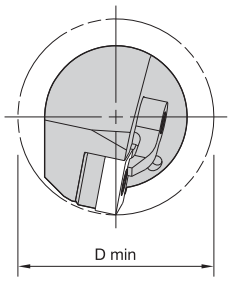


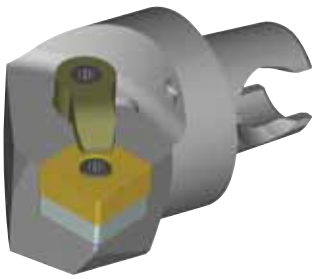


catalog number	shim	lock pin	clamp	clamp screw
right hand				
KM2520MDUNR1125	**–**	**KLM33L**	**CKM7LP**	**STCM38**
KM2520MDUNR1525	**–**	**KLM43**	**–**	**–**
KM3225MDUNR1130	**IDSN322**	**KLM34LT9PKG**	**CKM7LP**	**STCM9T9**
KM3225MDUNR150430	**IDSN432**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**
left hand				
KM2520MDUNL1125	**–**	**KLM33L**	**CKM7LP**	**STCM38**
KM2520MDUNL1525	**–**	**KLM43**	**–**	**–**
KM3225MDUNL1130	**IDSN322**	**KLM34LT9PKG**	**CKM7LP**	**STCM9T9**
KM3225MDUNL150430	**IDSN432**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**









KM™ Mini QUICK-CHANGE TOOLING

MSKN 75°

order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert
	right hand								
3503818	**KM2520MSKNR1225**	KM2520	25	.984	17	.669	32	1.26	SN..120408/SN..432
2527451	**KM3225MSKNR1230**	KM3225	30	1.181	22	.866	40	1.57	SN..120408/SN..432
	left hand								
3503817	**KM2520MSKNL1225**	KM2520	25	.984	17	.669	32	1.26	SN..120408/SN..432
2527452	**KM3225MSKNL1230**	KM3225	30	1.181	22	.866	40	1.57	SN..120408/SN..432

Spare Parts



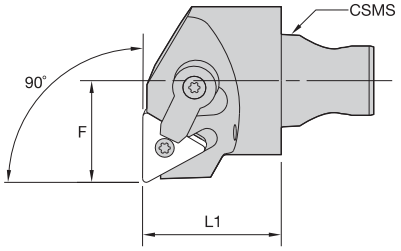


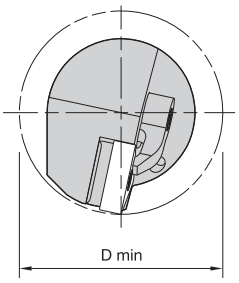


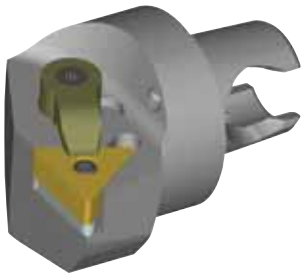


catalog number	shim	lock pin	clamp	clamp screw
right hand				
KM2520MSKNR1225	**–**	**KLM43**	**CKM20LP**	**STCM11**
KM3225MSKNR1230	**ISSN432**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**
left hand				
KM2520MSKNL1225	**–**	**KLM43**	**CKM20LP**	**STCM11**
KM3225MSKNL1230	**ISSN432**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**









KM™ Mini QUICK-CHANGE TOOLING

MTFN 90°

order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert
	right hand								
3503820	**KM2520MTFNR1625**	KM2520	25	.984	17	.669	32	1.26	TN..160408/TN..332
2527453	**KM3225MTFNR1630**	KM3225	30	1.181	22	.866	40	1.57	TN..160408/TN..332
2527455	**KM3225MTFNR2230**	KM3225	30	1.181	22	.866	40	1.57	TN..220408/TN..432
	left hand								
3503819	**KM2520MTFNL1625**	KM2520	25	.984	17	.669	32	1.26	TN..160408/TN..332
2527454	**KM3225MTFNL1630**	KM3225	30	1.181	22	.866	40	1.57	TN..160408/TN..332
2527456	**KM3225MTFNL2230**	KM3225	30	1.181	22	.866	40	1.57	TN..220408/TN..432

Spare Parts



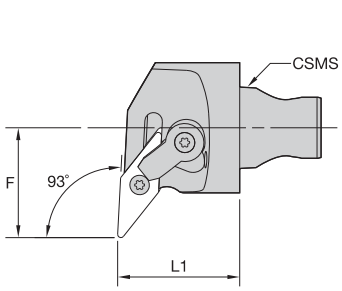


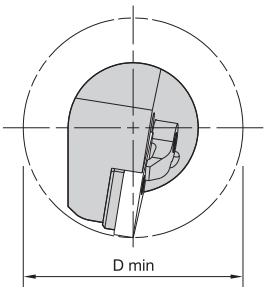


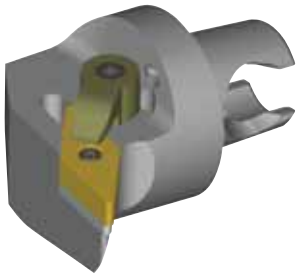


catalog number	shim	lock pin	clamp	clamp screw
right hand				
KM2520MTFNR1625	**–**	**KLM33L**	**CKM7LP**	**STCM38**
KM3225MTFNR1630	**ITSN323**	**KLM34L9IP**	**CKM20LP**	**STCM119IP**
KM3225MTFNR2230	**ITSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**
left hand				
KM2520MTFNL1625	**–**	**KLM33L**	**CKM7LP**	**STCM38**
KM3225MTFNL1630	**ITSN323**	**KLM34L9IP**	**CKM20LP**	**STCM119IP**
KM3225MTFNL2230	**ITSN433**	**KLM4615IP**	**CKM20LP**	**STCM1115IP**









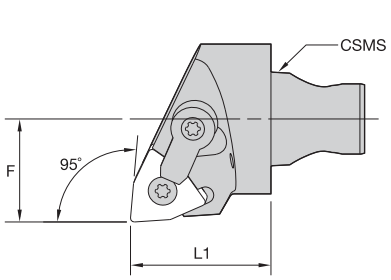
KM™ Mini QUICK-CHANGE TOOLING

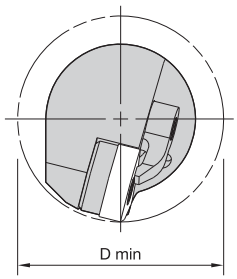
MVUN 93°

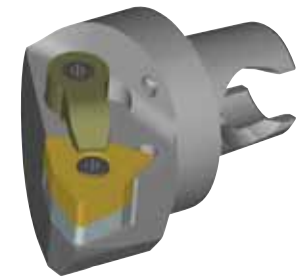


order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
3503822	KM2520MVUNR1625	KM2520	25	.984	22	.866	40	1.57	VN..160408/VN..332	–	KLM33L	CKM7LP	STCM38
2527457	KM3225MVUNR1630	KM3225	30	1.181	27	1.063	50	1.97	VN..160408/VN..332	IVSN322	KLM34L9IP	CKM20LP	STCM119IP
	left hand												
3503821	KM2520MVUNL1625	KM2520	25	.984	22	.866	40	1.57	VN..160408/VN..332	–	KLM33L	CKM7LP	STCM38
2527458	KM3225MVUNL1630	KM3225	30	1.181	27	1.063	50	1.97	VN..160408/VN..332	IVSN322	KLM34L9IP	CKM20LP	STCM119IP



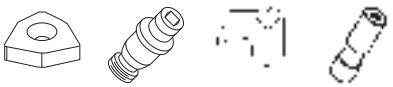






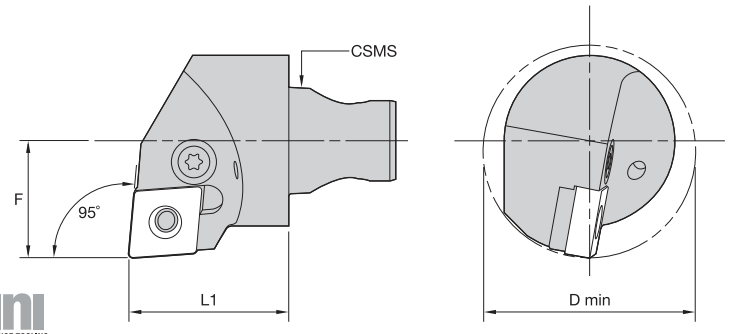
KM™ Mini QUICK-CHANGE TOOLING

MWLN 95°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw
	right hand												
3503824	KM2520MWLNR0625	KM2520	25	.984	17	.669	32	1.26	WN..060408/WN.332	–	KLM33	CKM7LP	STCM38
3503826	KM2520MWLNR0825	KM2520	25	.984	17	.669	32	1.26	WN..080408/WN..432	–	KLM43	CKM7LP	STCM38
2527459	KM3225MWLNR0830	KM3225	30	1.181	22	.866	40	1.57	WN..080408/WN..432	IWSN433	KLM4615IP	CKM20LP	STCM1115IP
	left hand												
3503823	KM2520MWLNL0625	KM2520	25	.984	17	.669	32	1.26	WN..060408/WN.332	–	KLM33	CKM7LP	STCM38
3503825	KM2520MWLNL0825	KM2520	25	.984	17	.669	32	1.26	WN..080408/WN..432	–	KLM43	CKM7LP	STCM38
2527460	KM3225MWLNL0830	KM3225	30	1.181	22	.866	40	1.57	WN..080408/WN..432	IWSN433	KLM4615IP	CKM20LP	STCM1115IP







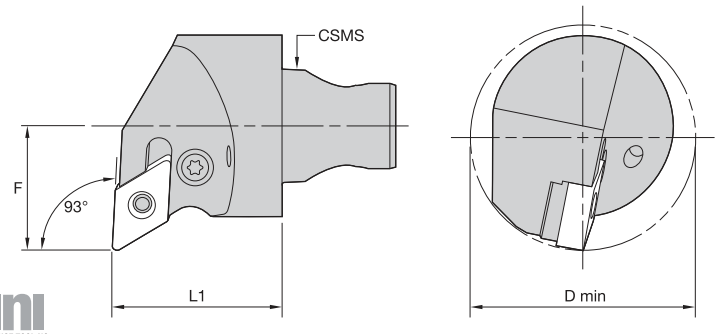
KM™ Mini QUICK-CHANGE TOOLING

PCLN 95°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch
	right hand													
3482970	KM2520PCLNR1225	KM2520	25	.984	17	.669	32	1.26	CN..120408/CN..432	–	514.122	–	511.022	–
2527461	KM3225PCLNR1230	KM3225	30	1.181	22	.866	40	1.57	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018
	left hand													
3482969	KM2520PCLNL1225	KM2520	25	.984	17	.669	32	1.26	CN..120408/CN..432	–	514.122	–	511.022	–
2527462	KM3225PCLNL1230	KM3225	30	1.181	22	.866	40	1.57	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018

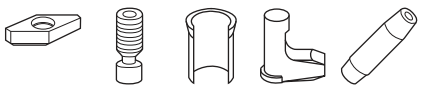






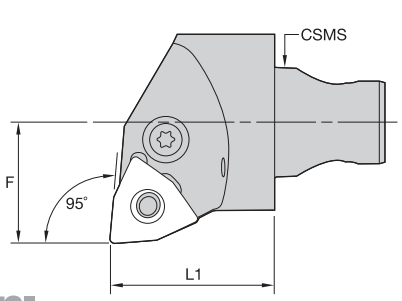
KM™ Mini QUICK-CHANGE TOOLING

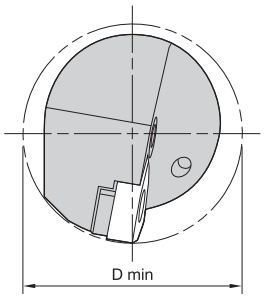
PDUN 93°



order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch
	right hand													
3482972	KM2520PDUNR1125	KM2520	25	.984	17	.669	32	1.26	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018
2527463	KM3225PDUNR1130	KM3225	30	1.181	22	.866	40	1.57	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018
	left hand													
3482971	KM2520PDUNL1125	KM2520	25	.984	17	.669	32	1.26	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018
2527464	KM3225PDUNL1130	KM3225	30	1.181	22	.866	40	1.57	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018



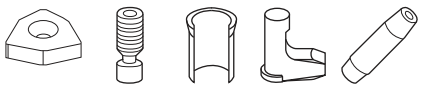






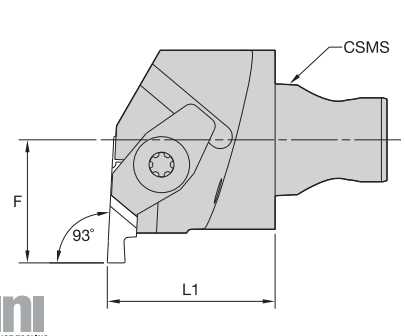
KM™ Mini QUICK-CHANGE TOOLING

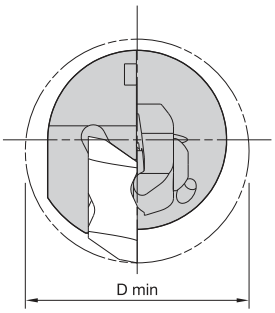
PWLN 95°

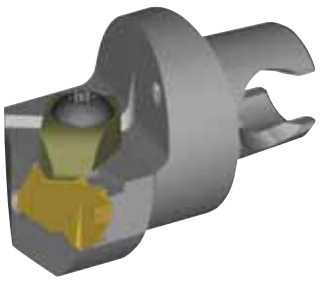


order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch
	right hand													
3483024	**KM2520PWLNR0625**	KM2520	25	.984	17	.669	32	1.26	WN..060408/WN..332	**–**	**514.112**	**–**	**511.030**	**–**
2527465	**KM3225PWLNR0830**	KM3225	30	1.181	22	.866	40	1.57	WN..080408/WN..432	**512.135**	**514.123**	**513.023**	**511.023**	**515.018**
	left hand													
3483023	**KM2520PWLNL0625**	KM2520	25	.984	17	.669	32	1.26	WN..060408/WN..332	**–**	**514.112**	**–**	**511.030**	**–**
2527466	**KM3225PWLNL0830**	KM3225	30	1.181	22	.866	40	1.57	WN..080408/WN..432	**512.135**	**514.123**	**513.023**	**511.023**	**515.018**









KM™ Mini QUICK-CHANGE TOOLING

NE 93° • End Mount

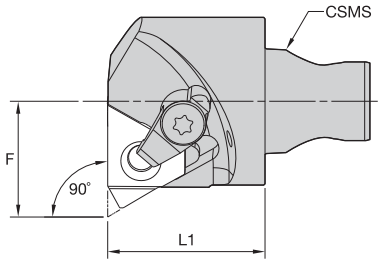


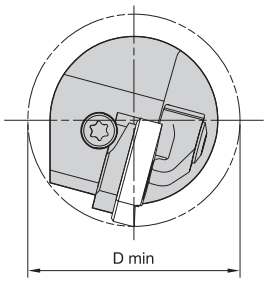




order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamp screw	clamp screw
	right hand											
3546332	**KM2520NER230**	KM2520	30	1.181	17	.669	32	1.26	NG2L	**CM75**	–	**MS1488**
3546644	**KM2520NER330**	KM2520	30	1.181	17	.669	34	1.34	NG3L	**CM73LP**	–	**MS1489**
2527467	**KM3225NER230**	KM3225	30	1.181	22	.866	40	1.57	NG2L	**CM75**	–	**MS1488**
2387557	**KM3225NER330**	KM3225	30	1.181	22	.866	40	1.57	NG3L	**CM73LP**	**MS2111**	–
2527470	**KM3225NER430**	KM3225	30	1.181	27	1.063	50	1.97	NG4L	**CM73LP**	**MS2111**	–
	left hand											
3546331	**KM2520NEL230**	KM2520	30	1.181	17	.669	32	1.26	NG2R	**CM74**	–	**MS1488**
3546643	**KM2520NEL330**	KM2520	30	1.181	17	.669	34	1.34	NG3R	**CM72LP**	–	**MS1489**
2527468	**KM3225NEL230**	KM3225	30	1.181	22	.866	40	1.57	NG2R	**CM74**	–	**MS1488**
2527469	**KM3225NEL330**	KM3225	30	1.181	22	.866	40	1.57	NG3R	**CM72LP**	**MS2111**	–
2527471	**KM3225NEL430**	KM3225	30	1.181	27	1.063	50	1.97	NG4R	**CM72LP**	**MS2111**	–









KM™ Mini QUICK-CHANGE TOOLING

LSE • 90°






order number	catalog number	CSMS system size	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	insert screw	shim screw	clamp assembly
	right hand												
3505968	**KM2520LSER1625**	KM2520	25	.984	17	.669	32	1.26	LT16NR	**SMYI3**	**SSA3T**	**SSY3T**	**CKC3**
3505970	**KM2520LSER2225**	KM2520	25	.984	17	.669	32	1.26	LT22NR	**SMYI4**	**SSA4T**	**SSY4T**	**CKC4**
2527474	**KM3225LSER1630**	KM3225	30	1.181	22	.866	40	1.57	LT16NR	**SMYI3**	**SSA3T**	**SSY3T**	**CKC3**
2527472	**KM3225LSER2230**	KM3225	30	1.181	22	.866	40	1.57	LT22NR	**SMYI4**	**SSA4T**	**SSY4T**	**CKC4**
	left hand												
3505967	**KM2520LSEL1625**	KM2520	25	.984	17	.669	32	1.26	LT16NL	**SMYE3**	**SSA3T**	**SSY3T**	**CKC3**
3505969	**KM2520LSEL2225**	KM2520	25	.984	17	.669	32	1.26	LT22NL	**SMYE4**	**SSA4T**	**SSY4T**	**CKC4**
2527475	**KM3225LSEL1630**	KM3225	30	1.181	22	.866	40	1.57	LT16NL	**SMYE3**	**SSA3T**	**SSY3T**	**CKC3**
2527473	**KM3225LSEL2230**	KM3225	30	1.181	22	.866	40	1.57	LT22NL	**SMYE4**	**SSA4T**	**SSY4T**	**CKC4**

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.



More than just the right tool • the ultimate solution.

That's **Beyond BLAST.**™

That's **Different Thinking.**

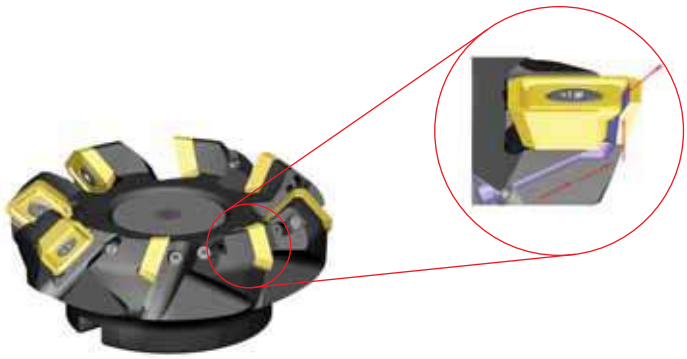
At Kennametal, innovation follows vision. Our revolutionary products and services are inspired by asking "what if?" The solutions that follow — like our Beyond BLAST through-coolant inserts — deliver remarkable results in the world's most demanding machining environments.

A cutting-edge insert that delivers coolant precisely at the cutting edge. Now that's Different Thinking. That's Kennametal.

To learn more about your productivity gains using Beyond BLAST technology, visit www.kennametal.com.

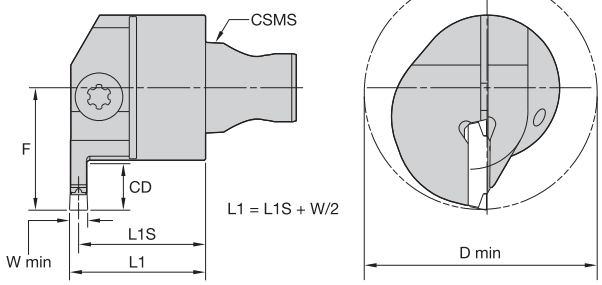
Milling

- Beyond BLAST technology uses low-pressure conditions to offer many of the high-pressure performance benefits.
- Delivers superior performance on titanium, using either high- or low-pressure coolant systems.
- Effective thermal management results in reduced cutting temperatures, improved lubricity, superior chip control, and longer tool life.
- Beyond BLAST for milling increases tool life by up to 300% compared with conventional coolant delivery systems.

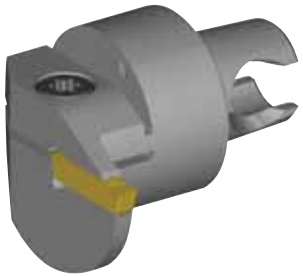


beyond™ BLAST™

To learn more, ***scan here****.*
For instructions on how to scan,
please see page xxxiii.







KM™ Mini QUICK-CHANGE TOOLING

A4EM • End Mount

order number	catalog number	CSMS system size	seat size	L1S mm	L1S in	F mm	F in	D min mm	D min in	W min mm	W min in	CD mm	CD in
	right hand												
3503887	**KM2520A4EMR0108M25**	KM2520	1	24	.955	22	.866	40	1.57	1,50	.059	8	.32
3503885	**KM2520A4EMR0208M25**	KM2520	2	24	.945	22	.866	40	1.57	2,00	.079	8	.32
3503871	**KM2520A4EMR0308M25**	KM2520	3	24	.925	22	.866	40	1.57	3,00	.118	8	.32
3503869	**KM2520A4EMR0408M25**	KM2520	4	23	.906	22	.866	40	1.57	4,00	.157	8	.32
3503883	**KM2520A4EMR2B08M25**	KM2520	2B	24	.935	22	.866	40	1.57	2,50	.098	8	.32
2527482	**KM3225A4EMR0310M30**	KM3225	3	29	1.122	27	1.063	50	1.97	3,00	.118	10	.40
2527484	**KM3225A4EMR0410M30**	KM3225	4	28	1.102	27	1.063	50	1.97	4,00	.157	10	.40
2527488	**KM3225A4EMR0510M30**	KM3225	5	28	1.083	27	1.063	50	1.97	5,00	.197	10	.40
	left hand												
3503886	**KM2520A4EML0108M25**	KM2520	1	24	.955	22	.866	40	1.57	1,50	.059	8	.32
3503884	**KM2520A4EML0208M25**	KM2520	2	24	.945	22	.866	40	1.57	2,00	.079	8	.32
3503870	**KM2520A4EML0308M25**	KM2520	3	24	.925	22	.866	40	1.57	3,00	.118	8	.32
3503868	**KM2520A4EML0408M25**	KM2520	4	23	.906	22	.866	40	1.57	4,00	.157	8	.32
3503872	**KM2520A4EML2B08M25**	KM2520	2B	24	.935	22	.866	40	1.57	2,50	.098	8	.32
2527483	**KM3225A4EML0310M30**	KM3225	3	29	1.122	27	1.063	50	1.97	3,00	.118	10	.40
2527485	**KM3225A4EML0410M30**	KM3225	4	28	1.102	27	1.063	50	1.97	4,00	.157	10	.40
2527489	**KM3225A4EML0510M30**	KM3225	5	28	1.083	27	1.063	50	1.97	5,00	.197	10	.40

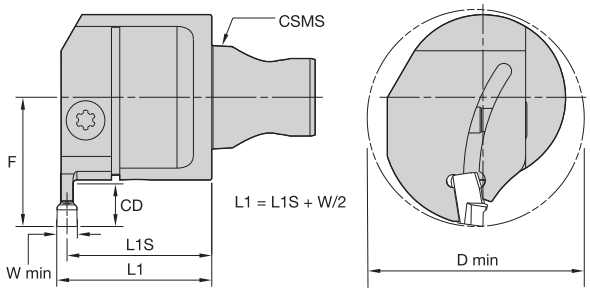
(continued)

(A4EM • End Mount continued)

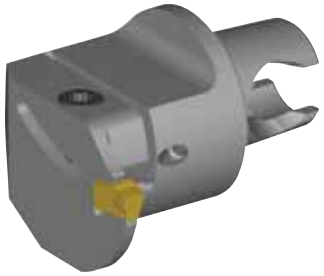
Spare Parts

catalog number	 clamp screw	 clamp screw
right hand		
KM2520A4EMR0108M25	**MS1156**	**–**
KM2520A4EMR0208M25	**–**	**MS1160**
KM2520A4EMR0308M25	**–**	**MS1161**
KM2520A4EMR0408M25	**–**	**MS1161**
KM2520A4EMR2B08M25	**–**	**MS1160**
KM3225A4EMR0310M30	**MS2069**	**–**
KM3225A4EMR0410M30	**MS2069**	**–**
KM3225A4EMR0510M30	**MS2069**	**–**
left hand		
KM2520A4EML0108M25	**MS1156**	**–**
KM2520A4EML0208M25	**–**	**MS1160**
KM2520A4EML0308M25	**–**	**MS1161**
KM2520A4EML0408M25	**–**	**MS1161**
KM2520A4EML2B08M25	**–**	**MS1160**
KM3225A4EML0310M30	**MS2069**	**–**
KM3225A4EML0410M30	**MS2069**	**–**
KM3225A4EML0510M30	**MS2069**	**–**

NOTE: W min supplied for reference only. See the Kennametal Innovations Master Catalog Cutting Tools 2013 for actual insert width.
Always match seat size of insert to seat size of holder.
Seat size 2B cutting units only accepts 2B inserts. Seat size 2 cutting units accepts 2 or 2B inserts.







KM™ Mini QUICK-CHANGE TOOLING

A3ES • End Mount

order number	catalog number	CSMS system size	seat size	L1S mm	L1S in	F mm	F in	D min mm	D min in	W min mm	W min in	CD mm	CD in
	right hand												
3503893	**KM2520A3ESR0308M25**	KM2520	3	24	.925	22	.866	40,0	1.575	3,0	.118	8	.32
3503891	**KM2520A3ESR0408M25**	KM2520	4	23	.906	22	.866	40,0	1.575	4,0	.157	8	.32
3503889	**KM2520A3ESR0510M25**	KM2520	5	23	.886	24	.945	40,0	1.575	5,0	.197	10	.39
2527476	**KM3225A3ESR0305M30**	KM3225	3	29	1.122	22	.866	40,0	1.575	3,0	.118	5	.21
2527478	**KM3225A3ESR0408M30**	KM3225	4	28	1.102	25	.984	42,0	1.654	4,0	.157	8	.32
2527480	**KM3225A3ESR0510M30**	KM3225	5	28	1.083	27	1.063	45,0	1.772	5,0	.197	10	.40
	left hand												
3503892	**KM2520A3ESL0308M25**	KM2520	3	24	.925	22	.866	40,0	1.575	3,0	.118	8	.32
3503890	**KM2520A3ESL0408M25**	KM2520	4	23	.906	22	.866	40,0	1.575	4,0	.157	8	.32
3503888	**KM2520A3ESL0510M25**	KM2520	5	23	.886	24	.945	40,0	1.575	5,0	.197	10	.39
2527477	**KM3225A3ESL0305M30**	KM3225	3	29	1.122	22	.866	40,0	1.575	3,0	.118	5	.21
2527479	**KM3225A3ESL0408M30**	KM3225	4	28	1.102	25	.984	42,0	1.654	4,0	.157	8	.32
2527481	**KM3225A3ESL0510M30**	KM3225	5	28	1.083	27	1.063	45,0	1.772	5,0	.197	10	.40

Spare Parts

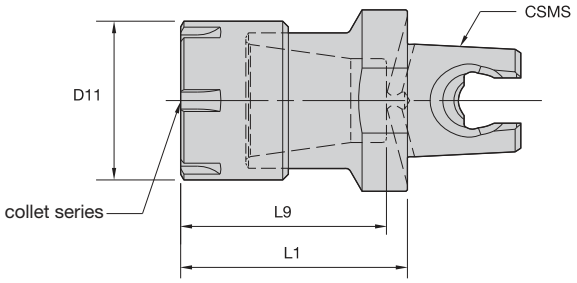


catalog number	clamp screw
right hand	
KM2520A3ESR0308M25	**MS2064**
KM2520A3ESR0408M25	**MS2064**
KM2520A3ESR0510M25	**MS1162**
KM3225A3ESR0305M30	**MS2064**
KM3225A3ESR0408M30	**MS2064**
KM3225A3ESR0510M30	**MS2062**
left hand	
KM2520A3ESL0308M25	**MS2064**
KM2520A3ESL0408M25	**MS2064**
KM2520A3ESL0510M25	**MS1162**
KM3225A3ESL0305M30	**MS2064**
KM3225A3ESL0408M30	**MS2064**
KM3225A3ESL0510M30	**MS2062**

NOTE: W min supplied for reference only. See the Kennametal Innovations Master Catalog Cutting Tools 2013 for actual insert width.
Always match seat size of insert to seat size of holder.

• Grip (2:1 advantage).







KM Mini Shank Tools

	Collet Capacity			
	mm		inch	
ER Collet Series	min	max	min	max
ER16	0,5	10,0	.02	.41
ER20	0,5	13	.02	.50
ER25	1,0	16,0	.04	.63

KM™ Mini QUICK-CHANGE TOOLING

ER

order number	catalog number	CST collet series	CSMS system size	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	counterbore collet torque (Nm)	straight collet torque (Nm)
2527514	**KM3225ER1635**	ER16	KM3225	22	.866	35	1.378	33,2	1.307	24,0	56,0
2527516	**KM3225ER2040**	ER20	KM3225	28	1.102	40	1.575	36,3	1.429	28,0	80,0
2527515	**KM3225ER2545**	ER25	KM3225	42	1.654	45	1.772	38,8	1.528	104,0	104,0

Spare Parts

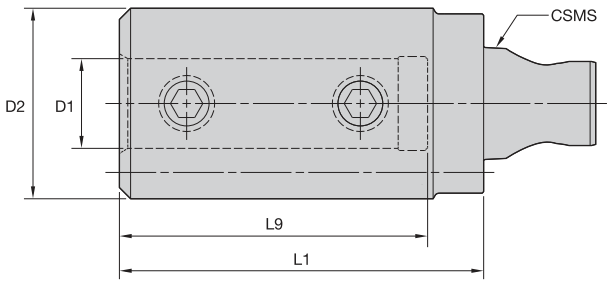




catalog number	locknut	locknut wrench	locknut wrench	Nm	ft. lbs.
KM3225ER1635	**LER16M**	**ER16WEM**	**—**	24	17
KM3225ER2040	**LER20M**	**ER20WEM**	**—**	28	20
KM3225ER2545	**LNER25M**	**—**	**ER25WM**	104	77

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut.
Locknut wrench must be ordered separately.
Interchangeable coolant-style locknuts and coolant disks are available and must be ordered separately; see pages L16–L17.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.







KM™ Mini QUICK-CHANGE TOOLING

BA • Boring Bar Adapter • Metric



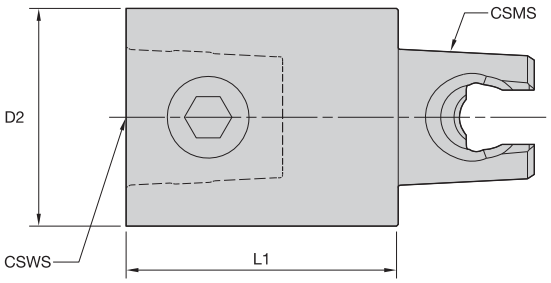

order number	catalog number	CSMS system size	D1	D2	L1	L9	clamp screw	clamp screw	wrench size clamp screw	Nm
2527505	**KM3225BA0645M**	KM3225	6	32	45	36	**MS734**	**—**	2,5mm	4
3507964	**KM2520BA0645M**	KM2520	6	25	45	36	**—**	**MS1272**	2,5mm	4
3507963	**KM2520BA0845M**	KM2520	8	25	45	36	**—**	**MS1272**	2,5mm	4
2527506	**KM3225BA0845M**	KM3225	8	32	45	36	**MS734**	**—**	2,5mm	4
3505972	**KM2520BA1055M**	KM2520	10	30	55	48	**—**	**MS-1879**	4mm	15
2527507	**KM3225BA1055M**	KM3225	10	32	55	48	**MS1205**	**MS-1879**	4mm	15
2527508	**KM3225BA1260M**	KM3225	12	32	60	52	**MS1205**	**MS-1879**	4mm	15
3505971	**KM2520BA1260M**	KM2520	12	32	60	52	**—**	**MS-1879**	4mm	15
2527509	**KM3225BA1665M**	KM3225	16	34	65	55	**MS1205**	**—**	5mm	25
2527510	**KM3225BA2070M**	KM3225	20	37	70	58	**MS1205**	**—**	5mm	25

BA • Boring Bar Adapter • Inch



order number	catalog number	CSMS system size	D1	D2	L1	L9	clamp screw	wrench size clamp screw	ft. lbs.
3507967	**KM2520BA04217**	KM2520	1/4	.98	1.378	1.06	**—**	3/32	2
3507966	**KM2520BA06217**	KM2520	3/8	1.10	2.165	1.89	**S841PKG**	1/8	5
3507965	**KM2520BA08236**	KM2520	1/2	1.26	2.362	2.05	**S850**	5/32	11
2527490	**KM3225BA06217**	KM3225	3/8	1.26	2.165	1.89	**MS1205**	1/8	5
2527491	**KM3225BA08236**	KM3225	1/2	1.26	2.362	2.05	**S850**	5/32	11
2527492	**KM3225BA10256**	KM3225	5/8	1.34	2.559	2.13	**S861**	3/16	15
2527503	**KM3225BA12276**	KM3225	3/4	1.46	2.756	2.28	**S861**	3/16	15

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.



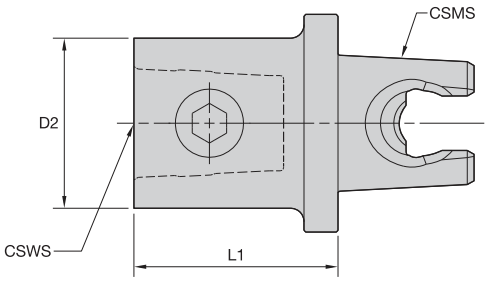


KM™ Mini QUICK-CHANGE TOOLING

S • KM Extension

order number	catalog number	CSMS system size	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package
3483042	**KM2520S2525**	KM2520	KM2520	25	.98	25	.984	5mm	19-22	14-16	**KM2520NRPKG**
3483043	**KM2520S2550**	KM2520	KM2520	25	.98	50	1.969	5mm	19-22	14-16	**KM2520NRPKG**
2541964	**KM3225S3240**	KM3225	KM3225	32	1.26	40	1.575	6mm	34-40	25-30	**KM3225NRPKG**
2541965	**KM3225S3260**	KM3225	KM3225	32	1.26	60	2.362	6mm	34-40	25-30	**KM3225NRPKG**

NOTE: For torque wrench, see pages L52–L53.



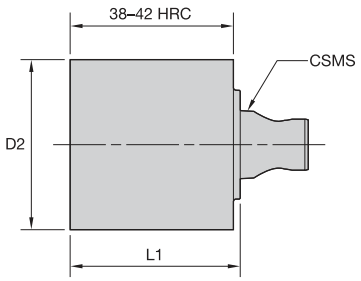


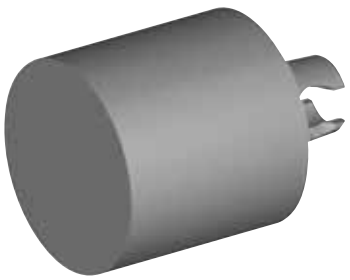
KM™ Mini QUICK-CHANGE TOOLING

S • KM Reducer

order number	catalog number	CSMS system size	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package
3483044	**KM2520S201630**	KM2520	KM2016	20	.79	30	1.181	27 IP	10-11	7-8	**KM16NRPKG**
3397325	**KM3225S161230**	KM3225	KM1612	16	.63	30	1.181	25 IP	7-8	5-6	**KM12NRPKG**
3397324	**KM3225S201630**	KM3225	KM2016	20	.79	30	1.181	27 IP	10-11	7-8	**KM16NRPKG**
3397323	**KM3225S252030**	KM3225	KM2520	25	.98	30	1.181	5mm	19-22	14-16	**KM2520NRPKG**

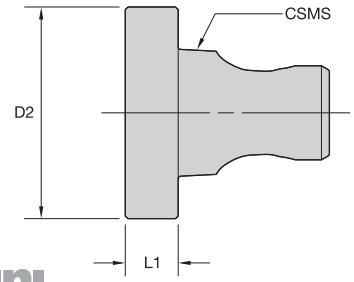
NOTE: For torque wrench, see pages L52–L53.

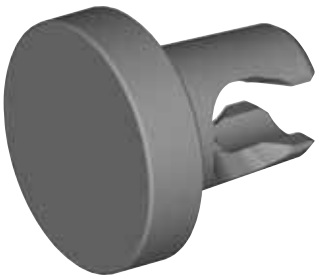




BN • Blank

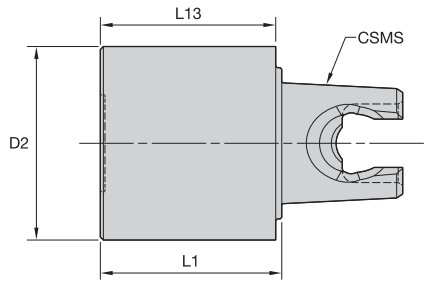
order number	catalog number	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	hardness range
3518531	**KM20BN4040**	KM20	40	1.575	40	1.575	38 - 42 RW C
3503896	**KM2520BN5050**	KM2520	50	1.969	50	1.969	38 - 42 RW C
2427296	**KM25BN5050**	KM25	50	1.969	50	1.969	38 - 42 RW C
2656551	**KM3225BN5050**	KM3225	50	1.969	50	1.969	38 - 42 RW C

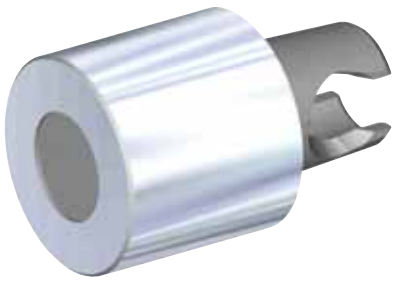




P • Plug

order number	catalog number	CSMS system size	D2 mm	D2 in	L1 mm	L1 in
3662590	**KM20P**	KM20	20	.787	5	.197
3662591	**KM2520P**	KM2520	25	.984	5	.197
2427295	**KM25P**	KM25	25	.984	5	.197
2906995	**KM3225P**	KM3225	32	1.260	5	.197



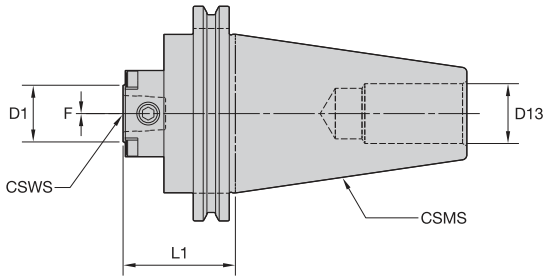


KM™ Mini QUICK-CHANGE TOOLING

GB • Gage Bar

order number	catalog number	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	L13 mm	L13 in
3518635	**KM20GB2525**	KM20	25	.984	25	.984	25	.984
2427297	**KM25GB3230**	KM25	32	1.260	30	1.181	29	1.142





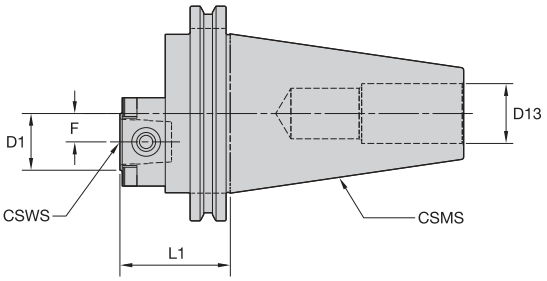


KM™ Mini QUICK-CHANGE TOOLING

TRA • Centered

order number	catalog number	CSMS system size	CSWS system size	D1 mm	D1 in	D13 mm	D13 in	L1 mm	L1 in	F mm	F in	KM spare parts package	wrench size actuation screw	Nm	ft. lbs.
3449331	**CV50KM3225TRA**	CV50	KM3225	32	1.260	26	1.039	50	1.969	0,0	.000	**KM3225NRPKG**	6mm	34-40	25-30
3503898	**DV40KM2520TRA**	DV40	KM2520	25	.984	18	.693	50	1.969	0,0	.000	**KM2520NRPKG**	5mm	19-22	14-16
3449332	**DV40KM3225TRA**	DV40	KM3225	32	1.260	18	.693	50	1.969	0,0	.000	**KM3225NRPKG**	6mm	34-40	25-30

NOTE: These are only intended to be used in a presetter fixture.

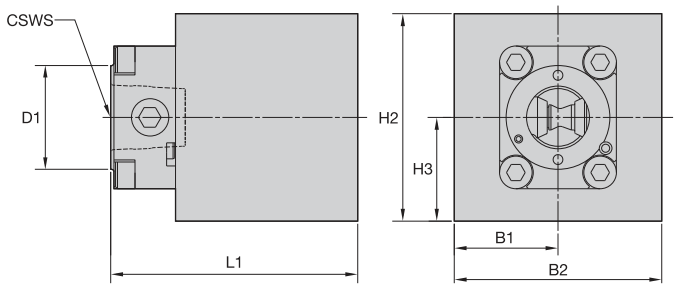




ECTRA • Offset

order number	catalog number	CSMS system size	CSWS system size	D1 mm	D1 in	D13 mm	D13 in	L1 mm	L1 in	F mm	F in	KM spare parts package	wrench size actuation screw	Nm	ft. lbs.
3518634	**CV50KM20ECTRA**	CV50	KM20	20	.787	26	1.014	50	1.969	9,5	.375	**KM2520NRPKG**	5mm	19-22	14-16
2427294	**CV50KM25ECTRA**	CV50	KM25	25	.984	26	1.039	50	1.969	12,5	.492	**KM25NRPKG**	6mm	34-40	25-30
3518633	**DV40KM20ECTRA**	DV40	KM20	20	.787	19	.728	50	1.969	9,5	.375	**KM2520NRPKG**	5mm	19-22	14-16

NOTE: These are only intended to be used in a presetter fixture.

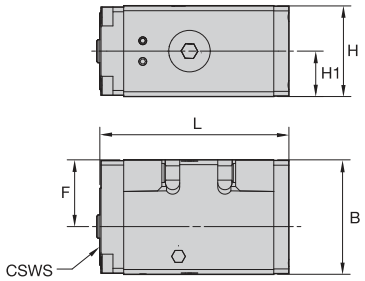




KM Mini QUICK-CHANGE TOOLING

TB • Tumble Block

order number	catalog number	CSWS system size	D1 mm	D1 in	L1 mm	L1 in	H2 mm	H2 in	H3 mm	H3 in	B2 mm	B2 in	B1 mm	B1 in	spare parts package	wrench size actuation screw	Nm	ft. lbs.
3503897	**KM2520TB**	KM2520	25	.984	76,20	3.000	64	2.520	32	1.260	64	2.520	32,00	1.260	**KM2520NRPKG**	5mm	19-22	14-16
3449353	**KM3225TB**	KM3225	32	1.260	76,20	3.000	64	2.520	32	1.260	64	2.520	32,00	1.260	**KM3225NRPKG**	6mm	34-40	25-30





CLS • Square Shank • Metric

order number	catalog number	CSWS system size	B	F	H	H1	L	wrench size actuation screw
	right hand							
1024718	KM32CLSR2050K	KM32	48	28	40,0	20,0	90,0	6mm
	left hand							
1024719	KM32CLSL2050K	KM32	48	28	40,0	20,0	90,0	6mm

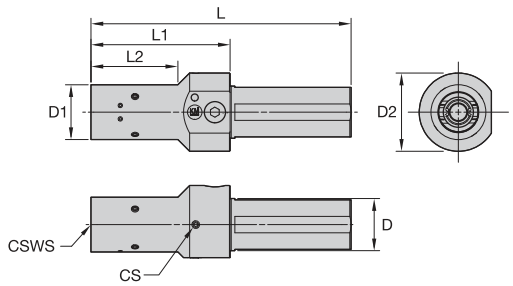
CLS • Square Shank • Inch

order number	catalog number	CSWS system size	B	F	H	H1	L	wrench size actuation screw
	right hand							
1024682	KM32CLSR1250B	KM32	1.890	1.102	1.500	.75	3.122	6mm
1024714	KM32CLSR1250C	KM32	1.890	1.102	1.500	.75	3.622	6mm
1024716	KM32CLSR1650C	KM32	1.890	1.102	2.000	1.00	3.622	6mm

Wedge Tightening Torque

catalog number	KM size	torque range (Nm)	torque range (ft. lbs.)	wedge hex size
KM32CLSR/L...	32	14-18	10-14	4mm

NOTE: For technical information, see page M1.
For actuation wrench, see page L53.





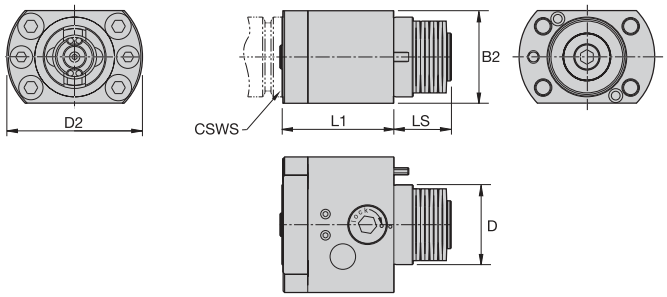
CLN-SS • Round Shank • Metric

order number	catalog number	CSWS system size	D	D1	D2	L1	L	L2	CS	wrench size actuation screw
1279247	**KM32CLNSS3255**	KM32	32	32	45	55	125	18	RP1/8	6mm
1145081	**KM40CLNSS5070**	KM40	50	40	63	70	155	20	RP1/8	8mm
1145073	**KM50CLNSS5080**	KM50	50	50	63	80	190	25	RP1/8	10mm
1145087	**KM63CLNSS6090**	KM63	60	63	90	90	229	30	RP1/8	10mm

CLN-SS • Round Shank • Inch

order number	catalog number	CSWS system size	D	D1	D2	L1	L	L2	CS	wrench size actuation screw
1330758	**KM32CLNSS20217**	KM32	1.25	1.260	1.77	2.165	4.92	.69	1/8-27 NPSC	6mm
1330759	**KM32CLNSS24217**	KM32	1.50	1.260	2.01	2.165	4.92	.69	1/8-27 NPSC	6mm
1145079	**KM40CLNSS32274**	KM40	2.00	1.575	2.48	2.737	6.10	.79	1/8-27 NPSC	8mm
1145072	**KM50CLNSS40316**	KM50	2.50	1.969	3.15	3.156	7.47	.98	1/8-27 NPSC	10mm
1145088	**KM63CLNSS60160**	KM63	2.36	2.480	3.54	6.299	11.78	3.94	1/8-27 NPSC	10mm
1145084	**KM63CLNSS40630**	KM63	2.50	2.480	3.54	6.299	11.78	3.94	1/8-27 NPSC	10mm
1145086	**KM63CLNSS48630**	KM63	3.00	2.480	3.54	6.299	11.78	3.94	1/8-27 NPSC	10mm

NOTE: For technical information, see page M1.
For actuation wrench, see page L53.





CLNS-EF • Flange Mount, Side Access • Metric



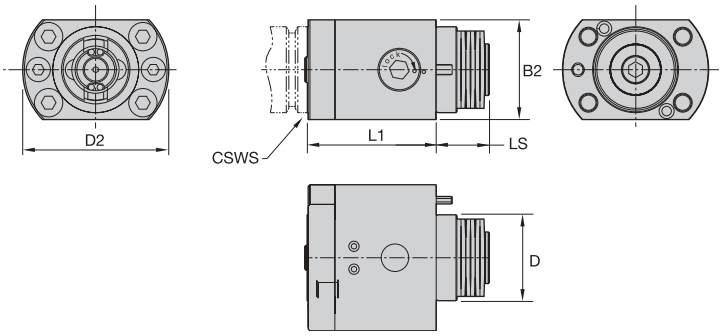
order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw
1330780	**KM32CLNSEF**	KM32	32	60	40	50	28,3	6mm	**MS1936**
1024679	**KM40CLNSEF**	KM40	40	70	48	55	41,4	8mm	**DWG MS1365**
1024646	**KM50CLNSEF**	KM50	50	85	58	70	46,6	10mm	**DWG MS1585**

CLNS-EF • Flange Mount, Side Access • Inch



order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw
1330780	**KM32CLNSEF**	KM32	1.260	2.36	1.58	1.969	1.11	6mm	**MS1936**
1024679	**KM40CLNSEF**	KM40	1.575	2.76	1.89	2.165	1.63	8mm	**DWG MS1365**
1024646	**KM50CLNSEF**	KM50	1.969	3.35	2.28	2.756	1.83	10mm	**DWG MS1585**

NOTE: For technical information, see page M1.
For mounting dimensions, see page M56.
For actuation wrench, see page L53.





KM QUICK CHANGE

CLNT-EF • Flange Mount, Top Access • Metric



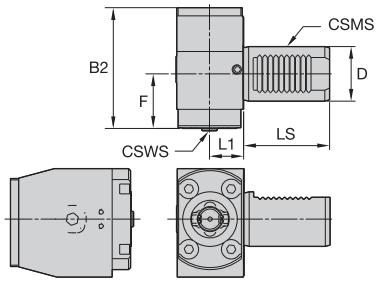
order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw
1330781	**KM32CLNTEF**	KM32	32	60	40	55	23,3	6mm	**MS1936**
1024681	**KM40CLNTEF**	KM40	40	70	48	60	36,4	8mm	**DWG MS1365**
1024680	**KM50CLNTEF**	KM50	50	85	58	75	41,6	10mm	**DWG MS1585**

CLNT-EF • Flange Mount, Top Access • Inch



order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw
1330781	**KM32CLNTEF**	KM32	1.260	2.36	1.57	2.165	.92	6mm	**MS1936**
1024681	**KM40CLNTEF**	KM40	1.575	2.76	1.89	2.362	1.43	8mm	**DWG MS1365**
1024680	**KM50CLNTEF**	KM50	1.969	3.35	2.28	2.953	1.64	10mm	**DWG MS1585**

NOTE: For technical information, see page M1.
For mounting dimensions, see page M56.
For actuation wrench, see page L53.





KM QUICK CHANGE

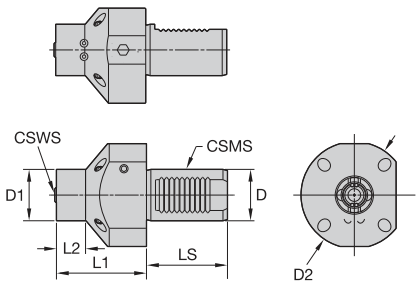
CLRR/L • VDI Right Angle • Metric

order number	catalog number	CSWS system size	CSMS system size	D	F	B2	L1	LS	wrench size actuation screw
	right hand								
1324688	**KM32CLRRVDI3035**	KM32	VDI30	30	35	80,0	23	55	6mm
1145076	**KM40CLRRVDI4040**	KM40	VDI40	40	40	88,5	25	63	8mm
1145069	**KM50CLRRVDI5050**	KM50	VDI50	50	50	113,0	30	78	10mm
1145089	**KM63CLRRVDI6060**	KM63	VDI60	60	60	122,5	37	94	10mm
	left hand								
1330776	**KM32CLRLVDI3035**	KM32	VDI30	30	35	80,0	23	55	6mm
1145077	**KM40CLRLVDI4040**	KM40	VDI40	40	40	88,5	25	63	8mm
1145070	**KM50CLRLVDI5050**	KM50	VDI50	50	50	113,0	30	78	10mm
1145091	**KM63CLRLVDI6060**	KM63	VDI60	60	60	122,5	37	94	10mm

CLRR/L • VDI Right Angle • Inch

order number	catalog number	CSWS system size	CSMS system size	D	F	B2	L1	LS	wrench size actuation screw
	right hand								
1324688	**KM32CLRRVDI3035**	KM32	VDI30	1.181	1.378	3.15	.906	2.17	6mm
1145076	**KM40CLRRVDI4040**	KM40	VDI40	1.575	1.575	3.48	.984	2.48	8mm
1145069	**KM50CLRRVDI5050**	KM50	VDI50	1.969	1.969	4.45	1.181	3.07	10mm
1145089	**KM63CLRRVDI6060**	KM63	VDI60	2.362	2.362	4.82	1.457	3.70	10mm
	left hand								
1330776	**KM32CLRLVDI3035**	KM32	VDI30	1.181	1.378	3.15	.906	2.17	6mm
1145077	**KM40CLRLVDI4040**	KM40	VDI40	1.575	1.575	3.48	.984	2.48	8mm
1145070	**KM50CLRLVDI5050**	KM50	VDI50	1.969	1.969	4.45	1.181	3.07	10mm
1145091	**KM63CLRLVDI6060**	KM63	VDI60	2.362	2.362	4.82	1.457	3.70	10mm

NOTE: For technical information, see page M1.
For actuation wrench, see page L53.





KM QUICK CHANGE

CLAN/V • VDI • Metric

order number	catalog number	CSWS system size	CSMS system size	D1	D	D2	L1	L2	LS	wrench size actuation screw
	right hand									
1228680	**KM32CLANVDI3060**	KM32	VDI30	32	30	68	60	20	55	6mm
1145074	**KM40CLANVDI4070**	KM40	VDI40	40	40	83	70	23	63	8mm
1145067	**KM50CLANVDI5080**	KM50	VDI50	50	50	98	80	25	78	10mm
1145093	**KM63CLANVDI60160**	KM63	VDI60	63	60	123	160	100	94	10mm
1145092	**KM63CLANVDI6090**	KM63	VDI60	63	60	123	90	30	94	10mm
	left hand									
1145075	**KM40CLAVVDI4070**	KM40	VDI40	40	40	83	70	23	63	8mm
1145068	**KM50CLAVVDI5080**	KM50	VDI50	50	50	98	80	25	78	10mm
1145095	**KM63CLAVVDI60160**	KM63	VDI60	63	60	123	160	100	94	10mm
1145094	**KM63CLAVVDI6090**	KM63	VDI60	63	60	123	90	30	94	10mm

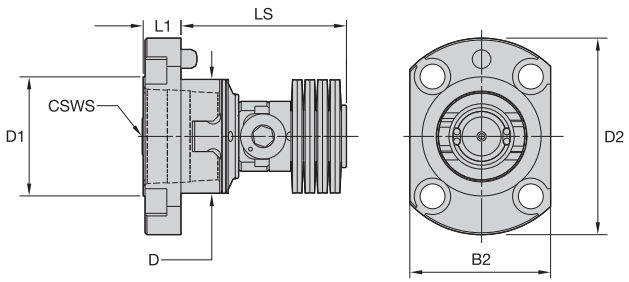
CLAN/V • VDI • Inch

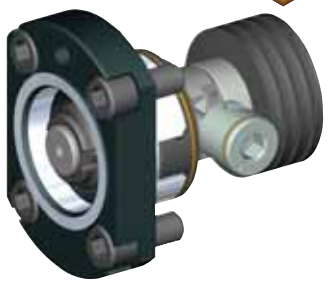
order number	catalog number	CSWS system size	CSMS system size	D1	D	D2	L1	L2	LS	wrench size actuation screw
	right hand									
1228680	**KM32CLANVDI3060**	KM32	VDI30	1.26	1.181	2.68	2.362	.79	2.17	6mm
1145074	**KM40CLANVDI4070**	KM40	VDI40	1.57	1.575	3.27	2.756	.91	2.48	8mm
1145067	**KM50CLANVDI5080**	KM50	VDI50	1.97	1.969	3.86	3.150	.98	3.07	10mm
1145093	**KM63CLANVDI60160**	KM63	VDI60	2.48	2.362	4.84	6.299	3.94	3.70	10mm
1145092	**KM63CLANVDI6090**	KM63	VDI60	2.48	2.362	4.84	3.543	1.18	3.70	10mm
	left hand									
1145075	**KM40CLAVVDI4070**	KM40	VDI40	1.57	1.575	3.27	2.756	.91	2.48	8mm
1145068	**KM50CLAVVDI5080**	KM50	VDI50	1.97	1.969	3.86	3.150	.98	3.07	10mm
1145095	**KM63CLAVVDI60160**	KM63	VDI60	2.48	2.362	4.84	6.299	3.94	3.70	10mm
1145094	**KM63CLAVVDI6090**	KM63	VDI60	2.48	2.362	4.84	3.543	1.18	3.70	10mm

NOTE: For technical information, see page M1.
For actuation wrench, see page L53.



KM QUICK CHANGE







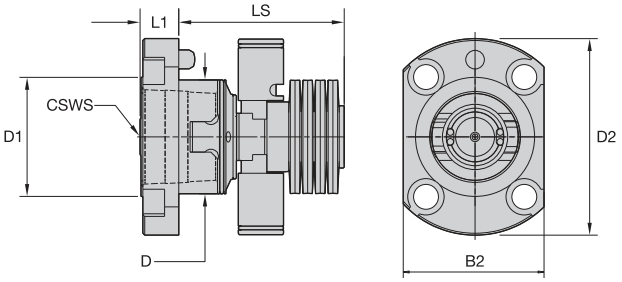
SA-CLNS • Sub-Assembly • Side Access

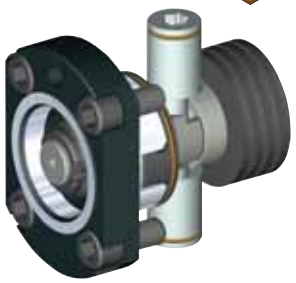
order number	catalog number	CSWS system size	D	D1	D2	B2	L1	LS	wrench size actuation screw	mounting screw
1092017	**SA32CLNS2812**	KM32	32	32	60	40	12	66,2	6mm	**MS1575PKG**
1018161	**SA40CLNS4008**	KM40	41	40	74	46	14	71,6	8mm	–
1024677	**SA40CLNS4012**	KM40	41	40	74	46	14	80,7	8mm	–
1018163	**SA50CLNS5008**	KM50	51	50	85	58	16	89,0	10mm	–
1018159	**SA50CLNS5012**	KM50	51	50	85	58	16	100,2	10mm	–
1150162	**SA63CLNS5012**	KM63	60	63	104	75	20	107,2	10mm	**MS1085PKG**
1150163	**SA63CLNS6008**	KM63	60	63	104	75	20	96,4	10mm	**MS1085PKG**
1150164	**SA63CLNS6012**	KM63	60	63	104	75	20	107,9	10mm	**MS1085PKG**

NOTE: For technical information, see page M1.
For actuation wrench, see page L53.
Supplied unassembled.



KM QUICK CHANGE

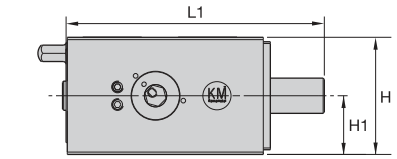


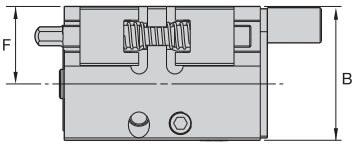


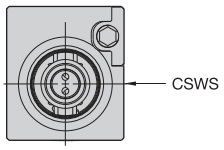
SA • Sub-Assembly • Top Access

order number	catalog number	CSWS system size	D	D1	D2	B2	L1	LS	wrench size actuation screw
1092019	**SA32CLNT2812**	KM32	32	32	60	40	12	66,2	6mm
1092020	**SA32CLNT2818**	KM32	32	32	60	40	12	75,1	6mm
1018162	**SA40CLNT4008**	KM40	41	40	74	46	14	71,6	8mm
1024678	**SA40CLNT4012**	KM40	41	40	74	46	14	80,7	8mm
1018214	**SA50CLNT5008**	KM50	51	50	85	58	16	89,0	10mm
1018160	**SA50CLNT5012**	KM50	51	50	85	58	16	100,2	10mm
1150166	**SA63CLNT6008**	KM63	60	63	104	75	20	96,4	10mm
1176388	**SA63CLNT6012**	KM63	60	63	104	75	20	107,9	10mm

NOTE: For technical information, see page M1.
For actuation wrench, see page L53.
Supplied unassembled.









KM QUICK CHANGE

CL2S • Square Shank • Metric

order number	catalog number	CSWS system size	B	F	H	H1	L1	wrench size actuation screw
	right hand							
1785187	**KM40CL2SR2560M**	KM40	57	33	50	25	110	8mm
1785188	**KM40CL2SR3260P**	KM40	57	33	64	32	130	8mm
2044928	**KM50CL2SR2575M**	KM50	70	40	50	25	100	10mm
2044930	**KM50CL2SR3275P**	KM50	70	40	64	32	120	10mm
2044942	**KM63CL2SR3290P**	KM63	85	47	64	32	110	10mm
	left hand							
1785189	**KM40CL2SL2560M**	KM40	57	33	50	25	110	8mm
1785190	**KM40CL2SL3260P**	KM40	57	33	64	32	130	8mm
2044929	**KM50CL2SL2575M**	KM50	70	40	50	25	100	10mm
2044931	**KM50CL2SL3275P**	KM50	70	40	64	32	120	10mm
2044943	**KM63CL2SL3290P**	KM63	85	47	64	32	110	10mm

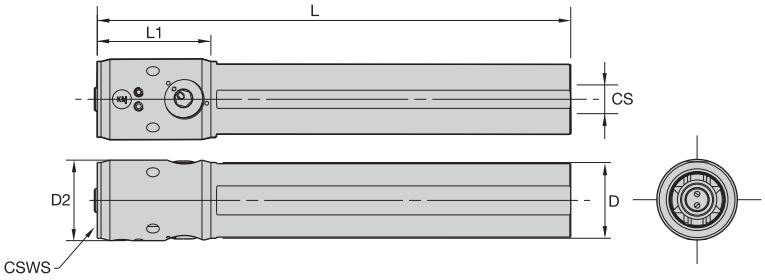
CL2S • Square Shank • Inch

order number	catalog number	CSWS system size	B	F	H	H1	L1	wrench size actuation screw
	right hand							
1785156	**KM40CL2SR1260B**	KM40	2.244	1.299	1.50	.75	2.925	8mm
1785157	**KM40CL2SR1660C**	KM40	2.244	1.299	2.00	1.00	3.425	8mm
1785158	**KM40CL2SR1660D**	KM40	2.244	1.299	2.00	1.00	4.425	8mm
1785159	**KM40CL2SR2060D**	KM40	2.244	1.299	2.50	1.25	4.425	8mm
2044920	**KM50CL2SR1675D**	KM50	2.756	1.575	2.00	1.00	4.031	10mm
2044922	**KM50CL2SR2075D**	KM50	2.756	1.575	2.50	1.25	4.031	10mm
2044938	**KM63CL2SR2090E**	KM63	3.347	1.850	2.50	1.25	4.638	10mm
	left hand							
1785161	**KM40CL2SL1260B**	KM40	2.244	1.299	1.50	.75	2.925	8mm
1785162	**KM40CL2SL1660C**	KM40	2.244	1.299	2.00	1.00	3.425	8mm
1785183	**KM40CL2SL1660D**	KM40	2.244	1.299	2.00	1.00	4.425	8mm
1785184	**KM40CL2SL2060D**	KM40	2.244	1.299	2.50	1.25	4.425	8mm
2044921	**KM50CL2SL1675D**	KM50	2.756	1.575	2.00	1.00	4.031	10mm
2044923	**KM50CL2SL2075D**	KM50	2.756	1.575	2.50	1.25	4.031	10mm
2044939	**KM63CL2SL2090E**	KM63	3.347	1.850	2.50	1.25	4.638	10mm

Wedge Tightening Torque

catalog number	KM size	torque range (Nm)	torque range (ft. lbs.)	wedge hex size
KM40CL2SR/L1260B	40	41-46	30-34	6mm
KM40CL2SR/L...	40	58-64	43-47	7mm
KM50CL2SR/L1675D **KM50CL2SR/L2575M**	50	58-64	43-47	7mm
KM50CL2SR/L2075D **KM50CL2SR/L3275P**	50	79-84	58-62	8mm
KM63CL2SR/L.....	63	79-84	58-62	8mm

NOTE: For technical information, see page M1.
For actuation wrench, see page L53.







KM QUICK CHANGE

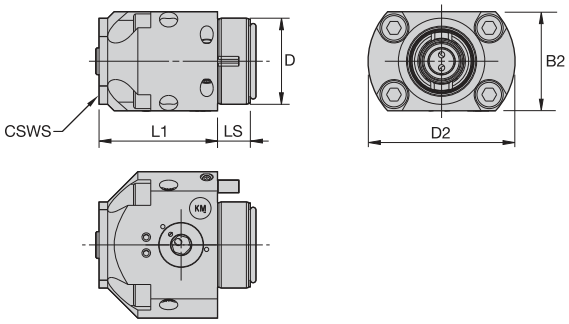
CL2N-SS • Round Shank • Metric

order number	catalog number	CSWS system size	D	D2	L1	L	CS	wrench size actuation screw
1785191	KM40CL2NSS4060	KM40	40	42,5	60	250	RP3/8	8mm
2044932	KM50CL2NSS5075	KM50	50	52,5	75	300	RP3/8	10mm
2044944	KM63CL2NSS6085	KM63	60	64,5	85	350	RP3/8	10mm

CL2N-SS • Round Shank • Inch

order number	catalog number	CSWS system size	D	D2	L1	L	CS	wrench size actuation screw
1785185	KM40CL2NSS24236	KM40	1.500	1.673	2.362	10.000	3/8-18 NPSC	8mm
2044924	KM50CL2NSS32295	KM50	2.000	2.067	2.953	12.000	3/8-18 NPSC	10mm
2044940	KM63CL2NSS40335	KM63	2.500	2.539	3.346	14.000	3/8-18 NPSC	10mm

NOTE: For technical information, see page M1.
For actuation wrench, see page L53.







KM QUICK CHANGE

CL2NS-EF • Flange Mount, Side Access • Metric



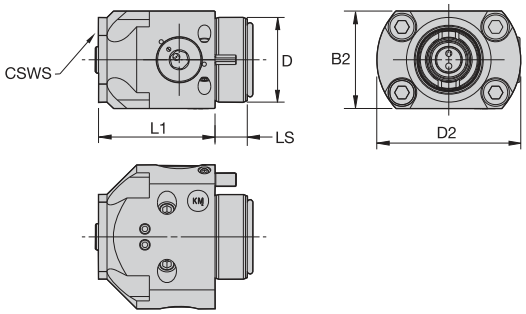
order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw
1785153	KM40CL2NSEF	KM40	40	68	46	55	15.2	8mm	DWG MS1277
2044926	KM50CL2NSEF	KM50	50	84	58	65	20.0	10mm	DWG MS1494
2044936	KM63CL2NSEF	KM63	63	102	76	80	20.0	10mm	MS1252

CL2NS-EF • Flange Mount, Side Access • Inch



order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw
1785153	KM40CL2NSEF	KM40	1.575	2.68	1.81	2.165	.60	8mm	DWG MS1277
2044926	KM50CL2NSEF	KM50	1.969	3.31	2.28	2.559	.79	10mm	DWG MS1494
2044936	KM63CL2NSEF	KM63	2.480	4.02	2.99	3.150	.79	10mm	MS1252

NOTE: For technical information, see page M1.
For mounting dimensions, see page M53.
For actuation wrench, see page L53.





KM QUICK CHANGE

CL2NT-EF • Flange Mount, Top Access • Metric



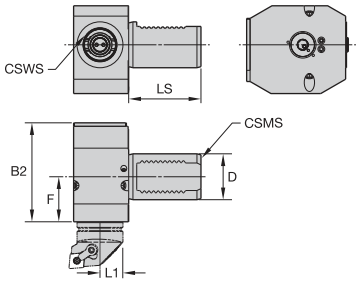
order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw
1785032	**KM40CL2NTEF**	KM40	40	68	46	55	15,2	8mm	**DWG MS1277**
2044927	**KM50CL2NTEF**	KM50	50	84	58	65	20,0	10mm	**DWG MS1494**
2044937	**KM63CL2NTEF**	KM63	63	102	76	80	20,0	10mm	**MS1252**

CL2NT-EF • Flange Mount, Top Access • Inch



order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw
1785032	**KM40CL2NTEF**	KM40	1.57	2.677	1.811	2.165	.600	8mm	**DWG MS1277**
2044927	**KM50CL2NTEF**	KM50	1.97	3.307	2.284	2.559	.787	10mm	**DWG MS1494**
2044937	**KM63CL2NTEF**	KM63	2.48	4.016	2.992	3.150	.787	10mm	**MS1252**

NOTE: For technical information, see page M1.
For mounting dimensions, see page M53.
For actuation wrench, see page L53.





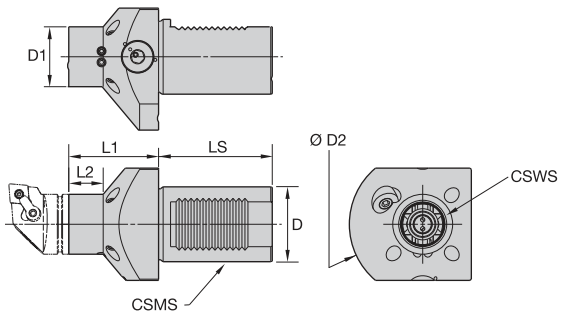
CL2RR/L • VDI Right Angle • Metric

order number	catalog number	CSWS system size	CSMS system size	D	F	B2	L1	LS	wrench size actuation screw
	right hand								
1785233	KM40CL2RRVDI4040	KM40	VDI40	40	40	87	25	63	8mm
1785236	KM40CL2RRVDI5040	KM40	VDI50	50	40	87	25	78	8mm
	left hand								
1785234	KM40CL2RLVDI4040	KM40	VDI40	40	40	87	25	63	8mm
1785240	KM40CL2RLVDI5040	KM40	VDI50	50	40	87	25	78	8mm

CL2RR/L • VDI Right Angle • Inch

order number	catalog number	CSWS system size	CSMS system size	D	F	B2	L1	LS	wrench size actuation screw
	right hand								
1785233	KM40CL2RRVDI4040	KM40	VDI40	1.575	1.575	3.43	.984	2.48	8mm
1785236	KM40CL2RRVDI5040	KM40	VDI50	1.969	1.575	3.43	.984	3.07	8mm
	left hand								
1785234	KM40CL2RLVDI4040	KM40	VDI40	1.575	1.575	3.43	.984	2.48	8mm
1785240	KM40CL2RLVDI5040	KM40	VDI50	1.969	1.575	3.43	.984	3.07	8mm

NOTE: For technical information, see page M1.
For actuation wrench, see page L53.





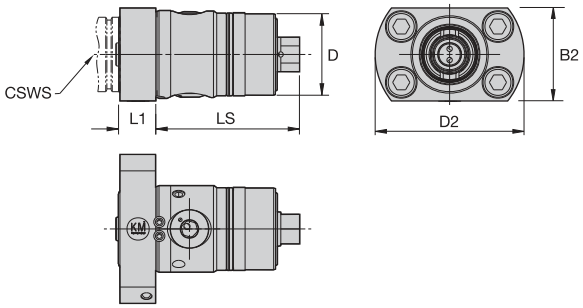
CL2AN/V • VDI Axial • Metric

order number	catalog number	CSWS system size	CSMS system size	D1	D	D2	L1	L2	LS	wrench size actuation screw
	right hand									
1785241	KM40CL2ANVDI4060	KM40	VDI40	40	40	83	60	23	63	8mm

CL2AN/V • VDI Axial • Inch

order number	catalog number	CSWS system size	CSMS system size	D1	D	D2	L1	L2	LS	wrench size actuation screw
	right hand									
1785241	KM40CL2ANVDI4060	KM40	VDI40	1.575	1.575	3.27	2.362	.91	2.48	8mm

NOTE: For technical information, see page M1.
For actuation wrench, see page L53.







CL2NS-BC • Boring Cartridge, Side Access • Metric

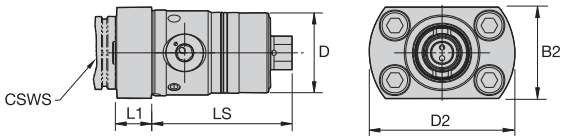
order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw
1785155	KM40CL2NSBC3216B	KM40	47	80	50	20	77,2	8mm	MS1234
1908331	KM50CL2NSBC4010B	KM50	58	96	64	22	86,7	10mm	MS1085PKG
1920417	KM63CL2NSBC5010B	KM63	74	122	78	30	99,5	10mm	MS1239

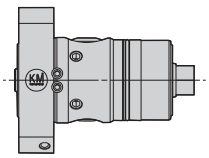
CL2NS-BC • Boring Cartridge, Side Access • Inch



order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw
1785155	KM40CL2NSBC3216B	KM40	1.850	3.15	1.97	.787	3.04	8mm	MS1234
1908331	KM50CL2NSBC4010B	KM50	2.293	3.78	2.52	.866	3.41	10mm	MS1085PKG
1920417	KM63CL2NSBC5010B	KM63	2.913	4.80	3.07	1.181	3.92	10mm	MS1239

NOTE: For technical information, see page M1.
For mounting dimensions, see page M57.
For actuation wrench, see page L53.









CL2NT-BC • Boring Cartridge, Top Access • Metric

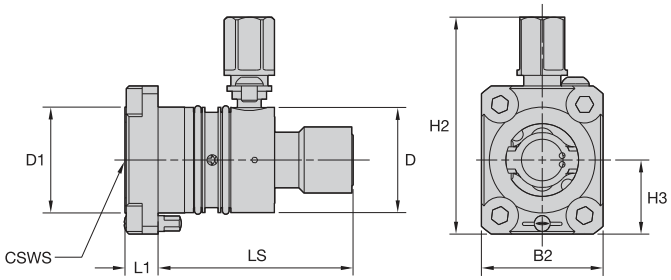
order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw
1785154	KM40CL2NTBC3216B	KM40	47	80	50	20	77,2	8mm	MS1234
2044919	KM50CL2NTBC4010B	KM50	58	96	64	22	86,7	10mm	MS1085PKG
1962610	KM63CL2NTBC5010B	KM63	74	122	78	30	99,5	10mm	MS1239

CL2NT-BC • Boring Cartridge, Top Access • Inch



order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw
1785154	KM40CL2NTBC3216B	KM40	1.850	3.15	1.97	.787	3.04	8mm	MS1234
2044919	KM50CL2NTBC4010B	KM50	2.293	3.78	2.52	.866	3.41	10mm	MS1085PKG
1962610	KM63CL2NTBC5010B	KM63	2.913	4.80	3.07	1.181	3.92	10mm	MS1239

NOTE: For technical information, see page M1.
For mounting dimensions, see page M57.
For actuation wrench, see page L53.





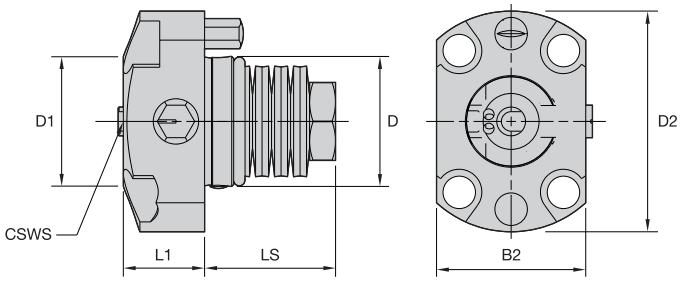
RPNT-F • Flange Mount, Rapid Plus, Top Access • Metric

order number	catalog number	CSWS system size	D	D1	B2	H2	H3	L1	LS	wrench size actuation screw	mounting screw
2018139	**KM40RPNTF**	KM40	40	40	46	56	28	13	80,0	17mm	**12148781500**
2018140	**KM50RPNTF**	KM50	50	50	58	67	34	15	105,0	22mm	**12147658400**
2033465	**KM63RPNTF**	KM63	63	63	72	90	45	16	120,0	22mm	–

RPNT-F • Flange Mount, Rapid Plus, Top Access • Inch

order number	catalog number	CSWS system size	D	D1	B2	H2	H3	L1	LS	wrench size actuation screw	mounting screw
2018139	**KM40RPNTF**	KM40	1.57	1.575	1.811	2.205	28,000	.492	3.15	17mm	**12148781500**
2018140	**KM50RPNTF**	KM50	1.97	1.969	2.283	2.638	33,500	.591	4.13	22mm	**12147658400**
2033465	**KM63RPNTF**	KM63	2.48	2.480	2.835	3.543	45,000	.630	4.72	22mm	–

NOTE: For technical information, see page M1.
For mounting dimensions, see page M55.
For actuation wrench, see page L58.





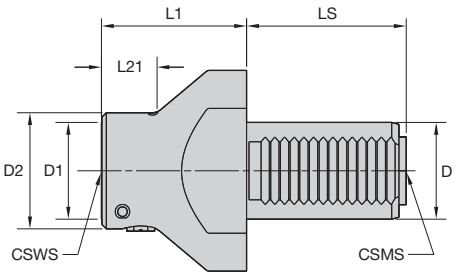
RNS-EF • Flange Mount, Rapid, Side Access • Metric

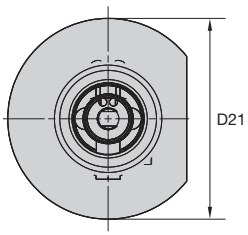
order number	catalog number	CSWS system size	D	D1	D2	B2	L1	LS	wrench size actuation screw	mounting screw
2012922	**KM40RNSEF**	KM40	40	40	68	46	25	39,3	10mm	**12146021000**
2032936	**KM50RNSEF**	KM50	50	50	90	58	32	44,9	12mm	**12147625400**
2033075	**KM63RNSEF**	KM63	63	63	102	72	40	48,5	17mm	**12146021100**

RNS-EF • Flange Mount, Rapid, Side Access • Inch

order number	catalog number	CSWS system size	D	D1	D2	B2	L1	LS	wrench size actuation screw	mounting screw
2012922	**KM40RNSEF**	KM40	1.575	1.57	2.68	1.81	.984	1.55	10mm	**12146021000**
2032936	**KM50RNSEF**	KM50	1.969	1.97	3.54	2.28	1.260	1.77	12mm	**12147625400**
2033075	**KM63RNSEF**	KM63	2.480	2.48	4.02	2.83	1.575	1.91	17mm	**12146021100**

NOTE: For technical information, see page M1.
For mounting dimensions, see page M54.
For actuation wrench, see page L58.







RA R/L • VDI Axial • Metric

order number	catalog number	CSWS system size	CSMS system size	D1	D	D2	D21	L1	L21	LS	wrench size actuation screw
	right hand										
2012951	**KM40RARVDI4060**	KM40	VDI40	40	40	48	83	60	23	63	10mm
2012989	**KM40RARVDI5060**	KM40	VDI50	40	50	48	98	60	23	78	10mm
2013887	**KM50RARVDI4070**	KM50	VDI40	50	40	60	83	70	32	63	12mm
2033080	**KM63RARVDI5080**	KM63	VDI50	63	50	75	98	80	38	78	17mm
	left hand										
2012947	**KM40RALVDI4060**	KM40	VDI40	40	40	48	83	60	23	63	10mm
2032938	**KM50RALVDI4070**	KM50	VDI40	50	40	60	83	70	32	63	12mm

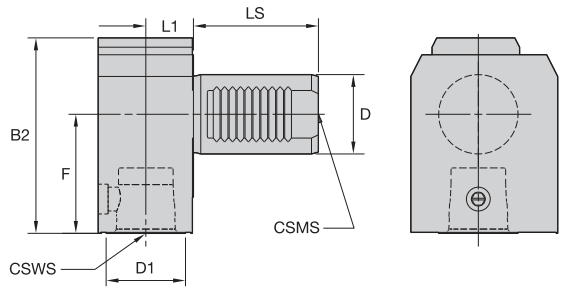
RA R/L • VDI Axial • Inch

order number	catalog number	CSWS system size	CSMS system size	D	D1	D2	D21	L1	L21	LS	wrench size actuation screw
	right hand										
2012951	**KM40RARVDI4060**	KM40	VDI40	1.575	1.575	1.89	3.268	2.362	.906	2.48	10 mm
2012989	**KM40RARVDI5060**	KM40	VDI50	1.969	1.575	1.89	3.858	2.362	.906	3.07	10 mm
2013887	**KM50RARVDI4070**	KM50	VDI40	1.575	1.969	2.36	3.268	2.756	1.260	2.48	12 mm
2033080	**KM63RARVDI5080**	KM63	VDI50	1.969	2.480	2.95	3.858	3.150	1.496	3.07	17 mm
	left hand										
2012947	**KM40RALVDI4060**	KM40	VDI40	1.575	1.575	1.89	3.268	2.362	.906	2.48	10 mm
2032938	**KM50RALVDI4070**	KM50	VDI40	1.575	1.969	2.36	3.268	2.756	1.260	2.48	12 mm

NOTE: For technical information, see page M1.
For actuation wrench, see page L58.

DIN 69880

KM QUICK CHANGE





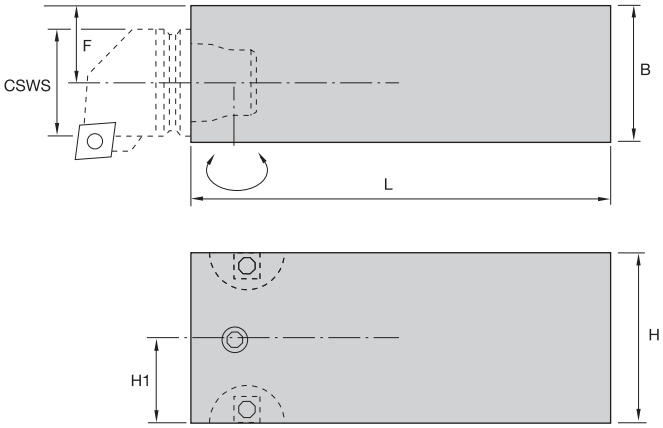
RRR/L-VDI • Right-Angle • Metric

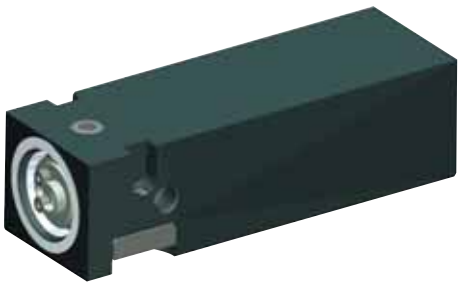
order number	catalog number	CSWS system size	CSMS system size	D	D1	F	B2	L1	LS	wrench size actuation screw
	right hand									
2012949	**KM40RRRVDI4040**	KM40	VDI40	40	40	40	79	25	63	10mm
2012950	**KM40RRRVDI4060**	KM40	VDI40	40	40	60	99	25	63	10mm
2012987	**KM40RRRVDI5040**	KM40	VDI50	50	40	40	82	25	78	10mm
2013892	**KM50RRRVDI5050**	KM50	VDI50	50	50	50	106	30	78	12mm
	left hand									
2012945	**KM40RRLVDI4040**	KM40	VDI40	40	40	40	79	25	63	10mm
2032759	**KM40RRLVDI4060**	KM40	VDI40	40	40	60	99	25	63	10mm

RRR/L-VDI • Right-Angle • Inch

order number	catalog number	CSWS system size	CSMS system size	D	D1	F	B2	L1	LS	wrench size actuation screw
	right hand									
2012949	**KM40RRRVDI4040**	KM40	VDI40	1.575	40,000	1.575	3.09	.984	2.48	10mm
2012950	**KM40RRRVDI4060**	KM40	VDI40	1.575	40,000	2.362	3.88	.984	2.48	10mm
2012987	**KM40RRRVDI5040**	KM40	VDI50	1.969	40,000	1.575	3.23	.984	3.07	10mm
2013892	**KM50RRRVDI5050**	KM50	VDI50	1.969	50,000	1.969	4.17	1.181	3.07	12mm
	left hand									
2012945	**KM40RRLVDI4040**	KM40	VDI40	1.575	40,000	1.575	3.09	.984	2.48	10mm
2032759	**KM40RRLVDI4060**	KM40	VDI40	1.575	40,000	2.362	3.88	.984	2.48	10mm

NOTE: For technical information, see page M1.
For actuation wrench, see page L58.





NCM • Square Shank Replacement • Metric

order number	catalog number	CSWS system size	B	F	H	H1	L	wrench size actuation screw	spare parts package	Nm
1021574	**KM32NCM4040**	KM32	40	23	40	20	125	5mm	**KM32PKG3S**	8-11
1021575	**KM32NCM5040**	KM32	40	23	50	25	125	5mm	**KM32PKG3S**	8-11
1021641	**KM40NCM5044**	KM40	44	23	50	25	150	6mm	**KM40PKG3S**	12-16
1021640	**KM40NCM6444**	KM40	44	23	64	32	150	6mm	**KM40PKG3S**	12-16
1021748	**KM50NCM6454**	KM50	54	28	64	32	150	10mm	**KM50PKG3S**	27-34

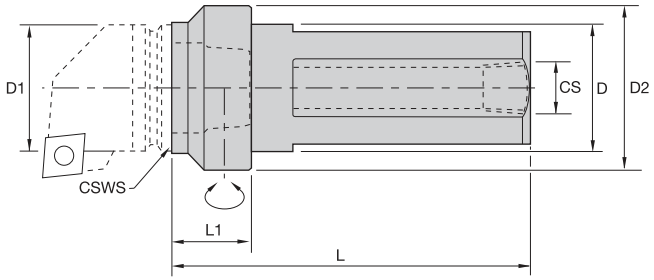
NCM • Square Shank Replacement • Inch

order number	catalog number	CSWS system size	B	F	H	H1	L	wrench size actuation screw	spare parts package	ft. lbs.
1021531	**KM32NCM2425**	KM32	1.562	.884	1.50	.75	5.00	5mm	**KM32PKG3S**	6-8
1021532	**KM32NCM3225**	KM32	1.562	.884	2.00	1.00	5.00	5mm	**KM32PKG3S**	6-8
1021637	**KM40NCM3228**	KM40	1.750	.937	2.00	1.00	6.00	6mm	**KM40PKG3S**	9-12
1021638	**KM40NCM4028**	KM40	1.750	.937	2.50	1.25	6.00	6mm	**KM40PKG3S**	9-12
1021746	**KM50NCM4034**	KM50	2.125	1.122	2.50	1.25	6.00	10mm	**KM50PKG3S**	20-25

Wedge Tightening Torque

KM size CSWS	torque (Nm)	torque ft. lbs.
32	16	12
40	34	25
50	48	35

NOTE: For technical information, see page M1.
For torque wrench, see page L52.





KM QUICK CHANGE

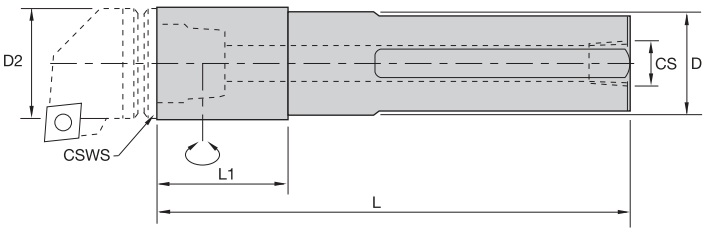
NCM-SS • Round Shank, Standard Length • Metric

order number	catalog number	CSWS system size	D	D1	D2	L1	L	CS	wrench size actuation screw	spare parts package	Nm
1144817	**KM32NCMSS3225**	KM32	32	32	40	25	90	RP3/8	5mm	**KM32PKG3L**	8-11
1144818	**KM32NCMSS4025**	KM32	40	32	50	25	90	RP3/8	5mm	**KM32PKG3L**	8-11
1144830	**KM40NCMSS4025**	KM40	40	40	50	25	110	RP3/8	6mm	**KM40PKG3L**	12-16
1144831	**KM40NCMSS5025**	KM40	50	40	63	25	110	RP3/8	6mm	**KM40PKG3L**	12-16
1144848	**KM50NCMSS5032**	KM50	50	50	63	32	142	RP3/8	10mm	**KM50PKG3L**	27-34
1144847	**KM50NCMSS6032**	KM50	60	50	80	32	142	RP3/8	10mm	**KM50PKG3L**	27-34

NCM-SS • Round Shank, Standard Length • Inch

order number	catalog number	CSWS system size	D	D1	D2	L1	L	CS	wrench size actuation screw	spare parts package	ft. lbs.
1144815	**KM32NCMSS20100**	KM32	1.25	1.260	1.57	1.000	3.54	3/8-18NPT	5mm	**KM32PKG3L**	6-8
1144816	**KM32NCMSS24100**	KM32	1.50	1.260	1.97	1.000	3.54	3/8-18NPT	5mm	**KM32PKG3L**	6-8
1144829	**KM40NCMSS24100**	KM40	1.50	1.575	1.97	1.000	4.33	3/8-18NPT	6mm	**KM40PKG3L**	9-12
1148349	**KM40NCMSS28100**	KM40	1.75	1.575	2.48	1.000	4.33	3/8-18NPT	6mm	**KM40PKG3L**	9-12
1117705	**KM40NCMSS32100**	KM40	2.00	1.575	2.48	1.000	4.33	3/8-18NPT	6mm	**KM40PKG3L**	9-12
1085675	**KM50NCMSS32125**	KM50	2.00	1.969	2.48	1.250	5.59	3/8-18NPT	10mm	**KM50PKG3L**	20-25
1144846	**KM50NCMSS40125**	KM50	2.50	1.969	3.15	1.250	5.59	3/8-18NPT	10mm	**KM50PKG3L**	20-25
1144798	**KM63NCMSS40162**	KM63	2.50	2.480	3.15	1.625	5.96	3/8-18NPT	12mm	**KM63PKG3L**	35-40

NOTE: For technical information, see page M1.
For torque wrench, see page L52.





KM QUICK CHANGE

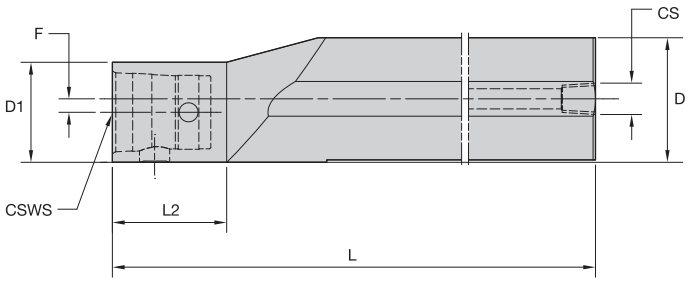
NCM-S • Round Shank, Extended Length • Metric

order number	catalog number	CSWS system size	D2	D	L1	L	CS	wrench size actuation screw	spare parts package	Nm
1021533	**KM32NCMS32P**	KM32	32	32	38	170	RP3/8	5mm	**KM32PKG3S**	8-11
1021578	**KM32NCMS32R**	KM32	32	32	38	200	RP3/8	5mm	**KM32PKG3S**	8-11
1021635	**KM40NCMS40S**	KM40	40	40	44	250	RP3/8	6mm	**KM40PKG3S**	12-16
1021744	**KM50NCMS50T**	KM50	50	50	52	300	RP3/8	10mm	**KM50PKG3S**	27-34
1021525	**KM63NCMS60U**	KM63	63	60	72	350	RP3/8	12mm	**KM63PKG3S**	47-54

NCM-S • Round Shank, Extended Length • Inch

order number	catalog number	CSWS system size	D2	D	L1	L	CS	wrench size actuation screw	spare parts package	ft. lbs.
1021530	**KM32NCMS20**	KM32	1.26	1.25	1.50	6.75	3/8-18NPT	5mm	**KM32PKG3S**	6-8
1021636	**KM40NCMS24**	KM40	1.57	1.50	1.75	10.00	3/8-18NPT	6mm	**KM40PKG3S**	9-12
1021747	**KM50NCMS32**	KM50	1.97	2.00	2.05	12.00	3/8-18NPT	10mm	**KM50PKG3S**	20-25
1021528	**KM63NCMS40**	KM63	2.48	2.50	2.83	14.00	3/8-18NPT	12mm	**KM63PKG3S**	35-40

NOTE: For technical information, see page M1.
For torque wrench, see page L52.





KM QUICK CHANGE

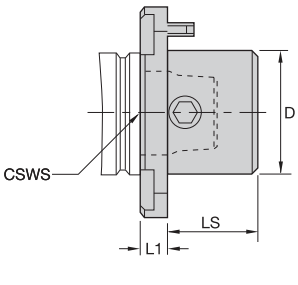
ECM-S • Round Shank, Offset Extended Length • Metric

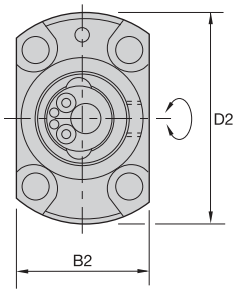
order number	catalog number	CSWS system size	D1	D	F	L2	L	CS	wrench size actuation screw	spare parts package	Nm
1021699	**KM40ECMS50S**	KM40	40	50	5	45	250	RP3/8	6mm	**KM40PKG3S**	12-16
1021745	**KM50ECMS60U**	KM50	50	60	5	52	350	RP3/8	10mm	**KM50PKG3S**	27-34
1021526	**KM63ECMS80W**	KM63	63	80	8	72	450	RP3/8	12mm	**KM63PKG3S**	47-54

ECM-S • Round Shank, Offset Extended Length • Inch

order number	catalog number	CSWS system size	D1	D	F	L2	L	CS	wrench size actuation screw	spare parts package	ft. lbs.
1021698	**KM40ECMS32**	KM40	1.57	2.00	.21	1.77	10.00	3/8-18 NPT	6mm	**KM40PKG3S**	9-12
1021703	**KM50ECMS40**	KM50	1.97	2.50	.27	2.05	14.00	3/8-18 NPT	10mm	**KM50PKG3S**	20-25
1021527	**KM63ECMS48**	KM63	2.48	3.00	.26	2.83	17.00	3/8-18 NPT	12mm	**KM63PKG3S**	35-40

NOTE: For technical information, see page M1.
For torque wrench, see page L52.







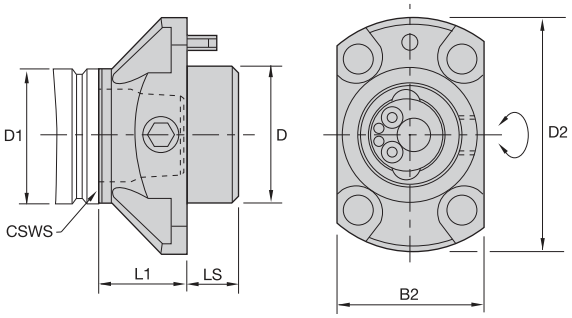
NCM-F • Flange Mount, Standard Length • Metric

order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw	spare parts package	Nm
1144814	**KM32NCMF**	KM32	32	54	36	7,5	24,5	5mm	**MS1347**	**KM32PKG3S**	8-11
1013675	**KM40NCMF**	KM40	40	68	44	10,0	30,0	6mm	**MS1217**	**KM40PKG3S**	12-16
1144845	**KM50NCMF**	KM50	50	84	55	12,0	38,0	10mm	**MS1361**	**KM50PKG3S**	27-34
1083015	**KM63NCMF**	KM63	63	102	72	15,0	45,0	12mm	**MS1460**	**KM63PKG3S**	47-54
1144800	**KM80NCMF**	KM80	80	132	90	18,5	57,0	14mm	**DWG MS1599**	**KM80PKG3S**	79-85

NCM-F • Flange Mount, Standard Length • Inch

order number	catalog number	CSWS system size	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw	spare parts package	ft. lbs.
1144814	**KM32NCMF**	KM32	1.260	2.13	1.42	.295	.96	5mm	**MS1347**	**KM32PKG3S**	6-8
1013675	**KM40NCMF**	KM40	1.575	2.68	1.73	.394	1.18	6mm	**MS1217**	**KM40PKG3S**	9-12
1144845	**KM50NCMF**	KM50	1.969	3.31	2.17	.472	1.50	10mm	**MS1361**	**KM50PKG3S**	20-25
1083015	**KM63NCMF**	KM63	2.480	4.02	2.84	.591	1.77	12mm	**MS1460**	**KM63PKG3S**	35-40
1144800	**KM80NCMF**	KM80	3.150	5.20	3.54	.728	2.24	14mm	**DWG MS1599**	**KM80PKG3S**	58-63

NOTE: For technical information, see page M1.
For mounting dimensions, see page M52.
For torque wrench, see page L52.





KM QUICK CHANGE

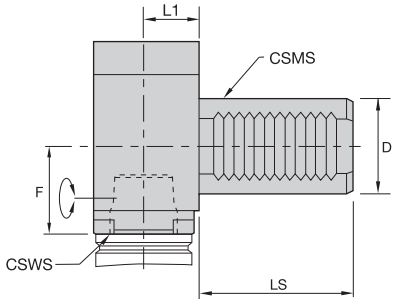
NCM-EF • Flange Mount, Extended Length • Metric

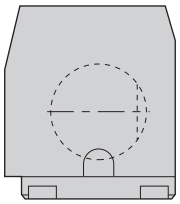
order number	catalog number	CSWS system size	D1	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw	spare parts package	Nm
1021576	**KM32NCMEF**	KM32	32	32	54	36	20	12	5mm	**MS1347**	**KM32PKG3L**	8-11
1021642	**KM40NCMEF**	KM40	40	40	68	44	25	15	6mm	**MS1217**	**KM40PKG3L**	12-16
1021749	**KM50NCMEF**	KM50	50	50	84	55	30	20	10mm	**MS1361**	**KM50PKG3L**	27-34
1021753	**KM63NCMEF**	KM63	63	63	102	72	40	20	12mm	**MS1460**	**KM63PKG3L**	47-54
1144799	**KM80NCMEF**	KM80	80	80	132	90	50	25	14mm	**DWG MS1599**	**KM80PKG3L**	79-85
2420366	**KM100NCMEF**	KM100	100	100	167	112	56	32	17mm	**—**	**—**	100-120

NCM-EF • Flange Mount, Extended Length • Inch

order number	catalog number	CSWS system size	D1	D	D2	B2	L1	LS	wrench size actuation screw	mounting screw	spare parts package	ft. lbs.
1021576	**KM32NCMEF**	KM32	1.260	1.260	2.13	1.42	.787	.47	5mm	**MS1347**	**KM32PKG3L**	6-8
1021642	**KM40NCMEF**	KM40	1.575	1.575	2.68	1.73	.984	.59	6mm	**MS1217**	**KM40PKG3L**	9-12
1021749	**KM50NCMEF**	KM50	1.969	1.969	3.31	2.17	1.181	.79	10mm	**MS1361**	**KM50PKG3L**	20-25
1021753	**KM63NCMEF**	KM63	2.480	2.480	4.02	2.84	1.575	.79	12mm	**MS1460**	**KM63PKG3L**	35-40
1144799	**KM80NCMEF**	KM80	3.150	3.150	5.20	3.54	1.969	.98	14mm	**DWG MS1599**	**KM80PKG3L**	58-63
2420366	**KM100NCMEF**	KM100	3.937	3.937	6.57	4.41	2.205	1.26	17mm	**—**	**—**	75-85

NOTE: For technical information, see page M1.
For mounting dimensions, see page M53.
For torque wrench, see page L52.







R/LCM • VDI • Right-Angle • Metric

order number	catalog number	CSWS system size	CSMS system size	D	F	L1	LS	wrench size actuation screw	spare parts package	Nm
	right hand									
1144801	**KM32RCMVDI3035**	KM32	VDI30	30	35	23	55	5mm	**KM32PKG3S**	8-11
2420312	**KM40RCMVDI3035**	KM40	VDI30	30	35	25	55	6mm	**KM40PKG3L**	12-16
1144824	**KM40RCMVDI4040**	KM40	VDI40	40	40	25	63	6mm	**KM40PKG3S**	12-16
1144825	**KM40RCMVDI5040**	KM40	VDI50	50	40	25	78	6mm	**KM40PKG3S**	12-16
1144842	**KM50RCMVDI4050**	KM50	VDI40	40	50	30	63	10mm	**KM50PKG3S**	27-34
1144841	**KM50RCMVDI5050**	KM50	VDI50	50	50	30	78	10mm	**KM50PKG3S**	27-34
1144856	**KM63RCMVDI6060**	KM63	VDI60	60	60	37	94	12mm	**KM63PKG3S**	47-54
	left hand									
2420363	**KM40LCMVDI3035**	KM40	VDI30	30	35	25	55	6mm	**KM40PKG3L**	12-16
1144827	**KM40LCMVDI4040**	KM40	VDI40	40	40	25	63	6mm	**KM40PKG3S**	12-16
2420370	**KM40LCMVDI4060**	KM40	VDI40	40	60	25	63	6mm	**KM40PKG3L**	12-16
1144828	**KM40LCMVDI5040**	KM40	VDI50	50	40	25	78	6mm	**KM40PKG3S**	12-16
1144844	**KM50LCMVDI4050**	KM50	VDI40	40	50	30	63	10mm	**KM50PKG3S**	27-34
1144843	**KM50LCMVDI5050**	KM50	VDI50	50	50	30	78	10mm	**KM50PKG3S**	27-34
1144857	**KM63LCMVDI6060**	KM63	VDI60	60	60	37	94	12mm	**KM63PKG3S**	47-54

R/LCM • VDI • Right-Angle • Inch

order number	catalog number	CSWS system size	CSMS system size	D	F	L1	LS	wrench size actuation screw	spare parts package	ft. lbs.
	right hand									
1144801	**KM32RCMVDI3035**	KM32	VDI30	1.181	1.378	.906	2.17	5mm	**KM32PKG3S**	6-8
2420312	**KM40RCMVDI3035**	KM40	VDI30	1.181	1.378	.984	2.17	6mm	**KM40PKG3L**	9-12
1144824	**KM40RCMVDI4040**	KM40	VDI40	1.575	1.575	.984	2.48	6mm	**KM40PKG3S**	9-12
1144825	**KM40RCMVDI5040**	KM40	VDI50	1.969	1.575	.984	3.07	6mm	**KM40PKG3S**	9-12
1144842	**KM50RCMVDI4050**	KM50	VDI40	1.575	1.969	1.181	2.48	10mm	**KM50PKG3S**	20-25
1144841	**KM50RCMVDI5050**	KM50	VDI50	1.969	1.969	1.181	3.07	10mm	**KM50PKG3S**	20-25
1144856	**KM63RCMVDI6060**	KM63	VDI60	2.362	2.362	1.457	3.70	12mm	**KM63PKG3S**	35-40
	left hand									
2420363	**KM40LCMVDI3035**	KM40	VDI30	1.181	1.378	.984	2.17	6mm	**KM40PKG3L**	9-12
1144827	**KM40LCMVDI4040**	KM40	VDI40	1.575	1.575	.984	2.48	6mm	**KM40PKG3S**	9-12
2420370	**KM40LCMVDI4060**	KM40	VDI40	1.575	2.362	.984	2.48	6mm	**KM40PKG3L**	9-12
1144828	**KM40LCMVDI5040**	KM40	VDI50	1.969	1.575	.984	3.07	6mm	**KM40PKG3S**	9-12
1144844	**KM50LCMVDI4050**	KM50	VDI40	1.575	1.969	1.181	2.48	10mm	**KM50PKG3S**	20-25
1144843	**KM50LCMVDI5050**	KM50	VDI50	1.969	1.969	1.181	3.07	10mm	**KM50PKG3S**	20-25
1144857	**KM63LCMVDI6060**	KM63	VDI60	2.362	2.362	1.457	3.70	12mm	**KM63PKG3S**	35-40

NOTE: For technical information, refer to page M1.
For torque wrench, see page L52.



ERICKSON™ & KM™
Names You Can Trust

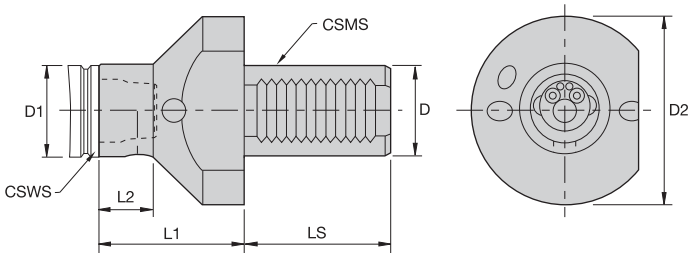
For hydraulic chucks — ERICKSON and KM — the industry names you can trust.

- Most accurate chuck, ≤3µm (.0001"), achieves maximum performance from your cutting edge.
- Inherent dampening design extends tool life and improves surface finish.
- Pre-balanced to high specifications.
- Versatile as a collet chuck with the use of reduction sleeves.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®





KM QUICK CHANGE

■ R/L • CMI • VDI • Axial • Metric

order number	catalog number	CSWS system size	CSMS system size	D1	D	D2	L1	L2	LS	wrench size actuation screw	spare parts package	Nm
	right hand											
1329141	**KM32RCMIVDI30100**	KM32	VDI30	32	30	68	100	70	55	5mm	**KM32PKG3S**	8-11
1144821	**KM32RCMIVDI3050**	KM32	VDI30	32	30	68	50	20	55	5mm	**KM32PKG3S**	8-11
1144823	**KM32RCMIVDI40100**	KM32	VDI40	32	40	83	100	70	63	5mm	**KM32PKG3S**	8-11
1144822	**KM32RCMIVDI4050**	KM32	VDI40	32	40	83	50	20	63	5mm	**KM32PKG3S**	8-11
2420364	**KM40RCMIVDI3050**	KM40	VDI30	40	30	68	50	23	55	6mm	**KM40PKG3S**	12-16
1144840	**KM40RCMIVDI40120**	KM40	VDI40	40	40	83	120	83	63	6mm	**KM40PKG3S**	12-16
1144837	**KM40RCMIVDI4060**	KM40	VDI40	40	40	83	60	23	63	6mm	**KM40PKG3S**	12-16
1144839	**KM40RCMIVDI50120**	KM40	VDI50	40	50	98	120	83	78	6mm	**KM40PKG3S**	12-16
1144838	**KM40RCMIVDI5060**	KM40	VDI50	40	50	98	60	23	78	6mm	**KM40PKG3S**	12-16
1144851	**KM50RCMIVDI40140**	KM50	VDI40	50	40	83	140	95	63	10mm	**KM50PKG3S**	27-34
1144853	**KM50RCMIVDI4070**	KM50	VDI40	50	40	83	70	25	63	10mm	**KM50PKG3S**	27-34
1144854	**KM50RCMIVDI50140**	KM50	VDI50	50	50	98	140	95	78	10mm	**KM50PKG3S**	27-34
1144852	**KM50RCMIVDI5070**	KM50	VDI50	50	50	98	70	25	78	10mm	**KM50PKG3S**	27-34
1144809	**KM63RCMIVDI50160**	KM63	VDI50	63	50	98	160	110	78	12mm	**KM63PKG3S**	47-54
1144807	**KM63RCMIVDI5080**	KM63	VDI50	63	50	98	80	30	78	12mm	**KM63PKG3S**	47-54
1144859	**KM63RCMIVDI60160**	KM63	VDI60	63	60	123	160	110	94	12mm	**KM63PKG3S**	47-54
1144858	**KM63RCMIVDI6080**	KM63	VDI60	63	60	123	80	30	94	12mm	**KM63PKG3S**	47-54
	left hand											
1312285	**KM32LCMIVDI40100**	KM32	VDI40	32	40	83	100	70	63	5mm	**KM32PKG3S**	8-11
1144820	**KM32LCMIVDI4050**	KM32	VDI40	32	40	83	50	20	63	5mm	**KM32PKG3S**	8-11
1144836	**KM40LCMIVDI40120**	KM40	VDI40	40	40	83	120	83	63	6mm	**KM40PKG3S**	12-16
1144833	**KM40LCMIVDI4060**	KM40	VDI40	40	40	83	60	23	63	6mm	**KM40PKG3S**	12-16
1144835	**KM40LCMIVDI50120**	KM40	VDI50	40	50	98	120	83	78	6mm	**KM40PKG3S**	12-16
1144834	**KM40LCMIVDI5060**	KM40	VDI50	40	50	98	60	23	78	6mm	**KM40PKG3S**	12-16
1144797	**KM50LCMIVDI40140**	KM50	VDI40	50	40	83	140	95	63	10mm	**KM50PKG3S**	27-34
1144850	**KM50LCMIVDI4070**	KM50	VDI40	50	40	83	70	25	63	10mm	**KM50PKG3S**	27-34
1144849	**KM50LCMIVDI5070**	KM50	VDI50	50	50	98	70	25	78	10mm	**KM50PKG3S**	27-34
1144810	**KM63LCMIVDI50160**	KM63	VDI50	63	50	98	160	110	78	12mm	**KM63PKG3S**	47-54
1144808	**KM63LCMIVDI5080**	KM63	VDI50	63	50	98	80	30	78	12mm	**KM63PKG3S**	47-54
1144861	**KM63LCMIVDI60160**	KM63	VDI60	63	60	123	160	110	94	12mm	**KM63PKG3S**	47-54
1144860	**KM63LCMIVDI6080**	KM63	VDI60	63	60	123	80	30	94	12mm	**KM63PKG3S**	47-54

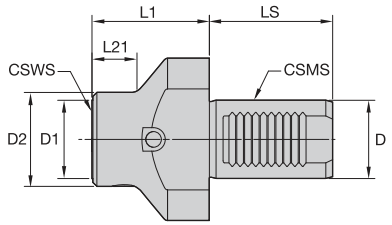
(continued)

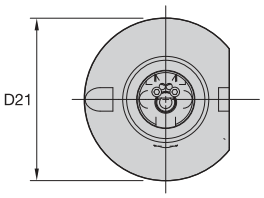
(R/L • CMI • VDI • Axial continued)

R/L • CMI • VDI • Axial • Inch

order number	catalog number	CSWS system size	CSMS system size	D1	D	D2	L1	L2	LS	wrench size actuation screw	spare parts package	ft. lbs.
	right hand											
1329141	**KM32RCMIVDI30100**	KM32	VDI30	1.26	1.181	2.677	3.94	2.76	2.17	5mm	**KM32PKG3S**	6-8
1144821	**KM32RCMIVDI3050**	KM32	VDI30	1.26	1.181	2.677	1.97	.79	2.17	5mm	**KM32PKG3S**	6-8
1144823	**KM32RCMIVDI40100**	KM32	VDI40	1.26	1.575	3.268	3.94	2.76	2.48	5mm	**KM32PKG3S**	6-8
1144822	**KM32RCMIVDI4050**	KM32	VDI40	1.26	1.575	3.268	1.97	.79	2.48	5mm	**KM32PKG3S**	6-8
2420364	**KM40RCMIVDI3050**	KM40	VDI30	1.57	1.181	2.677	1.97	.91	2.17	6mm	**KM40PKG3S**	9-12
1144840	**KM40RCMIVDI40120**	KM40	VDI40	1.57	1.575	3.268	4.72	3.27	2.48	6mm	**KM40PKG3S**	9-12
1144837	**KM40RCMIVDI4060**	KM40	VDI40	1.57	1.575	3.268	2.36	.91	2.48	6mm	**KM40PKG3S**	9-12
1144839	**KM40RCMIVDI50120**	KM40	VDI50	1.57	1.969	3.858	4.72	3.27	3.07	6mm	**KM40PKG3S**	9-12
1144838	**KM40RCMIVDI5060**	KM40	VDI50	1.57	1.969	3.858	2.36	.91	3.07	6mm	**KM40PKG3S**	9-12
1144851	**KM50RCMIVDI40140**	KM50	VDI40	1.97	1.575	3.268	5.51	3.74	2.48	10mm	**KM50PKG3S**	20-25
1144853	**KM50RCMIVDI4070**	KM50	VDI40	1.97	1.575	3.268	2.76	.98	2.48	10mm	**KM50PKG3S**	20-25
1144854	**KM50RCMIVDI50140**	KM50	VDI50	1.97	1.969	3.858	5.51	3.74	3.07	10mm	**KM50PKG3S**	20-25
1144852	**KM50RCMIVDI5070**	KM50	VDI50	1.97	1.969	3.858	2.76	.98	3.07	10mm	**KM50PKG3S**	20-25
1144809	**KM63RCMIVDI50160**	KM63	VDI50	2.48	1.969	3.858	6.30	4.33	3.07	12mm	**KM63PKG3S**	35-40
1144807	**KM63RCMIVDI5080**	KM63	VDI50	2.48	1.969	3.858	3.15	1.18	3.07	12mm	**KM63PKG3S**	35-40
1144859	**KM63RCMIVDI60160**	KM63	VDI60	2.48	2.362	4.843	6.30	4.33	3.70	12mm	**KM63PKG3S**	35-40
1144858	**KM63RCMIVDI6080**	KM63	VDI60	2.48	2.362	4.843	3.15	1.18	3.70	12mm	**KM63PKG3S**	35-40
	left hand											
1312285	**KM32LCMIVDI40100**	KM32	VDI40	1.26	1.575	3.268	3.94	2.76	2.48	5mm	**KM32PKG3S**	6-8
1144820	**KM32LCMIVDI4050**	KM32	VDI40	1.26	1.575	3.268	1.97	.79	2.48	5mm	**KM32PKG3S**	6-8
1144836	**KM40LCMIVDI40120**	KM40	VDI40	1.57	1.575	3.268	4.72	3.27	2.48	6mm	**KM40PKG3S**	9-12
1144833	**KM40LCMIVDI4060**	KM40	VDI40	1.57	1.575	3.268	2.36	.91	2.48	6mm	**KM40PKG3S**	9-12
1144835	**KM40LCMIVDI50120**	KM40	VDI50	1.57	1.969	3.858	4.72	3.27	3.07	6mm	**KM40PKG3S**	9-12
1144834	**KM40LCMIVDI5060**	KM40	VDI50	1.57	1.969	3.858	2.36	.91	3.07	6mm	**KM40PKG3S**	9-12
1144797	**KM50LCMIVDI40140**	KM50	VDI40	1.97	1.575	3.268	5.51	3.74	2.48	10mm	**KM50PKG3S**	20-25
1144850	**KM50LCMIVDI4070**	KM50	VDI40	1.97	1.575	3.268	2.76	.98	2.48	10mm	**KM50PKG3S**	20-25
1144849	**KM50LCMIVDI5070**	KM50	VDI50	1.97	1.969	3.858	2.76	.98	3.07	10mm	**KM50PKG3S**	20-25
1144810	**KM63LCMIVDI50160**	KM63	VDI50	2.48	1.969	3.858	6.30	4.33	3.07	12mm	**KM63PKG3S**	35-40
1144808	**KM63LCMIVDI5080**	KM63	VDI50	2.48	1.969	3.858	3.15	1.18	3.07	12mm	**KM63PKG3S**	35-40
1144861	**KM63LCMIVDI60160**	KM63	VDI60	2.48	2.362	4.843	6.30	4.33	3.70	12mm	**KM63PKG3S**	35-40
1144860	**KM63LCMIVDI6080**	KM63	VDI60	2.48	2.362	4.843	3.15	1.18	3.70	12mm	**KM63PKG3S**	35-40

NOTE: For technical information, see page M1.
For torque wrench, see page L52.







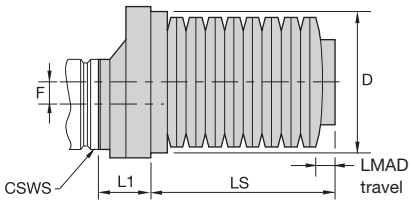
RCML • Axial VDI, Large Body Diameter • Metric

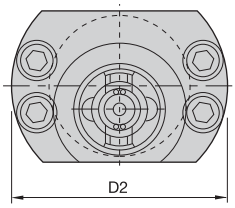
order number	catalog number	CSWS system size	CSMS system size	D1	D2	D	L1	L21	LS	D21	wrench size actuation screw	spare parts package	Nm
2032697	KM32RCMLVDI2050	KM32	VDI20	32	38	20	50	20	40	50	5 mm	KM32PKG3L	8-11
2032703	KM32RCMLVDI4060	KM32	VDI40	32	38	40	60	21	63	83	5 mm	KM32PKG3L	8-11
2013052	KM40RCMLVDI3050	KM40	VDI30	40	48	30	50	23	55	68	6 mm	KM40PKG3L	12-16
2013076	KM40RCMLVDI40120	KM40	VDI40	40	48	40	120	83	63	83	6 mm	KM40PKG3L	12-16
2013075	KM40RCMLVDI4060	KM40	VDI40	40	48	40	60	23	63	83	6 mm	KM40PKG3L	12-16
2032762	KM40RCMLVDI50120	KM40	VDI50	40	48	50	120	77	78	98	6 mm	KM40PKG3L	12-16
2013079	KM40RCMLVDI5060	KM40	VDI50	40	48	50	60	17	78	98	6 mm	KM40PKG3L	12-16
2032763	KM40RCMLVDI6080	KM40	VDI60	40	48	60	80	42	94	123	6 mm	KM40PKG3L	12-16
2032952	KM50RCMLVDI40120	KM50	VDI40	50	60	40	120	87	63	83	10 mm	KM50PKG3L	27-34
2032951	KM50RCMLVDI4060	KM50	VDI40	50	60	40	60	30	63	83	10 mm	KM50PKG3L	27-34
2032954	KM50RCMLVDI50140	KM50	VDI50	50	60	50	140	97	78	98	10 mm	KM50PKG3L	27-34
2032953	KM50RCMLVDI5070	KM50	VDI50	50	60	50	70	32	78	98	10 mm	KM50PKG3L	27-34
2033100	KM63RCMLVDI60160	KM63	VDI60	63	75	60	160	112	94	123	12 mm	KM63PKG3L	47-54

RCML • Axial VDI, Large Body Diameter • Inch

order number	catalog number	CSWS system size	CSMS system size	D1	D2	D	L1	L21	LS	D21	wrench size actuation screw	spare parts package	ft. lbs.
2032697	KM32RCMLVDI2050	KM32	VDI20	1.260	1.50	.787	1.969	.79	1.57	1.97	5 mm	KM32PKG3L	6-8
2032703	KM32RCMLVDI4060	KM32	VDI40	1.260	1.50	1.575	2.362	.83	2.48	3.27	5 mm	KM32PKG3L	6-8
2013052	KM40RCMLVDI3050	KM40	VDI30	1.575	1.89	1.181	1.969	.91	2.17	2.68	6 mm	KM40PKG3L	9-12
2013076	KM40RCMLVDI40120	KM40	VDI40	1.575	1.89	1.575	4.724	3.27	2.48	3.27	6 mm	KM40PKG3L	9-12
2013075	KM40RCMLVDI4060	KM40	VDI40	1.575	1.89	1.575	2.362	.91	2.48	3.27	6 mm	KM40PKG3L	9-12
2032762	KM40RCMLVDI50120	KM40	VDI50	1.575	1.89	1.969	4.724	3.03	3.07	3.86	6 mm	KM40PKG3L	9-12
2013079	KM40RCMLVDI5060	KM40	VDI50	1.575	1.89	1.969	2.362	.67	3.07	3.86	6 mm	KM40PKG3L	9-12
2032763	KM40RCMLVDI6080	KM40	VDI60	1.575	1.89	2.362	3.150	1.65	3.70	4.84	6 mm	KM40PKG3L	9-12
2032952	KM50RCMLVDI40120	KM50	VDI40	1.969	2.36	1.575	4.724	3.43	2.48	3.27	10 mm	KM50PKG3L	20-25
2032951	KM50RCMLVDI4060	KM50	VDI40	1.969	2.36	1.575	2.362	1.18	2.48	3.27	10 mm	KM50PKG3L	20-25
2032954	KM50RCMLVDI50140	KM50	VDI50	1.969	2.36	1.969	5.512	3.82	3.07	3.86	10 mm	KM50PKG3L	20-25
2032953	KM50RCMLVDI5070	KM50	VDI50	1.969	2.36	1.969	2.756	1.26	3.07	3.86	10 mm	KM50PKG3L	20-25
2033100	KM63RCMLVDI60160	KM63	VDI60	2.480	2.95	2.362	6.299	4.41	3.70	4.84	12 mm	KM63PKG3L	35-40

NOTE: For technical information, see page M1.
For torque wrench, see page L52.







KM QUICK CHANGE

NCA • DS • Axial Disk Spring Unit • Metric

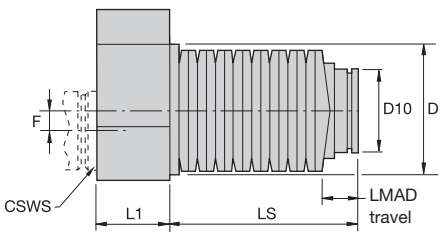
order number	catalog number	CSWS system size	D	F	L1	LS	D2	LMAD travel
1021579	**KM32NCADS16T**	KM32	51	8	16,0	66	78	5,08
1021697	**KM40NCADS40**	KM40	62	10	40,0	53	114	5,60
1021750	**KM50NCADS50**	KM50	78	11	50,0	74	138	7,62

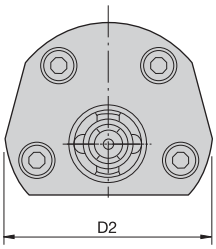
NCA • DS • Axial Disk Spring Unit • Inch

order number	catalog number	CSWS system size	D	F	L1	LS	D2	LMAD travel
1021579	**KM32NCADS16T**	KM32	2.007	.315	.630	2.60	3.07	.200
1021697	**KM40NCADS40**	KM40	2.439	.394	1.575	2.09	4.49	.220
1021750	**KM50NCADS50**	KM50	3.069	.433	1.969	2.92	5.43	.300

Actuating Force

catalog number	actuating force (kN)	actuating force (lbs)
KM32NCADS16T	14,2	3200
KM40NCADS40	16,9	3800
KM50NCADS50	26	6000







KM QUICK CHANGE

NACA • DS • Axial Disk Spring Unit • Metric

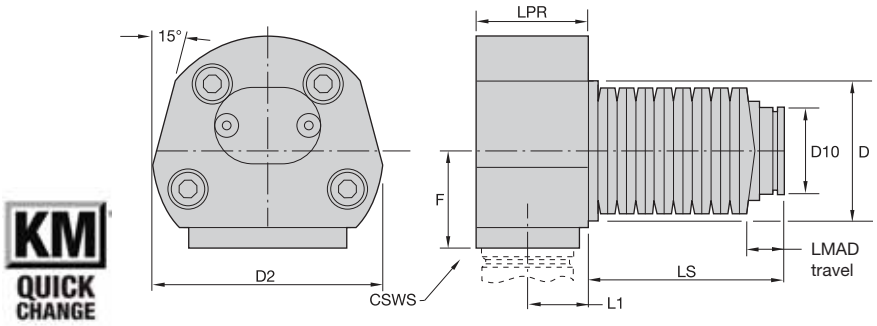
order number	catalog number	CSWS system size	D	D10	F	L1	LS	D2	LMAD travel
1021700	KM40NACADS55	KM40	62	38	10	55	90	100	6,50
1021702	KM40NACADS55DT	KM40	62	55	10	55	90	100	5,64
1021752	KM50NACADS70DT	KM50	72	65	11	70	111	120	7,62
1021529	KM63NACADS85DT	KM63	85	75	12	85	145	140	9,00

NACA • DS • Axial Disk Spring Unit • Inch

order number	catalog number	CSWS system size	D	D10	F	L1	LS	D2	LMAD travel
1021700	KM40NACADS55	KM40	2.441	1.496	.394	2.165	3.53	3.94	.256
1021702	KM40NACADS55DT	KM40	2.439	2.159	.394	2.165	3.53	3.94	.222
1021752	KM50NACADS70DT	KM50	2.833	2.553	.433	2.756	4.36	4.72	.300
1021529	KM63NACADS85DT	KM63	3.345	2.947	.472	3.346	5.71	5.51	.354

Actuating Force

catalog number	actuating force (kN)	actuating force (lbs)
KM40NACADS55DT	16,9	3800
KM50NACADS70DT	18	4000
KM63NACADS85DT	27	6000





KM QUICK CHANGE

RACA • DS • Right-Angle Disk Spring Unit • Metric

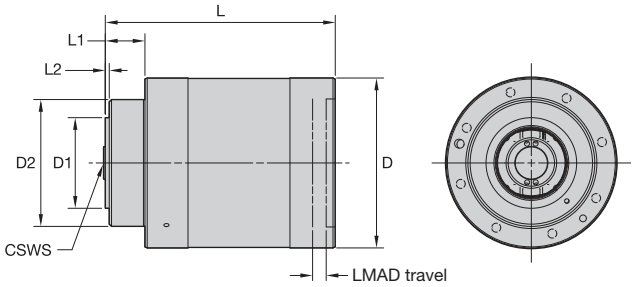
order number	catalog number	CSWS system size	D	D10	F	L1	LPR	LS	D2	LMAD travel
1021701	KM40RACADS40DT	KM40	62	55	40,0	28	52	94	100	10,67
1021524	KM63RACADS60DT	KM63	85	75	60,0	42	80	150	140	14,00

RACA • DS • Right-Angle Disk Spring Unit • Inch

order number	catalog number	CSWS system size	D	D10	F	L1	LPR	LS	D2	LMAD travel
1021701	KM40RACADS40DT	KM40	2.441	2.16	1.575	1.102	2.047	3.70	3.94	.420
1021524	KM63RACADS60DT	KM63	3.347	2.95	2.362	1.654	3.150	5.91	5.51	.551

Actuating Force

system size	actuating force (kN)	actuating force (lbs)
KM40	12,5	2800
KM50	39,5	8875





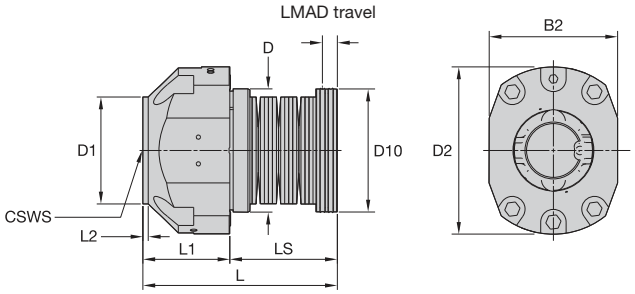


XGL • KM80 Rotating • Metric

order number	catalog number	CSWS system size	D1	D2	D	L1	L2	L	LMAD travel	kg
2247834	KM80XGL1062756	KM80	80	112	150	35	3,5	203	12	21,81
2452550	KM80XGL1560573	KM80	80	112	150	35	3,5	203	12	21,81

XGL • KM80 Rotating • Inch

order number	catalog number	CSWS system size	D1	D2	D	L1	L2	L	LMAD travel	lbs
2247834	KM80XGL1062756	KM80	3.15	4.41	5.906	1.378	.14	7.99	.472	48.08
2452550	KM80XGL1560573	KM80	3.15	4.41	5.906	1.378	.14	7.99	.472	48.08







XGL • KM80 Static • Metric

order number	catalog number	CSWS system size	D1	D	D10	D2	L1	LS	L	L2	B2	LMAD travel	kg
3449440	KM80XGL1724179	KM80	80	92	92,0	125	65	80,00	145,00	4	96	11,19	6,77
1954766	KM80XGL1064593	KM80	80	108	101,4	165	60	62,75	122,75	2	140	11,00	11,07
2500998	KM80XGL1555011	KM80	80	108	101,4	165	60	62,75	122,75	2	140	11,00	11,07

XGL • KM80 Static • Inch

order number	catalog number	CSWS system size	D1	D	D10	D2	L1	LS	L	L2	B2	LMAD travel	lbs
3449440	KM80XGL1724179	KM80	3.15	3.622	3.622	4.92	2.559	3.15	5.71	.16	3.78	.440	14.92
1954766	KM80XGL1064593	KM80	3.15	4.253	3.992	6.50	2.362	2.47	4.83	.06	5.49	.433	24.35
2500998	KM80XGL1555011	KM80	3.15	4.253	3.992	6.50	2.362	2.47	4.83	.06	5.49	.433	24.35



KM Micro™ and KM Mini™

The most economical modular quick-change tooling system available.

The KM Micro and KM Mini couplings offer a very rigid joint with a high degree of repeatability while maintaining a very compact envelope. This permits a high degree of versatility without sacrificing cutting performance.

- Reduce downtime, increase productivity.
- Replaces conventional square-shank tooling.
- No machine modifications required.
- KM Mini is ideal for machines up to 30 hp (22kW).

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

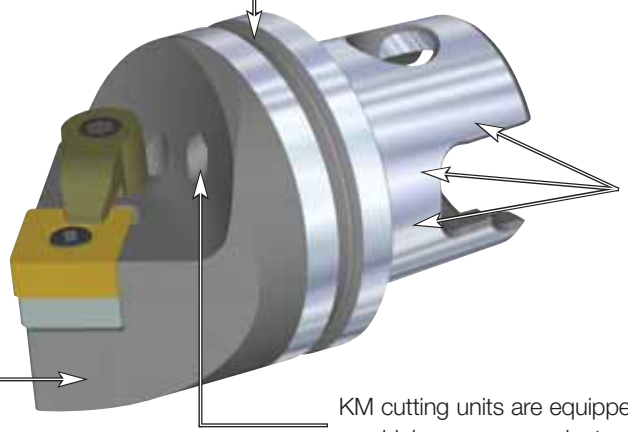
KM™ Quick Change Clamping System • KM32TS™ Series

Primary Application

The KM Quick Change Clamping System is the best system on the market suitable for static, rotating, and multitasking operations. With its industry-leading design, the KM Quick Change System provides greater clamping forces than other quick-change systems. The KM Quick Change System gives you the flexibility to use KM on any application within your shop.

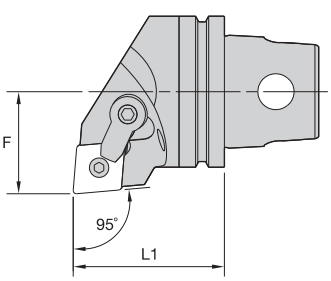
Features and Benefits

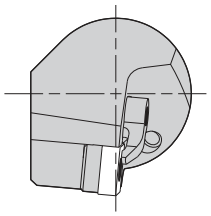
- KM is an ISO standard (ISO 26622).
- KM clamping units provide a 4:1 mechanical advantage.
- KM cutting units are capable of 100 bar (1,500 psi) coolant pressure.

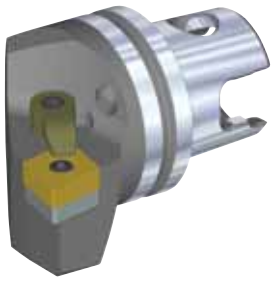




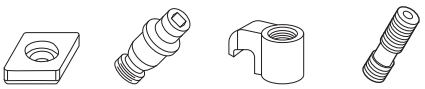
KM QUICK CHANGE







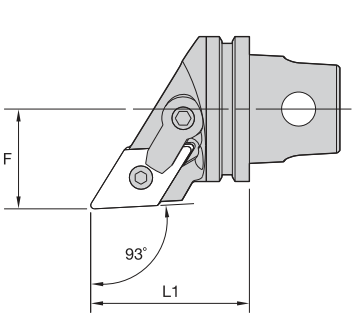
MCLN 95°

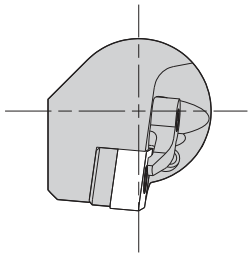


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw
	right hand									
1023224	KM32TSMCLNR12	35	1.378	22	.866	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11
	left hand									
1023228	KM32TSMCLNL12	35	1.378	22	.866	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11



KM QUICK CHANGE





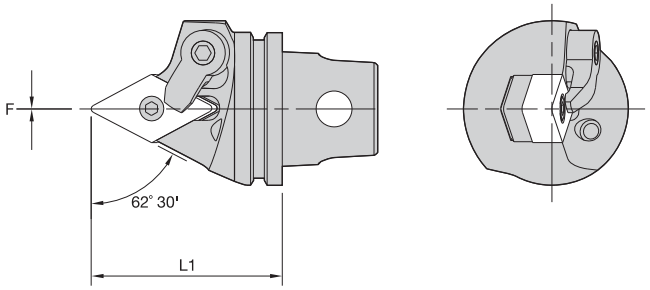


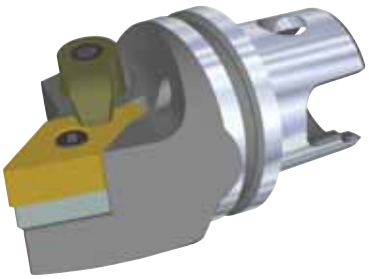
MDJN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw
	right hand									
3095644	KM32TSMDJNR1504	35	1.378	22	.866	DN..150408/DN..432	IDSN442	KLM46L	CKM20LP	STCM11
1023232	KM32TSMDJNR1506	35	1.378	22	.866	DN..150608/DN..442	IDSN432	KLM46L	CKM20LP	STCM11
	left hand									
3095643	KM32TSMDJNL1504	35	1.378	22	.866	DN..150408/DN..432	IDSN442	KLM46L	CKM20LP	STCM11
1023275	KM32TSMDJNL1506	35	1.378	22	.866	DN..150608/DN..442	IDSN432	KLM46L	CKM20LP	STCM11







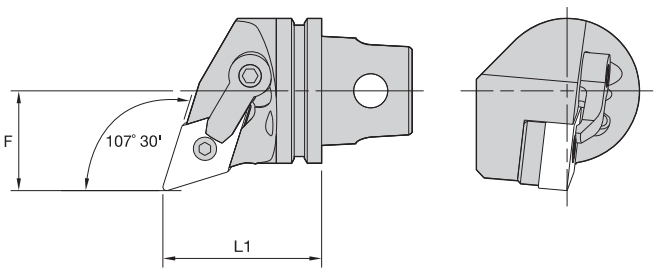
KM QUICK CHANGE

MDPN 62° 30'



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw
3095645	KM32TSMDPNN1504	40	1.575	0	.000	DN..150408/DN..432	IDSN442	KLM46L	CKM20LP	STCM11
1022560	KM32TSMDPNN1506	40	1.575	0	.000	DN..150608/DN..442	IDSN432	KLC46L	CKM20LP	STCC11

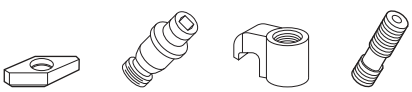






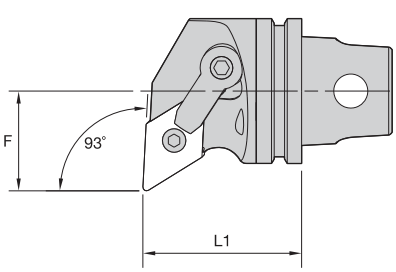
KM QUICK CHANGE

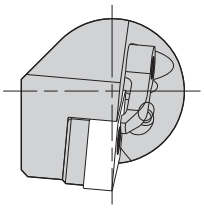
MDQN 107° 30'



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw
	right hand									
1023233	KM32TSMDQNR1506	35	1.378	22	.866	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11
	left hand									
1023276	KM32TSMDQNL1506	35	1.378	22	.866	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11









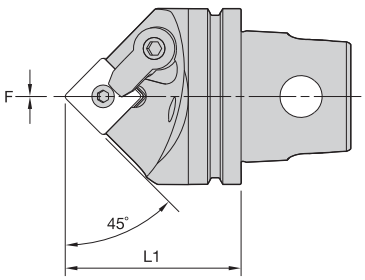
KM QUICK CHANGE

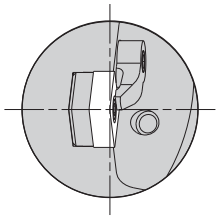
MDUN 93°

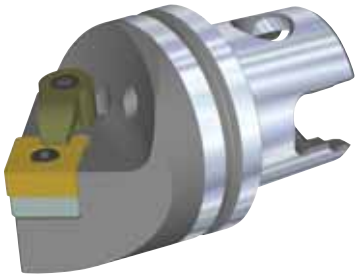


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw
	right hand									
1023274	KM32TSMDUNR1506	35	1.378	22	.866	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11
	left hand									
1023277	KM32TSMDUNL1506	35	1.378	22	.866	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11



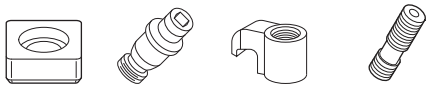






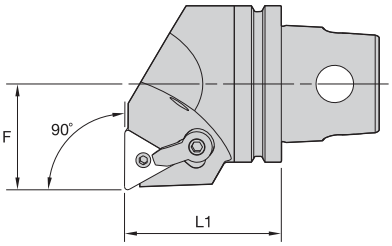
KM QUICK CHANGE

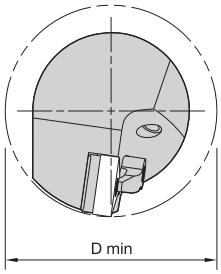
MSDN 45°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw
1144875	KM32TSMSDNN12	40	1.575	0	.000	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11



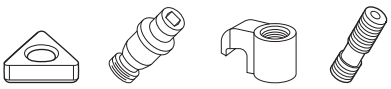






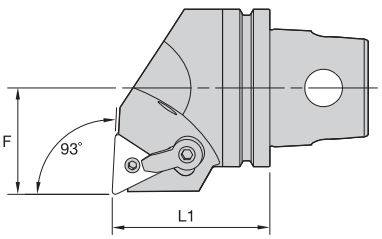
KM QUICK CHANGE

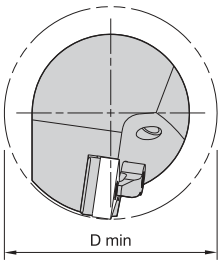
MTFN 90°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw
	left hand											
1023281	KM32TSMTFNL16	35	1.378	22	.866	44	1.732	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9









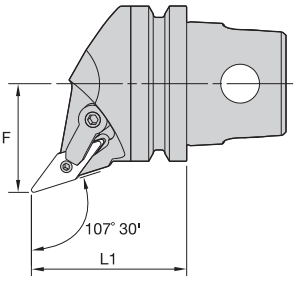
KM QUICK CHANGE

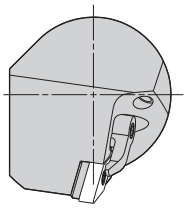
MTUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw
	right hand											
1144903	KM32TSMTUNR16	35	1.378	22	.866	44	1.732	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9



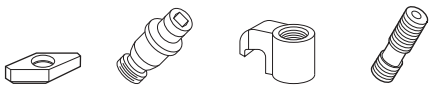






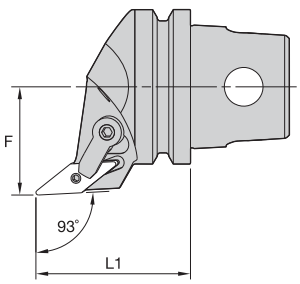
KM QUICK CHANGE

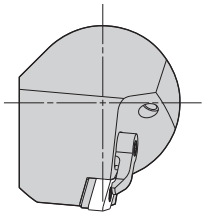
MVHN 107° 30'



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw
	right hand									
1144909	KM32TSMVHNR16	35	1.378	22	.866	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11
	left hand									
1144910	KM32TSMVHNL16	35	1.378	22	.866	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11



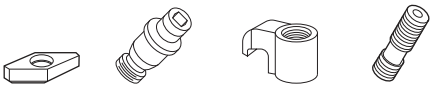






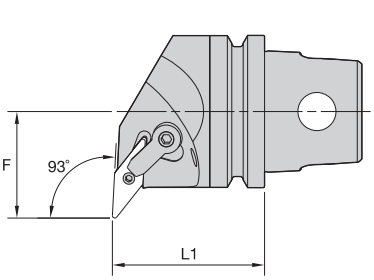
KM QUICK CHANGE

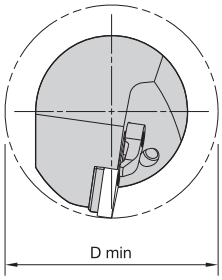
MVJN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw
	right hand									
1023280	KM32TSMVJNR16	40	1.575	22	.866	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11
	left hand									
1023283	KM32TSMVJNL16	40	1.575	22	.866	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11









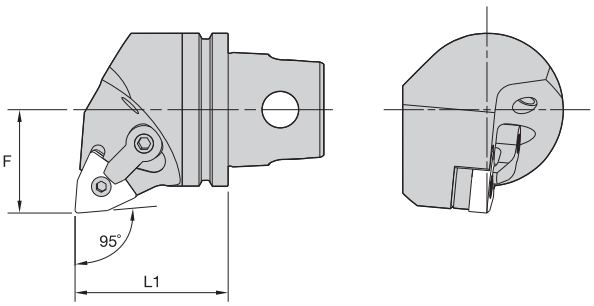
KM QUICK CHANGE

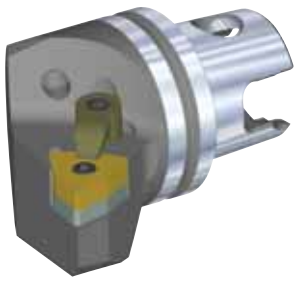
MVUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw
	right hand											
1144911	KM32TSMVUNR16	35	1.378	27	1.063	54	2.126	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11
	left hand											
1144912	KM32TSMVUNL16	35	1.378	27	1.063	54	2.126	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11

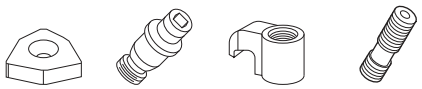






KM QUICK CHANGE

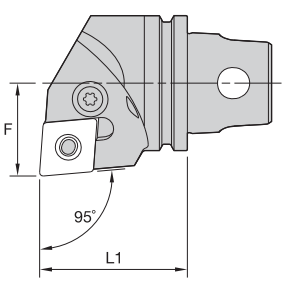
MWLN 95°

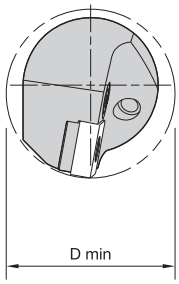


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw
	right hand									
1144914	KM32TSMWLNR08	35	1.378	22	.866	WN..080408/WN..432	IWSN433	KLM46	CKM20LP	STCM11
	left hand									
1144915	KM32TSMWLNL08	35	1.378	22	.866	WN..080408/WN..432	IWSN433	KLM46	CKM20LP	STCM11



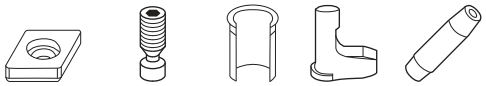
KM QUICK CHANGE







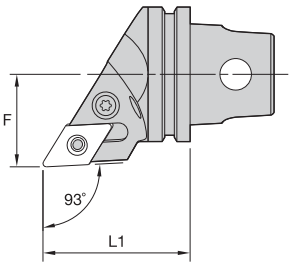
PCLN 95°

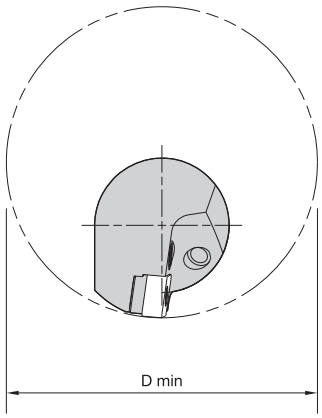


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch
	right hand												
1624632	KM32TSPCLNR12	35	1.378	22	.866	40	1.575	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018
	left hand												
1135468	KM32TSPCLNL12	35	1.378	22	.866	40	1.575	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018



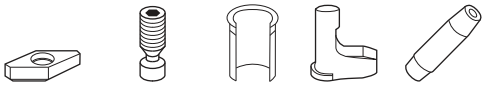
KM QUICK CHANGE





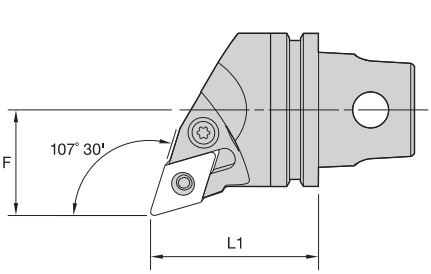


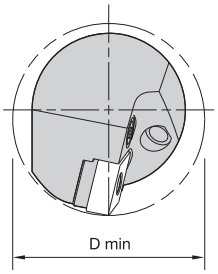
PDJN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch
	right hand												
1232377	KM32TSPDJNR11	35	1.378	22	.866	74	2.913	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018
	left hand												
1232378	KM32TSPDJNL11	35	1.378	22	.866	74	2.913	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018









KM QUICK CHANGE

PDQN 107° 30'

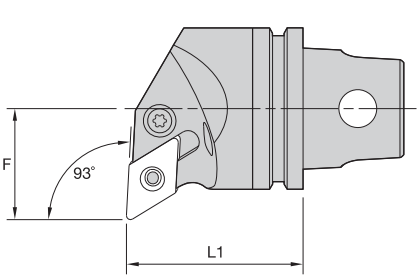


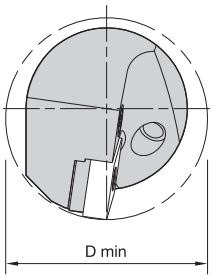




order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch
	right hand												
1671515	**KM32TSPDQNR11**	35	1.378	22	.866	44	1.732	DN..110408/DN..332	**512.060**	**514.118**	**513.060**	**511.060**	**515.018**









KM QUICK CHANGE

PDUN 93°

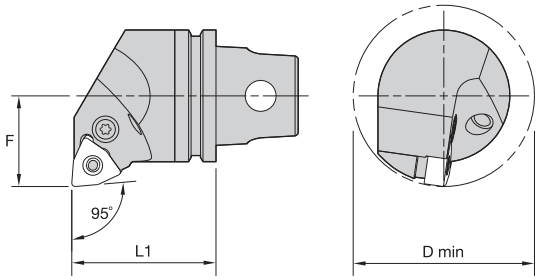






order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch
	right hand												
1232375	**KM32TSPDUNR11**	35	1.378	22	.866	40	1.575	DN..110408/DN..332	**512.060**	**514.118**	**513.060**	**511.060**	**515.018**
	left hand												
1232376	**KM32TSPDUNL11**	35	1.378	22	.866	40	1.575	DN..110408/DN..332	**512.060**	**514.118**	**513.060**	**511.060**	**515.018**

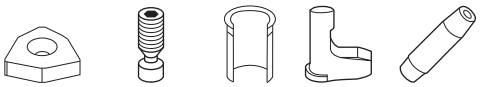






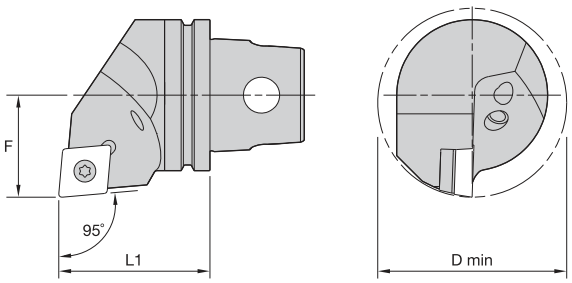
KM QUICK CHANGE

PWLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch
	right hand												
1232372	KM32TSPWLNR06	35	1.378	22	.866	44	1.732	WN..060408/WN..332	512.134	514.118	513.018	511.018	515.018
	left hand												
1232374	KM32TSPWLNL06	35	1.378	22	.866	44	1.732	WN..060408/WN..332	512.134	514.118	513.018	511.018	515.018

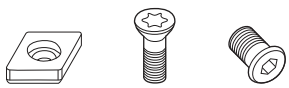






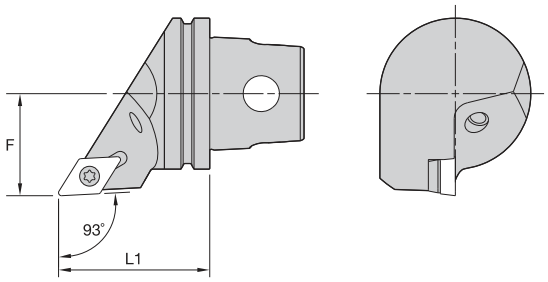
KM QUICK CHANGE

SCLC 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	insert screw	shim screw
	right hand										
1144416	KM32TSSCLCR09	35	1.378	22	.866	44	1.732	CC..09T308/CC..3252	SKCP343	MS1156	SRS3
1144430	KM32TSSCLCR12	35	1.378	22	.866	44	1.732	CC..120408/CC..432	SKCP453	MS1158	SRS4
	left hand										
1144417	KM32TSSCLCL09	35	1.378	22	.866	44	1.732	CC..09T308/CC..3252	SKCP343	MS1156	SRS3
1144434	KM32TSSCLCL12	35	1.378	22	.866	44	1.732	CC..120408/CC..432	SKCP453	MS1158	SRS4





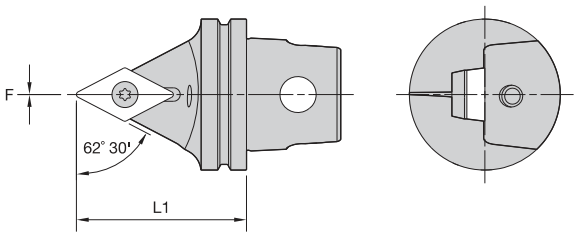


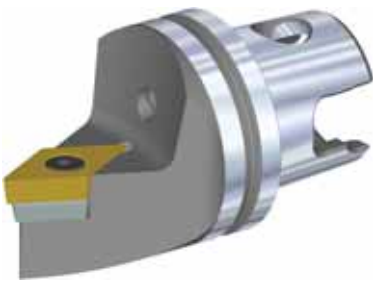
KM QUICK CHANGE

SDJC 93°

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	insert screw	shim screw
	right hand								
1144422	**KM32TSSDJCR11**	35	1.378	22	.866	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**
	left hand								
1144427	**KM32TSSDJCL11**	35	1.378	22	.866	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**





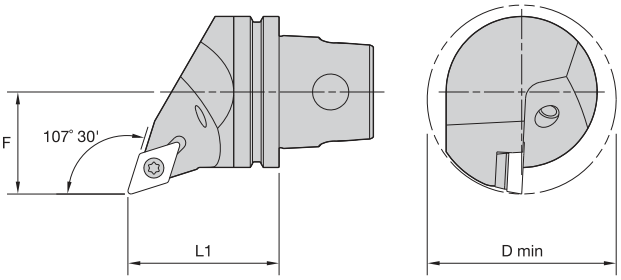


KM QUICK CHANGE

SDNC 62° 30'

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	insert screw	shim screw
1144424	**KM32TSSDNCN11**	35	1.378	0	.000	DC..11T308/DC..3252	**SKDP343**	**MS1156**	**SRS3**

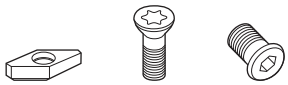






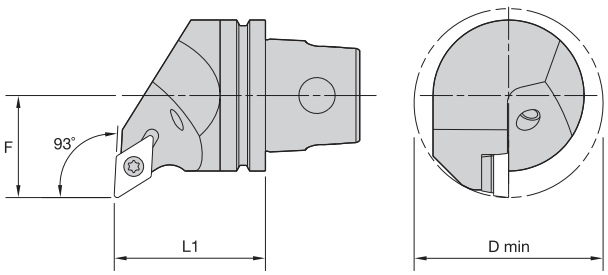
KM QUICK CHANGE

SDQC 107° 30'



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	insert screw	shim screw
	right hand										
1144423	KM32TSSDQCR11	35	1.378	22	.866	44	1.732	DC..11T308/DC..3252	SKDP343	MS1156	SRS3
	left hand										
1144428	KM32TSSDQCL11	35	1.378	22	.866	44	1.732	DC..11T308/DC..3252	SKDP343	MS1156	SRS3

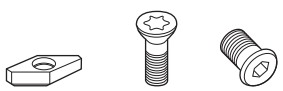






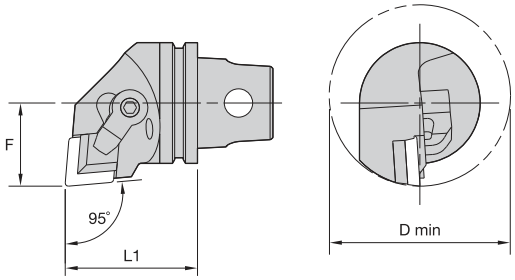
KM QUICK CHANGE

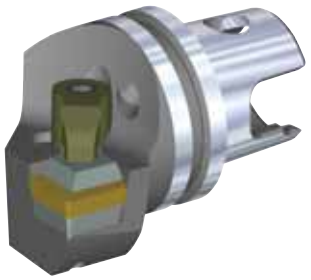
SDUC 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	insert screw	shim screw
	right hand										
1144425	KM32TSSDUCR11	35	1.378	22	.866	44	1.732	DC..11T308/DC..3252	SKDP343	MS1156	SRS3
	left hand										
1144429	KM32TSSDUCL11	35	1.378	22	.866	44	1.732	DC..11T308/DC..3252	SKDP343	MS1156	SRS3

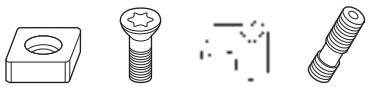






KM QUICK CHANGE

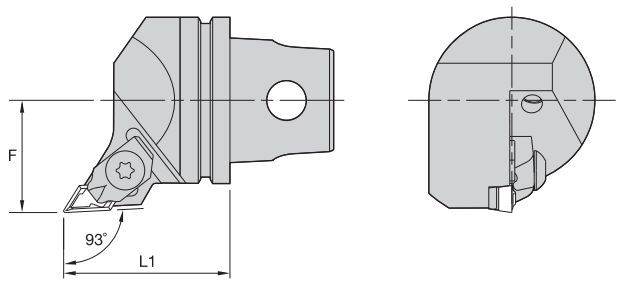
CCLP 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	clamp	clamp screw
	left hand											
1091617	KM32TSCCLPL12	35	1.378	22	.866	48	1.890	CP..120308/CP.422	SM891	MS109	CKM37	STCM11

NOTE: Chipbreakers must be ordered separately. Chipbreaker catalog number is CBD-16N.







KM QUICK CHANGE

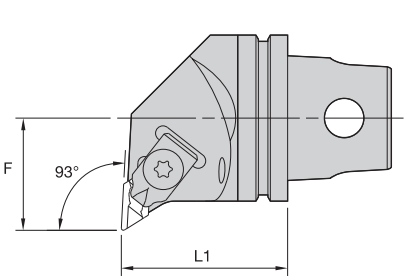
NKJC 93°

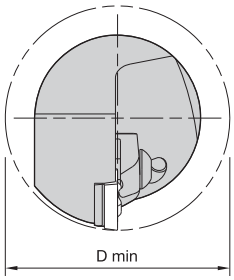


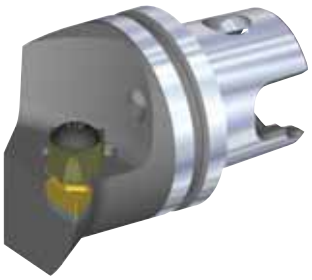
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	shim screw	clamp	clamp screw
	right hand									
1019508	KM32TSNKJCR11	35	1.378	22	.866	KC..110304R08/NP..51R	SM885	MS959	CM71	MS1220
	left hand									
1019565	KM32TSNKJCL11	35	1.378	22	.866	KC..110304L08/NP..51L	SM886	MS959	CM79	MS1220



KM QUICK CHANGE







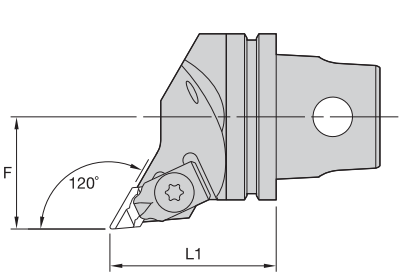
NKUC 93°

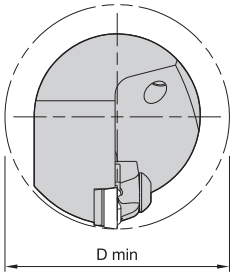


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	clamp	clamp screw
	right hand											
1019509	KM32TSNKUCR11	35	1.378	22	.866	44	1.732	KC..110304L08/NP..51L	SM886	MS959	CM68	MS1220
	left hand											
1019566	KM32TSNKUCL11	35	1.378	22	.866	44	1.732	KC..110304R08/NP..51R	SM885	MS959	CM68	MS1220



KM QUICK CHANGE





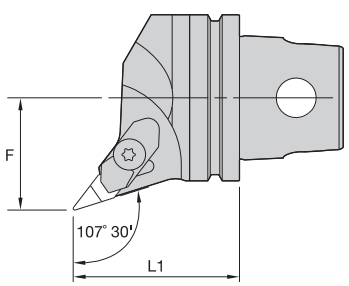


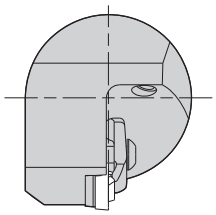
NKXC 120°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	clamp	clamp screw
	left hand											
1019567	KM32TSNKXCL11	35	1.378	22	.866	44	1.732	KC..110304R08/NP..51R	SM885	MS959	CM68	MS1220



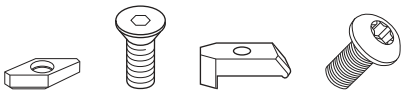






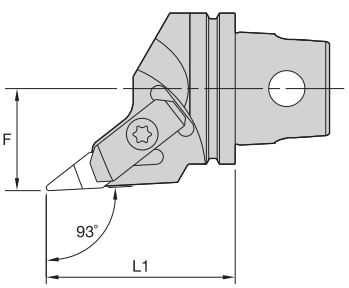
KM QUICK CHANGE

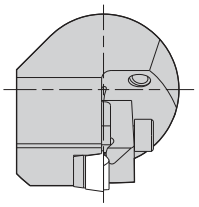
NVHB 107° 30'

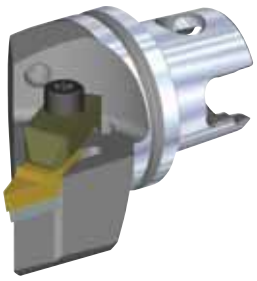


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	shim screw	clamp	clamp screw
	right hand									
1144421	KM32TSNVHBR11	35	1.378	22	.866	VBMR110304/VBMR221	SM813	MS959	CM158	MS1375



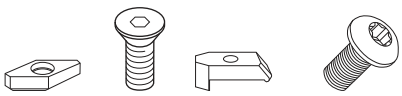






KM QUICK CHANGE

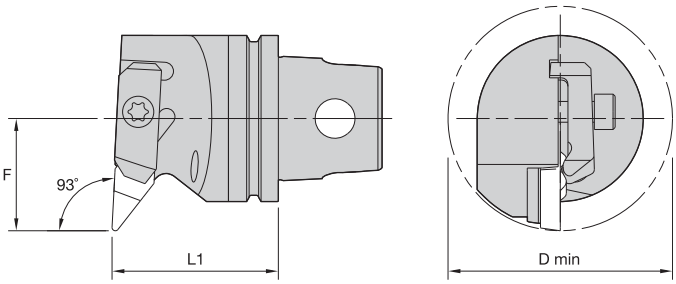
NVJC 93°

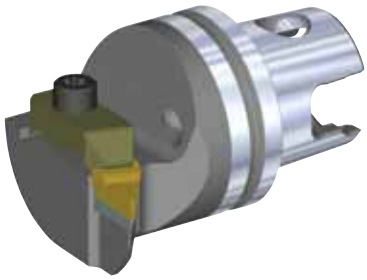


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	shim screw	clamp	clamp screw
	right hand									
1144437	KM32TSNVJCR16	47	1.850	22	.866	VCGR160408/VPGR332	SM812	MS959	CM113	MS1489PKG
	left hand									
1144440	KM32TSNVJCL16	47	1.850	22	.866	VCGR160408/VPGR332	SM812	MS959	CM114	MS1489PKG



KM QUICK CHANGE





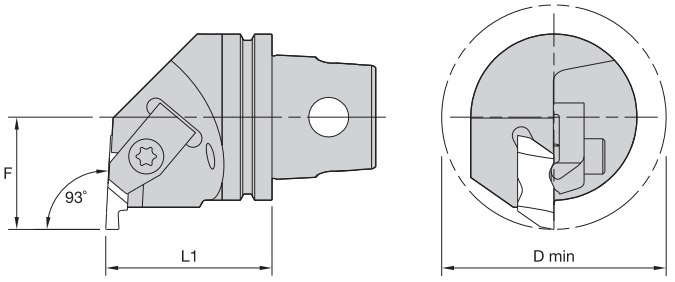
NVUC 93°

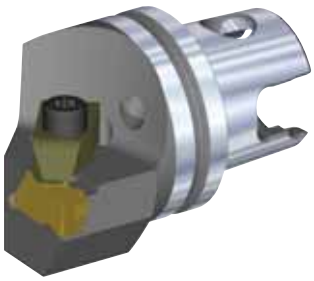


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	clamp	clamp screw
	right hand											
1091627	**KM32TSNVUCR16**	35	1.378	27	1.063	54	2.126	VCGR160408/VPGR332	**SM812**	**MS959**	**CM113**	**MS1489**
	left hand											
1019564	**KM32TSNVUCL16**	35	1.378	27	1.063	54	2.126	VCGR160408/VPGR332	**SM812**	**MS959**	**CM114**	**MS1489**

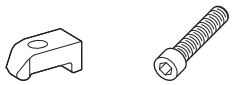


KM QUICK CHANGE



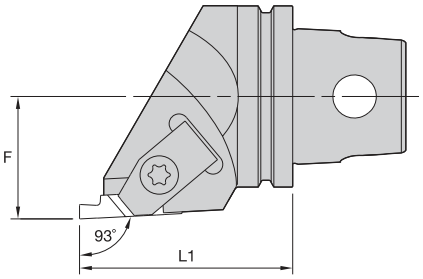


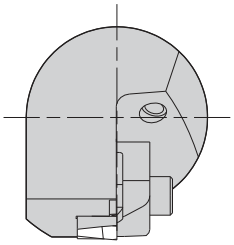
NE 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamp screw
	right hand									
1019406	**KM32TSNER2**	35	1.378	22	.866	44	1.732	NG2L	**CM75**	**MS1488**
1019410	**KM32TSNER3**	35	1.378	22	.866	44	1.732	NG3L	**CM73**	**MS1489**









KM QUICK CHANGE

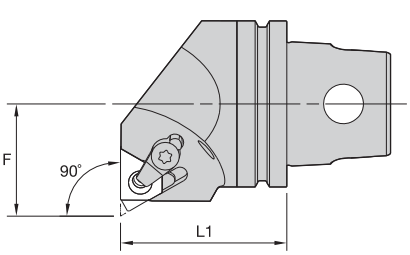
NS 90°

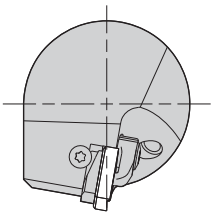




order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	clamp	clamp screw
	right hand							
1019407	**KM32TSNSR2**	35	1.378	22	.866	NG2R	**CM74**	**MS1488**
1019411	**KM32TSNSR3**	40	1.575	22	.866	NG3R	**CM72**	**MS1489**
	left hand							
1019409	**KM32TSNSL2**	35	1.378	22	.866	NG2L	**CM75**	**MS1488**
1019413	**KM32TSNSL3**	40	1.575	22	.866	NG3L	**CM73**	**MS1489**



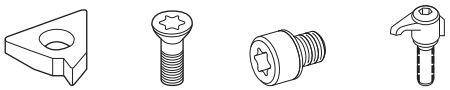






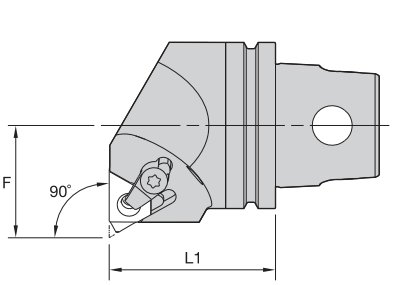
KM QUICK CHANGE

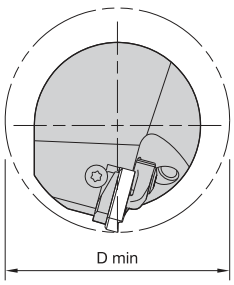
LSE-E 90° • External Only



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	insert screw	shim screw	clamp assembly
	left hand									
1144372	KM32TSLSEL16E	35	1.378	22	.866	LT16ER	SMYE3	SSA3T	SSY3T	CKC3



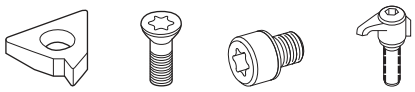






KM QUICK CHANGE

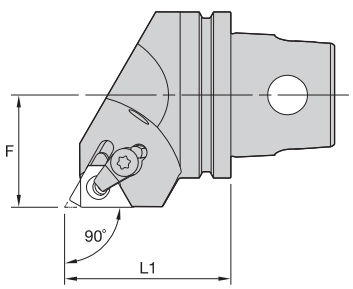
LSE-N 90° • Internal Only

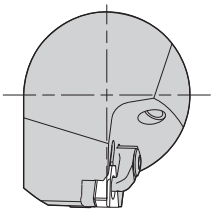


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	insert screw	shim screw	clamp assembly
	right hand											
1144357	KM32TSLSER16N	35	1.378	22	.866	44	1.732	LT16NR	SMYI3	SSA3T	SSY3T	CKC3

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.









KM QUICK CHANGE

LSS 90°

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	insert screw	shim screw	clamp assembly
	right hand									
1019298	**KM32TSLSSR16**	35	1.378	22	.866	LT16ER	**SMYE3**	**SSA3T**	**SSY3T**	**CKC3**
	left hand									
1019299	**KM32TSLSSL16**	35	1.378	22	.866	LT16EL	**SMYI3**	**SSA3T**	**SSY3T**	**CKC3**

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.



KM Micro™ and KM™ Mini

The most economical modular quick-change tooling system available.

The KM Micro and KM Mini couplings offer a very rigid joint with a high degree of repeatability while maintaining a very compact envelope. This permits a high degree of versatility without sacrificing cutting performance.

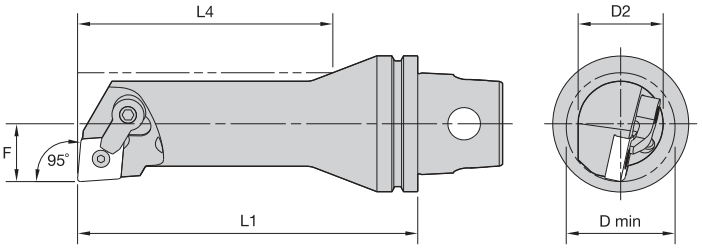
- Reduce downtime, increase productivity.
- Replaces conventional square-shank tooling.
- No machine modifications required.
- KM Mini is ideal for machines up to 30 hp (22kW).

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®







KM QUICK CHANGE

MCLN 95°

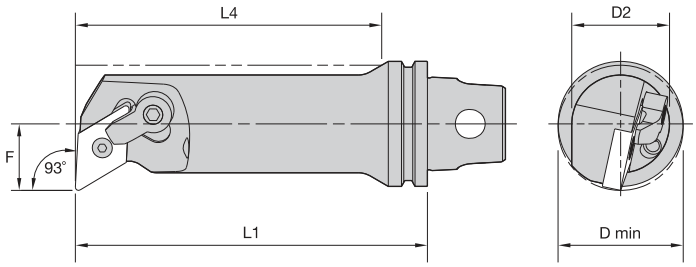
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert
	right hand											
1023729	KM32TSS25EMCLNR12	25	.98	32	1.26	17	.669	58	2.28	70	2.756	CN..120408/CN..432
1023866	KM32TSS25GMCLNR12	25	.98	32	1.26	17	.669	75	2.95	90	3.543	CN..120408/CN..432
	left hand											
1023841	KM32TSS25EMCLNL12	25	.98	32	1.26	17	.669	58	2.28	70	2.756	CN..120408/CN..432
1023868	KM32TSS25GMCLNL12	25	.98	32	1.26	17	.669	75	2.95	90	3.543	CN..120408/CN..432

Spare Parts





catalog number	lock pin	clamp	clamp screw
right hand			
KM32TSS25EMCLNR12	KLM43	CKM20LP	STCM11
KM32TSS25GMCLNR12	KLM43	CKM20LP	STCM11
left hand			
KM32TSS25EMCLNL12	KLM43	CKM20LP	STCM11
KM32TSS25GMCLNL12	KLM43	CKM20LP	STCM11





KM QUICK CHANGE

MDUN 93°

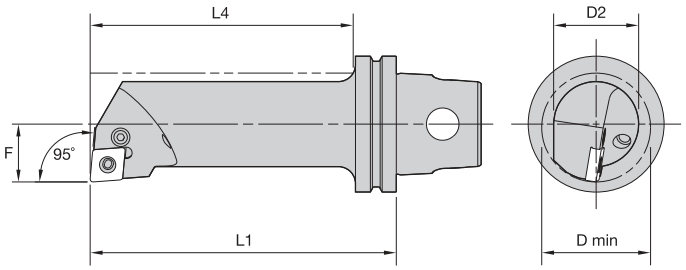
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert
	right hand											
1023730	KM32TSS25EMDUNR15	25	.98	32	1.26	17	.669	58	2.28	70	2.756	DN..150408/DN..432
1023938	KM32TSS25GMDUNR15	25	.98	32	1.26	17	.669	75	2.95	90	3.543	DN..150408/DN..432

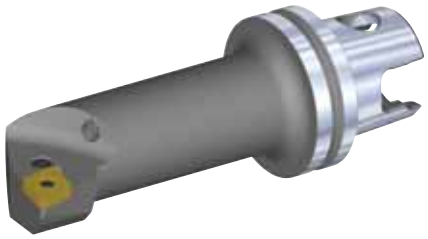
Spare Parts





catalog number	lock pin	clamp	clamp screw
right hand			
KM32TSS25EMDUNR15	KLM43	CKM20LP	STCM11
KM32TSS25GMDUNR15	KLM43	CKM20LP	STCM11





KM QUICK CHANGE

PCLN 95°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert
	right hand											
1671735	KM32TSS25GPCLNR09	25	.984	32	1.260	17	.669	80	3.150	90	3.543	CN..090308/CN..322
	left hand											
1671736	KM32TSS25GPCLNL09	25	.984	32	1.260	17	.669	80	3.132	90	3.543	CN..090308/CN..322

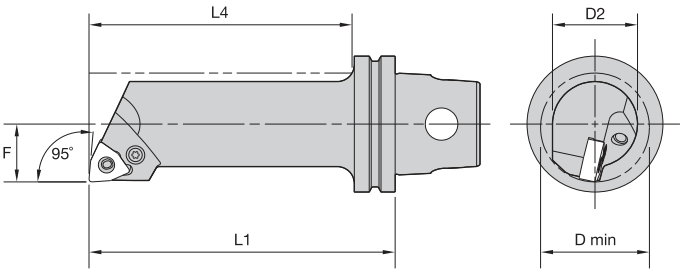
Spare Parts

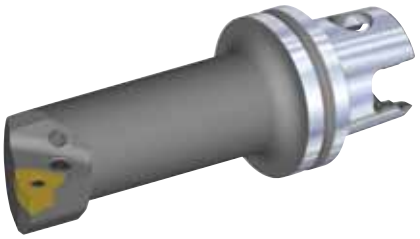




catalog number	lever screw	toggle lever
right hand		
KM32TSS25GPCLNR09	514.011	511.013
left hand		
KM32TSS25GPCLNL09	514.011	511.013







KM QUICK CHANGE

PWLN 95°

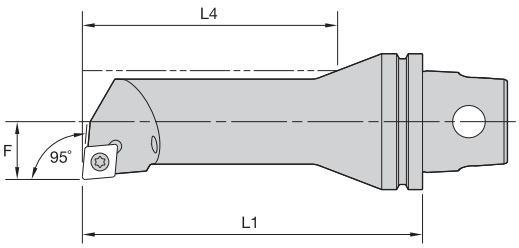
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert
	right hand											
1695783	KM32TSS25GPWLNR06	25	.984	32	1.260	17	.669	80	3.150	90	3.543	WN..060408/WN..332
	left hand											
1695784	KM32TSS25GPWLNL06	25	.984	32	1.260	17	.669	80	3.150	90	3.543	WN..060408/WN..332

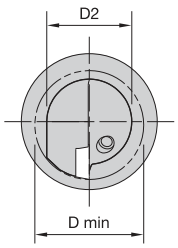
Spare Parts





catalog number	lever screw	toggle lever
right hand		
KM32TSS25GPWLNR06	514.112	511.030
left hand		
KM32TSS25GPWLNL06	514.112	511.030







KM QUICK CHANGE

SCLP 95°

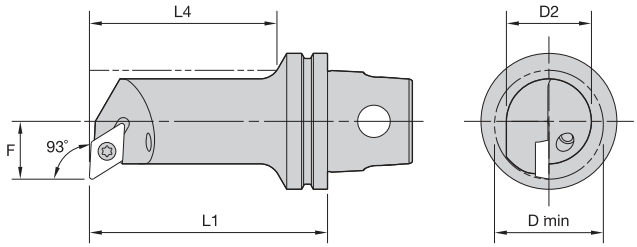
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert
	right hand											
1144614	KM32TSS10CSCLPR06	10	.39	13	.51	7	.276	35	1.38	50	1.969	CP..060204/CP..2151
1144616	KM32TSS12DSCLPR06	12	.47	16	.63	9	.354	43	1.70	60	2.362	CP..060204/CP..2151
1144618	KM32TSS16ESCLPR09	16	.63	20	.79	11	.433	56	2.20	70	2.756	CP..09T308/CP..3252
1144645	KM32TSS20FSCLPR09	20	.79	25	.98	13	.512	60	2.36	80	3.150	CP..09T308/CP..3252
1144647	KM32TSS25GSCLPR09	25	.98	32	1.26	17	.669	75	2.95	90	3.543	CP..09T308/CP..3252
	left hand											
1144615	KM32TSS10CSCLPL06	10	.39	13	.51	7	.276	35	1.38	50	1.969	CP..060204/CP..2151
1144617	KM32TSS12DSCLPL06	12	.47	16	.63	9	.354	43	1.70	60	2.362	CP..060204/CP..2151
1144619	KM32TSS16ESCLPL09	16	.63	20	.79	11	.433	56	2.20	70	2.756	CP..09T308/CP..3252
1144646	KM32TSS20FSCLPL09	20	.79	25	.98	13	.512	60	2.36	80	3.150	CP..09T308/CP..3252
1144745	KM32TSS25ESCLPL09	25	.98	32	1.26	17	.669	58	2.28	70	2.756	CP..09T308/CP..3252

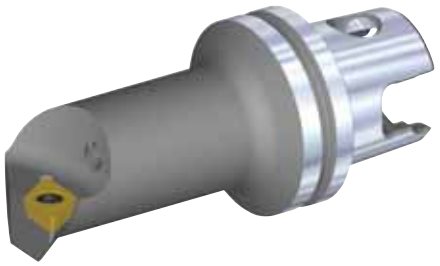
Spare Parts



catalog number	insert screw
right hand	
KM32TSS10CSCLPR06	MS1153
KM32TSS12DSCLPR06	MS1153
KM32TSS16ESCLPR09	MS1155
KM32TSS20FSCLPR09	MS1155
KM32TSS25GSCLPR09	MS1155
left hand	
KM32TSS10CSCLPL06	MS1153
KM32TSS12DSCLPL06	MS1153
KM32TSS16ESCLPL09	MS1155
KM32TSS20FSCLPL09	MS1155
KM32TSS25ESCLPL09	MS1155







KM QUICK CHANGE

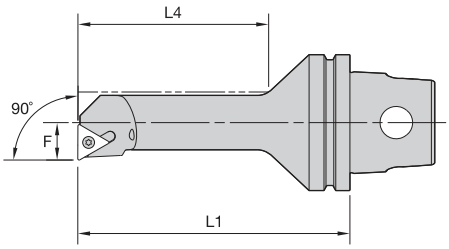
SDUP 93°

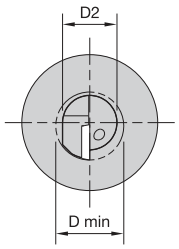
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert
	right hand											
1020682	**KM32TSS12DSDUPR07**	12	.47	16	.63	9	.354	42	1.65	60	2.362	DP..070204/DP..2151
1020724	**KM32TSS16ESDUPR07**	16	.63	20	.79	11	.433	56	2.20	70	2.756	DP..070204/DP..2151
1144657	**KM32TSS20FSDUPR07**	20	.79	25	.98	13	.512	60	2.36	80	3.150	DP..070204/DP..2151
1144743	**KM32TSS25ESDUPR11**	25	.98	32	1.26	17	.669	58	2.28	70	2.756	DP..11T308/DP..3252
	left hand											
1020683	**KM32TSS12DSDUPL07**	12	.47	16	.63	9	.354	42	1.65	60	2.362	DP..070204/DP..2151
1020725	**KM32TSS16ESDUPL07**	16	.63	20	.79	11	.433	56	2.20	70	2.756	DP..070204/DP..2151
1144658	**KM32TSS20FSDUPL07**	20	.79	25	.98	13	.512	60	2.36	80	3.150	DP..070204/DP..2151
1144746	**KM32TSS25ESDUPL11**	25	.98	32	1.26	17	.669	58	2.28	70	2.756	DP..11T308/DP..3252

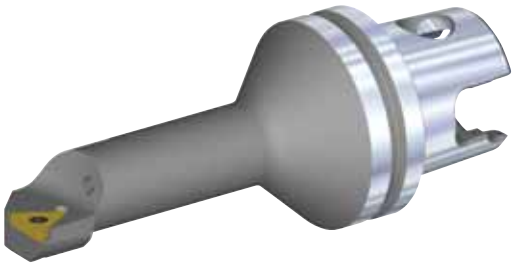
Spare Parts



catalog number	insert screw
right hand	
KM32TSS12DSDUPR07	**MS1153**
KM32TSS16ESDUPR07	**MS1153**
KM32TSS20FSDUPR07	**MS1153**
KM32TSS25ESDUPR11	**MS1155**
left hand	
KM32TSS12DSDUPL07	**MS1153**
KM32TSS16ESDUPL07	**MS1153**
KM32TSS20FSDUPL07	**MS1153**
KM32TSS25ESDUPL11	**MS1155**







KM QUICK CHANGE

STFP 90°

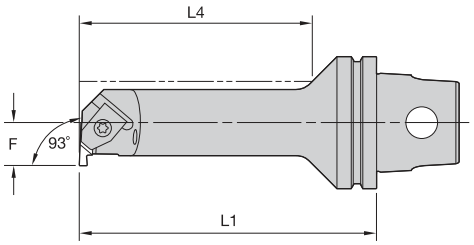
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert
	right hand											
1144626	**KM32TSS10CSTFPR11**	10	.39	13	.512	7	.276	35	1.38	50	1.969	TP..110204/TP..2151
1144629	**KM32TSS16ESTFPR11**	16	.63	20	.787	11	.433	56	2.20	70	2.756	TP..110204/TP..2151
	left hand											
1144627	**KM32TSS10CSTFPL11**	10	.39	13	.512	7	.276	35	1.38	50	1.969	TP..110204/TP..2151

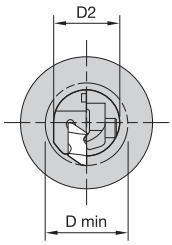
Spare Parts

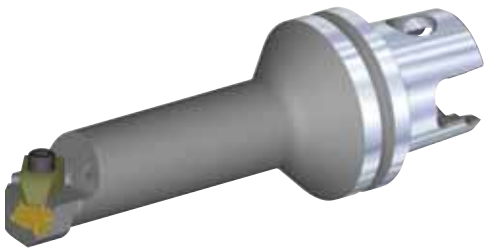


catalog number	insert screw
right hand	
KM32TSS10CSTFPR11	**MS1153**
KM32TSS16ESTFPR11	**MS1153**
left hand	
KM32TSS10CSTFPL11	**MS1153**









KM QUICK CHANGE

NE 93°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert
	right hand											
1020727	KM32TSS12DNER2	12	.47	19	.728	11	.433	42	1.654	60	2.362	NG2L
	left hand											
1020728	KM32TSS12DNEL2	12	.47	19	.728	11	.433	42	1.654	60	2.362	NG2R
1144713	KM32TSS20FNEL2	20	.79	25	.984	13	.512	60	2.362	80	3.150	NG2R

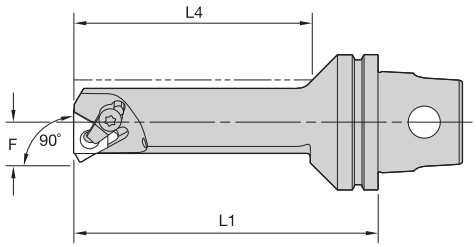
Spare Parts

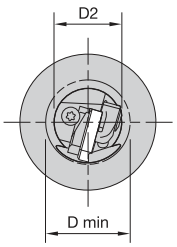




catalog number	clamp	clamp screw
right hand		
KM32TSS12DNER2	CM147	MS1488
left hand		
KM32TSS12DNEL2	CM146	MS1488
KM32TSS20FNEL2	CM74	MS1488









KM QUICK CHANGE

LSE 90°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert
	right hand											
1020454	KM32TSS10CLSER11	10	.39	13	.51	7	.276	35	1.38	50	1.969	LT11NR
1020456	KM32TSS12DLSER11	12	.47	16	.63	9	.354	42	1.65	60	2.362	LT11NR
1144724	KM32TSS16ELSER16	16	.63	20	.79	11	.433	56	2.21	70	2.756	LT16NR
1020458	KM32TSS20FLSER16	20	.79	25	.98	13	.512	60	2.36	80	3.150	LT16NR
	left hand											
1020461	KM32TSS25GLSEL16	25	.98	32	1.26	17	.669	75	2.95	90	3.543	LT16NL

Spare Parts

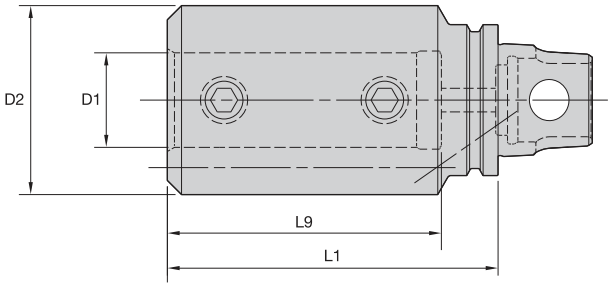





catalog number	shim	insert screw	shim screw	clamp assembly
right hand				
KM32TSS10CLSER11	–	SSN2T	–	–
KM32TSS12DLSER11	–	SSN2T	–	–
KM32TSS16ELSER16	–	SSA3T	–	–
KM32TSS20FLSER16	SMYI3	SSA3T	SSY3T	CKC3
left hand				
KM32TSS25GLSEL16	SMYE3	SSA3T	SSY3T	CKC3

NOTE: Items listed without a shim are designed for a 1.5° inclination angle.
Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.







KM QUICK CHANGE

BA • Internal and External Coolant • Metric



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	Nm
1144729	**KM32TSBA06045M**	6	40	45	36	**MS1210**	2.5mm	4
1144730	**KM32TSBA08045M**	8	40	45	36	**MS1210**	2.5mm	4
1144544	**KM32TSBA10055M**	10	40	55	48	**MS1211**	4mm	18
1144545	**KM32TSBA12060M**	12	40	60	52	**MS1211**	4mm	15
1144546	**KM32TSBA16065M**	16	40	65	55	**MS1212**	5mm	34
1144547	**KM32TSBA20070M**	20	40	70	58	**MS1212**	5mm	35

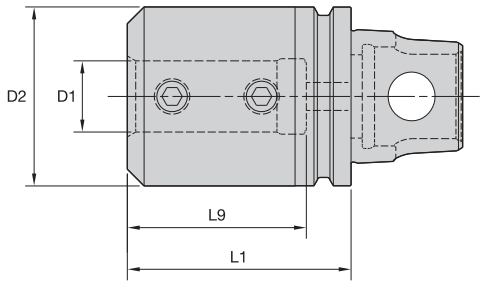
BA • Internal and External Coolant • Inch



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	ft. lbs.
1020175	**KM32TSBA06217**	3/8	1.57	2.165	1.89	**S843**	1/8	8
1020176	**KM32TSBA08236**	1/2	1.58	2.362	2.05	**S852**	5/32	15
1020177	**KM32TSBA10256**	5/8	1.58	2.559	2.17	**S862**	3/16	25
1020178	**KM32TSBA12276**	3/4	1.57	2.756	2.28	**S862**	3/16	25

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.







BAI • Internal Coolant Only • Metric

order number	catalog number	D1	D2	L1	L9	wrench size clamp screw	Nm
1279245	KM32TSBAI25070M	25	50	70	58	5mm	25

Spare Parts • Metric



catalog number	clamp screw
KM32TSBAI25070M	MS1212

BAI • Internal Coolant Only • Inch

order number	catalog number	D1	D2	L1	L9	wrench size clamp screw	ft. lbs.
1722930	KM32TSBAI04126	1/4	1.26	1.260	1.06	3/32	2
1723301	KM32TSBAI06126	3/8	1.26	1.260	1.06	1/8	5
1723302	KM32TSBAI08157	1/2	1.26	1.575	1.26	1/8	8
1723303	KM32TSBAI10185	5/8	1.26	1.850	1.58	1/8	8
1021122	KM32TSBAI16276	1	1.97	2.756	2.28	3/16	15

Spare Parts • Inch

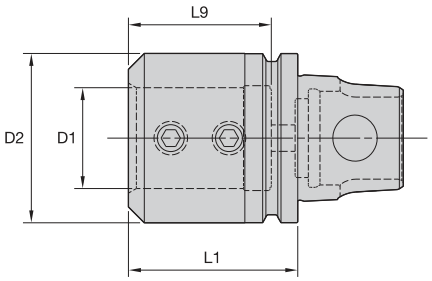


catalog number	clamp screw
KM32TSBAI04126	S836PKG
KM32TSBAI06126	S841PKG
KM32TSBAI08157	S841PKG
KM32TSBAI10185	—
KM32TSBAI16276	S862

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.



KM QUICK CHANGE



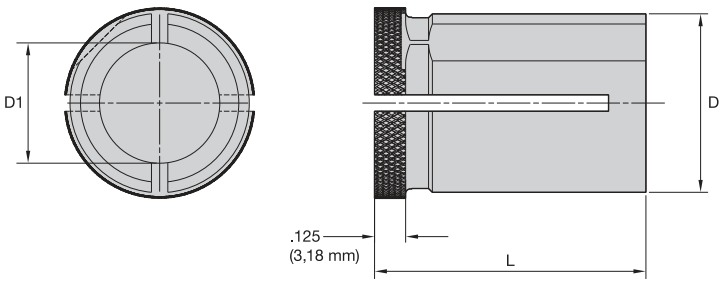


HDB • Internal Coolant Only • Inch

order number	catalog number	D1	D2	L1	L9
1021167	KM32TSHDB6126	.750	1.26	1.260	1.06

NOTE: For bushings, see page A251.





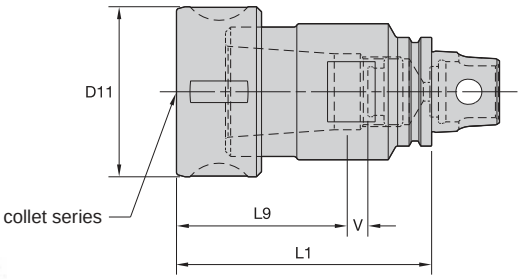


HDB • Inch

order number	catalog number	D1	D	L
1272797	HDB6250	.250	.750	1.120
1272798	HDB6375	.375	.750	1.120
1272799	HDB6500	.500	.750	1.120
1272800	HDB6625	.625	.750	1.120

- Tremendous Grip (3:1 advantage).
- Balanced by design.







KM QUICK CHANGE

TG • Round Nut

order number	catalog number	CST collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	V mm	V in
1144185	KM32TSTGB075075M	TG75	50	1.97	75	2.953	53,0	2.09	2	.08

Spare Parts



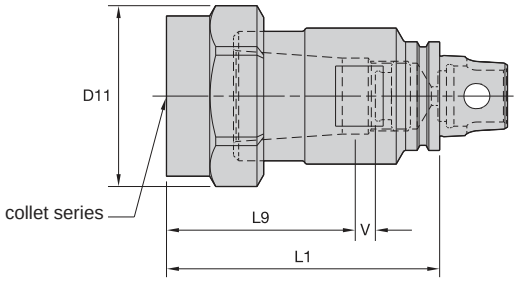


catalog number	round assembly	HSW	Nm	ft. lbs.	stop screw	wrench size stop screw
KM32TSTGB075075M	LNA075M	HSW45M	136	100	SS081041G	4 mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/Interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.

(continued)

(TG continued)



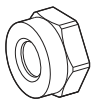


TG collet series	Collet Capacity mm min	mm max	inch min	inch max
TG75	2,6	20,0	3/64	3/4

TG • Hex Nut

order number	catalog number	CST collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	V mm	V in
1024232	**KM32TSTGB075316**	TG75	53	2.09	80	3.161	58,0	2.28	2	.08

Spare Parts

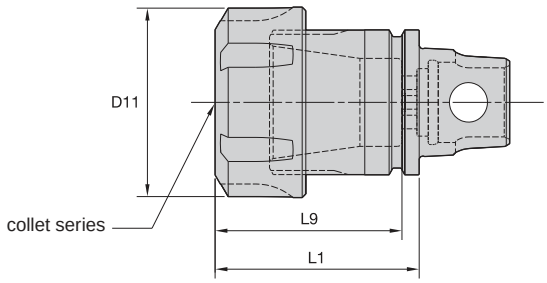




catalog number	locknut	wrench	Nm	ft. lbs.	stop screw	wrench size stop screw
KM32TSTGB075316	**NPA075**	**OEW188**	136	100	**SS081041G**	4 mm & 5/32

- Grip (2:1 advantage).
- Balanced by design.







KM QUICK CHANGE

Collet Capacity

ER collet series	mm min	mm max	inch min	inch max
ER25	1,0	16,0	.02	.63
ER32	1,0	20,0	.08	.81

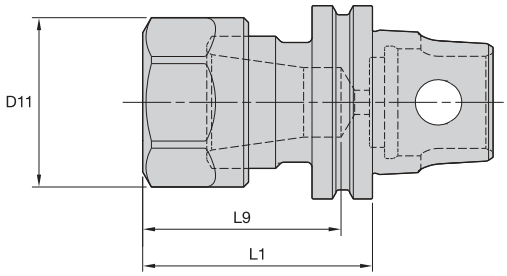
ER • Round Nut




order number	catalog number	CST collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	locknut	wrench	Nm	ft. lbs.
1013521	**KM32TSER25045M**	ER25	42	1.654	45	1.772	41,2	1.622	**LNSER25M**	**ER25WM**	104	77
1013522	**KM32ER3251**	ER32	50	1.969	51	2.008	47,3	1.863	**LNSER32M**	**ER32WM**	136	100

(continued)

(ER continued)





	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER16	0,5	10,0	.02	.40

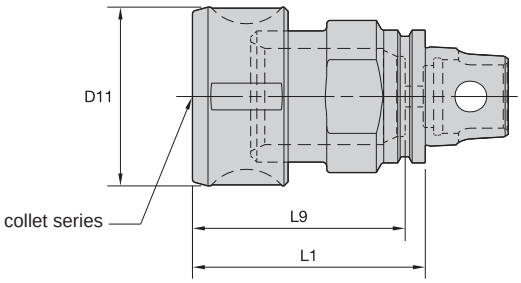
ER • Hex Nut

order number	catalog number	CST collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	locknut	wrench	straight collet torque (Nm)	straight collet torque (ft. lbs.)	counterbore collet torque (Nm)	counterbore collet torque (ft. lbs.)
1013520	**KM32TSER16036M**	ER16	28	1.102	36	1.417	32,8	1.291	**LNHSER16M**	**OEW25M**	56	42	40	30

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable coolant-style locknuts and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.

- Grip 1:1.
- Balanced by design.







KM QUICK CHANGE

Collet Capacity

DA collet series	mm min	mm max	inch min	inch max
200DA	1,0	10,0	.04	.39
180DA	3,0	20,0	.04	.75

DA • Round Nut

order number	catalog number	CST collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	V mm	V in
1144184	**KM32TSDA208060M**	DA200	28	1.10	60	2.362	37	1.46	6,0	.24
1144190	**KM32TSDA188056M**	DA180	43	1.69	56	2.205	53	2.08	—	—

Spare Parts

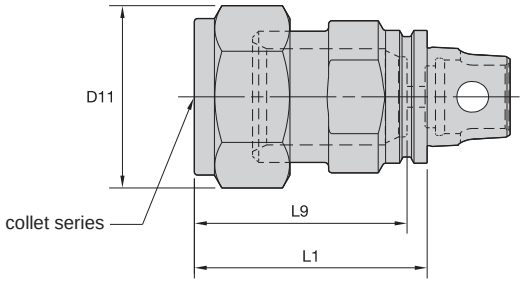




catalog number	locknut	wrench	Nm	ft. lbs.	stop screw	wrench size stop screw
KM32TSDA208060M	**LNA208RM**	**HSW25M**	61	45	**SS038031G**	2 mm & 5/64
KM32TSDA188056M	**LNA188M**	**HSW45M**	136	100	**—**	—

(continued)

(DA continued)





	Collet Capacity			
	mm		inch	
DA collet series	min	max	min	max
200DA	1,0	10,0	.04	.39
180DA	3,0	20,0	.04	.75

DA • Hex Nut

			D11		L1		L9		V	
order number	catalog number	CST collet series	mm	in	mm	in	mm	in	mm	in
1024325	**KM32TSDA208236**	DA200	29	1.15	60	2.362	35	1.38	8,0	.32
1145045	**KM32TSDA188220**	DA180	44	1.73	56	2.205	53	2.08	—	—
1024326	**KM32TSDA188295**	DA180	44	1.73	75	2.953	49	1.93	5,0	.20

Spare Parts

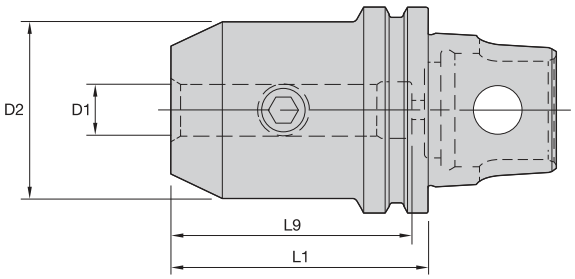




catalog number	locknut	wrench	Nm	ft. lbs.	stop screw	wrench size stop screw
KM32TSDA208236	**NPA208**	**OEW100**	54	40	**SS038031G**	2 mm & 5/64
KM32TSDA188220	**NPA188**	**OEW225**	102	75	**—**	—
KM32TSDA188295	**NPA188**	**OEW150**	102	75	**SS081041G**	4 mm & 5/32

NOTE: Tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.







KM QUICK CHANGE

EM • Metric



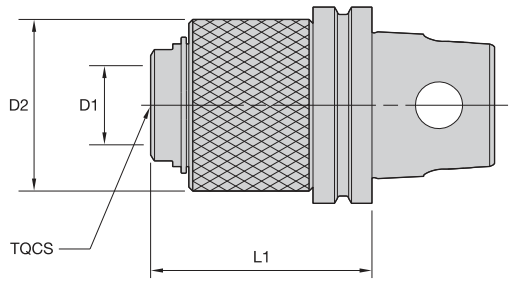
order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	Nm
1144187	**KM32TSEM06040M**	6	25	40	37,5	**SS03M012**	3mm	7
1144188	**KM32TSEM08040M**	8	28	40	37,5	**SS03M014**	4mm	15
1144191	**KM32TSEM10045M**	10	35	45	42,0	**SS03M018**	5mm	25
1144189	**KM32TSEM12050M**	12	42	50	47,0	**SS03M023**	6mm	35

EM • Inch



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	ft. lbs.
1145046	**KM32TSEM038177**	.375	1.00	1.772	1.63	**ELS038031PKG**	3/16	15
1024263	**KM32TSEM050197**	.500	1.38	1.969	1.84	**ELS044038PKG**	7/32	20

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.



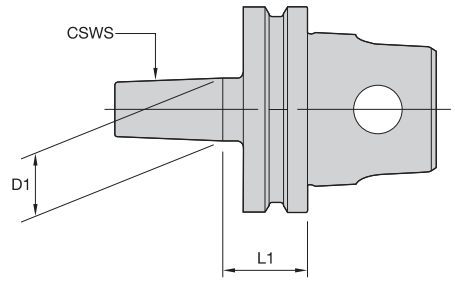


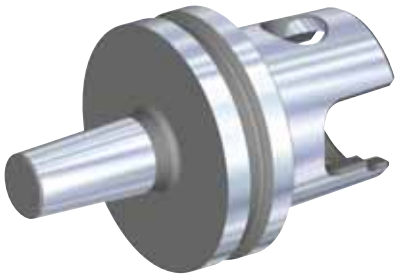
KM QUICK CHANGE

ST • Solid Tap Chuck

order number	catalog number	TQCS adapter size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in
1013514	KM32TSST140	1	19	.748	35	1.38	40,05	1.577

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.



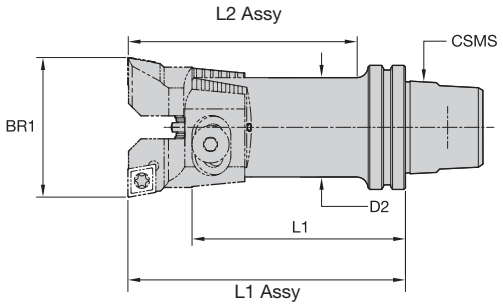


KM QUICK CHANGE

JT

order number	catalog number	CSWS system size	D1 mm	D1 in	L1 mm	L1 in
1021467	KM32TSJT1	1	10	.384	13,34	.525

- Preset on tool setter.
- Blade set included.





KM QUICK CHANGE

RBHT-F • 0° Lead



order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	L1 assy mm	L1 assy in	L2 assy mm	L2 assy in	blade screw	washer	pin
3586519	**KM32RBHT24**	23,500-30,500	.9252-1.2008	KM32	20,0	.79	75,4	2.97	90,0	3.54	76,0	2.99	**840.142.200**	**841.142.200**	**841.342.200**
3586520	**KM32RBHT30**	29,500-40,000	1.1614-1.5748	KM32	25,0	.98	83,8	3.30	100,0	3.94	86,0	3.39	**840.142.250**	**841.142.250**	**841.342.200**

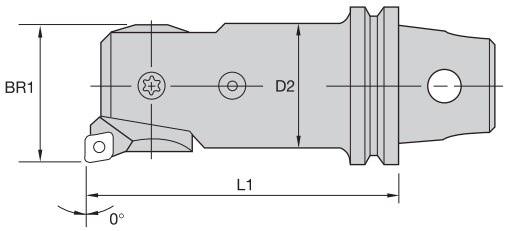
NOTE: Blade sets are ordered separately; see the Kennametal Innovations Master Catalog Cutting Tools 2013.

Reference Insert Blade Sets

BR1 mm	BR1 inch	90° lead blade sets	70° lead blade sets	90° lead simultaneous adjusting blade sets	90° lead split depth of cut blade
23.500 - 30.500	.9252 - 1.2008	MB24RBHT06F	MB24RBHT06K	SYB24RBHT06F	SDB24RBHT06F
29.500 - 40.000	1.1614 - 1.5748	MB30RBHT06F	MB30RBHT06K	SYB30RBHT06F	SDB30RBHT06F

NOTE: Blade gage insert is CC..T21.51.

- 0,01mm (.0004") diameter adjustment.
- Insert holder included.



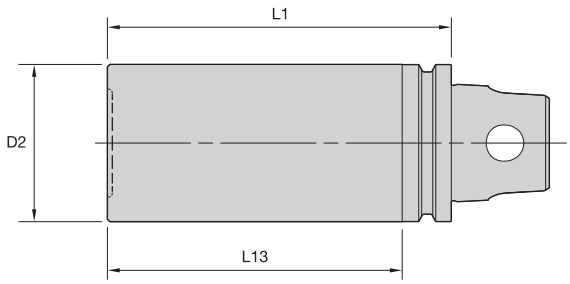


KM QUICK CHANGE

FBHS • 0° Lead

		BR1 bore range		L1		D2		
order number	catalog number	mm	in	mm	in	mm	in	cartridge
3586572	**KM32FBHS24**	23,9	.941	85,94	3.384	20	.79	R24FBHS06
3586573	**KM32FBHS31**	30,9	1.217	82,12	3.233	25	.98	R31FBHS06

NOTE: Blade gage insert is CC..T21.51.

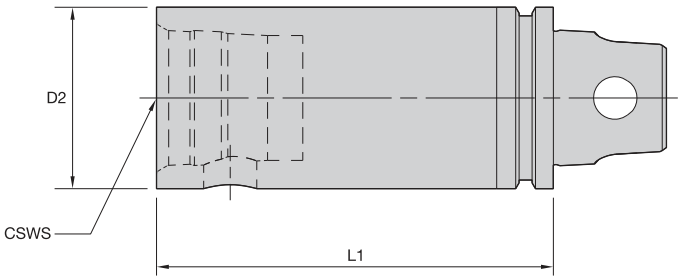




KM QUICK CHANGE

GB • Gage Bar

		L1		D2		L13	
order number	catalog number	mm	in	mm	in	mm	in
1144559	**KM32TSGB32070M**	70,00	2.756	32,00	1.260	60,00	2.362

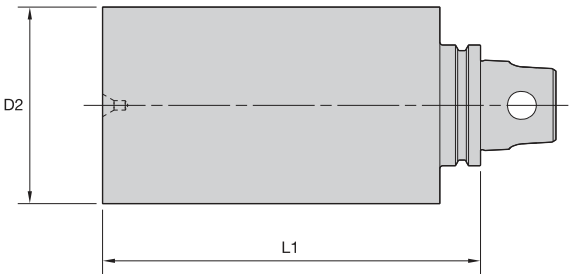




KM QUICK CHANGE

S • KM Extension

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package
1144258	**KM32TSS32050M**	KM32	32	1.260	50	1.969	5mm	8-11	6-8	**KM32PKG3S**
1144259	**KM32TSS32070M**	KM32	32	1.260	70	2.756	5mm	8-11	6-8	**KM32PKG3S**





KM QUICK CHANGE

■ BN • Blank

order number	catalog number	D2 mm	D2 in	L1 mm	L1 in	hardness range
1017544	**KM32TSBN52100M**	52	2.047	100	3.937	32–38 RW C
1021072	**KM32TSBN52048M**	52	2.047	48	1.890	32–38 RW C
1021073	**KM32TSBN75048M**	75	2.953	48	1.890	32–38 RW C

KM™ Quick Change Clamping System • KM40TS™ Series

Primary Application

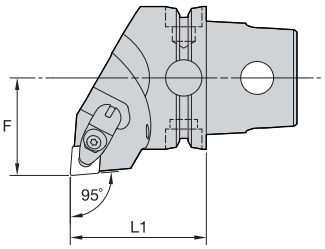
The KM Quick Change Clamping System is the best system on the market suitable for static, rotating, and multitasking operations. With its industry-leading design, the KM Quick Change System provides greater clamping forces than other quick-change systems. The KM Quick Change System gives you the flexibility to use KM on any application within your shop.

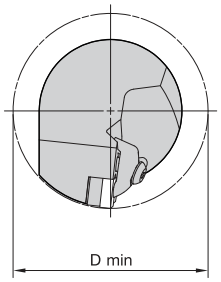
Features and Benefits

- KM is an ISO standard (ISO 26622).
- KM clamping units provide a 4:1 mechanical advantage.
- KM cutting units are capable of 100 bar (1,500 psi) coolant pressure.











KM QUICK CHANGE

DCLN 95°

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
3950183	KM40TSDCLNR12KC04	45	1.772	27	1.063	54	2.13	CN..120408/CN..432	0,36
3950184	KM40TSDCLNR16KC06	45	1.772	27	1.063	–	–	CN..160612/CN..543	0,36
	left hand								
3950161	KM40TSDCLNL12KC04	45	1.772	27	1.063	54	2.13	CN..120408/CN..432	0,36
3950162	KM40TSDCLNL16KC06	45	1.772	27	1.063	–	–	CN..160612/CN..543	0,36

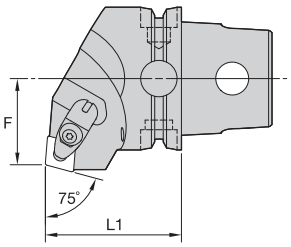
Spare Parts

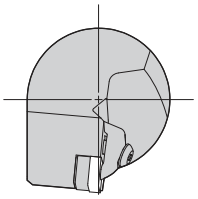





catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM40TSDCLNR12KC04	ICSN433	KMSP415IP	CM234R ASSY	SSP025016M
KM40TSDCLNR16KC06	ICSN543	KMSP515IP	CM209R ASSY	SSP025018M
left hand				
KM40TSDCLNL12KC04	ICSN433	KMSP415IP	CM234R ASSY	SSP025016M
KM40TSDCLNL16KC06	ICSN543	KMSP515IP	CM209R ASSY	SSP025018M









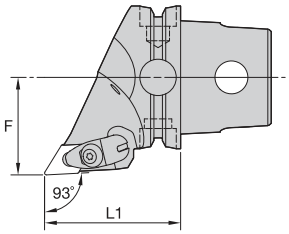
KM QUICK CHANGE

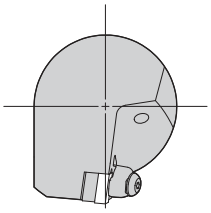
DCRN 75°

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
3950186	KM40TSDCRNR12KC04	45	1.772	24	.945	CN..120408/CN..432	0,39
	left hand						
3950185	KM40TSDCRNL12KC04	45	1.772	24	.945	CN..120408/CN..432	0,39

Spare Parts

catalog number	 shim	 shim screw	 clamp assembly	 pin
right hand KM40TSDCRNR12KC04	ICSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand KM40TSDCRNL12KC04	ICSN443	KMSP415IP	CM234R ASSY	SSP025016M







KM QUICK CHANGE

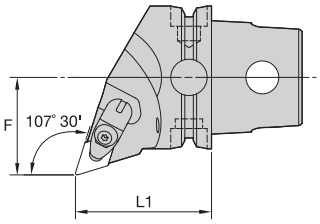
DDJN 93°

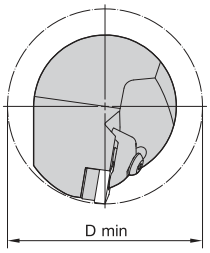
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
3950163	KM40TSDDJNR15KC04	50	1.969	27	1.063	DN..150408/DN..432	0,33
3950164	KM40TSDDJNR15KC06	50	1.969	27	1.063	DN..150608/DN..442	0,32
	left hand						
3950151	KM40TSDDJNL15KC04	50	1.969	27	1.063	DN..150408/DN..432	0,33
3950152	KM40TSDDJNL15KC06	50	1.969	27	1.063	DN..150608/DN..442	0,32

Spare Parts

catalog number	 shim	 shim screw	 clamp assembly	 pin
right hand				
KM40TSDDJNR15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM40TSDDJNR15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM40TSDDJNL15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM40TSDDJNL15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

DDQN 107° 30'

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
3950167	**KM40TSDDQNR15KC04**	45	1.772	27	1.063	86	3.39	DN..150408/DN..432	0,31
3950168	**KM40TSDDQNR15KC06**	45	1.772	27	1.063	86	3.39	DN..150608/DN..442	0,31
	left hand								
3950165	**KM40TSDDQNL15KC04**	45	1.772	27	1.063	86	3.39	DN..150408/DN..432	0,31
3950166	**KM40TSDDQNL15KC06**	45	1.772	27	1.063	86	3.39	DN..150608/DN..442	0,31

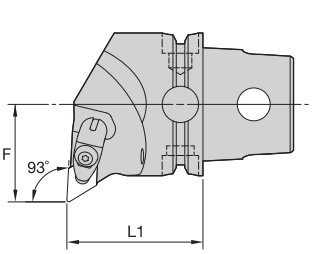
Spare Parts

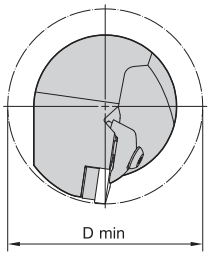





catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM40TSDDQNR15KC04	**IDSN443**	**KMSP415IP**	**CM234R ASSY**	**SSP025016M**
KM40TSDDQNR15KC06	**IDSN433**	**KMSP415IP**	**CM234R ASSY**	**SSP025016M**
left hand				
KM40TSDDQNL15KC04	**IDSN443**	**KMSP415IP**	**CM234R ASSY**	**SSP025016M**
KM40TSDDQNL15KC06	**IDSN433**	**KMSP415IP**	**CM234R ASSY**	**SSP025016M**









KM QUICK CHANGE

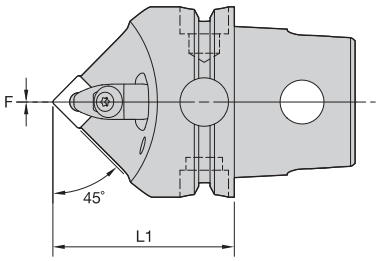
DDUN 93°

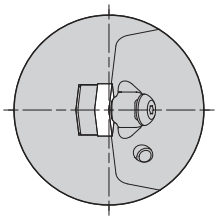
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
3950171	KM40TSDDUNR15KC04	45	1.772	27	1.063	86	3.39	DN..150408/DN..432	0,37
3950172	KM40TSDDUNR15KC06	45	1.772	27	1.063	86	3.39	DN..150608/DN..442	0,37
	left hand								
3950169	KM40TSDDUNL15KC04	45	1.772	27	1.063	86	3.39	DN..150408/DN..432	0,37
3950170	KM40TSDDUNL15KC06	45	1.772	27	1.063	86	3.39	DN..150608/DN..442	0,36

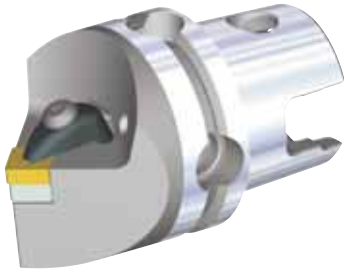
Spare Parts

catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM40TSDDUNR15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM40TSDDUNR15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM40TSDDUNL15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM40TSDDUNL15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

DSDN 45°

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
3950743	KM40TSDSDNN12KC04	45	1.772	0	.000	SN..120408/SN..432	0,33

Spare Parts





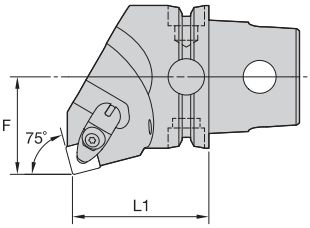


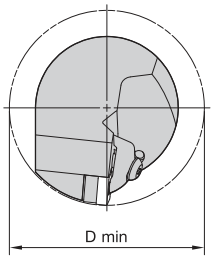


catalog number	shim	shim screw	clamp assembly	pin
KM40TSDSDNN12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M



KM QUICK CHANGE





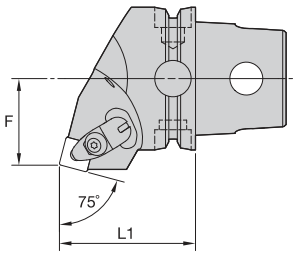


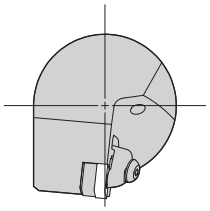
DSKN 75°

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
3950745	KM40TSDSKNR12KC04	45	1.772	27	1.063	54	2.13	SN..120408/SN..432	0,40
	left hand								
3950744	KM40TSDSKNL12KC04	45	1.772	27	1.063	54	2.13	SN..120408/SN..432	0,40

Spare Parts

catalog number	 shim	 shim screw	 clamp assembly	 pin
right hand KM40TSDSKNR12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand KM40TSDSKNL12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M







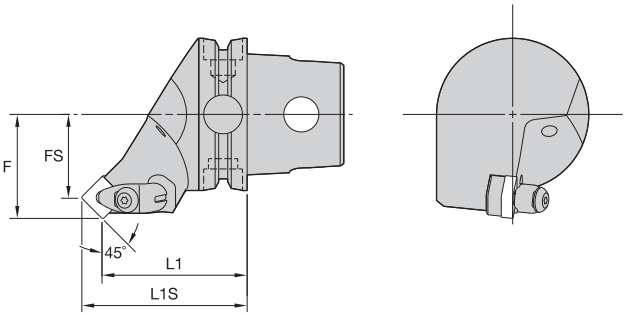
DSRN 75°

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
3950747	KM40TSDSRNR12KC04	45	1.772	24	.945	SN..120408/SN..432	0,36
	left hand						
3950746	KM40TSDSRNL12KC04	45	1.772	24	.945	SN..120408/SN..432	0,36

Spare Parts

catalog number	 shim	 shim screw	 clamp assembly	 pin
right hand KM40TSDSRNR12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand KM40TSDSRNL12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M







KM QUICK CHANGE

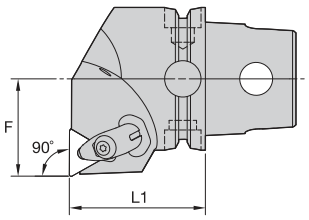
DSSN 45°

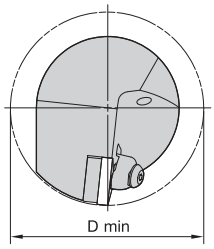
order number	catalog number	L1 mm	L1 in	L1S mm	L1S in	F mm	F in	FS mm	FS in	gage insert	kg
	right hand										
3950749	KM40TSDSSNR12KC04	45	1.772	53,3	2.100	27	1.063	19	.735	SN..120408/SN..432	0,38
	left hand										
3950748	KM40TSDSSNL12KC04	45	1.772	53,3	2.100	27	1.063	19	.735	SN..120408/SN..432	0,38

Spare Parts

catalog number	 shim	 shim screw	 clamp assembly	 pin
right hand KM40TSDSSNR12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand KM40TSDSSNL12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

DTFN 90°

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
3950751	KM40TSDTFNR22KC04050M	50	1.969	27	1.063	54	2.13	TN..220408/TN..432	0,45
	left hand								
3950750	KM40TSDTFNL22KC04050M	50	1.969	27	1.063	54	2.13	TN..220408/TN..432	0,45

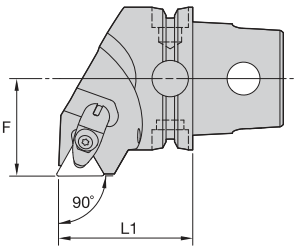
Spare Parts

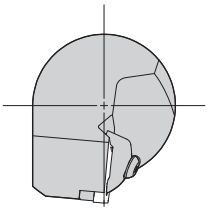





catalog number	shim	shim screw	clamp assembly	pin
right hand KM40TSDTFNR22KC04050M	ITSN433	KMSP415IP	CM234R ASSY	SSP025016M
left hand KM40TSDTFNL22KC04050M	ITSN433	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

DTGN 90°

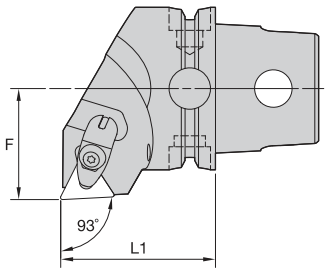
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
3950753	KM40TSDTGNR22KC04	45	1.772	27	1.063	TN..220408/TN..432	0,39
	left hand						
3950752	KM40TSDTGNL22KC04	45	1.772	27	1.063	TN..220408/TN..432	0,39

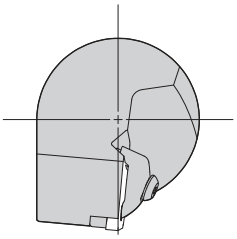
Spare Parts






catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM40TSDTGNR22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM40TSDTGNL22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M







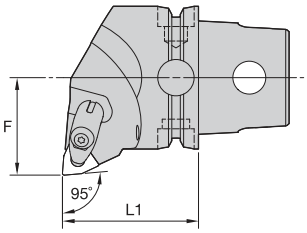
DTJN 93°

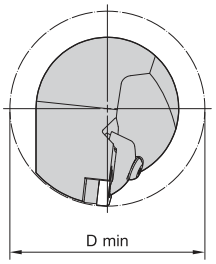
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
3950755	KM40TSDTJNR22KC04	45	1.772	27	1.063	TN..220408/TN..432	0,39
	left hand						
3950754	KM40TSDTJNL22KC04	45	1.772	27	1.063	TN..220408/TN..432	0,39

Spare Parts

catalog number	 shim	 shim screw	 clamp assembly	 pin
right hand				
KM40TSDTJNR22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM40TSDTJNL22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

DWLN 95°

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
3950757	KM40TSDWLNR08KC04	45	1.772	27	1.063	54	2.13	WN..080408/WN..432	0,38
	left hand								
3950756	KM40TSDWLNL08KC04	45	1.772	27	1.063	54	2.13	WN..080408/WN..432	0,38

Spare Parts

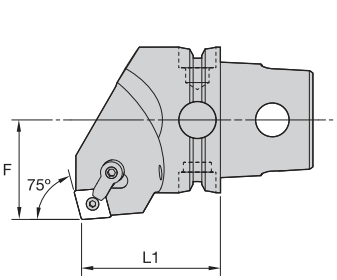


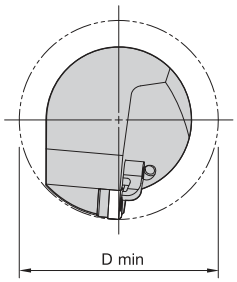



catalog number	shim	shim screw	clamp assembly	pin
right hand KM40TSDWLNR08KC04	IWSN433	KMSP415IP	CM234R ASSY	SSP025016M
left hand KM40TSDWLNL08KC04	IWSN433	KMSP415IP	CM234R ASSY	SSP025016M



KM QUICK CHANGE







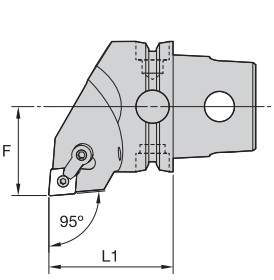
MCKN 75°

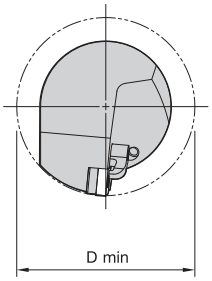


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3901336	**KM40TSMCKNR12**	40	1.575	27	1.063	54	2.126	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20LP**	**STCM11**	0,35	.76
	left hand													
3901335	**KM40TSMCKNL12**	40	1.575	27	1.063	54	2.126	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20LP**	**STCM11**	0,35	.76



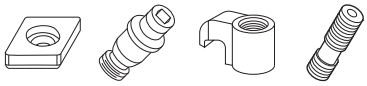
KM QUICK CHANGE







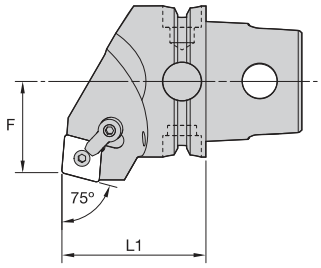
MCLN 95°

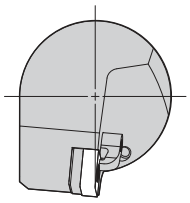


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2647737	**KM40TSMCLNR12**	40	1.575	27	1.063	54	2.126	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20LP**	**STCM11**	0,32	.70
3901339	**KM40TSMCLNR16**	40	1.575	27	1.063	120	4.724	CN..160612/CN..543	**ICSN533**	**KLM58**	**CKM20LP**	**STCM11**	0,33	.73
	left hand													
3901337	**KM40TSMCLNL12**	40	1.575	27	1.063	54	2.126	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20LP**	**STCM11**	0,32	.70
3901338	**KM40TSMCLNL16**	40	1.575	27	1.063	120	4.724	CN..160612/CN..543	**ICSN533**	**KLM58**	**CKM20LP**	**STCM11**	0,33	.73



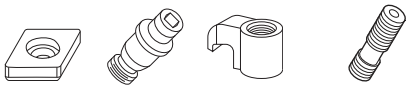








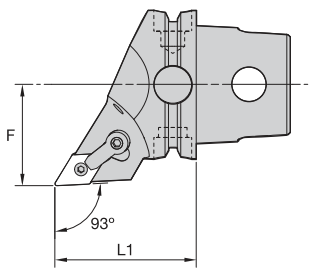
MCRN 75°

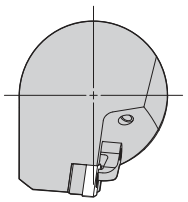


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3901341	KM40TSMCRNR12	40	1.575	24	.945	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11	0,33	.72
	left hand											
3901340	KM40TSMCRNL12	40	1.575	24	.945	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11	0,33	.72



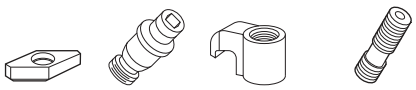




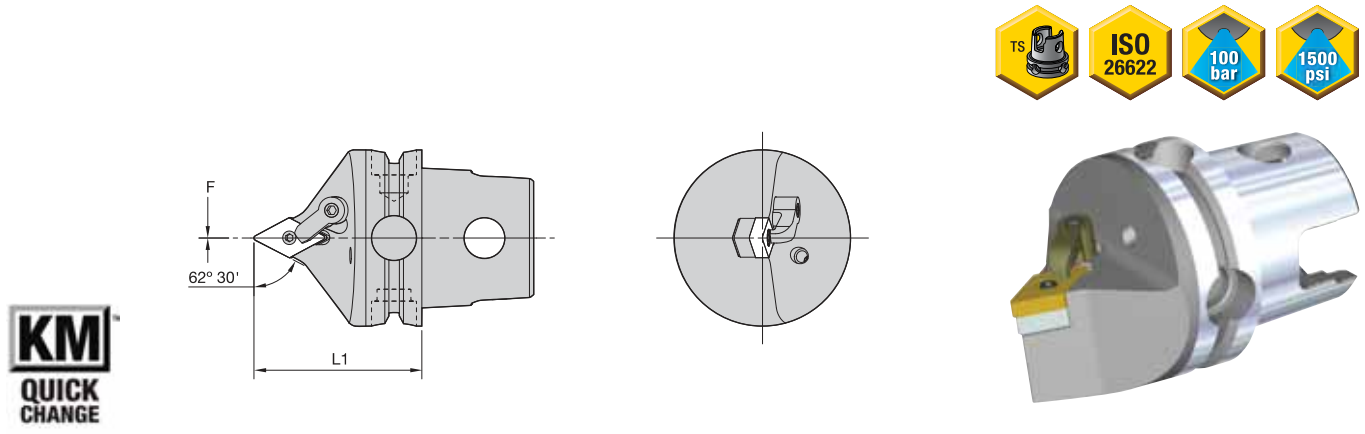




MDJN 93°



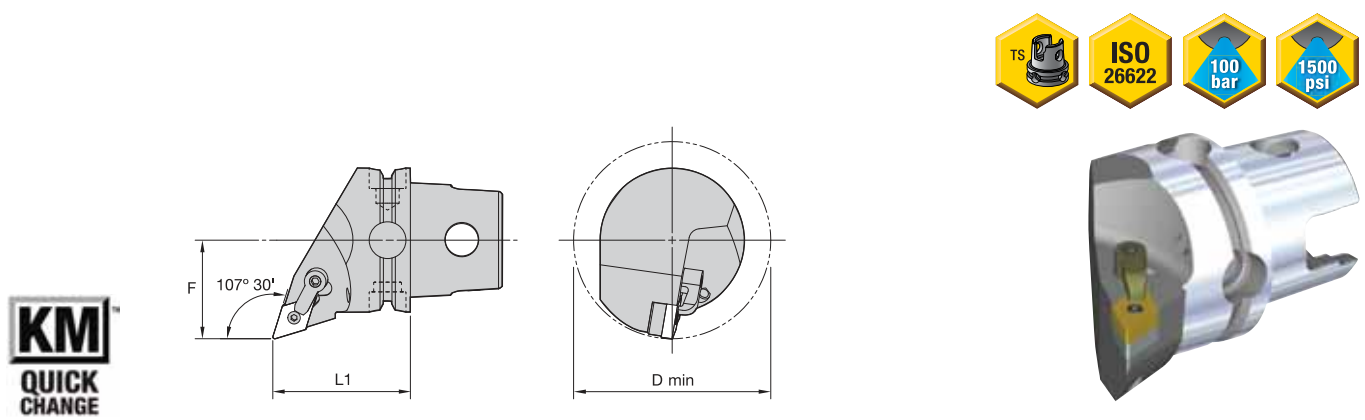
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3901291	KM40TSMDJNR1504	40	1.575	27	1.063	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11	0,26	.570
3901292	KM40TSMDJNR1506	40	1.575	27	1.063	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11	0,26	.570
	left hand											
3901289	KM40TSMDJNL1504	40	1.575	27	1.063	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11	0,26	.570
3901290	KM40TSMDJNL1506	40	1.575	27	1.063	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11	0,26	.570



KM QUICK CHANGE

MDPN 62° 30'

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
3901293	KM40TSMDPNN1504	40	1.575	0	.000	DN..150408/DN..432	IDSN442	KLM46L	CKM20LP	STCM11	0,23	.50
3901294	KM40TSMDPNN1506	40	1.575	0	.000	DN..150608/DN..442	IDSN432	KLM46L	CKM20LP	STCM11	0,22	.49



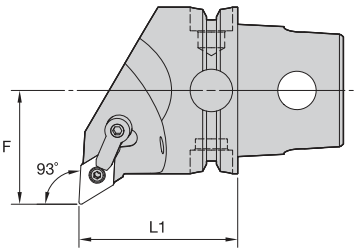
KM QUICK CHANGE

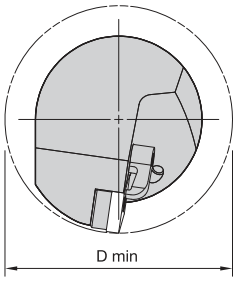
MDQN 107° 30'

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3901297	KM40TSMDQNR1504	40	1.575	27	1.063	54	2.126	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11	0,29	.63
3901298	KM40TSMDQNR1506	40	1.575	27	1.063	54	2.126	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11	0,28	.62
	left hand													
3901295	KM40TSMDQNL1504	40	1.575	27	1.063	54	2.126	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11	0,28	.63
3901296	KM40TSMDQNL1506	40	1.575	27	1.063	54	2.126	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11	0,28	.62



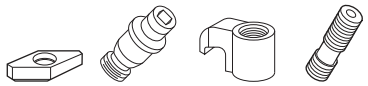








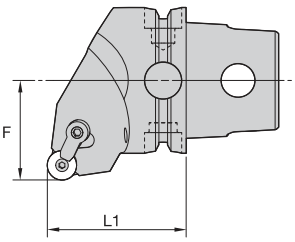
MDUN 93°

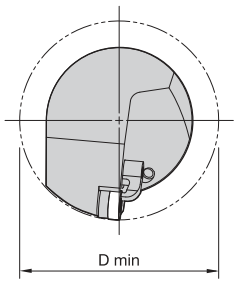


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3901301	KM40TSMDUNR1504	40	1.575	27	1.063	54	2.126	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11	0,31	.69
3901302	KM40TSMDUNR1506	40	1.575	27	1.063	54	2.126	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11	0,31	.68
	left hand													
3901299	KM40TSMDUNL1504	40	1.575	27	1.063	54	2.126	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11	0,31	.69
3901300	KM40TSMDUNL1506	40	1.575	27	1.063	54	2.126	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11	0,31	.68



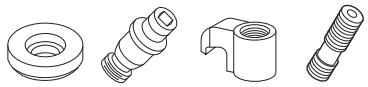






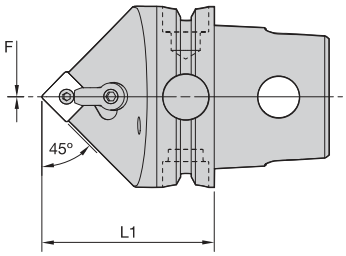


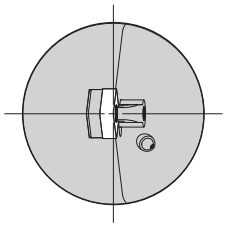
MRGN 0°

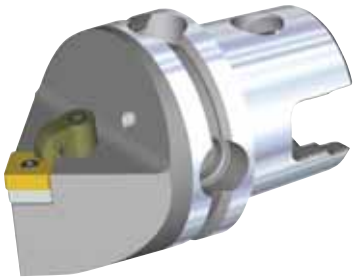


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3901306	KM40TSMRGNR12	40	1.575	27	1.063	100	3.937	RN..120400/RN..43	IRSN43	KLM46	CKM20LP	STCM11	0,32	.71
	left hand													
3901305	KM40TSMRGNL12	40	1.575	27	1.063	100	3.937	RN..120400/RN..43	IRSN43	KLM46	CKM20LP	STCM11	0,32	.71









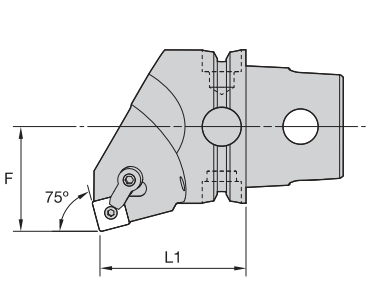
KM QUICK CHANGE

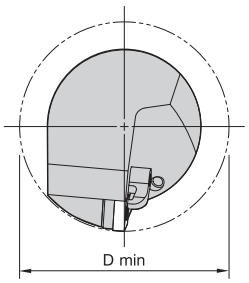
MSDN 45°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
3901307	KM40TSMSDNN12	40	1.575	0	.000	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11	0,26	.57



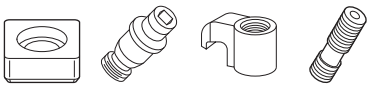






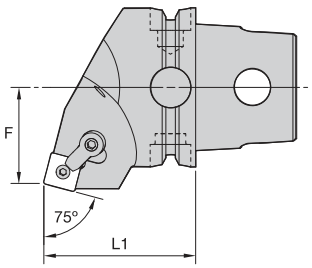
KM QUICK CHANGE

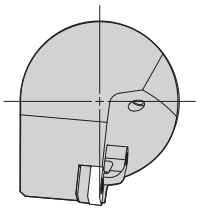
MSKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3901309	KM40TSMSKNR12	40	1.575	27	1.063	54	2.126	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11	0,36	.80
	left hand													
3901308	KM40TSMSKNL12	40	1.575	27	1.063	54	2.126	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11	0,36	.80



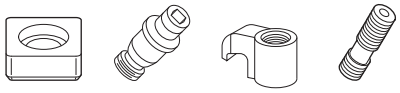






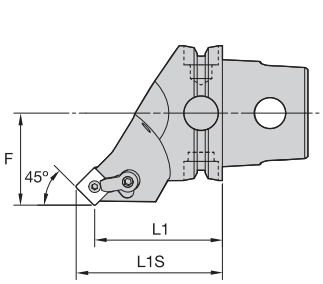
KM QUICK CHANGE

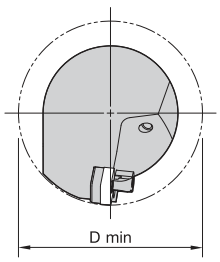
MSRN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3901311	**KM40TSMSRNR12**	40	1.575	24	.945	SN..120408/SN..432	**ISSN432**	**KLM46**	**CKM20LP**	**STCM11**	0,31	.67
3901312	**KM40TSMSRNR15**	40	1.575	24	.945	SN..150612/SN..543	**ISSN533**	**KLM58**	**CKM20LP**	**STCM11**	0,33	.73
	left hand											
3901310	**KM40TSMSRNL12**	40	1.575	24	.945	SN..120408/SN..432	**ISSN432**	**KLM46**	**CKM20LP**	**STCM11**	0,31	.68



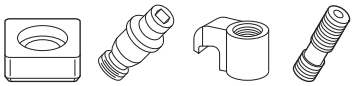






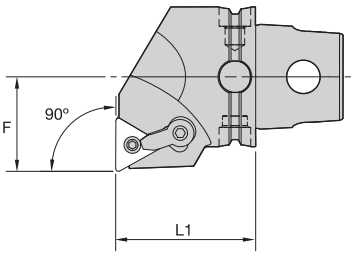
KM QUICK CHANGE

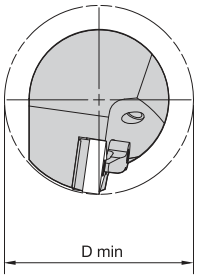
MSSN 45°

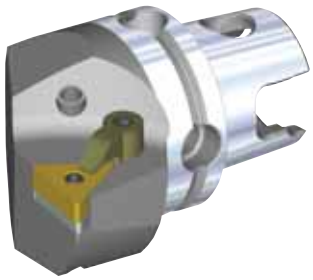


order number	catalog number	L1 mm	L1 in	L1S mm	L1S in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand															
3901314	**KM40TSMSSNR12**	40	1.575	48,3	1.903	27	1.063	80	3.150	SN..120408/SN..432	**ISSN432**	**KLM46**	**CKM20LP**	**STCM11**	0,32	.72
	left hand															
3901313	**KM40TSMSSNL12**	40	1.575	48,3	1.903	27	1.063	80	3.150	SN..120408/SN..432	**ISSN432**	**KLM46**	**CKM20LP**	**STCM11**	0,32	.71









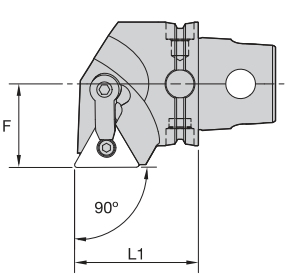
KM QUICK CHANGE

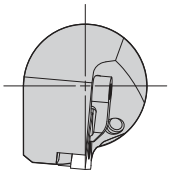
MTFN 90°

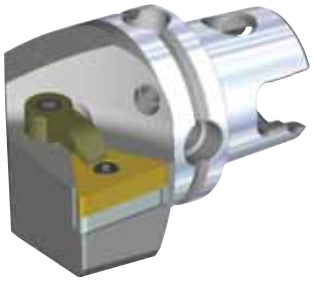


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3902249	KM40TSMTFNR16	40	1.575	27	1.063	54	2.126	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9	0,35	.78
	left hand													
3902247	KM40TSMTFNL16	40	1.575	27	1.063	54	2.126	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9	0,35	.78









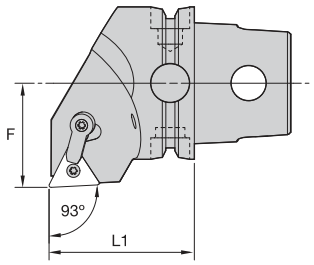
KM QUICK CHANGE

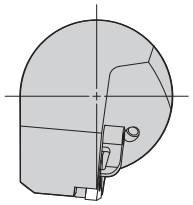
MTGN 90°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3902251	KM40TSMTGNR22	40	1.575	27	1.063	TN..220408/TN..432	ITSN433	KLM46	CKM23LP	STCM11	0,35	.78
	left hand											
3902250	KM40TSMTGNL22	40	1.575	27	1.063	TN..220408/TN..432	ITSN433	KLM46	CKM23LP	STCM11	0,35	.78



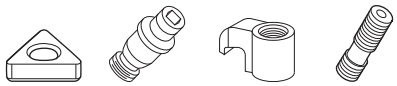






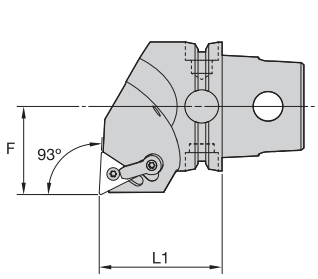
KM QUICK CHANGE

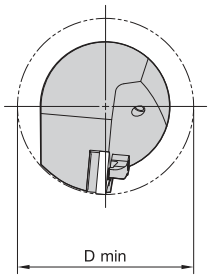
MTJN 93°

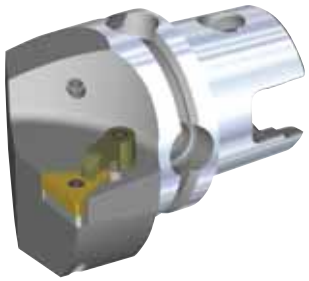


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3902274	KM40TSMTJNR16	40	1.575	27	1.063	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9	0,33	.73
3902275	KM40TSMTJNR22	40	1.575	27	1.063	TN..220408/TN..432	ITSN433	KLM46	CKM23LP	STCM11	0,36	.79
	left hand											
3902252	KM40TSMTJNL16	40	1.575	27	1.063	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9	0,33	.73
3902273	KM40TSMTJNL22	40	1.575	27	1.063	TN..220408/TN..432	ITSN433	KLM46	CKM23LP	STCM11	0,36	.79



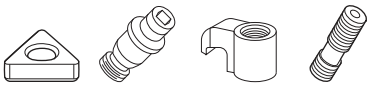






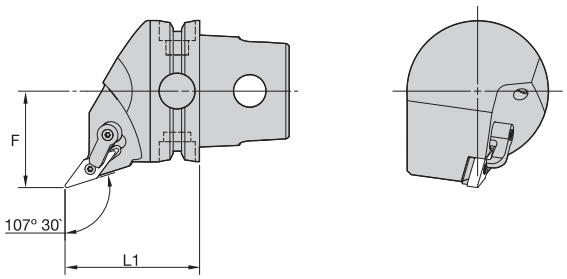
KM QUICK CHANGE

MTUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3902278	KM40TSMTUNR16	40	1.575	27	1.063	54	2.126	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9	0,34	.76
	left hand													
3902276	KM40TSMTUNL16	40	1.575	27	1.063	54	2.126	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9	0,34	.76
3902277	KM40TSMTUNL22	40	1.575	27	1.063	54	2.126	TN..220408/TN..432	ITSN433	KLM46	CKM20LP	STCM11	0,34	.75

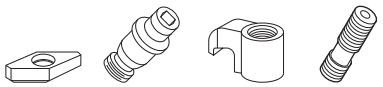






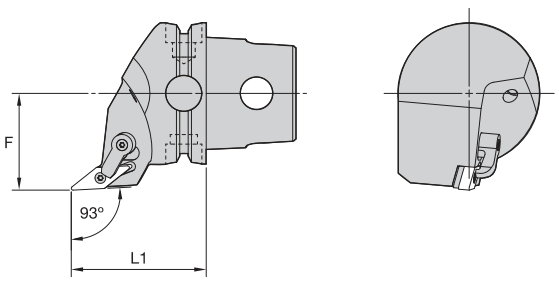
KM QUICK CHANGE

MVHN 107° 30'



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3902239	KM40TSMVHNR16050M	50	1.969	27	1.063	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11	0,35	.77
	left hand											
3902238	KM40TSMVHNL16050M	50	1.969	27	1.063	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11	0,35	.77

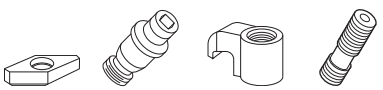






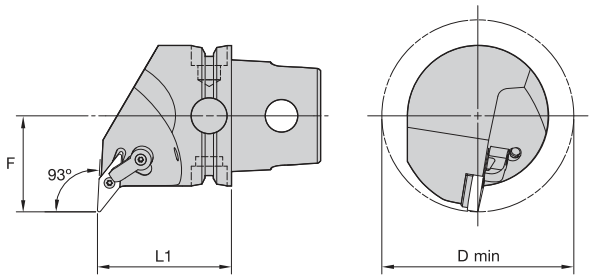
KM QUICK CHANGE

MVJN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3902241	KM40TSMVJNR16045M	45	1.772	27	1.063	VN..160408/VN..332	IVSN322	KLM34L	CKM20LP	STCM11	0,30	.65
	left hand											
3902240	KM40TSMVJNL16045M	45	1.772	27	1.063	VN..160408/VN..332	IVSN322	KLM34L	CKM20LP	STCM11	0,30	.65

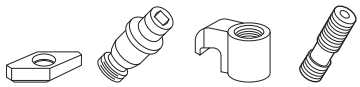






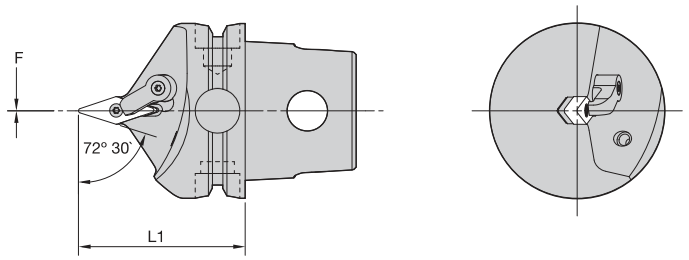
KM QUICK CHANGE

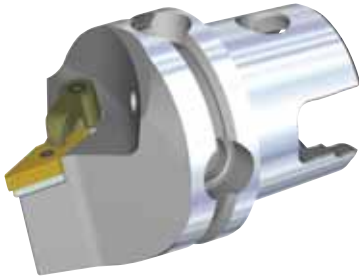
MVUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3902253	KM40TSMVUNR16045M	45	1.772	27	1.063	54	2.126	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11	0,36	.79
	left hand													
3902242	KM40TSMVUNL16045M	45	1.772	27	1.063	54	2.126	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11	0,36	.79







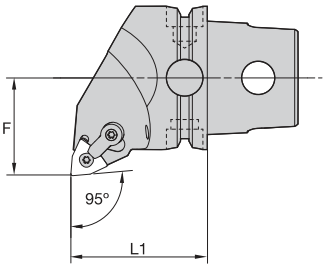
KM QUICK CHANGE

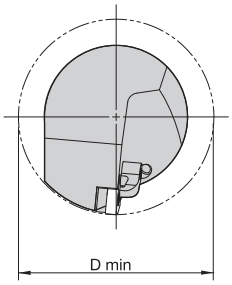
MVVN 72° 30'



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
3902254	KM40TSMVVNN16050M	50	1.969	0	.000	VN..160408/VN..332	IVSN322	KLM34L	CKM20LP	STCM11	0,29	.64



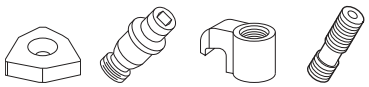






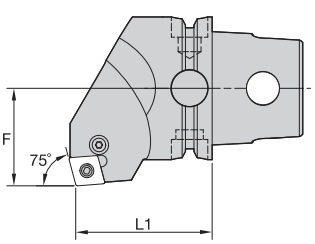
KM QUICK CHANGE

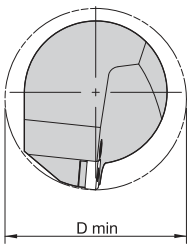
MWLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3902256	KM40TSMWLNR08	40	1.575	27	1.063	54	2.126	WN..080408/WN..432	IWSN433	KLM46	CKM20LP	STCM11	0,34	.76
	left hand													
3902255	KM40TSMWLNL08	40	1.575	27	1.063	54	2.126	WN..080408/WN..432	IWSN433	KLM46	CKM20LP	STCM11	0,34	.76



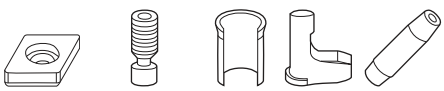






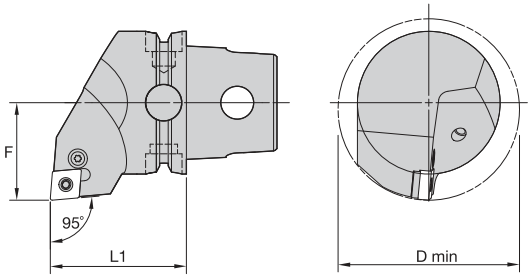
KM QUICK CHANGE

PCKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3902261	KM40TSPCKNR12	40	1.575	27	1.063	50	1.969	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	0,36	.78
	left hand														
3902260	KM40TSPCKNL12	40	1.575	27	1.063	50	1.969	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	0,35	.77

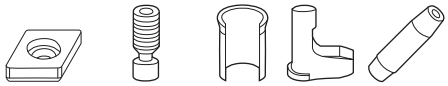






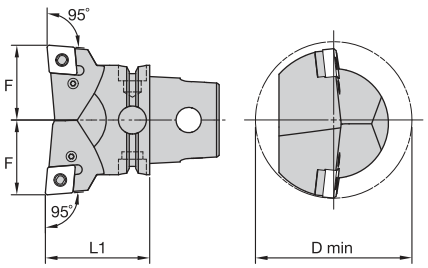
KM QUICK CHANGE

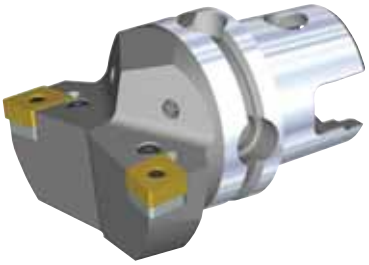
PCLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3902315	KM40TSPCLNR09	40	1.575	27	1.063	50	1.969	CN..090308/CN..322	512.111	514.118	513.019	511.018	515.018	0,32	.71
3902316	KM40TSPCLNR12	40	1.575	27	1.063	50	1.969	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	0,32	.70
	left hand														
3902262	KM40TSPCLNL09	40	1.575	27	1.063	50	1.969	CN..090308/CN..322	512.111	514.118	513.019	511.018	515.018	0,33	.72
3902313	KM40TSPCLNL12	40	1.575	27	1.063	50	1.969	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	0,32	.71

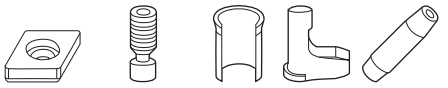






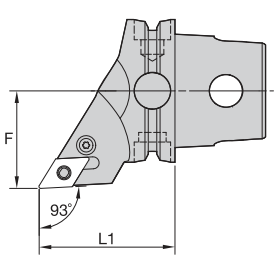
KM QUICK CHANGE

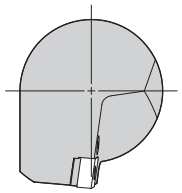
PCLN-2W 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3902317	KM40TSPCLNR122W	40	1.575	27	1.063	60	2.362	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	0,35	.77
	left hand														
3902314	KM40TSPCLNL122W	40	1.575	27	1.063	60	2.362	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	0,35	.77



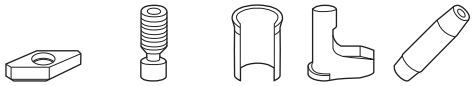






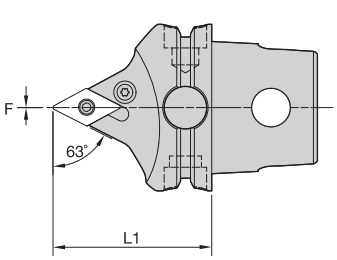
KM QUICK CHANGE

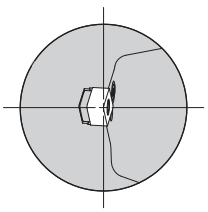
PDJN 93°

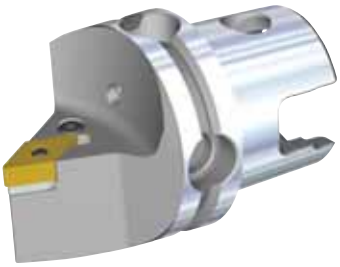


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
3902312	KM40TSPDJNR11	40	1.575	27	1.063	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,26	.56
3902323	KM40TSPDJNR15	40	1.575	27	1.063	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,26	.56
	left hand												
3902310	KM40TSPDJNL11	40	1.575	27	1.063	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,25	.56
3902311	KM40TSPDJNL15	40	1.575	27	1.063	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,26	.56



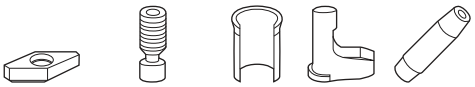






KM QUICK CHANGE

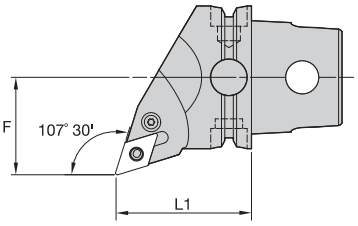
PDNN 63°

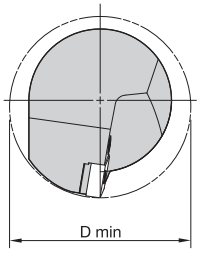


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
3902325	KM40TSPDNNR15	45	1.772	0	.000	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,24	.52
	left hand												
3902324	KM40TSPDNNL15	45	1.772	0	.000	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,24	.52



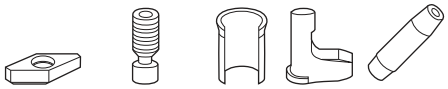
KM QUICK CHANGE







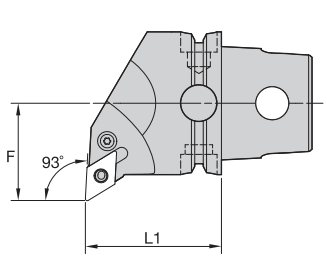
PDQN 107° 30'

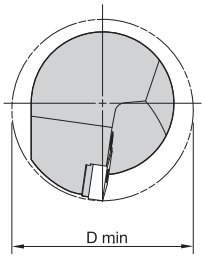


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3902327	KM40TSPDQNR11	40	1.575	27	1.063	50	1.969	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,29	.63
	left hand														
3902326	KM40TSPDQNL11	40	1.575	27	1.063	50	1.969	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,29	.63



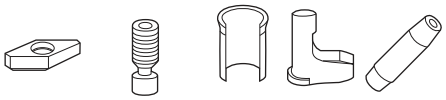
KM QUICK CHANGE





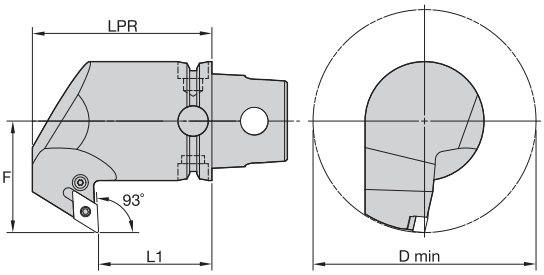


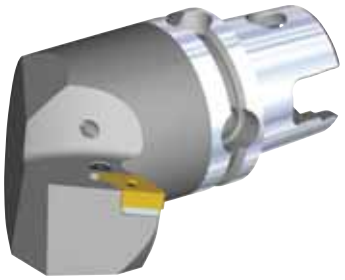
PDUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3902330	KM40TSPDUNR11	40	1.575	27	1.063	50	1.969	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,33	.72
3902331	KM40TSPDUNR15	40	1.575	27	1.063	50	1.969	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,32	.71
	left hand														
3902328	KM40TSPDUNL11	40	1.575	27	1.063	50	1.969	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,31	.68
3902329	KM40TSPDUNL15	40	1.575	27	1.063	50	1.969	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,32	.71

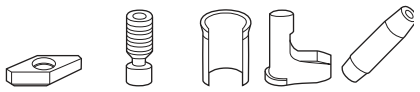






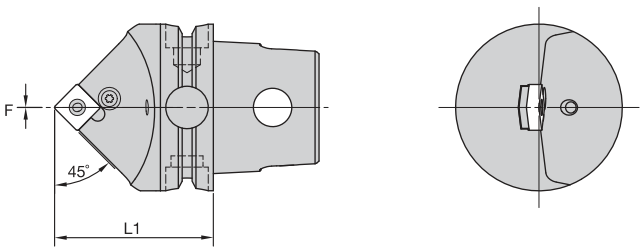
KM QUICK CHANGE

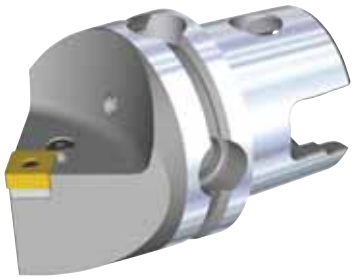
PDXN 93°



order number	catalog number	L1 mm	L1 in	LPR mm	LPR in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand																
3902333	**KM40TSPDXNR15**	40	1.575	65	2.559	47	1.850	94	3.701	DN..150608/DN..442	**512.153**	**514.128**	**513.023**	**511.024**	**515.018**	0,66	1.45
	left hand																
3902332	**KM40TSPDXNL15**	40	1.575	65	2.559	47	1.850	94	3.701	DN..150608/DN..442	**512.153**	**514.128**	**513.023**	**511.024**	**515.018**	0,65	1.44

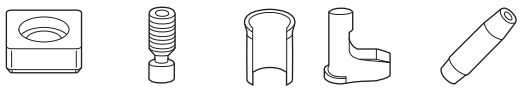






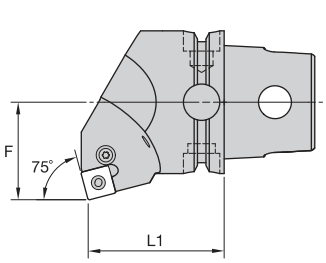
KM QUICK CHANGE

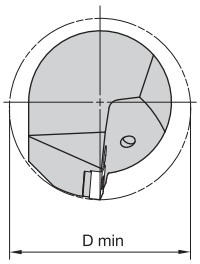
PSDN 45°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
3950775	**KM40TSPSDNN09**	40	1.575	0	.000	SN..090308/SN..322	**512.053**	**514.118**	**513.019**	**511.018**	**515.018**	0,26	.57
3950776	**KM40TSPSDNN12**	40	1.575	0	.000	SN..120408/SN..432	**512.063**	**514.123**	**513.023**	**511.023**	**515.018**	0,25	.54



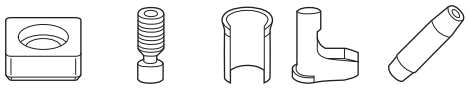






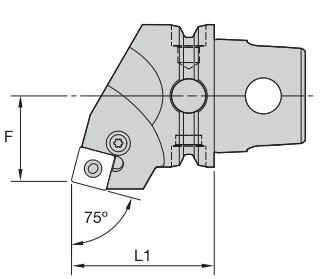
KM QUICK CHANGE

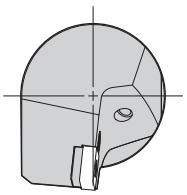
PSKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3950778	**KM40TSPSKNR12**	40	1.575	27	1.063	50	1.969	SN..120408/SN..432	**512.063**	**514.123**	**513.023**	**511.023**	**515.018**	0,36	.79
	left hand														
3950777	**KM40TSPSKNL12**	40	1.575	27	1.063	50	1.969	SN..120408/SN..432	**512.063**	**514.123**	**513.023**	**511.023**	**515.018**	0,36	.79



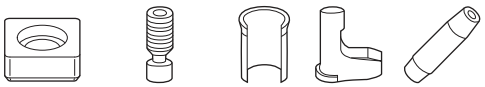






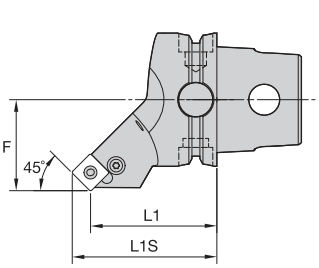
KM QUICK CHANGE

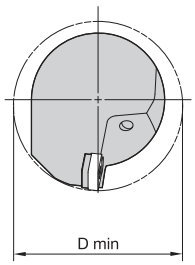
PSRN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
3950780	**KM40TSPSRNR12**	40	1.575	24	.945	SN..120408/SN..432	**512.063**	**514.123**	**513.023**	**511.023**	**515.018**	0,31	.69
	left hand												
3950779	**KM40TSPSRNL12**	40	1.575	24	.945	SN..120408/SN..432	**512.063**	**514.123**	**513.023**	**511.023**	**515.018**	0,31	.69

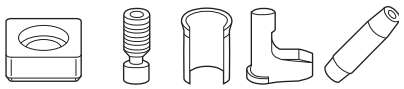






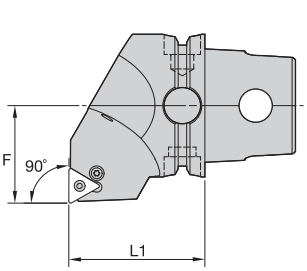


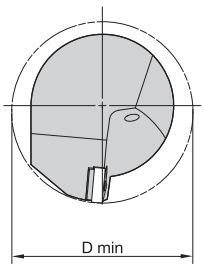
PSSN 45°



order number	catalog number	L1 mm	L1 in	L1S mm	L1S in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand																
3950781	**KM40TSPSSNR12**	40	1.575	48,3	1.903	27	1.063	80	3.150	SN..120408/SN..432	**512.063**	**514.123**	**513.023**	**511.023**	**515.018**	0,31	.69

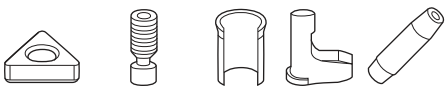




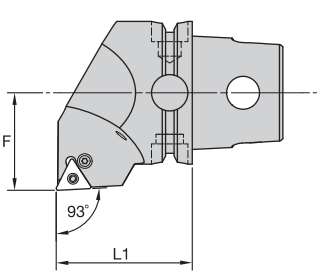


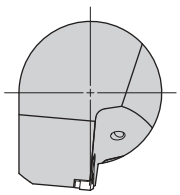


PTFN 90°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3950783	**KM40TSPTFNR16**	40	1.575	27	1.063	50	1.969	TN..160408/TN..332	**512.013**	**514.118**	**513.018**	**511.018**	**515.018**	0,36	.78
	left hand														
3950782	**KM40TSPTFNL16**	40	1.575	27	1.063	50	1.969	TN..160408/TN..332	**512.013**	**514.118**	**513.018**	**511.018**	**515.018**	0,36	.79



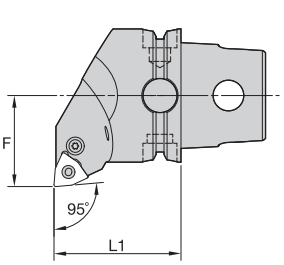


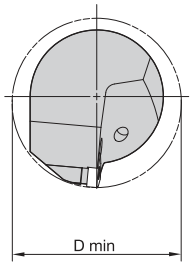


PTJN 93°



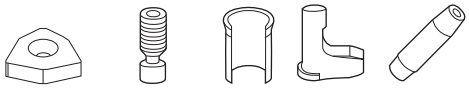
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
3950785	KM40TSPTJNR16	40	1.575	27	1.063	TN..160408/TN..332	512.013	514.118	513.018	511.018	515.018	0,34	.75
	left hand												
3950784	KM40TSPTJNL16	40	1.575	27	1.063	TN..160408/TN..332	512.013	514.118	513.018	511.018	515.018	0,34	.75





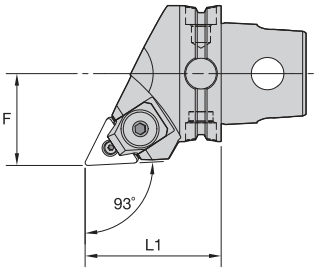


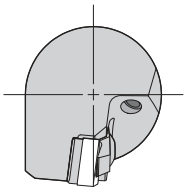
PWLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3950788	KM40TSPWLNR06	40	1.575	27	1.063	50	1.969	WN..060408/WN..332	512.134	514.118	513.018	511.018	515.018	0,33	.73
3950789	KM40TSPWLNR08	40	1.575	27	1.063	50	1.969	WN..080408/WN..432	512.135	514.123	513.023	511.023	515.018	0,32	.70
	left hand														
3950786	KM40TSPWLNL06	40	1.575	27	1.063	50	1.969	WN..060408/WN..332	512.134	514.118	513.018	511.018	515.018	0,33	.73
3950787	KM40TSPWLNL08	40	1.575	27	1.063	50	1.969	WN..080408/WN..432	512.135	514.123	513.023	511.023	515.018	0,32	.71









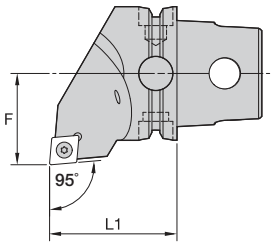
KM QUICK CHANGE

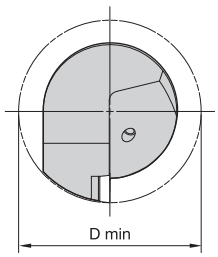
WTJN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	clamp	lock pin	shim	retaining ring	Wedgelock screw	kg	lbs
	right hand												
3964067	KM40TSWTJNR16	40	1.575	27	1.063	TN..160408/TN..332	WC4	FP4	SM290	MRA5	MS988	0,28	.63
	left hand												
3964066	KM40TSWTJNL16	40	1.575	27	1.063	TN..160408/TN..332	WC4	FP4	SM290	MRA5	MS988	0,28	.63









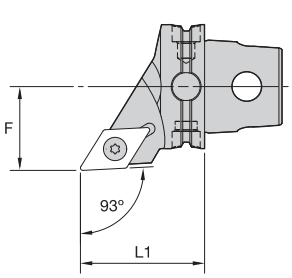
KM QUICK CHANGE

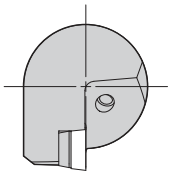
SCLC 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand												
3960003	KM40TSSCLCR12	40	1.575	27	1.063	50	1.969	CC..120408/CC..432	MS1158	SKCP453	SRS4	0,32	.70
	left hand												
3959952	KM40TSSCLCL12	40	1.575	27	1.063	50	1.969	CC..120408/CC..432	MS1158	SKCP453	SRS4	0,32	.70



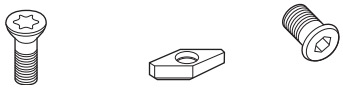






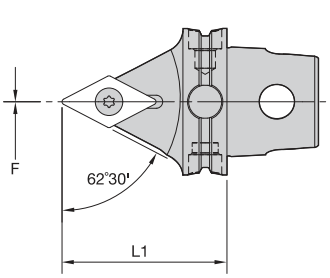
KM QUICK CHANGE

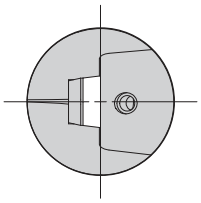
SDJC 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand										
3960005	KM40TSSDJCR11	40	1.575	27	1.063	DC..11T308/DC..3252	MS1156	SKDP343	SRS3	0,25	.55
3960007	KM40TSSDJCR15	40	1.575	27	1.063	DC..150408/DC..432	MS1158	SKDP453	SRS4	0,24	.53
	left hand										
3960004	KM40TSSDJCL11	40	1.575	27	1.063	DC..11T308/DC..3252	MS1156	SKDP343	SRS3	0,25	.55
3960006	KM40TSSDJCL15	40	1.575	27	1.063	DC..150408/DC..432	MS1158	SKDP453	SRS4	0,24	.52









KM QUICK CHANGE

SDNC 62° 30'

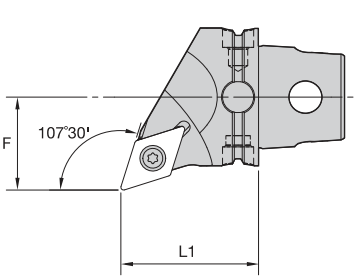


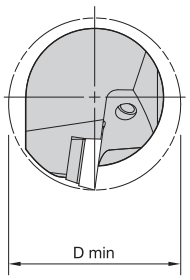




order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	kg	lbs
3960008	KM40TSSDNCN15045M	45	1.772	0	.000	DC..150408/DC..432	MS1158	SKDP453	SRS4	0,23	.50









KM QUICK CHANGE

SDQC 107° 30'

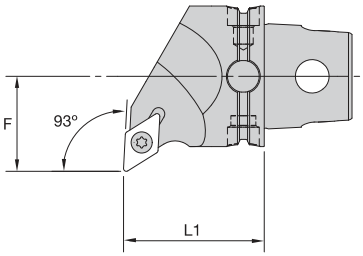


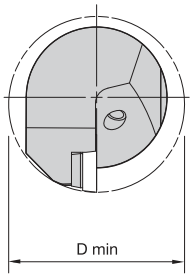




order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand												
3960010	KM40TSSDQCR11	40	1.575	27	1.063	50	1.969	DC..11T308/DC..3252	MS1156	SKDP343	SRS3	0,27	.61
3960012	KM40TSSDQCR15	40	1.575	27	1.063	50	1.969	DC..150408/DC..432	MS1158	SKDP453	SRS4	0,27	.60
	left hand												
3960009	KM40TSSDQCL11	40	1.575	27	1.063	50	1.969	DC..11T308/DC..3252	MS1156	SKDP343	SRS3	0,27	.61
3960011	KM40TSSDQCL15	40	1.575	27	1.063	50	1.969	DC..150408/DC..432	MS1158	SKDP453	SRS4	0,27	.60









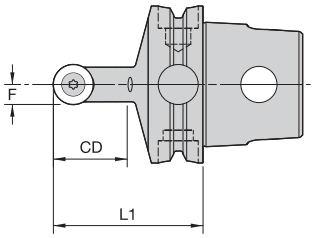
KM QUICK CHANGE

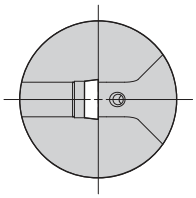
SDUC 93°

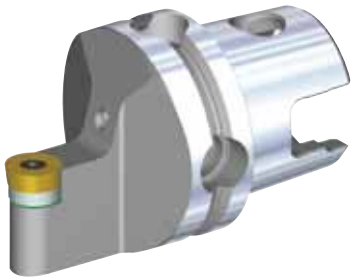


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand												
3960014	KM40TSSDUCR11	40	1.575	27	1.063	50	1.969	DC..11T308/DC..3252	MS1156	SKDP343	SRS3	0,30	.66
	left hand												
3960013	KM40TSSDUCL11	40	1.575	27	1.063	50	1.969	DC..11T308/DC..3252	MS1156	SKDP343	SRS3	0,30	.66



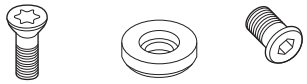






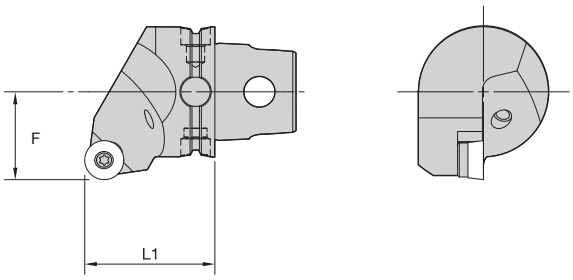
KM QUICK CHANGE

SRDC 0°



order number	catalog number	L1 mm	L1 in	F mm	F in	CD mm	CD in	gage insert	insert screw	shim	shim screw	kg	lbs
3960015	KM40TSSRDCN06	40	1.575	3	.118	12	.472	RC..0602M0	MS1153	–	–	0,22	.48
3960016	KM40TSSRDCN08	40	1.575	4	.158	16	.630	RC..0803M0	MS1154	–	–	0,22	.48
3960017	KM40TSSRDCN10	40	1.575	5	.197	20	.787	RC..10T3M0	MS1156	SKRN100300	SRS3	0,21	.47







KM QUICK CHANGE

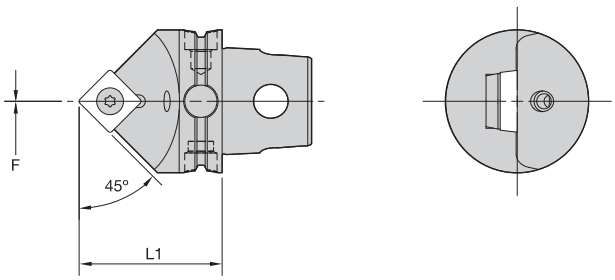
SRGC 0°

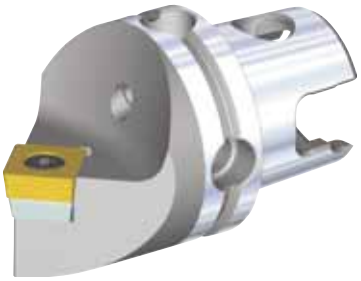




order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand										
3960019	**KM40TSSRGCR10**	40	1.575	27	1.063	RC..10T3M0	**MS1156**	**SKRN100300**	**SRS3**	0,31	.69
3960021	**KM40TSSRGCR12**	40	1.575	27	1.063	RC..1204M0	**MS1156**	**SKRN1203M0**	**SRS3**	0,31	.69
	left hand										
3960018	**KM40TSSRGCL10**	40	1.575	27	1.063	RC..10T3M0	**MS1156**	**SKRN100300**	**SRS3**	0,32	.70
3960020	**KM40TSSRGCL12**	40	1.575	27	1.063	RC..1204M0	**MS1156**	**SKRN1203M0**	**SRS3**	0,31	.69







KM QUICK CHANGE

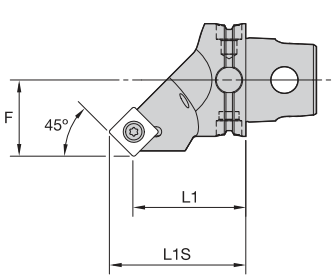
SSDC 45°

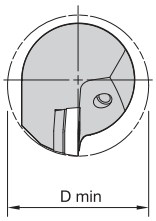




order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	kg	lbs
3960022	**KM40TSSSDCN12**	40	1.575	0	.000	SC..120408/SC..432	**MS1158**	**SKSP453**	**SRS4**	0,25	.55



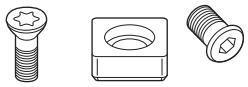






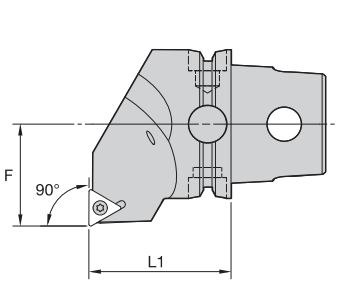
KM QUICK CHANGE

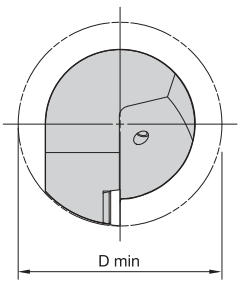
SSSC 45°



order number	catalog number	L1 mm	L1 in	L1S mm	L1S in	F mm	F in	D min mm	D min in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand														
3960034	KM40TSSSSCR12	40	1.575	48,3	1.902	27	1.063	50	1.969	SC..120408/SC..432	MS1158	SKSP453	SRS4	0,29	.64
	left hand														
3960033	KM40TSSSSCL12	40	1.575	48,3	1.902	27	1.063	50	1.969	SC..120408/SC..432	MS1158	SKSP453	SRS4	0,29	.64



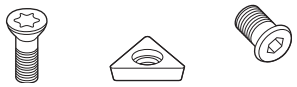






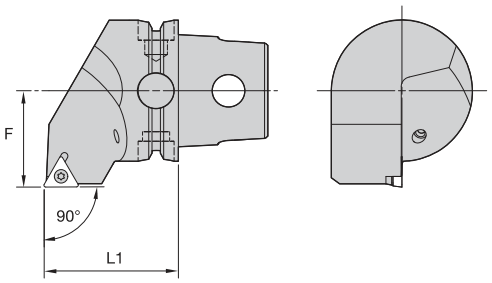
KM QUICK CHANGE

STFC 90°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand												
3960036	KM40TSSTFCR16	40	1.575	27	1.063	50	1.969	TC..16T308/TC..3252	MS1156	SKTP343	SRS3	0,33	.72
	left hand												
3960035	KM40TSSTFCL16	40	1.575	27	1.063	50	1.969	TC..16T308/TC..3252	MS1156	SKTP343	SRS3	0,33	.73

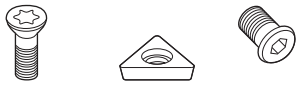






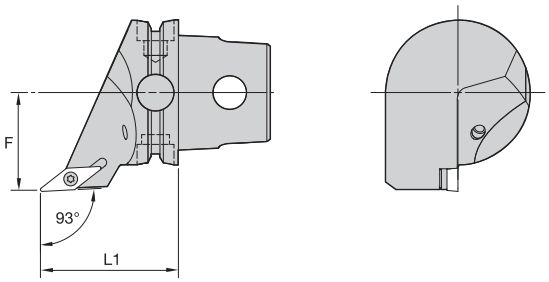
KM QUICK CHANGE

STGC 90°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand										
3960038	KM40TSSTGCR16	40	1.575	27	1.063	TC..16T308/TC..3252	MS1156	SKTP343	SRS3	0,33	.73
	left hand										
3960037	KM40TSSTGCL16	40	1.575	27	1.063	TC..16T308/TC..3252	MS1156	SKTP343	SRS3	0,33	.73

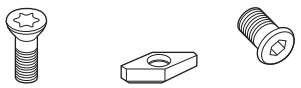






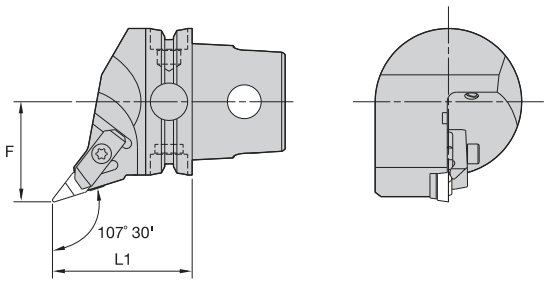
KM QUICK CHANGE

SVJB 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand										
3960040	KM40TSSVJBR16	47	1.850	27	1.063	VB..160408/VB..332	MS1156	SKVN343	SRS3	0,27	.59
	left hand										
3960039	KM40TSSVJBL16	47	1.850	27	1.063	VB..160408/VB..332	MS1156	SKVN343	SRS3	0,27	.59

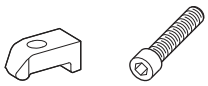






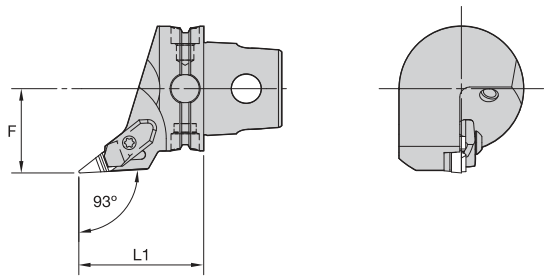
KM QUICK CHANGE

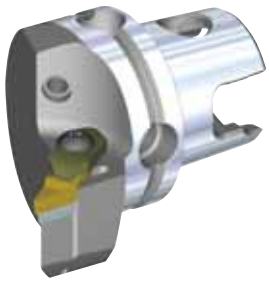
NVHC 107.5° • Metric CU



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	clamp	clamp screw	kg	lbs
	right hand									
3951859	**KM40TSNVHCR16050M**	50	1.969	27	1.063	VCGR160408/VPGR332	**CM113**	**MS1489**	0,28	.62
	left hand									
3951858	**KM40TSNVHCL16050M**	50	1.969	27	1.063	VCGR160408/VPGR332	**CM114**	**MS1489**	0,28	.62

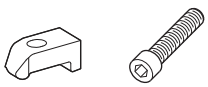






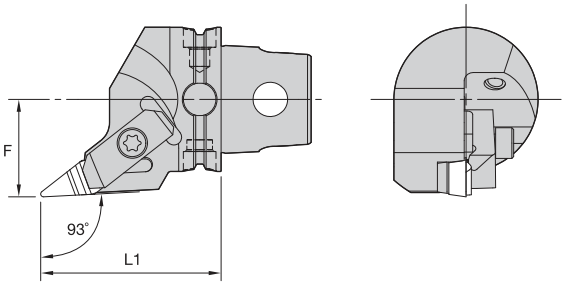
KM QUICK CHANGE

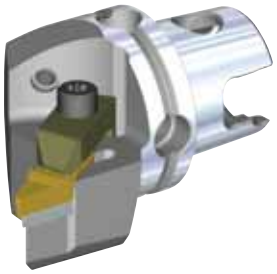
NVJB 93° • Metric CU



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	clamp	clamp screw	kg	lbs
	right hand									
3951861	**KM40TSNVJBR11**	40	1.575	27	1.063	VBMR110304/VBMR221	**CM158**	**–**	0,23	.52
	left hand									
3951860	**KM40TSNVJBL11**	40	1.575	27	1.063	VBMR110304/VBMR221	**CM159**	**–**	0,23	.52

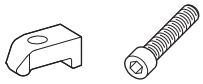






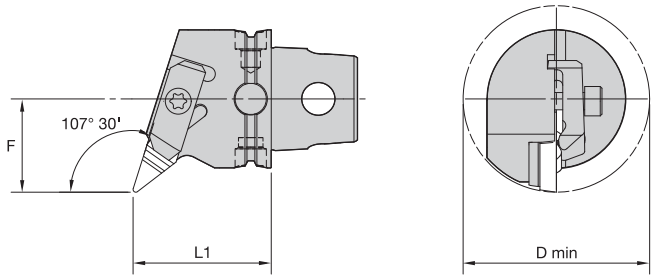
KM QUICK CHANGE

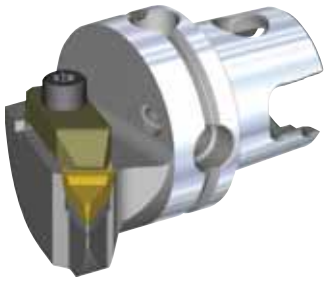
NVJC 93° • Metric CU



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	clamp	clamp screw	kg	lbs
	right hand									
3951913	KM40TSNVJCR16050M	50	1.969	27	1.063	VCGR160408/VPGR332	CM113	MS1489	0,30	.67
	left hand									
3951862	KM40TSNVJCL16050M	50	1.969	27	1.063	VCGR160408/VPGR332	CM114	MS1489	0,30	.67

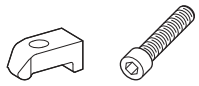






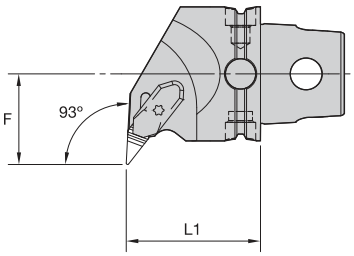
KM QUICK CHANGE

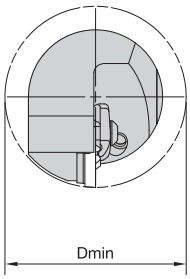
NVQC 107.5° • Metric CU



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamp screw	kg	lbs
	right hand											
3951915	KM40TSNVQCR16	40	1.575	27	1.063	54	2.126	VCGR160408/VPGR332	CM113	MS1489	0,27	.60
	left hand											
3951914	KM40TSNVQCL16	40	1.575	27	1.063	54	2.126	VCGR160408/VPGR332	CM114	MS1489	0,27	.60



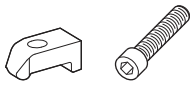






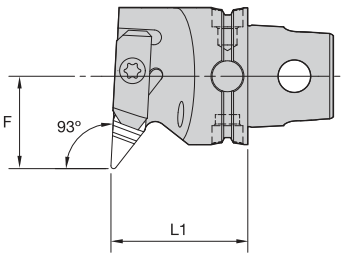
KM QUICK CHANGE

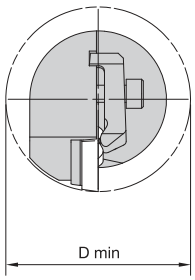
NVUB 93° • Metric CU

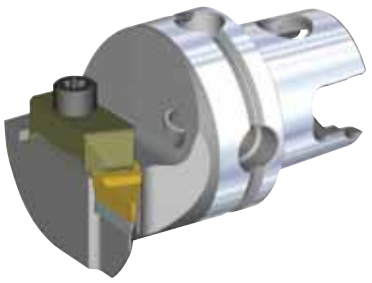


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamp screw	kg	lbs
	right hand											
3951917	**KM40TSNVUBR11**	40	1.575	27	1.063	54	2.126	VCGR160408/VPGR332	**CM159**	–	0,31	.68
	left hand											
3951916	**KM40TSNVUBL11**	40	1.575	27	1.063	54	2.126	VCGR160408/VPGR332	**CM158**	–	0,31	.68



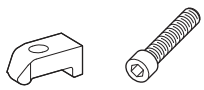






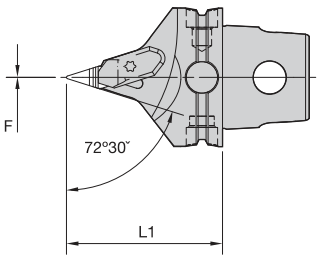
KM QUICK CHANGE

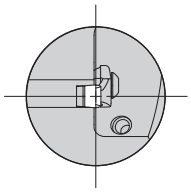
NVUC 93° • Metric CU

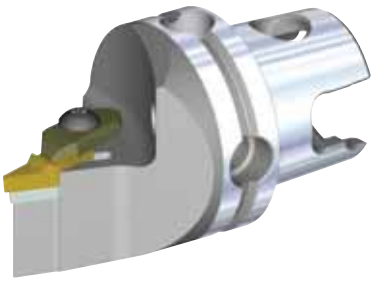


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamp screw	kg	lbs
	right hand											
3951919	**KM40TSNVUCR16**	40	1.575	27	1.063	54	2.126	VBMR110304/VBMR221	**CM113**	**MS1489**	0,32	.70
	left hand											
3951918	**KM40TSNVUCL16**	40	1.575	27	1.063	54	2.126	VBMR110304/VBMR221	**CM114**	**MS1489**	0,32	.70









KM QUICK CHANGE

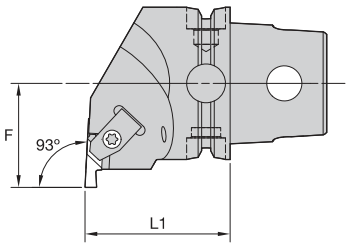
NVVB 72.5° • Metric CU

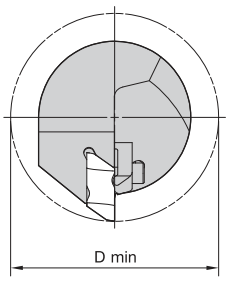


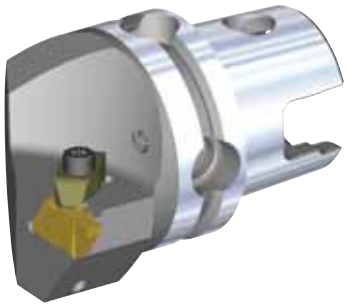


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	clamp	clamp screw	kg	lbs
	left hand									
3951920	**KM40TSNVVBN11045M**	45	1.772	0	.000	VCGR160408/VPGR332	**CM158**	**–**	0,23	.52









KM QUICK CHANGE

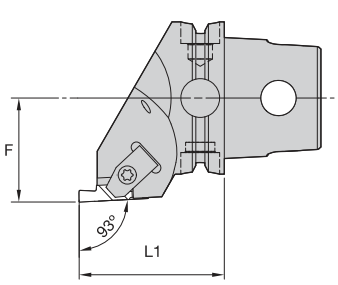
NE 93°

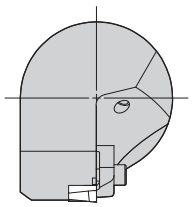




order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamp screw	kg	lbs
	right hand											
3902285	**KM40TSNER2**	40	1.575	27	1.063	54	2.126	NG2L	**CM75**	**MS1488**	0,31	.68
3902286	**KM40TSNER3**	40	1.575	27	1.063	54	2.126	NG3L	**CM73**	**MS1489**	0,32	.70
3902287	**KM40TSNER4**	40	1.575	27	1.063	54	2.126	NG4L	**CM73**	**MS1489**	0,30	.66
	left hand											
3902132	**KM40TSNEL2**	40	1.575	27	1.063	54	2.126	NG2R	**CM74**	**MS1488**	0,31	.68
3902283	**KM40TSNEL3**	40	1.575	27	1.063	54	2.126	NG3R	**CM72**	**MS1489**	0,32	.70
3902284	**KM40TSNEL4**	40	1.575	27	1.063	54	2.126	NG4R	**CM72**	**MS1489**	0,30	.66









KM QUICK CHANGE

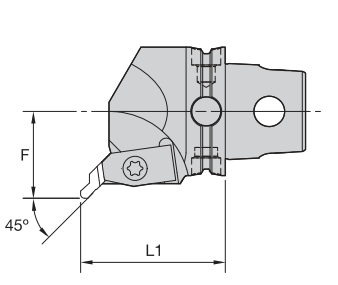
NS 93°

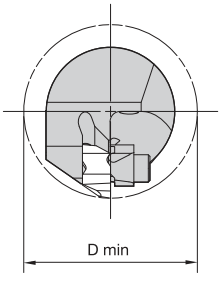


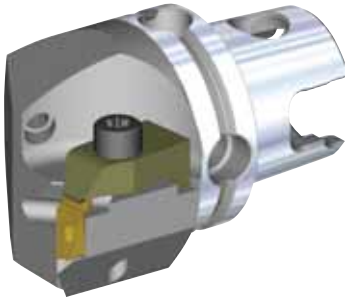


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	clamp	clamp screw	kg	lbs
	right hand									
3902293	**KM40TSNSR2**	40	1.575	27	1.063	NG2R	**CM74**	**MS1488**	0,32	.70
3902294	**KM40TSNSR3**	47	1.850	27	1.063	NG3R	**CM72**	**MS1489**	0,32	.71
3902295	**KM40TSNSR4**	47	1.850	27	1.063	NG4R	**CM72**	**MS1489**	0,31	.68
	left hand									
3902290	**KM40TSNSL2**	40	1.575	27	1.063	NG2L	**CM75**	**MS1488**	0,32	.70
3902291	**KM40TSNSL3**	47	1.850	27	1.063	NG3L	**CM73**	**MS1489**	0,33	.72
3902292	**KM40TSNSL4**	47	1.850	27	1.063	NG4L	**CM73**	**MS1489**	0,31	.68









KM QUICK CHANGE

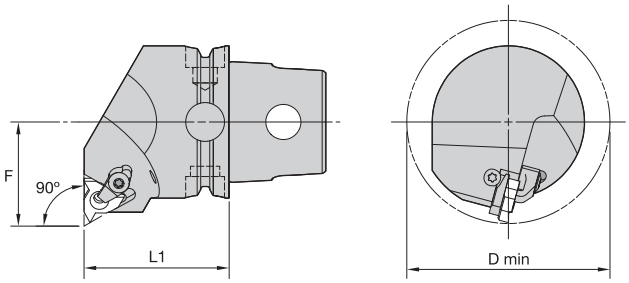
NR 45°





order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamping screw	kg	lbs
	right hand											
3902289	**KM40TSNRR3045M**	45	1.772	27	1.063	54	2.126	NU3L	**CM73**	**MS1489**	0,34	.75
	left hand											
3902288	**KM40TSNRL3045M**	45	1.772	27	1.063	54	2.126	NU3R	**CM72**	**MS1489**	0,33	.74

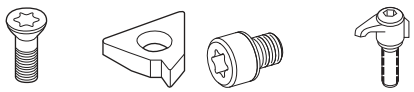






KM QUICK CHANGE

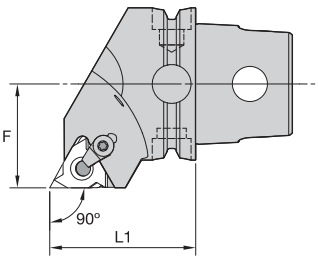
LSE-N 90° • Internal Only

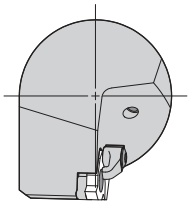


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	insert screw	shim	shim screw	clamp assembly	kg	lbs
	right hand													
3950832	**KM40TSLSER16N**	40	1.575	27	1.063	54	2.126	LT16NR	**SSA3T**	**SMYI3**	**SSY3T**	**CKC3**	0,35	.77
3950854	**KM40TSLSER22N**	40	1.575	27	1.063	54	2.126	LT22NR	**SSA4T**	**SMYI4**	**SSY4T**	**CKC4**	0,35	.77
3959399	**KM40TSLSER27N**	45	1.772	27	1.063	54	2.126	LT27NR	**SSA5T**	**SMYI5**	**SSY5T**	**CKC5**	0,39	.86
	left hand													
3950831	**KM40TSLSEL16N**	40	1.575	27	1.063	54	2.126	LT16NL	**SSA3T**	**SMYE3**	**SSY3T**	**CKC3**	0,35	.77
3950853	**KM40TSLSEL22N**	40	1.575	27	1.063	54	2.126	LT22NL	**SSA4T**	**SMYE4**	**SSY4T**	**CKC4**	0,35	.77
3959398	**KM40TSLSEL27N**	45	1.772	27	1.063	54	2.126	LT27NL	**SSA5T**	**SMYE5**	**SSY5T**	**CKC5**	0,39	.86

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.



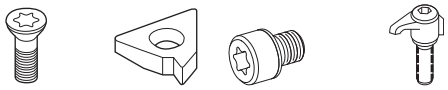






KM QUICK CHANGE

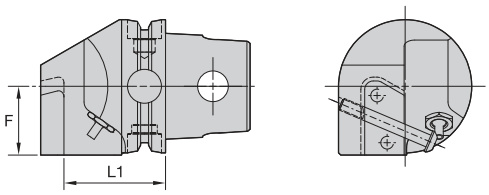
LSS 90°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	clamp assembly	kg	lbs
	right hand											
3950857	**KM40TSLSSR16**	40	1.575	27	1.063	LT16ER	**SSA3T**	**SMYE3**	**SSY3T**	**CKC3**	0,31	.68
3950858	**KM40TSLSSR22**	40	1.575	27	1.063	LT22ER	**SSA4T**	**SMYE4**	**SSY4T**	**CKC4**	0,30	.66
3959401	**KM40TSLSSR27**	45	1.772	27	1.063	LT27ER	**SSA5T**	**SMYE5**	**SSY5T**	**CKC5**	0,37	.82
	left hand											
3950855	**KM40TSLSSL16**	40	1.575	27	1.063	LT16EL	**SSA3T**	**SMYI3**	**SSY3T**	**CKC3**	0,32	.70
3950856	**KM40TSLSSL22**	40	1.575	27	1.063	LT22EL	**SSA4T**	**SMYI4**	**SSY4T**	**CKC4**	0,31	.68
3959400	**KM40TSLSSL27**	45	1.772	27	1.063	LT27EL	**SSA5T**	**SMYI5**	**SSY5T**	**CKC5**	0,37	.82

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.

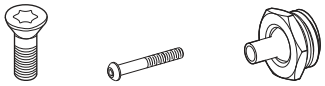






KM QUICK CHANGE

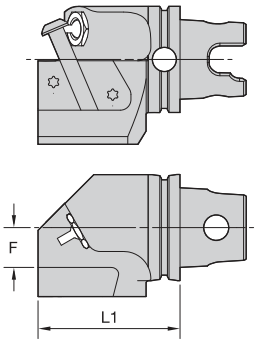
KGME • End Mount



order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	clamp screw	nozzle	kg
	right hand									
3950266	KM40TSKGMER50	28	1.102	20,5	.807	50	MS1162	MS2002	PMT08430	0,40
	left hand									
3950265	KM40TSKGMEL50	28	1.102	20,5	.807	50	MS1162	MS2002	PMT08430	0,40

NOTE: Right-hand cutting units use left-hand blades.
For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.

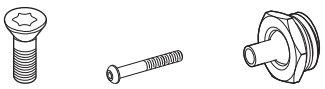






KM QUICK CHANGE

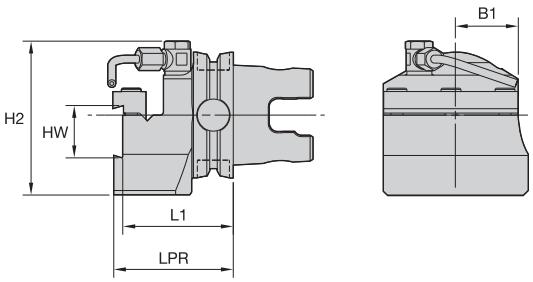
KGMS • Side Mount

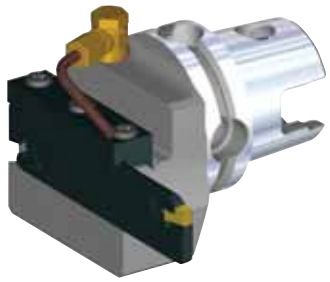


order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	clamp screw	nozzle	kg
	right hand									
3950268	KM40TSKGMSR50	53,5	2.106	15	.591	50	MS1162	MS2002	PMT08430	0,54
	left hand									
3950267	KM40TSKGMSL50	53,5	2.106	15	.591	50	MS1162	MS2002	PMT08430	0,54

NOTE: Right-hand cutting units use right-hand blades.
For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.







KM QUICK CHANGE

BE • End Mount

order number	catalog number	L1 mm	L1 in	LPR mm	LPR in	H2 mm	H2 in	HW mm	HW in	B1 mm	B1 in	cartridge size	cartridge 1	kg
	right hand													
3950835	KM40TSBER	50,30	1.98	54,80	2.16	56,50	2.22	26	1.02	25	.98	26	A2BN..26...	1,07
	left hand													
3950834	KM40TSBEL	50,30	1.98	54,80	2.16	56,50	2.22	26	1.02	25	.98	26	A2BN..26...	1,07

BE • Spare Parts






catalog number	clamp	clamp screw	coolant tube	coolant swivel base
right hand				
KM40TSBER	CGS4	MS1595	12649910900	12649910800
left hand				
KM40TSBEL	CGS4	MS1595	12649910900	12649910800

NOTE: Blades must be ordered seperately; see the Kennametal Innovations Master Catalog Cutting Tools 2013.

KENNAMETAL

REPAIR SERVICES



Getting Started, and Getting Finished, Is Easy.

Follow these 4 simple steps and be on your way to restored tools and great savings.

1. Visit www.kennametal.com to find the tool you're looking to have repaired.
2. Download and complete the form. Mail the completed form and the tooling to the Kennametal Service and Repair Department.
3. Kennametal will quickly respond to your request with a cost estimate and timetable for the completion of the repair.
4. Within 60 days of receiving the estimate, notify Kennametal whether you'd like the tooling repaired, returned, or scrapped.

**Please note that the tap adapters are not cost effective to repair.*



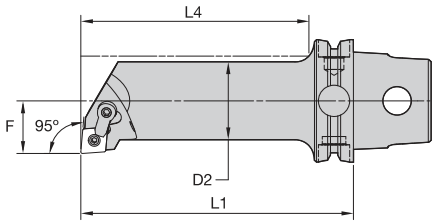
Repair Services

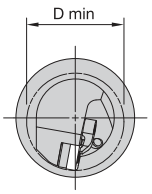
Tools are valuable. Protect them and get the most from your investment.

You can be assured that when your advanced tooling products need to be serviced, the Kennametal Service and Repair Department has the highly trained, experienced staff to provide expert assistance. For about half the cost of a new tool purchase, you can have your existing, damaged tools serviced and repaired to like-new condition.

KENNAMETAL®









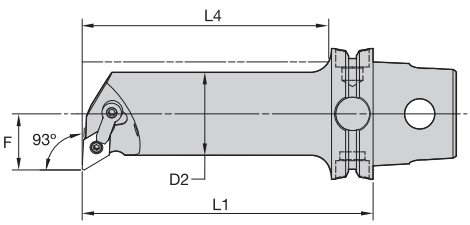
KM QUICK CHANGE

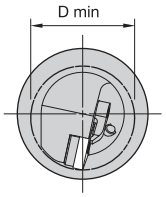
MCLN 95°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3955549	KM40TSS25EMCLNR12	25	.98	32	1.26	17	.669	55	2.17	70	2.756	CN..120408/CN..432	0,35	.76
3955551	KM40TSS25HMCLNR12	25	.98	32	1.26	17	.669	75	2.95	100	3.937	CN..120408/CN..432	0,50	1.10
3955553	KM40TSS32GMCLNR12	32	1.26	40	1.57	22	.866	76	2.99	90	3.543	CN..120408/CN..432	0,59	1.29
3955555	KM40TSS32JMCLNR12	32	1.26	40	1.57	22	.866	96	3.78	110	4.331	CN..120408/CN..432	0,71	1.56
	left hand													
3955548	KM40TSS25EMCLNL12	25	.98	32	1.26	17	.669	55	2.17	70	2.756	CN..120408/CN..432	0,35	.76
3955550	KM40TSS25HMCLNL12	25	.98	32	1.26	17	.669	75	2.95	100	3.937	CN..120408/CN..432	0,50	1.10
3955552	KM40TSS32GMCLNL12	32	1.26	40	1.57	22	.866	76	2.99	90	3.543	CN..120408/CN..432	0,59	1.29
3955554	KM40TSS32JMCLNL12	32	1.26	40	1.57	22	.866	96	3.78	110	4.331	CN..120408/CN..432	0,71	1.56

Spare Parts

catalog number	shim	lock pin	clamp	clamp screw
right hand				
KM40TSS25EMCLNR12	–	KLM43	CKM20LP	STCM11
KM40TSS25HMCLNR12	–	KLM43	CKM20LP	STCM11
KM40TSS32GMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
KM40TSS32JMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
left hand				
KM40TSS25EMCLNL12	–	KLM43	CKM20LP	STCM11
KM40TSS25HMCLNL12	–	KLM43	CKM20LP	STCM11
KM40TSS32GMCLNL12	ICSN432	KLM46	CKM20LP	STCM11
KM40TSS32JMCLNL12	ICSN432	KLM46	CKM20LP	STCM11







KM QUICK CHANGE

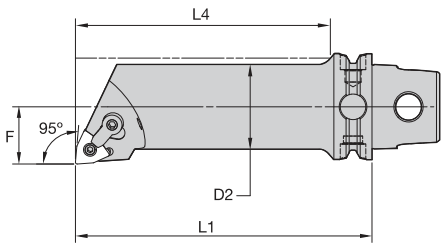
MDUN 93°

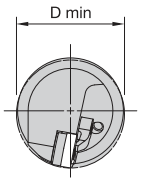
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3959375	KM40TSS25EMDUNR15	25	.98	32	1.26	17	.669	55	2.17	70	2.756	DN..150408/DN..432	0,33	.74
3959377	KM40TSS25HMDUNR15	25	.98	32	1.26	17	.669	75	2.95	100	3.937	DN..150408/DN..432	0,49	1.07
3959379	KM40TSS32GMDUNR15	32	1.26	40	1.57	22	.866	76	2.99	90	3.543	DN..150408/DN..432	0,57	1.26
3959381	KM40TSS32JMDUNR15	32	1.26	40	1.57	22	.866	96	3.78	110	4.331	DN..150408/DN..432	0,69	1.53
	left hand													
3959374	KM40TSS25EMDUNL15	25	.98	32	1.26	17	.669	55	2.17	70	2.756	DN..150408/DN..432	0,33	.74
3959376	KM40TSS25HMDUNL15	25	.98	32	1.26	17	.669	75	2.95	100	3.937	DN..150408/DN..432	0,49	1.08
3959378	KM40TSS32GMDUNL15	32	1.26	40	1.57	22	.866	76	2.99	90	3.543	DN..150408/DN..432	0,57	1.26
3959380	KM40TSS32JMDUNL15	32	1.26	40	1.57	22	.866	96	3.78	110	4.331	DN..150408/DN..432	0,69	1.53

Spare Parts

catalog number	shim	lock pin	clamp	clamp screw
right hand				
KM40TSS25EMDUNR15	–	KLM43	CKM20LP	STCM11
KM40TSS25HMDUNR15	–	KLM43	CKM20LP	STCM11
KM40TSS32GMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
KM40TSS32JMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
left hand				
KM40TSS25EMDUNL15	–	KLM43	CKM20LP	STCM11
KM40TSS25HMDUNL15	–	KLM43	CKM20LP	STCM11
KM40TSS32GMDUNL15	IDSN432	KLM46	CKM23LP	STCM11
KM40TSS32JMDUNL15	IDSN432	KLM46	CKM23LP	STCM11









KM QUICK CHANGE

MWLN 95°

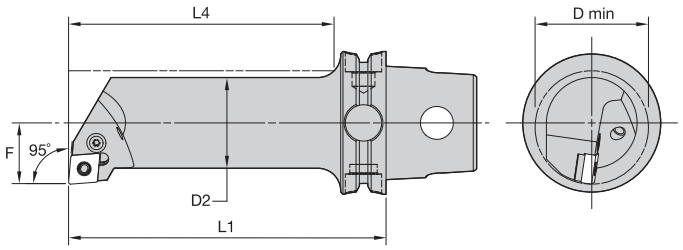
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3959331	KM40TSS25HMWLNR08	25	.98	32	1.26	17	.669	75	2.95	100	3.937	WN..080408/WN..432	0,50	1.10
3959373	KM40TSS32JMWLNR08	32	1.26	40	1.57	22	.866	96	3.78	110	4.331	WN..080408/WN..432	0,69	1.53
	left hand													
3959330	KM40TSS25HMWLNL08	25	.98	32	1.26	17	.669	75	2.95	100	3.937	WN..080408/WN..432	0,50	1.10
3959332	KM40TSS32JMWLNL08	32	1.26	40	1.57	22	.866	96	3.78	110	4.331	WN..080408/WN..432	0,69	1.53

Spare Parts






catalog number	shim	lock pin	clamp	clamp screw
right hand				
KM40TSS25HMWLNR08	–	KLM43	CKM20LP	STCM11
KM40TSS32JMWLNR08	IWSN433	KLM46	CKM20LP	STCM11
left hand				
KM40TSS25HMWLNL08	–	KLM43	CKM20LP	STCM11
KM40TSS32JMWLNL08	IWSN433	KLM46	CKM20LP	STCM11





KM QUICK CHANGE

PCLN 95°

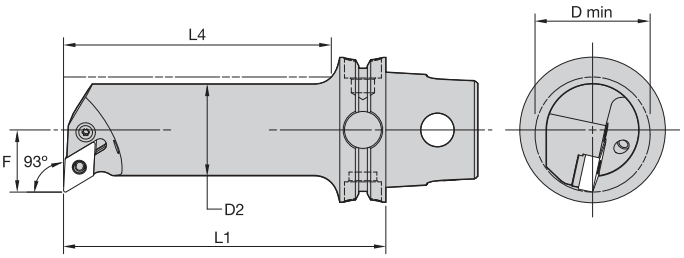
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3959339	**KM40TSS25HPCLNR12**	25	.98	32	1.26	17	.669	75	2.95	100	3.937	CN..120408/CN..432	0,49	1.09
3959337	**KM40TSS25GPCLNR12**	25	.98	32	1.26	17	.669	77	3.04	90	3.543	CN..120408/CN..432	0,41	.90
3959341	**KM40TSS32GPCLNR12**	32	1.26	40	1.57	22	.866	76	2.99	90	3.543	CN..120408/CN..432	0,59	1.29
	left hand													
3959338	**KM40TSS25HPCLNL12**	25	.98	32	1.26	17	.669	75	2.95	100	3.937	CN..120408/CN..432	0,49	1.09
3959336	**KM40TSS25GPCLNL12**	25	.98	32	1.26	17	.669	77	3.04	90	3.543	CN..120408/CN..432	0,41	.90
3959340	**KM40TSS32GPCLNL12**	32	1.26	40	1.57	22	.866	76	2.99	90	3.543	CN..120408/CN..432	0,59	1.29

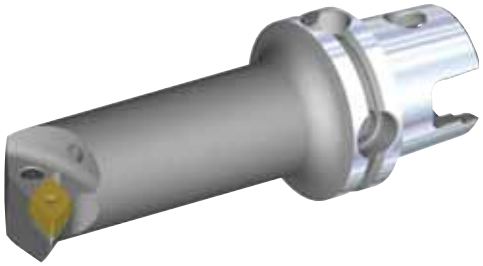
Spare Parts

catalog number	shim	lever screw	shim pin	toggle lever	punch
right hand					
KM40TSS25GPCLNR12	**–**	**514.122**	**–**	**511.022**	**–**
KM40TSS25HPCLNR12	**–**	**514.122**	**–**	**511.022**	**–**
KM40TSS32GPCLNR12	**512.112**	**514.123**	**513.023**	**511.023**	**515.018**
left hand					
KM40TSS25GPCLNL12	**–**	**514.122**	**–**	**511.022**	**–**
KM40TSS25HPCLNL12	**–**	**514.122**	**–**	**511.022**	**–**
KM40TSS32GPCLNL12	**512.112**	**514.123**	**513.023**	**511.023**	**515.018**









PDUN 93°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3959343	**KM40TSS25GPDUNR11**	25	.98	32	1.26	17	.669	77	3.04	90	3.543	DN..110408/DN..332	0,41	.900
	left hand													
3959342	**KM40TSS25GPDUNL11**	25	.98	32	1.26	17	.669	77	3.04	90	3.543	DN..110408/DN..332	0,41	.900

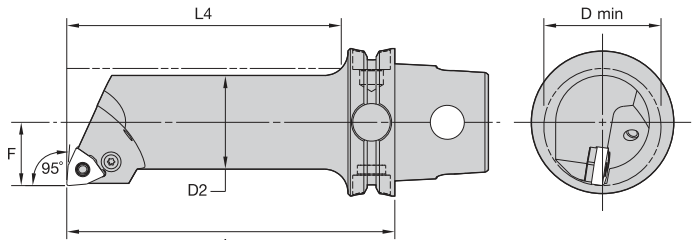
Spare Parts





catalog number	lever screw	toggle lever
right hand		
KM40TSS25GPDUNR11	**514.112**	**511.015**
left hand		
KM40TSS25GPDUNL11	**514.112**	**511.015**





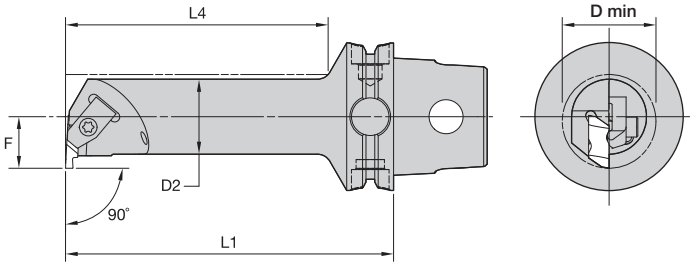


PWLN 95°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3959345	KM40TSS25EPWLNR08	25	.98	32	1.26	17	.669	55	2.17	70	2.756	WN..080408/WN..432	0,34	.75
3959351	KM40TSS25HPWLNR08	25	.98	32	1.26	17	.669	75	2.95	100	3.937	WN..080408/WN..432	0,49	1.08
3959347	KM40TSS25GPWLNR06	25	.98	32	1.26	17	.669	77	3.04	90	3.543	WN..060408/WN..332	0,41	.90
3959349	KM40TSS25GPWLNR08	25	.98	32	1.26	17	.669	77	3.04	90	3.543	WN..080408/WN..432	0,40	.89
	left hand													
3959344	KM40TSS25EPWLNL08	25	.98	32	1.26	17	.669	55	2.17	70	2.756	WN..080408/WN..432	0,34	.75
3959350	KM40TSS25HPWLNL08	25	.98	32	1.26	17	.669	75	2.95	100	3.937	WN..080408/WN..432	0,49	1.08
3959346	KM40TSS25GPWLNL06	25	.98	32	1.26	17	.669	77	3.04	90	3.543	WN..060408/WN..332	0,41	.90
3959348	KM40TSS25GPWLNL08	25	.98	32	1.26	17	.669	77	3.04	90	3.543	WN..080408/WN..432	0,40	.89

Spare Parts

catalog number	 lever screw	 toggle lever
right hand		
KM40TSS25EPWLNR08	514.122	511.022
KM40TSS25GPWLNR06	514.112	511.030
KM40TSS25GPWLNR08	514.122	511.022
KM40TSS25HPWLNR08	514.122	511.022
left hand		
KM40TSS25EPWLNL08	514.122	511.022
KM40TSS25GPWLNL06	514.112	511.030
KM40TSS25GPWLNL08	514.122	511.022
KM40TSS25HPWLNL08	514.122	511.022





KM QUICK CHANGE

■ NE 90° • Steel

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3955481	**KM40TSS12ENER2**	12	.47	19	.73	11	.433	42	1.655	70	2.756	NG2L	0,27	.58
3955483	**KM40TSS16FNER2**	16	.63	20	.79	11	.433	56	2.209	80	3.150	NG2L	0,28	.62
3955485	**KM40TSS20GNER2**	20	.79	25	.98	13	.512	70	2.757	90	3.543	NG2L	0,35	.76
3955487	**KM40TSS25ENER2**	25	.98	32	1.26	17	.669	55	2.169	70	2.756	NG2L	0,34	.75
3955491	**KM40TSS25ENER3**	25	.98	34	1.34	17	.669	55	2.169	70	2.756	NG3L	0,35	.77
3955489	**KM40TSS25HNER2**	25	.98	32	1.26	17	.669	75	2.954	100	3.937	NG2L	0,49	1.08
3955493	**KM40TSS25HNER3**	25	.98	34	1.34	17	.669	75	2.954	100	3.937	NG3L	0,49	1.09
3955497	**KM40TSS32GNER3**	32	1.26	40	1.57	22	.866	76	2.993	90	3.543	NG3L	0,55	1.21
3955495	**KM40TSS32JNER3**	32	1.26	40	1.57	22	.866	96	3.780	110	4.331	NG3L	0,67	1.48
	left hand													
3955480	**KM40TSS12ENEL2**	12	.47	19	.73	11	.433	42	1.655	70	2.756	NG2R	0,27	.59
3955482	**KM40TSS16FNEL2**	16	.63	20	.79	11	.433	56	2.209	80	3.150	NG2R	0,28	.62
3955484	**KM40TSS20GNEL2**	20	.79	25	.98	13	.512	70	2.757	90	3.543	NG2R	0,35	.76
3955486	**KM40TSS25ENEL2**	25	.98	32	1.26	17	.669	55	2.169	70	2.756	NG2R	0,34	.75
3955490	**KM40TSS25ENEL3**	25	.98	34	1.34	17	.669	55	2.169	70	2.756	NG3R	0,35	.77
3955492	**KM40TSS25HNEL3**	25	.98	34	1.34	17	.669	75	2.954	100	3.937	NG3R	0,49	1.09
3955488	**KM40TSS25HNEL2**	25	.98	32	1.26	17	.669	75	2.954	100	3.937	NG2R	0,49	1.08
3955496	**KM40TSS32GNEL3**	32	1.26	40	1.57	22	.866	76	2.993	90	3.543	NG3R	0,55	1.21
3955494	**KM40TSS32JNEL3**	32	1.26	40	1.57	22	.866	96	3.780	110	4.331	NG3R	0,67	1.48

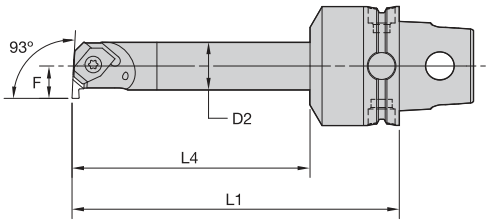
(continued)

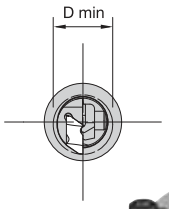
(NE 90° • Steel continued)

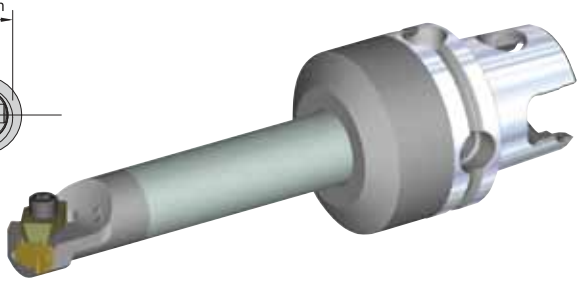
Spare Parts

catalog number	 clamp	 clamp screw
right hand		
KM40TSS12ENER2	CM147	MS1488
KM40TSS16FNER2	CM147	MS1488
KM40TSS20GNER2	CM75	MS1488
KM40TSS25ENER2	CM75	MS1488
KM40TSS25ENER3	CM73	MS1489
KM40TSS25HNER2	CM75	MS1488
KM40TSS25HNER3	CM73	MS1489
KM40TSS32GNER3	CM73	MS1489
KM40TSS32JNER3	CM73	MS1489
left hand		
KM40TSS12ENEL2	CM146	MS1488
KM40TSS16FNEL2	CM146	MS1488
KM40TSS20GNEL2	CM74	MS1488
KM40TSS25ENEL2	CM74	MS1488
KM40TSS25ENEL3	CM72	MS1489
KM40TSS25HNEL2	CM74	MS1488
KM40TSS25HNEL3	CM72	MS1489
KM40TSS32GNEL3	CM72	MS1489
KM40TSS32JNEL3	CM72	MS1489









KM QUICK CHANGE

NE 93° • Carbide

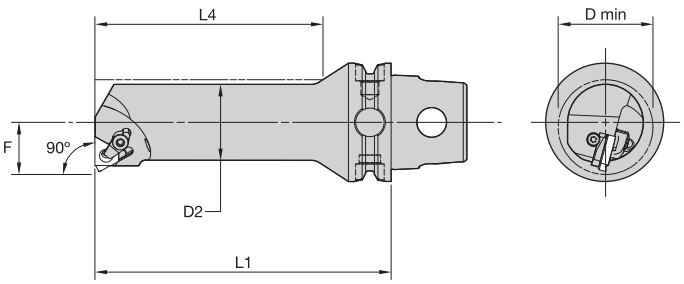
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3951836	KM40TSE16JNER2	16	.63	20	.79	11	.433	80	3.15	110	4.331	NG2L	0,41	.90
	left hand													
3951835	KM40TSE16JNEL2	16	.63	20	.79	11	.433	80	3.15	110	4.331	NG2R	0,41	.90

Spare Parts





catalog number	clamp	clamp screw
right hand KM40TSE16JNER2	CM146	MS1488
left hand KM40TSE16JNEL2	CM147	MS1488





KM QUICK CHANGE

LSE 90°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3955464	**KM40TSS10DLSER11**	10	.39	13	.51	7	.276	35	1.38	60	2.362	LT11NR	0,22	.49
3955466	**KM40TSS12ELSER11**	12	.47	16	.63	9	.354	42	1.66	70	2.756	LT11NR	0,25	.56
3955468	**KM40TSS16FLSER16**	16	.63	20	.79	11	.433	56	2.21	80	3.150	LT16NR	0,28	.61
3955470	**KM40TSS20GLSER16**	20	.79	25	.98	13	.512	70	2.76	90	3.543	LT16NR	0,34	.75
3955472	**KM40TSS25HLSER16**	25	.98	32	1.26	17	.669	75	2.95	100	3.937	LT16NR	0,50	1.11
3955474	**KM40TSS32JLSER16**	32	1.26	40	1.57	22	.866	96	3.78	110	4.331	LT16NR	0,72	1.58
3955476	**KM40TSS32JLSER22**	32	1.26	40	1.57	22	.866	96	3.78	110	4.331	LT22NR	0,71	1.56
	left hand													
3955463	**KM40TSS10DLSEL11**	10	.39	13	.51	7	.276	35	1.38	60	2.362	LT11NL	0,22	.49
3955465	**KM40TSS12ELSEL11**	12	.47	16	.63	9	.354	42	1.65	70	2.756	LT11NL	0,25	.55
3955467	**KM40TSS16FLSEL16**	16	.63	20	.79	11	.433	56	2.21	80	3.150	LT16NL	0,28	.61
3955469	**KM40TSS20GLSEL16**	20	.79	25	.98	13	.512	70	2.76	90	3.543	LT16NL	0,34	.75
3955471	**KM40TSS25HLSEL16**	25	.98	32	1.26	17	.669	75	2.95	100	3.937	LT16NL	0,50	1.11
3955473	**KM40TSS32JLSEL16**	32	1.26	40	1.57	22	.866	96	3.78	110	4.331	LT16NL	0,72	1.58
3955475	**KM40TSS32JLSEL22**	32	1.26	40	1.57	22	.866	96	3.78	110	4.331	LT22NL	0,71	1.56

Spare Parts

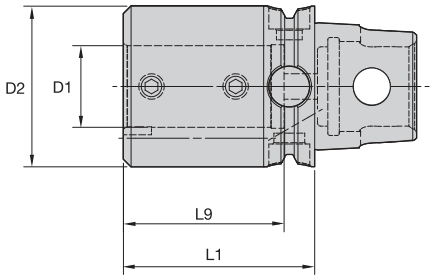





catalog number	insert screw	shim	shim screw	clamp assembly
right hand				
KM40TSS10DLSER11	**SSN2T**	**–**	**–**	**–**
KM40TSS12ELSER11	**SSN2T**	**–**	**–**	**–**
KM40TSS16FLSER16	**SN3TPKG**	**–**	**–**	**–**
KM40TSS20GLSER16	**SSA3T**	**SMYI3**	**SSY3T**	**CKC3**
KM40TSS25HLSER16	**SSA3T**	**SMYI3**	**SSY3T**	**CKC3**
KM40TSS32JLSER16	**SSA3T**	**SMYI3**	**SSY3T**	**CKC3**
KM40TSS32JLSER22	**SSA4T**	**SMYI4**	**SSY4T**	**CKC4**
left hand				
KM40TSS10DLSEL11	**SSN2T**	**–**	**–**	**–**
KM40TSS12ELSEL11	**SSN2T**	**–**	**–**	**–**
KM40TSS16FLSEL16	**SN3TPKG**	**–**	**–**	**–**
KM40TSS20GLSEL16	**SSA3T**	**SMYE3**	**SSY3T**	**CKC3**
KM40TSS25HLSEL16	**SSA3T**	**SMYE3**	**SSY3T**	**CKC3**
KM40TSS32JLSEL16	**SSA3T**	**SMYE3**	**SSY3T**	**CKC3**
KM40TSS32JLSEL22	**SSA4T**	**SMYE4**	**SSY4T**	**CKC4**

NOTE: Items listed without a shim are designed for a 1.5° inclination angle.
Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.







KM QUICK CHANGE

BA • Boring Bar Adapter • Internal and External Coolant • Metric



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	Nm	kg
3950818	KM40TSBA06050M	6	40	50	36	MS1210	2,5mm	3	0,50
3950819	KM40TSBA08050M	8	40	50	36	MS1210	2,5mm	3	0,50
3950820	KM40TSBA10060M	10	40	60	48	MS1211	4mm	12	0,58
3950821	KM40TSBA12065M	12	40	65	52	MS1211	4mm	12	0,61
3950822	KM40TSBA16070M	16	40	70	55	MS1081	5mm	25	0,61
3950823	KM40TSBA20075M	20	40	75	58	MS1213	5mm	25	0,60
3950824	KM40TSBA25075M	25	50	75	56	MS1081	5mm	25	0,87

BA • Boring Bar Adapter • Internal and External Coolant • Inch

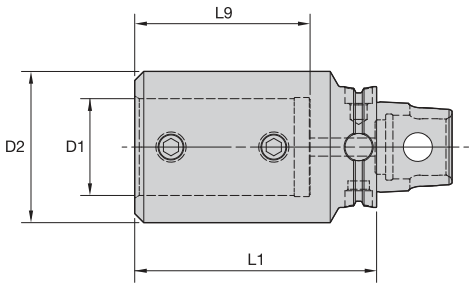


order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	ft. lbs.	lbs
3950813	KM40TSBA06236	3/8	1.58	2.362	1.89	S843	1/8	5	1.27
3950814	KM40TSBA08256	1/2	1.58	2.559	2.05	S852	5/32	10	1.33
3950815	KM40TSBA10276	5/8	1.58	2.756	2.17	S862	3/16	15	1.35
3950816	KM40TSBA12295	3/4	1.58	2.953	2.28	S862	3/16	15	1.37
3950817	KM40TSBA16295	1	1.97	2.953	2.21	S862	3/16	15	1.90

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.









BAI • Boring Bar Adapter • Internal Coolant Only • Metric



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	Nm	kg
3950158	**KM40TSBAI32080M**	32	50	80	58	**MS1213**	5mm	25	0,81
3950159	**KM40TSBAI40090M**	40	58	90	68	**MS1213**	5mm	25	1,04

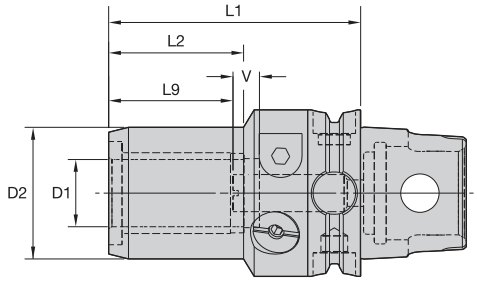
BAI • Boring Bar Adapter • Internal Coolant Only • Inch



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	ft. lbs.	lbs
3950156	**KM40TSBAI20315**	1 1/4	1.97	3.150	2.28	**S861**	3/16	15	1.78
3950157	**KM40TSBAI24354**	1 1/2	2.28	3.543	2.68	**S861**	3/16	15	2.43

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.







KM QUICK CHANGE

HC • Metric





order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length adjustment wrench	wrench size stop screw	kg
3960498	KM40TSHC06065M	6	26	65	34	27	10	170.135	5mm	170.002	2,5mm	0,43
3960499	KM40TSHC08065M	8	28	65	34	27	10	170.135	5mm	170.002	2,5mm	0,44
3960500	KM40TSHC10070M	10	30	70	38	31	10	170.135	5mm	170.002	2,5mm	0,49
3960501	KM40TSHC12075M	12	32	75	41	36	10	170.135	5mm	170.002	2,5mm	0,53

HC • Inch





order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length adjustment wrench	wrench size stop screw	lbs
3960497	KM40TSHC050300	1/2	1.24	3.000	1.75	1.42	.39	170.135	5mm	170.002	2,5mm	1.16

NOTE: Do not overtorque clamp screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Reduction sleeves are available and must be ordered separately; see page J2.
Wrenches must be ordered separately.



KM4X™

The Next Generation Spindle Interface for Heavy-Duty Machining!

KM4X is designed to take on your most aggressive machining jobs. This next generation KM™ spindle interface should be your first choice for heavy-duty machining applications. It's especially suited for large structural components, like titanium aerospace components.

We engineered these rotating and static tool adaptors to handle 3x more bending capacity than similar competitive models.

What does this mean for you?

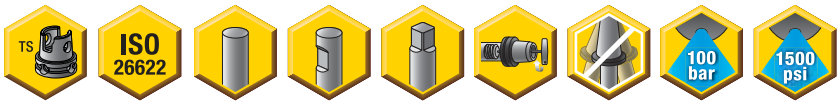
- Enables full use of machine and cutting tools for the highest productivity.
- Higher metal removal rates.
- Can retrofit to existing machines to boost throughput without buying new equipment.
- Ideal for aerospace and transportation industry machining jobs.

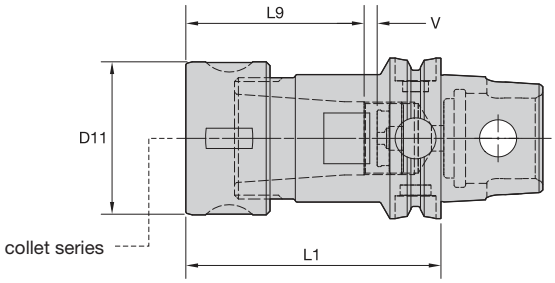
Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

• Tremendous Grip (3:1 advantage).







KM QUICK CHANGE

	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

Collet Chuck • Round Nut

			D11		L1		L9		V			
order number	catalog number	collet series	mm	in	mm	in	mm	in	mm	in	kg	lbs
3969764	**KM40TSTG075075M**	TG75	50	1.97	75	2.953	53	2.09	2	.08	0,64	1.41
3969765	**KM40TSTG100100M**	TG100	60	2.36	100	3.937	69	2.72	5	.20	1,17	2.58

Spare Parts

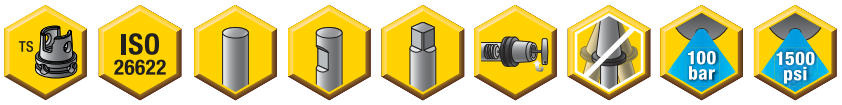


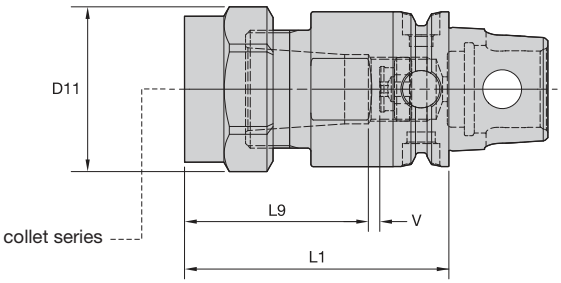


catalog number	locknut	wrench	Nm	ft. lbs.	stop screw	wrench size stop screw
KM40TSTG075075M	**LNA075M**	**HSW45M**	136	100	**SS081041G**	4mm & 5/32
KM40TSTG100100M	**LNA100M**	**HSW58M**	203	150	**SS112041G**	4mm & 5/32

(continued)

(Collet Chuck continued)







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

Collet Chuck • Hex Nut

			D11		L1		L9		V			
order number	catalog number	collet series	mm	in	mm	in	mm	in	mm	in	kg	lbs
3969763	**KM40TSTG075316**	TG75	53	2.09	80	3.161	58	2.28	2	.08	0,63	1.39
3969766	**KM40TSTG100417**	TG100	62	2.44	106	4.173	75	2.95	5	.20	1,21	2.67

Spare Parts

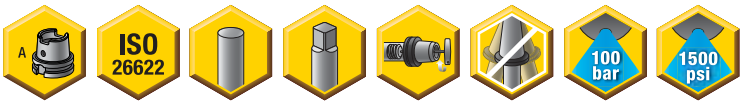


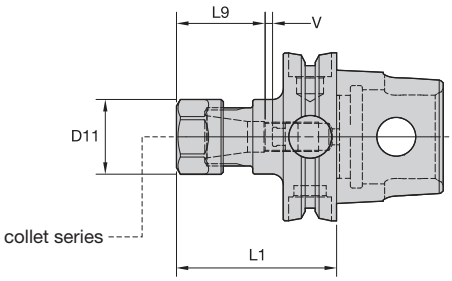


catalog number	locknut	wrench	Nm	ft. lbs.	stop screw	wrench size stop screw
KM40TSTG075316	**NPA075**	**OEW188**	136	100	**SS081041G**	4mm & 5/32
KM40TSTG100417	**NPA100**	**OEW225**	203	150	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/Interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.

• Grip (2:1 advantage).







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER16	0,5	10,0	.02	.41

Collet Chuck • Hex Nut

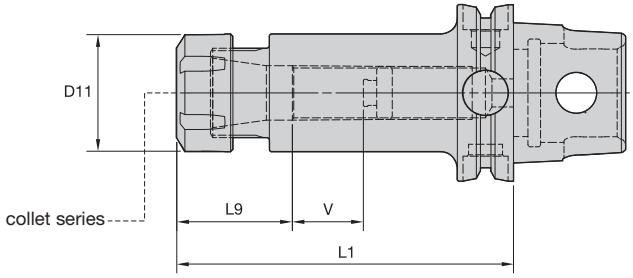



			D11		L1		L9		V				straight collet torque		counterbore collet torque			
order number	catalog number	collet series	mm	in	mm	in	mm	in	mm	in	locknut	wrench	Nm	ft. lbs.	Nm	ft. lbs.	kg	lbs
3950246	KM40TSER16038M	ER16	28	1.10	38	1.496	32,8	1.29	—	—	LNHSER16M	OEW25M	56	42	40	30	0,20	.44

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable coolant-style locknuts and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.

(continued)

(Collet Chuck continued)





KM QUICK CHANGE

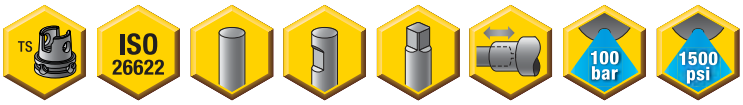
ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81

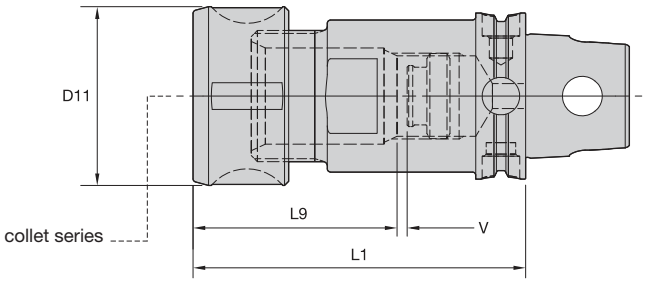
Collet Chuck • Round Nut




order number	catalog number	collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	V mm	V in	locknut	wrench	Nm	ft. lbs.	kg	lbs
3950247	**KM40TSER25045M**	ER25	42	1.65	45	1.772	41,2	1.62	—	—	**LNSER25M**	**ER25WM**	104	77	0,29	.64
3950248	**KM40TSER32060M**	ER32	50	1.97	60	2.362	47,3	1.86	—	—	**LNSER32M**	**ER32WM**	136	100	0,46	1.01

• Grip 1:1.







KM QUICK CHANGE

	Collet Capacity			
	mm		inch	
DA collet series	min	max	min	max
200DA	0,2	10,0	1/64	25/64
180DA	2,2	20,0	1/64	3/4

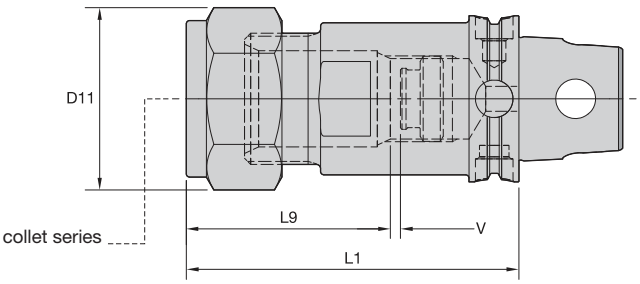
Collet Chuck • Round Nut

order number	catalog number	collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	V mm	V in	kg	lbs
3950189	**KM40TSDA188065M**	DA180	43	1.69	65	2.559	49,0	1.93	—	—	0,48	1.05
3950190	**KM40TSDA188080M**	DA180	43	1.69	80	3.150	49,0	1.93	5	.20	0,58	1.28

Spare Parts



catalog number	locknut	wrench	Nm	ft. lbs.	stop screw	wrench size stop screw
KM40TSDA188065M	**LNA188M**	**HSW45M**	80-100	60-75	**—**	—
KM40TSDA188080M	**LNA188M**	**HSW45M**	80-100	60-75	**SS081041G**	M4 & 5/32





Collet Chuck • Hex Nut

order number	catalog number	collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	V mm	V in	kg	lbs
3950191	**KM40TSDA208236**	DA200	29	1.15	60	2.362	35,0	1.38	8	.32	0,28	.61
3950187	**KM40TSDA188256**	DA180	44	1.73	65	2.559	49,0	1.93	—	—	0,39	.85
3950188	**KM40TSDA188315**	DA180	44	1.73	80	3.150	49,0	1.93	5	.20	0,49	1.09

(continued)

(Collet Chuck continued)

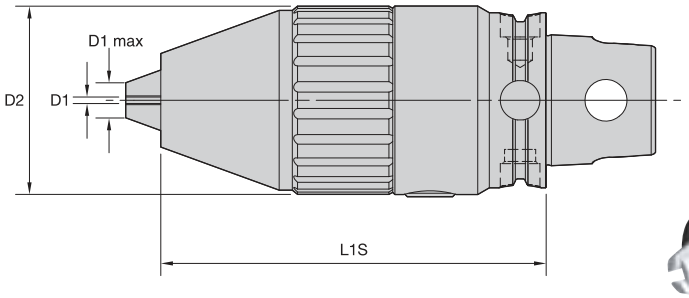
Spare Parts





catalog number	locknut	wrench	Nm	ft. lbs.	stop screw	wrench size stop screw
KM40TSDA188256	**NPA188**	**OEW150**	80-100	60-75	**—**	—
KM40TSDA188315	**NPA188**	**OEW150**	80-100	60-75	**SS081041G**	M4 & 5/32
KM40TSDA208236	**NPA208**	**OEW100**	45-55	32-40	**SS038031G**	M2 & 5/64

NOTE: Tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.





KM QUICK CHANGE

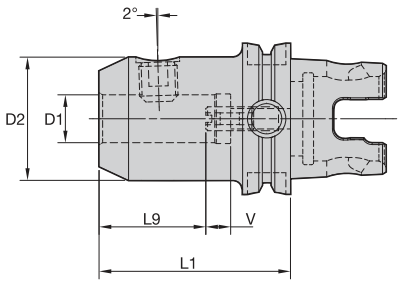
RDC • Drill Chucks

order number	catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D2 mm	D2 in	L1S mm	L1S in
4053778	**KM40TSRDC13092M**	1	.039	13	.512	43	1.693	91,9	3.618

NOTE: Activation size is 6mm.
Activation wrench included.
Wrench reorder number is 170.136.



KM QUICK CHANGE





WN • Whistle Notch Adapter

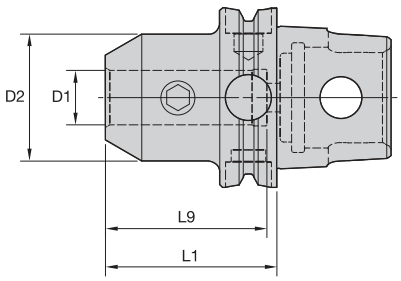




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg	lbs
3950205	**KM40TSWN06065M**	6	25	65	30	10	**SS03M012**	3mm	7	**571.060**	2,5mm	0,32	.71
3950206	**KM40TSWN08065M**	8	28	65	30	10	**SS03M014**	4mm	15	**571.067**	3mm	0,37	.81
3950207	**KM40TSWN10070M**	10	35	70	35	10	**SS03M018**	5mm	25	**571.068**	4mm	0,52	1.15
3950208	**KM40TSWN12080M**	12	42	80	40	10	**SS03M023**	6mm	35	**571.074**	5mm	0,78	1.72
3950209	**KM40TSWN14080M**	14	44	80	40	10	**SS03M023**	6mm	35	**571.074**	5mm	0,83	1.84
3950210	**KM40TSWN16085M**	16	48	85	43	10	**SS03M025**	6mm	50	**571.075**	6mm	1,02	2.25
3950211	**KM40TSWN18085M**	18	50	85	43	10	**SS03M025**	6mm	50	**571.075**	6mm	1,08	2.38
3950212	**KM40TSWN20095M**	20	52	95	45	10	**SS03M026**	8mm	95	**571.076**	6mm	1,28	2.83

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw and stop screw wrenches are not included.







KM QUICK CHANGE

EM • Metric



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
3950196	**KM40TSEM06045M**	6	25	45	40	**SS03M012**	3mm	7	0,25
3950197	**KM40TSEM08045M**	8	28	45	40	**SS03M014**	4mm	15	0,28
3950198	**KM40TSEM10050M**	10	35	50	45	**SS03M018**	5mm	25	0,38
3950199	**KM40TSEM12055M**	12	42	55	50	**SS03M023**	6mm	35	0,52
3950200	**KM40TSEM16060M**	16	48	60	53	**SS03M025**	6mm	50	0,68
3950201	**KM40TSEM20065M**	20	52	65	55	**SS03M026**	8mm	95	0,81

EM • Inch

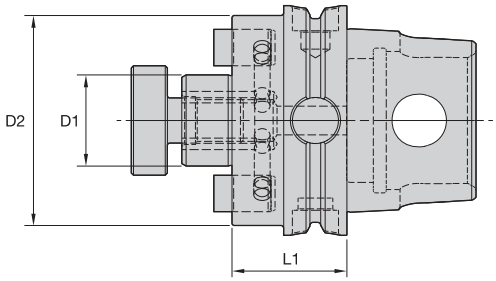


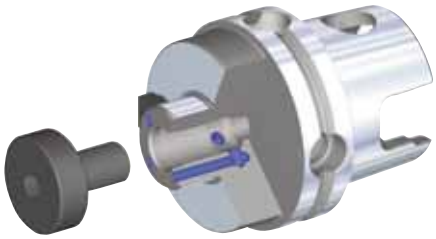
order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
3950139	**KM40TSEM038197**	3/8	1.00	1.969	1.73	**ELS038031PKG**	3/16	15	.58
3950140	**KM40TSEM050216**	1/2	1.38	2.165	1.97	**ELS044038PKG**	7/32	20	.84
3950141	**KM40TSEM062236**	5/8	1.63	2.362	2.09	**ELS056050PKG**	1/4	40	1.16
3950142	**KM40TSEM075256**	3/4	1.75	2.559	2.22	**ELS062050PKG**	5/16	70	1.35

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.



KM QUICK CHANGE





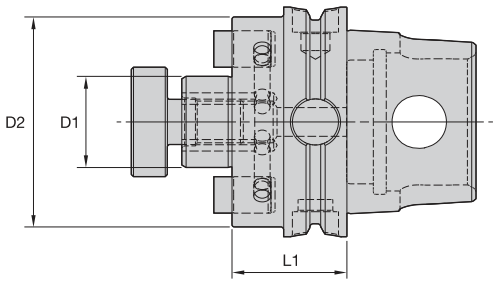
SMC • Metric

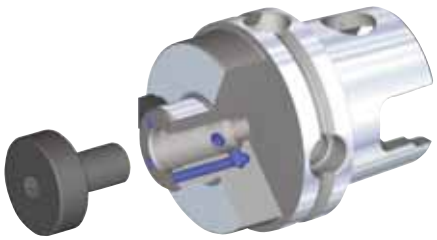




order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3950261	**KM40TSSMC16026M**	16	44	26	**MS1294**	**KDK16M**	6mm	0,34
3950262	**KM40TSSMC22028M**	22	49	28	**MS1234**	**KDK22M**	8mm	0,44
3950263	**KM40TSSMC27032M**	27	60	32	**KLSS27M**	**KDK27M**	10mm	0,68







SMC/SM2C • Inch

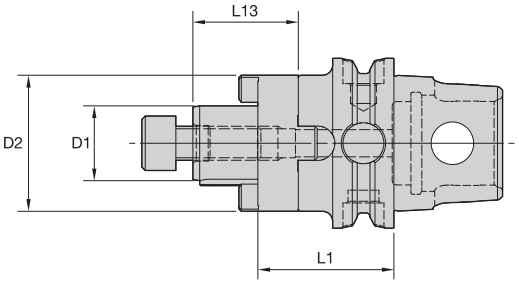




order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	lbs
3950256	**KM40TSSMC050102**	1/2	1.44	1.024	**KLS05**	**KDK04**	3/16	.63
3950257	**KM40TSSM2C075102**	3/4	1.46	1.024	**KLS07**	**—**	1/4	.71
3950258	**KM40TSSMC075102**	3/4	1.75	1.024	**KLS07**	**KDK05**	1/4	.82
3950259	**KM40TSSM2C100126**	1	2.19	1.260	**KLS10**	**KDK06**	5/16	1.33
3950260	**KM40TSSMC100126**	1	2.75	1.260	**KLS10**	**KDK06**	5/16	1.64

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.







KM QUICK CHANGE

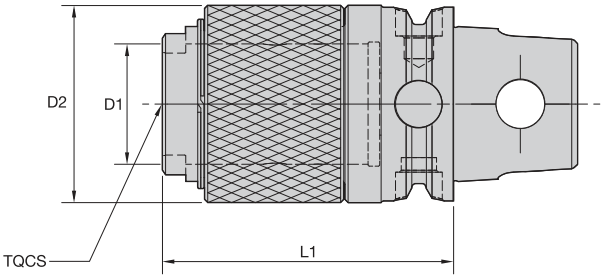
CS • Metric





order number	catalog number	D1	D2	L1	L13	lock screw	wrench size lock screw	drive ring	key	kg
3951833	**KM40TSCS16036M**	16	32	36	27	**MS1294**	6mm	**CDR16M**	**CDK16M**	0,33
3951834	**KM40TSCS22038M**	22	40	38	31	**MS1234**	8mm	**CDR22M**	**CDK22M**	0,47

NOTE: Do not overtighten lock screw.
Supplied with lock screw, drive ring, and key.
Lock screw wrench not included.



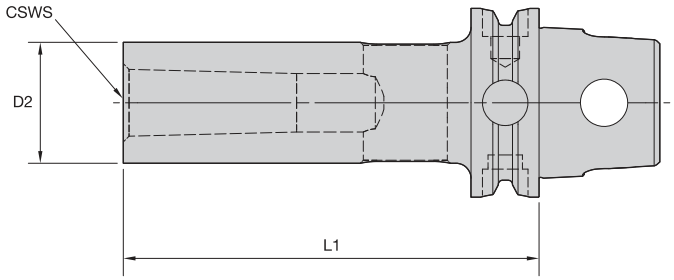


KM QUICK CHANGE

ST • Solid Tap Chuck

order number	catalog number	TQCS adapter size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	kg	lbs
3964071	KM40TSST1045M	1	19	.749	35	1.375	45	1.774	0,30	.65
3964072	KM40TSST2070M	2	31	1.222	51	2.000	70	2.758	0,71	1.56

NOTE: Quick-change tap adapters available and must be ordered separately; see page J76.





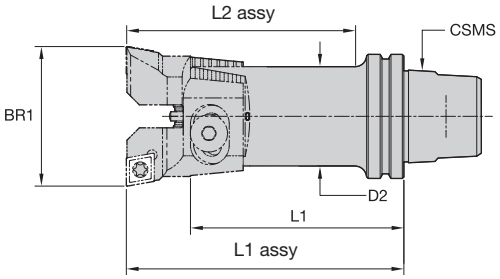
KM QUICK CHANGE

MT • Morse Taper Adapter

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	kg	lbs
3950809	KM40TSMT1090M	1	25	.984	90	3.543	0,39	.86
3950810	KM40TSMT2105M	2	32	1.260	105	4.134	0,59	1.30
3950811	KM40TSMT3125M	3	40	1.575	125	4.921	0,95	2.09

• Preset on tool setter.







KM QUICK CHANGE

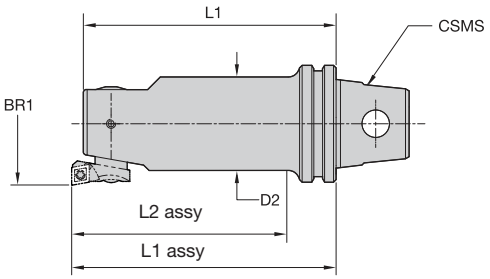
RBHT • KM™ Rough-Boring Twin Cutters

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	L1 assy mm	L1 assy in	L2 assy mm	L2 assy in	blade screw	washer	pin
3586521	**KM40RBHT40**	39,500-50,500	1.5551-1.9882	KM40	32,0	1.26	68,8	2.71	90,0	3.54	74,0	2.91	**840.142.320**	**841.142.320**	**841.342.200**

NOTE: Blade sets are ordered seperately; see the Kennametal Innovations Master Catalog Cutting Tools 2013.

- 0.01mm diameter adjustment respective 2 µm with vernier scale.
- Internal coolant directed to indexable insert.
- Order insert cartridges separately for required bore range; see the Kennametal Innovations Master Catalog Cutting Tools 2013.







KM QUICK CHANGE

FBHS • KM™ Fine-Boring Single Cutters

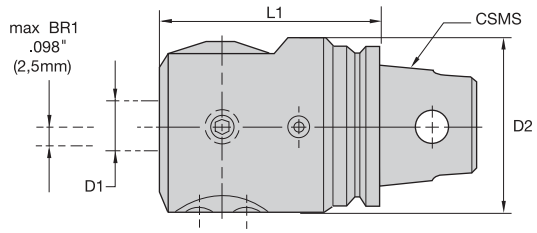
order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	L1 assy mm	L1 assy in	L2 assy mm	L2 assy in	cartridge mounting screw	lock screw
3586574	**KM40FBHS40**	39,900-59,100	1.5709-2.3268	KM40	32,0	1.26	86,0	3.39	90,0	3.54	74,0	2.92	**880.252.320**	**881.252.320**

Reference Insert Cartridges

BR1 in	BR1 mm	insert cartridges 90° lead		95° lead	
.9409 - 1.2244	**23,900 - 31,100**	R24FBHS06	–	R24FBHS06LF	–
1.1772 - 1.4606	**29,900 - 37,100**	R30FBHS06	–	–	–
1.2165 - 1.5787	**30,900 - 40,100**	R31FBHS06	–	R31FBHS06LF	–
1.4921 - 1.8543	**37,900 - 47,100**	F38FBHS06	–	–	–
1.5709 - 2.0118	**39,900 - 51,100**	R40FBHS06	–	R40FBHS06LF	–
1.8858 - 2.3268	**47,900 - 59,100**	R48FBHS06	–	–	–
2.0039 - 2.6417	**50,900 - 67,100**	R51FBHS06	–	R51FBHS06LF	–
2.5551 - 3.1929	**64,900 - 81,100**	R65FBHS06	–	–	–
2.6339 - 3.4291	**66,900 - 87,100**	R67FBHS06	R67FBHS09	–	R67FBHS09LF
3.3425 - 4.1378	**84,900 - 105,100**	R85FBHS06	R85FBHS09	–	–
3.4213 - 4.5709	**86,900 - 116,100**	R67FBHS06	R67FBHS09	–	R67FBHS09LF
4.1299 - 5.2795	**104,900 - 134,100**	R85FBHS06	R85FBHS09	–	–
4.5630 - 6.0669	**115,900 - 154,100**	R67FBHS06	R67FBHS09	–	R67FBHS09LF
5.2717 - 6.7362	**133,900 - 171,100**	R85FBHS06	R85FBHS09	–	–
6.0591 - 7.5236	**153,900 - 191,100**		R125FBHS09	–	–

NOTE: Boring heads are ordered seperately; see the Kennametal Innovations Master Catalog Cutting Tools 2013.

- 0,01mm (.0004") diameter adjustment respective 2 µm (.00008") with vernier scale.
- Order boring bars separately for required diameter; see the Kennametal Innovations Master Catalog Cutting Tools 2013.

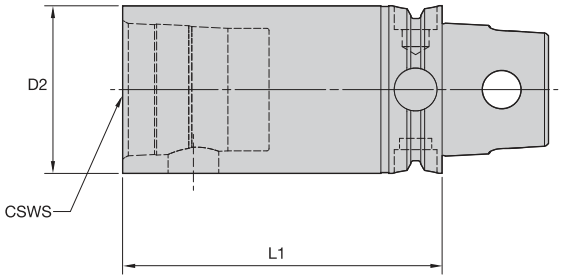




KM QUICK CHANGE

FBHO • KM™ Offset Boring Head

order number	catalog number	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	ModBORE FBHO parts package
1131111	**KM40FBHO1660**	KM40	16	.63	55,0	2.17	60,0	2.36	**PKG7001**

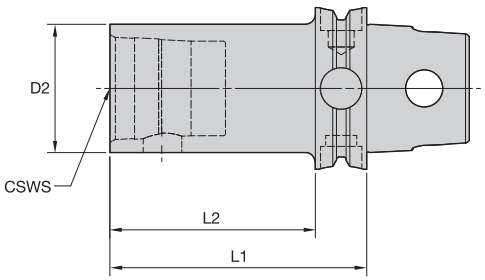




KM QUICK CHANGE

S • KM Extension

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
3950179	KM40TSS40060M	KM40	40	1.575	60	2.362	6mm	12–16	9–12	KM40PKG3S	0,52	1.15
3950180	KM40TSS40080M	KM40	40	1.575	80	3.150	6mm	12–16	9–12	KM40PKG3S	0,71	1.57

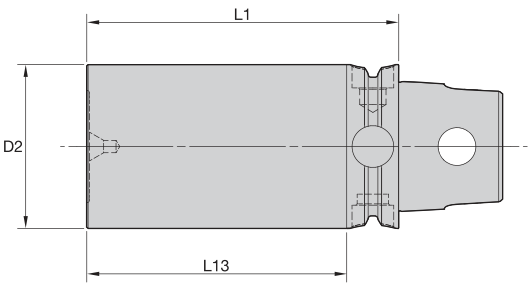




KM QUICK CHANGE

S • KM Reducer

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	L2 mm	L2 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
3950178	KM40TSS32070M	KM32	32	1.260	70	2.756	58	2.284	5mm	8–11	6–8	KM32PKG3S	0,46	1.01

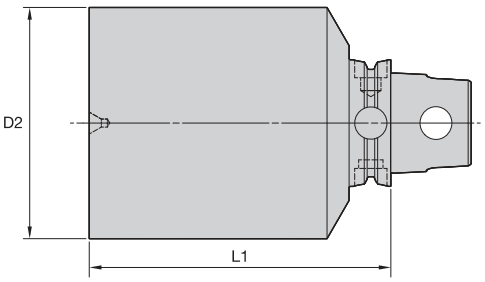




KM QUICK CHANGE

GB • Gage Bar

order number	catalog number	D2 mm	D2 in	L1 mm	L1 in	L13 mm	L13 in	kg	lbs
3959981	KM40TSGB40080M	40	1.58	80	3.15	68	2.68	0,81	1.79





KM QUICK CHANGE

BN • Blank

order number	catalog number	D2 mm	D2 in	L1 mm	L1 in	hardness range	kg	lbs
3950194	KM40TSBN63052M	63	2.480	52	2.047	32–38 HRC	1,11	2.45
3950193	KM40TSBN63125M	63	2.480	125	4.921	32–38 HRC	2,89	6.38
3950195	KM40TSBN90052M	90	3.543	52	2.047	32–38 HRC	2,00	4.42



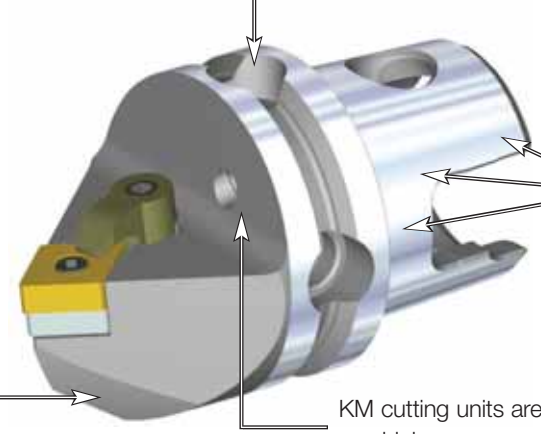
KM™ Quick Change Clamping System • KM50TS™ Series

Primary Application

The KM Quick Change Clamping System is the best system on the market suitable for static, rotating, and multitasking operations. With its industry-leading design, the KM Quick Change System provides greater clamping forces than other quick-change systems. The KM Quick Change System gives you the flexibility to use KM on any application within your shop.

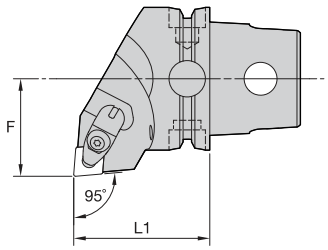
Features and Benefits

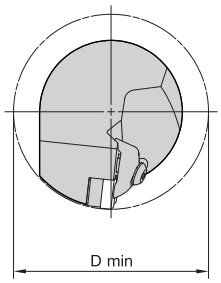
- KM is an ISO standard (ISO 26622).
- KM clamping units provide a 4:1 mechanical advantage.
- KM cutting units are capable of 100 bar (1,500 psi) coolant pressure.





KM QUICK CHANGE







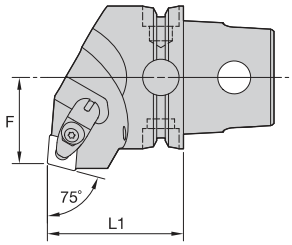
DCLN 95°

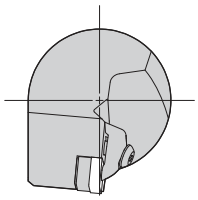
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
3738457	KM50TSDCLNR12KC04	50	1.969	35	1.378	70	2.756	CN..120408/CN..432	0,62
3738459	KM50TSDCLNR16KC06	50	1.969	35	1.378	–	–	CN..160612/CN..543	0,61
	left hand								
3738456	KM50TSDCLNL12KC04	50	1.969	35	1.378	70	2.756	CN..120408/CN..432	0,62
3738458	KM50TSDCLNL16KC06	50	1.969	35	1.378	–	–	CN..160612/CN..543	0,61

Spare Parts

catalog number	 shim	 shim screw	 clamp assembly	 pin
right hand				
KM50TSDCLNR12KC04	ICSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM50TSDCLNR16KC06	ICSN543	KMSP515IP	CM209R ASSY	SSP025018M
left hand				
KM50TSDCLNL12KC04	ICSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM50TSDCLNL16KC06	ICSN543	KMSP515IP	CM209R ASSY	SSP025018M









KM QUICK CHANGE

DCRN 75°

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
3738461	KM50TSDCRNR12KC04	50	1.969	30	1.181	CN..120408/CN..432	0,62
	left hand						
3738460	KM50TSDCRNL12KC04	50	1.969	30	1.181	CN..120408/CN..432	0,62

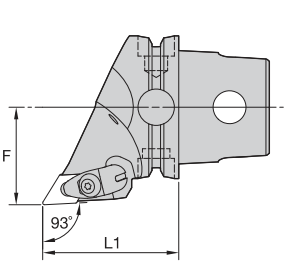
Spare Parts

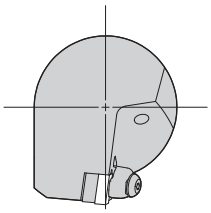





catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM50TSDCRNR12KC04	ICSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM50TSDCRNL12KC04	ICSN443	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

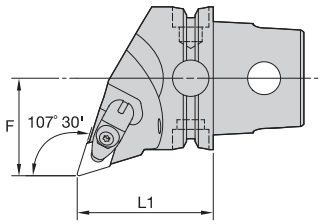
DDJN 93°

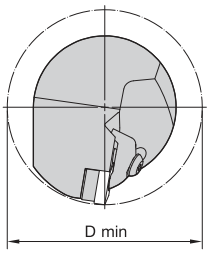
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
3741359	KM50TSDDJNR15KC04060M	60	2.362	35	1.378	DN..150408/DN..432	0,63
3741360	KM50TSDDJNR15KC06060M	60	2.362	35	1.378	DN..150608/DN..442	0,63
	left hand						
3741357	KM50TSDDJNL15KC04060M	60	2.362	35	1.378	DN..150408/DN..432	0,63
3741358	KM50TSDDJNL15KC06060M	60	2.362	35	1.378	DN..150608/DN..442	0,62

Spare Parts

catalog number	 shim	 shim screw	 clamp assembly	 pin
right hand				
KM50TSDDJNR15KC04060M	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM50TSDDJNR15KC06060M	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM50TSDDJNL15KC04060M	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM50TSDDJNL15KC06060M	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

DDQN 107° 30'

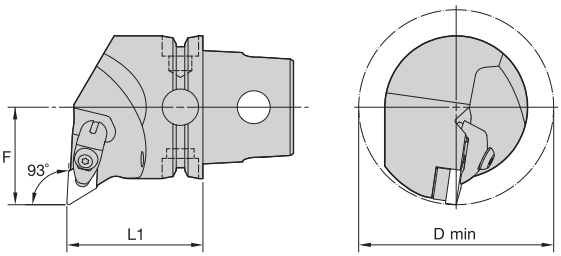
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
3741384	KM50TSDDQNR15KC04	50	1.969	35	1.378	80	3.15	DN..150408/DN..432	0,55
3741385	KM50TSDDQNR15KC06	50	1.969	35	1.378	80	3.15	DN..150608/DN..442	0,55
	left hand								
3741361	KM50TSDDQNL15KC04	50	1.969	35	1.378	80	3.15	DN..150408/DN..432	0,55
3741383	KM50TSDDQNL15KC06	50	1.969	35	1.378	80	3.15	DN..150608/DN..442	0,54

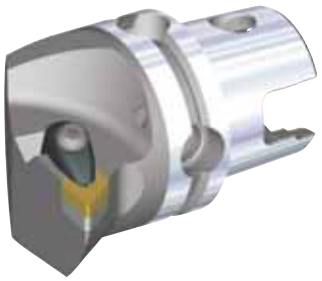
Spare Parts






catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM50TSDDQNR15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM50TSDDQNR15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM50TSDDQNL15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM50TSDDQNL15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M





KM QUICK CHANGE

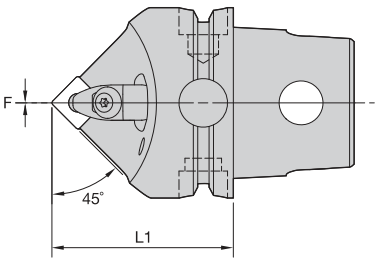
DDUN 93°

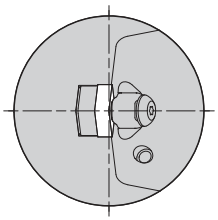
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
3741389	KM50TSDDUNR15KC04	50	1.969	35	1.378	80	3.15	DN..150408/DN..432	0,65
3741391	KM50TSDDUNR15KC06	50	1.969	35	1.378	80	3.15	DN..150608/DN..442	0,65
	left hand								
3741386	KM50TSDDUNL15KC04	50	1.969	35	1.378	80	3.15	DN..150408/DN..432	0,65
3741387	KM50TSDDUNL15KC06	50	1.969	35	1.378	80	3.15	DN..150608/DN..442	0,64

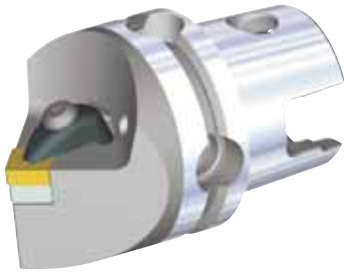
Spare Parts

catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM50TSDDUNR15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM50TSDDUNR15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM50TSDDUNL15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM50TSDDUNL15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

DSDN 45°

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
3738085	KM50TSDSDNN12KC04	50	1.969	0	.000	SN..120408/SN..432	0,51

Spare Parts



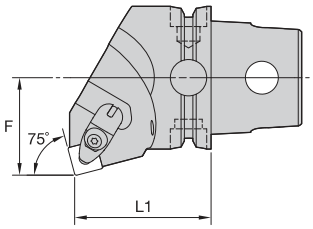


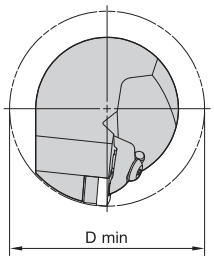




catalog number	shim	shim screw	clamp assembly	pin
KM50TSDSDNN12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

DSKN 75°

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
3738087	KM50TSDSKNR12KC04	50	1.969	35	1.378	70	2.76	SN..120408/SN..432	0,69
	left hand								
3738086	KM50TSDSKNL12KC04	50	1.969	35	1.378	70	2.76	SN..120408/SN..432	0,69

Spare Parts

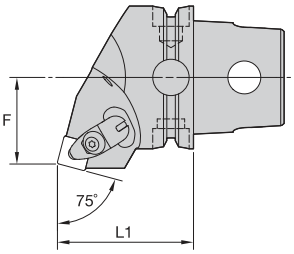


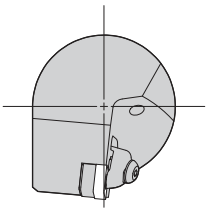



catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM50TSDSKNR12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM50TSDSKNL12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M



KM QUICK CHANGE







DSRN 75°

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
3738089	KM50TSDSRNR12KC04	50	1.969	30	1.181	SN..120408/SN..432	0,61
	left hand						
3738088	KM50TSDSRNL12KC04	50	1.969	30	1.181	SN..120408/SN..432	0,61

Spare Parts

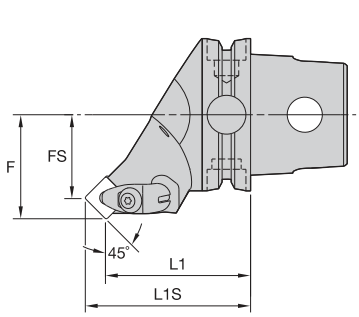


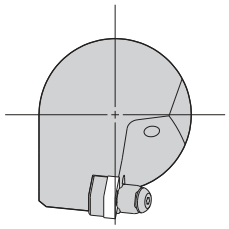



catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM50TSDSRNR12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM50TSDSRNL12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M



KM QUICK CHANGE







DSSN 45°

order number	catalog number	L1 mm	L1 in	L1S mm	L1S in	F mm	F in	FS mm	FS in	gage insert	kg
	right hand										
3738091	KM50TSDSSNR12KC04	50	1.969	58,3	2.297	35	1.378	27	1.050	SN..120408/SN..432	0,64
	left hand										
3738090	KM50TSDSSNL12KC04	50	1.969	58,3	2.297	35	1.378	27	1.050	SN..120408/SN..432	0,64

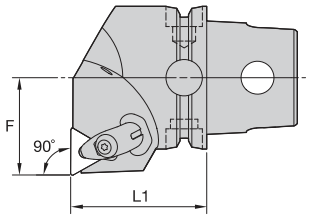
Spare Parts

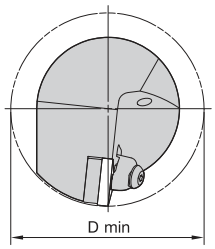





catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM50TSDSSNR12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM50TSDSSNL12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M









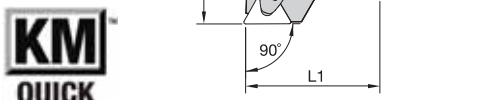
KM QUICK CHANGE

DTFN 90°

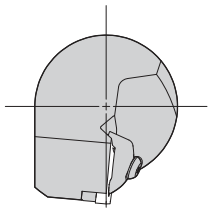
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
3738158	KM50TSDTFNR22KC04055M	55	2.165	35	1.378	70	2.76	TN..220408/TN..432	0,78
	left hand								
3738157	KM50TSDTFNL22KC04055M	55	2.165	35	1.378	70	2.76	TN..220408/TN..432	0,78

Spare Parts

catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM50TSDTFNR22KC04055M	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM50TSDTFNL22KC04055M	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M



KM QUICK CHANGE





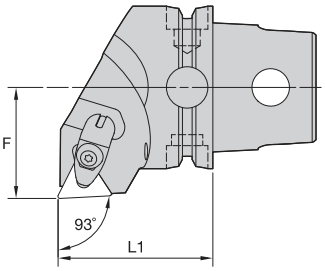
DTGN 90°

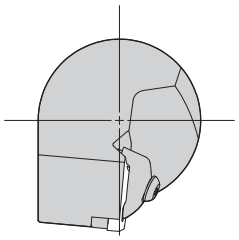
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
3738160	KM50TSDTGNR22KC04	50	1.969	35	1.378	TN..220408/TN..432	0,64
	left hand						
3738159	KM50TSDTGNL22KC04	50	1.969	35	1.378	TN..220408/TN..432	0,64

Spare Parts

catalog number	 shim	 shim screw	 clamp assembly	 pin
right hand				
KM50TSDTGNR22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM50TSDTGNL22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

DTJN 93°

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
3738162	KM50TSDTJNR22KC04	50	1.969	35	1.378	TN..220408/TN..432	0,64
	left hand						
3738161	KM50TSDTJNL22KC04	50	1.969	35	1.378	TN..220408/TN..432	0,64

Spare Parts

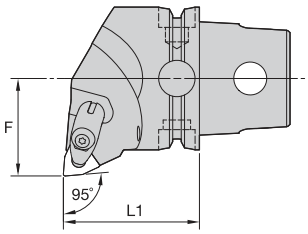


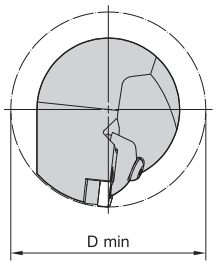



catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM50TSDTJNR22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM50TSDTJNL22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M



KM QUICK CHANGE







DWLN 95°

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
3738178	KM50TSDWLNR08KC04	50	1.969	35	1.378	70	2.76	WN..080408/WN..432	0,65
	left hand								
3738177	KM50TSDWLNL08KC04	50	1.969	35	1.378	70	2.76	WN..080408/WN..432	0,66

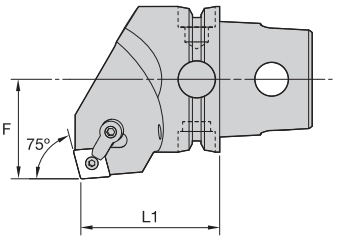
Spare Parts

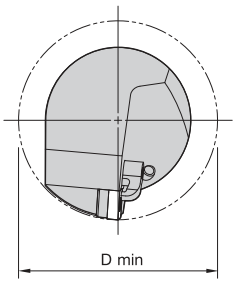





catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM50TSDWLNR08KC04	IWSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM50TSDWLNL08KC04	IWSN443	KMSP415IP	CM234R ASSY	SSP025016M









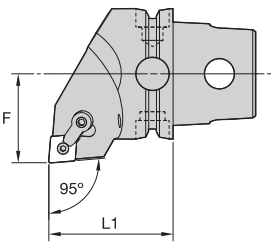
KM QUICK CHANGE

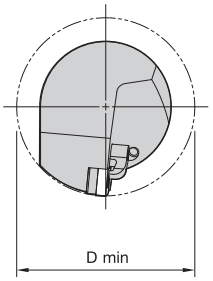
MCKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3738139	KM50TSMCKNR12	50	1.969	35	1.378	70	2.756	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11	0,68	1.51
3738140	KM50TSMCKNR16	50	1.969	35	1.378	70	2.756	CN..160612/CN..543	ICSN533	KLM58	CKM20LP	STCM11	0,71	1.57
	left hand													
3738137	KM50TSMCKNL12	50	1.969	35	1.378	70	2.756	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11	0,68	1.51
3738138	KM50TSMCKNL16	50	1.969	35	1.378	70	2.756	CN..160612/CN..543	ICSN533	KLM58	CKM20LP	STCM11	0,71	1.57



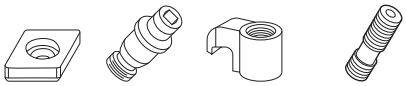






KM QUICK CHANGE

MCLN 95°

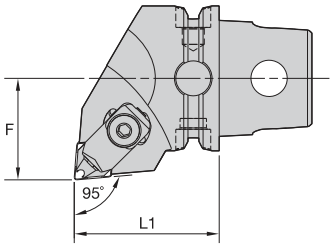


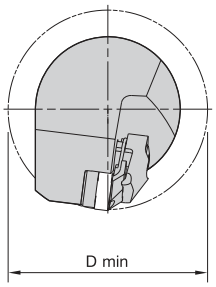
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3738164	KM50TSMCLNR12	50	1.969	35	1.378	70	2.756	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11	0,64	1.42
3738165	KM50TSMCLNR16	50	1.969	35	1.378	90	3.543	CN..160612/CN..543	ICSN533	KLM58	CKM20LP	STCM11	0,64	1.41
3738166	KM50TSMCLNR19	50	1.969	35	1.378	90	3.543	CN..190612/CN..643	ICSN633	KLM68	CKM13LP	STCM8	0,63	1.39
	left hand													
3738141	KM50TSMCLNL12	50	1.969	35	1.378	70	2.756	CN..120408/CN..432	ICSN432	KLM46	CKM20LP	STCM11	0,64	1.41
3738142	KM50TSMCLNL16	50	1.969	35	1.378	90	3.543	CN..160612/CN..543	ICSN533	KLM58	CKM20LP	STCM11	0,64	1.41
3738163	KM50TSMCLNL19	50	1.969	35	1.378	90	3.543	CN..190612/CN..643	ICSN633	KLM68	CKM13LP	STCM8	0,63	1.39



beyond BLAST

KM QUICK CHANGE



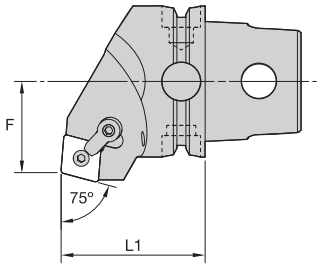


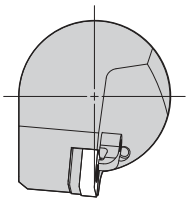


MCLN 95°

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp assembly	top plate	kg	lbs
	right hand													
4098740	**KM50TSMCLNR12BB**	50	1.969	35	1.378	130	5.118	CN..120408RBB/CN..432RBB	**ICSN433BB**	**KLM48BB**	**551.350**	557.150	0,33	1.45
	left hand													
4098741	**KM50TSMCLNL12BB**	50	1.969	35	1.378	130	5.118	CN..120408RBB/CN..432RBB	**ICSN433BB**	**KLM48BB**	**551.350**	557.150	0,33	1.45









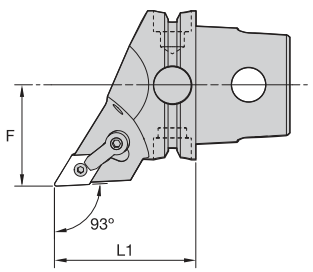
KM QUICK CHANGE

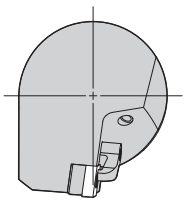
MCRN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3738182	KM50TSMCRNR12	50	1.969	30	1.181	CN..120408/CN..432	ICSN433	KLM46	CKM20LP	STCM11	0,66	1.44
3838383	KM50TSMCRNR16	50	1.969	30	1.181	CN..160612/CN..543	ICSN533	KLM58	CKM20LP	STCM11	0,66	1.45
3738183	KM50TSMCRNR19	50	1.969	30	1.181	CN..190612/CN..643	ICSN633	KLM68	CKM13LP	STCM8	0,66	1.45
	left hand											
3738179	KM50TSMCRNL12	50	1.969	30	1.181	CN..120408/CN..432	ICSN433	KLM46	CKM20LP	STCM11	0,66	1.45
3738181	KM50TSMCRNL16	50	1.969	30	1.181	CN..160612/CN..543	ICSN533	KLM58	CKM20LP	STCM11	0,64	1.41
3838384	KM50TSMCRNL19	50	1.969	30	1.181	CN..190612/CN..643	ICSN633	KLM68	CKM13LP	STCM8	0,66	1.44



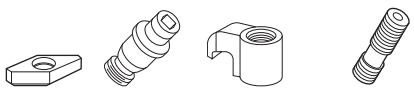




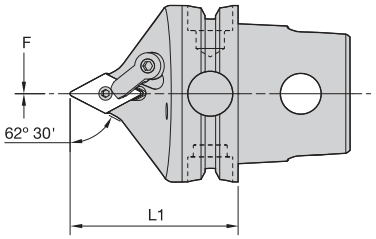


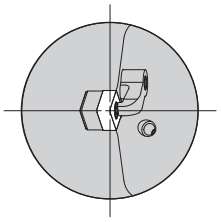
KM QUICK CHANGE

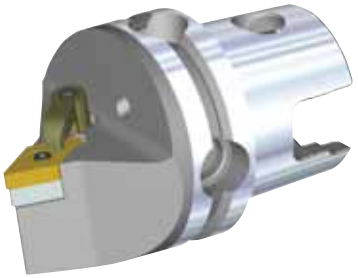
MDJN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3738151	KM50TSMDJNR1504	50	1.969	35	1.378	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11	0,50	1.110
3738152	KM50TSMDJNR1506	50	1.969	35	1.378	DN..150408/DN..432	IDSN432	KLM46L	CKM23LP	STCM11	0,50	1.110
3738153	KM50TSMDJNR1906	50	1.969	35	1.378	DN..190612/DN..532	IDSN532	KLM58	CKM13LP	STCM8	0,55	1.200
	left hand											
3738149	KM50TSMDJNL1504	50	1.969	35	1.378	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11	0,51	1.110
3738150	KM50TSMDJNL1506	50	1.969	35	1.378	DN..150408/DN..432	IDSN432	KLM46L	CKM23LP	STCM11	0,50	1.110

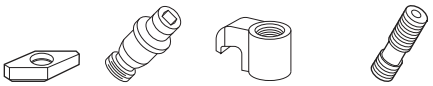




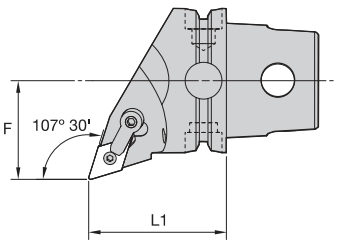


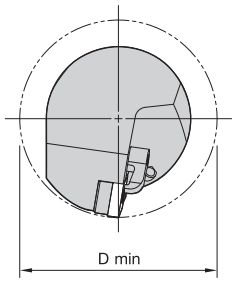
KM QUICK CHANGE

MDPN 62° 30'



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
3738489	KM50TSMDPNN1504	50	1.969	0	.000	DN..150408/DN..432	IDSN442	KLM46L	CKM23	STCM11	0,46	1.02
3738509	KM50TSMDPNN1506	50	1.969	0	.000	DN..150608/DN..442	IDSN432	KLM46L	CKM23	STCM11	0,46	1.02

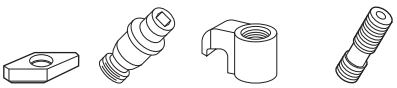






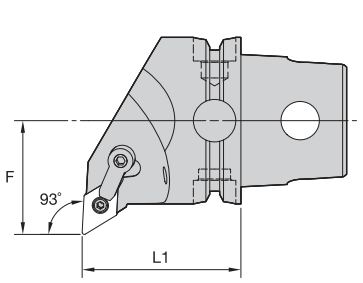
KM QUICK CHANGE

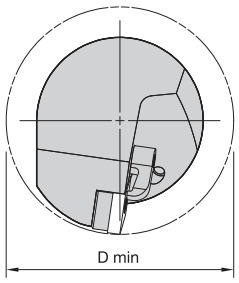
MDQN 107° 30'



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3738522	KM50TSMDQNR1504	50	1.969	35	1.378	70	2.756	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11	0,59	1.30
3738524	KM50TSMDQNR1506	50	1.969	35	1.378	70	2.756	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11	0,59	1.29
	left hand													
3738515	KM50TSMDQNL1504	50	1.969	35	1.378	70	2.756	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11	0,59	1.30
3738519	KM50TSMDQNL1506	50	1.969	35	1.378	70	2.756	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11	0,59	1.29



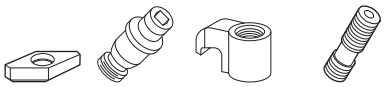






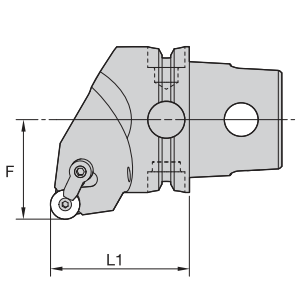
KM QUICK CHANGE

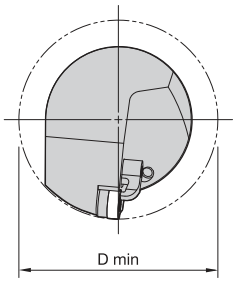
MDUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3738529	KM50TSMDUNR1504	50	1.969	35	1.378	70	2.756	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11	0,64	1.41
3738530	KM50TSMDUNR1506	50	1.969	35	1.378	70	2.756	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11	0,64	1.40
	left hand													
3738526	KM50TSMDUNL1504	50	1.969	35	1.378	70	2.756	DN..150408/DN..432	IDSN442	KLM46L	CKM23LP	STCM11	0,64	1.41
3738528	KM50TSMDUNL1506	50	1.969	35	1.378	70	2.756	DN..150608/DN..442	IDSN432	KLM46L	CKM23LP	STCM11	0,64	1.40



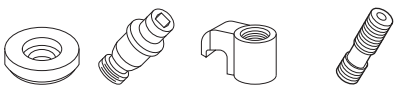






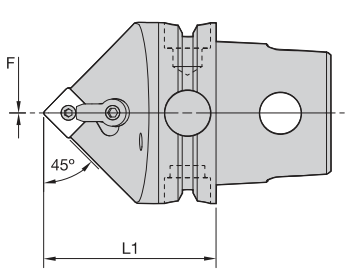
KM QUICK CHANGE

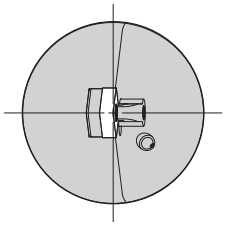
MRGN 0°

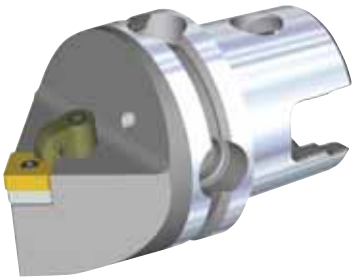


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3738485	KM50TSMRGNR12	50	1.969	35	1.378	100	3.937	RN..1204000/RN..43	IRSN43	KLM46	CKM20LP	STCM11	0,64	1.41
	left hand													
3738484	KM50TSMRGNL12	50	1.969	35	1.378	100	3.937	RN..1204000/RN..43	IRSN43	KLM46	CKM20LP	STCM11	0,64	1.41



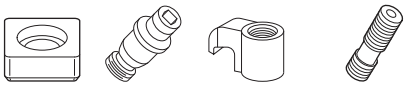






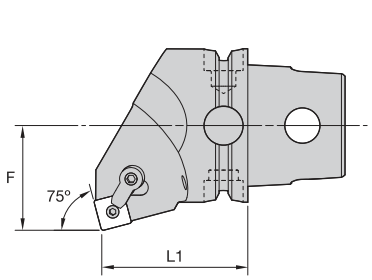
KM QUICK CHANGE

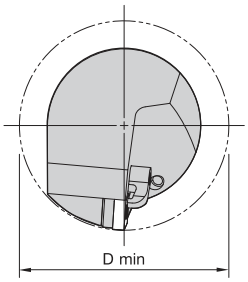
MSDN 45°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
3738567	KM50TSMSDNN12	50	1.969	0	.000	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11	0,51	1.13



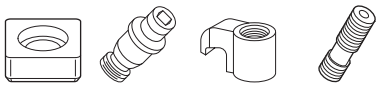






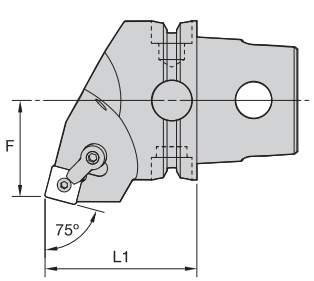
KM QUICK CHANGE

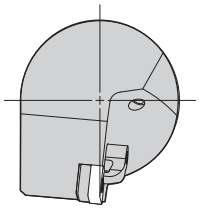
MSKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3738572	KM50TSMSKNR12	50	1.969	35	1.378	70	2.756	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11	0,69	1.52
3738583	KM50TSMSKNR15	50	1.969	35	1.378	70	2.756	SN..150612/SN..543	ISSN533	KLM58	CKM20LP	STCM11	0,71	1.57
3738585	KM50TSMSKNR19	50	1.969	35	1.378	70	2.756	SN..190612/SN..643	ISSN633	KLM68	CKM13LP	STCM8	0,72	1.59
	left hand													
3738568	KM50TSMSKNL12	50	1.969	35	1.378	70	2.756	SN..120408/SN..432	ISSN432	KLM46	CKM20LP	STCM11	0,69	1.53
3738569	KM50TSMSKNL15	50	1.969	35	1.378	70	2.756	SN..150612/SN..543	ISSN533	KLM58	CKM20LP	STCM11	0,71	1.57
3738571	KM50TSMSKNL19	50	1.969	35	1.378	70	2.756	SN..190612/SN..643	ISSN633	KLM68	CKM13LP	STCM8	0,72	1.59









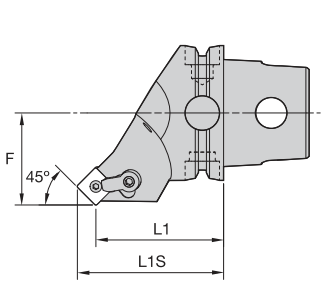
KM QUICK CHANGE

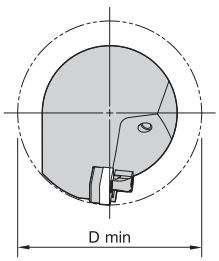
MSRN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3738615	**KM50TSMSRNR12**	50	1.969	30	1.181	SN..120408/SN..432	**ISSN432**	**KLM46**	**CKM20LP**	**STCM11**	0,58	1.28
3738616	**KM50TSMSRNR15**	50	1.969	30	1.181	SN..150612/SN..543	**ISSN533**	**KLM58**	**CKM20LP**	**STCM11**	0,60	1.32
3738617	**KM50TSMSRNR19**	50	1.969	30	1.181	SN..190612/SN..643	**ISSN633**	**KLM68**	**CKM13LP**	**STCM8**	0,60	1.31
	left hand											
3738592	**KM50TSMSRNL12**	50	1.969	30	1.181	SN..120408/SN..432	**ISSN432**	**KLM46**	**CKM20LP**	**STCM11**	0,58	1.28
3738613	**KM50TSMSRNL15**	50	1.969	30	1.181	SN..150612/SN..543	**ISSN533**	**KLM58**	**CKM20LP**	**STCM11**	0,60	1.32
3738614	**KM50TSMSRNL19**	50	1.969	30	1.181	SN..190612/SN..643	**ISSN633**	**KLM68**	**CKM13LP**	**STCM8**	0,60	1.31



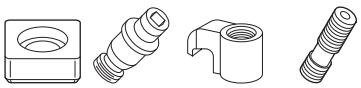




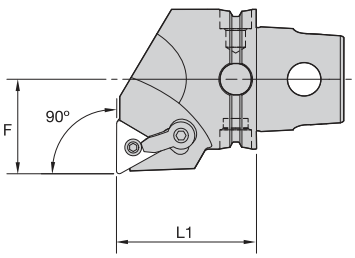


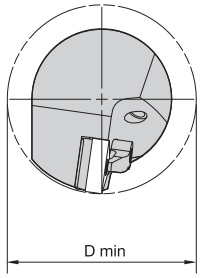
KM QUICK CHANGE

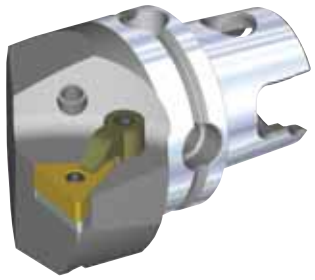
MSSN 45°



order number	catalog number	L1 mm	L1 in	L1S mm	L1S in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand															
3738621	**KM50TSMSSNR12**	50	1.969	58,3	2.297	35	1.378	86	3.386	SN..120408/SN..432	**ISSN432**	**KLM46**	**CKM20LP**	**STCM11**	0,60	1.30
3738622	**KM50TSMSSNR15**	50	1.969	60,2	2.372	35	1.378	100	3.937	SN..150612/SN..543	**ISSN533**	**KLM58**	**CKM20LP**	**STCM11**	0,63	1.38
3738623	**KM50TSMSSNR19**	50	1.969	62,5	2.460	35	1.378	100	3.937	SN..190612/SN..643	**ISSN633**	**KLM68**	**CKM13LP**	**STCM8**	0,67	1.47
	left hand															
3738618	**KM50TSMSSNL12**	50	1.969	58,3	2.297	35	1.378	86	3.386	SN..120408/SN..432	**ISSN432**	**KLM46**	**CKM20LP**	**STCM11**	0,60	1.30
3738619	**KM50TSMSSNL15**	50	1.969	60,2	2.372	35	1.378	100	3.937	SN..150612/SN..543	**ISSN533**	**KLM58**	**CKM20LP**	**STCM11**	0,63	1.38
3738620	**KM50TSMSSNL19**	50	1.969	62,5	2.460	35	1.378	100	3.937	SN..190612/SN..643	**ISSN633**	**KLM68**	**CKM13LP**	**STCM8**	0,67	1.47

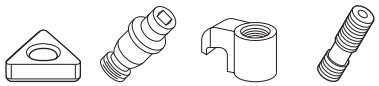




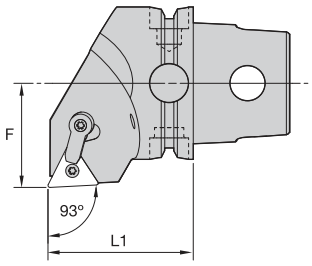


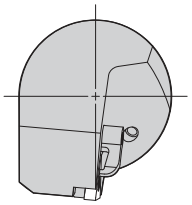
KM QUICK CHANGE

MTFN 90°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3738587	KM50TSMTFNR16	50	1.969	35	1.378	70	2.756	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9	0,66	1.46
3738588	KM50TSMTFNR22	50	1.969	35	1.378	70	2.756	TN..220408/TN..432	ITSN433	KLM46	CKM23LP	STCM11	0,68	1.50
	left hand													
3838530	KM50TSMTFNL16	50	1.969	35	1.378	70	2.756	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9	0,66	1.44
3838532	KM50TSMTFNL22	50	1.969	35	1.378	70	2.756	TN..220408/TN..432	ITSN433	KLM46	CKM23LP	STCM11	0,68	1.50

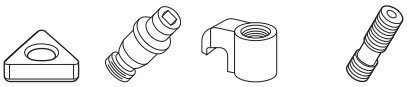






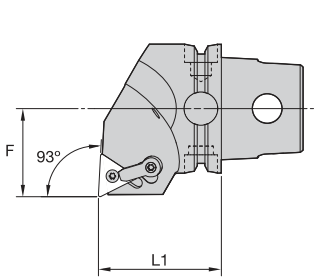
KM QUICK CHANGE

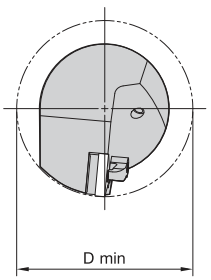
MTJN 93°

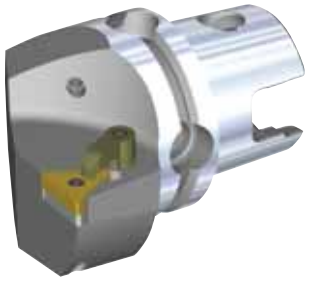


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3738590	KM50TSMTJNR16	50	1.969	35	1.378	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9	0,64	1.41
	left hand											
3738589	KM50TSMTJNL16	50	1.969	35	1.378	TN..160408/TN..332	ITSN322	KLM34L	CKM7LP	STCM9	0,64	1.41



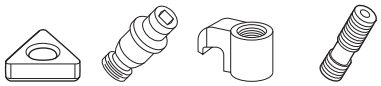






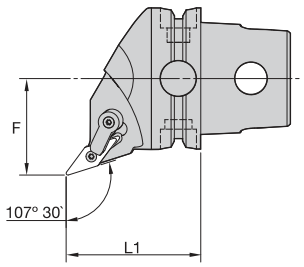
KM QUICK CHANGE

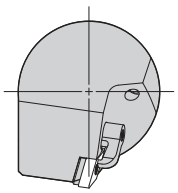
MTUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	left hand													
3738591	**KM50TSMTUNL16**	50	1.969	35	1.378	70	2.756	TN..160408/TN..332	**ITSN322**	**KLM34L**	**CKM7LP**	**STCM9**	0,63	1.39



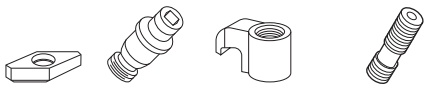




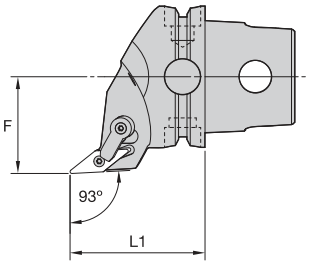


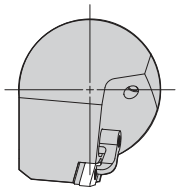
KM QUICK CHANGE

MVHN 107° 30'



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3738558	**KM50TSMVHNR16**	50	1.969	35	1.378	VN..160408/VN..332	**IVSN322**	**KLM34L**	**CKM23LP**	**STCM11**	0,56	1.23
	left hand											
3738557	**KM50TSMVHNL16**	50	1.969	35	1.378	VN..160408/VN..332	**IVSN322**	**KLM34L**	**CKM23LP**	**STCM11**	0,55	1.22

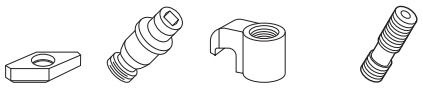




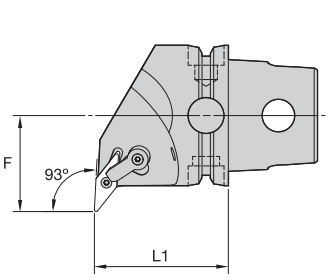


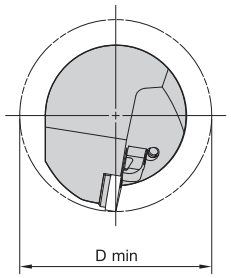
KM QUICK CHANGE

MVJN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3738560	KM50TSMVJNR16	50	1.969	35	1.378	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11	0,53	1.16
	left hand											
3738559	KM50TSMVJNL16	50	1.969	35	1.378	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11	0,53	1.16

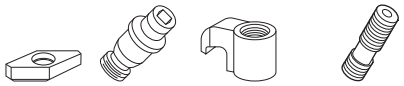






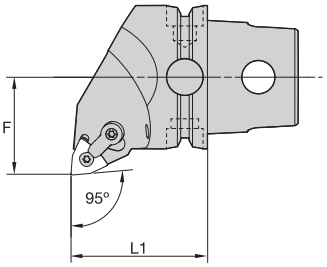
KM QUICK CHANGE

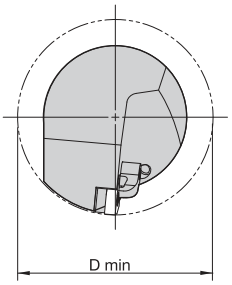
MVUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3738593	KM50TSMVUNR16	50	1.969	35	1.378	70	2.756	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11	0,63	1.38
	left hand													
3738562	KM50TSMVUNL16	50	1.969	35	1.378	70	2.756	VN..160408/VN..332	IVSN322	KLM34L	CKM23LP	STCM11	0,63	1.39



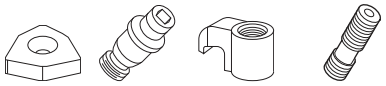






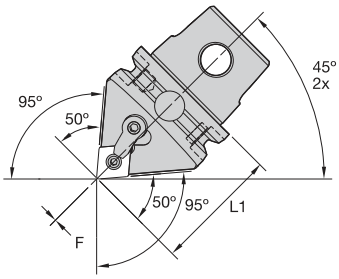
KM QUICK CHANGE

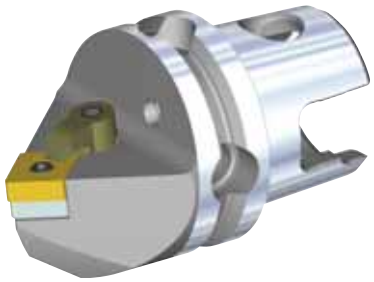
MWLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3738596	KM50TSMWLNR08	50	1.969	35	1.378	70	2.756	WN..080408/WN..432	IWSN433	KLM46	CKM20LP	STCM11	0,64	1.41
	left hand													
3738595	KM50TSMWLNL08	50	1.969	35	1.378	70	2.756	WN..080408/WN..432	IWSN433	KLM46	CKM20LP	STCM11	0,64	1.41

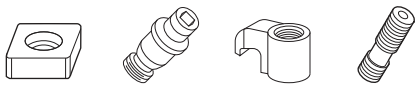






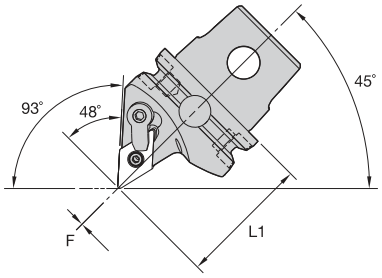
KM QUICK CHANGE

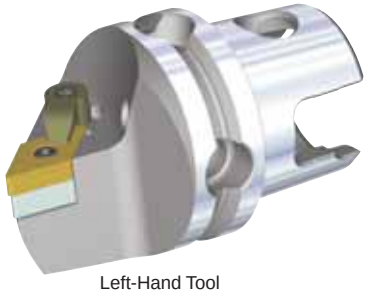
MCMN 50° • 95° Application • Centerline



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
3738167	KM50TSMCMNN12	50	1.969	0	.000	CN..120408/CN..432	ICSN432	KLM46	CKM20	STCM11	0,47	1.03

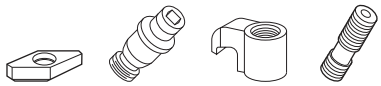
NOTE: Use the KM63TSS5065 reducer to produce an L1 of 115mm.




Left-Hand Tool

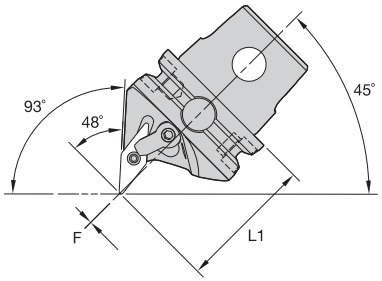
KM QUICK CHANGE

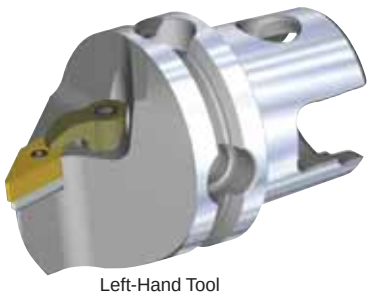
MDMN 48° • 93° Application • Centerline



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
3738154	**KM50TSMDMNL1504**	50	1.969	0	.000	DN..150408/DN..432	**IDSN442**	**KLM46L**	**CKM20**	**STCM11**	0,45	.98
3738155	**KM50TSMDMNL1506**	50	1.969	0	.000	DN..150408/DN..432	**IDSN432**	**KLM46L**	**CKM20**	**STCM11**	0,44	.97

NOTE: Use the KM63TSS5065 reducer to produce an L1 of 115mm.




Left-Hand Tool

KM QUICK CHANGE

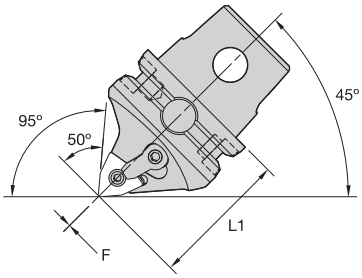
MVMN 48° • 93° Application • Centerline

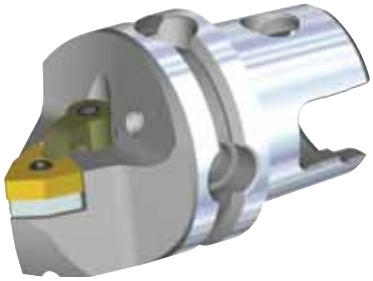


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	left hand											
3738561	**KM50TSMVMNL16**	50	1.969	0	.000	VN..160408/VN..332	**IVSN322**	**KLM34L**	**CKM20LP**	**STCM11**	0,44	.98

NOTE: Use the KM63TSS5065 reducer to produce an L1 of 115mm.



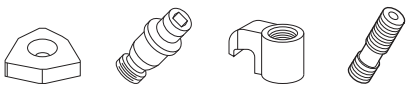




Left-Hand Tool

KM QUICK CHANGE

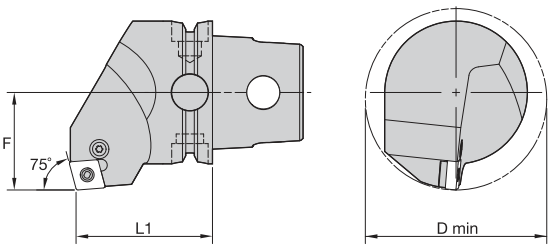
MWMN 50° • 95° Application • Centerline



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3738598	KM50TSMWMNR08	50	1.969	0	.000	WN..080408/WN..432	IWSN433	KLM46	CKM20LP	STCM11	0,49	1.08
	left hand											
3738597	KM50TSMWMNL08	50	1.969	0	.000	WN..080408/WN..432	IWSN433	KLM46	CKM20LP	STCM11	0,49	1.08

NOTE: Use the KM63TSS5065 reducer to produce an L1 of 115mm.

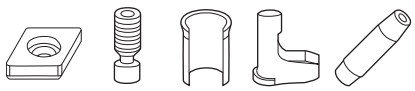






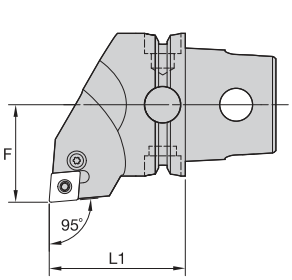
KM QUICK CHANGE

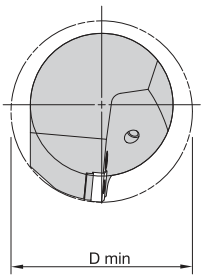
PCKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3738514	KM50TSPCKNR12	50	1.969	35	1.378	63	2.480	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	0,68	1.50
	left hand														
3738513	KM50TSPCKNL12	50	1.969	35	1.378	63	2.480	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	0,68	1.50



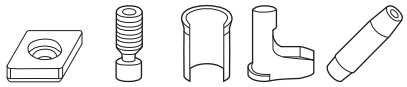






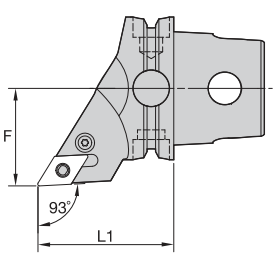
KM QUICK CHANGE

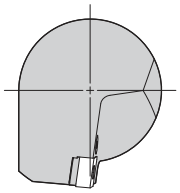
PCLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3738517	KM50TSPCLNR12	50	1.969	35	1.378	63	2.480	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	0,63	1.39
3738520	KM50TSPCLNR16	50	1.969	35	1.378	63	2.480	CN..160612/CN..543	512.117	514.125	513.025	511.025	515.022	0,63	1.38
	left hand														
3738516	KM50TSPCLNL12	50	1.969	35	1.378	63	2.480	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	0,63	1.39
3738518	KM50TSPCLNL16	50	1.969	35	1.378	63	2.480	CN..160612/CN..543	512.117	514.125	513.025	511.025	515.022	0,63	1.38



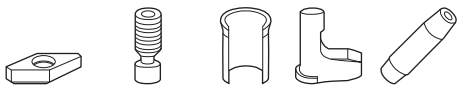






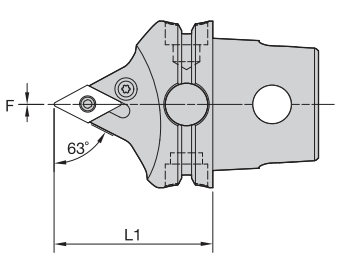
KM QUICK CHANGE

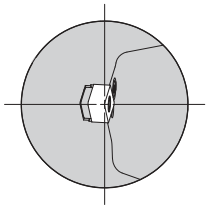
PDJN 93°

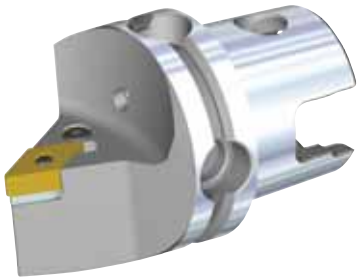


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
3741390	KM50TSPDJNR11	50	1.969	35	1.378	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,52	1.15
3741392	KM50TSPDJNR15	50	1.969	35	1.378	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,51	1.12
	left hand												
3741362	KM50TSPDJNL11	50	1.969	35	1.378	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,52	1.15
3741388	KM50TSPDJNL15	50	1.969	35	1.378	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,51	1.12



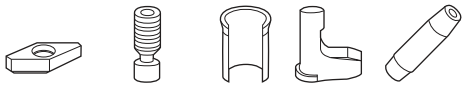






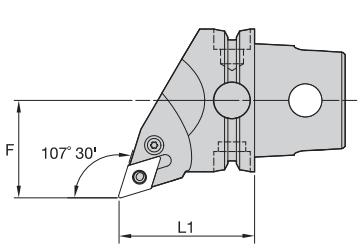
KM QUICK CHANGE

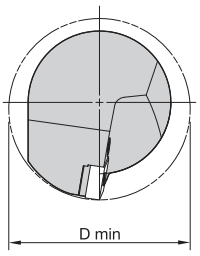
PDNN 63°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
3741394	KM50TSPDNNR15	50	1.969	0	.000	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,42	.93
	left hand												
3741393	KM50TSPDNNL15	50	1.969	0	.000	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,43	.94









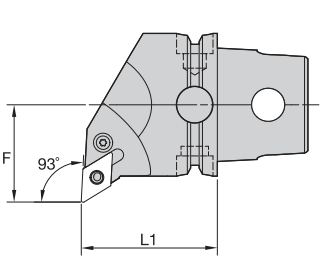
KM QUICK CHANGE

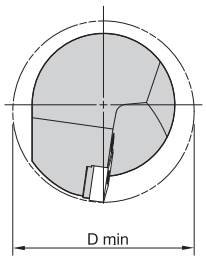
PDQN 107° 30'



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3741396	KM50TSPDQNR11	50	1.969	35	1.378	63	2.480	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,57	1.25
	left hand														
3741395	KM50TSPDQNL11	50	1.969	35	1.378	63	2.480	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,57	1.25



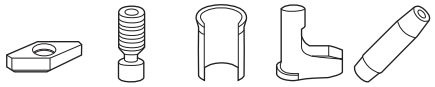






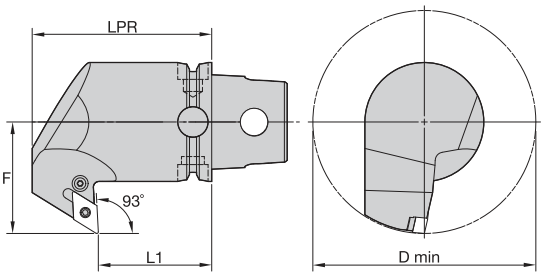
KM QUICK CHANGE

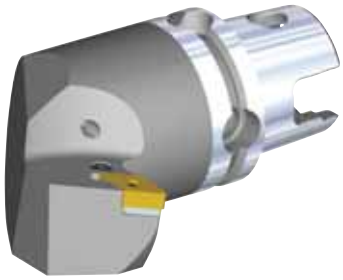
PDUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3741398	KM50TSPDUNR15	50	1.969	35	1.378	63	2.480	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,64	1.40
	left hand														
3741397	KM50TSPDUNL15	50	1.969	35	1.378	63	2.480	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,64	1.40

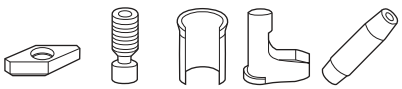






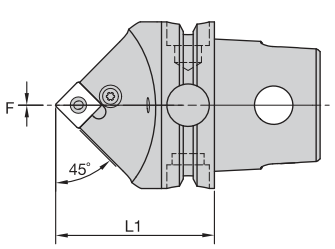
KM QUICK CHANGE

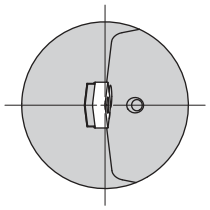
PDXN 93°

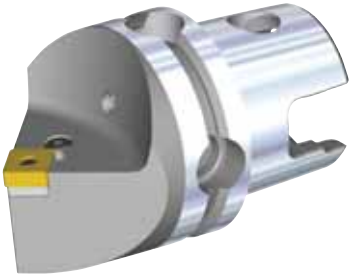


order number	catalog number	L1 mm	L1 in	LPR mm	LPR in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand																
3741400	KM50TSPDXNR15	50	1.969	75	2.953	52	2.047	104	4.095	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	1,17	2.57
	left hand																
3741399	KM50TSPDXNL15	50	1.969	75	2.953	52	2.047	104	4.095	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	1,17	2.57



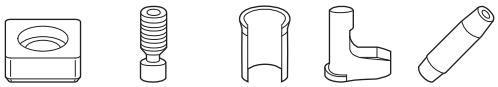






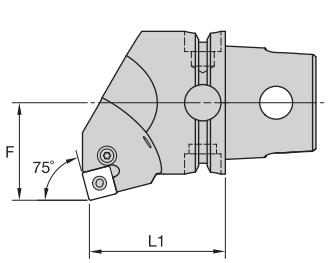
KM QUICK CHANGE

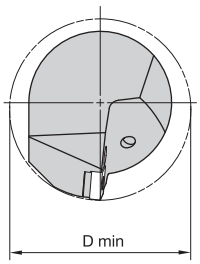
PSDN 45°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
3752980	**KM50TSPSDNN12**	50	1.969	0	.000	SN..120408/SN..432	**512.063**	**514.123**	**513.023**	**511.023**	**515.018**	0,50	1.09
3752981	**KM50TSPSDNN15**	50	1.969	0	.000	SN..150612/SN..543	**512.025**	**514.125**	**513.025**	**511.025**	**515.022**	0,50	1.08



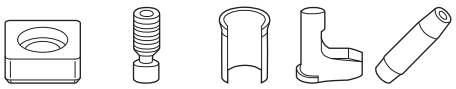




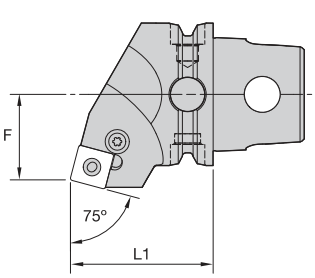


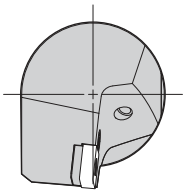
KM QUICK CHANGE

PSKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3753153	**KM50TSPSKNR12**	50	1.969	35	1.378	63	2.480	SN..120408/SN..432	**512.063**	**514.123**	**513.023**	**511.023**	**515.018**	0,69	1.52
3753155	**KM50TSPSKNR15**	50	1.969	35	1.378	63	2.480	SN..150612/SN..543	**512.025**	**514.125**	**513.025**	**511.025**	**515.022**	0,69	1.53
	left hand														
3752982	**KM50TSPSKNL12**	50	1.969	35	1.378	63	2.480	SN..120408/SN..432	**512.063**	**514.123**	**513.023**	**511.023**	**515.018**	0,69	1.52
3753154	**KM50TSPSKNL15**	50	1.969	35	1.378	63	2.480	SN..150612/SN..543	**512.025**	**514.125**	**513.025**	**511.025**	**515.022**	0,69	1.53

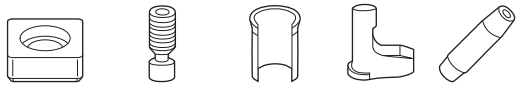




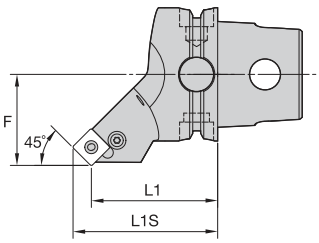


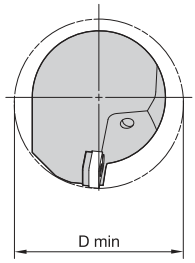
KM QUICK CHANGE

PSRN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
3752977	KM50TSPSRNR12	50	1.969	30	1.181	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018	0,61	1.34
3752979	KM50TSPSRNR15	50	1.969	30	1.181	SN..150612/SN..543	512.025	514.125	513.025	511.025	515.022	0,60	1.31
	left hand												
3752976	KM50TSPSRNL12	50	1.969	30	1.181	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018	0,61	1.34
3752978	KM50TSPSRNL15	50	1.969	30	1.181	SN..150612/SN..543	512.025	514.125	513.025	511.025	515.022	0,60	1.31

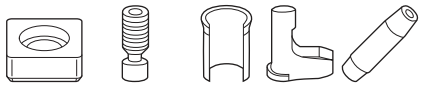






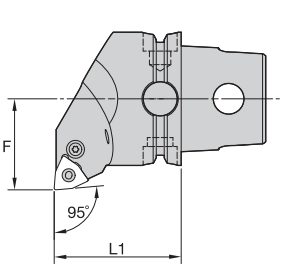
KM QUICK CHANGE

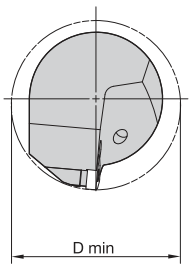
PSSN 45°



order number	catalog number	L1 mm	L1 in	L1S mm	L1S in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand																
3753157	KM50TSPSSNR12	50	1.969	58,3	2.30	35	1.38	80	3.150	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018	0,55	1.22
	left hand																
3753156	KM50TSPSSNL12	50	1.969	58,3	2.30	35	1.38	80	3.150	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018	0,55	1.22



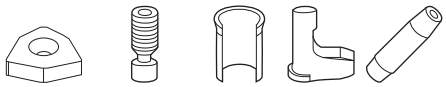






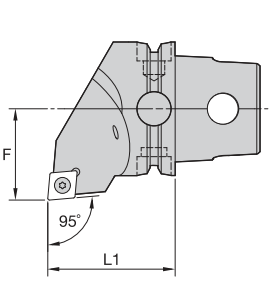
KM QUICK CHANGE

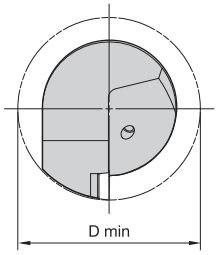
PWLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3753159	KM50TSPWLNR08	50	1.969	35	1.378	63	2.480	WN..080408/WN..432	512.135	514.123	513.023	511.023	515.018	0,67	1.48
	left hand														
3753158	KM50TSPWLNL08	50	1.969	35	1.378	63	2.480	WN..080408/WN..432	512.135	514.123	513.023	511.023	515.018	0,67	1.48









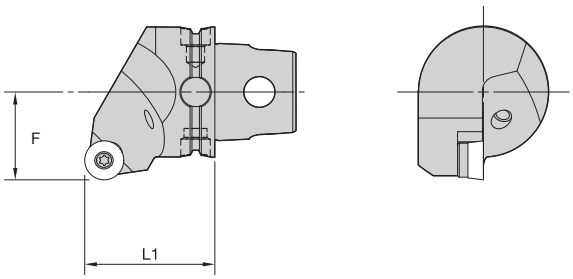
KM QUICK CHANGE

SCLC 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand												
3746594	KM50TSSCLCR12	50	1.969	35	1.378	70	2.756	CC..120408/CC..432	MS1158	SKCP453	SRS4	0,64	1.40
	left hand												
3746593	KM50TSSCLCL12	50	1.969	35	1.378	70	2.756	CC..120408/CC..432	MS1158	SKCP453	SRS4	0,64	1.40







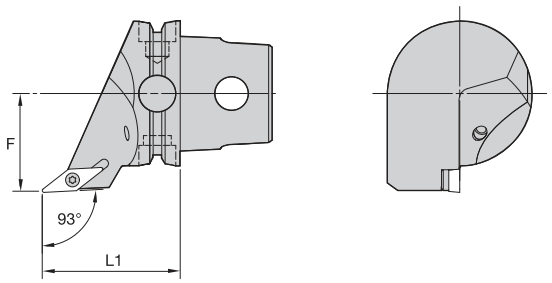
KM QUICK CHANGE

SRGC 0°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand										
3746595	KM50TSSRGCR12	50	1.969	35	1.378	RC..1204M0	MS1156	SKRN1203M0	SRS3	0,65	1.43
	left hand										
3838582	KM50TSSRGCL12	50	1.969	35	1.378	RC..1204M0	MS1156	SKRN1203M0	SRS3	0,65	1.43

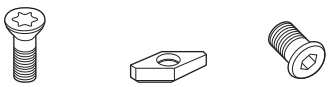






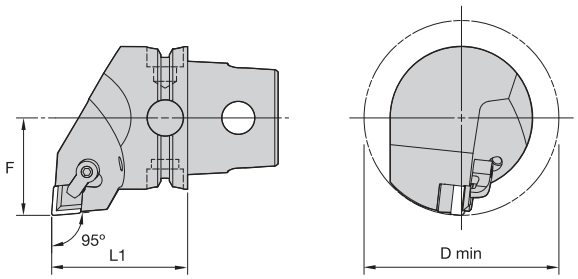
KM QUICK CHANGE

SVJB 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand										
3746597	KM50TSSVJBR16	50	1.969	35	1.378	VB..160408/VB..332	MS1156	SKVN343	SRS3	0,51	1.13
	left hand										
3746596	KM50TSSVJBL16	50	1.969	35	1.378	VB..160408/VB..332	MS1156	SKVN343	SRS3	0,51	1.13

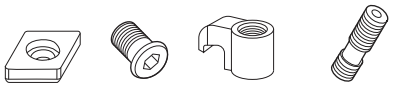






KM QUICK CHANGE

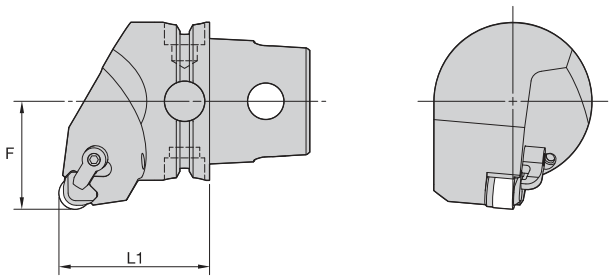
CCLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	clamp	clamp screw	kg	lbs
	right hand													
3746732	**KM50TSCCLNR12**	50	1.969	35	1.378	70	2.756	CN..120408/CN.432	**ICSN442**	**KMS4**	**CKM20**	**STCM11**	0,70	1.55
	left hand													
3746726	**KM50TSCCLNL12**	50	1.969	35	1.378	70	2.756	CN..120408/CN.432	**ICSN442**	**KMS4**	**CKM20**	**STCM11**	0,70	1.54

NOTE: Chipbreakers must be ordered separately. Chipbreaker catalog number is CBD-16F.

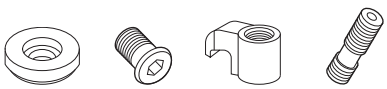






KM QUICK CHANGE

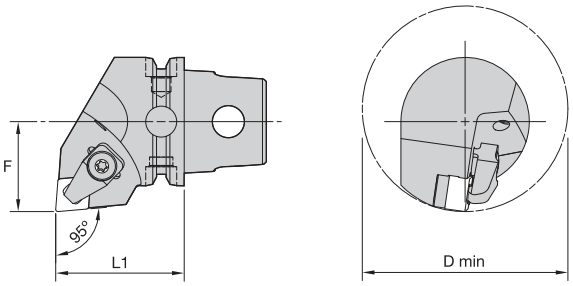
CRGN 0°

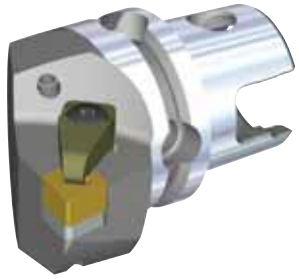


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	shim screw	clamp	clamp screw	kg	lbs
	right hand											
3746739	**KM50TSCRGNR12**	50	1.969	35	1.378	RN..120700/RN.45	**IRSN42**	**KMS4**	**CKM23**	**STCM11**	0,67	1.47
	left hand											
3746735	**KM50TSCRGNL12**	50	1.969	35	1.378	RN..120700/RN.45	**IRSN42**	**KMS4**	**CKM23**	**STCM11**	0,67	1.47

NOTE: Chipbreakers must be ordered separately. Chipbreaker catalog number is CBR-16.

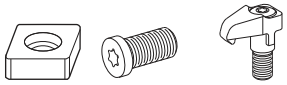






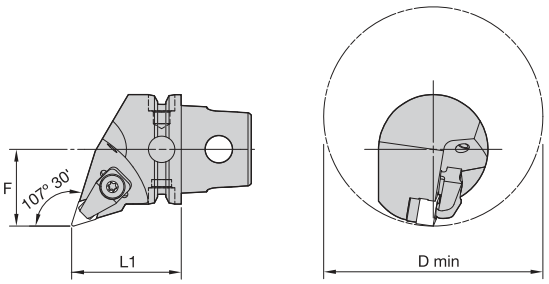
KM QUICK CHANGE

CCLN • MX 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	clamp assembly	kg	lbs
	right hand												
3746972	KM50TSCCLNR12MX7	50	1.969	35	1.378	80	3.150	CN.X120708/CN.X452	552.221	554.260	551.326	0,67	1.48
	left hand												
3746966	KM50TSCCLNL12MX7	50	1.969	35	1.378	80	3.150	CN.X120708/CN.X452	552.221	554.260	551.326	0,67	1.48

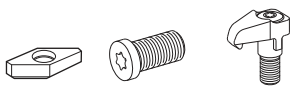






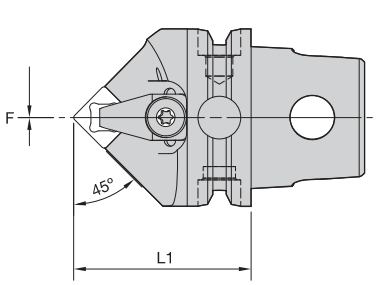
KM QUICK CHANGE

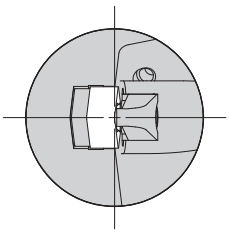
CDQN • MX 107° 30'

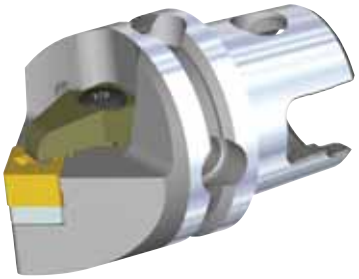


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	clamp screw	kg	lbs
	right hand												
3746978	KM50TSCDQNR12MX7	50	1.969	35	1.378	100	3.937	DNGX120708	552.225	554.254	551.326	0,60	1.31
	left hand												
3746975	KM50TSCDQNL12MX7	50	1.969	35	1.378	100	3.937	DNGX120708	552.225	554.254	551.326	0,60	1.31



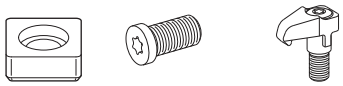






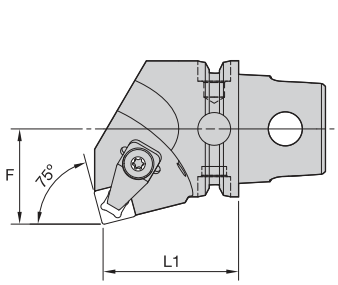
KM QUICK CHANGE

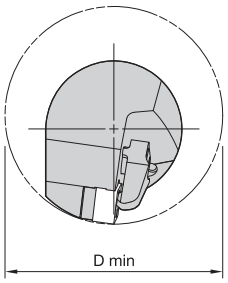
CSDN • MX 45°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	shim screw	clamp assembly	kg	lbs
3746980	**KM50TSCSDNN12MX7**	50	1.969	0	.000	SN.X120708/SN.X452	**552.232**	**554.260**	**551.326**	0,52	1.15



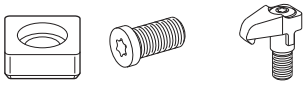






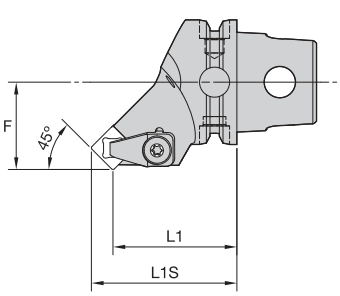
KM QUICK CHANGE

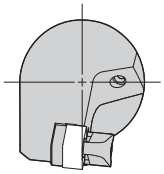
CSKN • MX 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	clamp assembly	kg	lbs
	right hand												
3746986	**KM50TSCSKNR12MX7**	50	1.969	35	1.378	80	3.150	SN.X120708/SN.X452	**552.232**	**554.260**	**551.326**	0,74	1.62
	left hand												
3746984	**KM50TSCSKNL12MX7**	50	1.969	35	1.378	80	3.150	SN.X120708/SN.X452	**552.232**	**554.260**	**551.326**	0,74	1.62



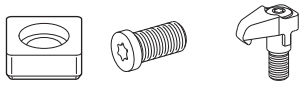






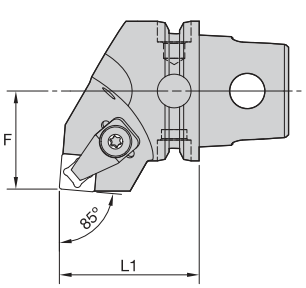
KM QUICK CHANGE

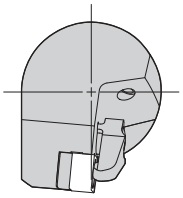
CSSN • MX 45°



order number	catalog number	L1 mm	L1 in	L1S mm	L1S in	F mm	F in	gage insert	shim	shim screw	clamp assembly	kg	lbs
	right hand												
3746992	**KM50TSCSSNR12MX7**	50	1.969	58	2.297	35	1.378	SN.X120708/SN.X452	552.232	**554.252**	**551.326**	0,60	1.32
	left hand												
3746989	**KM50TSCSSNL12MX7**	50	1.969	58	2.297	35	1.378	SN.X120708/SN.X452	552.232	**554.252**	**551.326**	0,60	1.32



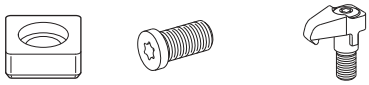




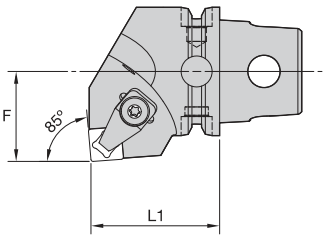


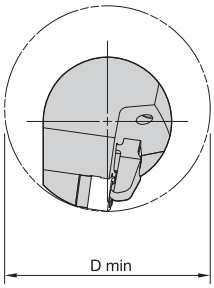
KM QUICK CHANGE

CSXN • MX 85°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	shim screw	clamp assembly	kg	lbs
	right hand										
3746998	**KM50TSCSXNR12MX7**	50	1.969	35	1.378	SN.X120708/SN.X452	**552.232**	**554.260**	**551.326**	0,67	1.48
	left hand										
3746996	**KM50TSCSXNL12MX7**	50	1.969	35	1.378	SN.X120708/SN.X452	**552.232**	**554.260**	**551.326**	0,67	1.48







CSYN • MX 85°

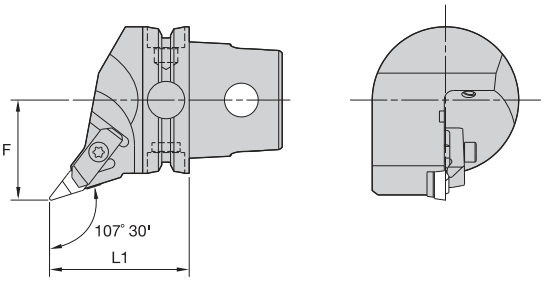




order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	clamp assembly	kg	lbs
	right hand												
3747004	**KM50TSCSYNR12MX7**	50	1.969	35	1.378	80	3.150	SN.X120708/SN.X452	**552.232**	**554.260**	**551.326**	0,73	1.60
	left hand												
3747001	**KM50TSCSYNL12MX7**	50	1.969	35	1.378	80	3.150	SN.X120708/SN.X452	**552.232**	**554.260**	**551.326**	0,73	1.60

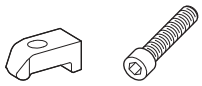








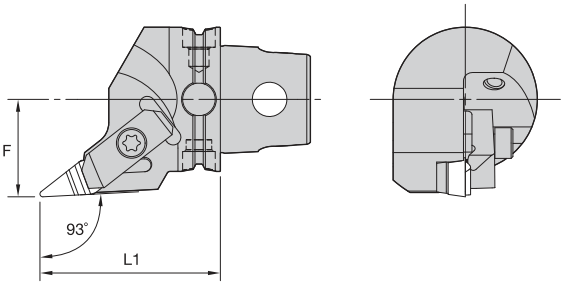
NVHC 107.5° • Metric CU

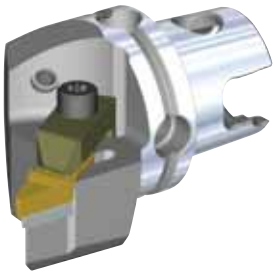


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	clamp	clamp screw	kg	lbs
	right hand									
3747065	KM50TSNVHCR16	50	1.969	35	1.378	VCGR160408/VPGR332	CM113	MS1489	0,54	1.20
	left hand									
3747064	KM50TSNVHCL16	50	1.969	35	1.378	VCGR160408/VPGR332	CM114	MS1489	0,54	1.20

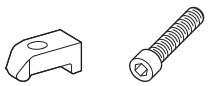






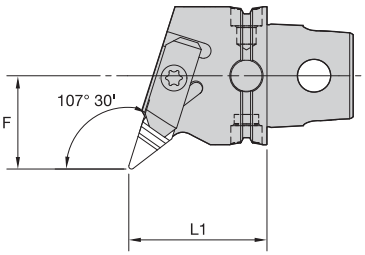


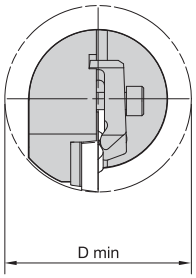
NVJC 93° • Metric CU

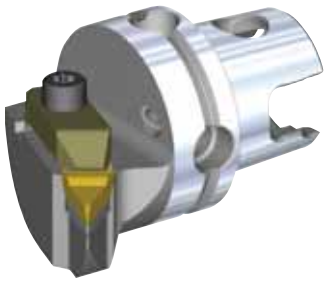


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	clamp	clamp screw	kg	lbs
	right hand									
3747067	KM50TSNVJCR16	60	2.362	35	1.378	VCGR160408/VPGR332	CM113	MS1489	0,59	1.30
	left hand									
3747066	KM50TSNVJCL16	60	2.362	35	1.378	VCGR160408/VPGR332	CM114	MS1489	0,59	1.30



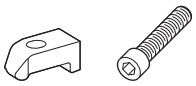






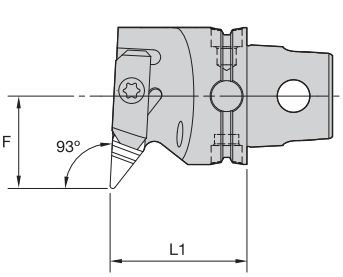
KM QUICK CHANGE

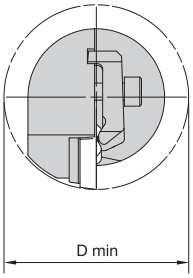
NVQC 107.5° • Metric CU

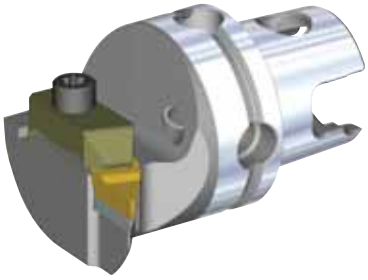


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamp screw	kg	lbs
	right hand											
3747069	**KM50TSNVQCR16**	50	1.969	35	1.378	70	2.756	VCGR160408/VPGR332	**CM113**	**MS1489**	0,56	1.22
	left hand											
3747068	**KM50TSNVQCL16**	50	1.969	35	1.378	70	2.756	VCGR160408/VPGR332	**CM114**	**MS1489**	0,56	1.22



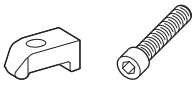






KM QUICK CHANGE

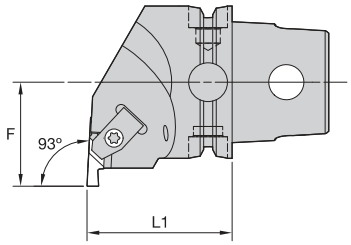
NVUC 93° • Metric CU

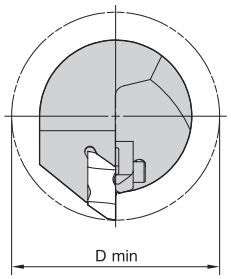


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamp screw	kg	lbs
	right hand											
3747071	**KM50TSNVUCR16**	50	1.969	35	1.378	70	2.756	VCGR160408/VPGR332	**CM113**	**MS1489**	0,61	1.35
	left hand											
3747070	**KM50TSNVUCL16**	50	1.969	35	1.378	70	2.756	VCGR160408/VPGR332	**CM114**	**MS1489**	0,61	1.35



KM QUICK CHANGE







NE 93°

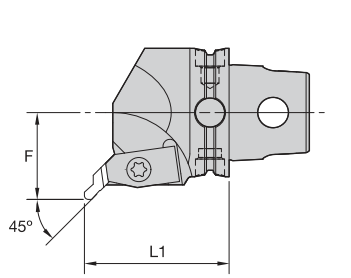


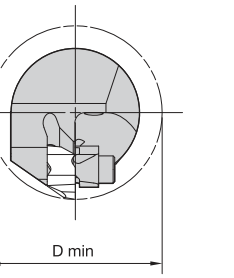


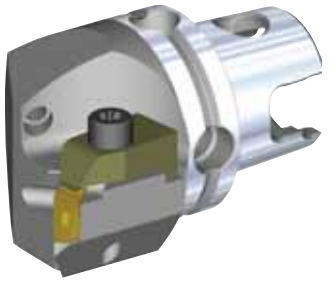
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamp screw	kg	lbs
	right hand											
3753584	KM50TSNER3	50	1.969	35	1.378	70	2.756	NG3L	CM73	MS1489	0,63	1.39
3753585	KM50TSNER4	50	1.969	35	1.378	70	2.756	NG4L	CM73	MS1489	0,63	1.39
	left hand											
3753572	KM50TSNEL3	50	1.969	35	1.378	70	2.756	NG3R	CM72	MS1489	0,65	1.42
3753583	KM50TSNEL4	50	1.969	35	1.378	70	2.756	NG4R	CM72	MS1489	0,63	1.39



KM QUICK CHANGE







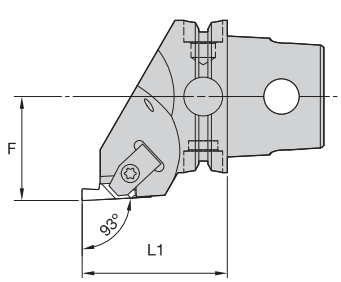
NR 45°

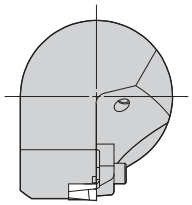


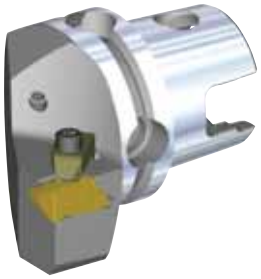


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamp screw	kg	lbs
	right hand											
3753587	KM50TSNRR3	50	1.969	35	1.378	70	2.756	NU3L	CM73	MS1489	0,57	1.26
	left hand											
3753586	KM50TSNRL3	50	1.969	35	1.378	70	2.756	NU3R	CM72	MS1489	0,57	1.26









KM QUICK CHANGE

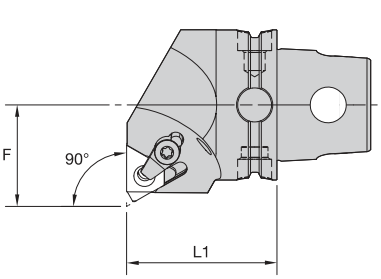
NS 93°

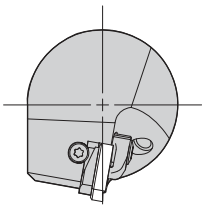


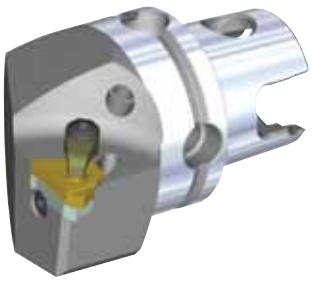


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	clamp	clamp screw	kg	lbs
	right hand									
3753590	KM50TSNSR3	50	1.969	35	1.378	NG3R	CM72	MS1489	0,59	1.29
3753591	KM50TSNSR4	60	2.362	35	1.378	NG4R	CM72	MS1489	0,69	1.53
	left hand									
3753588	KM50TSNSL3	50	1.969	35	1.378	NG3L	CM73	MS1489	0,59	1.29
3753589	KM50TSNSL4	60	2.362	35	1.378	NG4L	CM73	MS1489	0,70	1.54









KM QUICK CHANGE

LSE-E 90° • External Only





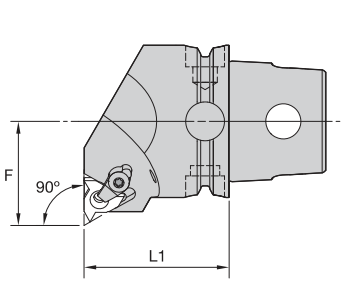


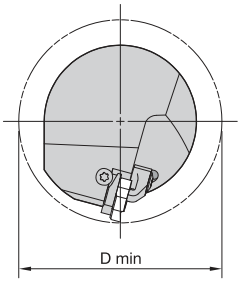


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	clamp assembly	kg	lbs
	right hand											
3753566	KM50TSLSER16E	50	1.969	35	1.378	LT16EL	SSA3T	SMYI3	SSY3T	CKC3	0,68	1.51
3959391	KM50TSLSER27E	50	1.969	35	1.378	LT27EL	SSA5T	SMYI5	SSY5T	CKC5	0,70	1.55
	left hand											
3753565	KM50TSLSEL16E	50	1.969	35	1.378	LT16ER	SSA3T	SMYE3	SSY3T	CKC3	0,68	1.51
3959390	KM50TSLSEL27E	50	1.969	35	1.378	LT27ER	SSA5T	SMYE5	SSY5T	CKC5	0,70	1.55

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.









KM QUICK CHANGE

LSE-N 90° • Internal Only

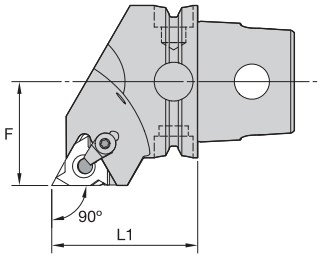


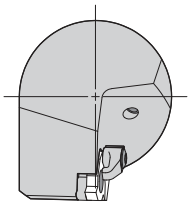



		L1		F		D min								
order number	catalog number	mm	in	mm	in	mm	in	gage insert	insert screw	shim	shim screw	clamp assembly	kg	lbs
	right hand													
3753567	**KM50TSLSER16N**	50	1.969	35	1.378	70	2.756	LT16NR	**SSA3T**	**SMYI3**	**SSY3T**	**CKC3**	0,68	1.51
3753568	**KM50TSLSER22N**	50	1.969	35	1.378	70	2.756	LT22NR	**SSA4T**	**SMYI4**	**SSY4T**	**CKC4**	0,67	1.49
3959393	**KM50TSLSER27N**	50	1.969	35	1.378	70	2.756	LT27NR	**SSA5T**	**SMYI5**	**SSY5T**	**CKC5**	0,72	1.59
	left hand													
3867563	**KM50TSLSEL16N**	50	1.969	35	1.378	70	2.756	LT16NL	**SSA3T**	**SMYE3**	**SSY3T**	**CKC3**	0,69	1.51
3867564	**KM50TSLSEL22N**	50	1.969	35	1.378	70	2.756	LT22NL	**SSA4T**	**SMYE4**	**SSY4T**	**CKC4**	0,68	1.49
3959392	**KM50TSLSEL27N**	50	1.969	35	1.378	70	2.756	LT27NL	**SSA5T**	**SMYE5**	**SSY5T**	**CKC5**	0,72	1.59

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.









KM QUICK CHANGE

LSS 90°

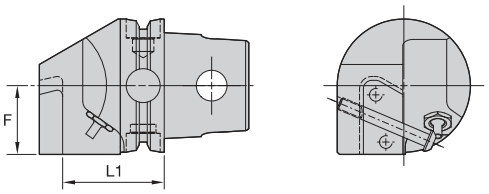





		L1		F								
order number	catalog number	mm	in	mm	in	gage insert	insert screw	shim	shim screw	clamp assembly	kg	lbs
	right hand											
3753570	**KM50TSLSSR16**	50	1.969	35	1.378	LT16ER	**SSA3T**	**SMYE3**	**SSY3T**	**CKC3**	0,60	1.33
3753571	**KM50TSLSSR22**	50	1.969	35	1.378	LT22ER	**SSA4T**	**SMYE4**	**SSY4T**	**CKC4**	0,59	1.30
3959395	**KM50TSLSSR27**	50	1.969	35	1.378	LT27ER	**SSA5T**	**SMYE5**	**SSY5T**	**CKC5**	0,61	1.34
	left hand											
3753569	**KM50TSLSSL16**	50	1.969	35	1.378	LT16EL	**SSA3T**	**SMYI3**	**SSY3T**	**CKC3**	0,60	1.31
3959394	**KM50TSLSSL27**	50	1.969	35	1.378	LT27EL	**SSA5T**	**SMYI5**	**SSY5T**	**CKC5**	0,63	1.38

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.







KM QUICK CHANGE

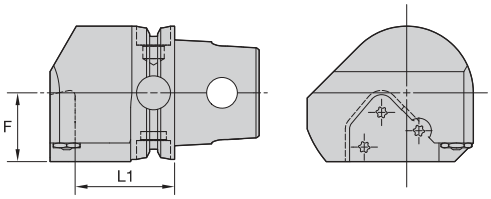
KGME • End Mount





order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	clamp screw	nozzle	kg
	right hand									
3747133	KM50TSKGMER50	38	1.496	25,5	1.004	50	MS1162	MS2002	PMP08350	0,75
	left hand									
3747132	KM50TSKGMEL50	38	1.496	25,5	1.004	50	MS1162	MS2002	PMP08350	0,75

NOTE: Right-hand cutting units use left-hand blades.
For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.



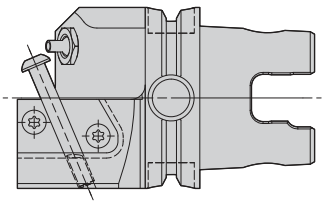


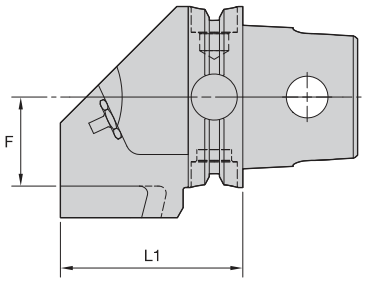
KGME • End Mount




order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	nozzle	kg
	right hand								
3747136	KM50TSKGMER65	47	1.850	25,5	1.004	65	MS1163	PMT04525	1,31
	left hand								
3747137	KM50TSKGMEL65	47	1.850	25,5	1.004	65	MS1163	PMT04525	1,31

NOTE: Right-hand cutting units use left-hand blades.
For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.







KM QUICK CHANGE

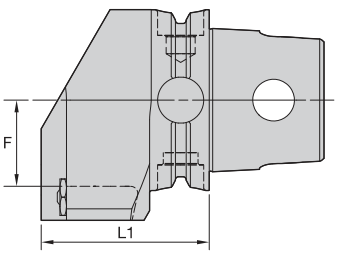
KGMS • Side Mount

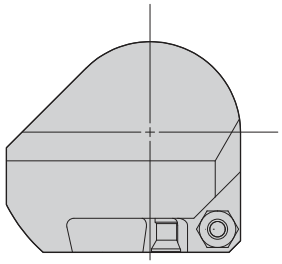




order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	clamp screw	nozzle	kg
	right hand									
3747129	KM50TSKGMSR50	58,5	2.303	23,0	.906	50	MS1162	MS2002	PMT04526 COOLANT NOZZLE SPRAY	0,91
	left hand									
3747130	KM50TSKGMSL50	58,5	2.303	23,0	.906	50	MS1162	MS2002	PMT04526 COOLANT NOZZLE SPRAY	0,94

NOTE: Right-hand cutting units use right-hand blades.
For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.







KGMS • Side Mount

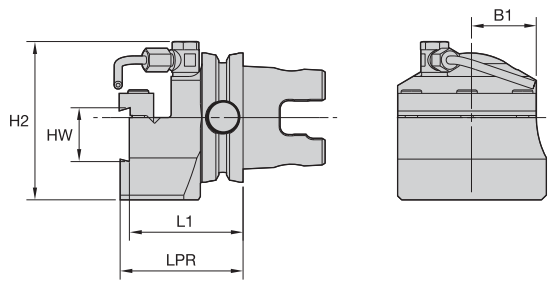


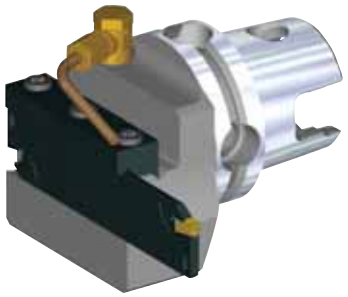


order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	nozzle	kg
	right hand								
3747134	KM50TSKGMSR65	53,5	2.106	22,0	.866	65	MS1163	PMT04525	1,19
	left hand								
3747135	KM50TSKGMSL65	53,5	2.106	22,0	.866	65	MS1163	PMT04525	1,19

NOTE: Right-hand cutting units use right-hand blades.
For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.







KM QUICK CHANGE

BE • End Mount

order number	catalog number	L1 mm	L1 in	LPR mm	LPR in	H2 mm	H2 in	HW mm	HW in	B1 mm	B1 in	cartridge size	cartridge	kg
	right hand													
3747118	KM50TSBER	55,3	2.177	59,8	2.354	65,5	2.579	26	1.02	30	1.18	26	A2BN..26...	1,27
	left hand													
3747117	KM50TSBEL	55,3	2.177	59,8	2.354	65,5	2.579	26	1.02	30	1.18	26	A2BN..26...	1,27

BE • Spare Parts

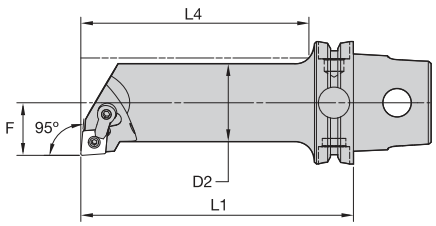


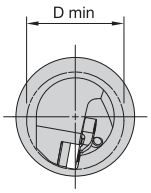



catalog number	clamp	clamp screw	coolant tube	coolant swivel base
right hand				
KM50TSBER	CGS4	MS1595	12649910900	12649910800
left hand				
KM50TSBEL	CGS4	MS1595	12649910900	12649910800

NOTE: Blade sets are ordered seperately; see the Kennametal Innovations Master Catalog Cutting Tools 2013.









KM QUICK CHANGE

MCLN 95°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3753688	**KM50TSS25DMCLNR12**	25	.98	32	1.26	17	.669	38	1.51	60	2.362	CN..120408/CN..432	0,48	1.06
3753690	**KM50TSS25EMCLNR12**	25	.98	32	1.26	17	.669	49	1.94	70	2.756	CN..120408/CN..432	0,51	1.13
3753692	**KM50TSS25JMCLNR12**	25	.98	32	1.26	17	.669	87	3.43	110	4.331	CN..120408/CN..432	0,67	1.48
3753694	**KM50TSS32FMCLNR12**	32	1.26	40	1.57	22	.866	60	2.38	80	3.150	CN..120408/CN..432	0,67	1.48
3753696	**KM50TSS32GMCLNR12**	32	1.26	40	1.57	22	.866	70	2.77	90	3.543	CN..120408/CN..432	0,78	1.61
3753698	**KM50TSS32KMCLNR12**	32	1.26	40	1.57	22	.866	96	3.79	125	4.921	CN..120408/CN..432	1,00	2.20
3753668	**KM50TSS40HMCLNR12**	40	1.57	50	1.97	27	1.063	81	3.20	100	3.937	CN..120408/CN..432	1,03	2.27
3753670	**KM50TSS40JMCLNR12**	40	1.57	50	1.97	27	1.063	91	3.59	110	4.331	CN..120408/CN..432	1,13	2.49
3753684	**KM50TSS40LMCLNR16**	40	1.57	50	1.97	27	1.063	120	4.74	140	5.512	CN..160612/CN..543	1,44	3.17
3753683	**KM50TSS40LMCLNR12**	40	1.57	50	1.97	27	1.063	120	4.74	140	5.512	CN..120408/CN..432	1,42	3.14
3753686	**KM50TSS50LMCLNR12**	50	1.97	63	2.48	35	1.378	140	5.51	140	5.512	CN..120408/CN..432	2,00	4.41
	left hand													
3753687	**KM50TSS25DMCLNL12**	25	.98	32	1.26	17	.669	38	1.51	60	2.362	CN..120408/CN..432	0,48	1.06
3753689	**KM50TSS25EMCLNL12**	25	.98	32	1.26	17	.669	49	1.94	70	2.756	CN..120408/CN..432	0,51	1.13
3753691	**KM50TSS25JMCLNL12**	25	.98	32	1.26	17	.669	87	3.43	110	4.331	CN..120408/CN..432	0,67	1.48
3753693	**KM50TSS32FMCLNL12**	32	1.26	40	1.57	22	.866	60	2.38	80	3.150	CN..120408/CN..432	0,67	1.48
3753695	**KM50TSS32GMCLNL12**	32	1.26	40	1.57	22	.866	70	2.77	90	3.543	CN..120408/CN..432	0,78	1.61
3753697	**KM50TSS32KMCLNL12**	32	1.26	40	1.57	22	.866	96	3.79	125	4.921	CN..120408/CN..432	1,00	2.20
3753667	**KM50TSS40HMCLNL12**	40	1.57	50	1.97	27	1.063	81	3.20	100	3.937	CN..120408/CN..432	1,03	2.27
3753669	**KM50TSS40JMCLNL12**	40	1.57	50	1.97	27	1.063	91	3.59	110	4.331	CN..120408/CN..432	1,13	2.48
3753672	**KM50TSS40LMCLNL16**	40	1.57	50	1.97	27	1.063	120	4.74	140	5.512	CN..160612/CN..543	1,44	3.17
3753671	**KM50TSS40LMCLNL12**	40	1.57	50	1.97	27	1.063	120	4.74	140	5.512	CN..120408/CN..432	1,42	3.13
3753685	**KM50TSS50LMCLNL12**	50	1.97	63	2.48	35	1.378	140	5.51	140	5.512	CN..120408/CN..432	2,00	4.41

(continued)

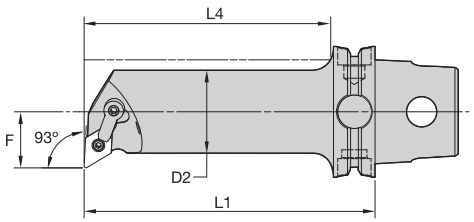
(MCLN 95° continued)

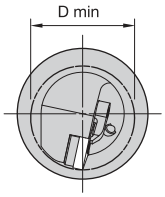
Spare Parts






catalog number	shim	lock pin	clamp	clamp screw
right hand				
KM50TSS25DMCLNR12	–	KLM43	CKM20LP	STCM11
KM50TSS25EMCLNR12	–	KLM43	CKM20LP	STCM11
KM50TSS25JMCLNR12	–	KLM43	CKM20LP	STCM11
KM50TSS32FMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
KM50TSS32GMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
KM50TSS32KMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
KM50TSS40HMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
KM50TSS40JMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
KM50TSS40LMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
KM50TSS40LMCLNR16	ICSN533	KLM58	CKM20LP	STCM11
KM50TSS50LMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
left hand				
KM50TSS25DMCLNL12	–	KLM43	CKM20LP	STCM11
KM50TSS25EMCLNL12	–	KLM43	CKM20LP	STCM11
KM50TSS25JMCLNL12	–	KLM43	CKM20LP	STCM11
KM50TSS32FMCLNL12	ICSN432	KLM46	CKM20LP	STCM11
KM50TSS32GMCLNL12	ICSN432	KLM46	CKM20LP	STCM11
KM50TSS32KMCLNL12	ICSN432	KLM46	CKM20LP	STCM11
KM50TSS40HMCLNL12	ICSN432	KLM46	CKM20LP	STCM11
KM50TSS40JMCLNL12	ICSN432	KLM46	CKM20LP	STCM11
KM50TSS40LMCLNL12	ICSN432	KLM46	CKM20LP	STCM11
KM50TSS40LMCLNL16	ICSN533	KLM58	CKM20LP	STCM11
KM50TSS50LMCLNL12	ICSN432	KLM46	CKM20LP	STCM11







KM QUICK CHANGE

MDUN 93°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3753598	**KM50TSS25DMDUNR15**	25	.98	32	1.26	17	.669	38	1.51	60	2.362	DN..150408/DN..432	0,47	1.03
3753601	**KM50TSS25JMDUNR15**	25	.98	32	1.26	17	.669	87	3.43	110	4.331	DN..150408/DN..432	0,66	1.46
3753603	**KM50TSS32FMDUNR15**	32	1.26	40	1.57	22	.866	60	2.38	80	3.150	DN..150408/DN..432	0,66	1.46
3753605	**KM50TSS32GMDUNR15**	32	1.26	40	1.57	22	.866	70	2.77	90	3.543	DN..150408/DN..432	0,72	1.59
3753607	**KM50TSS32KMDUNR15**	32	1.26	40	1.57	22	.866	96	3.79	125	4.921	DN..150408/DN..432	0,99	2.18
3753485	**KM50TSS40HMDUNR15**	40	1.57	50	1.97	27	1.063	81	3.20	100	3.937	DN..150408/DN..432	1,03	2.27
3753490	**KM50TSS40JMDUNR15**	40	1.57	50	1.97	27	1.063	91	3.59	110	4.331	DN..150408/DN..432	1,13	2.49
3753493	**KM50TSS40LMDUNR15**	40	1.57	50	1.97	27	1.063	120	4.74	140	5.512	DN..150408/DN..432	1,42	3.12
	left hand													
3753597	**KM50TSS25DMDUNL15**	25	.98	32	1.26	17	.669	38	1.51	60	2.362	DN..150408/DN..432	0,47	1.03
3753599	**KM50TSS25EMDUNL15**	25	.98	32	1.26	17	.669	48	1.90	70	2.756	DN..150408/DN..432	0,51	1.11
3753600	**KM50TSS25JMDUNL15**	25	.98	32	1.26	17	.669	87	3.43	110	4.331	DN..150408/DN..432	0,66	1.45
3753602	**KM50TSS32FMDUNL15**	32	1.26	40	1.57	22	.866	60	2.38	80	3.150	DN..150408/DN..432	0,66	1.46
3753604	**KM50TSS32GMDUNL15**	32	1.26	40	1.57	22	.866	70	2.77	90	3.543	DN..150408/DN..432	0,72	1.59
3753606	**KM50TSS32KMDUNL15**	32	1.26	40	1.57	22	.866	96	3.79	125	4.921	DN..150408/DN..432	0,99	2.18
3753480	**KM50TSS40HMDUNL15**	40	1.57	50	1.97	27	1.063	81	3.20	100	3.937	DN..150408/DN..432	1,03	2.28
3753488	**KM50TSS40JMDUNL15**	40	1.57	50	1.97	27	1.063	91	3.59	110	4.331	DN..150408/DN..432	1,13	2.49
3753492	**KM50TSS40LMDUNL15**	40	1.57	50	1.97	27	1.063	120	4.74	140	5.512	DN..150408/DN..432	1,42	3.12

(continued)

(MDUN 93° continued)

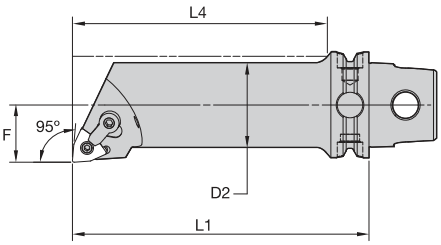
Spare Parts

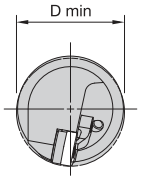





catalog number	shim	lock pin	clamp	clamp screw
right hand				
KM50TSS25DMDUNR15	–	KLM43	CKM20LP	STCM11
KM50TSS25JMDUNR15	–	KLM43	CKM20LP	STCM11
KM50TSS32FMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
KM50TSS32GMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
KM50TSS32KMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
KM50TSS40HMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
KM50TSS40JMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
KM50TSS40LMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
left hand				
KM50TSS25DMDUNL15	–	KLM43	CKM20LP	STCM11
KM50TSS25EMDUNL15	–	KLM43	CKM20LP	STCM11
KM50TSS25JMDUNL15	–	KLM43	CKM20LP	STCM11
KM50TSS32FMDUNL15	IDSN432	KLM46	CKM23LP	STCM11
KM50TSS32GMDUNL15	IDSN432	KLM46	CKM23LP	STCM11
KM50TSS32KMDUNL15	IDSN432	KLM46	CKM23LP	STCM11
KM50TSS40HMDUNL15	IDSN432	KLM46	CKM23LP	STCM11
KM50TSS40JMDUNL15	IDSN432	KLM46	CKM23LP	STCM11
KM50TSS40LMDUNL15	IDSN432	KLM46	CKM23LP	STCM11









KM QUICK CHANGE

MWLN 95°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3747121	KM50TSS25JMWLNR08	25	.98	32	1.26	17	.669	87	3.43	110	4.331	WN..080408/WN..432	0,67	1.48
3747123	KM50TSS32KMWLNR08	32	1.26	40	1.57	22	.866	96	3.79	125	4.921	WN..080408/WN..432	0,99	2.17
3747120	KM50TSS40LMWLNR08	40	1.57	50	1.97	27	1.063	120	4.74	140	5.512	WN..080408/WN..432	1,40	3.08
	left hand													
3747122	KM50TSS25JMWLNL08	25	.98	32	1.26	17	.669	87	3.43	110	4.331	WN..080408/WN..432	0,67	1.47
3747119	KM50TSS40LMWLNL08	40	1.57	50	1.97	27	1.063	120	4.74	140	5.512	WN..080408/WN..432	1,40	3.08

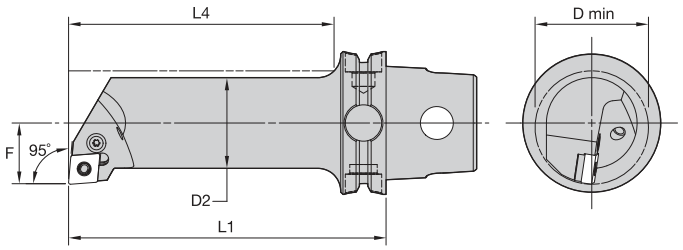
Spare Parts






catalog number	shim	lock pin	clamp	clamp screw
right hand				
KM50TSS25JMWLNR08	–	KLM43	CKM20LP	STCM11
KM50TSS32KMWLNR08	IWSN433	KLM46	CKM20LP	STCM11
KM50TSS40LMWLNR08	IWSN433	KLM46	CKM20LP	STCM11
left hand				
KM50TSS25JMWLNL08	–	KLM43	CKM20LP	STCM11
KM50TSS40LMWLNL08	IWSN433	KLM46	CKM20LP	STCM11







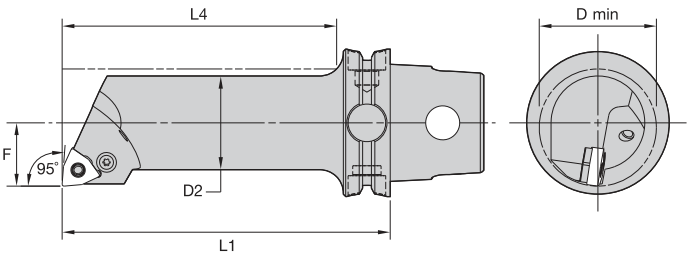
PCLN 95°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3789272	KM50TSS25JPCLNR12	25	.98	32	1.26	17	.669	88	3.48	110	4.331	CN..120408/CN..432	0,66	1.46
3789294	KM50TSS32KPCLNR12	32	1.26	40	1.57	22	.866	96	3.79	125	4.921	CN..120408/CN..432	0,99	2.17
	left hand													
3789270	KM50TSS25GPCLNL12	25	.98	32	1.26	17	.669	70	2.77	90	3.543	CN..120408/CN..432	0,57	1.26
3789271	KM50TSS25JPCLNL12	25	.98	32	1.26	17	.669	88	3.48	110	4.331	CN..120408/CN..432	0,66	1.46
3789293	KM50TSS32KPCLNL12	32	1.26	40	1.57	22	.866	96	3.79	125	4.921	CN..120408/CN..432	0,99	2.17

Spare Parts

catalog number	shim	lever screw	shim pin	toggle lever	punch
right hand					
KM50TSS25JPCLNR12	–	514.122	–	511.022	515.018
KM50TSS32KPCLNR12	512.112	514.123	513.023	511.023	515.018
left hand					
KM50TSS25GPCLNL12	–	514.122	–	511.022	515.018
KM50TSS25JPCLNL12	–	514.122	–	511.022	515.018
KM50TSS32KPCLNL12	512.112	514.123	513.023	511.023	515.018





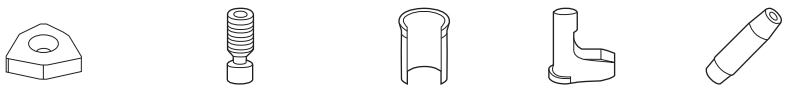


KM QUICK CHANGE

PWLN 95°

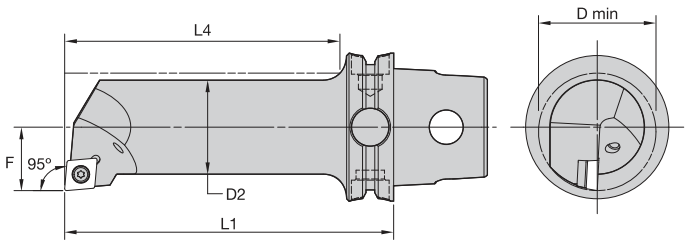
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3789296	KM50TSS40LPWLNR08	40	1.57	50	1.97	27	1.063	120	4.74	140	5.512	WN..080408/WN..432	1,39	3.07
	left hand													
3789295	KM50TSS40LPWLNL08	40	1.57	50	1.97	27	1.063	120	4.74	140	5.512	WN..080408/WN..432	1,39	3.07

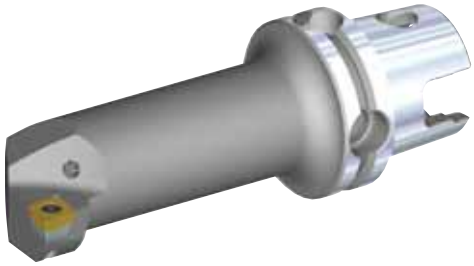
Spare Parts



catalog number	shim	lever lock screw	shim pin	toggle lever	punch
right hand					
KM50TSS40LPWLNR08	512.135	514.123	513.023	511.023	515.018
left hand					
KM50TSS40LPWLNL08	512.135	514.123	513.023	511.023	515.018







SCLC 95°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	left hand													
3838715	**KM50TSS32GSCLCL12**	32	1.26	40	1.57	22	.866	70	2.756	90	3.543	CC..120408/CC..432	**0,72**	**1.58**

Spare Parts

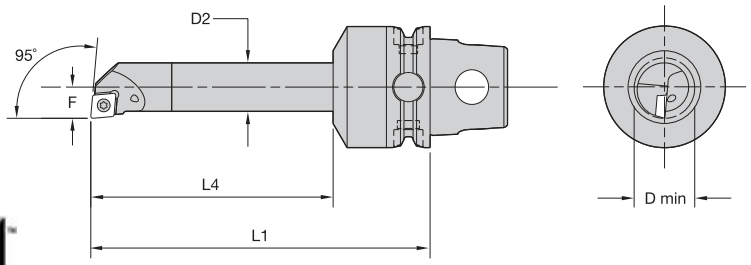






catalog number	insert screw	shim	shim screw
left hand			
KM50TSS32GSCLCL12	**MS1158**	**SKCP453**	**SRS4**







KM QUICK CHANGE

SCLP 95° • Carbide

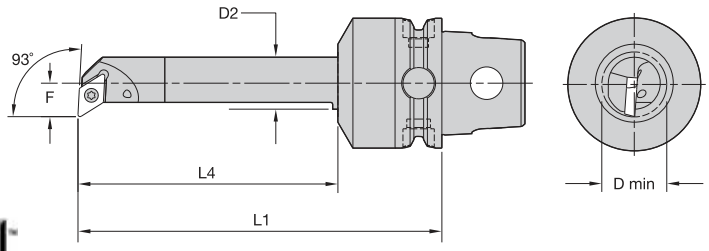
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3789876	**KM50TSE10FSCLPR06**	10	.39	13	.51	7	.276	50	1.968	80	3.150	CP..060204/CP..2151	0,48	1.05
3789878	**KM50TSE12GSCLPR06**	12	.47	16	.63	9	.354	60	2.362	90	3.543	CP..060204/CP..2151	0,50	1.10
3789880	**KM50TSE16JSCLPR09**	16	.63	20	.79	11	.433	80	3.150	110	4.331	CP..09T308/CP..3252	0,57	1.26
3789882	**KM50TSE20LSCLPR09**	20	.79	25	.98	13	.512	100	3.937	140	5.512	CP..09T308/CP..3252	0,84	1.83
	left hand													
3789875	**KM50TSE10FSCLPL06**	10	.39	13	.51	7	.276	50	1.968	80	3.150	CP..060204/CP..2151	0,48	1.05
3789877	**KM50TSE12GSCLPL06**	12	.47	16	.63	9	.354	60	2.362	90	3.543	CP..060204/CP..2151	0,50	1.10
3789879	**KM50TSE16JSCLPL09**	16	.63	20	.79	11	.433	80	3.150	110	4.331	CP..09T308/CP..3252	0,57	1.26
3789881	**KM50TSE20LSCLPL09**	20	.79	25	.98	13	.512	100	3.937	140	5.512	CP..09T308/CP..3252	0,83	1.83

Spare Parts



catalog number	insert screw
right hand	
KM50TSE10FSCLPR06	**MS1939**
KM50TSE12GSCLPR06	**MS1153**
KM50TSE16JSCLPR09	**MS1155**
KM50TSE20LSCLPR09	**MS1155**
left hand	
KM50TSE10FSCLPL06	**MS1939**
KM50TSE12GSCLPL06	**MS1153**
KM50TSE16JSCLPL09	**MS1155**
KM50TSE20LSCLPL09	**MS1155**







KM QUICK CHANGE

SDUP 93° • Carbide

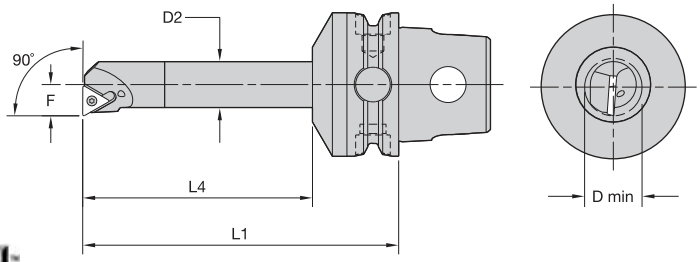
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3812594	**KM50TSE16JSDUPR07**	16	.63	20	.79	11	.433	80	3.150	110	4.331	DP..070204/DP..2151	0,57	1.26
3812596	**KM50TSE20LSDUPR11**	20	.79	25	.98	13	.512	100	3.937	140	5.512	DP..11T308/DP..3252	0,81	1.78
	left hand													
3812593	**KM50TSE16JSDUPL07**	16	.63	20	.79	11	.433	80	3.150	110	4.331	DP..070204/DP..2151	0,57	1.26
3812595	**KM50TSE20LSDUPL11**	20	.79	25	.98	13	.512	100	3.937	140	5.512	DP..11T308/DP..3252	0,81	1.78

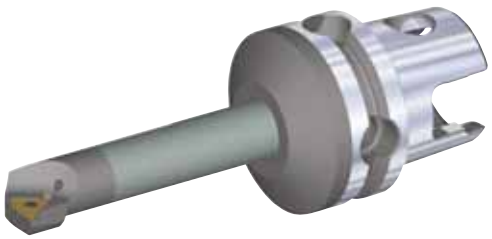
Spare Parts



catalog number	insert screw
right hand	
KM50TSE16JSDUPR07	**MS1153**
KM50TSE20LSDUPR11	**MS1153**
left hand	
KM50TSE16JSDUPL07	**MS1153**
KM50TSE20LSDUPL11	**MS1153**







KM QUICK CHANGE

STFP 90° • Carbide

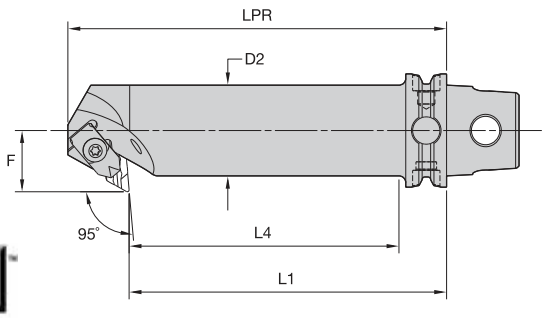
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3812597	**KM50TSE12GSTFPR11**	12	.47	16	.63	9	.354	60	2.362	90	3.543	TP..110204/TP..2151	0,50	1.10
3812599	**KM50TSE16JSTFPR11**	16	.63	20	.79	11	.433	80	3.150	110	4.331	TP..110204/TP..2151	0,57	1.26
	left hand													
3812598	**KM50TSE12GSTFPL11**	12	.47	16	.63	9	.354	60	2.362	90	3.543	TP..110204/TP..2151	0,50	1.10
3812600	**KM50TSE16JSTFPL11**	16	.63	20	.79	11	.433	80	3.150	110	4.331	TP..110204/TP..2151	0,57	1.26

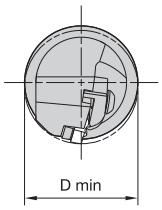
Spare Parts



catalog number	insert screw
right hand	
KM50TSE12GSTFPR11	**MS1153**
KM50TSE16JSTFPR11	**MS1153**
left hand	
KM50TSE12GSTFPL11	**MS1153**
KM50TSE16JSTFPL11	**MS1153**







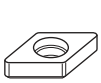


KM QUICK CHANGE

NKXN 95°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	LPR mm	LPR in	gage insert	kg	lbs
	right hand															
3964156	**KM50TSS40LNKXNR15**	40	1.57	50	1.97	27	1.063	120	4.724	140	5.512	167	7	KNGX150408R20/NPR132F	1,67	3.69
	left hand															
3964155	**KM50TSS40LNKXNL15**	40	1.57	50	1.97	27	1.063	120	4.724	140	5.512	167	7	KNGX150408L20/NPL132F	1,67	3.69

Spare Parts



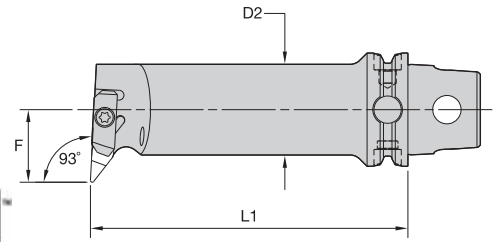


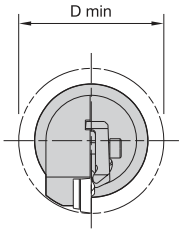




catalog number	shim	shim screw	clamp	clamp screw
right hand				
KM50TSS40LNKXNR15	**SM872**	**MS111**	**CM66**	**MS1221**
left hand				
KM50TSS40LNKXNL15	**SM871**	**MS111**	**CM66**	**MS1221**









KM QUICK CHANGE

NVUC 93°

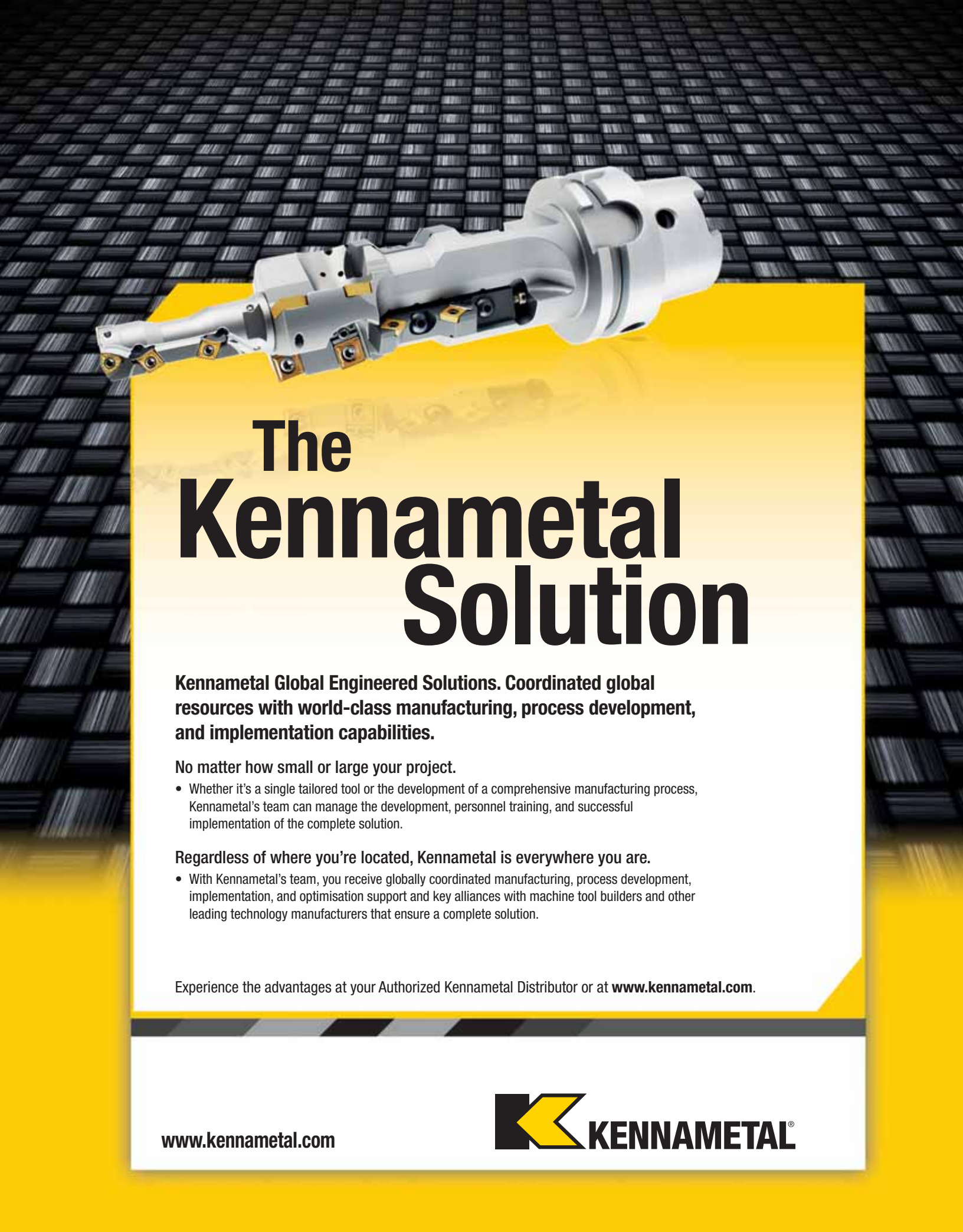
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L1 mm	L1 in	gage insert	kg	lbs
	right hand											
3964160	KM50TSS40LNVUCR16	40	1.57	64	2.52	32	1.260	140	5.512	VCGR160408/VPGR332	1,41	3.12
	left hand											
3964159	KM50TSS40LNVUCL16	40	1.57	64	2.52	32	1.260	140	5.512	VCGR160408/VPGR332	1,41	3.12

Spare Parts






catalog number	shim	shim screw	clamp	clamp screw
right hand				
KM50TSS40LNVUCR16	SM812	MS959	CM113	MS1489
left hand				
KM50TSS40LNVUCL16	SM812	MS959	CM114	MS1489



The Kennametal Solution

Kennametal Global Engineered Solutions. Coordinated global resources with world-class manufacturing, process development, and implementation capabilities.

No matter how small or large your project.

- Whether it's a single tailored tool or the development of a comprehensive manufacturing process, Kennametal's team can manage the development, personnel training, and successful implementation of the complete solution.

Regardless of where you're located, Kennametal is everywhere you are.

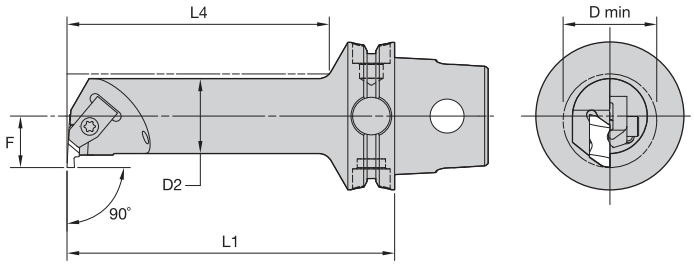
- With Kennametal's team, you receive globally coordinated manufacturing, process development, implementation, and optimisation support and key alliances with machine tool builders and other leading technology manufacturers that ensure a complete solution.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®







KM QUICK CHANGE

NE 90° • Steel

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3790585	**KM50TSS12ENER2**	12	.47	19	.73	11	.433	42	1.654	70	2.756	NG2L	0,44	.97
3790583	**KM50TSS16FNER2**	16	.63	20	.79	11	.433	56	2.211	80	3.150	NG2L	0,44	.97
3790587	**KM50TSS20HNER2**	20	.79	25	.98	13	.512	70	2.769	100	3.937	NG2L	0,58	1.28
3790589	**KM50TSS25JNER3**	25	.98	34	1.34	17	.669	88	3.469	110	4.331	NG3L	0,67	1.48
3790591	**KM50TSS32GNER3**	32	1.26	40	1.57	22	.866	70	2.774	90	3.543	NG3L	0,71	1.57
3790593	**KM50TSS32KNER3**	32	1.26	40	1.57	22	.866	96	3.790	125	4.921	NG3L	0,97	2.14
3790595	**KM50TSS40JNER4**	40	1.57	50	1.97	27	1.063	91	3.593	110	4.331	NG4L	1,09	2.41
3790599	**KM50TSS40LNER4**	40	1.57	50	1.97	27	1.063	120	4.738	140	5.512	NG4L	1,39	3.06
3790598	**KM50TSS40LNER3**	40	1.57	50	1.97	27	1.063	120	4.738	140	5.512	NG3L	1,40	3.09
	left hand													
3790584	**KM50TSS12ENEL2**	12	.47	19	.73	11	.433	42	1.654	70	2.756	NG2R	0,44	.97
3790291	**KM50TSS16FNEL2**	16	.63	20	.79	11	.433	56	2.211	80	3.150	NG2R	0,44	.97
3790586	**KM50TSS20HNEL2**	20	.79	25	.98	13	.512	70	2.769	100	3.937	NG2R	0,58	1.28
3790588	**KM50TSS25JNEL3**	25	.98	34	1.34	17	.669	88	3.469	110	4.331	NG3R	0,67	1.48
3790590	**KM50TSS32GNEL3**	32	1.26	40	1.57	22	.866	70	2.774	90	3.543	NG3R	0,71	1.57
3790592	**KM50TSS32KNEL3**	32	1.26	40	1.57	22	.866	96	3.790	125	4.921	NG3R	0,97	2.14
3790594	**KM50TSS40JNEL4**	40	1.57	50	1.97	27	1.063	91	3.593	110	4.331	NG4R	1,09	2.41
3790596	**KM50TSS40LNEL3**	40	1.57	50	1.97	27	1.063	120	4.738	140	5.512	NG3R	1,40	3.09
3790597	**KM50TSS40LNEL4**	40	1.57	50	1.97	27	1.063	120	4.738	140	5.512	NG4R	1,39	3.06

(continued)

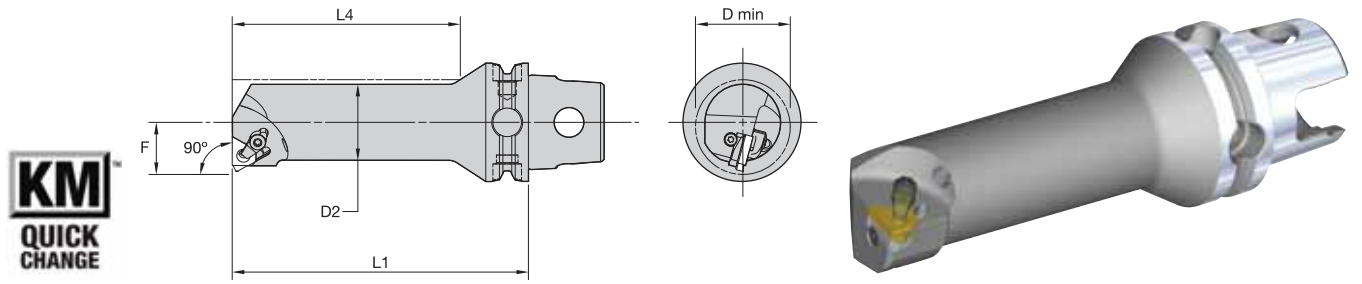
(NE 90° • Steel continued)

Spare Parts





catalog number	clamp	clamp screw
right hand		
KM50TSS12ENER2	CM147	MS1488
KM50TSS16FNER2	CM147	MS1488
KM50TSS20HNER2	CM75	MS1488
KM50TSS25JNER3	CM73	MS1489
KM50TSS32GNER3	CM73	MS1489
KM50TSS32KNER3	CM73	MS1489
KM50TSS40JNER4	CM73	MS1489
KM50TSS40LNER3	CM73	MS1489
KM50TSS40LNER4	CM73	MS1489
left hand		
KM50TSS12ENEL2	CM146	MS1488
KM50TSS16FNEL2	CM146	MS1488
KM50TSS20HNEL2	CM74	MS1488
KM50TSS25JNEL3	CM72	MS1489
KM50TSS32GNEL3	CM72	MS1489
KM50TSS32KNEL3	CM72	MS1489
KM50TSS40JNEL4	CM72	MS1489
KM50TSS40LNEL3	CM72	MS1489
KM50TSS40LNEL4	CM72	MS1489



LSE 90°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
3838705	**KM50TSS20HLSER16**	20	.79	25	.98	13	.512	70	2.77	100	3.937	LT16NR	0,57	1.27
3838724	**KM50TSS25JLSER16**	25	.98	32	1.26	17	.669	88	3.48	110	4.331	LT16NR	0,68	1.49
3838709	**KM50TSS32KLSER16**	32	1.26	40	1.57	22	.866	96	3.79	125	4.921	LT16NR	1,01	2.24
3838710	**KM50TSS40LLSER16**	40	1.57	50	1.97	27	1.063	120	4.73	140	5.512	LT16NR	1,46	3.21
3838711	**KM50TSS40LLSER22**	40	1.57	50	1.97	27	1.063	120	4.73	140	5.512	LT22NR	1,45	3.21
	left hand													
3964139	**KM50TSS20HLSEL16**	20	.79	25	.98	13	.512	70	2.77	100	3.937	LT16NL	0,58	1.27
3838706	**KM50TSS25JLSEL16**	25	.98	32	1.26	17	.669	88	3.48	110	4.331	LT16NL	0,68	1.49
3838708	**KM50TSS32KLSEL16**	32	1.26	40	1.57	22	.866	96	3.79	125	4.921	LT16NL	1,01	2.24
3964141	**KM50TSS40LLSEL22**	40	1.57	50	1.97	27	1.063	120	4.73	140	5.512	LT22NL	1,45	3.21
3964140	**KM50TSS40LLSEL16**	40	1.57	50	1.97	27	1.063	120	4.73	140	5.512	LT16NL	1,46	3.21

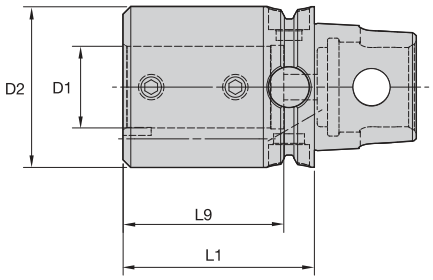
Spare Parts






catalog number	insert screw	shim	shim screw	clamp assembly
right hand				
KM50TSS20HLSER16	**SSA3T**	**SMYI3**	**SSY3T**	**CKC3**
KM50TSS25JLSER16	**SSA3T**	**SMYI3**	**SSY3T**	**CKC3**
KM50TSS32KLSER16	**SSA3T**	**SMYI3**	**SSY3T**	**CKC3**
KM50TSS40LLSER16	**SSA3T**	**SMYI3**	**SSY3T**	**CKC3**
KM50TSS40LLSER22	**SSA4T**	**SMYI4**	**SSY4T**	**CKC4**
left hand				
KM50TSS20HLSEL16	**SSA3T**	**SMYE3**	**SSY3T**	**CKC3**
KM50TSS25JLSEL16	**SSA3T**	**SMYE3**	**SSY3T**	**CKC3**
KM50TSS32KLSEL16	**SSA3T**	**SMYE3**	**SSY3T**	**CKC3**
KM50TSS40LLSEL16	**SSA3T**	**SMYE3**	**SSY3T**	**CKC3**
KM50TSS40LLSEL22	**SSA4T**	**SMYE4**	**SSY4T**	**CKC4**

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.





KM QUICK CHANGE

BA • Boring Bar Adapter • Internal and External Coolant • Metric



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	Nm	kg
3790547	KM50TSBA06045M	6	40	45	36	MS1210	2,5mm	4	0,59
3790548	KM50TSBA08045M	8	40	45	36	MS1210	2,5mm	4	0,58
3790549	KM50TSBA10055M	10	40	55	48	MS1211	4mm	15	0,67
3790550	KM50TSBA12060M	12	40	60	52	MS1211	4mm	15	0,70
3790551	KM50TSBA16065M	16	40	65	55	MS1211	4mm	15	0,70
3790552	KM50TSBA20070M	20	40	70	58	MS1212	5mm	25	0,70
3790573	KM50TSBA25070M	25	50	70	56	MS1212	5mm	25	0,90

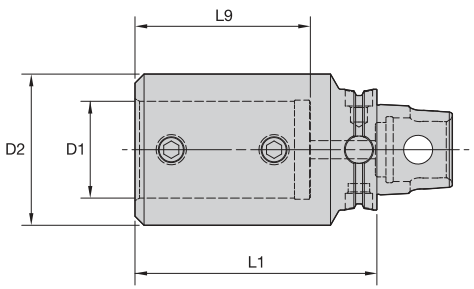
BA • Boring Bar Adapter • Internal and External Coolant • Inch



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	ft. lbs.	lbs
3789937	KM50TSBA06217	3/8	1.57	2.165	1.89	S843	1/8	3	1.47
3789938	KM50TSBA08236	1/2	1.57	2.362	2.05	S852	5/32	8	1.53
3789939	KM50TSBA10256	5/8	1.57	2.559	2.17	S862	3/16	11	1.55
3789940	KM50TSBA12276	3/4	1.57	2.756	2.28	S862	3/16	11	1.57
3789941	KM50TSBA16276	1	1.97	2.756	2.20	S862	3/16	11	1.97

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.







KM QUICK CHANGE

BAI • Boring Bar Adapter • Internal Coolant Only • Metric



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	Nm	kg
3790289	**KM50TSBAI32080M**	32	50	80	58	**MS1213**	5mm	25	0,91
3790290	**KM50TSBAI40090M**	40	58	90	68	**MS1213**	5mm	25	1,13

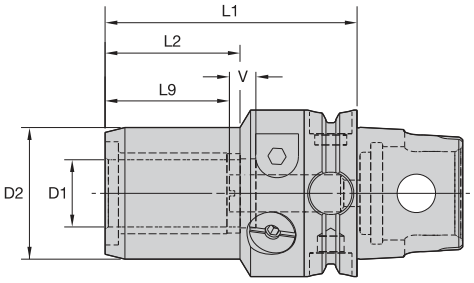
BAI • Boring Bar Adapter • Internal Coolant Only • Inch



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	ft. lbs.	lbs
3790287	**KM50TSBAI20315**	1 1/4	1.97	3.150	2.28	**S861**	3/16	11	2.01
3790288	**KM50TSBAI24354**	1 1/2	2.28	3.543	2.68	**S861**	3/16	11	2.62

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.







KM QUICK CHANGE

HC • Metric



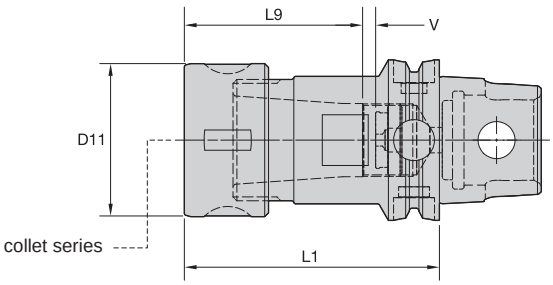


order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	kg
4007723	**KM50TSHC06065M**	6	26	65	30	27	10	**170.135**	5 mm	**170.002**	2.5 mm	0,63
4007724	**KM50TSHC08065M**	8	28	65	30	27	10	**170.135**	5 mm	**170.002**	2.5 mm	0,65
4007725	**KM50TSHC10070M**	10	30	70	36	31	10	**170.135**	5 mm	**170.002**	2.5 mm	0,69
4007726	**KM50TSHC12075M**	12	32	75	40	36	10	**170.135**	5 mm	**170.002**	2.5 mm	0,73
4007727	**KM50TSHC14075M**	14	34	75	43	36	10	**170.135**	5 mm	**170.003**	3 mm	0,72
4007728	**KM50TSHC16080M**	16	38	80	47	39	10	**170.135**	5 mm	**170.003**	3 mm	0,83
4007729	**KM50TSHC18080M**	18	40	80	47	39	10	**170.135**	5 mm	**170.003**	3 mm	0,85
4007730	**KM50TSHC20085M**	20	42	85	48	71	10	**170.135**	5 mm	**170.003**	3 mm	0,94

NOTE: Do not overtorque clamp screw; tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Reduction sleeves are available and must be ordered separately; see page J2.
Wrenches must be ordered separately.

• Tremendous Grip (3:1 advantage).







KM QUICK CHANGE

TG collet series	Collet Capacity mm min	mm max	inch min	inch max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

Collet Chuck • Round Nut

order number	catalog number	collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	V mm	V in	kg	lbs
3790601	KM50TSTG075080M	TG75	50	1.97	80	3.150	53	2.09	10	.39	0,95	2.09
3790602	KM50TSTG100110M	TG100	60	2.36	110	4.331	69	2.72	10	.39	1,40	3.09

Spare Parts



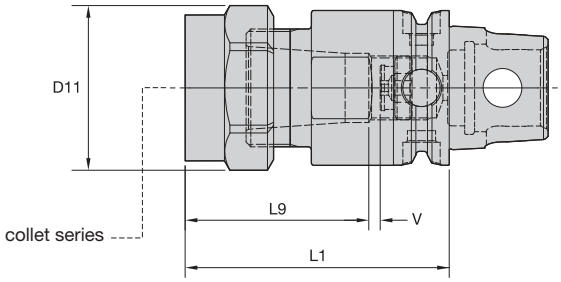


catalog number	locknut	wrench	Nm	ft. lbs.	stop screw	wrench size stop screw
KM50TSTG075080M	LNA075M	HSW45M	108-136	80-100	SS081041G	4mm & 5/32
KM50TSTG100110M	LNA100M	HSW58M	163-203	120-150	SS112041G	4mm & 5/32

(continued)

(Collet Chuck continued)







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

Collet Chuck • Hex Nut

			D11		L1		L9		V			
order number	catalog number	collet series	mm	in	mm	in	mm	in	mm	in	kg	lbs
3790600	**KM50TSTG075336**	TG75	53	2.09	85	3.358	58	2.28	10	.39	0,93	2.06
3790613	**KM50TSTG100457**	TG100	62	2.44	116	4.568	75	2.95	10	.39	1,44	3.18

Spare Parts

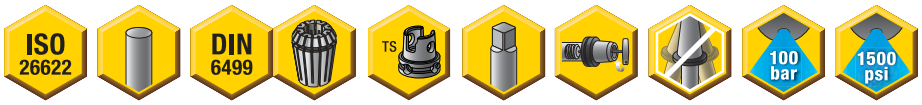


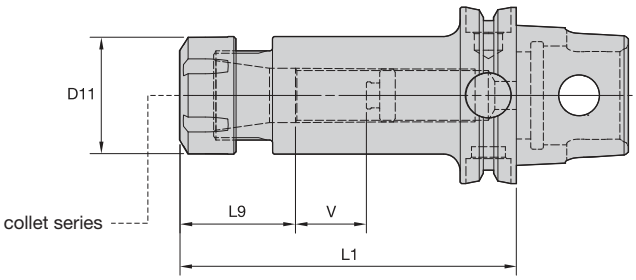


catalog number	locknut	wrench	Nm	ft. lbs.	stop screw	wrench size stop screw
KM50TSTG075336	**NPA075**	**OEW188**	108-136	80-100	**SS081041G**	4mm & 5/32
KM50TSTG100457	**NPA100**	**OEW225**	163-203	120-150	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.

• Grip (2:1 advantage).







KM QUICK CHANGE

ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER25	1,0	16,0	.04	.63
ER32	1,0	20,0	.08	.81
ER40	3,0	26,0	.08	1.00

Collet Chuck • Round Nut




order number	catalog number	collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	V mm	V in	locknut	wrench	Nm	ft. lbs.	kg	lbs
3795029	**KM50TSER25050M**	ER25	42	1.65	50	1.969	41,2	1.62	—	—	**LNSER25M**	**ER25WM**	104	77	0,47	1.03
3795030	**KM50TSER32060M**	ER32	50	1.97	60	2.362	47,3	1.86	—	—	**LNSER32M**	**ER32WM**	136	100	0,62	1.36
3795031	**KM50TSER40070M**	ER40	63	2.48	70	2.756	53,3	2.10	—	—	**LNSER40M**	**ER40WM**	176	130	0,88	1.94

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable coolant-style locknuts and coolant disks are available and must be ordered separately; see page L19.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.



ERICKSON™

Superior Gripping

For bearing milling chucks when grip counts. ERICKSON — the industry name you can trust.

- Heavy and fine milling applications.
- Great accuracy ≤5µm (.0002") at 3 x D and best gripping system.
- Pre-balanced to high specifications.
- Versatile as a collet chuck with the use of reduction sleeves.

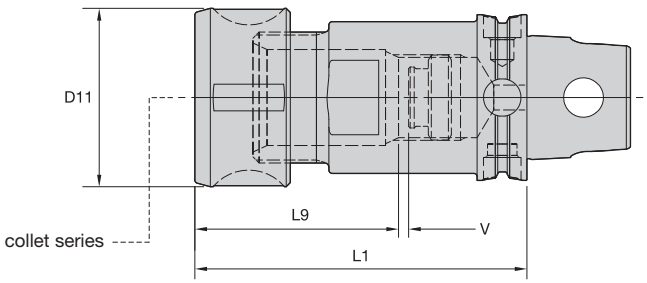
Visit **www.kennametal.com** or contact your local Authorized Kennametal Distributor.

www.kennametal.com

KENNAMETAL®

• Grip 1:1.







	Collet Capacity			
	mm		inch	
DA collet series	min	max	min	max
DA200	0.2	10,0	1/64	25/64
DA180	2.2	20,0	1/64	3/4

KM QUICK CHANGE

Collet Chuck • Round Nut

			D11		L1		L9		V			
order number	catalog number	collet series	mm	in	mm	in	mm	in	mm	in	kg	lbs
3789365	**KM50TSDA208060M**	DA200	28	1.10	60	2.362	35	1.38	8	.32	0,48	1.05
3789364	**KM50TSDA188075M**	DA180	43	1.69	75	2.953	49	1.93	5	.20	0,69	1.52

Spare Parts



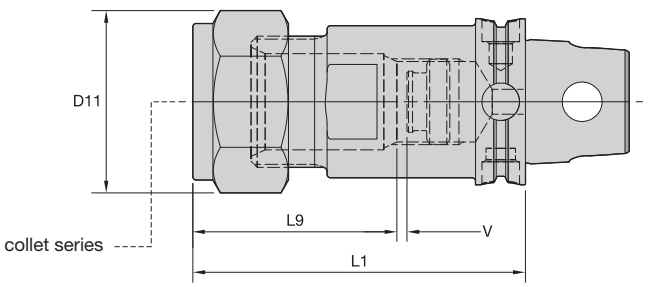




catalog number	locknut	wrench	Nm	ft. lbs.	stop screw	wrench size stop screw
KM50TSDA208060M	**LNA208RM**	**—**	32-40	45-55	**SS038031G**	2mm & 5/64
KM50TSDA188075M	**LNA188M**	**HSW45M**	60-75	80-100	**SS081041G**	4mm & 5/32

(continued)

(Collet Chuck continued)





DA collet series	Collet Capacity mm min	mm max	inch min	inch max
DA200	0,2	10,0	1/64	25/64
DA180	2,2	20,0	1/64	3/4

Collet Chuck • Hex Nut

order number	catalog number	collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	V mm	V in	kg	lbs
3789365	**KM50TSDA208060M**	DA200	28	1.10	60	2.362	35	1.38	8	.32	0,48	1.05
3789364	**KM50TSDA188075M**	DA180	43	1.69	75	2.953	49	1.93	5	.20	0,69	1.52

Spare Parts

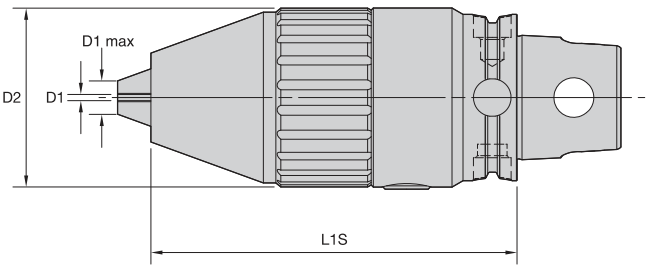




catalog number	locknut	wrench	Nm	ft. lbs.	stop screw	wrench size stop screw
KM50TSDA208060M	**LNA208RM**	**—**	32-40	45-55	**SS038031G**	2 mm & 5/64
KM50TSDA188075M	**LNA188M**	**HSW45M**	60-75	80-100	**SS081041G**	4 mm & 5/32

NOTE: Tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.

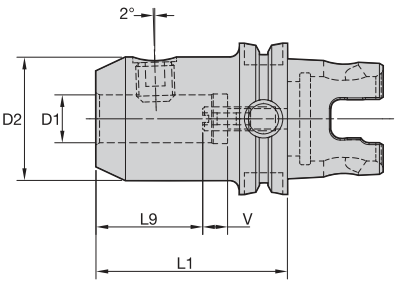
- Activation size is 6mm.
- Activation wrench included.
- Wrench reorder number is 170.136.





RDC • Drill Chuck

order number	catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D2 mm	D2 in	L1S mm	L1S in
4053779	KM50TSRDC16106M	3	.098	16	.630	56	2.205	106,0	4.055





WN • Whistle Notch Adapter

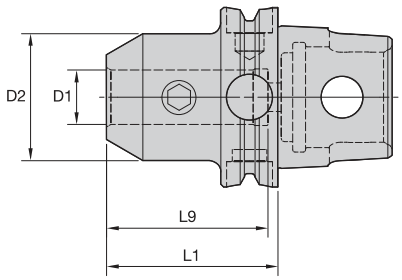




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg	lbs
3795102	KM50TSWN06065M	6	25	65	30	10	SS03M012	3mm	7	571.060	2,5mm	0,49	1.07
3795103	KM50TSWN08065M	8	28	65	30	10	SS03M014	4mm	15	571.067	3mm	0,53	1.16
3795104	KM50TSWN10070M	10	35	70	35	10	SS03M018	5mm	25	571.068	4mm	0,66	1.46
3795105	KM50TSWN12080M	12	42	80	40	10	SS03M023	6mm	35	571.074	5mm	0,91	2.00
3795106	KM50TSWN14080M	14	44	80	40	10	SS03M023	6mm	35	571.074	5mm	0,95	2.10
3795107	KM50TSWN16085M	16	48	85	43	10	SS03M025	6mm	50	571.075	6mm	1,13	2.49
3795108	KM50TSWN18085M	18	50	85	43	10	SS03M025	6mm	50	571.075	6mm	1,18	2.61
3795109	KM50TSWN20095M	20	52	95	45	10	SS03M026	8mm	95	571.076	6mm	1,69	3.05
3795110	KM50TSWN25100M	25	65	100	50	10	SS03M027	10mm	135	571.077	6mm	2,06	4.53
3795111	KM50TSWN32105M	32	72	105	54	10	SS03M029	10mm	160	571.077	6mm	2,50	5.51

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw and stop screw wrenches are not included.







KM QUICK CHANGE

EM • Metric



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
3812617	KM50TSEM10050M	10	35	50	45	SS03M018	5mm	25	0,53
3812618	KM50TSEM12055M	12	42	55	50	SS03M023	6mm	35	0,65
3812619	KM50TSEM16060M	16	48	60	53	SS03M025	6mm	50	0,79
3812620	KM50TSEM20060M	20	52	60	55	SS03M026	8mm	95	0,84
3812621	KM50TSEM25080M	25	65	80	60	SS03M027	10mm	135	1,59
3812622	KM50TSEM32085M	32	72	85	65	SS03M029	10mm	160	1,94

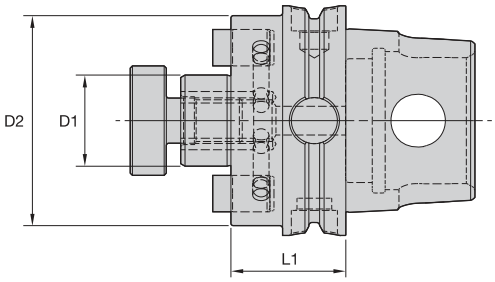
EM • Inch

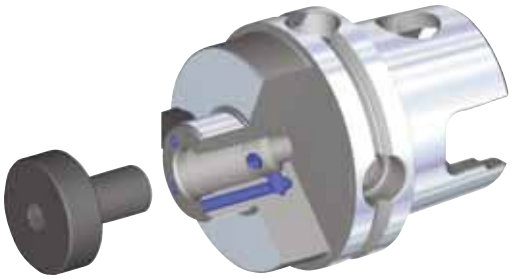


order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
3812635	KM50TSEM038197	3/8	1.00	1.969	1.73	ELS038031PKG	3/16	15	.95
3812636	KM50TSEM050216	1/2	1.38	2.165	1.97	ELS044038PKG	7/32	20	1.16
3812637	KM50TSEM062236	5/8	1.63	2.362	2.09	ELS056050PKG	1/4	40	1.43
3812638	KM50TSEM075236	3/4	1.75	2.362	2.22	ELS062050PKG	5/16	70	1.48
3812639	KM50TSEM100335	1	2.00	3.347	2.56	ELS075056PKG	3/8	110	2.38
3812640	KM50TSEM125335	1 1/4	2.50	3.347	2.51	ELS075056PKG	3/8	110	3.31

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.







KM QUICK CHANGE

SMC • Metric




order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3950842	KM50TSSMC22028M	22	49	28	MS1234	KDK22M	8mm	0,54
3950913	KM50TSSMC27032M	27	60	32	KLSS27M	KDK27M	10mm	0,77
3950914	KM50TSSMC32040M	32	78	40	KLSS32M	KDK32M	14mm	1,30

SMC/SM2C-KM • Inch

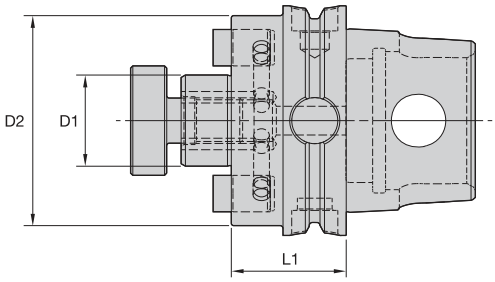


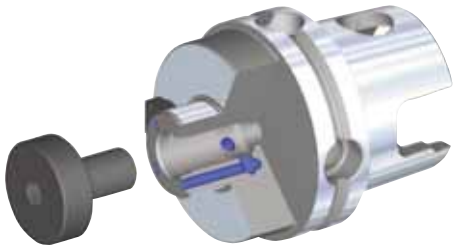

order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	lbs
3950836	KM50TSSMC050102	1/2	1.44	1.024	KLS05	KDK04	3/16	.92
3950838	KM50TSSM2C075102	3/4	1.46	1.024	KLS07	—	1/4	1.02
3950837	KM50TSSMC075102	3/4	1.75	1.024	KLS07	KDK05	3/16	1.08
3950840	KM50TSSM2C100126	1	2.19	1.260	KLS10	KDK06	5/16	1.53
3950839	KM50TSSMC100126	1	2.75	1.260	KLS10	KDK06	5/16	1.81
3950841	KM50TSSMC125157	1 1/4	2.88	1.575	KLS12	KDK08	5/16	2.60

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.



KM QUICK CHANGE





SM2C • Inch



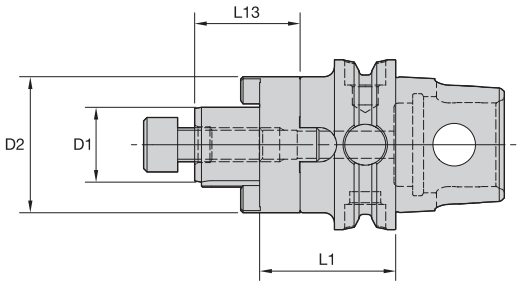


order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	lbs.
3950838	KM50TSSM2C075102	3/4	1.46	1.024	KLS07	—	1/4	1.02
3950840	KM50TSSM2C100126	1	2.19	1.260	KLS10	KDK06	5/16	1.53

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Lock screw wrench not included.



KM QUICK CHANGE





CS • Metric





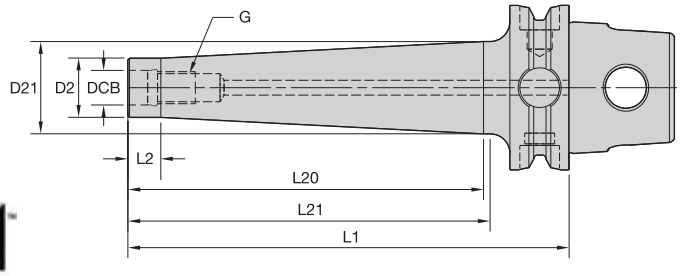




order number	catalog number	D1	D2	L1	L13	lock screw	lock screw	wrench size lock screw	combi driver ring	combi drive key	kg
3862017	KM50TSCS22040M	22	40	40	31	MS1234	—	8 mm	CDR22M	CDK22M	0,61
3862018	KM50TSCS27042M	27	48	42	33	—	KLS27M	—	CDR27M	CDK27M	0,79
3862019	KM50TSCS32050M	32	58	50	38	—	KLS32M	—	CDR32M	CDK32M	1,19

NOTE: Do not overtighten lock screw.
Supplied with lock screw, drive ring, and key.
Lock screw wrench not included.







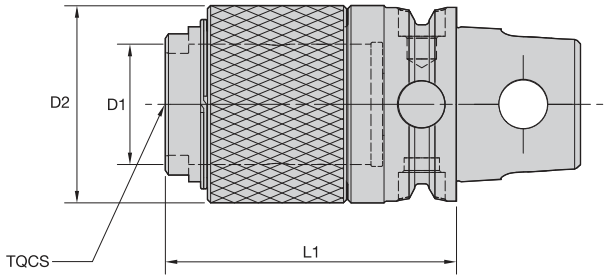
KM QUICK CHANGE

STC

order number	catalog number	DCB	G	D2	D21	L1	L2	L20	L21	kg
4137801	**KM50TSSTC06059M**	6,5	M6	10	11	59	10	35	35	0,36
4137802	**KM50TSSTC06084M**	6,5	M6	10	12	84	10	60	60	0,37
4137823	**KM50TSSTC06109M**	6,5	M6	10	14	109	10	85	85	0,40
4137824	**KM50TSSTC08059M**	8,5	M8	13	15	59	10	33	35	0,37
4137825	**KM50TSSTC08084M**	8,5	M8	13	18	84	10	58	60	0,42
4137826	**KM50TSSTC08109M**	8,5	M8	13	23	109	10	83	85	0,51
4137827	**KM50TSSTC08134M**	8,5	M8	13	23	134	10	108	110	0,56
4137828	**KM50TSSTC10059M**	10,5	M10	18	20	59	10	33	35	0,41
4137829	**KM50TSSTC10084M**	10,5	M10	18	25	84	10	58	60	0,51
4137830	**KM50TSSTC10109M**	10,5	M10	18	25	109	10	83	85	0,57
4137831	**KM50TSSTC10134M**	10,5	M10	18	28	134	10	108	110	0,61
4137832	**KM50TSSTC12059M**	12,5	M12	21	24	59	10	33	35	0,44
4137833	**KM50TSSTC12084M**	12,5	M12	21	24	84	10	58	60	0,51
4137834	**KM50TSSTC12109M**	12,5	M12	21	28	109	10	83	85	0,64
4137835	**KM50TSSTC12134M**	12,5	M12	21	31	134	10	108	110	0,79

NOTE: For technical information, see page M96–97.







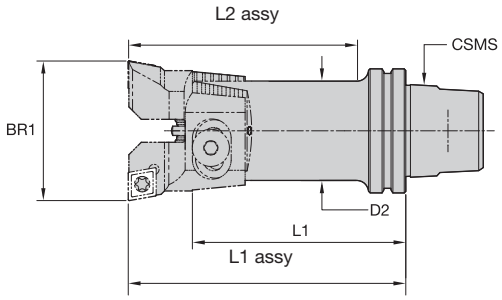
KM QUICK CHANGE

ST • Solid Tap Chuck

order number	catalog number	TQCS adapter size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	kg	lbs
3964133	**KM50TSST1050M**	1	19	.749	35	1.375	50	1.971	0,48	1.06
3964134	**KM50TSST2075M**	2	31	1.222	51	2.000	75	2.955	0,89	1.95

NOTE: Quick-change tap adapters available and must be ordered separately; see page J76.







KM QUICK CHANGE

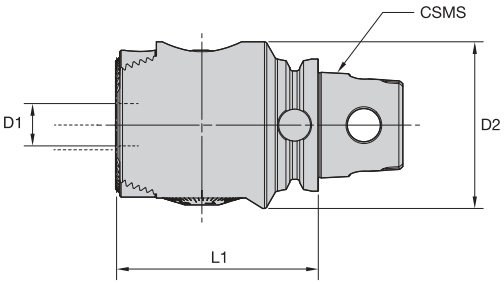
RBHT • KM™ Rough-Boring Twin Cutters



order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	L1 assy mm	L1 assy in	L2 assy mm	L2 assy in	blade screw	washer	pin
3586522	**KM50RBHT50**	49,500-66,500	1.9488-2.6181	KM50	42,0	1.65	62,2	2.45	90,0	3.54	70,0	2.76	**840.142.420**	**841.142.200**	**841.342.420**
3586543	**KM50RBHT66**	65,500-87,500	2.5787-3.4449	KM50	55,0	2.17	63,0	2.48	100,0	3.94	100,0	3.94	**840.142.550**	**841.142.550**	**841.342.420**
3586544	**KM50RBHT87**	86,500-115,500	3.4055-4.5472	KM50	72,0	2.83	70,5	2.78	120,0	4.72	120,0	4.72	**840.142.720**	**841.142.720**	**841.342.420**

NOTE: Blade sets are ordered separately; see the Kennametal Innovations Master Catalog Cutting Tools 2013.





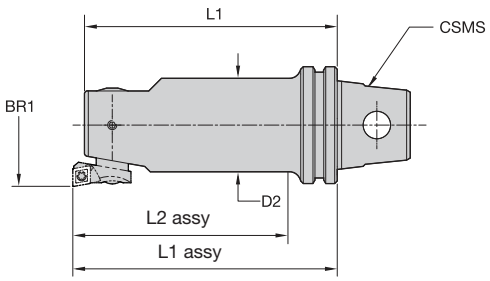


KM QUICK CHANGE

FBHM

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	ModBORE FBHS parts package	kg	lbs
4057060	**KM50TSFBHM1677**	9,750-164,000	.3838-6.4566	KM50TS	16,0	.63	63,0	2.48	76,6	3.02	**PKG-8001**	1,5	3.31







KM QUICK CHANGE

FBHS • KM™ Fine-Boring Single Cutters

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	L1 assy mm	L1 assy in	L2 assy mm	L2 assy in	cartridge mounting screw	lock screw
3586575	**KM50FBHS51**	50,900-81,100	2.0039-3.1929	KM50	42,01	1.65	86,0	3.39	90,0	3.54	70,0	2.76	**880.252.420**	**881.252.420**
3586576	**KM50FBHS67**	66,900-105,100	2.6339-4.1378	KM50	55,02	1.17	96,0	3.78	100,0	3.94	100,0	3.94	**880.252.550**	**881.252.550**
3586577	**KM50FBHS87**	86,900-154,100	3.4213-6.0669	KM50	72,02	2.84	116,0	4.57	120,0	4.72	120,0	4.72	**880.252.550**	**881.252.720**

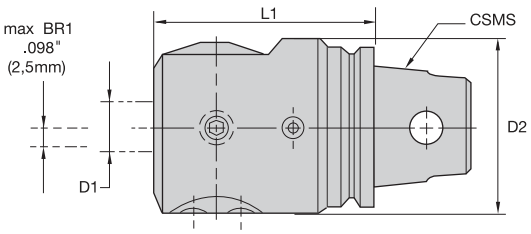
NOTE: Boring heads are ordered separately; see the Kennametal Innovations Master Catalog Cutting Tools 2013.

Reference Insert Cartridges

BR1 in	BR1 mm	insert cartridges 90° lead		95° lead	
.9409 - 1.2244	23,900 - 31,100	R24FBHS06	—	R24FBHS06LF	—
1.1772 - 1.4606	29,900 - 37,100	R30FBHS06	—	—	—
1.2165 - 1.5787	30,900 - 40,100	R31FBHS06	—	R31FBHS06LF	—
1.4921 - 1.8543	37,900 - 47,100	F38FBHS06	—	—	—
1.5709 - 2.0118	39,900 - 51,100	R40FBHS06	—	R40FBHS06LF	—
1.8858 - 2.3268	47,900 - 59,100	R48FBHS06	—	—	—
2.0039 - 2.6417	50,900 - 67,100	R51FBHS06	—	R51FBHS06LF	—
2.5551 - 3.1929	64,900 - 81,100	R65FBHS06	—	—	—
2.6339 - 3.4291	66,900 - 87,100	R67FBHS06	R67FBHS09	—	R67FBHS09LF
3.3425 - 4.1378	84,900 - 105,100	R85FBHS06	R85FBHS09	—	—
3.4213 - 4.5709	86,900 - 116,100	R67FBHS06	R67FBHS09	—	R67FBHS09LF
4.1299 - 5.2795	104,900 - 134,100	R85FBHS06	R85FBHS09	—	—
4.5630 - 6.0669	115,900 - 154,100	R67FBHS06	R67FBHS09	—	R67FBHS09LF
5.2717 - 6.7362	133,900 - 171,100	R85FBHS06	R85FBHS09	—	—
6.0591 - 7.5236	153,900 - 191,100		R125FBHS09	—	—

- 0,01mm (.0004") diameter adjustment.
- Boring bar not included.





This tool is not KM50TS style according to ISO26622.

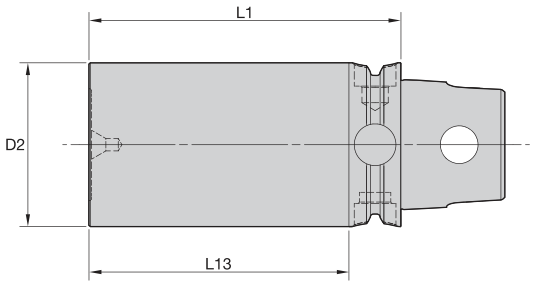


KM QUICK CHANGE

FBHO • KM™ Offset Boring Head

order number	catalog number	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	ModBORE FBHO parts package
1132036	**KM50FBHO1670**	KM50	16	.63	55,0	2.17	70,0	2.76	**PKG7001**





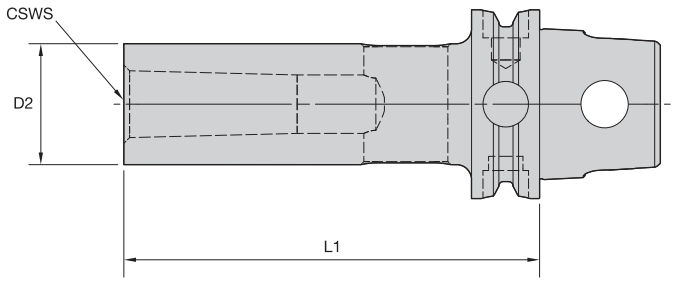


KM QUICK CHANGE

GB • Gage Bar

order number	catalog number	D2 mm	D2 in	L1 mm	L1 in	L13 mm	L13 in	kg	lbs
3959978	**KM50TSGB50100M**	50	1.97	100	3.94	82	3.23	1,59	3.49





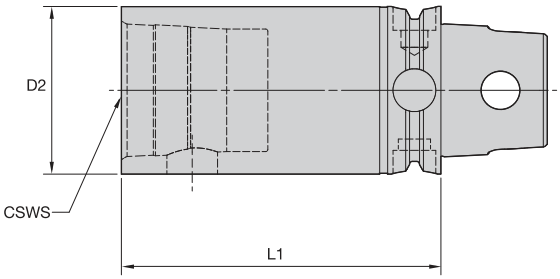


KM QUICK CHANGE

MT • Morse Taper Adapter

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	kg	lbs
3862043	**KM50TSMT1095M**	1	25	.984	95	3.740	0,57	1.26
3862044	**KM50TSMT2110M**	2	32	1.260	110	4.331	0,77	1.70
3862045	**KM50TSMT3130M**	3	40	1.575	130	5.118	1,12	2.47
3862046	**KM50TSMT4150M**	4	48	1.890	150	5.906	1,54	3.40



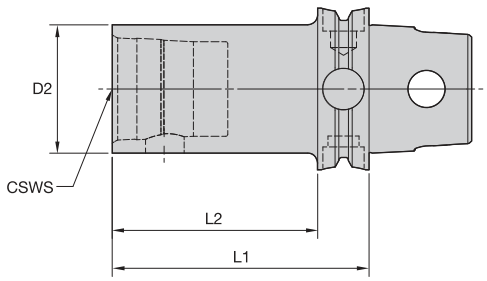




KM QUICK CHANGE

S • KM Extension

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
3862083	**KM50TSS50070M**	KM50	50	1.969	70	2.756	10mm	27-34	20-25	**KM50PKG3S**	0,92	2.03
3862084	**KM50TSS50100M**	KM50	50	1.969	100	3.937	10mm	27-34	20-25	**KM50PKG3S**	1,37	3.02

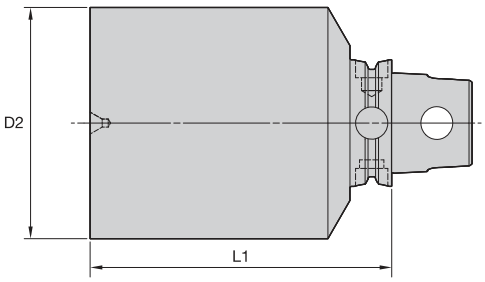




KM QUICK CHANGE

S • KM Reducer

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	L2 mm	L2 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
3862071	**KM50TSS32070M**	KM32	32	1.260	70	2.756	52	2.047	5mm	8-11	6-8	**KM32PKG3S**	0,61	1.34
3862072	**KM50TSS40080M**	KM40	40	1.575	80	3.150	62	2.441	6mm	12-16	9-12	**KM40PKG3S**	0,84	1.86





KM QUICK CHANGE

BN • Blank

order number	catalog number	D2 mm	D2 in	L1 mm	L1 in	hardness range	kg	lbs
3851267	**KM50TSBN73135M**	73	2.874	135	5.315	32-38 HRC	4,15	9.16
3851268	**KM50TSBN75062M**	75	2.953	62	2.441	32-38 HRC	1,84	4.06
3851266	**KM50TSBN105062M**	105	4.134	62	2.441	32-38 HRC	3,15	6.95



Romicron™ Boring System

Fast
Adjustments can be made in less than 5 seconds, while still holding 0,002mm (.0001") on the diameter!

Accurate
Each click of the dial is 0,001mm (.000040") on the radius and can be done in less than 5 seconds.
This high-performance boring system will give you:

- More uptime.
- Less scrap.
- Longer tool life.
- CPKs greater than 1.33.
- Less stress during adjustments.

NOTE: For Romicron boring systems, see the Kennametal Innovations Master Catalog Cutting Tools 2013.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®



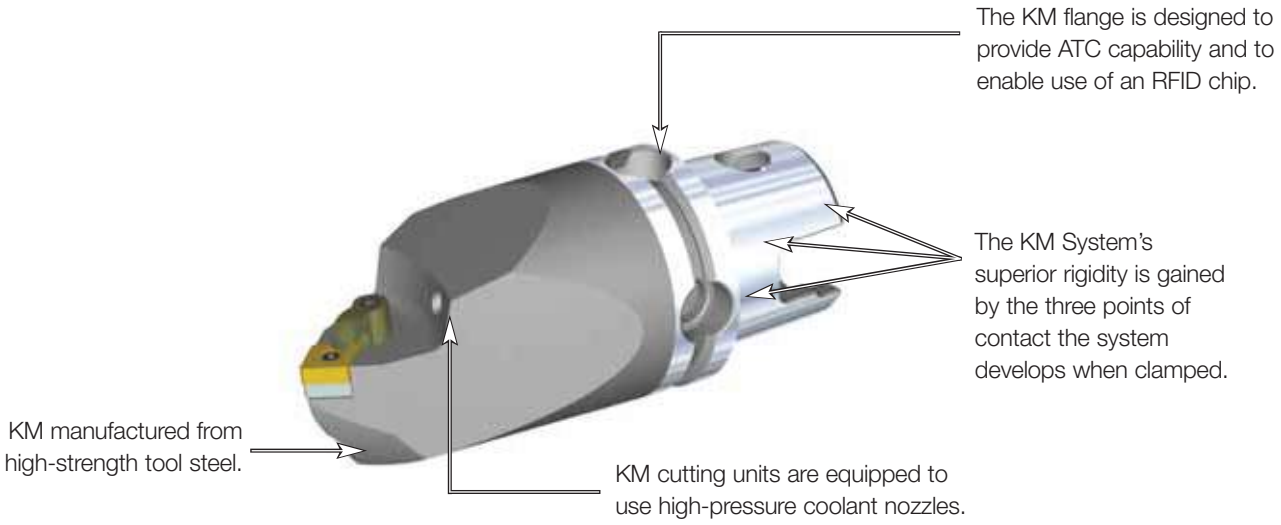
KM™ Quick Change Clamping System • KM63TS™ Series

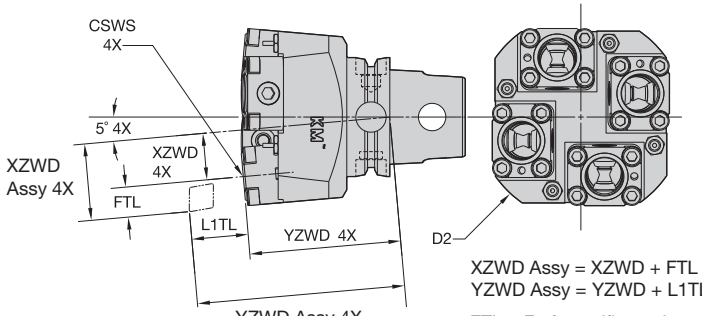
Primary Application

The KM Quick Change Clamping System is the best system on the market suitable for static, rotating, and multitasking operations. With its industry-leading design, the KM Quick Change System provides greater clamping forces than other quick-change systems. The KM Quick Change System gives you the flexibility to use KM on any application within your shop.

Features and Benefits

- KM is an ISO standard (ISO 26622).
- KM clamping units provide a 4:1 mechanical advantage.
- KM cutting units are capable of 100 bar (1,500 psi) coolant pressure.





XZWD Assy = XZWD + FTL
YZWD Assy = YZWD + L1TL

FTL = F of specific cutting unit
L1TL = L1 of specific cutting unit



Left-Hand Tool

4xSTAL • KM25

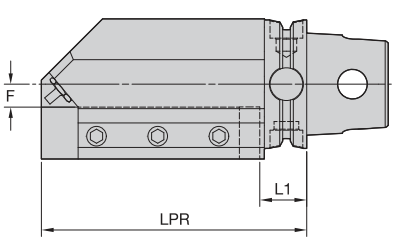
order number	catalog number	CSWS system size	D2	XZWD mm	XZWD in	YZWD mm	YZWD in	Nm	kg
	left hand								
2614688	KM63TS4XSTALKM25	KM25	110	25	.9697	80	3.150	34	3,11

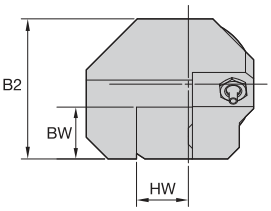
Spare Parts

catalog number	nozzle	flange clamping unit	KM spare parts package
left hand KM63TS4XSTALKM25	PMT08420 COOLANT NOZZLE SPRAY	KM25NCMSF3140MST	KM3225NRPKG

NOTE: For torque wrench, see pages L52–L53.









KM QUICK CHANGE

STAR/L • Metric



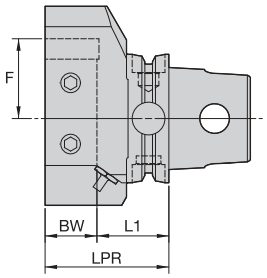
order number	catalog number	B2	BW	F	HW	L1	LPR	nozzle	kg
	right hand								
2255545	KM63TSSTAR2525M	68	25	11	25	25	130	PMT04526 COOLANT NOZZLE SPRAY	3,83
	left hand								
2255544	KM63TSSTAL2525M	68	25	11	25	25	130	PMT04526 COOLANT NOZZLE SPRAY	3,83

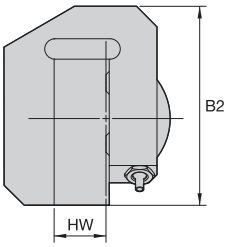
STAR/L • Inch



order number	catalog number	B2	BW	F	HW	L1	LPR	nozzle	lbs
	right hand								
2384740	KM63TSSTAR16	2.703	1.000	.443	1.000	.906	5.118	PMT04526 COOLANT NOZZLE SPRAY	8.46
	left hand								
2384741	KM63TSSTAL16	2.703	1.000	.443	1.000	.906	5.118	PMT04526 COOLANT NOZZLE SPRAY	8.46









KM QUICK CHANGE

ETAR/L • Metric

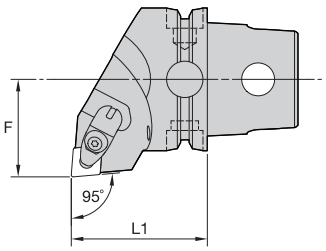


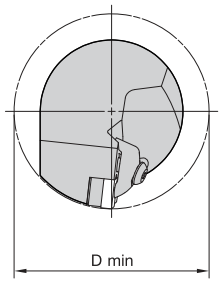
order number	catalog number	B2	BW	F	HW	L1	LPR	nozzle	kg
	right hand								
2255547	KM63TSETAR2525M	98	25	37,5	25	35	60	PMT04526 COOLANT NOZZLE SPRAY	2,06
	left hand								
2255546	KM63TSETAL2525M	98	25	37,5	25	35	60	PMT04526 COOLANT NOZZLE SPRAY	2,06

ETAR/L • Inch



order number	catalog number	B2	BW	F	HW	L1	LPR	nozzle	lbs
	right hand								
2384742	KM63TSETAR16	3.839	1.000	1.539	1.000	1.388	2.388	PMT08420 COOLANT NOZZLE SPRAY	4.58
	left hand								
2384743	KM63TSETAL16	3.839	1.000	1.539	1.000	1.388	2.388	PMT08420 COOLANT NOZZLE SPRAY	4.58







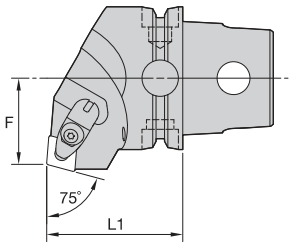
DCLN 95°

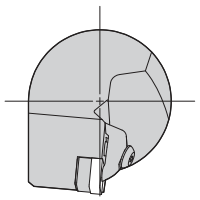
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
2252467	KM63TSDCLNR12KC04	60	2.362	43	1.693	86	3.39	CN..120408/CN..432	1,21
2265432	KM63TSDCLNR16KC06	60	2.362	43	1.693	–	–	CN..160612/CN..543	1,19
	left hand								
2252465	KM63TSDCLNL12KC04	60	2.362	43	1.693	86	3.39	CN..120408/CN..432	1,20
2265433	KM63TSDCLNL16KC06	60	2.362	43	1.693	–	–	CN..160612/CN..543	1,19

Spare Parts

catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM63TSDCLNR12KC04	ICSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM63TSDCLNR16KC06	ICSN543	KMSP515IP	CM209R ASSY	SSP025016M
left hand				
KM63TSDCLNL12KC04	ICSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM63TSDCLNL16KC06	ICSN543	KMSP515IP	CM209R ASSY	SSP025016M









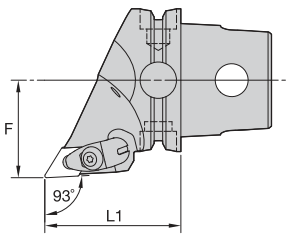
KM QUICK CHANGE

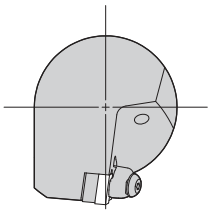
DCRN 75°

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
2265434	KM63TSDCRNR12KC04	60	2.362	38	1.496	CN..120408/CN..432	1,26
	left hand						
2265435	KM63TSDCRNL12KC04	60	2.362	38	1.496	CN..120408/CN..432	1,25

Spare Parts

catalog number	 shim	 shim screw	 clamp assembly	 pin
right hand				
KM63TSDCRNR12KC04	ICSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM63TSDCRNL12KC04	ICSN443	KMSP415IP	CM234R ASSY	SSP025016M







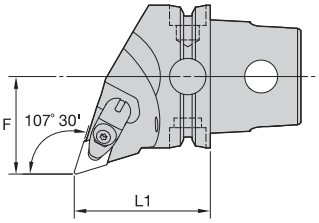
DDJN 93°

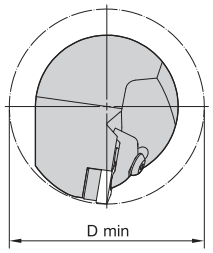
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
2265438	KM63TSDDJNR15KC04	60	2.362	43	1.693	DN..150408/DN..432	1,03
2265436	KM63TSDDJNR15KC06	60	2.362	43	1.693	DN..150608/DN..442	1,03
	left hand						
2265439	KM63TSDDJNL15KC04	60	2.362	43	1.693	DN..150408/DN..432	1,03
2265437	KM63TSDDJNL15KC06	60	2.362	43	1.693	DN..150608/DN..442	1,03

Spare Parts

catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM63TSDDJNR15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM63TSDDJNR15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM63TSDDJNL15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM63TSDDJNL15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

DDQU 107° 30'

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
2265440	KM63TSDDQNR15KC04	60	2.362	43	1.693	86	3.39	DN..150408/DN..432	1,11
2265442	KM63TSDDQNR15KC06	60	2.362	43	1.693	86	3.39	DN..150608/DN..442	1,11
	left hand								
2265441	KM63TSDDQNL15KC04	60	2.362	43	1.693	86	3.39	DN..150408/DN..432	1,11
2265443	KM63TSDDQNL15KC06	60	2.362	43	1.693	86	3.39	DN..150608/DN..442	1,11

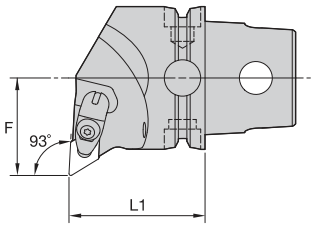
Spare Parts

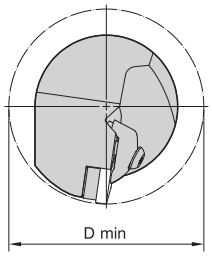





catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM63TSDDQNR15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM63TSDDQNR15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM63TSDDQNL15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM63TSDDQNL15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

DDUN 93°

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
2265444	**KM63TSDDUNR15KC04**	60	2.362	43	1.693	86	3.39	DN..150408/DN..432	1,25
2265446	**KM63TSDDUNR15KC06**	60	2.362	43	1.693	86	3.39	DN..150608/DN..442	1,27
	left hand								
2265445	**KM63TSDDUNL15KC04**	60	2.362	43	1.693	86	3.39	DN..150408/DN..432	1,25
2265447	**KM63UTDDUNL15KC06**	60	2.362	43	1.693	86	3.39	DN..150608/DN..442	1,27

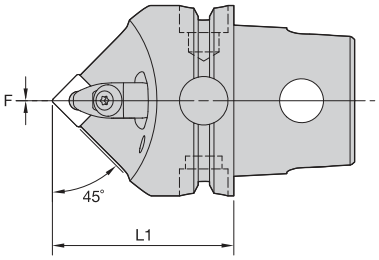
Spare Parts

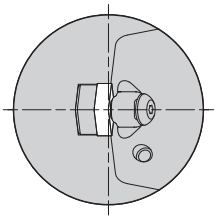





catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM63TSDDUNR15KC04	**IDSN443**	**KMSP415IP**	**CM234R ASSY**	**SSP025016M**
KM63TSDDUNR15KC06	**IDSN433**	**KMSP415IP**	**CM234R ASSY**	**SSP025016M**
left hand				
KM63TSDDUNL15KC04	**IDSN443**	**KMSP415IP**	**CM234R ASSY**	**SSP025016M**
KM63UTDDUNL15KC06	**IDSN433**	**KMSP415IP**	**CM234R ASSY**	**SSP025016M**









KM QUICK CHANGE

DSDN 45°

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
2265448	**KM63TSDSDNN12KC04**	60	2.362	0	.000	SN..120408/SN..432	1,05

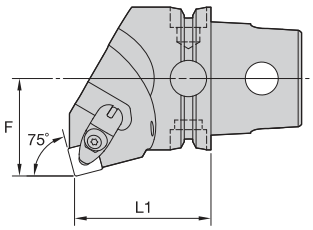
Spare Parts

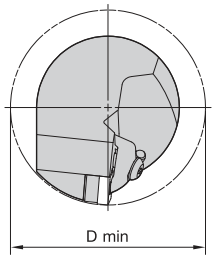





catalog number	shim	shim screw	clamp assembly	pin
KM63TSDSDNN12KC04	**ISSN443**	**KMSP415IP**	**CM234R ASSY**	**SSP025016M**









KM QUICK CHANGE

DSKN 75°

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
2265449	KM63TSDSKNR12KC04	60	2.362	43	1.693	86	3.39	SN..120408/SN..432	1,3
	left hand								
2265450	KM63TSDSKNL12KC04	60	2.362	43	1.693	86	3.39	SN..120408/SN..432	1,3

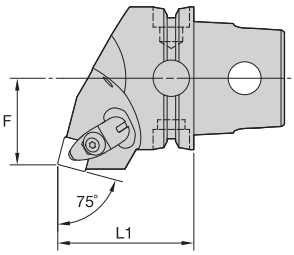
Spare Parts

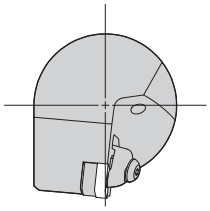





catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM63TSDSKNR12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM63TSDSKNL12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

DSRN 75°

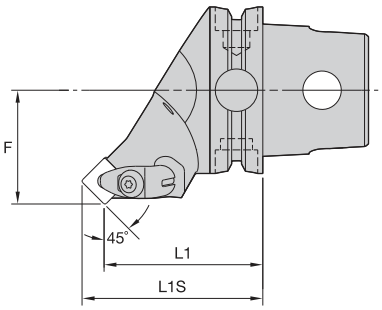
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
2265451	KM63TSDSRNR12KC04	60	2.362	38	1.496	SN..120408/SN..432	1,21
	left hand						
2265452	KM63TSDSRNL12KC04	60	2.362	38	1.496	SN..120408/SN..432	1,21

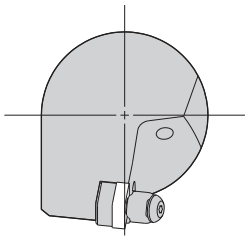
Spare Parts






catalog number	shim	shim screw	clamp assembly	pin
right hand KM63TSDSRNR12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand KM63TSDSRNL12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M







DSSN 45°

order number	catalog number	L1 mm	L1 in	L1S mm	L1S in	F mm	F in	gage insert	kg
	right hand								
2265453	KM63TSDSSNR12KC04	60	2.362	68,3	2.690	43	1.693	SN..120408/SN..432	1,15
	left hand								
2265454	KM63TSDSSNL12KC04	60	2.362	68,3	2.690	43	1.693	SN..120408/SN..432	1,15

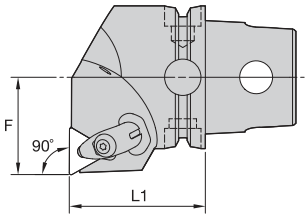
Spare Parts

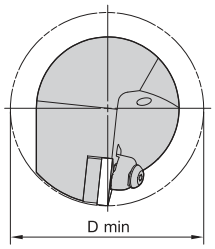





catalog number	shim	shim screw	clamp assembly	pin
right hand KM63TSDSSNR12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand KM63TSDSSNL12KC04	ISSN443	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

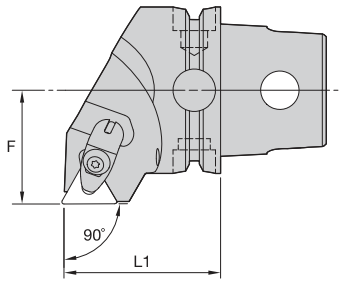
DTFN 90°

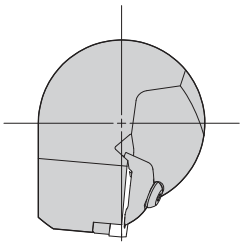
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
2265455	KM63TSDTFNR22KC04	60	2.362	43	1.693	86	3.39	TN..220408/TN..432	1,4
	left hand								
2265456	KM63TSDTFNL22KC04	60	2.362	43	1.693	86	3.39	TN..220408/TN..432	1,4

Spare Parts

catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM63TSDTFNR22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM63TSDTFNL22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M









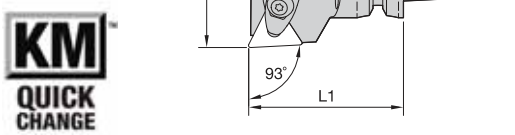
KM QUICK CHANGE

DTGN 90°

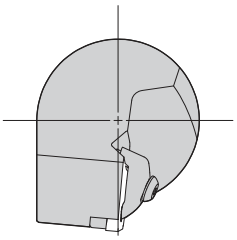
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
2265457	KM63TSDTGNR22KC04	60	2.362	43	1.693	TN..220408/TN..432	1,23
	left hand						
2265458	KM63TSDTGNL22KC04	60	2.362	43	1.693	TN..220408/TN..432	1,23

Spare Parts

catalog number	 shim	 shim screw	 clamp assembly	 pin
right hand				
KM63TSDTGNR22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM63TSDTGNL22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M



KM QUICK CHANGE





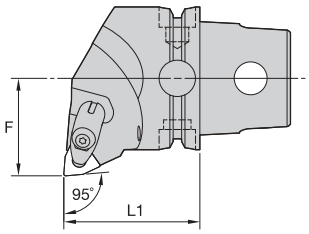
DTJN 93°

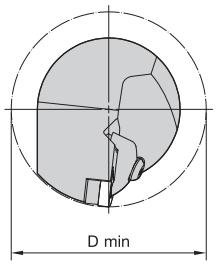
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
2265459	KM63TSDTJNR22KC04	60	2.362	43	1.693	TN..220408/TN..432	1,26
	left hand						
2265460	KM63TSDTJNL22KC04	60	2.362	43	1.693	TN..220408/TN..432	1,26

Spare Parts

catalog number	shim	shim screw	clamp assembly	pin
right hand KM63TSDTJNR22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand KM63TSDTJNL22KC04	ITSN443	KMSP415IP	CM234R ASSY	SSP025016M









KM QUICK CHANGE

DWLN 95°

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
2265461	KM63TSDWLNR08KC04	60	2.362	43	1.693	86	3.39	WN..080408/WN..432	1,27
	left hand								
2265462	KM63TSDWLNL08KC04	60	2.362	43	1.693	86	3.39	WN..080408/WN..432	1,27

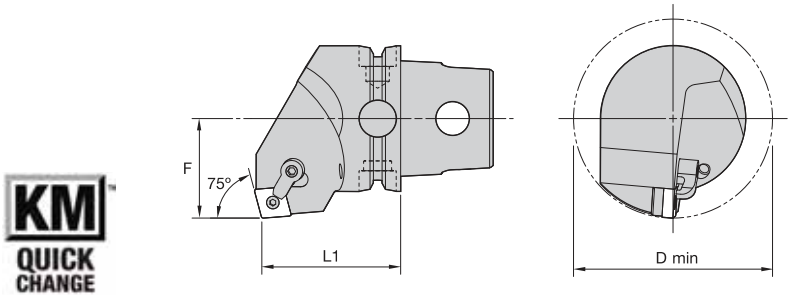
Spare Parts






catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM63TSDWLNR08KC04	IWSN443	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM63TSDWLNL08KC04	IWSN443	KMSP415IP	CM234R ASSY	SSP025016M

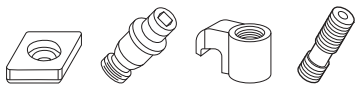






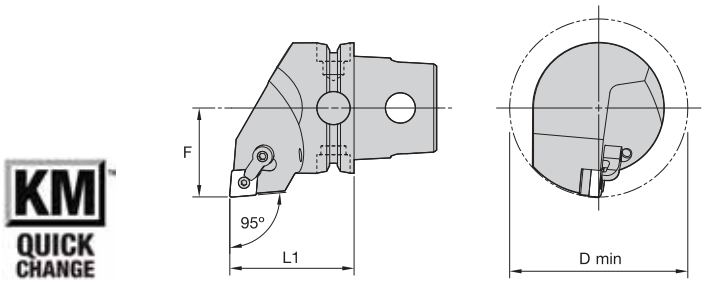
KM QUICK CHANGE

MCKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2265024	**KM63TSMCKNR12**	60	2.362	43	1.693	86	3.386	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20**	**STCM11**	1,28	2.83
2265026	**KM63TSMCKNR16**	60	2.362	43	1.693	86	3.386	CN..160612/CN..543	**ICSN533**	**KLM58**	**CKM20**	**STCM11**	1,34	2.95
2265028	**KM63TSMCKNR19**	60	2.362	43	1.693	86	3.386	CN..190612/CN..643	**ICSN633**	**KLM68**	**CKM13**	**STCM8**	1,34	2.95
	left hand													
2265025	**KM63TSMCKNL12**	60	2.362	43	1.693	86	3.386	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20**	**STCM11**	1,28	2.83
2265027	**KM63TSMCKNL16**	60	2.362	43	1.693	86	3.386	CN..160612/CN..543	**ICSN533**	**KLM58**	**CKM20**	**STCM11**	1,34	2.95
2265029	**KM63TSMCKNL19**	60	2.362	43	1.693	86	3.386	CN..190612/CN..643	**ICSN633**	**KLM68**	**CKM13**	**STCM8**	1,34	2.95

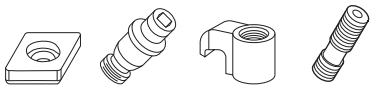






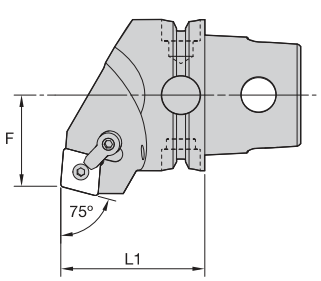
KM QUICK CHANGE

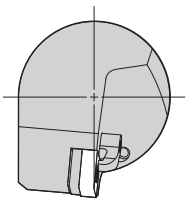
MCLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2265030	**KM63TSMCLNR12**	60	2.362	43	1.693	86	3.386	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20**	**STCM11**	1,19	2.62
2265032	**KM63TSMCLNR16**	60	2.362	43	1.693	86	3.386	CN..160612/CN..543	**ICSN533**	**KLM58**	**CKM20**	**STCM11**	1,19	2.62
2265274	**KM63TSMCLNR19**	60	2.362	43	1.693	86	3.386	CN..190612/CN..643	**ICSN633**	**KLM68**	**CKM13**	**STCM8**	1,18	2.61
	left hand													
2265031	**KM63TSMCLNL12**	60	2.362	43	1.693	86	3.386	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20**	**STCM11**	1,19	2.62
2265273	**KM63TSMCLNL16**	60	2.362	43	1.693	86	3.386	CN..160612/CN..543	**ICSN533**	**KLM58**	**CKM20**	**STCM11**	1,19	2.62
2265275	**KM63TSMCLNL19**	60	2.362	43	1.693	86	3.386	CN..190612/CN..643	**ICSN633**	**KLM68**	**CKM13**	**STCM8**	1,18	2.61



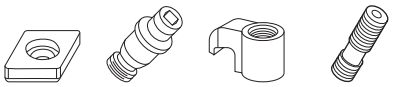






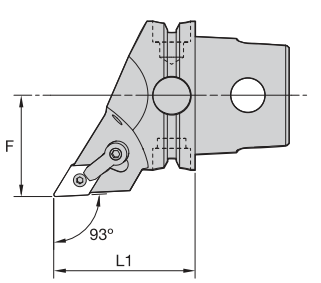
KM QUICK CHANGE

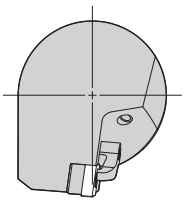
MCRN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
2265276	KM63TSMCRNR16	60	2.362	38	1.496	CN..160612/CN..543	ICSN533	KLM58	CKM20	STCM11	1,19	2.63
2265278	KM63TSMCRNR19	60	2.362	38	1.496	CN..190612/CN..643	ICSN633	KLM68	CKM13	STCM8	1,19	2.62
	left hand											
2265277	KM63TSMCRNL16	60	2.362	38	1.496	CN..160612/CN..543	ICSN533	KLM58	CKM20	STCM11	1,19	2.63
2265279	KM63TSMCRNL19	60	2.362	38	1.496	CN..190612/CN..643	ICSN633	KLM68	CKM13	STCM8	1,19	2.62



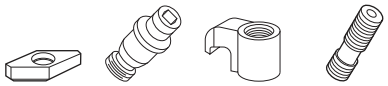






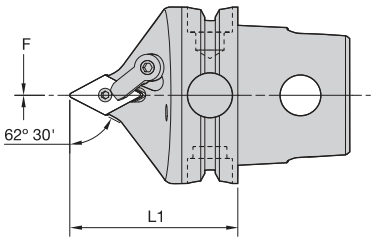
KM QUICK CHANGE

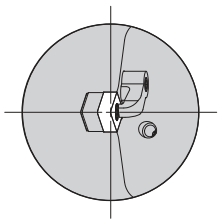
MDJN 93°

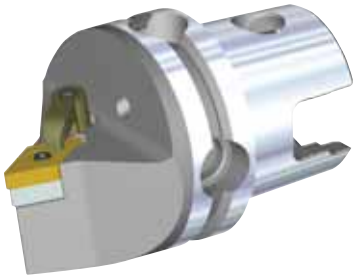


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
2397712	KM63TSMDJNR1504	60	2.362	43	1.693	DN..150408/DN..432	IDSN442	KLM46L	CKM23	STCM11	1,00	2.200
2265280	KM63TSMDJNR1506	60	2.362	43	1.693	DN..150608/DN..442	IDSN432	KLM46L	CKM23	STCM11	0,99	2.190
	left hand											
2397713	KM63TSMDJNL1504	60	2.362	43	1.693	DN..150408/DN..432	IDSN442	KLM46L	CKM23	STCM11	1,00	2.200
2265281	KM63TSMDJNL1506	60	2.362	43	1.693	DN..150608/DN..442	IDSN432	KLM46L	CKM23	STCM11	0,99	2.190



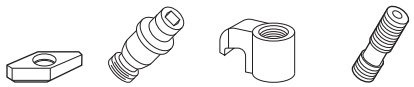






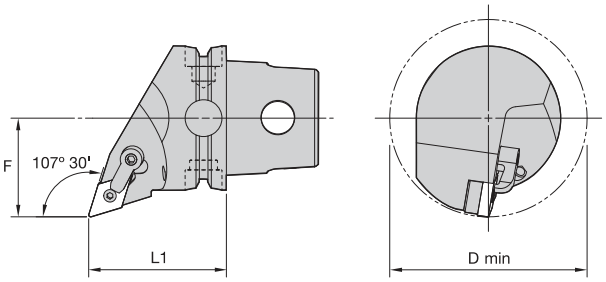
KM QUICK CHANGE

MDPN 62° 30'



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
2397714	KM63TSMDPNN1504	60	2.362	0	.000	DN..150408/DN..432	IDSN442	KLM46L	CKM23	STCM11	0,92	2.02
2265282	KM63TSMDPNN1506	60	2.362	0	.000	DN..150608/DN..442	IDSN432	KLM46L	CKM23	STCM11	0,92	2.01

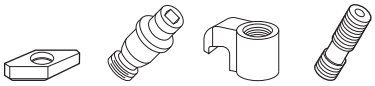






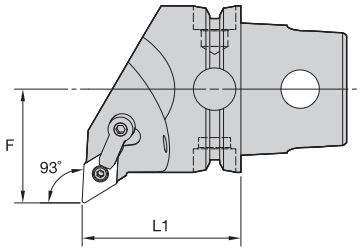
KM QUICK CHANGE

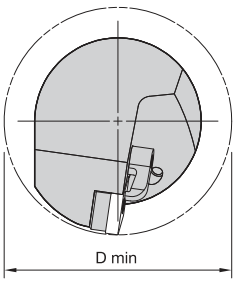
MDQN 107° 30'

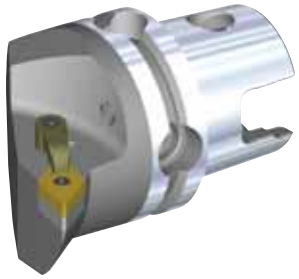


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2397715	KM63TSMDQNR1504	60	2.362	43	1.693	86	3.386	DN..150408/DN..432	IDSN442	KLM46L	CKM23	STCM11	1,07	2.36
2265283	KM63TSMDQNR1506	60	2.362	43	1.693	86	3.386	DN..150608/DN..442	IDSN432	KLM46L	CKM23	STCM11	1,07	2.35
	left hand													
2397716	KM63TSMDQNL1504	60	2.362	43	1.693	86	3.386	DN..150408/DN..432	IDSN442	KLM46	CKM23	STCM11	1,07	2.36
2265284	KM63TSMDQNL1506	60	2.362	43	1.693	86	3.386	DN..150608/DN..442	IDSN432	KLM46L	CKM23	STCM11	1,07	2.35



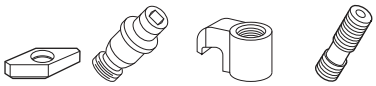






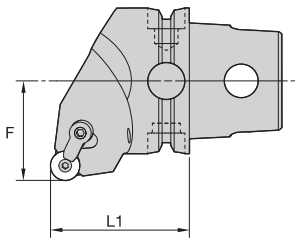
KM QUICK CHANGE

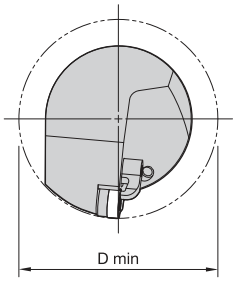
MDUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2397717	KM63TSMDUNR1504	60	2.362	43	1.693	86	3.386	DN..150408/DN..432	IDSN442	KLM46L	CKM23	STCM11	1,17	2.58
2265285	KM63TSMDUNR1506	60	2.362	43	1.693	86	3.386	DN..150608/DN..442	IDSN432	KLM46L	CKM23	STCM11	1,17	2.58
	left hand													
2397718	KM63TSMDUNL1504	60	2.362	43	1.693	86	3.386	DN..150408/DN..432	IDSN442	KLM46L	CKM23	STCM11	1,17	2.58
2265286	KM63TSMDUNL1506	60	2.362	43	1.693	86	3.386	DN..150608/DN..442	IDSN432	KLM46L	CKM23	STCM11	1,17	2.57



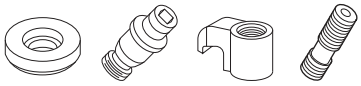






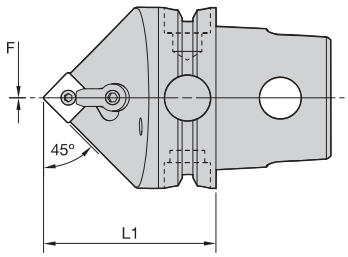
KM QUICK CHANGE

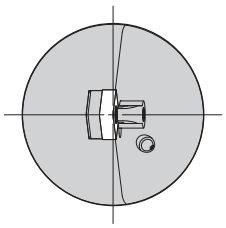
MRGN 0°

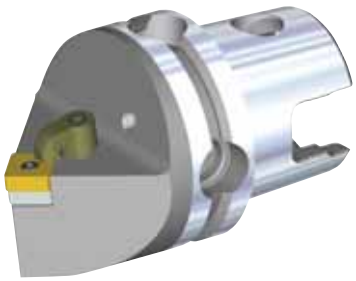


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2265287	KM63TSMRGNR12	60	2.362	43	1.693	100	3.937	RN..120400/RN..43	IRSN43	KLM46	CKM20	STCM11	1,21	2.66
	left hand													
2265288	KM63TSMRGNL12	60	2.362	43	1.693	100	3.937	RN..120400/RN..43	IRSN43	KLM46	CKM20	STCM11	1,21	2.66









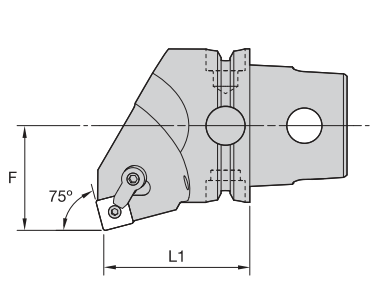
KM QUICK CHANGE

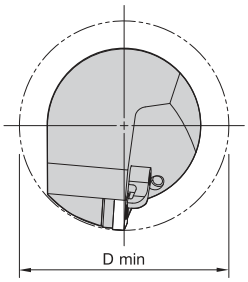
MSDN 45°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
2265289	KM63TSMSDNN12	60	2.362	0	.000	SN..120408/SN..432	ISSN432	KLM46	CKM20	STCM11	0,99	2.18
2265290	KM63TSMSDNN15	60	2.362	0	.000	SN..150612/SN..543	ISSN533	KLM58	CKM20	STCM11	0,99	2.18
2265291	KM63TSMSDNN19	60	2.362	0	.000	SN..190612/SN..643	ISSN633	KLM68	CKM13	STCM8	0,97	2.14



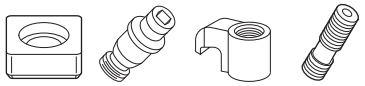






KM QUICK CHANGE

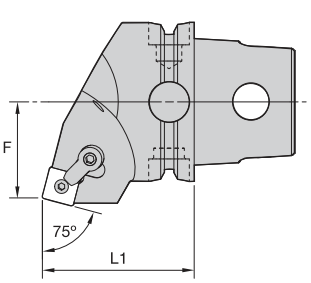
MSKN 75°

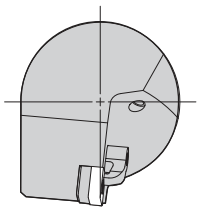


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2265292	KM63TSMSKNR12	60	2.362	43	1.693	86	3.386	SN..120408/SN..432	ISSN432	KLM46	CKM20	STCM11	1,27	2.81
2265294	KM63TSMSKNR19	60	2.362	43	1.693	86	3.386	SN..190612/SN..643	ISSN633	KLM68	CKM13	STCM8	1,35	2.97
	left hand													
2265293	KM63TSMSKNL12	60	2.362	43	1.693	86	3.386	SN..120408/SN..432	ISSN432	KLM46	CKM20	STCM11	1,27	2.81
2265295	KM63TSMSKNL19	60	2.362	43	1.693	86	3.386	SN..190612/SN..643	ISSN633	KLM68	CKM13	STCM8	1,35	2.97



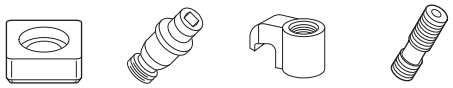
KM QUICK CHANGE







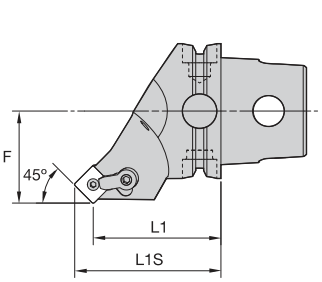
MSRN 75°

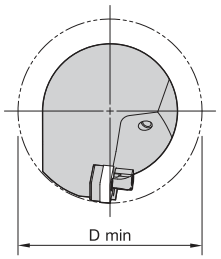


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
2265296	KM63TSMSRNR12	60	2.362	38	1.496	SN..120408/SN..432	ISSN432	KLM46	CKM20	STCM11	1,18	2.61
2265298	KM63TSMSRNR19	60	2.362	38	1.496	SN..190612/SN..643	ISSN633	KLM68	CKM13	STCM8	1,15	2.53
	left hand											
2265297	KM63TSMSRNL12	60	2.362	38	1.496	SN..120408/SN..432	ISSN432	KLM46	CKM20	STCM11	1,19	2.61
2265299	KM63TSMSRNL19	60	2.362	38	1.496	SN..190612/SN..643	ISSN633	KLM68	CKM13	STCM8	1,15	2.53



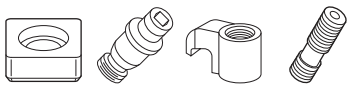
KM QUICK CHANGE







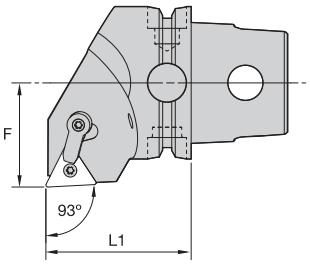
MSSN 45°

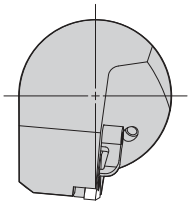


order number	catalog number	L1 mm	L1 in	L1S mm	L1S in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand															
2265300	KM63TSMSSNR12	60	2.362	68,3	2.690	43	1.693	86	3.386	SN..120408/SN..432	ISSN432	KLM46	CKM20	STCM11	1,11	2.45
2265302	KM63TSMSSNR15	60	2.362	70,2	2.765	43	1.693	100	3.937	SN..150612/SN..543	ISSN533	KLM58	CKM20	STCM11	1,10	2.42
2265304	KM63TSMSSNR19	60	2.362	72,5	2.854	43	1.693	100	3.937	SN..190612/SN..643	ISSN633	KLM68	CKM13	STCM8	1,14	2.51
	left hand															
2265301	KM63TSMSSNL12	60	2.362	68,3	2.690	43	1.693	86	3.386	SN..120408/SN..432	ISSN432	KLM46	CKM20	STCM11	1,11	2.45
2265303	KM63TSMSSNL15	60	2.362	70,2	2.765	43	1.693	100	3.937	SN..150612/SN..543	ISSN533	KLM58	CKM20	STCM11	1,10	2.42
2265305	KM63TSMSSNL19	60	2.362	72,5	2.854	43	1.693	100	3.937	SN..190612/SN..643	ISSN633	KLM68	CKM13	STCM8	1,15	2.53



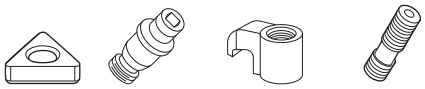








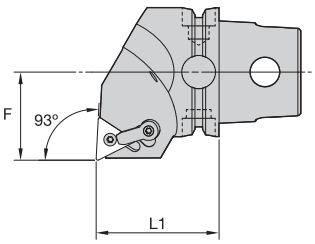
MTJN 93°

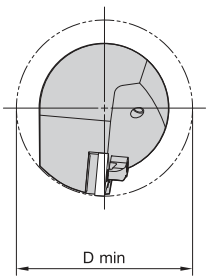


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
2265306	KM63TSMTJNR22	60	2.362	43	1.693	TN..220408/TN..432	ITSN433	KLM46	CKM23	STCM11	1,23	2.72
	left hand											
2265307	KM63TSMTJNL22	60	2.362	43	1.693	TN..220408/TN..432	ITSN433	KLM46	CKM23	STCM11	1,23	2.72



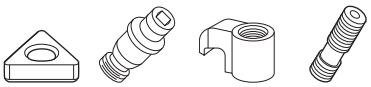








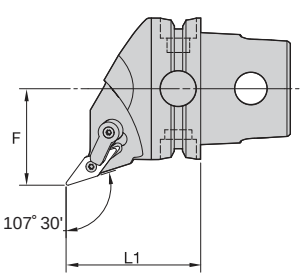
MTUN 93°

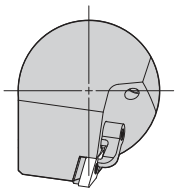


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2265308	KM63TSMTUNR22	60	2.362	43	1.693	86	3.386	TN..220408/TN..432	ITSN433	KLM46	CKM23	STCM11	1,27	2.79
	left hand													
2265309	KM63TSMTUNL22	60	2.362	43	1.693	86	3.386	TN..220408/TN..432	ITSN433	KLM46	CKM23	STCM11	1,27	2.79



KM QUICK CHANGE







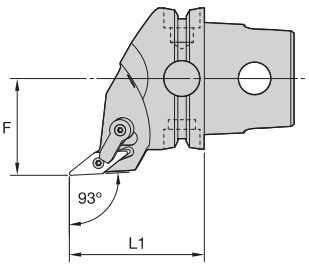
MVHN 107° 30'

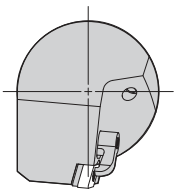


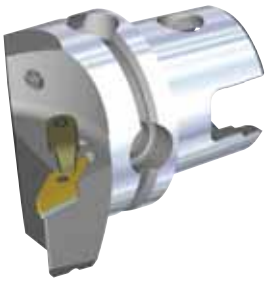
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
2265310	KM63TSMVHNR16	60	2.362	43	1.693	VN..160408/VN..332	IVSN322	KLM34L	CKM23	STCM11	1,07	2.36
	left hand											
2265311	KM63TSMVHNL16	60	2.362	43	1.693	VN..160408/VN..332	IVSN322	KLM34L	CKM23	STCM11	1,07	2.36



KM QUICK CHANGE







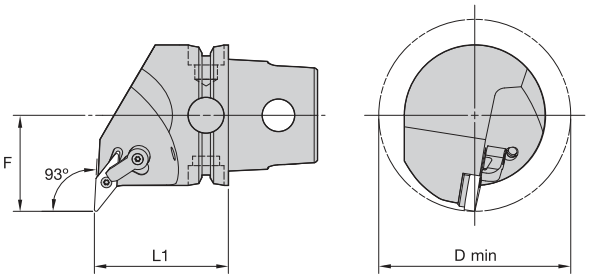
MVJN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
2265312	KM63TSMVJNR16	60	2.362	43	1.693	VN..160408/VN..332	IVSN322	KLM34L	CKM23	STCM11	1,00	2.21
	left hand											
2265313	KM63TSMVJNL16	60	2.362	43	1.693	VN..160408/VN..332	IVSN322	KLM34L	CKM23	STCM11	1,00	2.21

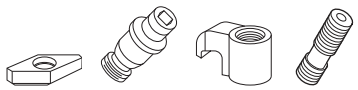


KM QUICK CHANGE





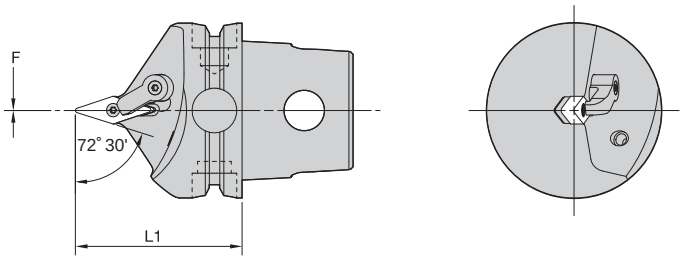
MVUN 93°

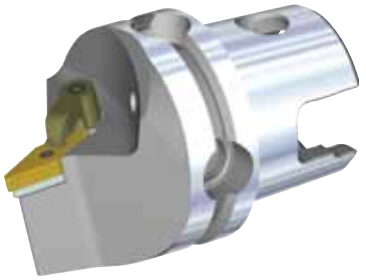


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2265314	KM63TSMVUNR16	60	2.362	43	1.693	86	3.386	VN..160408/VN..332	IVSN322	KLM34L	CKM23	STCM11	1,17	2.58
	left hand													
2265315	KM63TSMVUNL16	60	2.362	43	1.693	86	3.386	VN..160408/VN..332	IVSN322	KLM34L	CKM23	STCM11	1,17	2.59

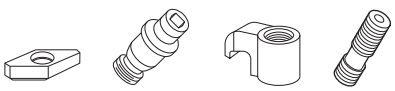


KM QUICK CHANGE



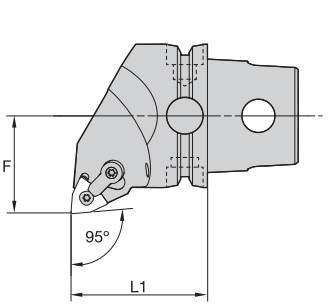


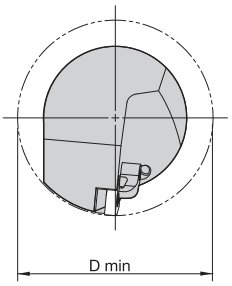
MVVN 72° 30'



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
2265316	KM63TSMVVNN16	60	2.362	0	.000	VN..160408/VN..332	IVSN322	KLM34L	CKM23	STCM11	0,86	1.90



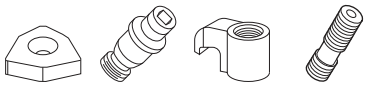






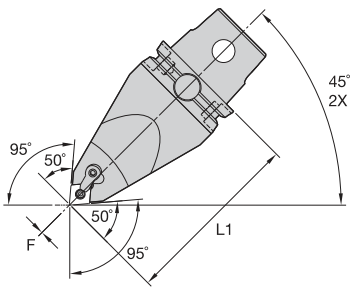
KM QUICK CHANGE

MWLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2265317	**KM63TSMWLNR08**	60	2.362	43	1.693	86	3.386	WN..080408/WN..432	**IWSN433**	**KLM46**	**CKM20**	**STCM11**	1,20	2.65
	left hand													
2265318	**KM63TSMWLNL08**	60	2.362	43	1.693	86	3.386	WN..080408/WN..432	**IWSN433**	**KLM46**	**CKM20**	**STCM11**	1,20	2.65

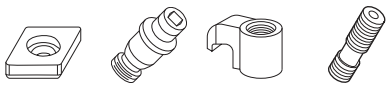




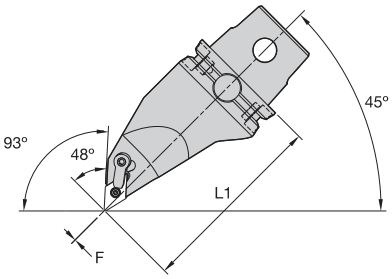


KM QUICK CHANGE

MCMN 50° • 95° Application • Centerline



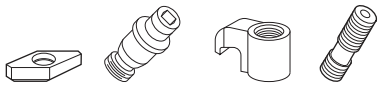
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
3487474	**KM63TSMCMNN12115**	115	4.528	0	.000	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20**	**STCM11**	2,01	4.42



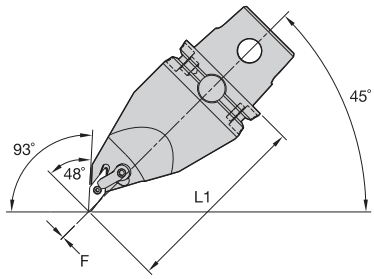


Left-Hand Tool

MDMN 48° • 93° Application • Centerline



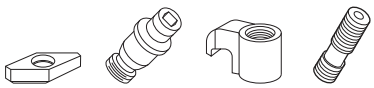
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3487478	**KM63TSMDMNR1504115**	115	4.528	0	.000	DN..150408/DN..432	**IDSN442**	**KLM46L**	**CKM23**	**STCM11**	1,84	4.05
3487479	**KM63TSMDMNR1506115**	115	4.528	0	.000	DN..150608/DN..442	**IDSN442**	**KLM46L**	**CKM23**	**STCM11**	1,83	4.04
	left hand											
3487475	**KM63TSMDMNL1504115**	115	4.528	0	.000	DN..150408/DN..432	**IDSN442**	**KLM46L**	**CKM23**	**STCM11**	1,84	4.05
3487476	**KM63TSMDMNL1506115**	115	4.528	0	.000	DN..150608/DN..442	**IDSN442**	**KLM46L**	**CKM23**	**STCM11**	1,83	4.04



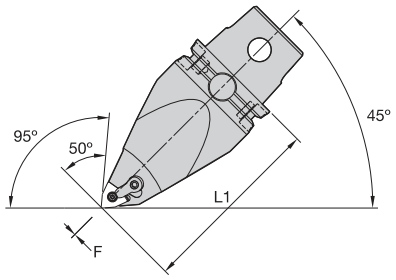


Left-Hand Tool

MVMN 48° • 93° Application • Centerline



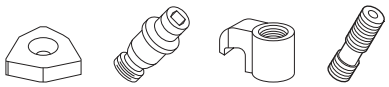
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3487480	**KM63TSMVMNR16115**	115	4.528	0	.000	VN..160408/VN..332	**IVSN322**	**KLM34L**	**CKM23**	**STCM11**	1,93	4.26
	left hand											
3487477	**KM63TSMVMNL16115**	115	4.528	0	.000	VN..160408/VN..332	**IVSN322**	**KLM34L**	**CKM23**	**STCM11**	1,93	4.26



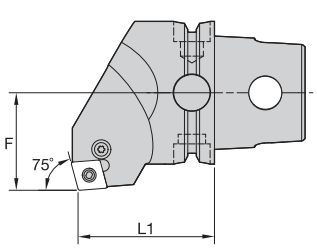


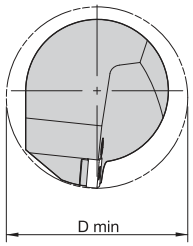
Left-Hand Tool

MWMN 50° • 95° Application • Centerline



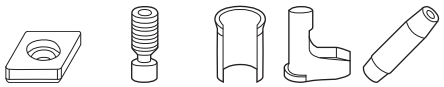
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3487604	KM63TSMWMNR08115	115	4.528	0	.000	WN..080408/WN..432	IWSN433	KLM46	CKM20	STCM11	1,98	4.37
	left hand											
3487603	KM63TSMWMNL08115	115	4.528	0	.000	WN..080408/WN..432	IWSN433	KLM46	CKM20	STCM11	1,98	4.37







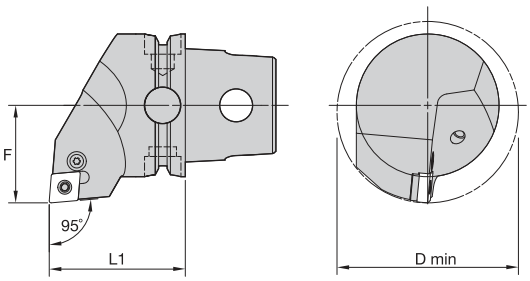
PCKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
2407450	KM63TSPCKNR12	60	2.362	43	1.693	80	3.150	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	1,29	2.84
2407452	KM63TSPCKNR16	60	2.362	43	1.693	80	3.150	CN..160612/CN..543	512.117	514.125	513.025	511.025	515.022	1,32	2.91
2407954	KM63TSPCKNR19	60	2.362	43	1.693	80	3.150	CN..190612/CN..643	512.123	514.133	513.033	511.023	515.022	1,34	2.95
	left hand														
2407451	KM63TSPCKNL12	60	2.362	43	1.693	80	3.150	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	1,29	2.84
2407953	KM63TSPCKNL16	60	2.362	43	1.693	80	3.150	CN..160612/CN..543	512.117	514.125	513.025	511.025	515.022	1,32	2.91
2407955	KM63TSPCKNL19	60	2.362	43	1.693	80	3.150	CN..190612/CN..643	512.123	514.133	513.033	511.033	515.022	1,34	2.95

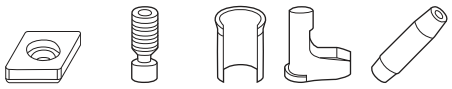






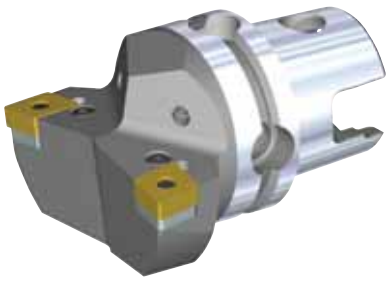
KM QUICK CHANGE

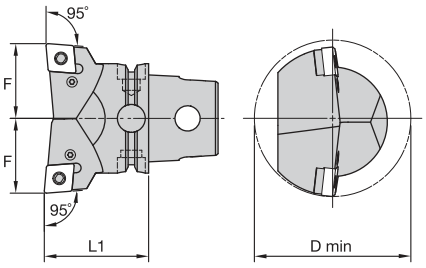
PCLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
2257149	**KM63TSPCLNR12**	60	2.362	43	1.693	80	3.150	CN..120408/CN..432	**512.112**	**514.123**	**513.023**	**511.023**	**515.018**	1,21	2.66
2407957	**KM63TSPCLNR16**	60	2.362	43	1.693	80	3.150	CN..160612/CN..543	**512.117**	**514.125**	**513.025**	**511.025**	**515.022**	1,23	2.71
2407959	**KM63TSPCLNR19**	60	2.362	43	1.693	80	3.150	CN..190612/CN..643	**512.123**	**514.133**	**513.033**	**511.033**	**515.022**	1,23	2.71
	left hand														
2407956	**KM63TSPCLNL12**	60	2.362	43	1.693	80	3.150	CN..120408/CN..432	**512.112**	**514.123**	**513.023**	**511.023**	**515.018**	1,21	2.66
2407958	**KM63TSPCLNL16**	60	2.362	43	1.693	80	3.150	CN..160612/CN..543	**512.117**	**514.125**	**513.025**	**511.025**	**515.022**	1,23	2.71
2407960	**KM63TSPCLNL19**	60	2.362	43	1.693	80	3.150	CN..190612/CN..643	**512.123**	**514.133**	**513.033**	**511.033**	**515.022**	1,23	2.71

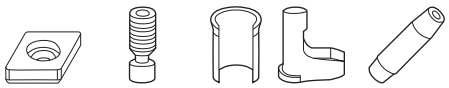






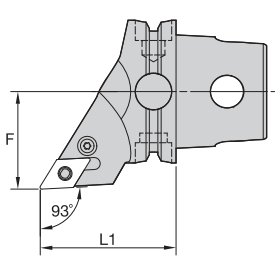
KM QUICK CHANGE

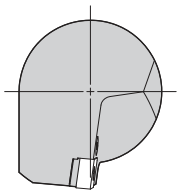
PCLN-2W 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
2408003	**KM63TSPCLNR162W**	60	2.362	43	1.693	90	3.543	CN..160612/CN..543	**512.117**	**514.125**	**513.025**	**511.025**	**515.022**	1,35	2.97
	left hand														
2408004	**KM63TSPCLNL162W**	60	2.362	43	1.693	90	3.543	CN..160612/CN..543	**512.117**	**514.125**	**513.025**	**511.025**	**515.022**	1,35	2.98



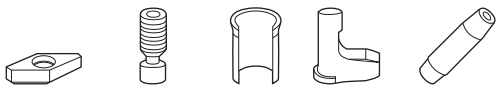






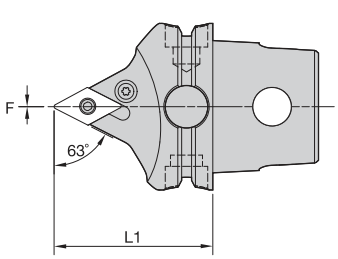
KM QUICK CHANGE

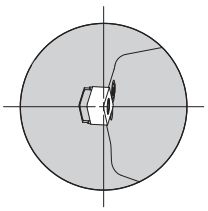
PDJN 93°

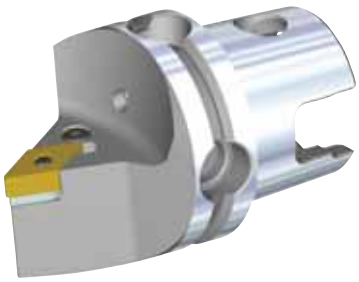


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
2407969	KM63TSPDJNR11	60	2.362	43	1.693	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,95	2.10
2407971	KM63TSPDJNR15	60	2.362	43	1.693	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,94	2.08
	left hand												
2407970	KM63TSPDJNL11	60	2.362	43	1.693	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,97	2.14
2407972	KM63TSPDJNL15	60	2.362	43	1.693	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,94	2.08



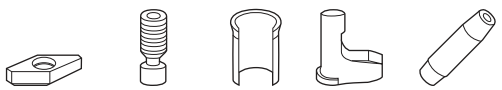






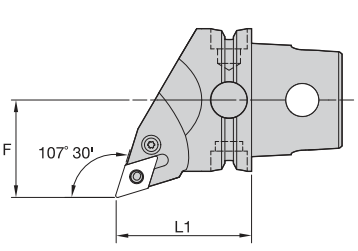
KM QUICK CHANGE

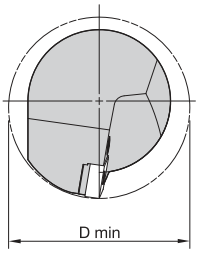
PDNN 63°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
2407973	KM63TSPDNNR11	60	2.362	0	.000	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,91	2.01
2407975	KM63TSPDNNR15	60	2.362	0	.000	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,84	1.86
	left hand												
2407974	KM63TSPDNNL11	60	2.362	0	.000	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	0,91	2.01
2407976	KM63TSPDNNL15	60	2.362	0	.000	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	0,85	1.86



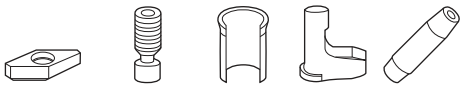






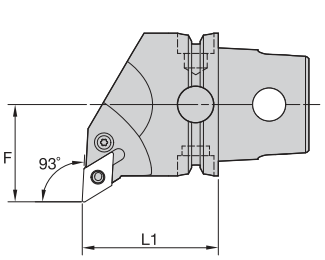
KM QUICK CHANGE

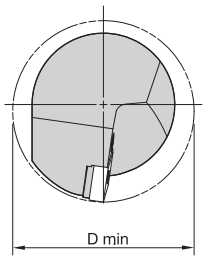
PDQN 107° 30'



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
2407977	KM63TSPDQNR11	60	2.362	43	1.693	80	3.150	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	1,11	2.45
2407979	KM63TSPDQNR15	60	2.362	43	1.693	80	3.150	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	1,08	2.38
	left hand														
2407978	KM63TSPDQNL11	60	2.362	43	1.693	80	3.150	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	1,11	2.45
2407980	KM63TSPDQNL15	60	2.362	43	1.693	80	3.150	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	1,08	2.38



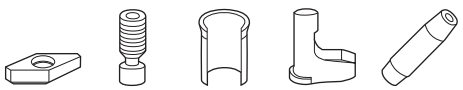






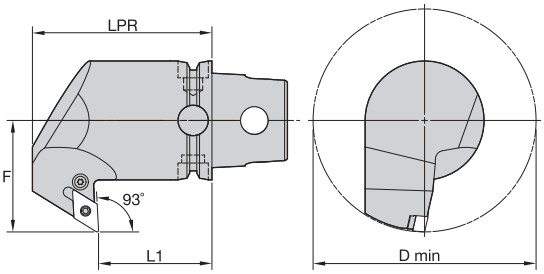
KM QUICK CHANGE

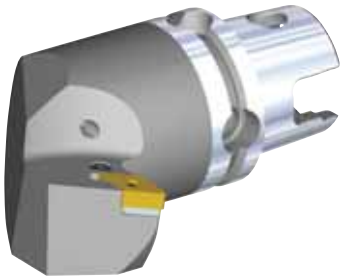
PDUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
2407981	KM63TSPDUNR11	60	2.362	43	1.693	80	3.150	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	1,19	2.62
2407983	KM63TSPDUNR15	60	2.362	43	1.693	80	3.150	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	1,23	2.71
	left hand														
2407982	KM63TSPDUNL11	60	2.362	43	1.693	80	3.150	DN..110408/DN..332	512.060	514.118	513.060	511.060	515.018	1,19	2.63
2407984	KM63TSPDUNL15	60	2.362	43	1.693	80	3.150	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	1,23	2.71

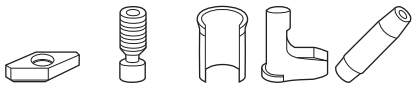






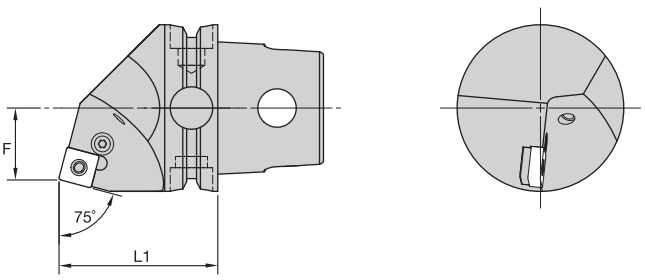
KM QUICK CHANGE

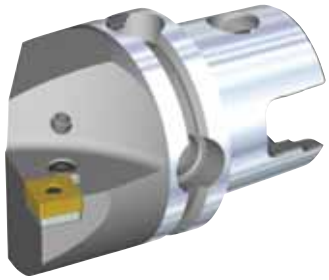
PDXN 93°



order number	catalog number	L1 mm	L1 in	LPR mm	LPR in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand																
2407992	KM63TSPDXNR15	60	2.362	95	3.740	59	2.323	118	4.646	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	2,21	4.85
	left hand																
2407993	KM63TSPDXNL15	60	2.362	95	3.740	59	2.323	118	4.646	DN..150608/DN..442	512.153	514.128	513.023	511.024	515.018	2,21	4.85

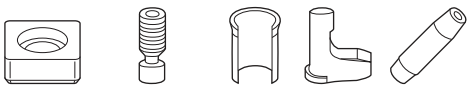






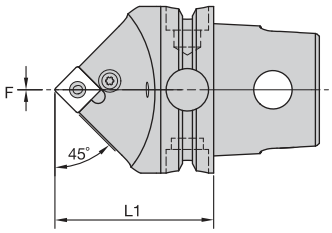
KM QUICK CHANGE

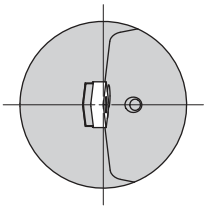
PSBN 75°

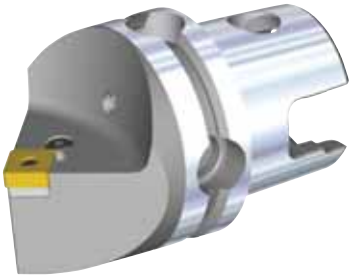


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
2407994	KM63TSPSBNR12	60	2.362	27	1.063	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018	1,15	2.54
2407996	KM63TSPSBNR15	60	2.362	27	1.063	SN..150612/SN..543	512.025	514.125	513.025	511.025	515.022	1,11	2.45
2407998	KM63TSPSBNR19	60	2.362	27	1.063	SN..190612/SN..643	512.083	514.133	513.033	511.033	515.022	1,10	2.42
	left hand												
2407995	KM63TSPSBNL12	60	2.362	27	1.063	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018	1,10	2.42
2407997	KM63TSPSBNL15	60	2.362	27	1.063	SN..150612/SN..543	512.025	514.125	513.025	511.025	515.022	1,10	2.42
2407999	KM63TSPSBNL19	60	2.362	27	1.063	SN..190612/SN..643	512.083	514.133	513.033	511.033	515.022	1,10	2.42



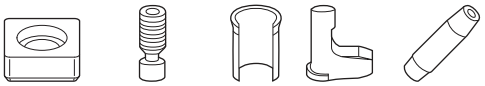






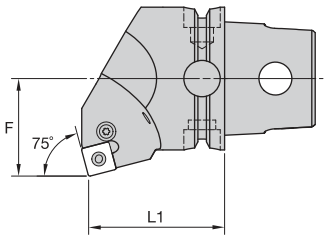
KM QUICK CHANGE

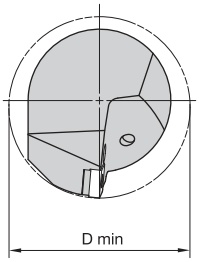
PSDN 45°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
2408000	KM63TSPSDNN12	60	2.362	0	.000	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018	0,98	2.16
2408001	KM63TSPSDNN15	60	2.362	0	.000	SN..150612/SN..543	512.025	514.125	513.025	511.025	515.022	1,01	2.23
2408002	KM63TSPSDNN19	60	2.362	0	.000	SN..190612/SN..643	512.083	514.133	513.033	511.033	515.022	0,94	2.06









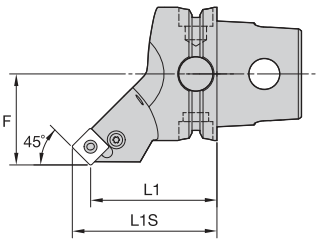
KM QUICK CHANGE

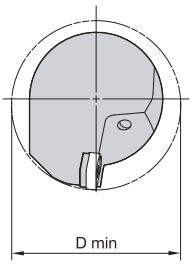
PSKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
2408005	KM63TSPSKNR12	60	2.362	43	1.693	80	3.150	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018	1,36	3.01
2408007	KM63TSPSKNR15	60	2.362	43	1.693	80	3.150	SN..150612/SN..543	512.025	514.125	513.025	511.025	515.022	1,39	3.06
2408009	KM63TSPSKNR19	60	2.362	43	1.693	80	3.150	SN..190612/SN..643	512.083	514.133	513.033	511.033	515.022	1,34	2.95
	left hand														
2408006	KM63TSPSKNL12	60	2.362	43	1.693	80	3.150	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018	1,36	3.00
2408008	KM63TSPSKNL15	60	2.362	43	1.693	80	3.150	SN..150612/SN..543	512.025	514.125	513.025	511.025	515.022	1,39	3.06
2408010	KM63TSPSKNL19	60	2.362	43	1.693	80	3.150	SN..190612/SN..643	512.083	514.133	513.033	511.033	515.022	1,34	2.95



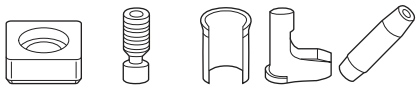






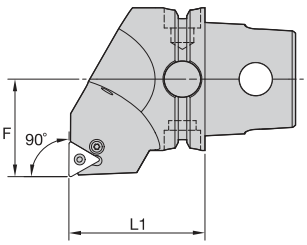
KM QUICK CHANGE

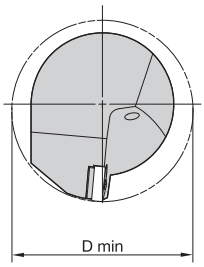
PSSN 45°



order number	catalog number	L1 mm	L1 in	L1S mm	L1S in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand																
2408011	KM63TSPSSNR12	60	2.362	68,3	2.690	43	1.693	80	3.150	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018	1,06	2.33
2408013	KM63TSPSSNR15	60	2.362	70,2	2.765	43	1.693	100	3.937	SN..150612/SN..543	512.025	514.125	513.025	511.025	515.022	1,05	2.32
2408015	KM63TSPSSNR19	60	2.362	72,5	2.854	43	1.693	100	3.937	SN..190612/SN..643	512.083	514.133	513.033	511.033	515.022	1,13	2.50
	left hand																
2408012	KM63TSPSSNL12	60	2.362	68,3	2.690	43	1.693	80	3.150	SN..120408/SN..432	512.063	514.123	513.023	511.023	515.018	1,06	2.33
2408016	KM63TSPSSNL19	60	2.362	72,5	2.854	43	1.693	100	3.937	SN..190612/SN..643	512.083	514.133	513.033	511.033	515.022	1,13	2.50



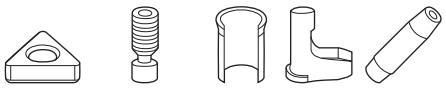






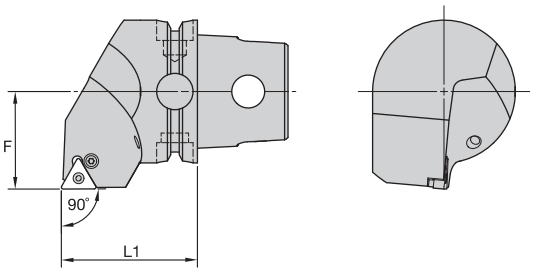
KM QUICK CHANGE

PTFN 90°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
2408017	KM63TSPTFNR16	60	2.362	43	1.693	80	3.150	TN..160408/TN..332	512.013	514.118	513.018	511.018	515.018	1,26	2.77
	left hand														
2408018	KM63TSPTFNL16	60	2.362	43	1.693	80	3.150	TN..160408/TN..332	512.013	514.118	513.018	511.018	515.018	1,30	2.86
2408022	KM63TSPTFNL27	60	2.362	43	1.693	80	3.150	TN..270612/SN..543	512.031	514.128	513.025	511.028	515.022	1,27	2.81

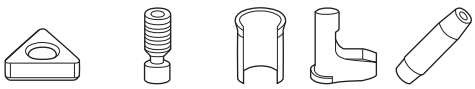






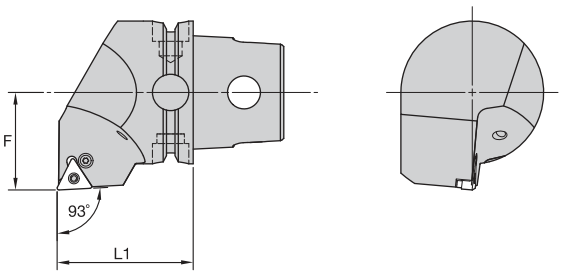
KM QUICK CHANGE

PTGN 90°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
2408023	KM63TSPTGNR16	60	2.362	43	1.693	TN..160408/TN..332	512.013	514.118	513.018	511.018	515.018	1,30	2.87
2408025	KM63TSPTGNR22	60	2.362	43	1.693	TN..220408/TN..432	512.023	514.123	513.023	511.023	515.018	1,27	2.80
2408027	KM63TSPTGNR27	60	2.362	43	1.693	TN..270612/TN..543	512.031	514.128	513.025	511.028	515.022	1,27	2.80
	left hand												
2408024	KM63TSPTGNL16	60	2.362	43	1.693	TN..160408/TN..332	512.013	514.118	513.018	511.018	515.018	1,28	2.82
2408026	KM63TSPTGNL22	60	2.362	43	1.693	TN..220408/TN..432	512.013	514.123	513.023	511.023	515.018	1,28	2.82
2408028	KM63TSPTGNL27	60	2.362	43	1.693	TN..270612/TN..543	512.031	514.128	513.025	511.028	515.022	1,27	2.80

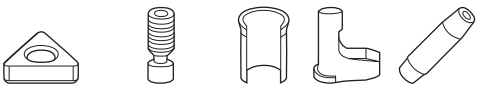






KM QUICK CHANGE

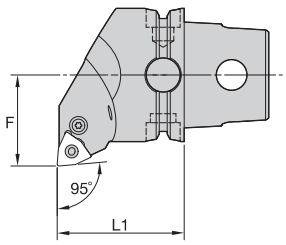
PTJN 93°

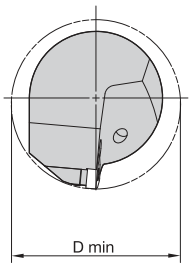


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
2408029	KM63TSPTJNR16	60	2.362	43	1.693	TN..160408/TN..332	512.013	514.118	513.018	511.018	515.018	1,33	2.92
2408031	KM63TSPTJNR22	60	2.362	43	1.693	TN..220408/TN..432	512.023	514.123	513.023	511.023	515.018	1,30	2.86
2408033	KM63TSPTJNR27	60	2.362	43	1.693	TN..270612/TN..543	512.031	514.128	513.025	511.028	515.022	1,26	2.71
	left hand												
2408030	KM63TSPTJNL16	60	2.362	43	1.693	TN..160408/TN..332	512.013	514.118	513.018	511.018	515.018	1,22	2.68
2408032	KM63TSPTJNL22	60	2.362	43	1.693	TN..220408/TN..432	512.023	514.123	513.023	511.023	515.018	1,30	2.86
2408034	KM63TSPTJNL27	60	2.362	43	1.693	TN..270612/TN..543	512.031	514.128	513.025	511.028	515.022	1,26	2.71



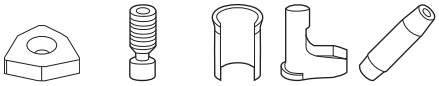
KM QUICK CHANGE







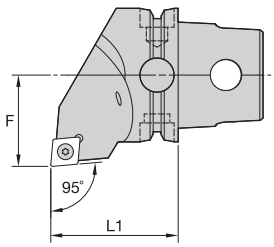
PWLN 95°

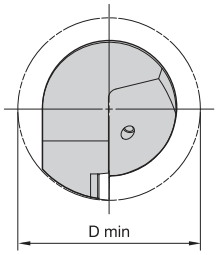


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
2408035	KM63TSPWLNR06	60	2.362	43	1.693	80	3.150	WN..060408/WN..332	512.134	514.118	513.018	511.018	515.018	1,33	2.94
2408037	KM63TSPWLNR08	60	2.362	43	1.693	80	3.150	WN..080408/WN..432	512.135	514.123	513.023	511.023	515.018	1,24	2.74
	left hand														
2408036	KM63TSPWLNL06	60	2.362	43	1.693	80	3.150	WN..060408/WN..332	512.134	514.118	513.018	511.018	515.018	1,33	2.94
2408038	KM63TSPWLNL08	60	2.362	43	1.693	80	3.150	WN..080408/WN..432	512.135	514.123	513.023	511.023	515.018	1,24	2.74



KM QUICK CHANGE





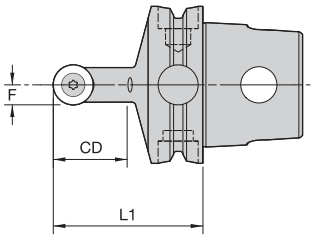


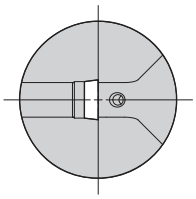
SCLC 95°

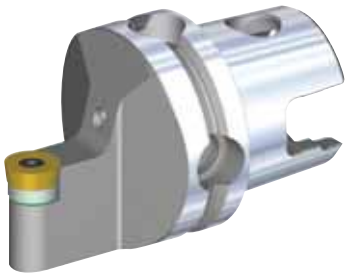


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand												
2414906	KM63TSSCLCR12	60	2.362	43	1.693	86	3.386	CC..120408/CC..432	MS1158	SKCP453	SRS4	1,14	2.52
	left hand												
2414907	KM63TSSCLCL12	60	2.362	43	1.693	86	3.386	CC..120408/CC..432	MS1158	SKCP453	SRS4	1,14	2.52









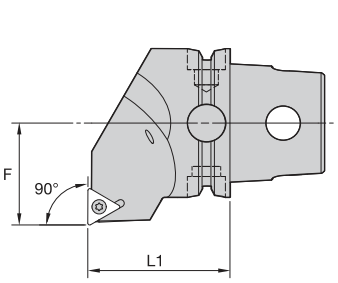
KM QUICK CHANGE

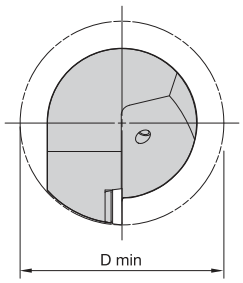
SRDC 0°



order number	catalog number	L1 mm	L1 in	F mm	F in	CD mm	CD in	gage insert	insert screw	shim	shim screw	kg	lbs
2414896	KM63TSSRDCN16	60	2.362	8	.315	33	1.299	RC..1605M0	MS1160	SKRN160400	SRS5	0,84	1.84









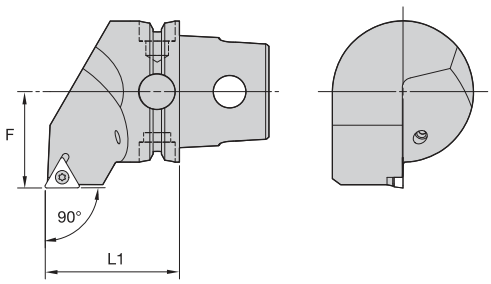
KM QUICK CHANGE

STFC 90°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	insert screw	shim	shim screw	kg	lbs
2414899	right hand KM63TSSTFCR16	60	2.362	43	1.693	86	3.386	TC..16T308/TC..3252	MS1156	SKTP343	SRS3	1,23	2.72
2414900	left hand KM63TSSTFCL16	60	2.362	43	1.693	86	3.386	TC..16T308/TC..3252	MS1156	SKTP343	SRS3	1,23	2.72







KM QUICK CHANGE

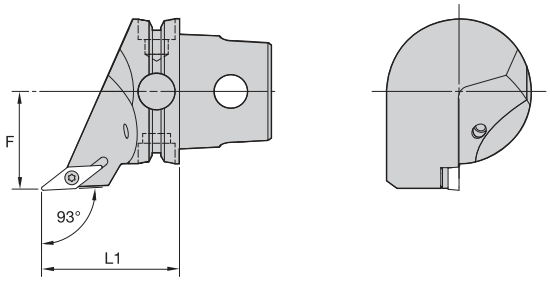
STGC 90°





order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand										
2414903	KM63TSSTGCR16	60	2.362	43	1.693	TC..16T308/TC..3252	MS1156	SKTP343	SRS3	1,22	2.69
	left hand										
2414904	KM63TSSTGCL16	60	2.362	43	1.693	TC..16T308/TC..3252	MS1156	SKTP343	SRS3	1,22	2.69







KM QUICK CHANGE

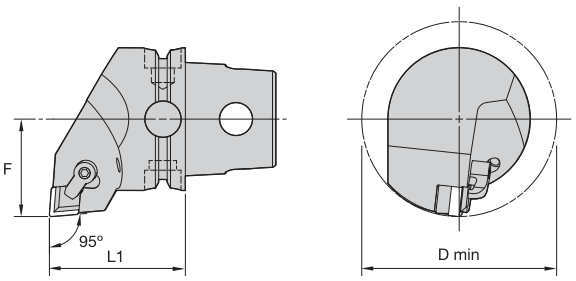
SVJB 93°





order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand										
2414905	KM63TSSVJBR16	60	2.362	43	1.693	VB..160408/VB..332	MS1156	SKVN343	SRS3	0,92	2.02
	left hand										
2257151	KM63TSSVJBL16	60	2.362	43	1.693	VB..160408/VB..332	MS1156	SKVN343	SRS3	0,92	2.02

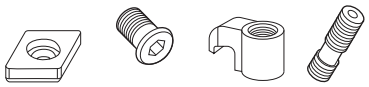






KM QUICK CHANGE

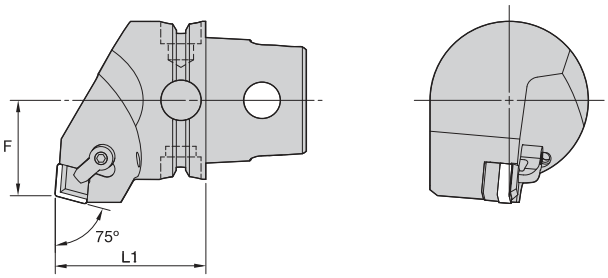
CCLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	clamp	clamp screw	kg	lbs
	right hand													
3065821	KM63TSCCLNR12	60	2.362	43	1.693	86	3.386	CN..120408/CN.432	ICSN442	KMS4	CKM20	STCM11	1,23	2.70
3065883	KM63TSCCLNR16	60	2.362	43	1.693	86	3.386	CN..160612/CN.543	ICSN533	KMS5	CKM20	STCM11	1,21	2.68
	left hand													
3065820	KM63TSCCLNL12	60	2.362	43	1.693	86	3.386	CN..120408/CN.432	ICSN442	KMS4	CKM20	STCM11	1,23	2.71
3065822	KM63TSCCLNL16	60	2.362	43	1.693	86	3.386	CN..160612/CN.543	ICSN533	KMS5	CKM20	STCM11	1,21	2.68

NOTE: Chipbreakers must be ordered separately. See the Kennametal Innovations Master Catalog Cutting Tools 2013.







KM QUICK CHANGE

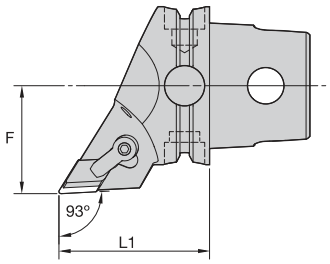
CCRN 75°

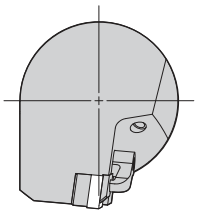


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	shim screw	clamp	clamp screw	kg	lbs
	right hand											
3065884	KM63TSCCRNR12	60	2.362	38	1.496	CN..120408/CN.432	ICSN442	KMS4	CKM20	STCM11	1,22	2.70
	left hand											
3065885	KM63TSCCRNL12	60	2.362	38	1.496	CN..120408/CN.432	ICSN442	KMS4	CKM20	STCM11	1,22	2.70
3065886	KM63TSCCRNL16	60	2.362	38	1.496	CN..160612/CN.543	ICSN533	KMS5	CKM20	STCM11	1,22	2.69

NOTE: Chipbreakers must be ordered separately. See the Kennametal Innovations Master Catalog Cutting Tools 2013.



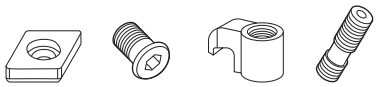






KM QUICK CHANGE

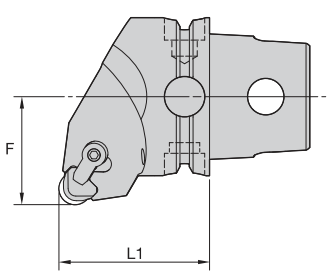
CDJN 93°

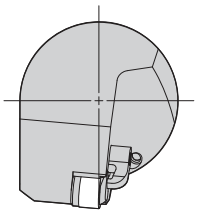


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	shim screw	clamp	clamp screw	kg	lbs
	right hand											
3065887	KM63TSCDJNR1504	60	2.362	43	1.693	DN..150408/DN.432	IDSN442	KMS4	CKM23	STCM11	1,01	2.22
	left hand											
3065888	KM63TSCDJNL1504	60	2.362	43	1.693	DN..150408/DN.432	IDSN442	KMS4	CKM23	STCM11	1,01	2.22

NOTE: Chipbreakers must be ordered separately. See the Kennametal Innovations Master Catalog Cutting Tools 2013.



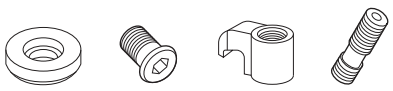






KM QUICK CHANGE

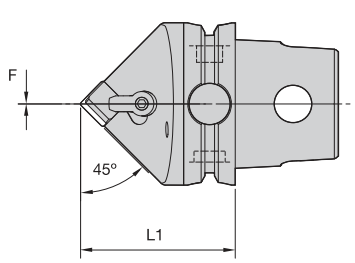
CRGN 0°

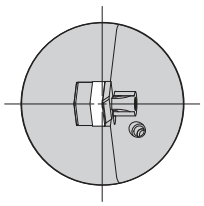


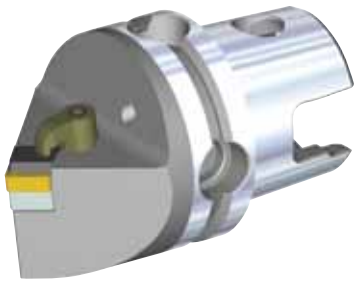
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	shim screw	clamp	clamp screw	kg	lbs
	right hand											
3065900	KM63TSCRGNR12	60	2.362	43	1.693	RN..1207/RN.45	IRSN42	KMS4	CKM20	STCM11	1,23	2.72
	left hand											
3065899	KM63TSCRGNL12	60	2.362	43	1.693	RN..1207/RN.45	IRSN42	KMS4	CKM20	STCM11	1,23	2.72

NOTE: Chipbreakers must be ordered separately. See the Kennametal Innovations Master Catalog Cutting Tools 2013.



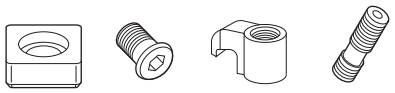






KM QUICK CHANGE

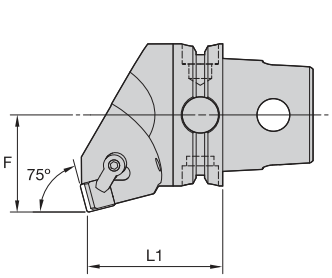
CSDN 45°

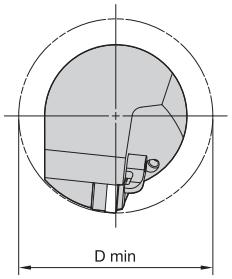


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	shim screw	clamp	clamp screw	kg	lbs
	left hand											
3065889	KM63TSCSDNN12	60	2.362	0	.000	SN..120408/SN.432	ISSN442	KMS4	CKM20	STCM11	1,01	2.23
3065890	KM63TSCSDNN15	60	2.362	0	.000	SN..150612/SN.543	ISSN533	KMS5	CKM20	STCM11	1,01	2.22

NOTE: Chipbreakers must be ordered separately. See the Kennametal Innovations Master Catalog Cutting Tools 2013.



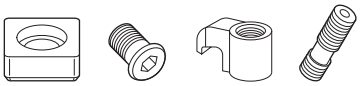






KM QUICK CHANGE

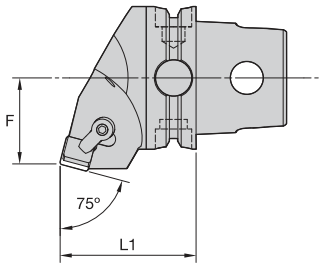
CSKN 75°

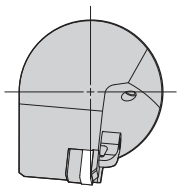


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	clamp	clamp screw	kg	lbs
	right hand													
3065895	KM63TSCSKNR12	60	2.362	43	1.693	86	3.386	SN..120408/SN.432	ISSN442	KMS4	CKM20	STCM11	1,32	2.91
	left hand													
3065896	KM63TSCSKNL12	60	2.362	43	1.693	86	3.386	SN..120408/SN.432	ISSN442	KMS4	CKM20	STCM11	1,32	2.91

NOTE: Chipbreakers must be ordered separately. See the Kennametal Innovations Master Catalog Cutting Tools 2013.









KM QUICK CHANGE

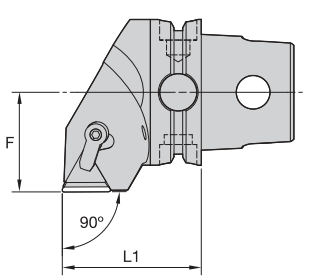
CSRN 75°

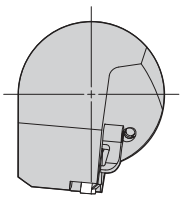


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	shim screw	clamp	clamp screw	kg	lbs
	right hand											
3065891	**KM63TSCSRNR12**	60	2.362	38	1.496	SN..120408/SN.432	**ISSN442**	**KMS4**	**CKM20**	**STCM11**	1,20	2.64
3065893	**KM63TSCSRNR15**	60	2.362	38	1.496	SN..150612/SN.543	**ISSN533**	**KMS5**	**CKM20**	**STCM11**	1,19	2.63
	left hand											
3065892	**KM63TSCSRNL12**	60	2.362	38	1.496	SN..120408/SN.432	**ISSN442**	**KMS4**	**CKM20**	**STCM11**	1,20	2.64
3065894	**KM63TSCSRNL15**	60	2.362	38	1.496	SN..150612/SN.543	**ISSN533**	**KMS5**	**CKM20**	**STCM11**	1,19	2.63

NOTE: Chipbreakers must be ordered separately. See the Kennametal Innovations Master Catalog Cutting Tools 2013.









KM QUICK CHANGE

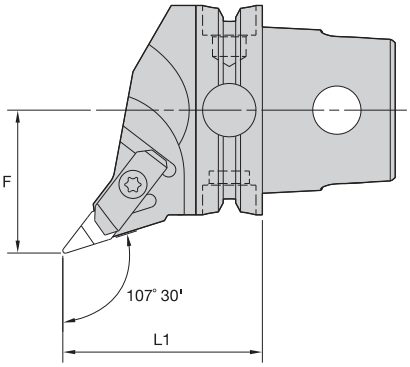
CTGN 90°

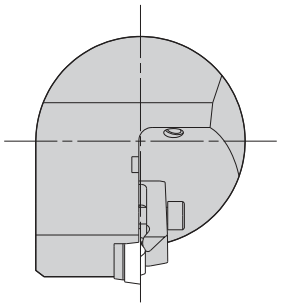


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	shim screw	clamp	clamp screw	kg	lbs
	right hand											
3065897	**KM63TSCTGNR22**	60	2.362	43	1.693	TN..220408/TN.432	**ITSN433**	**KMS4**	**CKM23**	**STCM11**	1,25	2.75
	left hand											
3065898	**KM63TSCTGNL22**	60	2.362	43	1.693	TN..220408/TN.432	**ITSN433**	**KMS4**	**CKM23**	**STCM11**	1,24	2.73

NOTE: Chipbreakers must be ordered separately. See the Kennametal Innovations Master Catalog Cutting Tools 2013.









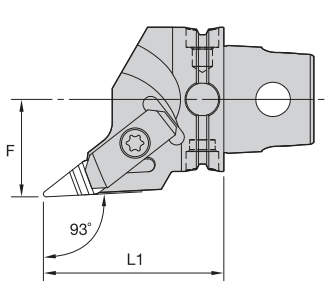
KM QUICK CHANGE

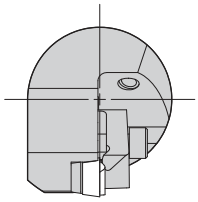
NVHC 107° 30' Metric

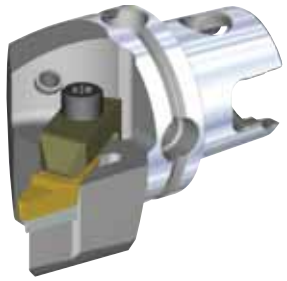
order number	catalog number	F mm	F in	L1 mm	L1 in	gage insert	kg	lbs
	right hand							
2265319	KM63TSNVHCR16	43	1.693	60	2.362	VCGR160408/VPGR332	1,05	2.31
	left hand							
2265320	KM63TSNVHCL16	43	1.693	60	2.362	VCGR160408/VPGR332	1,05	2.31

Spare Parts

catalog number	 shim	 shim screw	 clamp	 clamp screw
right hand KM63TSNVHCR16	SM812	MS959	CM113	MS1489
left hand KM63TSNVHCL16	SM812	MS959	CM114	MS1489







KM QUICK CHANGE

NVJC 93°

order number	catalog number	F mm	F in	L1 mm	L1 in	gage insert	kg	lbs
	right hand							
2265321	KM63TSNVJCR16	43	1.693	60	2.362	VCGR160408/VPGR332	0,94	2.07
	left hand							
2265322	KM63TSNVJCL16	43	1.693	60	2.362	VCGR160408/VPGR332	0,94	2.07

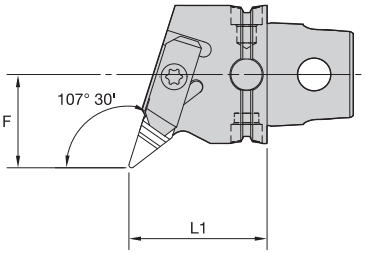
Spare Parts

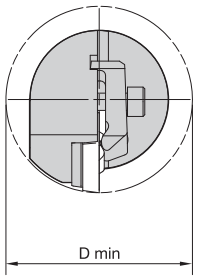


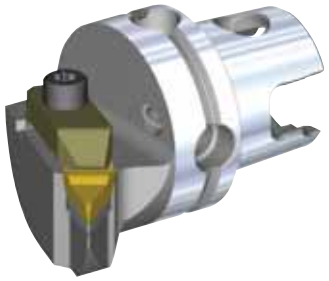



catalog number	shim	shim screw	clamp	clamp screw
right hand				
KM63TSNVJCR16	SM812	MS959	CM113	MS1489
left hand				
KM63TSNVJCL16	SM812	MS959	CM114	MS1489









KM QUICK CHANGE

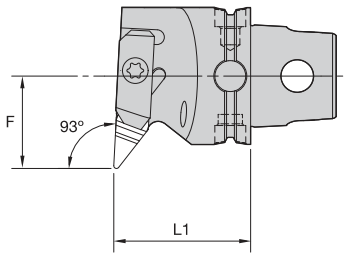
NVQC 107° 30'

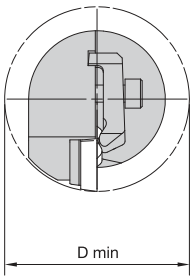
order number	catalog number	D min mm	D min in	F mm	F in	L1 mm	L1 in	gage insert	kg	lbs
	right hand									
2265323	KM63TSNVQCR16	86	3.39	43	1.693	60	2.362	VCGR160408/VPGR332	1,10	2.42
	left hand									
2265324	KM63TSNVQCL16	86	3.39	43	1.693	60	2.362	VCGR160408/VPGR332	1,10	2.42

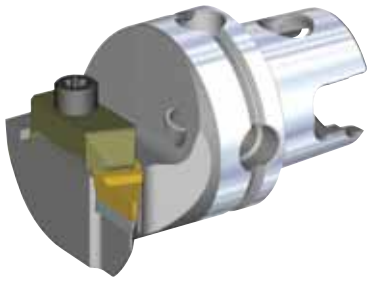
Spare Parts

				
catalog number	shim	shim screw	clamp	clamp screw
right hand KM63TSNVQCR16	SM812	MS959	CM113	MS1489
left hand KM63TSNVQCL16	SM812	MS959	CM114	MS1489









KM QUICK CHANGE

NVUC 93°

order number	catalog number	D min mm	D min in	F mm	F in	L1 mm	L1 in	gage insert	kg	lbs
	right hand									
2265325	KM63TSNVUCR16	86	3.39	43	1.693	60	2.362	VCGR160408/VPGR332	1,28	2.83
	left hand									
2265326	KM63TSNVUCL16	86	3.39	43	1.693	60	2.362	VCGR160408/VPGR332	1,28	2.83

Spare Parts

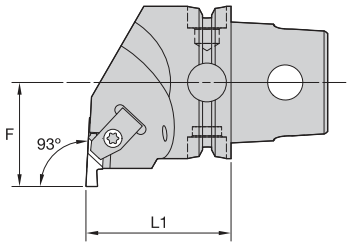


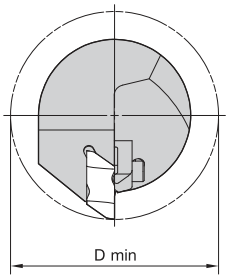


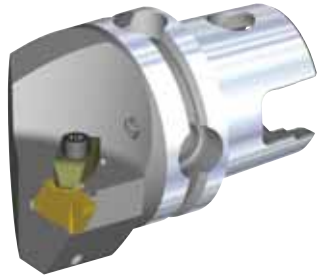

catalog number	shim	shim screw	clamp	clamp screw
right hand				
KM63TSNVUCR16	SM812	MS959	CM113	MS1489
left hand				
KM63TSNVUCL16	SM812	MS959	CM114	MS1489



KM QUICK CHANGE







NE 93°

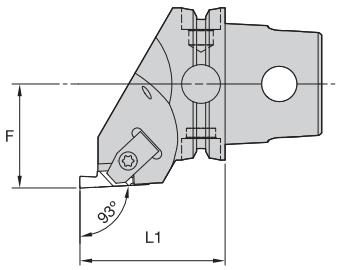


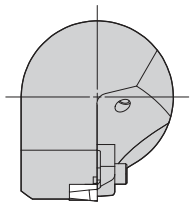


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamp screw	kg	lbs
	right hand											
2265406	**KM63TSNER3**	60	2.362	43	1.693	86	3.386	NG3L	**CM73**	**MS1489**	1,19	2.63
2265408	**KM63TSNER4**	60	2.362	43	1.693	86	3.386	NG4L	**CM73**	**MS1489**	1,21	2.66
2265410	**KM63TSNER5**	60	2.362	43	1.693	86	3.386	NG5L	**CM81**	**MS1490**	1,15	2.55
	left hand											
2265407	**KM63TSNEL3**	60	2.362	43	1.693	86	3.386	NG3R	**CM72**	**MS1489**	1,19	2.63
2265409	**KM63TSNEL4**	60	2.362	43	1.693	86	3.386	NG4R	**CM72**	**MS1489**	1,21	2.66
2265411	**KM63TSNEL5**	60	2.362	43	1.693	86	3.386	NG5R	**CM80**	**MS1490**	1,18	2.60



KM QUICK CHANGE







NS 93°

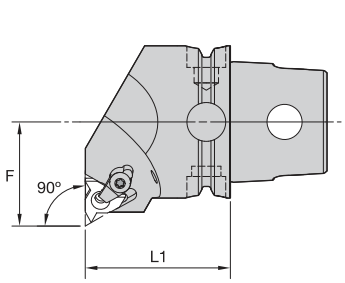


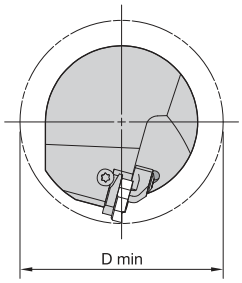


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	clamp	clamp screw	kg	lbs
	right hand									
2265412	**KM63TSNSR3**	60	2.362	43	1.693	NG3R	**CM72**	**MS1489**	1,02	2.26
2265414	**KM63TSNSR4**	60	2.362	43	1.693	NG4R	**CM72**	**MS1489**	1,06	2.34
	left hand									
2265413	**KM63TSNSL3**	60	2.362	43	1.693	NG3L	**CM73**	**MS1489**	1,02	2.26
2265415	**KM63TSNSL4**	60	2.362	43	1.693	NG4L	**CM73**	**MS1489**	1,06	2.34



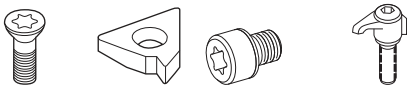
KM QUICK CHANGE







LSE-N 90° • Internal Only

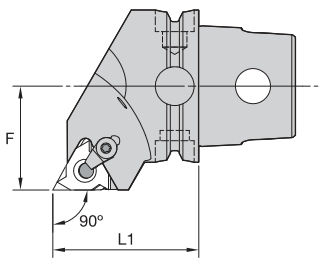


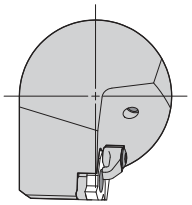
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	insert screw	shim	shim screw	clamp assembly	kg	lbs
	right hand													
2265416	**KM63TSLSER16N**	60	2.362	43	1.693	86	3.386	LT16NR	**SSA3T**	**SMYI3**	**SSY3T**	**CKC3**	1,34	2.96
2265418	**KM63TSLSER22N**	60	2.362	43	1.693	86	3.386	LT22NR	**SSA4T**	**SMYI4**	**SSY4T**	**CKC4**	1,32	2.92
3959387	**KM63TSLSER27N**	60	2.362	43	1.693	86	3.386	LT27NR	**SSA5T**	**SMYI5**	**SSY5T**	**CKC5**	1,38	3.05
	left hand													
2265417	**KM63TSLSEL16N**	60	2.362	43	1.693	86	3.386	LT16NL	**SSA3T**	**SMYE3**	**SSY3T**	**CKC3**	1,34	2.96
2265419	**KM63TSLSEL22N**	60	2.362	43	1.693	86	3.386	LT22NL	**SSA4T**	**SMYE4**	**SSY4T**	**CKC4**	1,32	2.92
3959386	**KM63TSLSEL27N**	60	2.362	43	1.693	86	3.386	LT27NL	**SSA5T**	**SMYE5**	**SSY5T**	**CKC5**	1,36	3.00

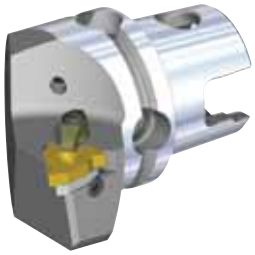
NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.



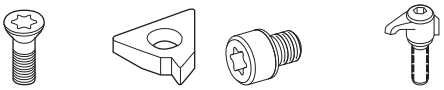
KM QUICK CHANGE







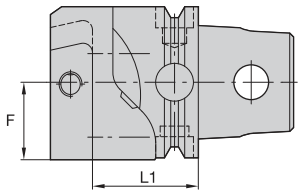
LSS 90°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	clamp assembly	kg	lbs
	right hand											
2265420	**KM63TSLSSR16**	60	2.362	43	1.693	LT16ER	**SSA3T**	**SMYE3**	**SSY3T**	**CKC3**	1,21	2.68
2265422	**KM63TSLSSR22**	60	2.362	43	1.693	LT22ER	**SSA4T**	**SMYE4**	**SSY4T**	**CKC4**	1,20	2.64
3959389	**KM63TSLSSR27**	60	2.362	43	1.693	LT27ER	**SSA5T**	**SMYE5**	**SSY5T**	**CKC5**	1,19	2.61
	left hand											
2265421	**KM63TSLSSL16**	60	2.362	43	1.693	LT16EL	**SSA3T**	**SMYI3**	**SSY3T**	**CKC3**	1,21	2.66
2265423	**KM63TSLSSL22**	60	2.362	43	1.693	LT22EL	**SSA4T**	**SMYI4**	**SSY4T**	**CKC4**	1,20	2.64
3959388	**KM63TSLSSL27**	60	2.362	43	1.693	LT27EL	**SSA5T**	**SMYI5**	**SSY5T**	**CKC5**	1,19	2.62

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.







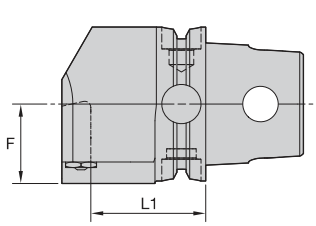
KGME • End Mount

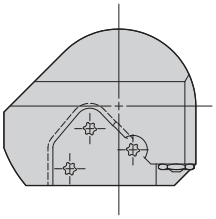




order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	clamp screw	nozzle	kg
	right hand									
2265404	KM63TSKGMER50	48	1.89	32,5	1.280	50	MS1162	MS2002	–	1,21
	left hand									
2265405	KM63TSKGMEL50	48	1.89	32,5	1.280	50	MS1162	MS2002	–	1,21

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use left-hand blades.







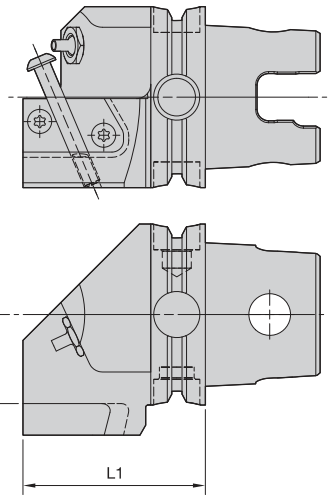
KGME • End Mount




order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	nozzle	kg
	right hand								
3590205	KM63TSKGMER65	47	1.85	32,5	1.280	65	MS1163	PMT04525	1,68
	left hand								
3590206	KM63TSKGMEL65	47	1.85	32,5	1.280	65	MS1163	PMT04525	1,68

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use left-hand blades.







KM QUICK CHANGE

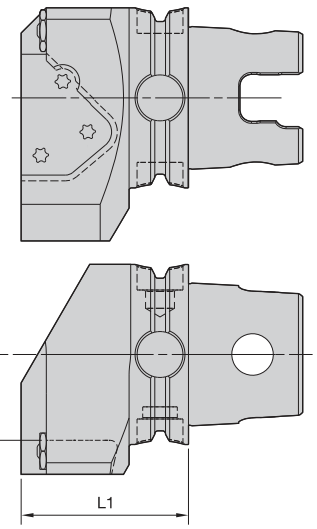
KGMS • Side Mount





order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	nozzle	clamp screw	kg
	right hand									
2255824	KM63TSKGMSR50	63,5	2.500	31	1.221	50	MS1162	PMT04510	MS2002	1,34
	left hand									
2255543	KM63TSKGMSL50	63,5	2.500	31	1.221	50	MS1162	PMT04510	MS2002	1,34

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use right-hand blades.



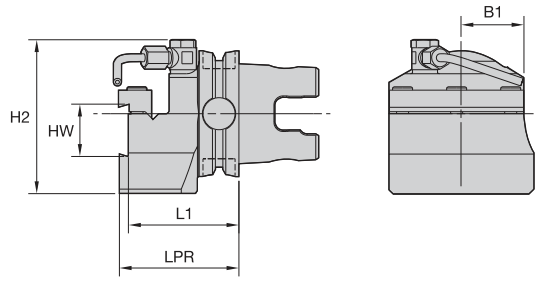


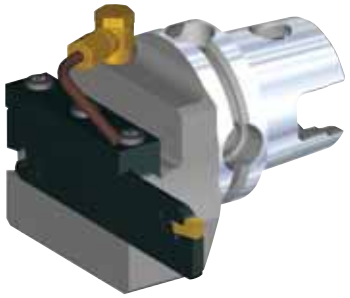
KGMS • Side Mount




order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	nozzle	kg
	right hand								
3590203	KM63TSKGMSR65	58,5	2.303	30	1.181	65	MS1163	PMT04525	1,74
	left hand								
3590204	KM63TSKGMSL65	58,5	2.303	30	1.181	65	MS1163	PMT04525	1,74

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use right-hand blades.





KM QUICK CHANGE

BE • End Mount

order number	catalog number	L1 mm	L1 in	LPR mm	LPR in	H2 mm	H2 in	HW mm	HW in	B1 mm	B1 in	cartridge size	cartridge 1	kg
	right hand													
2265372	KM63TSBER4	55,3	2.177	59,8	2.354	63	2.48	26	1.024	31,5	1.240	26	A2BN..26...	1,68
	left hand													
2265393	KM63TSBEL4	55,3	2.177	59,8	2.354	63	2.48	26	1.024	31,5	1.240	26	A2BNSN26...	1,68

Spare Parts



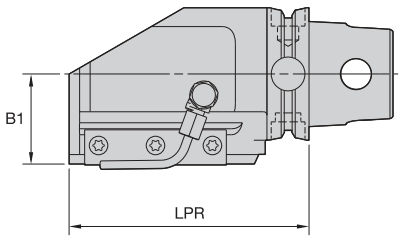


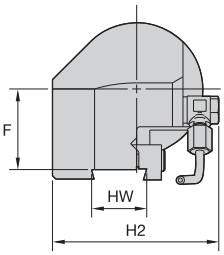

catalog number	clamp	clamp screw	coolant tube	coolant swivel base
right hand KM63TSBER4	CGS4	MS1595	12649910900	12649910800
left hand KM63TSBEL4	CGS4	MS1595	12649910900	12649910800

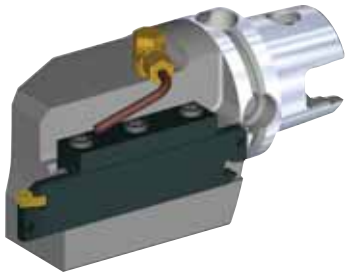
NOTE: Blades are ordered seperately. See the Kennametal Innovations Master Catalog Cutting Tools 2013.



KM QUICK CHANGE







BS • Side Mount

order number	catalog number	B1 mm	B1 in	LPR mm	LPR in	F mm	F in	H2 mm	H2 in	HW mm	HW in	cartridge size	cartridge 1	kg
	right hand													
2265394	KM63TSBSR4	42,80	1.685	114,00	4.488	38,30	1.508	79,00	3.110	26,00	1.024	26	A2BNSN26...	3,00
2265396	KM63TSBSR5	42,80	1.685	134,55	5.297	37,30	1.469	84,00	3.307	32,00	1.260	32	A2BNSN32...	3,73
	left hand													
2265395	KM63TSBSL4	42,80	1.685	114,00	4.488	38,30	1.508	79,00	3.110	26,00	1.024	26	A2BNSN26...	3,00
2265397	KM63TSBSL5	42,80	1.685	134,55	5.299	37,30	1.469	84,00	3.307	32,00	1.260	32	A2BNSN32...	3,73

Spare Parts






catalog number	clamp	clamp screw	coolant tube	coolant swivel base
right hand				
KM63TSBSR4	CGS4	MS1595	12649910900	12649910800
KM63TSBSR5	CGS5	MS1595	12649910900	12649910800
left hand				
KM63TSBSL4	CGS4	MS1595	12649910900	12649910800
KM63TSBSL5	CGS5	MS1595	12649910900	12649910800

NOTE: Blades are ordered seperately. See the Kennametal Innovations Master Catalog Cutting Tools 2013.



The Kennametal Solution

Kennametal Global Engineered Solutions. Coordinated global resources with world-class manufacturing, process development, and implementation capabilities.

No matter how small or large your project.

- Whether it's a single tailored tool or the development of a comprehensive manufacturing process, Kennametal's team can manage the development, personnel training, and successful implementation of the complete solution.

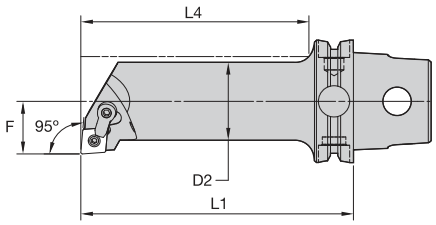
Regardless of where you're located, Kennametal is everywhere you are.

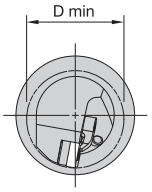
- With Kennametal's team, you receive globally coordinated manufacturing, process development, implementation, and optimisation support and key alliances with machine tool builders and other leading technology manufacturers that ensure a complete solution.

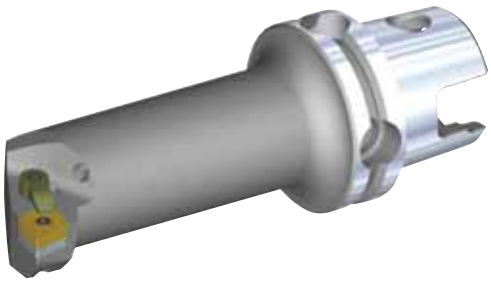
Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®







KM QUICK CHANGE

MCLN 95°

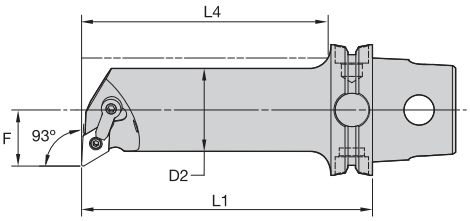
order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
2265329	KM63TSS25FMCLNR12	25	.98	32	1.26	17	.669	50	1.99	80	3.150	CN..120408/CN..432	0,90	1.99
2265327	KM63TSS25KMCLNR12	25	.98	32	1.26	17	.669	88	3.47	125	4.921	CN..120408/CN..432	1,14	2.52
2265343	KM63TSS32GMCLNR12	32	1.26	40	1.57	22	.866	62	2.44	90	3.543	CN..120408/CN..432	1,05	2.32
2265331	KM63TSS32LMCLNR12	32	1.26	40	1.57	22	.866	112	4.41	140	5.512	CN..120408/CN..432	1,37	3.01
2265347	KM63TSS40HMCLNR12	40	1.57	50	1.97	27	1.063	77	3.04	100	3.937	CN..120408/CN..432	1,30	2.87
2265345	KM63TSS40LMCLNR12	40	1.57	50	1.97	27	1.063	117	4.61	140	5.512	CN..120408/CN..432	1,69	3.72
2265351	KM63TSS50KMCLNR12	50	1.97	63	2.48	35	1.378	104	4.11	125	4.921	CN..120408/CN..432	1,99	4.40
2265349	KM63TSS50PMCLNR12	50	1.97	63	2.48	35	1.378	149	5.88	170	6.693	CN..120408/CN..432	2,68	5.91
	left hand													
2265330	KM63TSS25FMCLNL12	25	.98	32	1.26	17	.669	50	1.99	80	3.150	CN..120408/CN..432	0,90	1.99
2265328	KM63TSS25KMCLNL12	25	.98	32	1.26	17	.669	88	3.47	125	4.921	CN..120408/CN..432	1,14	2.52
2265344	KM63TSS32GMCLNL12	32	1.26	40	1.57	22	.866	62	2.44	90	3.543	CN..120408/CN..432	1,06	2.34
2265332	KM63TSS32LMCLNL12	32	1.26	40	1.57	22	.866	112	4.41	140	5.512	CN..120408/CN..432	1,37	3.01
2265348	KM63TSS40HMCLNL12	40	1.57	50	1.97	27	1.063	77	3.04	100	3.937	CN..120408/CN..432	1,33	2.93
2265346	KM63TSS40LMCLNL12	40	1.57	50	1.97	27	1.063	117	4.61	140	5.512	CN..120408/CN..432	1,69	3.72
2265352	KM63TSS50KMCLNL12	50	1.97	63	2.48	35	1.378	104	4.11	125	4.921	CN..120408/CN..432	2,01	4.43
2265350	KM63TSS50PMCLNL12	50	1.97	63	2.48	35	1.378	149	5.88	170	6.693	CN..120408/CN..432	2,68	5.91

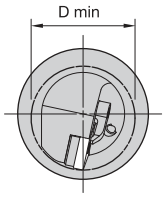
(continued)

(MCLN 95° continued)

Spare Parts

catalog number	 shim	 lock pin	 clamp	 clamp screw
right hand				
KM63TSS25FMCLNR12	–	KLM43	CKM20LP	STCM11
KM63TSS25KMCLNR12	–	KLM43	CKM20LP	STCM11
KM63TSS32GMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
KM63TSS32LMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
KM63TSS40HMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
KM63TSS40LMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
KM63TSS50KMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
KM63TSS50PMCLNR12	ICSN432	KLM46	CKM20LP	STCM11
left hand				
KM63TSS25FMCLNL12	–	KLM43	CKM20LP	STCM11
KM63TSS25KMCLNL12	–	KLM43	CKM20LP	STCM11
KM63TSS32GMCLNL12	ICSN432	KLM46	CKM20LP	STCM11
KM63TSS32LMCLNL12	ICSN432	KLM46	CKM20LP	STCM11
KM63TSS40HMCLNL12	ICSN432	KLM46	CKM20LP	STCM11
KM63TSS40LMCLNL12	ICSN432	KLM46	CKM20LP	STCM11
KM63TSS50KMCLNL12	ICSN432	KLM46	CKM20LP	STCM11
KM63TSS50PMCLNL12	ICSN432	KLM46	CKM20LP	STCM11







KM QUICK CHANGE

MDUN 93°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
2265355	**KM63TSS25FMDUNR15**	25	.98	32	1.26	17	.669	45	1.99	80	3.150	DN..150408/DN..432	0,95	2.09
2265353	**KM63TSS25KMDUNR15**	25	.98	32	1.26	17	.669	88	3.47	125	4.921	DN..150408/DN..432	1,13	2.50
2265359	**KM63TSS32GMDUNR15**	32	1.26	40	1.57	22	.866	62	2.44	90	3.543	DN..150408/DN..432	1,05	2.30
2265357	**KM63TSS32LMDUNR15**	32	1.26	40	1.57	22	.866	112	4.41	140	5.512	DN..150408/DN..432	1,36	2.99
2265363	**KM63TSS40HMDUNR15**	40	1.57	50	1.97	27	1.063	77	3.04	100	3.937	DN..150408/DN..432	1,31	2.89
2265361	**KM63TSS40LMDUNR15**	40	1.57	50	1.97	27	1.063	117	4.61	140	5.512	DN..150408/DN..432	1,69	3.73
2265367	**KM63TSS50KMDUNR15**	50	1.97	63	2.48	35	1.378	104	4.11	125	4.921	DN..150408/DN..432	1,97	4.34
2265365	**KM63TSS50PMDUNR15**	50	1.97	63	2.48	35	1.378	149	5.88	170	6.693	DN..150408/DN..432	2,63	5.80
	left hand													
2265356	**KM63TSS25FMDUNL15**	25	.98	32	1.26	17	.669	45	1.99	80	3.150	DN..150408/DN..432	0,94	2.08
2265354	**KM63TSS25KMDUNL15**	25	.98	32	1.26	17	.669	88	3.47	125	4.921	DN..150408/DN..432	1,13	2.50
2265360	**KM63TSS32GMDUNL15**	32	1.26	40	1.57	22	.866	62	2.44	90	3.543	DN..150408/DN..432	1,05	2.30
2265358	**KM63TSS32LMDUNL15**	32	1.26	40	1.57	22	.866	112	4.41	140	5.512	DN..150408/DN..432	1,36	2.99
2265364	**KM63TSS40HMDUNL15**	40	1.57	50	1.97	27	1.063	77	3.04	100	3.937	DN..150408/DN..432	1,32	2.90
2265362	**KM63TSS40LMDUNL15**	40	1.57	50	1.97	27	1.063	117	4.61	140	5.512	DN..150408/DN..432	1,70	3.74
2265368	**KM63TSS50KMDUNL15**	50	1.97	63	2.48	35	1.378	104	4.11	125	4.921	DN..150408/DN..432	1,97	4.34
2265366	**KM63TSS50PMDUNL15**	50	1.97	63	2.48	35	1.378	149	5.88	170	6.693	DN..150408/DN..432	2,63	5.80

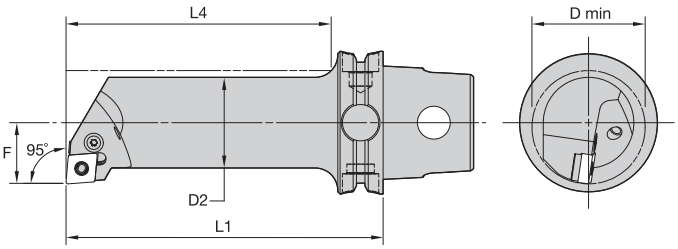
(continued)

(MDUN 93° continued)

Spare Parts

catalog number	 shim	 lock pin	 clamp	 clamp screw
right hand				
KM63TSS25FMDUNR15	–	KLM43	CKM20LP	STCM11
KM63TSS25KMDUNR15	–	KLM43	CKM20LP	STCM11
KM63TSS32GMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
KM63TSS32LMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
KM63TSS40HMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
KM63TSS40LMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
KM63TSS50KMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
KM63TSS50PMDUNR15	IDSN432	KLM46	CKM23LP	STCM11
left hand				
KM63TSS25FMDUNL15	–	KLM43	CKM20LP	STCM11
KM63TSS25KMDUNL15	–	KLM43	CKM20LP	STCM11
KM63TSS32GMDUNL15	IDSN432	KLM46	CKM23LP	STCM11
KM63TSS32LMDUNL15	IDSN432	KLM46	CKM23LP	STCM11
KM63TSS40HMDUNL15	IDSN432	KLM46	CKM23LP	STCM11
KM63TSS40LMDUNL15	IDSN432	KLM46	CKM23LP	STCM11
KM63TSS50KMDUNL15	IDSN432	KLM46	CKM23LP	STCM11
KM63TSS50PMDUNL15	IDSN432	KLM46	CKM23LP	STCM11







KM QUICK CHANGE

PCLN 95°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
2407961	**KM63TSS25KPDUNR11**	25	.98	32	1.26	17	.669	88	3.47	125	4.921	CN..120408/CN..432	1,11	2.45
2407963	**KM63TSS32LPCLNR12**	32	1.26	40	1.57	22	.866	112	4.41	140	5.512	CN..120408/CN..432	1,36	3.00
2407965	**KM63TSS40LPCLNR12**	40	1.57	50	1.97	27	1.063	117	4.61	140	5.512	CN..120408/CN..432	1,68	3.70
2407967	**KM63TSS50PPCLNR12**	50	1.97	63	2.48	35	1.378	149	5.88	170	6.693	CN..120408/CN..432	2,67	5.89
	left hand													
2407962	**KM63TSS25KPDUNL11**	25	.98	32	1.26	17	.669	88	3.47	125	4.921	CN..120408/CN..432	1,13	2.50
2407964	**KM63TSS32LPCLNL12**	32	1.26	40	1.57	22	.866	112	4.41	140	5.512	CN..120408/CN..432	1,36	3.00
2407966	**KM63TSS32LPDUNR15**	40	1.57	50	1.97	27	1.063	117	4.61	140	5.512	CN..120408/CN..432	1,68	3.70
2407968	**KM63TSS32LPDUNL15**	50	1.97	63	2.48	35	1.378	149	5.88	170	6.693	CN..120408/CN..432	2,67	5.89

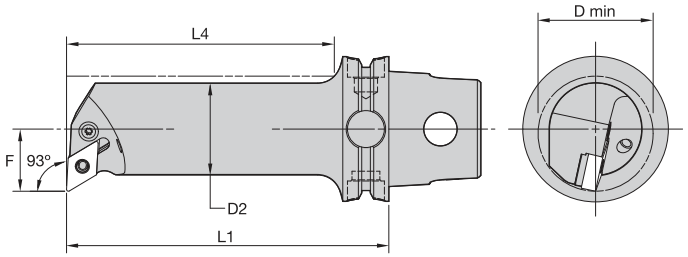
Spare Parts

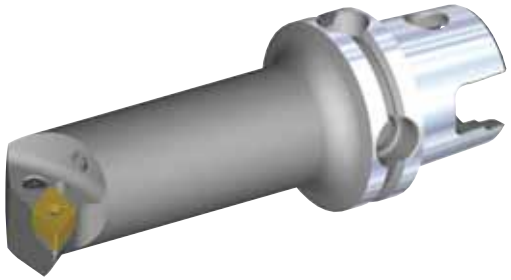






catalog number	shim	lever screw	shim pin	toggle lever	punch
right hand					
KM63TSS32LPCLNR12	**512.112**	**514.123**	**513.023**	**511.023**	**515.018**
KM63TSS50PPCLNR12	**512.112**	**514.123**	**513.023**	**511.023**	**515.018**
KM63TSS25KPDUNR11	**–**	**514.122**	**–**	**511.022**	**–**
KM63TSS40LPCLNR12	**512.112**	**514.123**	**513.023**	**511.023**	**515.018**
left hand					
KM63TSS32LPCLNL12	**512.112**	**514.123**	**513.023**	**511.023**	**515.018**
KM63TSS25KPDUNL11	**–**	**514.122**	**–**	**511.022**	**–**
KM63TSS32LPDUNR15	**512.112**	**514.123**	**513.023**	**511.023**	**515.018**
KM63TSS32LPDUNL15	**512.112**	**514.123**	**513.023**	**511.023**	**515.018**





KM QUICK CHANGE

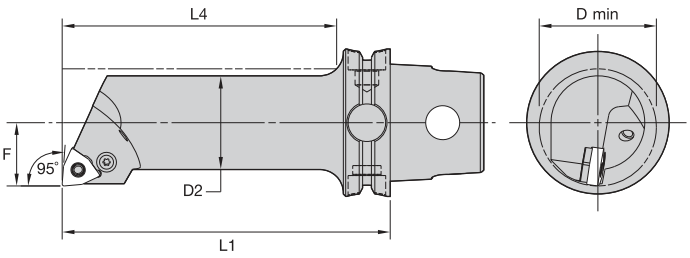
PDUN 93°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
2407985	**KM63TSS25KPDUNR11**	25	.98	32	1.26	17	.669	89	3.49	125	4.921	DN..110408/DN..332	1,06	2.340
2407986	**KM63TSS32LPDUNR15**	32	1.26	40	1.57	22	.866	112	4.41	140	5.512	DN..150608/DN..442	1,35	2.980
2407988	**KM63TSS40LPDUNR15**	40	1.57	50	1.97	27	1.063	117	4.62	140	5.512	DN..150608/DN..442	1,70	3.750
2407990	**KM63TSS50PPDUNR15**	50	1.97	63	2.48	35	1.378	149	5.87	170	6.693	DN..150608/DN..442	2,73	6.030
	left hand													
2257147	**KM63TSS25KPDUNL11**	25	.98	32	1.26	17	.669	89	3.49	125	4.921	DN..110408/DN..332	1,06	2.340
2407987	**KM63TSS32LPDUNL15**	32	1.26	40	1.57	22	.866	112	4.41	140	5.512	DN..150608/DN..442	1,35	2.970
2407989	**KM63TSS40LPDUNL15**	40	1.57	50	1.97	27	1.063	113	4.46	140	5.512	DN..150608/DN..442	1,70	3.750
2407991	**KM63TSS50PPDUNL15**	50	1.97	63	2.48	35	1.378	149	5.88	170	6.693	DN..150608/DN..442	2,73	6.030

Spare Parts

catalog number	shim	lever screw	shim pin	toggle lever	punch
right hand					
KM63TSS25KPDUNR11	**–**	**514.112**	**–**	**511.015**	**–**
KM63TSS32LPDUNR15	**512.153**	**514.128**	**513.023**	**511.024**	**515.018**
KM63TSS40LPDUNR15	**512.153**	**514.128**	**513.023**	**511.024**	**515.018**
KM63TSS50PPDUNR15	**512.153**	**514.128**	**513.023**	**511.024**	**515.018**
left hand					
KM63TSS25KPDUNL11	**–**	**514.112**	**–**	**511.015**	**–**
KM63TSS32LPDUNL15	**512.153**	**514.128**	**513.023**	**511.024**	**515.018**
KM63TSS40LPDUNL15	**512.153**	**514.128**	**513.023**	**511.024**	**515.018**
KM63TSS50PPDUNL15	**512.153**	**514.128**	**513.023**	**511.024**	**515.018**







KM QUICK CHANGE

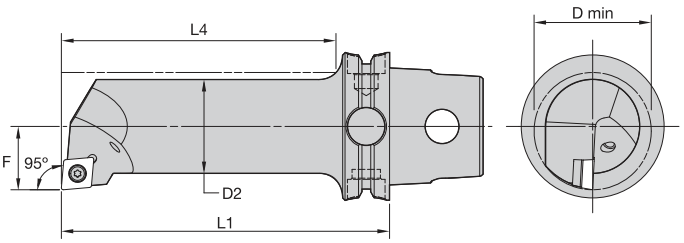
PWLN 95°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
2408039	**KM63TSS25KPWLNR08**	25	.98	32	1.26	17	.669	88	3.47	125	4.921	WN..080408/WN..432	1,14	2.52
2408041	**KM63TSS32LPWLNR08**	32	1.26	40	1.57	22	.866	112	4.41	140	5.512	WN..080408/WN..432	1,36	2.99
2408043	**KM63TSS40LPWLNR08**	40	1.57	50	1.97	27	1.063	117	4.61	140	5.512	WN..080408/WN..432	1,67	3.67
2408045	**KM63TSS50PPWLNR08**	50	1.97	63	2.48	35	1.378	149	5.88	170	6.693	WN..080408/WN..432	2,62	5.77
	left hand													
2408040	**KM63TSS25KPWLNL08**	25	.98	32	1.26	17	.669	88	3.47	125	4.921	WN..080408/WN..432	1,13	2.48
2408042	**KM63TSS32LPWLNL08**	32	1.26	40	1.57	22	.866	112	4.41	140	5.512	WN..080408/WN..432	1,36	2.99
2408044	**KM63TSS40LPWLNL08**	40	1.57	50	1.97	27	1.063	117	4.61	140	5.512	WN..080408/WN..432	1,67	3.67
2408046	**KM63TSS50PPWLNL08**	50	1.97	63	2.48	35	1.378	149	5.88	170	6.693	WN..080408/WN..432	2,61	5.75

Spare Parts

catalog number	shim	lever lock screw	shim pin	toggle lever	punch
right hand					
KM63TSS25KPWLNR08	–	514.122	–	511.022	–
KM63TSS32LPWLNR08	512.135	514.123	513.023	511.023	515.018
KM63TSS40LPWLNR08	512.135	514.123	513.023	511.023	515.018
KM63TSS50PPWLNR08	512.135	514.123	513.023	511.023	515.018
left hand					
KM63TSS25KPWLNL08	–	514.122	–	511.022	–
KM63TSS32LPWLNL08	512.135	514.123	513.023	511.023	515.018
KM63TSS40LPWLNL08	512.135	514.123	513.023	511.023	515.018
KM63TSS50PPWLNL08	512.135	514.123	513.023	511.023	515.018

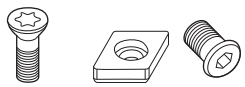






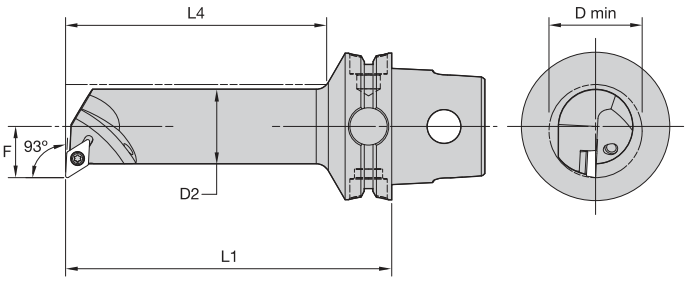
KM QUICK CHANGE

SCLC 95°



order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand																
2414908	KM63TSS40LSCLCR12	40	1.57	50	1.97	27	1.063	117	4.612	140	5.512	CC..120408/CC..432	MS1158	SKCP453	SRS4	1,71	3.76
	left hand																
2414909	KM63TSS40LSCLCL12	40	1.57	50	1.97	27	1.063	117	4.612	140	5.512	CC..120408/CC..432	MS1158	SKCP453	SRS4	1,70	3.76

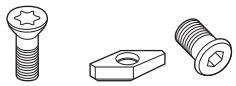






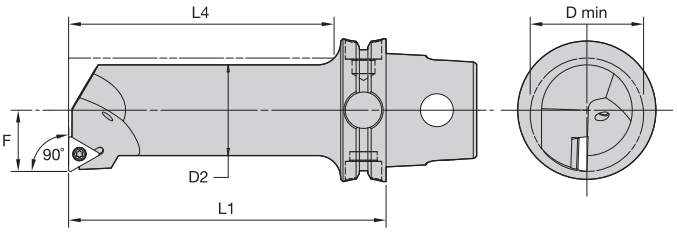
KM QUICK CHANGE

SDUC 93°



order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand																
2414894	KM63TSS32LSDUCR11	32	1.26	40	1.57	22	.866	112	4.418	140	5.512	DC..11T308/DC..3252	MS1156	SKDP343	SRS3	1,35	2.98
	left hand																
2414895	KM63TSS32LSDUCL11	32	1.26	40	1.57	22	.866	112	4.418	140	5.512	DC..11T308/DC..3252	MS1156	SKDP343	SRS3	1,35	2.98







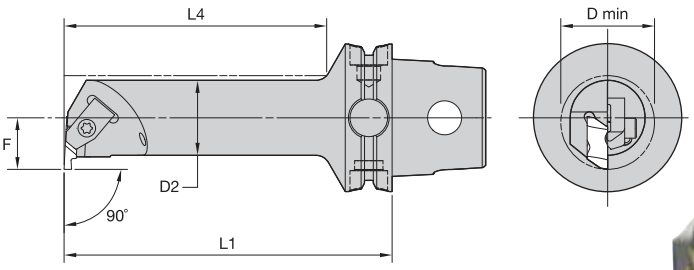
KM QUICK CHANGE

STFC 90°



order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	insert screw	shim	shim screw	kg	lbs
	right hand																
2414901	KM63TSS40LSTFCR16	40	1.57	50	1.97	27	1.063	117	4.612	140	5.512	TC..16T308/TC..3252	MS1156	SKTP343	SRS3	1,71	3.77
	left hand																
2414902	KM63TSS40LSTFCL16	40	1.57	50	1.97	27	1.063	117	4.612	140	5.512	TC..16T308/TC..3252	MS1156	SKTP343	SRS3	1,71	3.77







KM QUICK CHANGE

NE 90° • Steel

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
2265369	KM63TSS32LNER3	32	1.26	40	1.57	22	.866	112	4.412	140	5.512	NG3L	1,34	2.95
	left hand													
2265370	KM63TSS32LNEL3	32	1.26	40	1.57	22	.866	112	4.412	140	5.512	NG3R	1,34	2.95

Spare Parts





catalog number	clamp	clamp screw
right hand KM63TSS32LNER3	CM73	MS1489
left hand KM63TSS32LNEL3	CM72	MS1489

Common Challenges in Internal Machining

Internal machining operations are very sensitive to chatter and vibrations.

Common challenges include:

- Unfavorable geometric circumstances.
- Machining at extended length-to-diameter ratios.

Additionally, internal machining offers little space for a stable tool and has restrictions for coolant supply and chip removal. These factors can lead to chattering, poor surface finish, noisy vibrations, and workpieces that are out of tolerance. Kennametal solves these problems with our portfolio of Tunable Boring Bars.

Kennametal Tunable Tooling

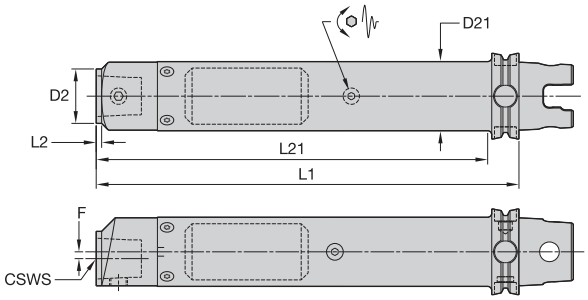
The Kennametal Tunable Boring Bars are manufactured with an internal dampening package designed to eliminate chatter in deep-hole boring applications. We manufacture standard tunable bars and have extensive capabilities to design and produce almost any style of tunable product, including boring bars, extensions, holders, rotating adapters, and modular sections.

Advantages of Kennametal Tunable Tooling

The features of the Kennametal proprietary Tunable Boring Bar system provide significant advantages:

- **Optimal rigidity**
  Improved surface quality and close tolerances due to vibration-free machining.
- **Increased productivity**
  Larger depth of cut and better chip removal by up to 10:1 (steel) and 15:1 (carbide) length-to-diameter ratio.
- **Machining without chatter or vibration**
  Less noise exposure and improved machining results.
- **Tunable damping mechanism**
  Bar can be tuned on the machine and tool can be adjusted to account for different vibration behavior.





KM QUICK CHANGE

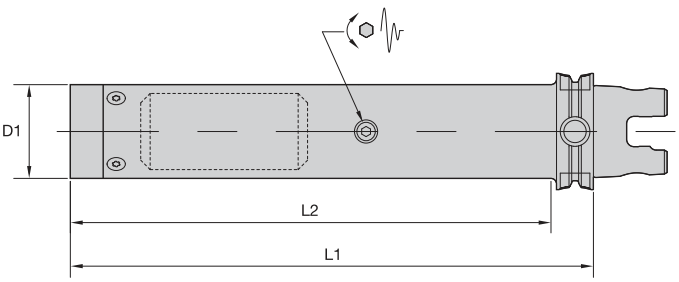


TTB • KM Tunable Bar

order number	catalog number	CSWS system size	D2 mm	D2 in	D21 mm	D21 in	F mm	F in	L1 mm	L1 in	L2 mm	L2 in	L21 mm	L21 in
3901267	KM63TSD40TTB15KM40	KM40	40,00	1.575	63,50	2.500	11,75	.463	386,92	15.233	4,00	.157	386,92	15.233
3901269	KM63TSD32TTB16KM40	KM40	40,00	1.575	50,00	1.969	5,00	.197	412,32	16.233	4,00	.157	392,32	15.446
3901268	KM63TSD28TTB14KM40	KM40	40,00	1.575	44,45	1.750	0,00	.000	361,52	14.233	4,00	.157	341,52	13.446
3901270	KM63TSD40TTB20KM40	KM40	40,00	1.575	63,50	2.500	11,75	.463	513,92	20.233	4,00	.157	513,92	20.233
3901266	KM63TSD32TTB12KM40	KM40	40,00	1.575	50,00	1.969	5,00	.197	310,71	12.233	4,00	.157	290,71	11.445
3901265	KM63TSD24TTB9KM40	KM40	40,00	1.575	38,10	1.500	0,00	.000	234,55	9.234	214,55	8.447	—	—

NOTE: For technical information, refer to page M90.





KM QUICK CHANGE

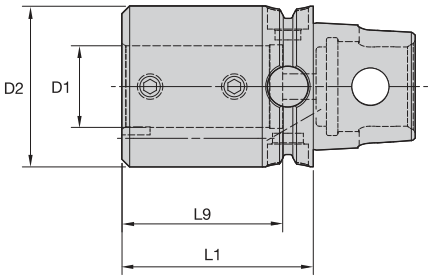


TTB • KM Tunable Bar • Bolt-On Head

order number	catalog number	D1 mm	D1 in	L1 mm	L1 in	L2 mm	L2 in	SHCS 3 required	SHCS 1 required
3768909	KM63TSD32TTB6	50,80	2.000	134,3	5.29	111,1	4.37	—	S339
3768910	KM63TSD24TTB9	38,10	1.500	207,3	8.16	187,3	7.38	S327	S330
3768911	KM63TSD32TTB12	50,80	2.000	283,5	11.16	263,5	10.38	S337	S340
3768933	KM63TSD28TTB14	44,45	1.750	334,3	13.16	314,3	12.38	S337	S340
3768912	KM63TSD40TTB15	63,50	2.500	359,7	14.16	359,7	14.16	S350	S353
3768934	KM63TSD32TTB16	50,80	2.000	385,1	15.16	365,1	14.37	S337	S340
3768935	KM63TSD40TTB20	63,50	2.500	486,7	19.16	466,7	18.38	S350	S353

NOTE: For technical information, refer to page M90.







KM QUICK CHANGE

BA • Boring Bar Adapter • Internal and External Coolant • Metric



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	Nm	kg
2269898	KM63TSBA10055M	10	40	55	48	MS1211	4mm	15	0,98
2269899	KM63TSBA12060M	12	40	60	52	MS1211	4mm	15	1,01
2269900	KM63TSBA16065M	16	40	65	55	MS1212	5mm	25	1,02
2269901	KM63TSBA20070M	20	40	70	58	MS1212	5mm	25	0,99
2269902	KM63TSBA25070M	25	50	70	58	MS1212	5mm	25	1,17
2269903	KM63TSBA32075M	32	63	75	63	MS1205	5mm	25	1,60
2255549	KM63TSBA40105M	40	70	105	75	MS1935	6mm	45	2,43

BA • Boring Bar Adapter • Internal and External Coolant • Inch

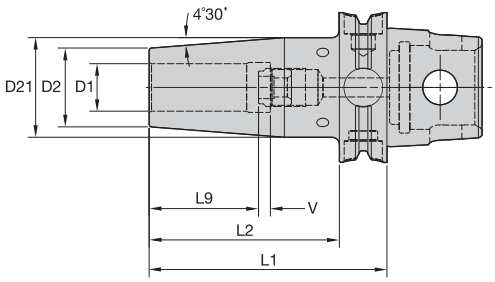


order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	ft. lbs.	lbs
2269893	KM63TSBA10256	5/8	1.58	2.559	2.17	S862	3/16	25	2.22
2269895	KM63TSBA16276	1	1.97	2.756	2.28	S862	3/16	25	2.54
2269891	KM63TSBA06217	3/8	1.58	2.165	1.89	S843	1/8	8	2.15
2269892	KM63TSBA08236	1/2	1.58	2.362	2.05	S852	5/32	15	2.21
2269894	KM63TSBA12276	3/4	1.58	2.756	2.28	S862	3/16	25	2.23
2269896	KM63TSBA20295	1 1/4	2.48	2.953	2.48	S863	3/16	25	3.41
2269897	KM63TSBA24413	1 1/2	2.76	4.134	2.95	S884	1/4	60	5.45

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

KM QUICK CHANGE

HPV TT • Metric



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3869194	KM63TSHPVTT06080M	6	21	27	80	60	26	10	TTSS05014M	2,5mm	0,83
3869195	KM63TSHPVTT08080M	8	21	27	80	60	26	10	TTSS06014M	3mm	0,83
3869196	KM63TSHPVTT10090M	10	24	32	90	70	31	10	TTSS08014M	4mm	0,95
3869197	KM63TSHPVTT12090M	12	24	32	90	70	36	10	TTSS10014M	5mm	0,93
3869198	KM63TSHPVTT14100M	14	27	34	100	80	36	10	TTSS10014M	5mm	1,05
3869199	KM63TSHPVTT16100M	16	27	34	100	80	39	10	TTSS12014M	6mm	1,03
3869200	KM63TSHPVTT18100M	18	33	42	100	80	39	10	TTSS12014M	6mm	1,24
3869201	KM63TSHPVTT20100M	20	33	42	100	80	41	10	TTSS16014M	8mm	1,21
3869202	KM63TSHPVTT25120M	25	44	53	120	100	47	10	TTSS16014M	8mm	1,92
3869203	KM63TSHPVTT32120M	32	44	53	120	100	51	10	TTSS16014M	8mm	1,76

(continued)

(HPV TT continued)

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameter	tolerance
1/4, 5/16, & 3/8	-.0001/-.0004
7/16, 1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

HPV TT • Inch

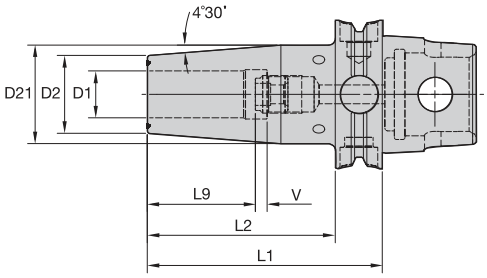


order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3869253	**KM63TSHPVTT025315**	1/4	.827	1.059	3.150	2.362	1.024	.394	**TTSS05014M**	2,5mm	1.84
3869254	**KM63TSHPVTT031315**	5/16	.827	1.059	3.150	2.362	1.024	.394	**TTSS06014M**	3mm	1.82
3869255	**KM63TSHPVTT038335**	3/8	.945	1.256	3.347	2.559	1.221	.394	**TTSS08014M**	4mm	2.02
3869256	**KM63TSHPVTT044354**	7/16	.945	1.256	3.543	2.756	1.417	.394	**TTSS10014M**	5mm	2.06
3869257	**KM63TSHPVTT050354**	1/2	.945	1.256	3.543	2.756	1.417	.394	**TTSS10014M**	5mm	2.04
3869258	**KM63TSHPVTT056354**	9/16	1.063	1.335	3.543	2.756	1.417	.394	**TTSS10014M**	5mm	2.16
3869259	**KM63TSHPVTT062374**	5/8	1.063	1.335	3.740	2.953	1.535	.394	**TTSS12014M**	6mm	2.19
3869260	**KM63TSHPVTT068374**	11/16	1.299	1.650	3.740	2.953	1.535	.394	**TTSS12014M**	6mm	2.63
3869261	**KM63TSHPVTT075394**	3/4	1.299	1.650	3.937	3.150	1.614	.394	**TTSS16014M**	8mm	2.68
3869262	**KM63TSHPVTT088394**	7/8	1.299	1.650	3.937	3.150	1.614	.394	**TTSS16014M**	8mm	2.59
3869263	**KM63TSHPVTT100453**	1	1.732	2.083	4.528	3.740	1.850	.394	**TTSS16014M**	8mm	4.03
3869264	**KM63TSHPVTT125472**	1 1/4	1.732	2.083	4.724	3.937	2.008	.394	**TTSS16014M**	8mm	3.88

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see page L12–L13.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available.
Order number is MS1276PKG and must be ordered separately.

- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000 -0,016

KM QUICK CHANGE

HPV TT HT • Metric



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3869209	KM63TSHPVTTHT12090M	12	24	1	90	70	36	10	TTSS10014M	5mm	0,93
3869210	KM63TSHPVTTHT14100M	14	27	1	100	80	36	10	TTSS10014M	5mm	1,05
3869211	KM63TSHPVTTHT16100M	16	27	1	100	80	39	10	TTSS12014M	6mm	1,03
3869212	KM63TSHPVTTHT18100M	18	33	2	100	80	39	10	TTSS12014M	6mm	1,24
3869213	KM63TSHPVTTHT20100M	20	33	2	100	80	41	10	TTSS16014M	8mm	1,21
3869214	KM63TSHPVTTHT25120M	25	44	2	120	100	47	10	TTSS16014M	8mm	1,92
3869215	KM63TSHPVTTHT32120M	32	44	2	120	100	51	10	TTSS16014M	8mm	1,76

(continued)

(HPV TT HT continued)

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameter	tolerance
1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

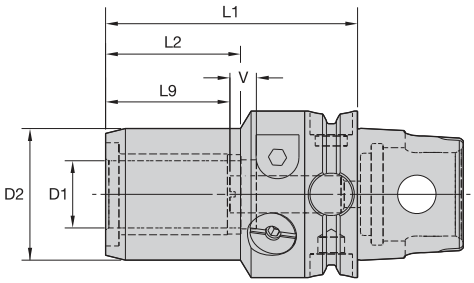
HPV TT HT • Inch



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3869234	**KM63TSHPVTTHT050354**	1/2	.945	1.256	3.543	2.756	1.417	.394	**TTSS10014M**	5mm	2.04
3869235	**KM63TSHPVTTHT056354**	9/16	1.063	1.335	3.543	2.756	1.417	.394	**TTSS10014M**	5mm	2.16
3869236	**KM63TSHPVTTHT062374**	5/8	1.063	1.335	3.740	2.953	1.535	.394	**TTSS12014M**	6mm	2.19
3869237	**KM63TSHPVTTHT068374**	11/16	1.299	1.650	3.740	2.953	1.535	.394	**TTSS12014M**	6mm	2.63
3869238	**KM63TSHPVTTHT075394**	3/4	1.299	1.650	3.937	3.150	1.614	.394	**TTSS16014M**	8mm	2.68
3869239	**KM63TSHPVTTHT088394**	7/8	1.299	1.650	3.937	3.150	1.614	.394	**TTSS16014M**	8mm	2.59
3869240	**KM63TSHPVTTHT100453**	1	1.732	2.083	4.528	3.740	1.850	.394	**TTSS16014M**	8mm	4.03
3869241	**KM63TSHPVTTHT125472**	1 1/4	1.732	2.083	4.724	3.937	2.008	.394	**TTSS16014M**	8mm	3.88

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see page L12–L13.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available.
Order number is MS1276PKG and must be ordered separately.







KM QUICK CHANGE

HC • Metric





order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length adjustment wrench	wrench size stop screw	kg
2388650	KM63TSHC06070M	6	26	70	33	27	10	170.135	5mm	170.002	2,5mm	1,08
2388651	KM63TSHC08070M	8	28	70	33	27	10	170.135	5mm	170.002	2,5mm	1,10
2388652	KM63TSHC10075M	10	30	75	36	31	10	170.135	5mm	170.002	2,5mm	1,17
2388653	KM63TSHC12080M	12	32	80	41	36	10	170.135	5mm	170.002	2,5mm	1,21
2388654	KM63TSHC14080M	14	34	80	43	36	10	170.135	5mm	170.003	2,5mm	1,18
2388655	KM63TSHC16080M	16	38	80	48	39	10	170.135	5mm	170.003	3mm	1,17
2388656	KM63TSHC18080M	18	40	80	47	39	10	170.135	5mm	170.003	3mm	1,19
2388657	KM63TSHC20085M	20	42	85	48	41	10	170.135	5mm	170.003	3mm	1,32
2388658	KM63TSHC25095M	25	50	95	51	47	10	170.136	6mm	170.004	4mm	1,64
2388659	KM63TSHC32100M	32	60	100	59	51	10	170.136	6mm	170.004	4mm	1,92

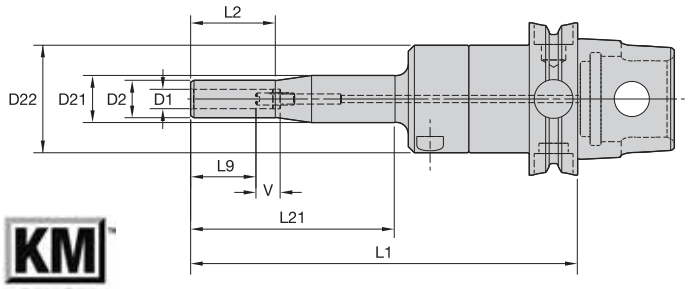
HC • Inch





order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length adjustment wrench	wrench size stop screw	lbs
2388643	KM63TSHC025288	1/4	1.01	2.875	1.30	1.06	.39	170.135	5mm	170.002	2,5mm	2.53
2388644	KM63TSHC038300	3/8	1.17	3.000	1.42	1.22	.39	170.135	5mm	170.002	2,5mm	2.64
2388645	KM63TSHC050325	1/2	1.24	3.250	1.61	1.42	.39	170.135	5mm	170.002	2,5mm	2.79
2388646	KM63TSHC062325	5/8	1.48	3.250	1.87	1.54	.39	170.135	5mm	170.003	3mm	2.71
2388647	KM63TSHC075338	3/4	1.64	3.375	1.89	1.61	.39	170.135	5mm	170.003	3mm	2.97
2388648	KM63TSHC100375	1	1.96	3.750	2.01	1.85	.39	170.136	6mm	170.004	4mm	3.61
2388649	KM63TSHC125400	1 1/4	2.35	4.000	2.32	2.01	.39	170.136	6mm	170.004	4mm	4.33

NOTE: Do not overtorque clamp screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Reduction sleeves are available and must be ordered separately; see page J2.





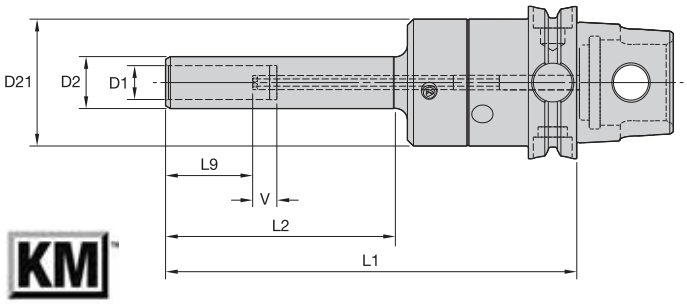
KM QUICK CHANGE

HCSLT • Metric





order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	actuation wrench	wrench size actuation screw	length adjustment wrench	wrench size stop screw	kg
3055503	KM63TSHCSLT06160M	6	14	20	44	160	35	85	27	10	170.135	5mm	170.002	2,5mm	1,36
3055504	KM63TSHCSLT08160M	8	16	20	44	160	35	85	27	10	170.135	5mm	170.002	2,5mm	1,37
3055505	KM63TSHCSLT10160M	10	18	44	—	160	85	140	31	10	170.135	5mm	170.003	3mm	1,35





KM QUICK CHANGE

HCSL • Metric



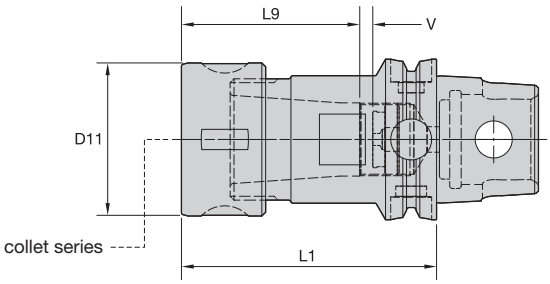


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length adjustment wrench	wrench size stop screw	kg
3055506	KM63TSHCSL12170M	12	20	44	170	95	36	10	170.135	5mm	170.002	2,5mm	1,40
3055507	KM63TSHCSL14170M	14	22	52	170	95	36	10	170.135	5mm	170.002	2,5mm	1,66
3055508	KM63TSHCSL16170M	16	24	52	170	95	39	10	170.135	5mm	170.002	2,5mm	1,67
3055509	KM63TSHCSL18170M	18	26	52	170	95	39	10	170.135	5mm	170.002	2,5mm	1,71
3055510	KM63TSHCSL20170M	20	28	52	170	95	41	10	170.135	5mm	170.002	2,5mm	1,75

NOTE: Do not overtorque clamp screw. Use supplied wrench and tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Reduction sleeves are available and must be ordered separately; see page J2.
Supplied with stop screw.

- Tremendous Grip (3:1 advantage).







KM QUICK CHANGE

TG collet series	Collet Capacity mm min	mm max	inch min	inch max
TG100	2,6	25,5	5/64	1

Collet Chuck • Round Nut

order number	catalog number	collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	V mm	V in	kg	lbs
2384711	**KM63TSTG100100M**	TG100	60	2.36	100	3.937	69,0	2.72	9	.36	1,54	3.40

Spare Parts





catalog number	locknut	wrench	Nm	ft. lbs.	stop screw	wrench size stop screw
KM63TSTG100100M	**LNA100M**	**HSW58M**	203	150	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.



KM™ QUICK CHANGE The ISO 26622 Standard

KM™ Quick-Change Tooling — the ISO 26622 Standard.

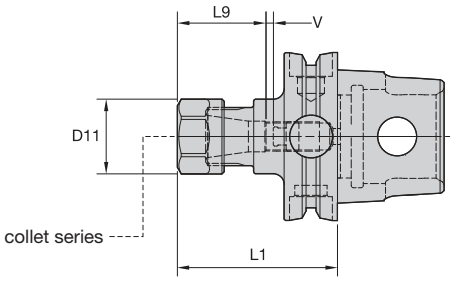
- Our unique three-surface taper contact design makes this the most rigid and accurate modular quick-change tooling system available.
- It's highly versatile, too: can be fully and easily employed on your lathe, machining center, multi-spindle, or mill-turn machine — significantly reducing your tool-change and part setup downtime!

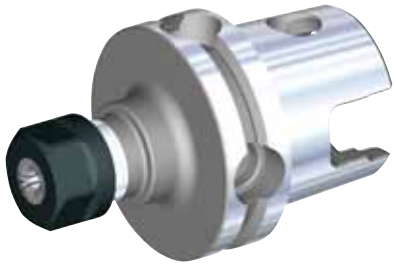
www.kennametal.com

KENNAMETAL®

• Grip (2:1 advantage).







KM QUICK CHANGE

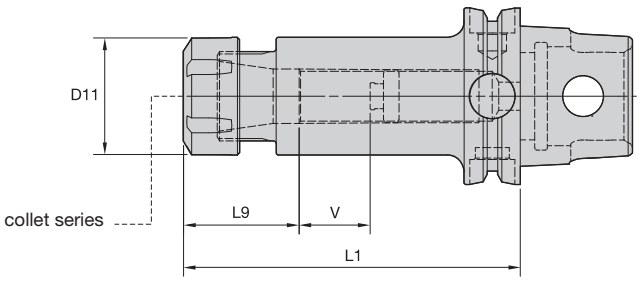
ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41

Collet Chuck • Hex Nut

order number	catalog number	collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	V mm	V in	locknut	OEW	stop screw	counterbore collet torque Nm	counterbore collet torque ft. lbs.	straight collet torque Nm	straight collet torque ft. lbs.	kg	lbs
2255039	**KM63TSER16060M**	ER16	28	1.10	60	2.362	32	1.26	13	.51	**LNHSER16M**	**OEW25M**	**SS044038G**	40	30	56	42	0,73	1.61
2255041	**KM63TSER16120M**	ER16	28	1.10	120	4.724	32	1.26	48	1.89	**LNHSER16M**	**OEW25M**	**SS044038G**	40	30	56	42	0,98	2.17

(continued)

(Collet Chuck continued)





KM QUICK CHANGE

ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

Collet Chuck • Round Nut

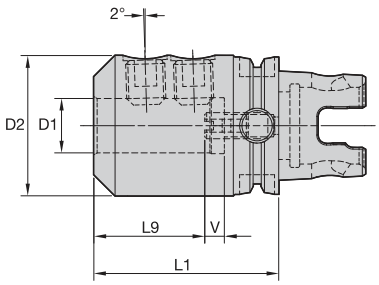




order number	catalog number	collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	V mm	V in	locknut	wrench	stop screw	Nm	ft. lbs.	kg	lbs
2255042	**KM63TSER25065M**	ER25	42	1.65	65	2.559	40,0	1.57	—	—	**LNSER25M**	**ER25WM**	**—**	104	77	0,88	1.93
2255053	**KM63TSER25120M**	ER25	42	1.65	120	4.724	40,0	1.57	47	1.85	**LNSER25M**	**ER25WM**	**SS075041G**	104	77	1,37	3.03
2255551	**KM63TSER32065M**	ER32	50	1.97	65	2.559	46,0	1.81	—	—	**LNSER32M**	**ER32WM**	**—**	136	100	0,94	2.08
2253812	**KM63TSER32120M**	ER32	50	1.97	120	4.724	46,0	1.81	34	1.34	**LNSER32M**	**ER32WM**	**SS094041G**	136	100	1,64	3.62
2255056	**KM63TSER40065M**	ER40	63	2.48	65	2.559	52,0	2.05	—	—	**LNSER40M**	**ER40WM**	**—**	176	130	1,04	2.30

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable coolant-style locknuts and coolant disks are available and must be ordered separately; see page L19.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.







KM QUICK CHANGE

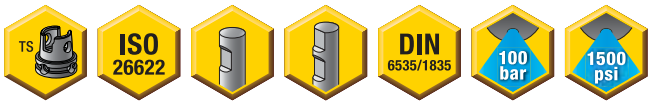
WN • Whistle Notch Adapter

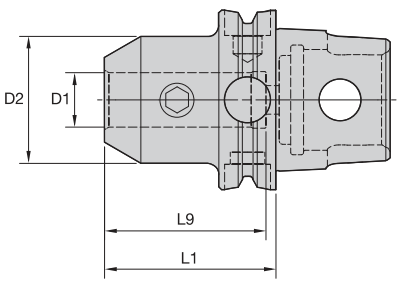




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
2253809	**KM63TSWN20080M**	20	52	80	45	10	**SS03M026**	8mm	95	**571.063**	5mm	1,41
2253810	**KM63TSWN25085M**	25	65	85	50	10	**SS03M027**	10mm	135	**571.069**	6mm	1,95
2253905	**KM63TSWN32095M**	32	72	95	54	10	**SS03M029**	10mm	160	**571.069**	6mm	2,46

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw and stop screw wrenches are not included.







KM QUICK CHANGE

EM • Metric



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
2253910	KM63TSEM12055M	12	42	55	50	SS03M023	6mm	35	0,91
2253676	KM63TSEM16060M	16	48	60	53	SS03M025	6mm	50	1,05
2269911	KM63TSEM20060M	20	52	60	55	SS03M026	8mm	95	1,10
2258495	KM63TSEM25080M	25	65	80	60	SS03M027	10mm	135	1,82
2255038	KM63TSEM32090M	32	72	90	65	SS03M029	10mm	160	2,31
2269912	KM63TSEM40095M	40	80	95	75	SS03M029	10mm	160	2,74

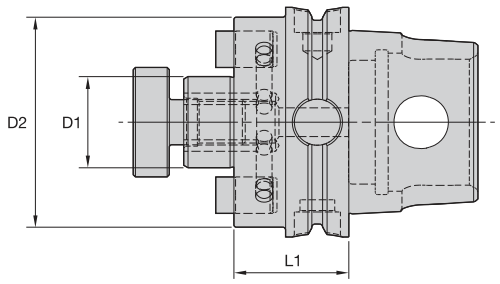
EM • Inch

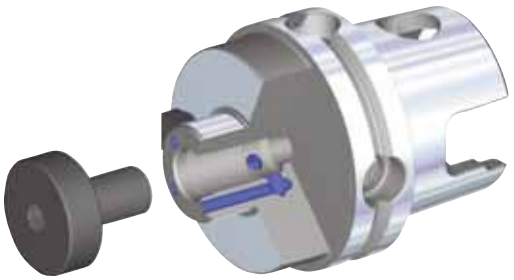


order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
2269904	KM63TSEM050216	1/2	1.38	2.165	1.97	ELS044038PKG	7/32	20	1.76
2269905	KM63TSEM062236	5/8	1.63	2.362	2.09	ELS056050PKG	1/4	40	2.04
2269906	KM63TSEM075236	3/4	1.75	2.362	2.22	ELS062050PKG	5/16	70	2.07
2269907	KM63TSEM088236	7/8	2.00	2.362	2.22	ELS062050PKG	5/16	70	2.28
2269908	KM63TSEM100315	1	2.00	3.150	2.46	ELS075056PKG	3/8	110	2.80
2269909	KM63TSEM125354	1 1/4	2.50	3.543	2.51	ELS075062PKG	3/8	110	4.13
2269910	KM63TSEM150374	1 1/2	2.75	3.740	2.93	ELS075069PKG	3/8	110	4.68

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.





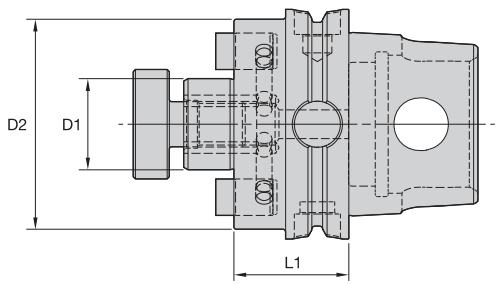


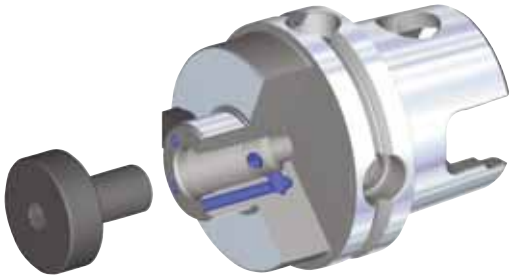
KM QUICK CHANGE

SMC • Metric




order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3950894	KM63TSSMC22028M	22	49	28	MS1234	KDK22M	8mm	0,81
3950895	KM63TSSMC27032M	27	60	32	KLSS27M	KDK27M	10mm	1,02
3950896	KM63TSSMC32040M	32	78	40	KLSS32M	KDK32M	14mm	1,56
3950897	KM63TSSMC40045M	40	89	45	KLSS40M	KDK40M	17mm	2,10





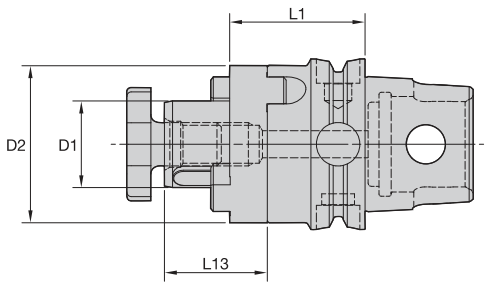
SMC • Inch




order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	lbs
3950864	KM63TSSMC050102	1/2	1.44	1.024	KLS05	KDK04	3/16	1.53
3950866	KM63TSSM2C075126	3/4	1.46	1.260	KLS07	—	1/4	1.77
3950865	KM63TSSMC075126	3/4	1.75	1.260	KLS07	KDK05	1/4	1.84
3950868	KM63TSSM2C100126	1	2.19	1.260	KLS10	KDK06	5/16	2.10
3950867	KM63TSSMC100126	1	2.75	1.260	KLS10	KDK06	5/16	2.35
3950869	KM63TSSMC125157	1 1/4	2.88	1.575	KLS12	KDK08	5/16	3.19
3950870	KM63TSSMC150177	1 1/2	3.81	1.772	KLS15	KDK10	3/8	4.86

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.







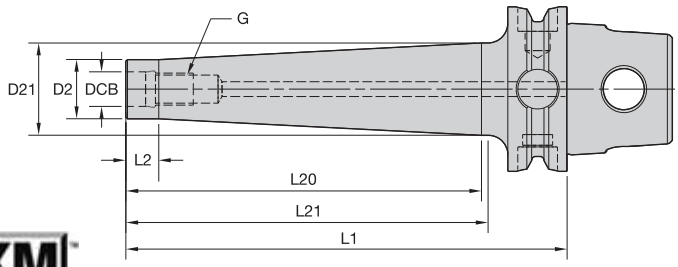
KM QUICK CHANGE

CS • Metric

order number	catalog number	D1	D2	L1	L13	lock screw	combi driver	combi drive key	kg
2384735	**KM63TSCS27040M**	27	48	40	21	**KLS27MPKG**	**CDR27M**	**CDK27M**	1,03
2384736	**KM63TSCS32050M**	32	58	50	24	**KLS32M**	**CDR32M**	**CDK32M**	1,43
2384737	**KM63TSCS40050M**	40	70	50	27	**KLS40M**	**CDR40M**	**CDK40M**	1,87

NOTE: Do not overtighten lock screw.
Supplied with lock screw, drive ring, and key.
Lock screw wrench not included.







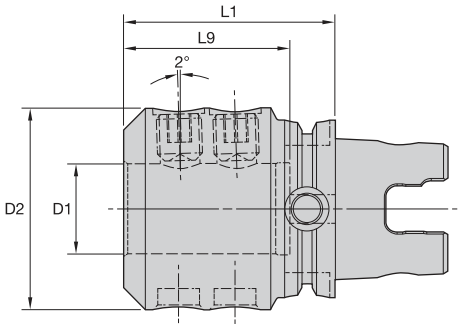
KM QUICK CHANGE

STC

order number	catalog number	DCB	G	D2	D21	L1	L2	L20	L21	kg
4137620	KM63TSSTC06059M	6,5	M6	10	11	59	10	33	33	0,64
4137621	KM63TSSTC06084M	6,5	M6	10	12	84	10	58	58	0,66
4137622	KM63TSSTC06109M	6,5	M6	10	14	109	10	83	83	0,69
4137853	KM63TSSTC08059M	8,5	M8	13	15	59	10	31	33	0,66
4137854	KM63TSSTC08084M	8,5	M8	13	18	84	10	56	58	0,71
4137855	KM63TSSTC08109M	8,5	M8	13	23	109	10	81	83	0,79
4137856	KM63TSSTC08134M	8,5	M8	13	23	134	10	106	108	0,84
4137857	KM63TSSTC10059M	10,5	M10	18	20	59	10	31	33	0,69
4137858	KM63TSSTC10084M	10,5	M10	18	25	84	10	56	58	0,79
4137859	KM63TSSTC10109M	10,5	M10	18	25	109	10	81	83	0,86
4137860	KM63TSSTC10134M	10,5	M10	18	28	134	10	106	108	0,98
4137861	KM63TSSTC12059M	12,5	M12	21	24	59	10	31	33	0,72
4137862	KM63TSSTC12084M	12,5	M12	21	24	84	10	56	58	0,80
4137873	KM63TSSTC12109M	12,5	M12	21	28	109	10	81	83	0,93
4137874	KM63TSSTC12134M	12,5	M12	21	31	134	10	106	108	1,07
4137875	KM63TSSTC16059M	17,0	M16	29	33	59	10	31	33	0,81
4137876	KM63TSSTC16084M	17,0	M16	29	33	84	10	56	58	0,95
4137877	KM63TSSTC16109M	17,0	M16	29	33	109	10	81	83	1,10
4137878	KM63TSSTC16134M	17,0	M16	29	33	134	10	106	108	1,24

NOTE: For technical information, see page M96–M97.







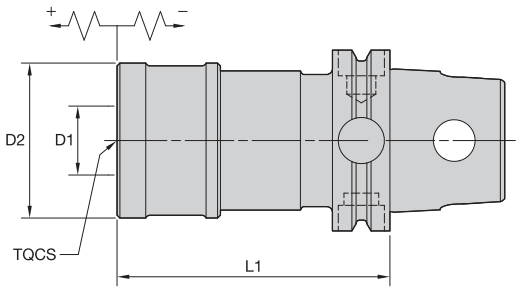
KM QUICK CHANGE

DAI



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size actuation screw	Nm	kg
2256001	KM63TSDAI40100M	40	90	100	75	SS03M029	10 mm	160	3,54







KM QUICK CHANGE

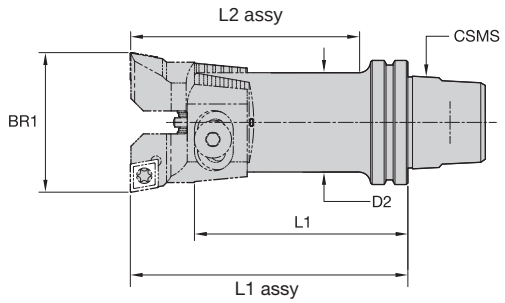
TC • Tension and Compression

order number	catalog number	TQCS adapter size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	kg	lbs
1126271	KM63TSTC2095M	2	31	1.220	53	2.090	95	3.740	0,96	2.12
1126272	KM63TSTC3147M	3	48	1.890	78	3.070	147	5.790	1,97	4.34

NOTE: Quick-change tap adapters available and must be ordered separately; see page J76.

- Preset on tool setter.
- Blade set included.







KM QUICK CHANGE

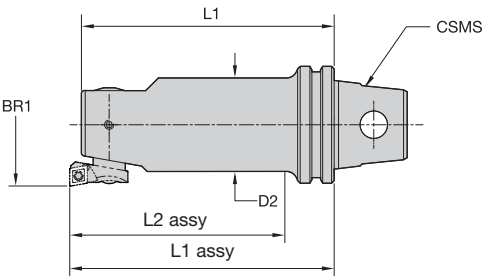
RBHT • KM™ Rough-Boring Twin Cutters



order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	L1 assy mm	L1 assy in	L2 assy mm	L2 assy in	blade screw	washer	pin
3586545	**KM63UTRBHT87**	86,500-115,500	3.4055-4.5472	KM63UT	72,0	2.83	70,5	2.78	120,0	4.72	120,0	4.72	**840.142.720**	**841.142.720**	**841.342.420**
3586546	**KM63UTRBHT115**	114,500-153,000	4.5079-6.0236	KM63UT	94,0	3.70	83,2	3.28	150,0	5.91	150,0	5.91	**840.142.940**	**841.142.940**	**841.342.420**

- 0,01mm (.0004") diameter adjustment.
- Insert holder included.







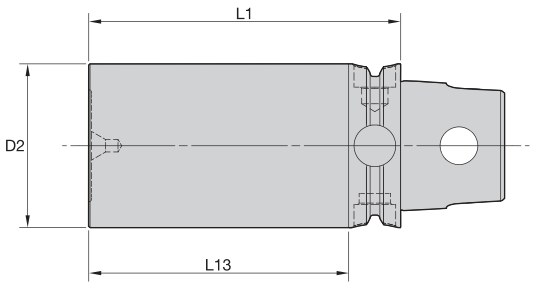
KM QUICK CHANGE

FBHS • KM™ Fine-Boring Single Cutter

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	L1 assy mm	L1 assy in	L2 assy mm	L2 assy in	cartridge mounting screw	lock screw
3586578	**KM63UTFBHS87**	86,900-154,100	3.4213-6.0669	KM63UT	72,0	2.83	115,0	4.53	120,0	4.72	120,0	4.72	**880.252.550**	**881.252.720**
3586579	**KM63UTFBHS116**	115,900-191,100	4.5630-7.5236	KM63UT	96,0	3.70	145,0	5.71	150,0	5.91	150,0	5.91	**880.252.550**	**881.252.940**

Reference Insert Cartridges

BR1 in	BR1 mm	insert cartridges 90° lead		95° lead	
.9409 - 1.2244	23,900 - 31,100	R24FBHS06	–	R24FBHS06LF	–
1.1772 - 1.4606	29,900 - 37,100	R30FBHS06	–		–
1.2165 - 1.5787	30,900 - 40,100	R31FBHS06	–	R31FBHS06LF	–
1.4921 - 1.8543	37,900 - 47,100	F38FBHS06	–	–	–
1.5709 - 2.0118	39,900 - 51,100	R40FBHS06	–	R40FBHS06LF	–
1.8858 - 2.3268	47,900 - 59,100	R48FBHS06	–	–	–
2.0039 - 2.6417	50,900 - 67,100	R51FBHS06	–	R51FBHS06LF	–
2.5551 - 3.1929	64,900 - 81,100	R65FBHS06	–	–	–
2.6339 - 3.4291	66,900 - 87,100	R67FBHS06	R67FBHS09	–	R67FBHS09LF
3.3425 - 4.1378	84,900 - 105,100	R85FBHS06	R85FBHS09	–	–
3.4213 - 4.5709	86,900 - 116,100	R67FBHS06	R67FBHS09	–	R67FBHS09LF
4.1299 - 5.2795	104,900 - 134,100	R85FBHS06	R85FBHS09	–	–
4.5630 - 6.0669	115,900 - 154,100	R67FBHS06	R67FBHS09	–	R67FBHS09LF
5.2717 - 6.7362	133,900 - 171,100	R85FBHS06	R85FBHS09	–	–
6.0591 - 7.5236	153,900 - 191,100	–	R125FBHS09	–	–

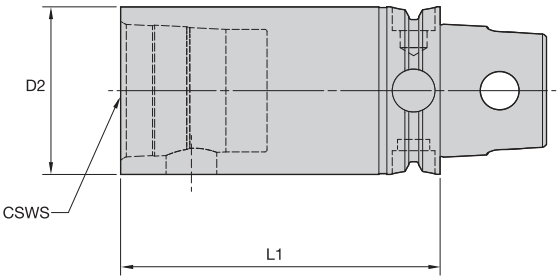




KM QUICK CHANGE

GB • Gage Bar

		D2		L1		L13			
order number	catalog number	mm	in	mm	in	mm	in	kg	lbs
1895373	KM63TSGB50350M	50	1.97	340	13.39	312	12.28	4,64	10.22
1144562	KM63TSGB63120M	63	2.48	120	4.72	100	3.94	3,05	6.72

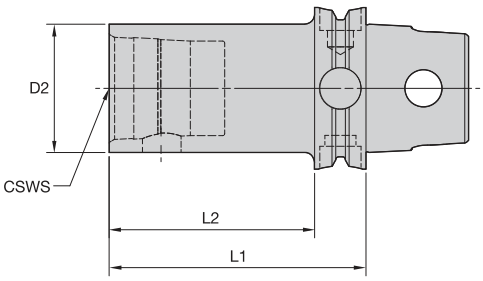




KM QUICK CHANGE

S • KM™ Extension

			D2		L1							
order number	catalog number	CSWS system size	mm	in	mm	in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
2253808	KM63TSS63080M	KM63	63	2.480	80	3.150	12mm	47-54	35-40	KM63PKG3S	1,69	3.73
2397720	KM63TSS63120M	KM63	63	2.480	120	4.724	12mm	47-54	35-40	KM63PKG3S	2,63	5.81





KM QUICK CHANGE

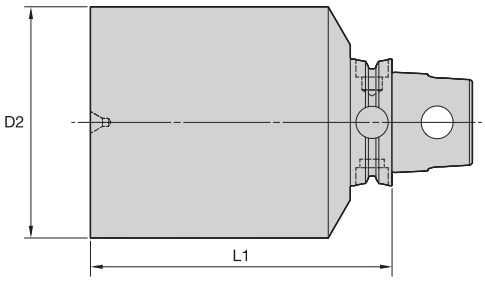
S • KM Reducer

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	L2 mm	L2 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
2397719	**KM63TSS32070M**	KM32	32	1.258	70	2.756	50	1.969	5mm	8-11	6-8	**KM32PKG3S**	0,90	1.97
2253907	**KM63TSS40080M**	KM40	40	1.573	80	3.150	60	2.362	6mm	12-16	9-12	**KM40PKG3S**	1,12	2.47
2253906	**KM63TSS50100M**	KM50	50	1.967	100	3.937	80	3.150	10mm	27-34	20-25	**KM50PKG3S**	1,63	3.58

S • KM Reducer • Centerline

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
3503748	**KM63TSS50065M**	KM50	50	1.967	65	2.559	10 mm	27-34	20-25	**KM50PKG3L**	1,37	3.02

NOTE: Designed for centerline KM cutting units.





KM QUICK CHANGE

BN • Blank

order number	catalog number	D2 mm	D2 in	L1 mm	L1 in	hardness range	kg	lbs
2397722	**KM63TSBN65200M**	65	2.559	200	7.874	32–38 HRC	5,30	11.68
2397721	**KM63TSBN115150M**	115	4.528	150	5.906	32–38 HRC	10,89	24.01

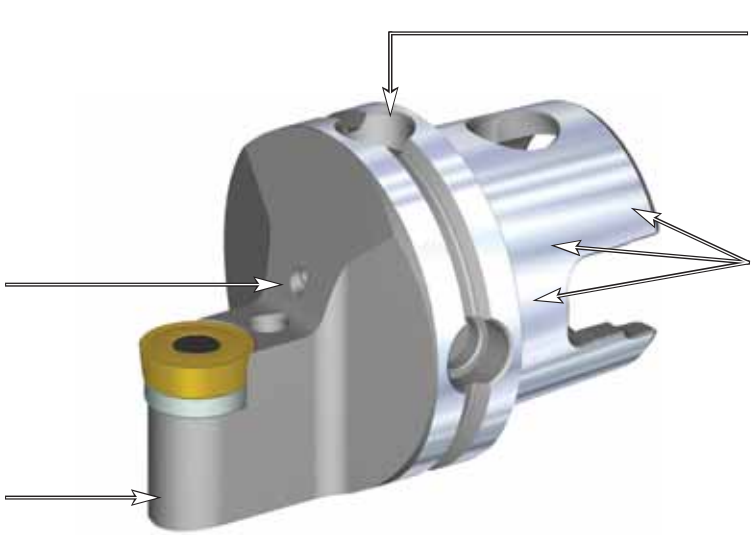
KM™ Quick Change Clamping System • KM80TS™ Series

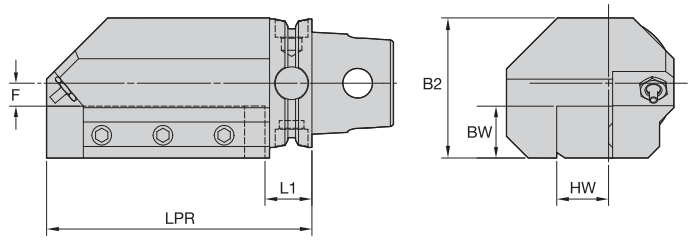
Primary Application

The KM Quick Change Clamping System is the best system on the market suitable for static, rotating, and multitasking operations. With its industry-leading design, the KM Quick Change System provides greater clamping forces than other quick-change systems. The KM Quick Change System gives you the flexibility to use KM on any application within your shop.

Features and Benefits

- KM is an ISO standard (ISO 26622).
- KM clamping units provide a 4:1 mechanical advantage.
- KM cutting units are capable of 100 bar (1,500 psi) coolant pressure.







KM QUICK CHANGE

STA • Metric





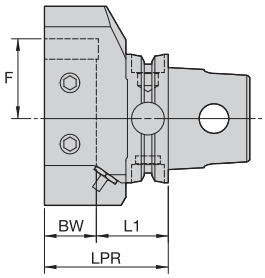
order number	catalog number	B2	BW	F	HW	L1	LPR	cup point socket set screw	nozzle	Nm	kg
	right hand										
3670073	KM80TSSTAR2525M	99	25	33	25	45	150	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	9,48
3670074	KM80TSSTAR3232M	98	32	25	32	45	150	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	8,95
	left hand										
3670059	KM80TSSTAL2525M	99	25	33	25	45	150	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	9,48
3670060	KM80TSSTAL3232M	98	32	25	32	45	150	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	8,95

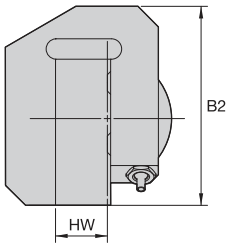
STA • Inch





order number	catalog number	B2	BW	F	HW	L1	LPR	cup point socket set screw	nozzle	ft. lbs.	lbs
	right hand										
3670061	KM80TSSTAR20	3.904	1.250	1.059	1.250	1.693	5.906	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	20.70
3670062	KM80TSSTAR24	3.654	1.500	.559	1.500	1.480	6.693	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	21.37
	left hand										
3670057	KM80TSSTAL20	3.904	1.250	1.059	1.250	1.693	5.906	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	20.70
3670058	KM80TSSTAL24	3.654	1.500	.559	1.500	1.480	6.693	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	21.37







ETA • Metric





order number	catalog number	B2	BW	F	HW	L1	LPR	cup point socket set screw	nozzle	Nm	kg
	right hand										
3670108	KM80TSETAR2525M	96	25	-37,5	25	48	73	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	3,51
3670109	KM80TSETAR3232M	111	32	-55,0	32	45	77	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	4,53
	left hand										
3670103	KM80TSETAL2525M	96	25	-37,5	25	48	73	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	3,51
3670104	KM80TSETAL3232M	111	32	-55,0	32	45	77	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	4,53

ETA • Inch

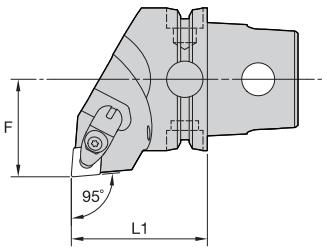


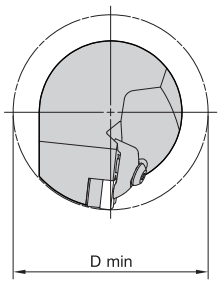


order number	catalog number	B2	BW	F	HW	L1	LPR	cup point socket set screw	nozzle	ft. lbs.	lbs
	right hand										
3670105	KM80TSETAR16	3.780	1.000	-1.539	1.000	1.900	2.900	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	7.78
3670106	KM80TSETAR20	4.370	1.250	-2.244	1.250	1.846	3.096	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	10.28
3670107	KM80TSETAR24	4.370	1.500	-2.244	1.500	1.937	3.437	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	10.82
	left hand										
3670078	KM80TSETAL16	3.780	1.000	-1.539	1.000	1.900	2.900	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	7.78
3670080	KM80TSETAL20	4.370	1.250	-2.244	1.250	1.846	3.096	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	10.28
3670082	KM80TSETAL24	4.370	1.500	-2.244	1.500	1.937	3.437	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	10.83



KM QUICK CHANGE







DCLN 95°

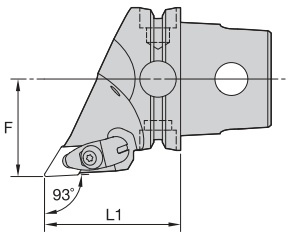


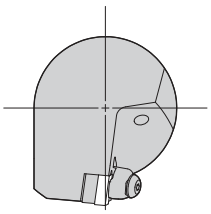



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	pin	clamp assembly	kg
	right hand												
3636438	KM80TSDCLNR12KC04	70	2.756	53	2.087	106	4.173	CN..120408/CN..432	ICSN443	KMSP415IP	SSP025016M	CM234R ASSY	2,16
3636440	KM80TSDCLNR16KC06	70	2.756	53	2.087	106	4.173	CN..160612/CN..543	ICSN543	KMSP515IP	SSP025018M	CM209R ASSY	2,21
	left hand												
3636439	KM80TSDCLNL12KC04	70	2.756	53	2.087	106	4.173	CN..120408/CN..432	ICSN443	KMSP415IP	SSP025016M	CM234R ASSY	2,16
3636441	KM80TSDCLNL16KC06	70	2.756	53	2.087	106	4.173	CN..160612/CN..543	ICSN543	KMSP515IP	SSP025018M	CM209R ASSY	2,21



KM QUICK CHANGE







DDJN 93°

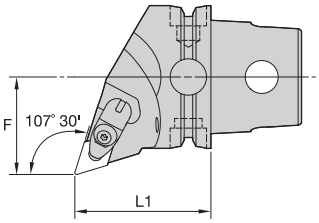


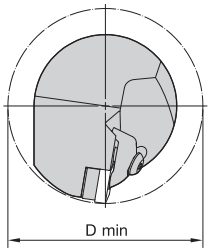



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	shim screw	pin	clamp assembly	kg
	right hand										
3636525	KM80TSDDJNR15KC04	70	2.756	53	2.087	DN..150408/DN..432	IDSN443	KMSP415IP	SSP025016M	CM234R ASSY	1,92
3636442	KM80TSDDJNR15KC06	70	2.756	53	2.087	DN..150608/DN..442	IDSN433	KMSP415IP	SSP025016M	CM234R ASSY	1,92
	left hand										
3636526	KM80TSDDJNL15KC04	70	2.756	53	2.087	DN..150408/DN..432	IDSN443	KMSP415IP	SSP025016M	CM234R ASSY	1,92
3636523	KM80TSDDJNL15KC06	70	2.756	53	2.087	DN..150608/DN..442	IDSN433	KMSP415IP	SSP025016M	CM234R ASSY	1,92



KM QUICK CHANGE







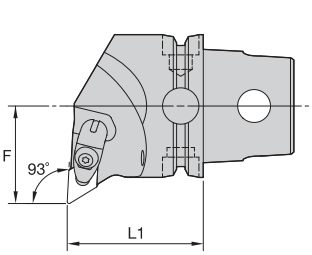
DDQN 107° 30'

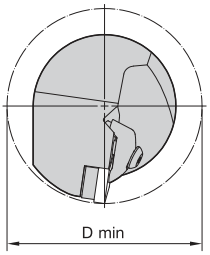


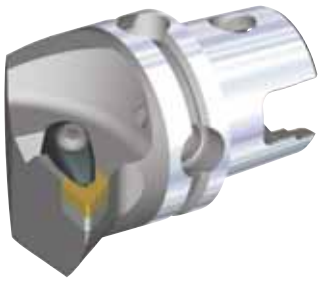
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	pin	clamp assembly	kg
	right hand												
3636527	KM80TSDDQNR15KC04	70	2.756	53	2.087	106	4.173	DN..150408/DN..432	IDSN443	KMSP415IP	SSP025016M	CM234R ASSY	1,94
3636530	KM80TSDDQNR15KC06	70	2.756	53	2.087	106	4.173	DN..150608/DN..442	IDSN433	KMSP415IP	SSP025016M	CM234R ASSY	1,94
	left hand												
3636528	KM80TSDDQNL15KC04	70	2.756	53	2.087	106	4.173	DN..150408/DN..432	IDSN443	KMSP415IP	SSP025016M	CM234R ASSY	1,94
3636531	KM80TSDDQNL15KC06	70	2.756	53	2.087	106	4.173	DN..150608/DN..442	IDSN433	KMSP415IP	SSP025016M	CM234R ASSY	1,94



KM QUICK CHANGE







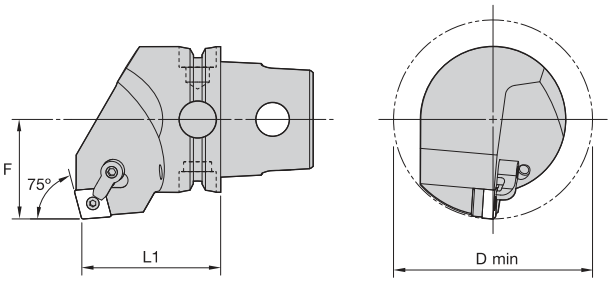
DDUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	shim screw	pin	clamp assembly	kg
	right hand												
3636533	KM80TSDDUNR15KC04	70	2.756	53	2.087	106	4.173	DN..150408/DN..432	IDSN443	KMSP415IP	SSP025016M	CM234R ASSY	2,08
3636537	KM80TSDDUNR15KC06	70	2.756	53	2.087	106	4.173	DN..150608/DN..442	IDSN433	KMSP415IP	SSP025016M	CM234R ASSY	2,08
	left hand												
3636535	KM80TSDDUNL15KC04	70	2.756	53	2.087	106	4.173	DN..150408/DN..432	IDSN443	KMSP415IP	SSP025016M	CM234R ASSY	2,08
3636538	KM80TSDDUNL15KC06	70	2.756	53	2.087	106	4.173	DN..150608/DN..442	IDSN433	KMSP415IP	SSP025016M	CM234R ASSY	2,08

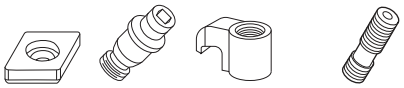


KM QUICK CHANGE





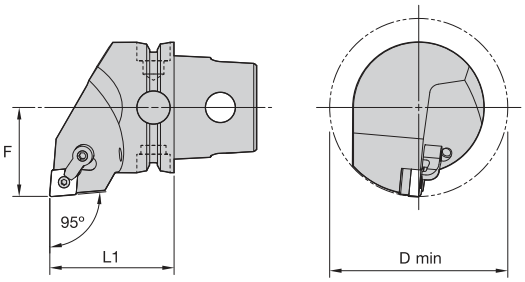
MCKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3662524	KM80TSMCKNR19	70	2.756	53	2.087	106	4.173	CN..190612/CN..643	ICSN633	KLM68	CKM12	STCM4	2,39	5.28
	left hand													
3662523	KM80TSMCKNL19	70	2.756	53	2.087	106	4.173	CN..190612/CN..643	ICSN633	KLM68	CKM12	STCM4	2,39	5.28

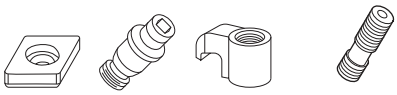


KM QUICK CHANGE



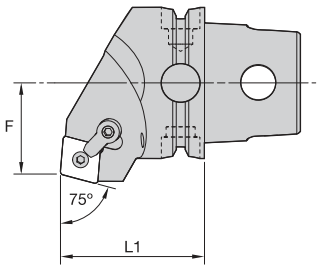


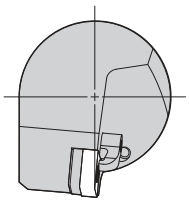
MCLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3662529	KM80TSMCLNR12	70	2.756	53	2.087	106	4.173	CN..120408/CN..432	ICSN432	KLM46	CKM20	STCM11	2,21	4.87
3662530	KM80TSMCLNR16	70	2.756	53	2.087	106	4.173	CN..160612/CN..543	ICSN533	KLM58	CKM20	STCM11	2,20	4.86
3662531	KM80TSMCLNR19	70	2.756	53	2.087	106	4.173	CN..190612/CN..643	ICSN633	KLM68	CKM12	STCM4	2,20	4.85
3662532	KM80TSMCLNR25	70	2.756	53	2.087	106	4.173	CN..250924/CN..866	ICSN846	KLM810	CKM24	STCM19	2,21	4.86
	left hand													
3662525	KM80TSMCLNL12	70	2.756	53	2.087	106	4.173	CN..120408/CN..432	ICSN432	KLM46	CKM20	STCM11	2,21	4.87
3662526	KM80TSMCLNL16	70	2.756	53	2.087	106	4.173	CN..160612/CN..543	ICSN533	KLM58	CKM20	STCM11	2,20	4.86
3662527	KM80TSMCLNL19	70	2.756	53	2.087	106	4.173	CN..190612/CN..643	ICSN633	KLM68	CKM12	STCM4	2,20	4.85
3662528	KM80TSMCLNL25	70	2.756	53	2.087	106	4.173	CN..250924/CN..866	ICSN846	KLM810	CKM24	STCM19	2,21	4.86



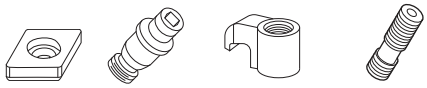






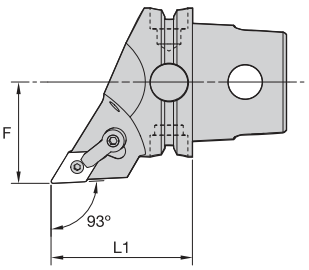
KM QUICK CHANGE

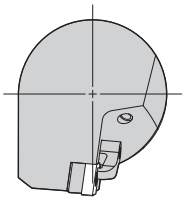
MCRN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3662536	KM80TSMCRNR16	70	2.756	48	1.890	CN..160612/CN..543	ICSN533	KLM58	CKM20	STCM11	2,27	5.00
3662537	KM80TSMCRNR19	70	2.756	48	1.890	CN..190612/CN..643	ICSN633	KLM68	CKM12	STCM4	2,26	4.99
3662538	KM80TSMCRNR25	70	2.756	48	1.890	CN..250924/CN..866	ICSN846	KLM810	CKM24	STCM19	2,25	4.97
	left hand											
3662533	KM80TSMCRNL16	70	2.756	48	1.890	CN..160612/CN..543	ICSN533	KLM58	CKM20	STCM11	2,27	5.00
3662534	KM80TSMCRNL19	70	2.756	48	1.890	CN..190612/CN..643	ICSN633	KLM68	CKM12	STCM4	2,26	4.99
3662535	KM80TSMCRNL25	70	2.756	48	1.890	CN..250924/CN..866	ICSN846	KLM810	CKM24	STCM19	2,25	4.97









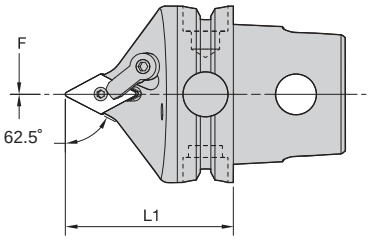
KM QUICK CHANGE

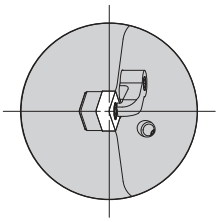
MDJN 93°

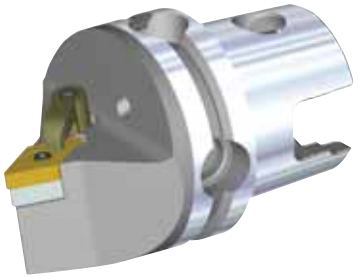


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3662542	KM80TSMDJNR1504	70	2.756	53	2.087	DN..150408/DN.432	IDSN442	KLM46L	CKM23	STCM11	1,85	4.07
3662564	KM80TSMDJNR1506	70	2.756	53	2.087	DN..150608/DN.442	IDSN432	KLM46L	CKM23	STCM11	1,84	4.06
	left hand											
3662541	KM80TSMDJNL1504	70	2.756	53	2.087	DN..150408/DN.432	IDSN442	KLM46L	CKM23	STCM11	1,85	4.07
3662563	KM80TSMDJNL1506	70	2.756	53	2.087	DN..150608/DN.442	IDSN432	KLM46L	CKM23	STCM11	1,84	4.06









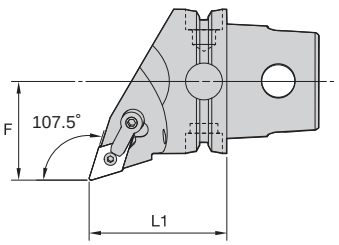
KM QUICK CHANGE

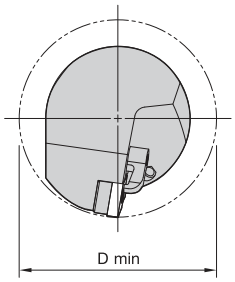
MDPN 62.5°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
3662565	KM80TSMDPNN1504	70	2.756	0	.000	DN..150408/DN.432	IDSN442	KLM46L	CKM23	STCM11	1,73	3.81
3662566	KM80TSMDPNN1506	70	2.756	0	.000	DN..150608/DN.442	IDSN432	KLM46L	CKM23	STCM11	1,72	3.80



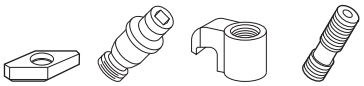






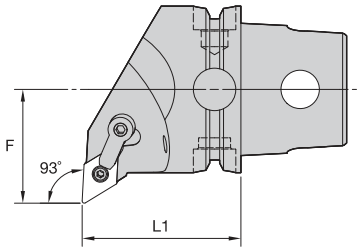
KM QUICK CHANGE

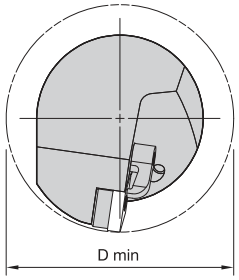
MDQN 107.5°

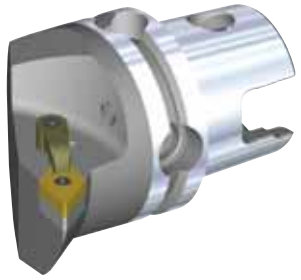


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3662568	KM80TSMDQNR1504	70	2.756	53	2.087	106	4.173	DN..150408/DN.432	IDSN442	KLM46L	CKM23	STCM11	2,01	4.44
3662570	KM80TSMDQNR1506	70	2.756	53	2.087	106	4.173	DN..150608/DN.442	IDSN432	KLM46L	CKM23	STCM11	2,01	4.43
	left hand													
3662567	KM80TSMDQNL1504	70	2.756	53	2.087	106	4.173	DN..150408/DN.432	IDSN442	KLM46L	CKM23	STCM11	2,01	4.44
3662569	KM80TSMDQNL1506	70	2.756	53	2.087	106	4.173	DN..150608/DN.442	IDSN432	KLM46L	CKM23	STCM11	2,01	4.43



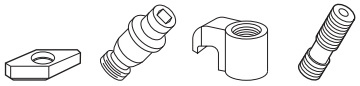






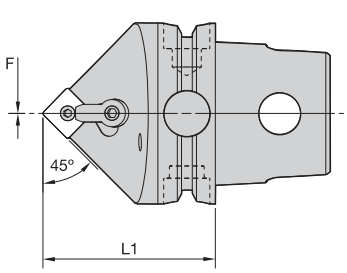
KM QUICK CHANGE

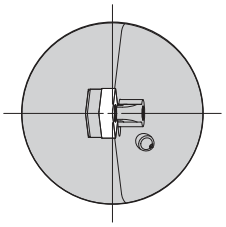
MDUN 93°

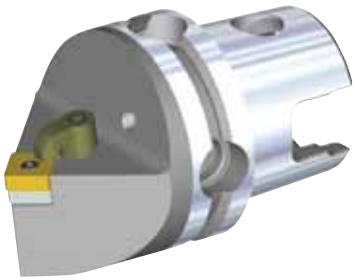


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3662572	KM80TSMDUNR1504	70	2.756	53	2.087	106	4.173	DN..150408/DN.432	IDSN442	KLM46L	CKM23	STCM11	2,28	5.02
3662574	KM80TSMDUNR1506	70	2.756	53	2.087	106	4.173	DN..150608/DN.442	IDSN432	KLM46L	CKM23	STCM11	2,27	5.01
	left hand													
3662571	KM80TSMDUNL1504	70	2.756	53	2.087	106	4.173	DN..150408/DN.432	IDSN442	KLM46L	CKM23	STCM11	2,27	5.02
3662573	KM80TSMDUNL1506	70	2.756	53	2.087	106	4.173	DN..150608/DN.442	IDSN432	KLM46L	CKM23	STCM11	2,27	5.01



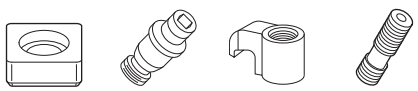






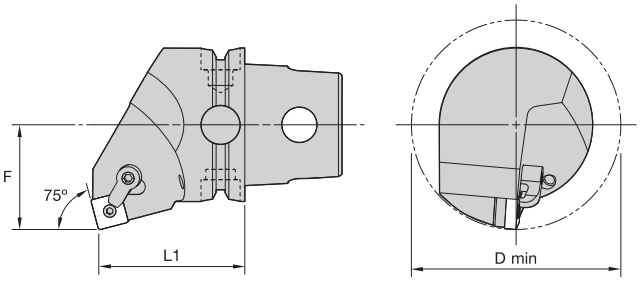
KM QUICK CHANGE

MSDN 45°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
3662577	KM80TSMSDNN19	70	2.756	0	.000	SN..190512/SN.643	ISSN633	KLM68	CKM12	STCM4	1,85	4.08
3662578	KM80TSMSDNN25	70	2.756	0	.000	SN..250924/SN.866	ISSN846	KLM810	CKM24	STCM19	1,76	3.88

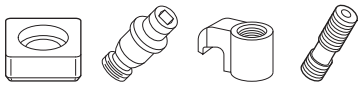






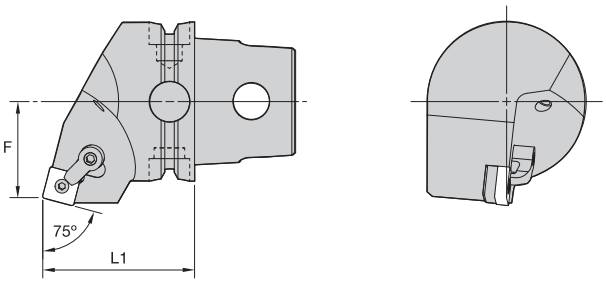
KM QUICK CHANGE

MSKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3662581	KM80TSMSKNR19	70	2.756	53	2.087	106	4.17	SN..190512/SN.643	ISSN633	KLM68	CKM12	STCM4	2,37	5.23
3662582	KM80TSMSKNR25	70	2.756	53	2.087	106	4.17	SN..250924/SN..866	ISSN846	KLM810	CKM24	STCM19	2,47	5.45
	left hand													
3662579	KM80TSMSKNL19	70	2.756	53	2.087	106	4.17	SN..190512/SN.643	ISSN633	KLM68	CKM12	STCM4	2,37	5.23
3662580	KM80TSMSKNL25	70	2.756	53	2.087	106	4.17	SN..250924/SN..866	ISSN846	KLM810	CKM24	STCM19	2,47	5.45

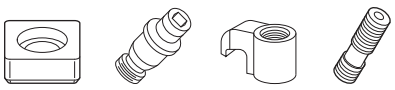






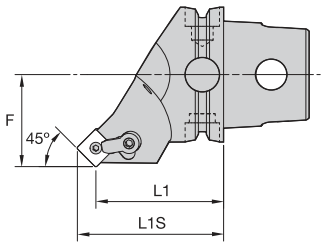
KM QUICK CHANGE

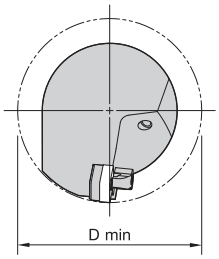
MSRN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3662585	KM80TSMSRNR19	70	2.756	48	1.890	SN..190512/SN.643	ISSN633	KLM68	CKM12	STCM4	2,12	4.67
3662586	KM80TSMSRNR25	70	2.756	48	1.890	SN..250924/SN.866	ISSN846	KLM810	CKM24	STCM19	2,19	4.82
	left hand											
3662583	KM80TSMSRNL19	70	2.756	48	1.890	SN..190512/SN.643	ISSN633	KLM68	CKM12	STCM4	2,12	4.67
3662584	KM80TSMSRNL25	70	2.756	48	1.890	SN..250924/SN.866	ISSN846	KLM810	CKM24	STCM19	2,19	4.82









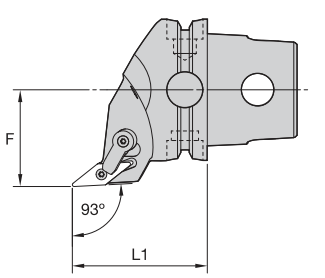
KM QUICK CHANGE

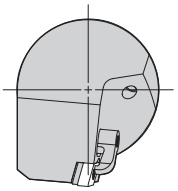
MSSN 45°

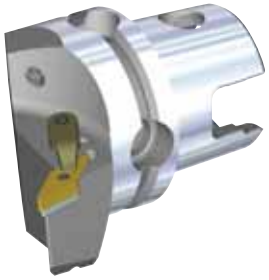


order number	catalog number	L1 mm	L1 in	L1S mm	L1S in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand															
3662588	**KM80TSMSSNR25**	70	2.756	86	3.386	53	2.09	150	5.906	SN..250924/SN.866	**ISSN846**	**KLM810**	**CKM24**	**STCM19**	2,18	4.81
	left hand															
3662587	**KM80TSMSSNL25**	70	2.756	86	3.386	53	2.09	150	5.906	SN..250924/SN.866	**ISSN846**	**KLM810**	**CKM24**	**STCM19**	2,18	4.81









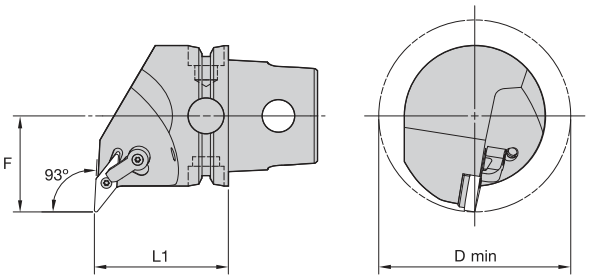
KM QUICK CHANGE

MVJN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3662562	**KM80TSMVJNR16**	70	2.756	53	2.087	VN..160408/VN.332	**IVSN322**	**KLM34L**	**CKM23**	**STCM11**	1,79	3.94
	left hand											
3662561	**KM80TSMVJNL16**	70	2.756	53	2.087	VN..160408/VN.332	**IVSN322**	**KLM34L**	**CKM23**	**STCM11**	1,79	3.94

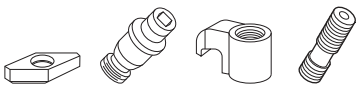






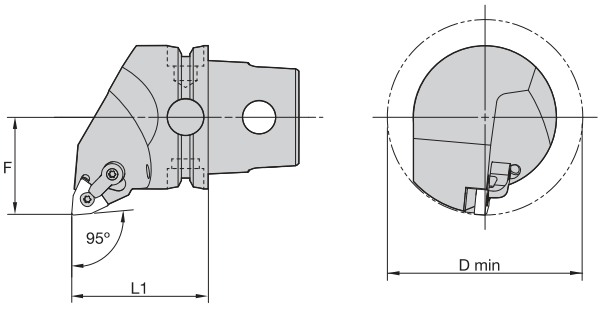
KM QUICK CHANGE

MVUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3662594	KM80TSMVUNR16	70	2.756	53	2.087	106	4.173	VN..160408/VN.332	IVSN322	KLM34L	CKM23	STCM11	2,11	4.64
	left hand													
3662593	KM80TSMVUNL16	70	2.756	53	2.087	106	4.173	VN..160408/VN.332	IVSN322	KLM34L	CKM23	STCM11	2,11	4.64

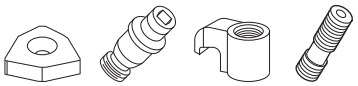






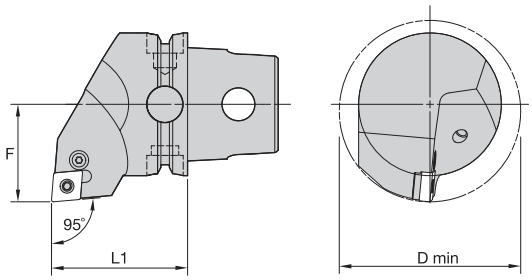
KM QUICK CHANGE

MWLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
3662596	KM80TSMWLNR08	70	2.756	53	2.087	106	4.173	WN..080408/WN.432	IWSN433	KLM46	CKM20	STCM11	2,15	4.74
	left hand													
3662595	KM80TSMWLNL08	70	2.756	53	2.087	106	4.173	WN..080408/WN.432	IWSN433	KLM46	CKM20	STCM11	2,15	4.74

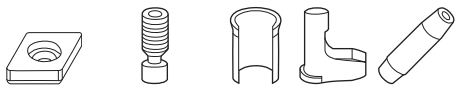






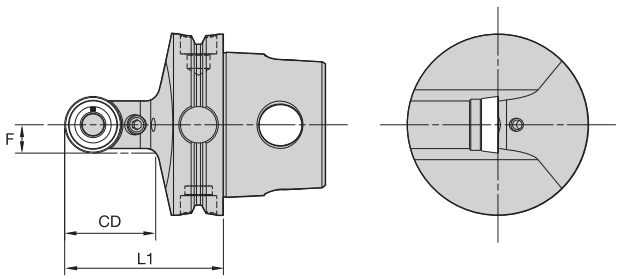
KM QUICK CHANGE

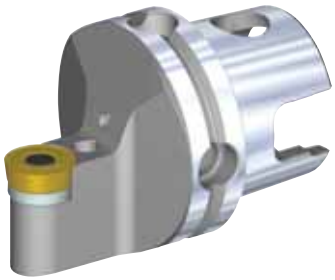
PCLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever lock screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
3662602	KM80TSPCLNR12	70	2.756	53	2.087	100	3.937	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	2,19	4.82
3662603	KM80TSPCLNR16	70	2.756	53	2.087	100	3.937	CN..160612/CN..543	512.117	514.125	513.025	511.025	515.022	2,18	4.81
3662604	KM80TSPCLNR19	70	2.756	53	2.087	100	3.937	CN..190612/CN..643	512.123	514.133	513.033	511.033	515.022	2,17	4.79
3662605	KM80TSPCLNR25	70	2.756	53	2.087	100	3.937	CN..250924/CN..866	512.024	12148562500	513.038	511.038	515.028	2,15	4.74
	left hand														
3662598	KM80TSPCLNL12	70	2.756	53	2.087	100	3.937	CN..120408/CN..432	512.112	514.123	513.023	511.023	515.018	2,19	4.82
3662599	KM80TSPCLNL16	70	2.756	53	2.087	100	3.937	CN..160612/CN..543	512.117	514.125	513.025	511.025	515.022	2,18	4.81
3662600	KM80TSPCLNL19	70	2.756	53	2.087	100	3.937	CN..190612/CN..643	512.123	514.133	513.033	511.033	515.022	2,17	4.79
3662601	KM80TSPCLNL25	70	2.756	53	2.087	100	3.937	CN..250924/CN..866	512.024	12148562500	513.038	511.038	515.028	2,15	4.74





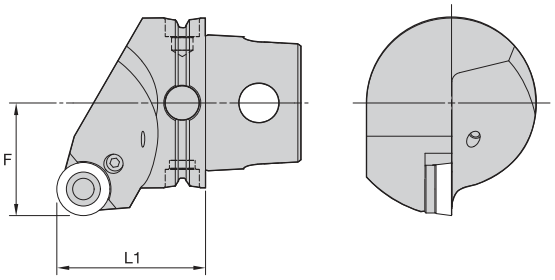


KM QUICK CHANGE

PRDC 90°



order number	catalog number	L1 mm	L1 in	F mm	F in	CD mm	CD in	gage insert	shim	clamp screw	clamp stud	kg	lbs
	left hand												
3662606	KM80TSPRDCN20	70	2.756	10	.394	40	1.581	RCMT2006M0	169.333	121.820	119.073	1,48	3.26
3662607	KM80TSPRDCN25	70	2.756	13	.492	40	1.581	RCMX2507M0RP	169.337	121.820	118.404	1,55	3.42



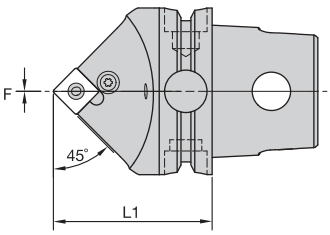


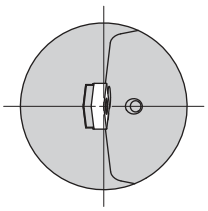
KM QUICK CHANGE

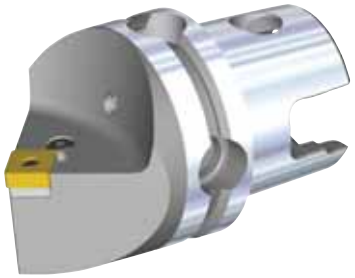
PRGC 0°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	clamp screw	clamp stud	kg	lbs
	right hand										
3662625	KM80TSPRGCR25	70	2.756	53	2.087	RC..2507M0	169.337	121.820	118.404	2,02	4.46
3662626	KM80TSPRGCR32	80	3.150	53	2.087	RC..320900	169.339	121.030	118.604	2,63	5.79
	left hand										
3662623	KM80TSPRGCL25	70	2.756	53	2.087	RC..2507M0	169.337	121.820	118.404	2,02	4.45
3662624	KM80TSPRGCL32	80	3.150	53	2.087	RC..320900	169.339	121.030	118.604	2,63	5.79

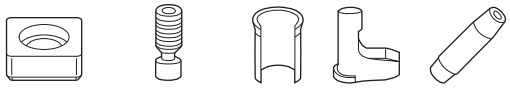




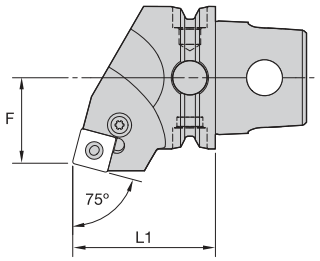


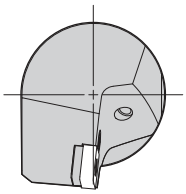
KM QUICK CHANGE

PSDN 45°



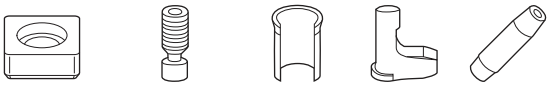
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever lock screw	shim pin	toggle lever	punch	kg	lbs
	left hand												
3662627	KM80TSPSDNN19	70	2.756	0	.000	SN..190612/SN..643	512.083	514.133	513.033	511.033	515.022	1,76	3.87
3662628	KM80TSPSDNN25	70	2.756	0	.000	SN..250724/SN..856	512.092	514.138	513.038	511.038	515.028	1,75	3.85



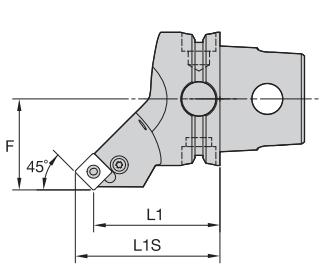


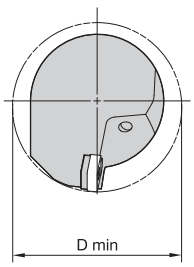


PSRN 75°



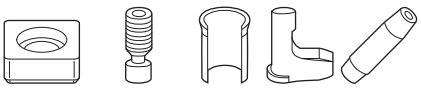
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever lock screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
3662631	KM80TSPSRNR19	70	2.756	48	1.890	SN..190612/SN..643	512.083	514.133	513.033	511.033	515.022	2,11	4.66
3662632	KM80TSPSRNR25	70	2.756	48	1.890	SN..250724/SN..-856	512.092	514.138	513.038	511.038	515.028	2,13	4.69
	left hand												
3662629	KM80TSPSRNL19	70	2.756	48	1.890	SN..190612/SN..643	512.083	514.133	513.033	511.033	515.022	2,07	4.56
3662630	KM80TSPSRNL25	70	2.756	48	1.890	SN..250724/SN..-856	512.092	514.138	513.038	511.038	515.028	2,13	4.69







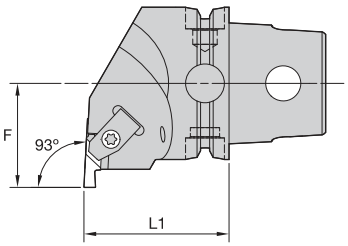
PSSN 45°

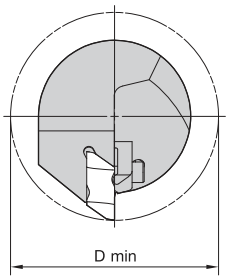


order number	catalog number	L1 mm	L1 in	L1S mm	L1S in	F mm	F in	D min mm	D min in	gage insert	shim	lever lock screw	shim pin	toggle lever	punch	kg	lbs
	right hand																
3662636	KM80TSPSSNR19	70	2.756	82,49	3.248	53	2.087	100	3.94	SN..190612/SN..643	512.083	514.133	513.033	511.033	515.022	2,00	4.41
3662637	KM80TSPSSNR25	70	2.756	85,98	3.385	53	2.087	150	5.91	SN..250724/SN..856	512.092	514.138	513.038	511.038	515.028	2,13	4.70
	left hand																
3662633	KM80TSPSSNL19	70	2.756	82,49	3.248	53	2.087	100	3.94	SN..190612/SN..643	512.083	514.133	513.033	511.033	515.022	1,94	4.29
3662634	KM80TSPSSNL25	70	2.756	86,00	3.386	53	2.087	150	5.91	SN..250724/SN..856	512.092	514.138	513.038	511.038	515.028	2,09	4.61



KM QUICK CHANGE







NE 93° • Metric

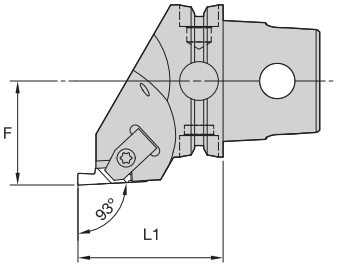


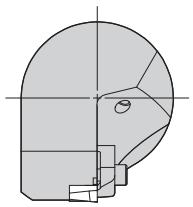


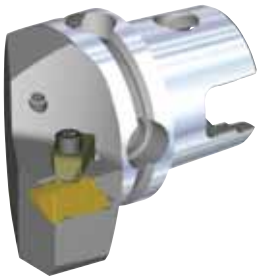
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamp screw	kg	lbs
	right hand											
3665054	**KM80TSNER3**	70	2.756	53	2.087	106	4.173	NG3L	**CM73**	**MS1489**	2,14	4.72
3665056	**KM80TSNER4**	70	2.756	53	2.087	106	4.173	NG4L	**CM73**	**MS1489**	2,18	4.81
3665058	**KM80TSNER5**	70	2.756	53	2.087	106	4.173	NG5L	**CM81**	**MS1490**	2,28	5.02
3665060	**KM80TSNER6**	70	2.756	53	2.087	106	4.173	NG6L	**CM121**	**MS1489**	2,28	5.02
	left hand											
3665053	**KM80TSNEL3**	70	2.756	53	2.087	106	4.173	NG3R	**CM72**	**MS1489**	2,14	4.72
3665055	**KM80TSNEL4**	70	2.756	53	2.087	106	4.173	NG4R	**CM72**	**MS1489**	2,18	4.81
3665057	**KM80TSNEL5**	70	2.756	53	2.087	106	4.173	NG5R	**CM80**	**MS1490**	2,28	5.02
3665059	**KM80TSNEL6**	70	2.756	53	2.087	106	4.173	NG6R	**CM120**	**MS1489**	2,18	4.80



KM QUICK CHANGE







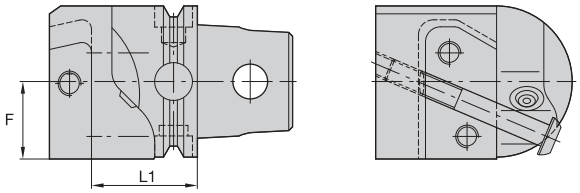
NS 93° • Metric





order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	clamp	clamp screw	kg	lbs
	right hand									
3668864	**KM80TSNSR3**	70	2.756	53	2.087	NG3R	**CM72**	**MS1489**	1,96	4.32
3668866	**KM80TSNSR4**	70	2.756	53	2.087	NG4R	**CM72**	**MS1489**	1,94	4.28
3668868	**KM80TSNSR5**	80	3.150	53	2.087	NG5R	**CM80**	**MS1490**	2,25	4.95
	left hand									
3668863	**KM80TSNSL3**	70	2.756	53	2.086	NG3L	**CM73**	**MS1489**	1,96	4.32
3668865	**KM80TSNSL4**	70	2.756	53	2.087	NG4L	**CM73**	**MS1489**	1,97	4.35
3668867	**KM80TSNSL5**	80	3.150	53	2.087	NG5L	**CM81**	**MS1490**	2,27	5.01







KM QUICK CHANGE

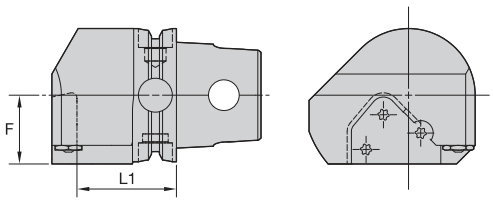
KGME • End Mount





order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	nozzle	clamp screw	kg
	right hand									
3670369	**KM80TSKGMER50**	58	2.28	40,5	1.594	50	**MS1162**	**PMT04525**	**MS2002**	2,51
	left hand									
3670367	**KM80TSKGMEL50**	58	2.28	40,5	1.594	50	**MS1162**	**PMT04525**	**MS2002**	2,49

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use left-hand blades.





KGME • End Mount




order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	nozzle	kg
	right hand								
3670370	**KM80TSKGMER65**	57	2.24	40,5	1.594	65	**MS1163**	**PMT04525**	3,17
	left hand								
3670368	**KM80TSKGMEL65**	57	2.24	40,5	1.594	65	**MS1163**	**PMT04525**	3,17

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use left-hand blades.



Increased Efficiency

Automatic adjustment with Romicron™ Closed Loop Boring (CLB)

- Reduce scrap rates and setup time due to backlash-free adjustment.
- Make use of the entire tool life of used inserts as diameter adjustment can be done inside of the machine, avoiding routine insert changes in the setup room.
- Avoid time-consuming control cuts or sister tooling.
- No additional training or experience needed, resulting in less stress during adjustments.

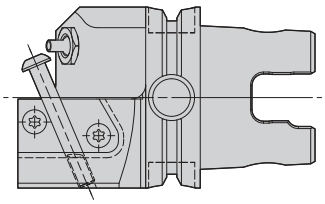


Visit **www.kennametal.com** or contact your local Authorized Kennametal Distributor.

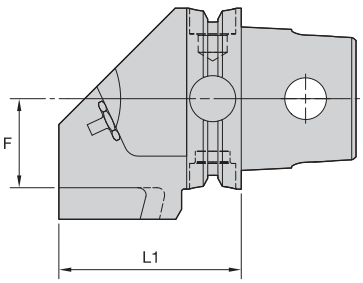
www.kennametal.com

KENNAMETAL®









KM QUICK CHANGE

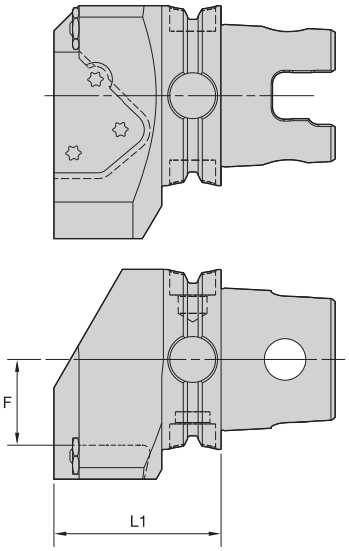
KGMS • Side Mount

order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	clamp screw	nozzle	kg
	right hand									
3670383	**KM80TSKGMSR50**	66,5	2.618	41	1.614	50	**MS1162**	**MS2002**	**PMT04525**	2,43
	left hand									
3670371	**KM80TSKGMSL50**	66,5	2.618	41	1.614	50	**MS1162**	**MS2002**	**PMT04525**	2,18

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use right-hand blades.

(continued)

(KGMS • Side Mount continued)





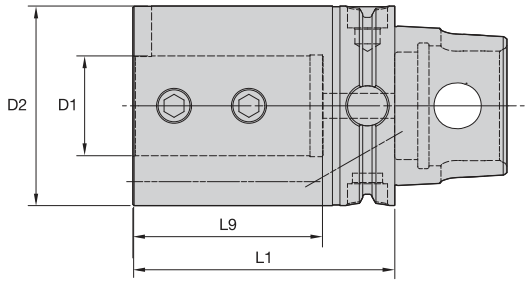
KGMS • Side Mount





order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	nozzle	kg
	right hand								
3670384	**KM80TSKGMSR65**	63,5	2.500	40	1.575	65	**MS1163**	**PMT04525**	2,88
	left hand								
3670372	**KM80TSKGMSL65**	63,5	2.500	40	1.575	65	**MS1163**	**PMT04525**	2,88

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use right-hand blades.





KM QUICK CHANGE

BA • Metric




order number	catalog number	D1	D2	L1	L9	clamp screw	nozzle	wrench size clamp screw	Nm	kg
3670392	**KM80TSBA25075M**	25	65	75	58	**MS1561**	**PWZ1012**	5mm	35	2,23
3670423	**KM80TSBA32075M**	32	72	75	63	**190.228**	**PWZ1012**	–	55	2,36
3670424	**KM80TSBA40105M**	40	80	105	76	**MS1947**	**PWZ1012**	8mm	125	3,55

BA • Inch




order number	catalog number	D1	D2	L1	L9	clamp screw	nozzle	wrench size clamp screw	ft. lbs.	lbs
3670350	**KM80TSBA100276**	1	2.559	2.756	2.244	**MS1561**	**PWZ1012**	5mm	25	4.63
3670351	**KM80TSBA125295**	1 1/4	2.835	2.953	2.480	**MS1561**	**PWZ1012**	5mm	25	5.21
3670352	**KM80TSBA150413**	1 1/2	3.150	4.134	2.953	**MS1947**	**PWZ1012**	8mm	90	7.99
3670363	**KM80TSBA200512**	2	3.543	5.118	3.976	**MS1947**	**PWZ1012**	8mm	90	10.56

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.
For boring bar reducers, see page A570.



Romicron™ Boring System

Fast

Adjustments can be made in less than 5 seconds, while still holding 0,002mm (.0001") on the diameter!

Accurate

Each click of the dial is 0,001mm (.000040") on the radius and can be done in less than 5 seconds.
This high-performance boring system will give you:

- More uptime.
- Less scrap.
- Longer tool life.
- CPKs greater than 1.33.
- Less stress during adjustments.

NOTE: For Romicron boring systems, see the Kennametal Innovations Master Catalog Cutting Tools 2013.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

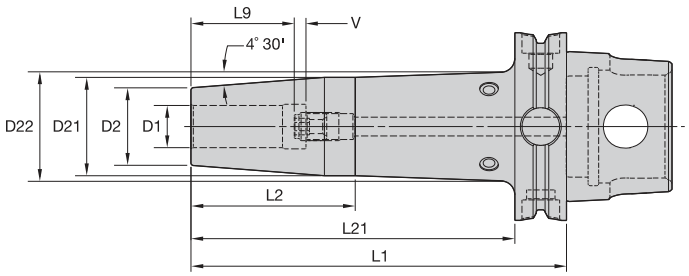
www.kennametal.com

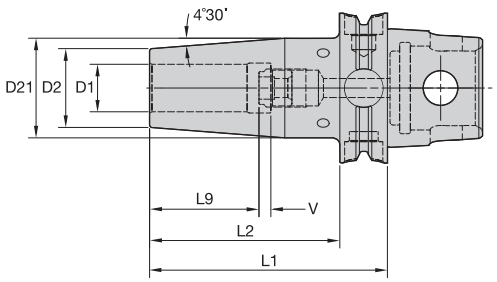
KENNAMETAL®

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).









KM QUICK CHANGE

Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32, 40, & 50	h6	0,000/-0,016

HPV TT • Metric



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg	lbs
3681408	KM80TSHPVTT10090M	10	24	32	—	90	68	—	31	10	TTSS08014M	4mm	1,44	3.16
3681409	KM80TSHPVTT10170M	10	24	32	38	170	63	148	31	10	TTSS08014M	4mm	2,03	4.48
3681410	KM80TSHPVTT12095M	12	24	32	—	95	73	—	36	10	TTSS10014M	5mm	1,45	3.19
3681411	KM80TSHPVTT12160M	12	24	32	37	160	63	138	36	10	TTSS10014M	5mm	1,93	4.26
3681412	KM80TSHPVTT14095M	14	27	34	—	95	73	—	36	10	TTSS10014M	5mm	1,51	3.32
3682733	KM80TSHPVTT16100M	16	27	34	—	100	78	—	39	10	TTSS12014M	6mm	1,51	3.34
3682734	KM80TSHPVTT18100M	18	33	42	—	100	78	—	39	10	TTSS12014M	6mm	1,72	3.80
3682735	KM80TSHPVTT18160M	18	33	42	47	160	70	138	39	10	TTSS12014M	6mm	2,44	5.37
3682736	KM80TSHPVTT20105M	20	33	42	—	105	83	—	41	10	TTSS16014M	8mm	1,74	3.83
3682737	KM80TSHPVTT25115M	25	44	53	—	115	93	—	47	10	TTSS16014M	8mm	2,31	5.09
3682738	KM80TSHPVTT32120M	32	44	53	—	120	98	—	51	10	TTSS16014M	8mm	2,23	4.91
3682739	KM80TSHPVTT40130M	40	60	70	—	130	108	—	51	10	TTSS20014M	10mm	3,42	7.55
3682740	KM80TSHPVTT50140M	50	69	79	—	140	118	—	56	10	TTSS20014M	10mm	4,23	9.34

(continued)

(HPV TT continued)

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameter	tolerance
5/16 & 3/8	-.0001/-.0004
7/16, 1/2, 9/16, & 5/8	.0000/-.0004
3/4, 7/8, 1, 1-1/4, 1-1/2, & 2	.0000/-.0005

HPV TT • Inch

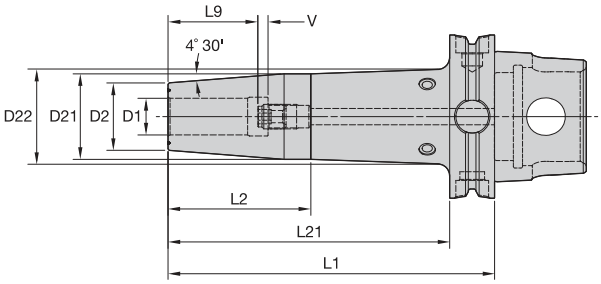


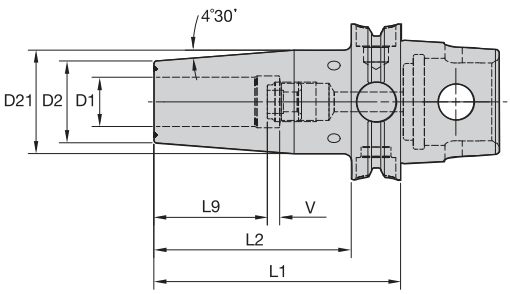
order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg	lbs
3683469	**KM80TSHPVTT031335**	5/16	.827	1.059	—	3.346	2.480	—	1.024	.394	**TTSS06014M**	3mm	1,34	2.96
3683470	**KM80TSHPVTT038630**	3/8	.945	1.256	1.462	6.299	2.480	5.433	1.220	.394	**TTSS08014M**	4mm	1,95	4.30
3683471	**KM80TSHPVTT044374**	7/16	.945	1.256	—	3.740	2.874	—	1.417	.394	**TTSS10014M**	5mm	1,45	3.21
3683038	**KM80TSHPVTT050374**	1/2	.945	1.256	—	3.740	2.874	—	1.417	.394	**TTSS10014M**	5mm	1,44	3.18
3683039	**KM80TSHPVTT056374**	9/16	1.063	1.335	—	3.740	2.874	—	1.417	.394	**TTSS10014M**	5mm	1,50	3.31
3683040	**KM80TSHPVTT062394**	5/8	1.063	1.335	—	3.937	3.071	—	1.535	.394	**TTSS12014M**	6mm	1,52	3.34
3683041	**KM80TSHPVTT062850**	5/8	1.063	1.335	1.695	8.500	2.480	7.638	1.535	.394	**TTSS12014M**	6mm	2,56	5.65
3683042	**KM80TSHPVTT075413**	3/4	1.299	1.650	—	4.134	3.267	—	1.614	.394	**TTSS16014M**	8mm	1,75	3.86
3683463	**KM80TSHPVTT075630**	3/4	1.299	1.650	1.837	6.299	2.756	5.433	1.614	.394	**TTSS16014M**	8mm	2,40	5.28
3683464	**KM80TSHPVTT088413**	7/8	1.299	1.650	—	4.134	3.268	—	1.614	.394	**TTSS16014M**	8mm	1,71	3.77
3683465	**KM80TSHPVTT100453**	1	1.732	2.083	—	4.528	3.662	—	1.850	.394	**TTSS16014M**	8mm	2,30	5.07
3683466	**KM80TSHPVTT125472**	1 1/4	1.732	2.083	—	4.724	3.858	—	2.008	.394	**TTSS16014M**	8mm	2,23	4.92
3683467	**KM80TSHPVTT150512**	1 1/2	2.362	2.752	—	5.118	4.252	—	2.008	.394	**TTSS20014M**	10mm	3,49	7.70
3683468	**KM80TSHPVTT200551**	2	2.717	3.106	—	5.512	4.646	—	2.205	.394	**TTSS20014M**	10mm	4,22	9.30

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see page L12–L13.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







KM QUICK CHANGE

Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/ -0,011
20 & 25	h6	0,000/ -0,013
32	h6	0,000/ -0,016

HPV TT HT • Metric



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg	lbs
3682747	KM80TSHPVTTHT12095M	12	24	32	—	95	73	—	36	10	TTSS10014M	5mm	1,45	3.19
3682748	KM80TSHPVTTHT12160M	12	24	32	37	160	63	138	36	10	TTSS10014M	5mm	1,92	4.22
3682749	KM80TSHPVTTHT14095M	14	27	34	—	95	73	—	36	10	TTSS10014M	5mm	1,51	3.32
3682750	KM80TSHPVTTHT16100M	16	27	34	—	100	78	—	39	10	TTSS12014M	6mm	1,51	3.34
3682751	KM80TSHPVTTHT18100M	18	33	42	—	100	78	—	39	10	TTSS12014M	6mm	1,72	3.80
3682752	KM80TSHPVTTHT18160M	18	33	42	47	160	70	138	39	10	TTSS12014M	6mm	2,44	5.37
3682773	KM80TSHPVTTHT20105M	20	33	42	—	105	83	—	41	10	TTSS16014M	8mm	1,74	3.83
3682774	KM80TSHPVTTHT25115M	25	44	53	—	115	93	—	47	10	TTSS16014M	8mm	2,31	5.09
3682775	KM80TSHPVTTHT32120M	32	44	53	—	120	98	—	51	10	TTSS16014M	8mm	2,23	4.91

(continued)

(HPV TT HT continued)

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameter	tolerance
1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

HPV TT HT • Inch

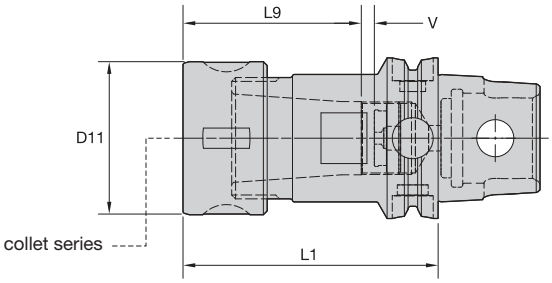


order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg	lbs
3684074	**KM80TSHPVTTHT050374**	1/2	.945	1.256	—	3.740	2.874	—	1.417	.394	**TTSS10014M**	5mm	1,44	3.18
3684075	**KM80TSHPVTTHT056374**	9/16	1.063	1.335	—	3.740	2.874	—	1.417	.394	**TTSS10014M**	5mm	1,50	3.31
3684076	**KM80TSHPVTTHT062394**	5/8	1.063	1.335	—	3.937	3.071	—	1.535	.394	**TTSS12014M**	6mm	1,52	3.34
3684077	**KM80TSHPVTTHT062850**	5/8	1.063	1.335	1.695	8.500	2.480	7.638	1.535	.394	**TTSS12014M**	6mm	2,56	5.65
3684078	**KM80TSHPVTTHT075413**	3/4	1.299	1.650	—	4.134	3.268	—	1.614	.394	**TTSS16014M**	8mm	1,75	3.86
3684079	**KM80TSHPVTTHT075630**	3/4	1.299	1.650	1.837	6.299	2.756	5.433	1.614	.394	**TTSS16014M**	8mm	2,41	5.32
3684080	**KM80TSHPVTTHT088413**	7/8	1.299	1.650	—	4.134	3.268	—	1.614	.394	**TTSS16014M**	8mm	1,71	3.77
3684081	**KM80TSHPVTTHT100453**	1	1.732	2.083	—	4.528	3.662	—	1.850	.394	**TTSS16014M**	8mm	2,30	5.07
3684082	**KM80TSHPVTTHT125472**	1 1/4	1.732	2.083	—	4.724	3.858	—	2.008	.394	**TTSS16014M**	8mm	2,23	4.92

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see page L12–L13.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.

- Tremendous Grip (3:1 advantage).







KM QUICK CHANGE

TG collet series	Collet Capacity mm min	mm max	inch min	inch max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1
TG150	11,6	40,0	23/64	1-1/2

TG

order number	catalog number	collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	V mm	V in	kg	lbs
3670114	**KM80TSTG075160M**	TG75	50	1.969	160	6.299	53	2.087	47	1.850	2,89	6.37
3670115	**KM80TSTG100100M**	TG100	60	2.362	100	3.937	71	2.795	—	—	2,29	5.04
3670116	**KM80TSTG150125M**	TG150	85	3.346	125	4.921	83	3.268	—	—	4,28	9.43

Spare Parts

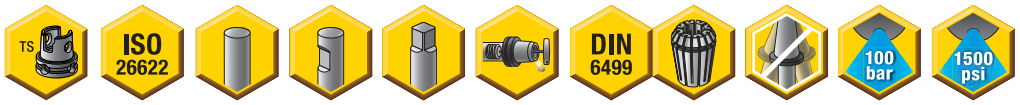


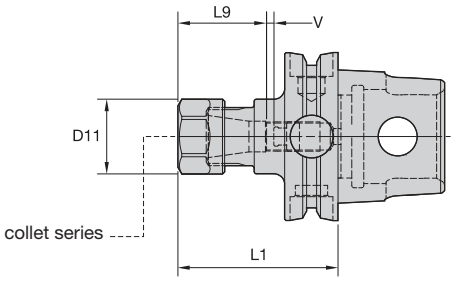


catalog number	locknut	wrench	Nm	ft. lbs.	stop screw	wrench size stop screw	Nm	ft. lbs
KM80TSTG075160M	**LNA075M**	**HSW45M**	108	80	**SS081041G**	4mm & 5/32	108 - 136	80 - 100
KM80TSTG100100M	**LNA100M**	**HSW58M**	163	120	—	—	163 - 203	120 - 150
KM80TSTG150125M	**LNA150M**	**HSW80M**	217	160	—	—	217 - 271	160 - 200

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see page L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.

• Grip (2:1 advantage).







KM QUICK CHANGE

	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER20	0,5	13,0	.02	.50

ER • Hex Nut

			D11		L1		L9		V			
order number	catalog number	collet series	mm	in	mm	in	mm	in	mm	in	kg	lbs
3683339	KM80TSER20100M	ER20	34	1.339	100	3.937	36	1.417	43	1.693	1,49	3.29

Spare Parts





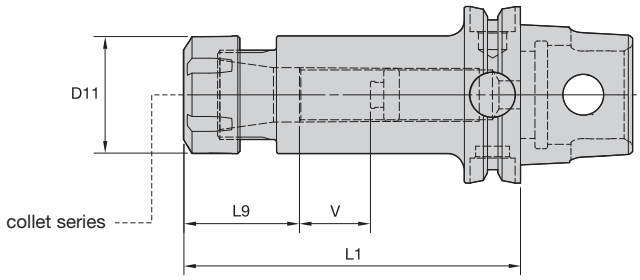
				counterbore collet torque		straight collet torque	
catalog number	hex locknut	OEW	stop screw	Nm	ft. lbs.	Nm	ft. lbs.
KM80TSER20100M	LNHSER20M	OEW30M	SS056041G	32	24	80	59

(continued)

(ER continued)

• Grip (2:1 advantage).







KM QUICK CHANGE

	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ER • Round Nut

			D11		L1		L9		V			
order number	catalog number	collet series	mm	in	mm	in	mm	in	mm	in	kg	lbs
3683341	KM80TSER25100M	ER25	42	1.654	100	3.937	40	1.575	37	1.457	1,67	3.67
3683342	KM80TSER32065M	ER32	50	1.969	65	2.559	47	1.862	—	—	1,42	3.13
3683354	KM80TSER32100M	ER32	50	1.969	100	3.937	46	1.811	28	1.102	1,85	4.08
3683353	KM80TSER40090M	ER40	63	2.480	90	3.543	70	2.768	—	—	2,06	4.53
3683355	KM80TSER40140M	ER40	63	2.480	140	5.512	52	2.047	48	1.890	3,12	6.87

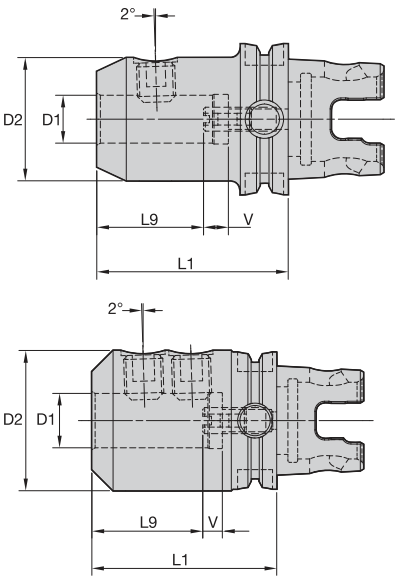
Spare Parts





catalog number	locknut	wrench	stop screw	Nm	ft. lbs.
KM80TSER25100M	LNSER25M	ER25WM	SS075041G	104	77
KM80TSER32065M	LNSER32M	ER32WM	—	136	100
KM80TSER32100M	LNSER32M	ER32WM	SS094041G	136	100
KM80TSER40090M	LNSER40M	ER40WM	—	176	130
KM80TSER40140M	LNSER40M	ER40WM	SS112041G	176	130

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable coolant-style locknuts and coolant disks are available and must be ordered separately; see page L22.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.





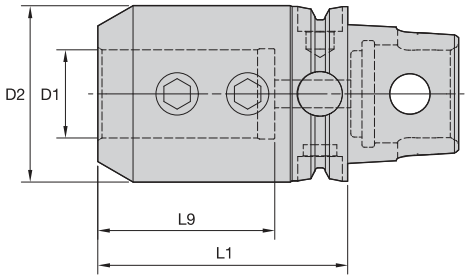
KM QUICK CHANGE

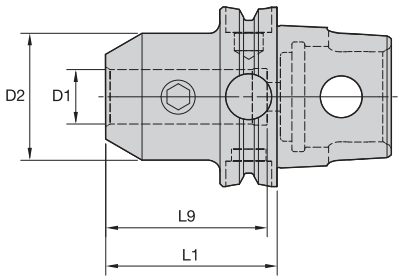
WN • Metric




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
3670133	**KM80TSWN12075M**	12	42	75	40	10	**SS03M023**	6mm	35	**571.074**	5mm	1,61
3670134	**KM80TSWN20085M**	20	52	85	45	10	**SS03M026**	8mm	95	**571.076**	6mm	1,96
3670135	**KM80TSWN25100M**	25	65	100	50	10	**SS03M027**	10mm	135	**571.077**	6mm	2,78
3670136	**KM80TSWN32105M**	32	72	105	54	10	**SS03M029**	10mm	160	**571.077**	6mm	3,22

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw and stop screw wrenches are not included.







KM QUICK CHANGE

EM • Metric



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
3683878	KM80TSEM12070M	12	42	70	50	SS03M023	6mm	35	1,55
3683879	KM80TSEM14070M	14	44	70	50	SS03M023	6mm	35	1,59
3683880	KM80TSEM16070M	16	48	70	53	SS03M025	6mm	50	1,67
3683881	KM80TSEM18070M	18	50	70	53	SS03M025	6mm	50	1,70
3683882	KM80TSEM20070M	20	52	70	55	SS03M026	8mm	95	1,73
3683903	KM80TSEM25090M	25	65	90	60	SS03M027	10mm	135	2,53
3683904	KM80TSEM32090M	32	72	90	65	SS03M029	10mm	160	2,76
3683905	KM80TSEM40100M	40	90	100	75	SS03M032	10mm	160	4,09

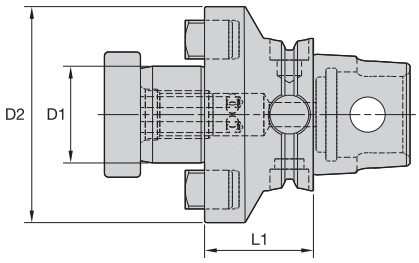
EM • Inch

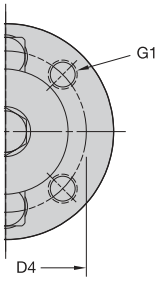


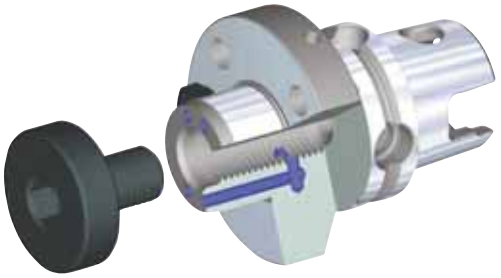
order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
3670301	KM80TSEM050354	1/2	1.375	3.543	1.974	ELS044038PKG	7/32	20	3.39
3670343	KM80TSEM062354	5/8	1.625	3.543	2.094	ELS056050PKG	1/4	40	3.76
3670344	KM80TSEM075354	3/4	1.750	3.543	2.224	ELS062050PKG	5/16	70	3.90
3670345	KM80TSEM088354	7/8	2.000	3.543	2.224	ELS062050PKG	5/16	70	4.34
3670346	KM80TSEM100354	1	2.000	3.543	2.559	ELS075056PKG	3/8	110	4.13
3670347	KM80TSEM125354	1 1/4	2.500	3.543	2.509	ELS075056PKG	3/8	110	5.10
3670348	KM80TSEM150382	1 1/2	2.750	3.819	2.931	ELS075056PKG	3/8	110	5.74
3670349	KM80TSEM200492	2	3.750	4.921	3.533	ELS100088PKG	1/2	150	11.57

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.









KM QUICK CHANGE

SMC • Metric





order number	catalog number	D1	D2	D4	G1	L1	lock screw	lock screw	drive key	wrench size lock screw	kg
3683472	KM80TSSMC27050M	27	60	—	—	50	—	KLSS27M	KDK27M	10mm	1,86
3683483	KM80TSSMC32060M	32	78	—	—	60	—	KLSS32M	KDK32M	14mm	2,62
3683484	KM80TSSMC32100M	32	78	—	—	100	—	KLSS32M	KDK32M	14mm	3,79
3683485	KM80TSSMC40060M	40	89	67	M12X1.75	60	—	KLSS40M	KDK40M	17mm	3,21
3683486	KM80TSSMC40100M	40	89	67	M12X1.75	100	—	KLSS40M	KDK40M	17mm	4,56
3683487	KM80TSSMC50070M	50	98	—	—	70	KLS50M	—	KDK40M	—	4,26
3683488	KM80TSSMC60070M	60	129	102	M16X2.0	70	—	—	KDK60M	—	5,81

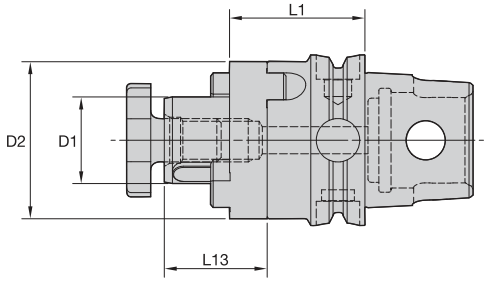
SMC • Inch




order number	catalog number	D1	D2	D4	G1	L1	lock screw	drive key	wrench size lock screw	lbs
3670508	KM80TSSMC100158	1	2.752	—	—	1.575	KLS10	KDK06	5/16	3.88
3670509	KM80TSSMC125158	1 1/4	2.878	—	—	1.575	KLS12	KDK08	5/16	4.19
3670510	KM80TSSMC125394	1 1/4	2.878	—	—	3.937	KLS12	KDK08	5/16	8.45
3670511	KM80TSSMC150158	1 1/2	3.386	—	—	1.575	KLS15	KDK10	3/8	5.00
3670512	KM80TSSMC200216	2	4.882	4.000	5/8 - 11	2.165	KLS20	KDK12	9/16	9.48
3670533	KM80TSSMC250225	2 1/2	4.882	4.000	5/8 - 11	2.250	—	KDK16	—	10.74
3670534	KM80TSSMC250450	2 1/2	4.882	4.000	5/8 - 11	4.500	—	KDK16	—	22.55

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.







KM QUICK CHANGE

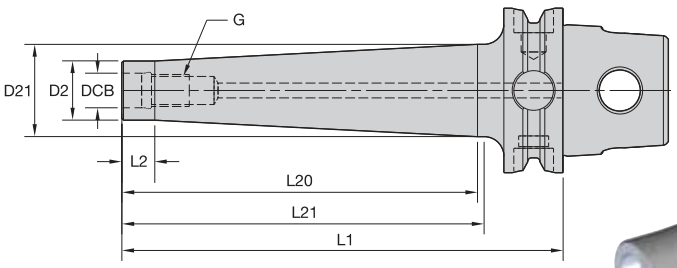
CS • Metric





order number	catalog number	D1	D2	L1	L13	lock screw	Nm	combi driver	combi drive key	kg
3735656	KM80TSCS32050M	32	58	50	38	KLS32M	95	CDR32M	CDK32M	1,89
3735658	KM80TSCS40060M	40	70	60	41	KLS40M	100	CDR40M	CDK40M	2,62







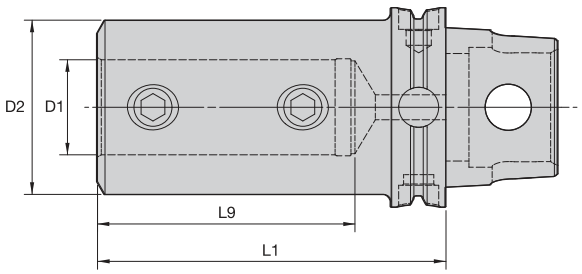
KM QUICK CHANGE

STC

order number	catalog number	DCB	G	D2	D21	L1	L2	L20	L21	kg
4137836	KM80TSSTC12087M	12,5	M12	21	24	87	10	57	59	1,29
4137837	KM80TSSTC12137M	12,5	M12	21	28	137	10	107	109	1,50
4137838	KM80TSSTC12187M	12,5	M12	21	30	187	10	157	159	1,73
4137839	KM80TSSTC12237M	12,5	M12	21	32	237	10	207	209	1,99
4137840	KM80TSSTC16087M	17,0	M16	29	33	87	10	57	59	1,45
4137841	KM80TSSTC16137M	17,0	M16	29	35	137	10	107	109	1,78
4137842	KM80TSSTC16187M	17,0	M16	29	38	187	10	157	159	2,19
4137883	KM80TSSTC16237M	17,0	M16	29	40	237	10	207	209	2,62

NOTE: For technical information, see page M96–M97.







KM QUICK CHANGE

SSF • Inch

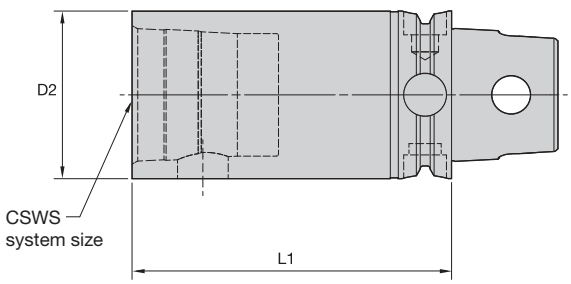


order number	catalog number	D1	D2	L1	L9	flat point socket set screw	ft. lbs.	lbs
3683935	KM80TSSSF075350	3/4	1.750	3.500	2.311	ELS062050PKG	70	3.94
3683936	KM80TSSSF100450	1	2.000	4.500	3.307	—	110	4.91
3683937	KM80TSSSF125500	1 1/4	2.500	5.000	3.563	ELS075056PKG	110	6.88
3683938	KM80TSSSF150550	1 1/2	2.750	5.500	4.063	ELS075056PKG	110	8.08
3683939	KM80TSSSF200650	2	3.750	6.500	4.311	ELS100088PKG	150	15.88



WARNING
During through-hole operations, a slug or disk is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.





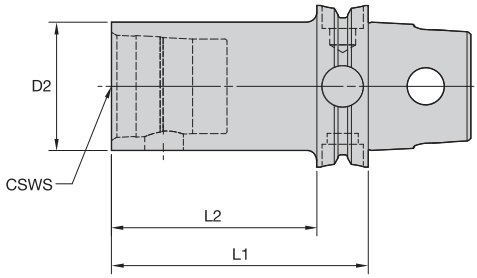


KM QUICK CHANGE

S • KM™ Extension



order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	spare parts package	Nm	ft. lbs.	kg	lbs
3668965	KM80TSS80120M	KM80	80	3.150	120	4.724	KM80PKG3S	78-84	58-64	4,23	9.32
3668967	KM80TSS80160M	KM80	80	3.150	160	6.299	KM80PKG3S	78-84	58-64	5,76	12.71

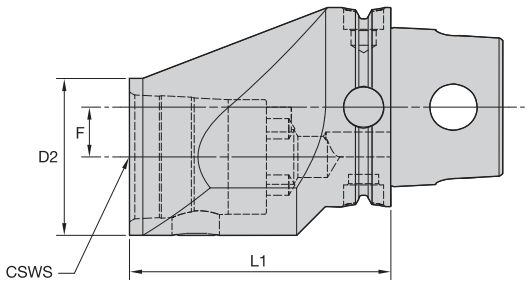




KM QUICK CHANGE

S • KM Reducer

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	L2 mm	L2 in	spare parts package	Nm	ft. lbs.	kg	lbs
3668961	KM80TSS40060M	KM40	40	1.575	60	2.362	38	1.496	KM40PKG3S	12-16	9-12	1,41	3.10
3668963	KM80TSS50080M	KM50	50	1.969	80	3.150	58	2.283	KM50PKG3S	27-34	20-25	1,81	3.99
3668964	KM80TSS63080M	KM63	63	2.480	80	3.150	58	2.283	KM63PKG3S	47-54	35-40	2,14	4.71



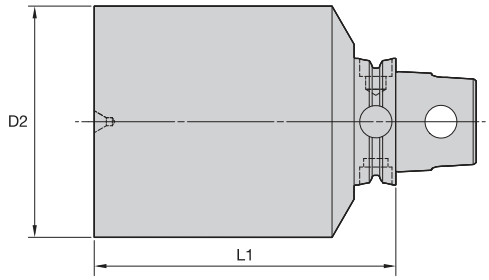


KM QUICK CHANGE

ES • KM Offset Reducer

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	F mm	F in	spare parts package	wrench size actuation screw	Nm	ft. lbs.	kg	lbs
	right hand													
3734754	KM80TSESR63105M	KM63	63	2.4803	105	4.134	20	.787	KM63PKG3S	12mm	47-54	35-40	3,81	8.40
	left hand													
3734753	KM80TSESL63105M	KM63	63	2.4803	105	4.134	20	.787	KM63PKG3S	12mm	47-54	35-40	3,81	8.40

• Machinable front 32–38 HRC.





KM QUICK CHANGE

BN

order number	catalog number	D2 mm	D2 in	L1 mm	L1 in	hardness range	kg	lbs
3653264	**KM80TSBN125075M**	125	4.921	75	2.953	32–38 HRC	6,17	13.60
3653265	**KM80TSBN140130M**	140	5.512	130	5.118	32–38 HRC	14,08	31.04
3653266	**KM80TSBN150160M**	150	5.906	160	6.299	32–38 HRC	20,13	44.39
3653267	**KM80TSBN150250M**	150	5.906	250	9.843	32–38 HRC	32,59	71.85
3653268	**KM80TSBN175175M**	175	6.890	175	6.890	32–38 HRC	29,56	65.17



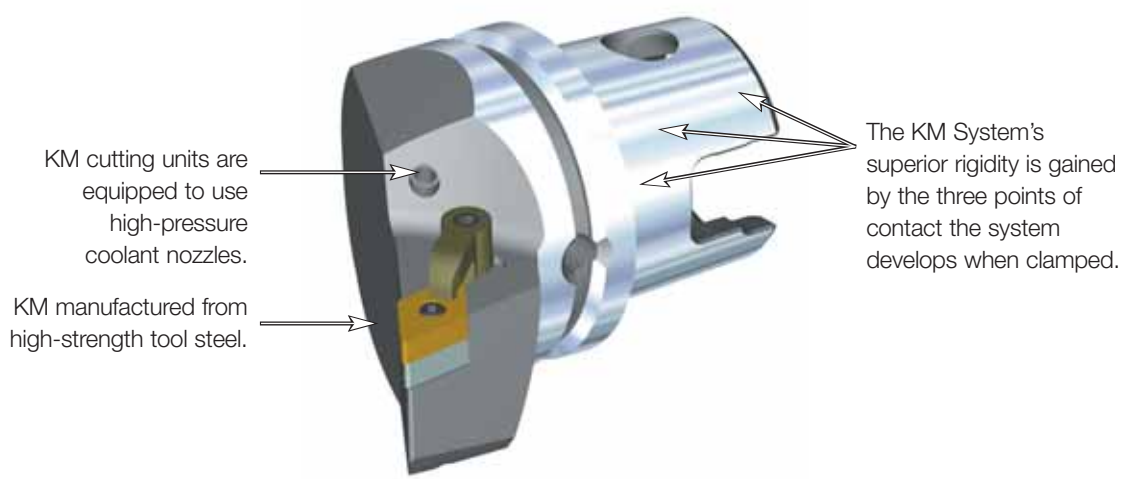
KM™ Quick Change Tooling System • KM63XMZ™ Series

Primary Application

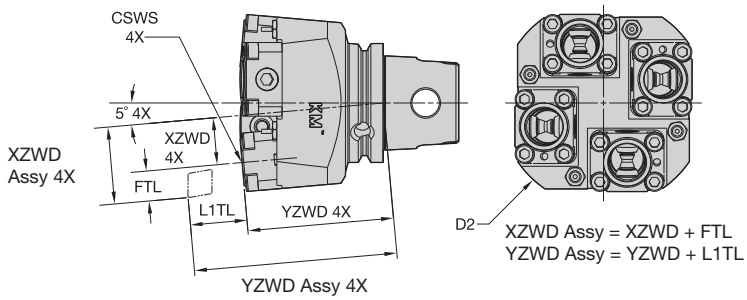
The KM Quick Change Clamping System is the best system on the market suitable for static, rotating, and multitasking operations. With its industry-leading design, the KM Quick Change System provides greater clamping forces than other quick-change systems. The KM Quick Change System gives you the flexibility to use KM on any application within your shop.

Features and Benefits

- KM63XMZ is designed to be used on Mazak® Mark IV Series and I- and J-Series INTEGREX® Machines.
- KM63XMZ is your solution for multitasking.







FTL = F of specific cutting unit
L1TL = L1 of specific cutting unit



Left-Hand Tool

KM QUICK CHANGE

4xSTAL • KM25

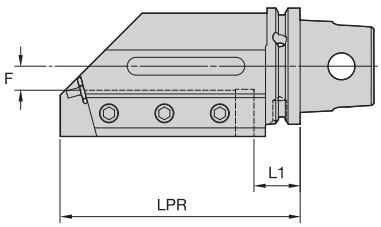
order number	catalog number	CSWS system size	D2	XZWD mm	XZWD in	YZWD mm	YZWD in	Nm	kg
2614687	**KM63XMZ4XSTALFKM25Y**	KM25	110	24	.945	80	3.150	34	3,11

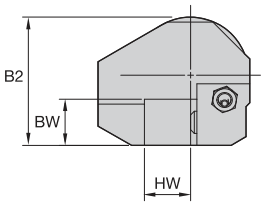
Spare Parts

catalog number	nozzle	flange clamping unit	KM spare parts package
KM63XMZ4XSTALFKM25Y	**PMT08420 COOLANT NOZZLE SPRAY**	**KM25NCMSF3140MST**	**KM25NRPKG**

NOTE: For torque wrench, see pages L52–L53.









KM QUICK CHANGE

STA • Straight Side Mount • Metric





order number	catalog number	L1	LPR	F	HW	BW	B2	cup point socket set screw	nozzle	Nm	kg
1855652	KM63XMZSTALF2020Y	25	100	10	20	20	62	MS2049	PMT04526 COOLANT NOZZLE SPRAY	35	2,46
1506498	KM63XMZSTALF2525Y	25	130	13	25	25	70	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	3,54
1850241	KM63XMZSTAR2020Y	25	100	10	20	20	62	MS2049	PMT04526 COOLANT NOZZLE SPRAY	35	2,43
1514567	KM63XMZSTAR2525Y	25	130	13	25	25	70	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	3,58

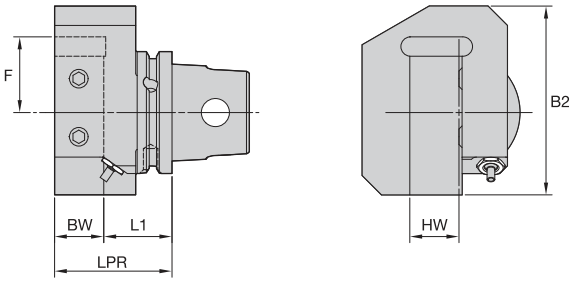
STA • Straight Side Mount • Inch





order number	catalog number	L1	LPR	F	HW	BW	B2	cup point socket set screw	nozzle	ft. lbs.	lbs
1855684	KM63XMZSTALF12Y	.921	3.937	.378	.750	.750	2.421	MS2049	PMT04526 COOLANT NOZZLE SPRAY	26	5.38
1516687	KM63XMZSTALF16Y	.906	5.118	.522	1.000	1.000	2.762	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	7.83
1855683	KM63XMZSTAR12Y	.921	3.937	.378	.750	.750	2.421	MS2049	PMT04526 COOLANT NOZZLE SPRAY	26	5.32
1516683	KM63XMZSTAR16Y	.906	5.118	.522	1.000	1.000	2.762	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	7.92

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.





KM QUICK CHANGE

ETA • Straight End Mount • Inch

order number	catalog number	L1	LPR	F	HW	BW	B2	ft. lbs.	lbs
	right hand								
3103491	KM63XMZETAR16Y	1.388	2.388	-1.539	1.000	1.000	3.839	40	4.97
	left hand								
3103492	KM63XMZETALF16Y	1.388	2.388	-1.539	1.000	1.000	3.839	40	4.85

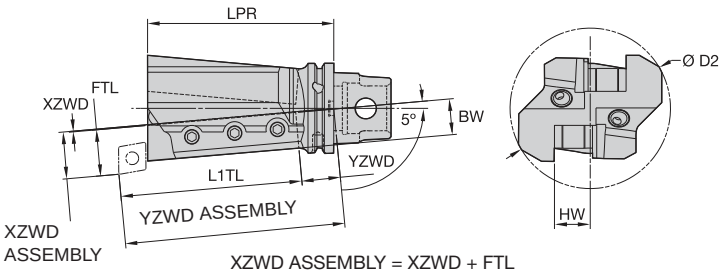
Spare Parts





catalog number	cup point socket set screw	nozzle
right hand KM63XMZETAR16Y	DWG 249618-23R05	PMT04526 COOLANT NOZZLE SPRAY
left hand KM63XMZETALF16Y	DWG 249618-23R05	PMT04526 COOLANT NOZZLE SPRAY

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.



XZWD ASSEMBLY = XZWD + FTL
YZWD ASSEMBLY = YZWD + L1TL

FTL = F OF SPECIFIC TOOLHOLDER
LITL = L1 OF SPECIFIC TOOLHOLDER

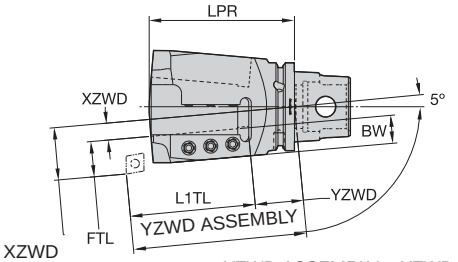


STA • 2x Straight Side Mount • Metric



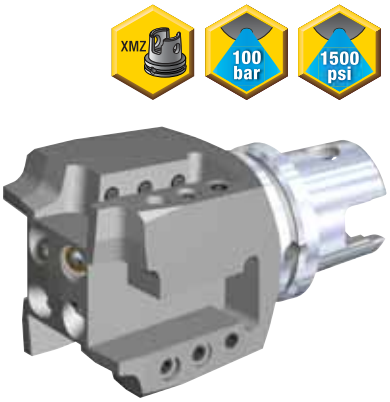
order number	catalog number	D2	LPR	XZWD	YZWD	HW	BW	cup point socket set screw	Nm	nozzle	kg
	right hand										
1847363	KM63XMZ2XSTAR2525Y	112	130	1	28	25	25	MS1430	55	PWZ1012	3,85
	left hand										
1868533	KM63XMZ2XSTALF2525Y	112	130	1	28	25	25	MS1430	55	PWZ1012	3,85

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.



XZWD ASSEMBLY = XZWD + FTL
YZWD ASSEMBLY = YZWD + L1TL

FTL = F OF SPECIFIC TOOLHOLDER
LITL = L1 OF SPECIFIC TOOLHOLDER



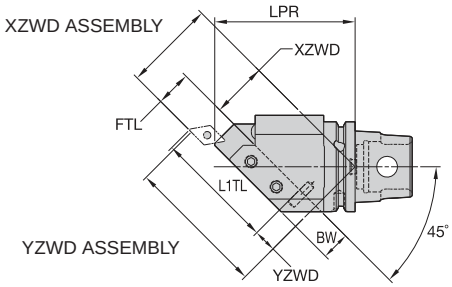
STA • 4x Straight Side Mount • Metric

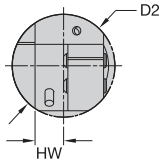


order number	catalog number	D2	LPR	XZWD	YZWD	HW	BW	cup point socket set screw	Nm	nozzle	kg
1725301	KM63XMZ4XSTAR2020Y	108	104	12	34	20	20	121.830	18	PWZ1008	2,92

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.









XZWD ASSEMBLY = XZWD + FTL
YZWD ASSEMBLY = YZWD + L1TL

FTL = F OF SPECIFIC TOOLHOLDER
LITL = L1 OF SPECIFIC TOOLHOLDER

KM QUICK CHANGE

TA 45 • 45° Mount • Metric




order number	catalog number	D2	LPR	XZWD	YZWD	HW	BW	cup point socket set screw	nozzle	Nm	kg
	right hand										
1855665	KM63XMZ45TAR2020Y	72	99	39	16	20	20	MS2049	PWZ1012	25	2,01
	left hand										
1855669	KM63XMZ45TALF2020Y	72	99	39	16	20	20	MS2049	PWZ1012	25	2,01

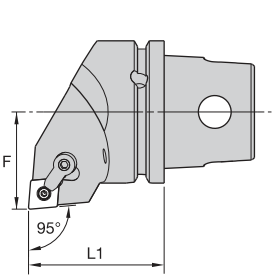
TA 45 • 45° Mount • Inch

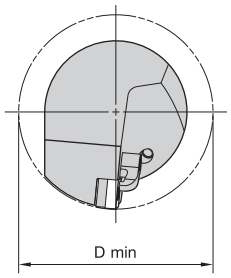



order number	catalog number	D2	LPR	XZWD	YZWD	HW	BW	cup point socket set screw	nozzle	ft. lbs.	lbs
	right hand										
1855685	KM63XMZ45TAR12Y	2.835	3.887	1.518	.451	.750	.750	MS2049	PWZ1012	18	4.38
	left hand										
1855686	KM63XMZ45TALF12Y	2.835	3.887	1.518	.451	.750	.750	MS2049	PWZ1012	18	4.38

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.









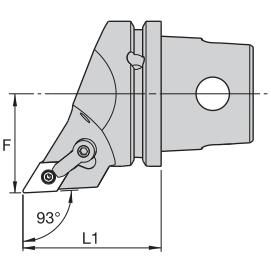
KM QUICK CHANGE

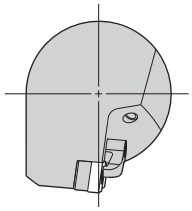
MCLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
1551813	KM63XMZMCLNR12Y	60	2.362	43	1.693	86	3.386	CN..120408/CN..432	ICSN432	KLM46	CKM20	STCM11	1,24	2.73
1603738	KM63XMZMCLNR16Y	60	2.362	43	1.693	86	3.386	CN..160612/CN..543	ICSN533	KLM58	CKM20	STCM11	1,24	2.74
	left hand													
3103485	KM63XMZMCLNLF12Y	60	2.362	43	1.693	86	3.386	CN..120408/CN..432	ICSN432	KLM46	CKM20	STCM11	1,24	2.73
3103486	KM63XMZMCLNLF16Y	60	2.362	43	1.693	86	3.386	CN..160612/CN..543	ICSN533	KLM58	CKM20	STCM11	1,24	2.74



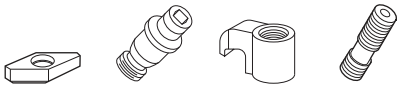




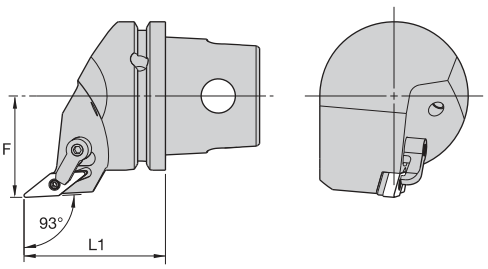


KM QUICK CHANGE

MDJN 93°



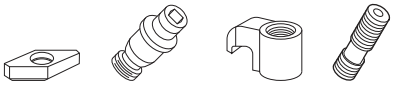
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3103487	KM63XMZMDJNR1504Y	60	2.362	43	1.693	DN..150408/DN..432	IDSN442	KLM46L	CKM23	STCM11	1,07	2.360
	left hand											
3103488	KM63XMZMDJNLF1504Y	60	2.362	43	1.693	DN..150408/DN..432	IDSN442	KLM46L	CKM23	STCM11	1,07	2.360



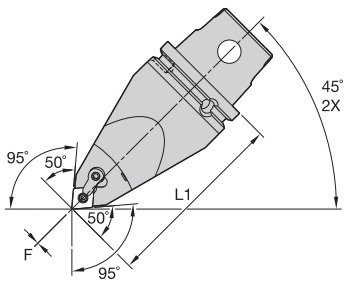


KM QUICK CHANGE

MVJN 93°



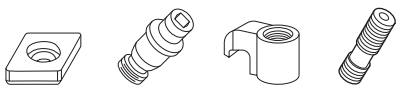
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3103489	KM63XMZMVJNR16Y	60	2.362	43	1.693	VN..160408/VN..332	IVSN322	KLM34L	CKM23	STCM11	1,05	2.32
	left hand											
3103490	KM63XMZMVJNLF16Y	60	2.362	43	1.693	VN..160408/VN..332	IVSN322	KLM34L	CKM23	STCM11	1,05	2.32



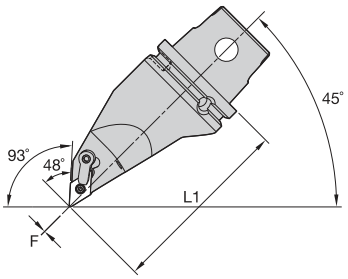


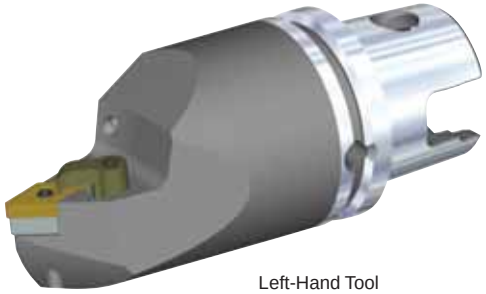
KM QUICK CHANGE

MCMN 50° • 95° Application • Centerline



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
3180556	KM63XMZMCMNNF12115Y	115	4.528	0	.000	CN..120408/CN..432	ICSN432	KLM46	CKM20	STCM11	2,07	4.57



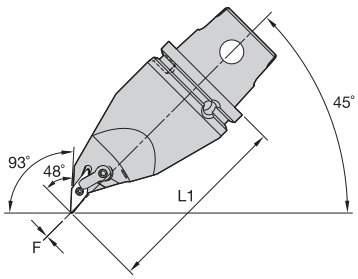


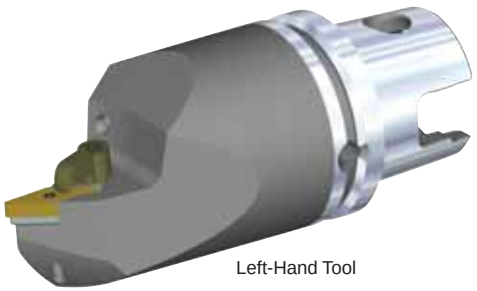
Left-Hand Tool

MDMN 48° • 93° Application • Centerline



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3487461	KM63XMZMDMNR1504115Y	115	4.528	0	.000	DN..150408/DN..432	IDSN442	KLM46L	CKM23	STCM11	1,88	4.14
3487462	KM63XMZMDMNR1506115Y	115	4.528	0	.000	DN..150608/DN..442	IDSN432	KLM46L	CKM23	STCM11	1,88	4.13
	left hand											
3487458	KM63XMZMDMNLF1504115Y	115	4.528	0	.000	DN..150408/DN..432	IDSN442	KLM46L	CKM23	STCM11	1,87	4.11
3487459	KM63XMZMDMNLF1506115Y	115	4.528	0	.000	DN..150608/DN..442	IDSN432	KLM46L	CKM23	STCM11	1,86	4.10





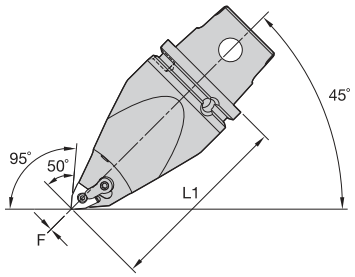
Left-Hand Tool

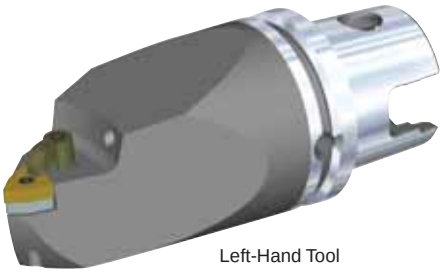
MVMN 48° • 93° Application • Centerline



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3487473	KM63XMZMVMNR16115Y	115	4.528	0	.000	VN..160408/VN..332	IVSN322	KLM34L	CKM23	STCM11	1,97	4.35
	left hand											
3487460	KM63XMZMVMNLF16115Y	115	4.528	0	.000	VN..160408/VN..332	IVSN322	KLM34L	CKM23	STCM11	1,97	4.35






Left-Hand Tool

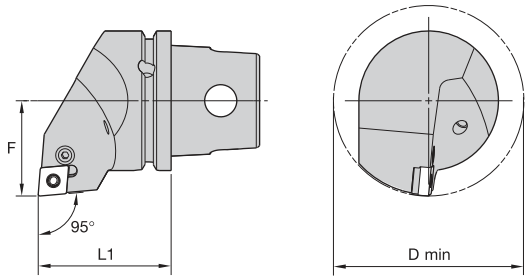
KM QUICK CHANGE

MWMN 50° • 95° Application • Centerline



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
3487572	KM63XMZMWMNR08115Y	115	4.528	0	.000	WN..080408/WN..432	IWSN433	KLM46	CKM20	STCM11	2,03	4.47
	left hand											
3487571	KM63XMZMWMNLF08115Y	115	4.528	0	.000	WN..080408/WN..432	IWSN433	KLM46	CKM20	STCM11	2,02	4.46

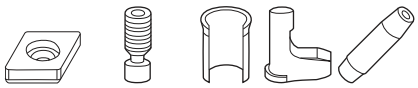






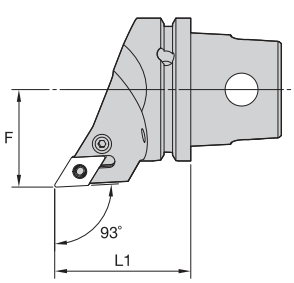
KM QUICK CHANGE

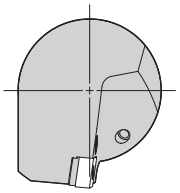
PCLN 95°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand														
2231263	KM63XMZPCLNR12Y	60	2.362	43	1.693	86	3.386	CN..120408/CN..432	512.112	514.023	513.023	511.023	515.018	1,23	2.71
	left hand														
2231264	KM63XMZPCLNLF12Y	60	2.362	43	1.693	86	3.386	CN..120408/CN..432	512.112	514.023	513.023	511.023	515.018	1,23	2.71



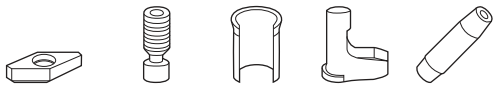






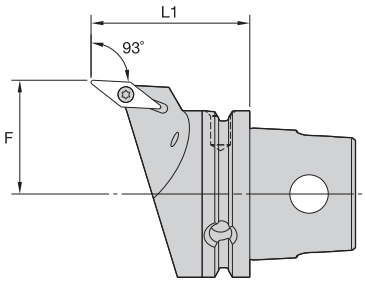
KM QUICK CHANGE

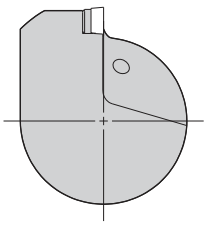
PDJN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lever screw	shim pin	toggle lever	punch	kg	lbs
	right hand												
2231265	**KM63XMZPDJNR15Y**	60	2.362	43	1.693	DN..150608/DN..442	**512.153**	**514.028**	**513.023**	**511.024**	**515.018**	1,04	2.29





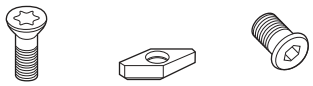




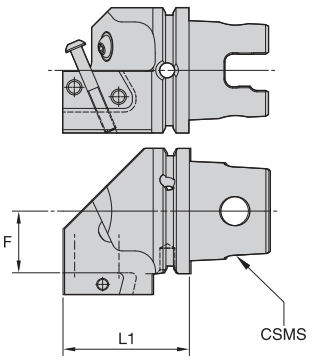
Left-Hand Tool

KM QUICK CHANGE

SVJB 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	insert screw	shim	shim screw	kg	lbs
2231270	**KM63XMZSVJBLF16Y**	60	2.362	43	1.693	VB..160408/VB..332	**MS1156**	**SKVN343**	**SRS3**	1,07	2.35







KM QUICK CHANGE

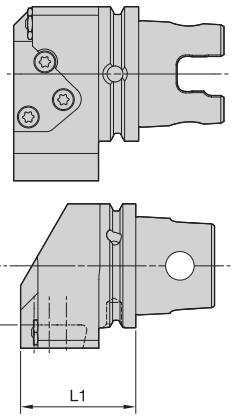
KGMS • Side Mount





order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	clamp screw	nozzle	kg
	right hand									
1756550	KM63XMZKGMSR50Y	63,5	2.500	31	1.220	50	MS1162	MS2002	SB09530PWZ1012	1,40
	left hand									
1756574	KM63XMZKGMSLF50Y	63,5	2.500	31	1.220	50	MS1162	MS2002	SB09530PWZ1012	1,40

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use right-hand blades.





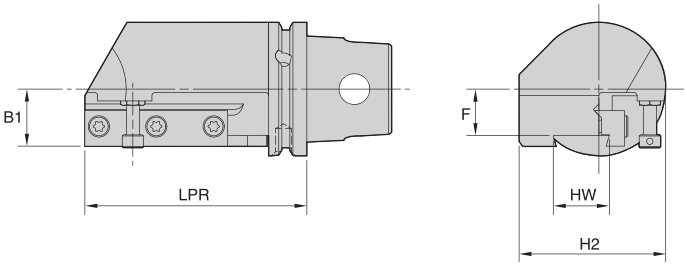
KGMS • Side Mount




order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	nozzle	kg
	left hand								
3588680	KM63XMZKGMSLF65Y	58,5	2.303	30	1.181	65	MS1163	PMT04525	1,74

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use right-hand blades.

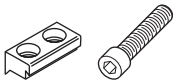






KM QUICK CHANGE

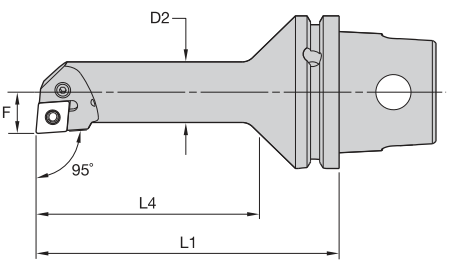
BS • Side Mount

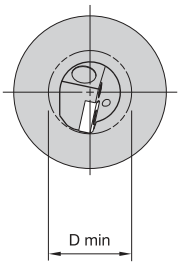


order number	catalog number	B1 mm	B1 in	LPR mm	LPR in	F mm	F in	H2 mm	H2 in	HW mm	HW in	cartridge size	cartridge 1	clamp	clamp screw	kg
	right hand															
1982386	KM63XMZBSR4Y	37,6	1.480	104,6	4.118	21,92	.863	69,1	2.720	26,0	1.024	26	A2BNSN26...	CGS4	MS1595	2,27
1831638	KM63XMZBSR5Y	40,0	1.575	123,8	4.874	39,92	1.572	71,5	2.814	32,0	1.260	32	A2BNSN32...	CGS5	MS1595	3,64
	left hand															
1982387	KM63XMZBSLF4Y	37,6	1.480	104,6	4.118	21,92	.863	69,1	2.720	26,0	1.024	26	A2BNSN26...	CGS4	MS1595	2,31
1831634	KM63XMZBSLF5Y	40,0	1.575	123,8	4.874	39,92	1.572	71,5	2.814	32,0	1.260	32	A2BNSN32...	CGS5	MS1595	3,63

NOTE: Blades are ordered seperately. See the Kennametal Innovations Master Catalog Cutting Tools 2013.









KM QUICK CHANGE

PCLN 95°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
2231271	**KM63XMZS25KPCLNR12Y**	25	.98	32	1.26	17	.669	88	3.45	125	4.921	CN..120408/CN..432	1,17	2.57
	left hand													
2231272	**KM63XMZS25KPCLNLF12Y**	25	.98	32	1.26	17	.669	88	3.45	125	4.921	CN..120408/CN..432	1,17	2.57

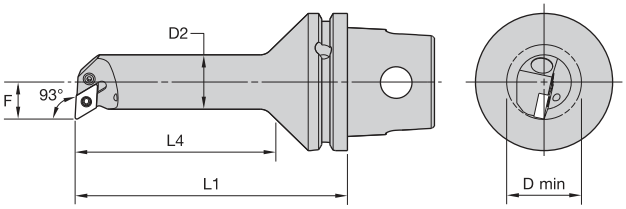
Spare Parts

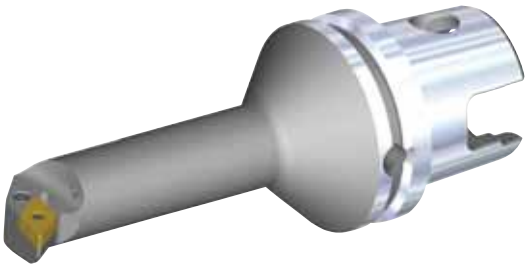




catalog number	lever screw	toggle lever
right hand		
KM63XMZS25KPCLNR12Y	**514.022**	**511.022**
left hand		
KM63XMZS25KPCLNLF12Y	**514.022**	**511.022**







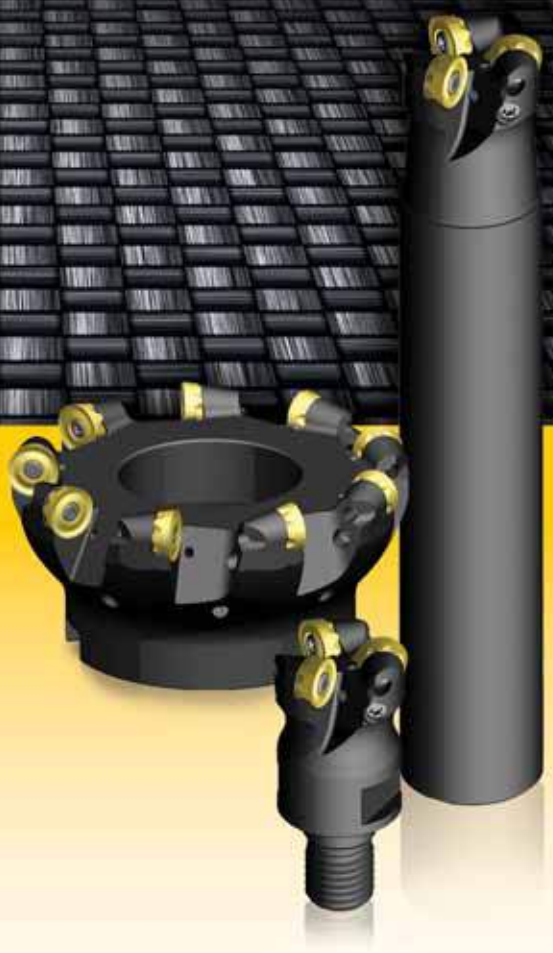
KM QUICK CHANGE

PDUN 93°

order number	catalog number	D2 mm	D2 in	D min mm	D min in	F mm	F in	L4 mm	L4 in	L1 mm	L1 in	gage insert	kg	lbs
	right hand													
2231273	**KM63XMZS25KPDUNR11Y**	25	.98	32	1.26	17	.669	88	3.45	125	4.921	DN..110408/DN..332	1,15	2.530
	left hand													
2231274	**KM63XMZS25KPDUNLF11Y**	25	.98	32	1.26	17	.669	88	3.45	125	4.921	DN..110408/DN..332	1,15	2.530

Spare Parts

catalog number	 lever screw	 toggle lever
right hand		
KM63XMZS25KPDUNR11Y	**514.012**	**511.015**
left hand		
KM63XMZS25KPDUNLF11Y	**514.012**	**511.015**



KSRM™

Mulitpurpose Milling Cutters

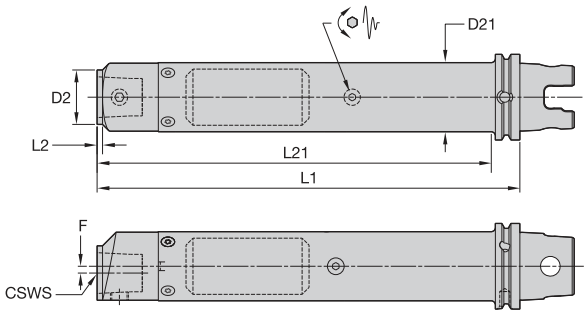
Specially developed for machining titanium and stainless steel. KSRM platform enables you to pocket, profile, ramp, and plunge with up to 1mm (.039") fz with consistent performance, providing outstanding metal removal rates with the lowest cutting forces in roughing applications.

- Anti-rotation feature with eight indexes.
- High positive topography with strong cutting edges.
- High clearance on the cutters and inserts.
- Wide cutter offering with internal coolant.
- Ground and PSTS inserts.
- Provides more stability and reliability.
- Lower cutting forces generated.
- Cutters can run with higher feed rates and better ramping capacities.
- Take advantage of through-spindle coolant to use the latest holders offered.
- Cover extensive workpiece materials.
- Superior productivity and better insert utilization/cost per edge.
- Long tool life and better metal removal rates.
- Able to convert all milling applications.
- Improve tool life and chip evacuation.
- Superior overall performance.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®





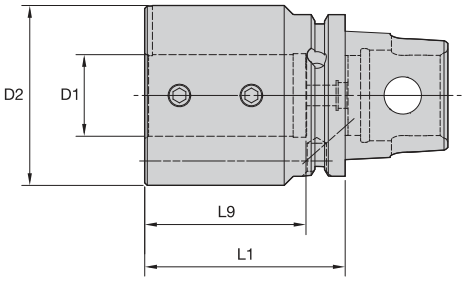
KM QUICK CHANGE

TTB • KM Tunable Bar • KM

order number	catalog number	CSWS system size	D2 mm	D2 in	D21 mm	D21 in	F mm	F in	L1 mm	L1 in	L2 mm	L2 in	L21 mm	L21 in
3901271	**KM63XMZD24TTB9KM40**	KM40	38,10	1.500	—	—	0,00	.000	234,55	9.234	216,55	8.526	—	—
3901274	**KM63XMZD28TTB14KM40**	KM40	44,45	1.750	—	—	0,00	.000	361,52	14.233	4,00	.157	341,52	13.446
3901272	**KM63XMZD32TTB12KM40**	KM40	50,00	1.969	—	—	5,00	.197	310,71	12.233	4,00	.157	290,71	11.445
3901275	**KM63XMZD32TTB16KM40**	KM40	50,00	1.969	—	—	5,00	.197	412,32	16.233	4,00	.157	392,32	15.446
3901273	**KM63XMZD40TTB15KM40**	KM40	63,50	2.500	—	—	11,75	.463	386,92	15.233	4,00	.157	368,92	14.524
3901276	**KM63XMZD40TTB20KM40**	KM40	63,50	2.500	—	—	11,75	.463	513,92	20.233	4,00	.157	495,92	19.524

NOTE: Tunable technical section, see page M90.







KM QUICK CHANGE

BA • Boring Bar Adapter • Internal and External Coolant • Metric



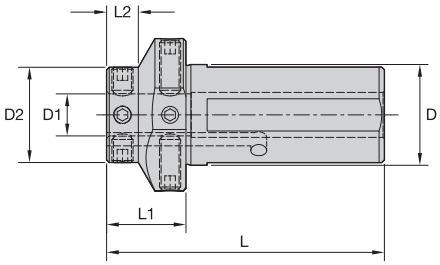

order number	catalog number	D1	D2	L1	L9	clamp screw	nozzle	wrench size clamp screw	Nm	kg
1855688	**KM63XMZBA3278Y**	32	70	78	63	**MS1561**	**PWZ1012**	5mm	25	2
1510611	**KM63XMZBA40105Y**	40	80	105	76	**MS1858**	**PWZ1012**	6mm	45	3

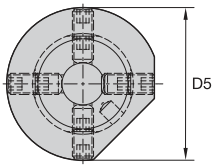
BA • Boring Bar Adapter • Internal and External Coolant • Inch




order number	catalog number	D1	D2	L1	L9	clamp screw	nozzle	wrench size clamp screw	ft. lbs.	lbs
1855692	**KM63XMZBA125307Y**	1 1/4	2.76	3.071	2.48	**MS1561**	**PWZ1012**	5mm	18	4
1516678	**KM63XMZBA150413Y**	1 1/2	3.15	4.134	2.99	**MS1858**	**PWZ1012**	6mm	33	7
1831641	**KM63XMZBA200512Y**	2	3.54	5.118	3.98	**MS1858**	**PWZ1012**	6mm	33	9

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.
For boring bar reducers, see page A570.







BR • Boring Bar Reducer • Metric



order number	catalog number	D	D1	D2	D5	L	L1	L2	flat point socket set screw	wrench size clamp screw	Nm	kg
1521853	KM63XMZBR4008Y	40	8	36	58	105	30	12	—	3mm	7	1,07
1521854	KM63XMZBR4010Y	40	10	36	58	105	30	12	—	3mm	7	1,04
1521857	KM63XMZBR4012Y	40	12	36	58	105	30	12	MS1109	4mm	15	0,93
1521859	KM63XMZBR4016Y	40	16	36	58	105	30	12	MS1109	4mm	15	0,85
1521860	KM63XMZBR4020Y	40	20	58	58	105	30	30	MS1878	4mm	15	0,62
1521858	KM63XMZBR4025Y	40	25	54	54	105	30	30	MS1878	4mm	15	1,03
1521856	KM63XMZBR4032Y	40	32	54	54	105	30	30	MS1878	4mm	15	0,99

BR • Boring Bar Reducer • Inch



order number	catalog number	D	D1	D2	D5	L	L1	L2	flat point socket set screw	wrench size clamp screw	ft. lbs.	lbs
1566093	KM63XMZBR150031Y	1.50	5/16	1.42	2.27	4.13	1.181	.472	—	3mm	5	2.21
1566078	KM63XMZBR150038Y	1.50	3/8	1.42	2.27	4.13	1.181	.472	—	3mm	5	2.14
1566079	KM63XMZBR150050Y	1.50	1/2	1.42	2.27	4.13	1.181	.472	MS1109	4mm	11	2.03
1566080	KM63XMZBR150062Y	1.50	5/8	1.42	2.27	4.13	1.181	.472	MS1109	4mm	11	1.90
1566211	KM63XMZBR150075Y	1.50	3/4	2.27	2.27	4.13	1.181	1.181	MS1878	4mm	11	2.13
1566212	KM63XMZBR150100Y	1.50	1	2.27	2.27	4.13	1.181	1.181	MS1878	4mm	11	1.73
1566213	KM63XMZBR150125Y	1.50	1 1/4	2.27	2.27	4.13	1.181	1.181	MS-1879	4mm	11	1.21

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.

Looking for a product that's not shown in this catalog?

Check the Kennametal website!



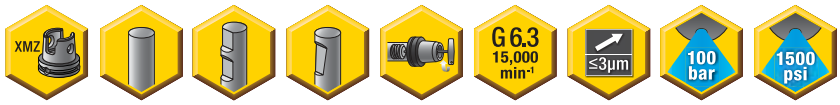
Tooling Systems

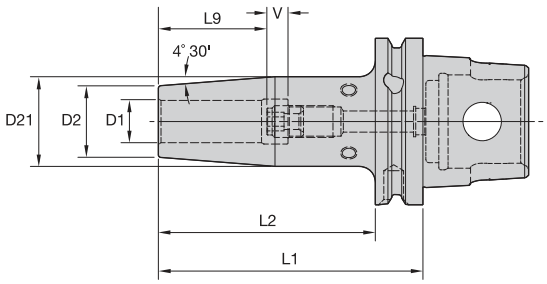
Online product catalog available 24/7

Visit **http://www.kennametal.com/toolingsystems/** to browse our electronic catalog any time you're looking for Kennametal's best tooling solutions. It's fast, free, and always available. The online e-catalog is updated weekly with products and solutions for milling, turning, holemaking, and tooling systems applications.

KENNAMETAL

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
4	h4	0,000/-0,004
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

KM QUICK CHANGE

HPV TT • Metric



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3661833	**KM63XMZHPVTT04080MY**	4	9		80	52	15	10	**TTSS05014M**	2,5mm	0,74
3661823	**KM63XMZHPVTT06080MY**	6	21	1	80	62	26	10	**TTSS05014M**	2,5mm	0,85
3661824	**KM63XMZHPVTT08080MY**	8	21	1	80	62	26	10	**TTSS06014M**	3mm	0,84
3661825	**KM63XMZHPVTT10090MY**	10	24	1	90	72	31	10	**TTSS08014M**	4mm	0,97
3661826	**KM63XMZHPVTT12090MY**	12	24	1	90	72	36	10	**TTSS10014M**	5mm	0,95
3661827	**KM63XMZHPVTT14100MY**	14	27	1	100	82	36	10	**TTSS10014M**	5mm	1,08
3661828	**KM63XMZHPVTT16100MY**	16	27	1	100	82	39	10	**TTSS12014M**	6mm	1,05
3661829	**KM63XMZHPVTT18100MY**	18	33	2	100	82	39	10	**TTSS12014M**	6mm	1,27
3661830	**KM63XMZHPVTT20100MY**	20	33	2	100	82	41	10	**TTSS16014M**	8mm	1,24
3661831	**KM63XMZHPVTT25120MY**	25	44	2	120	102	47	10	**TTSS16014M**	8mm	1,96
3661832	**KM63XMZHPVTT32120MY**	32	44	2	120	102	51	10	**TTSS16014M**	8mm	1,79

(continued)

(HPV TT continued)

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameter	tolerance
1/4, 5/16, & 3/8	-.0001/-.0004
7/16, 1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

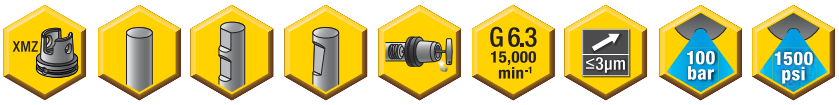
HPV TT • Inch



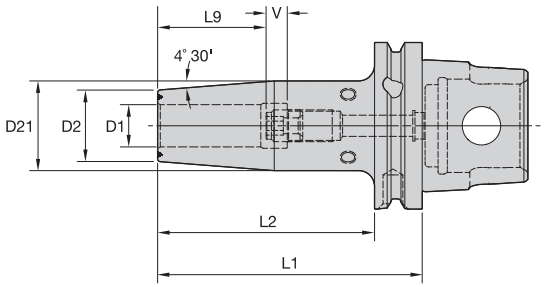
order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3858932	**KM63XMZHPVTT025315Y**	1/4	.827	1.059	3.150	2.441	1.024	.394	**TTSS05014M**	2,5mm	1.85
3858943	**KM63XMZHPVTT031315Y**	5/16	.827	1.059	3.150	2.441	1.024	.394	**TTSS06014M**	3mm	1.84
3858944	**KM63XMZHPVTT038335Y**	3/8	.945	1.256	3.347	2.638	1.221	.394	**TTSS08014M**	4mm	2.05
3858945	**KM63XMZHPVTT044354Y**	7/16	.945	1.256	3.543	2.835	1.417	.394	**TTSS10014M**	5mm	2.09
3858946	**KM63XMZHPVTT050354Y**	1/2	.945	1.256	3.543	2.835	1.417	.394	**TTSS10014M**	5mm	2.06
3858947	**KM63XMZHPVTT056354Y**	9/16	1.063	1.335	3.543	2.835	1.417	.394	**TTSS10014M**	5mm	2.19
3858948	**KM63XMZHPVTT062374Y**	5/8	1.063	1.335	3.740	3.032	1.535	.394	**TTSS12014M**	6mm	2.22
3858949	**KM63XMZHPVTT068374Y**	11/16	1.299	1.650	3.740	3.032	1.535	.394	**TTSS12014M**	6mm	2.68
3858950	**KM63XMZHPVTT075394Y**	3/4	1.299	1.650	3.937	3.228	1.614	.394	**TTSS16014M**	8mm	2.73
3858951	**KM63XMZHPVTT088394Y**	7/8	1.299	1.650	3.937	3.228	1.614	.394	**TTSS16014M**	8mm	2.64
3858952	**KM63XMZHPVTT100453Y**	1	1.732	2.083	4.528	3.819	1.850	.394	**TTSS16014M**	8mm	4.10
3858953	**KM63XMZHPVTT125472Y**	1 1/4	1.732	2.083	4.724	4.016	2.008	.394	**TTSS16014M**	8mm	3.96

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see page L12–L13.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.

- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







KM QUICK CHANGE

Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

HPV TT HT • Metric



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3661834	KM63XMZHPVTTHT12090MY	12	24	1	90	72	36	10	TTSS10014M	5mm	0,95
3661835	KM63XMZHPVTTHT14100MY	14	27	1	100	82	36	10	TTSS10014M	5mm	1,08
3661836	KM63XMZHPVTTHT16100MY	16	27	1	100	82	39	10	TTSS12014M	6mm	1,05
3661837	KM63XMZHPVTTHT18100MY	18	33	2	100	82	39	10	TTSS12014M	6mm	1,27
3661838	KM63XMZHPVTTHT20100MY	20	33	2	100	82	41	10	TTSS16014M	8mm	1,24
3661839	KM63XMZHPVTTHT25120MY	25	44	2	120	102	47	10	TTSS16014M	8mm	1,96
3661840	KM63XMZHPVTTHT32120MY	32	44	2	120	102	51	10	TTSS16014M	8mm	1,79

(continued)

(HPV TT HT continued)

Cutting Tool Shank Requirements inch (industry standard)	
cutting tool shank diameter	tolerance
1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

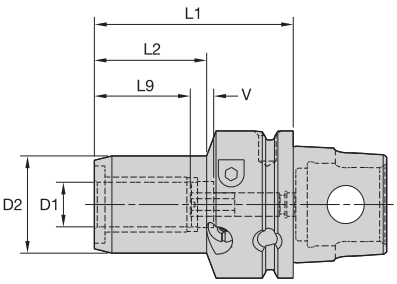
HPV TT HT • Inch



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3858954	**KM63XMZHPVTTHT050354Y**	1/2	.94	1.26	3.543	2.83	1.42	.39	**TTSS10014M**	5mm	2.06
3858955	**KM63XMZHPVTTHT056354Y**	9/16	1.06	1.33	3.543	2.83	1.42	.39	**TTSS10014M**	5mm	2.19
3858956	**KM63XMZHPVTTHT062374Y**	5/8	1.06	1.33	3.740	3.03	1.54	.39	**TTSS12014M**	6mm	2.22
3858957	**KM63XMZHPVTTHT068374Y**	11/16	1.30	1.65	3.740	3.03	1.54	.39	**TTSS12014M**	6mm	2.68
3858958	**KM63XMZHPVTTHT075394Y**	3/4	1.30	1.65	3.937	3.23	1.61	.39	**TTSS16014M**	8mm	2.73
3858959	**KM63XMZHPVTTHT088394Y**	7/8	1.30	1.65	3.937	3.23	1.61	.39	**TTSS16014M**	8mm	2.64
3858960	**KM63XMZHPVTTHT100453Y**	1	1.73	2.08	4.528	3.82	1.85	.39	**TTSS16014M**	8mm	4.10
3858961	**KM63XMZHPVTTHT125472Y**	1 1/4	1.73	2.08	4.724	4.02	2.01	.39	**TTSS16014M**	8mm	3.96

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see page L12–L13.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.







KM QUICK CHANGE

HC • Metric

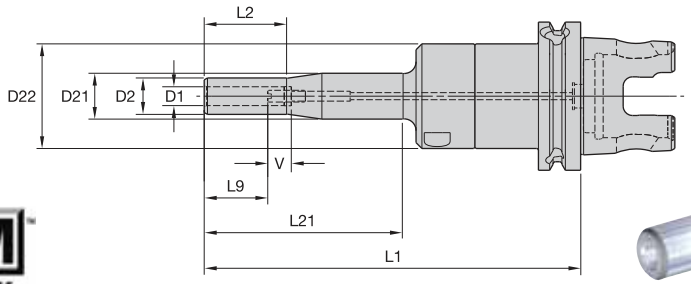
order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length adjustment wrench	wrench size stop screw	kg
1514516	**KM63XMZHC2085Y**	20	42	85	48	41	10	**170.135**	5mm	**170.003**	3mm	1,36
1514517	**KM63XMZHC32100Y**	32	60	100	59	51	10	**170.136**	6mm	**170.004**	4mm	1,97

HC • Inch

order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length adjustment wrench	wrench size stop screw	lbs
1514514	**KM63XMZHC075335Y**	3/4	1.64	3.347	1.89	1.61	.39	**170.135**	5mm	**170.003**	3mm	3.04
1514515	**KM63XMZHC125394Y**	1 1/4	2.35	3.937	2.32	2.01	.39	**170.136**	6mm	**170.004**	4mm	4.39

NOTE: Do not overtorque clamp screw. Use supplied wrench and tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Reduction sleeves are available and must be ordered separately; see page J2.







KM QUICK CHANGE

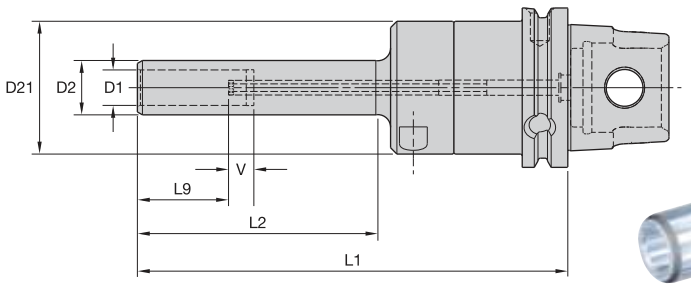
HCSLT • Metric





order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	actuation wrench	wrench size actuation screw	length adjustment wrench	wrench size stop screw	kg
3055511	**KM63XMZHCSLT06160MY**	6	14	20	44	160	35	85	27	10	**170.135**	5mm	**170.002**	2,5mm	1,38
3055512	**KM63XMZHCSLT08160MY**	8	16	20	44	160	35	85	27	10	**170.135**	5mm	**170.002**	2,5mm	1,39
3055513	**KM63XMZHCSLT10160MY**	10	18	44	—	160	85	142	31	10	**170.135**	5mm	**170.003**	3mm	1,37

NOTE: Do not overtorque clamp screw. Use supplied wrench and tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Reduction sleeves are available and must be ordered separately; see page J2.





HCSL • Metric

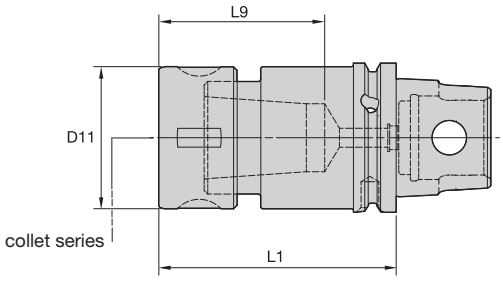




order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length adjustment wrench	wrench size stop screw	kg
3055514	**KM63XMZHCSL12170MY**	12	20	44	170	95	36	10	**170.135**	5mm	**170.002**	2,5mm	1,41
3055515	**KM63XMZHCSL14170MY**	14	22	52	170	95	36	10	**170.135**	5mm	**170.002**	2,5mm	1,69
3055516	**KM63XMZHCSL16170MY**	16	24	52	170	95	39	10	**170.135**	5mm	**170.002**	2,5mm	1,70
3055517	**KM63XMZHCSL18170MY**	18	26	52	170	95	39	10	**170.135**	5mm	**170.002**	2,5mm	1,75
3055518	**KM63XMZHCSL20170MY**	20	28	52	170	95	41	10	**170.135**	5mm	**170.002**	2,5mm	1,78

- Tremendous grip (3:1 advantage).







KM QUICK CHANGE

Collet Capacity

TG collet series	mm min	mm max	inch min	inch max
TG50	1,1	13,5	1/32	17/32
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

TG Collet Chuck • Round Nut

order number	catalog number	collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	kg	lbs
1566225	**KM63XMZTG05050Y**	TG50	38	1.50	50	1.969	42,0	1.65	0,74	1.63
1516675	**KM63XMZTG07575Y**	TG75	50	1.97	75	2.953	54,0	2.13	1,30	2.88
1516677	**KM63XMZTG100100Y**	TG100	60	2.36	100	3.937	70,0	2.72	1,87	4.12

Spare Parts




catalog number	locknut	wrench	Nm	ft. lbs.
KM63XMZTG05050Y	**LNA050M**	**HSW34M**	55 - 68	40 - 50
KM63XMZTG07575Y	**LNA075M**	**HSW45M**	108 - 136	80 - 100
KM63XMZTG100100Y	**LNA100M**	**HSW58M**	163 - 203	120 - 150

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.



KM Micro™ and KM™ Mini

The most economical modular quick-change tooling system available.

The KM Micro and KM Mini couplings offer a very rigid joint with a high degree of repeatability while maintaining a very compact envelope. This permits a high degree of versatility without sacrificing cutting performance.

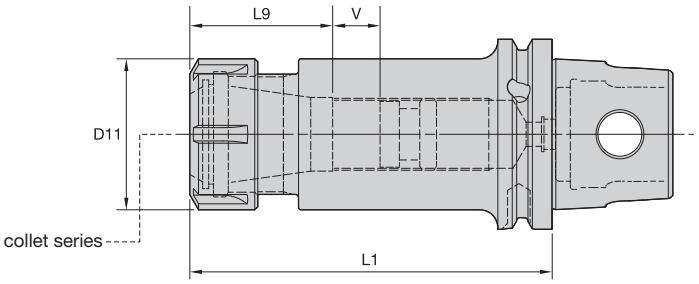
- Reduce downtime, increase productivity.
- Replaces conventional square-shank tooling.
- No machine modifications required.
- KM Mini is ideal for machines up to 30 hp (22kW).

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER11	0,5	7,0	.02	.28
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

KM QUICK CHANGE

ER Collet Chuck • Round Nut

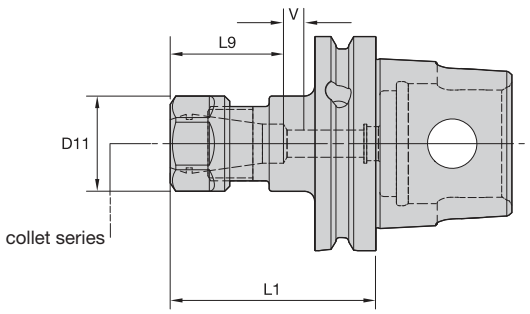


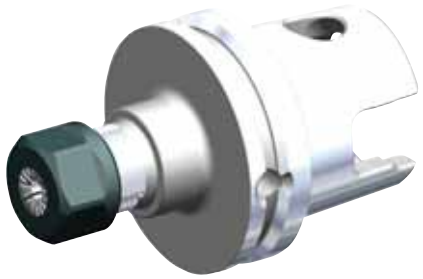
			D11		L1		L9		V								
order number	catalog number	collet series	mm	in	mm	in	mm	in	mm	in	locknut	wrench	stop screw	Nm	ft. lbs.	kg	lbs
1826965	**KM63XMZER1160Y**	ER11	16	.63	60	2.362	24,0	.94	—	—	**LER11M**	**ER11WEM**	**—**	16	12	0,71	1.56
1822413	**KM63XMZER1190Y**	ER11	16	.63	90	3.543	24,0	.94	—	—	**LER11M**	**ER11WEM**	**—**	16	12	0,82	1.81
1504983	**KM63XMZER2560Y**	ER25	42	1.65	60	2.362	40,0	1.57	—	—	**LNSER25M**	**ER25WM**	**—**	104	77	0,85	1.88
1714892	**KM63XMZER25120Y**	ER25	42	1.65	120	4.724	40,0	1.57	40	1.57	**LNSER25M**	**ER25WM**	**SS075041G**	104	77	1,41	3.11
1516809	**KM63XMZER3260Y**	ER32	50	1.97	60	2.362	47,0	1.83	—	—	**LNSER32M**	**ER32WM**	**—**	136	100	0,91	2.00
1798651	**KM63XMZER32120Y**	ER32	50	1.97	120	4.724	46,0	1.81	34	1.34	**LNSER32M**	**ER32WM**	**SS094041G**	136	100	1,69	3.72
1714893	**KM63XMZER4090Y**	ER40	63	2.48	90	3.543	70,3	2.77	—	—	**LNSER40M**	**ER40WM**	**—**	176	130	1,65	3.64

(continued)

(ER Collet Chuck continued)







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER16	0,5	10,0	.02	.41

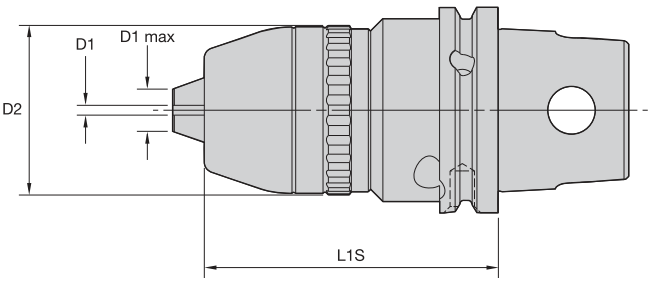
KM QUICK CHANGE

ER Collet Chuck • Hex Nut



			D11		L1		L9		V								
order number	catalog number	collet series	mm	in	mm	in	mm	in	mm	in	locknut	wrench	stop screw	Nm	ft. lbs.	kg	lbs
1532048	**KM63XMZER16120Y**	ER16	28	1.10	120	4.724	32	1.26	48	1.89	**LNHSER16M**	**OEW25M**	**SS044038G**	56	42	1,00	2.21
1516808	**KM63XMZER1660Y**	ER16	28	1.10	60	2.362	32	1.26	9	.35	**LNHSER16M**	**OEW25M**	**SS044038G**	56	42	0,74	1.63

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable coolant-style locknuts and coolant disks are available and must be ordered separately; see page L19.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.



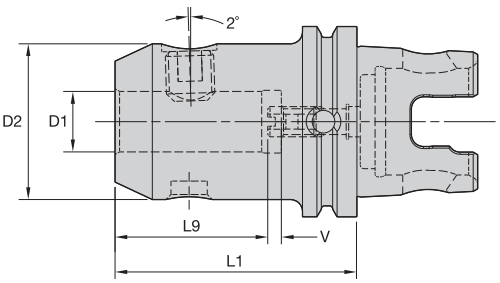


RDC • Drill Chuck

		D1		D1 max		D2		L1S	
order number	catalog number	mm	in	mm	in	mm	in	mm	in
1921511	KM63XMZRDC1390Y	1	.031	13	.500	50	1.949	90,0	3.543
3049855	KM63XMZRDC1690Y	3	.125	16	.625	52	2.047	90,0	3.543

NOTE: Activation size is 6mm.
Activation wrench included.
Wrench reorder number is 170.136.







WN • Whistle Notch Adapter

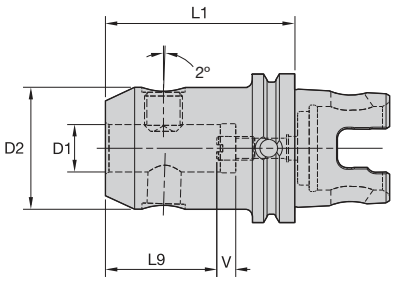




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1982384	KM63XMZWN0660Y	6	25	60	30	8	SS03M012	3mm	7	571.060	2,5mm	0,76
1831642	KM63XMZWN0865Y	8	28	65	30	8	SS03M014	4mm	15	571.067	3mm	0,82
1831703	KM63XMZWN1070Y	10	35	70	35	7	SS03M018	5mm	25	571.068	4mm	0,96
1831704	KM63XMZWN1275Y	12	42	75	40	7	SS03M023	6mm	35	571.074	5mm	1,15
1831705	KM63XMZWN1475Y	14	44	75	40	7	SS03M023	6mm	35	571.074	5mm	1,19
1831706	KM63XMZWN1680Y	16	48	80	43	7	SS03M025	6mm	50	571.074	5mm	1,37
1982385	KM63XMZWN1880Y	18	50	80	43	7	SS03M025	6mm	50	571.074	5mm	1,41
1714887	KM63XMZWN2080Y	20	52	80	45	7	SS03M026	8mm	95	571.074	5mm	1,45
1714888	KM63XMZWN2585Y	25	65	85	50	8	SS03M027	10mm	135	571.074	5mm	2,01
1714889	KM63XMZWN3295Y	32	72	95	54	10	SS03M029	10mm	160	571.075	6mm	2,54

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw and stop screw wrenches are not included.







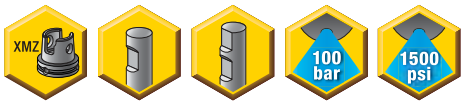
KM QUICK CHANGE

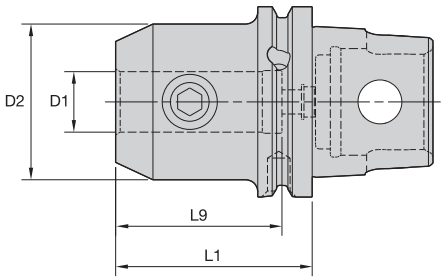
WN/EM • Whistle Notch and End Mill Adapter




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
2231550	**KM63XMZWNEM0680Y**	6	25	80	32	8	**SS03M012**	3mm	7	**571.060**	2,5mm	0,88
2231551	**KM63XMZWNEM0880Y**	8	28	80	32	8	**SS03M014**	4mm	15	**571.067**	3mm	0,94
2231552	**KM63XMZWNEM1080Y**	10	35	80	37	8	**SS03M018**	5mm	25	**571.068**	4mm	1,07
2231593	**KM63XMZWNEM1280Y**	12	42	80	42	8	**SS03M023**	6mm	35	**571.074**	5mm	1,24
2231594	**KM63XMZWNEM1480Y**	14	44	80	42	8	**SS03M023**	6mm	35	**571.074**	5mm	1,29
2231595	**KM63XMZWNEM1680Y**	16	48	80	45	8	**SS03M025**	6mm	50	**571.074**	5mm	1,39
2231596	**KM63XMZWNEM1880Y**	18	50	80	45	8	**SS03M025**	6mm	50	**571.074**	5mm	1,44
2231597	**KM63XMZWNEM2080Y**	20	52	80	47	8	**SS03M026**	8mm	95	**571.074**	5mm	1,49
2231598	**KM63XMZWNEM2580Y**	25	65	80	52	8	**SS03M027**	10mm	135	**571.074**	5mm	1,85
2231599	**KM63XMZWNEM3280Y**	32	72	80	56	8	**SS03M029**	10mm	160	**571.074**	5mm	2,10
2231600	**KM63XMZWNEM4095Y**	40	80	95	67	8	**SS03M029**	10mm	160	**571.074**	5mm	2,75

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw and stop screw wrenches are not included.







KM QUICK CHANGE

EM • Metric



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1621006	KM63XMZEM06100Y	6	25	100	40	SS03M012	3mm	7	0,98
1621010	KM63XMZEM08100Y	8	28	100	40	SS03M014	4mm	15	1,05
1621054	KM63XMZEM10100Y	10	35	100	45	SS03M018	5mm	25	1,22
1510191	KM63XMZEM1255Y	12	42	55	50	SS03M023	6mm	35	0,94
1511879	KM63XMZEM1660Y	16	48	60	53	SS03M025	6mm	50	1,09
1844636	KM63XMZEM1860Y	18	50	60	53	SS03M025	6mm	50	1,12
1511880	KM63XMZEM2065Y	20	52	65	55	SS03M026	8mm	95	1,21
1512091	KM63XMZEM2580Y	25	65	80	60	SS03M027	10mm	135	1,88
1714890	KM63XMZEM3290Y	32	72	90	65	SS03M029	10mm	160	2,38

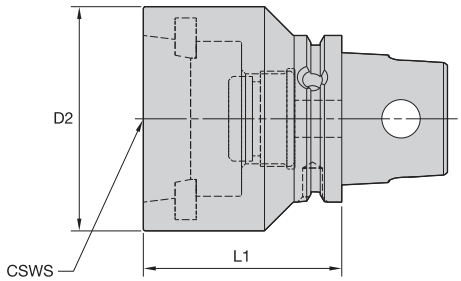
EM • Inch



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1723304	KM63XMZEM050216Y	1/2	1.38	2.165	1.97	ELS044038PKG	7/32	20	1.80
1516667	KM63XMZEM062236Y	5/8	1.63	2.362	2.09	ELS056050PKG	1/4	40	2.07
1516669	KM63XMZEM075256Y	3/4	1.75	2.559	2.22	ELS062050PKG	5/16	70	2.25
1516672	KM63XMZEM100315Y	1	2.00	3.150	2.46	ELS075056PKG	3/8	110	2.87
1516673	KM63XMZEM125335Y	1 1/4	2.50	3.346	2.51	ELS075062PKG	3/8	110	3.97
1831838	KM63XMZEM200492Y	2	3.75	4.921	3.53	ELS100088PKG	1/2	150	10.47

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.







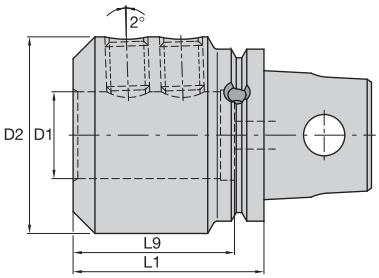
KM QUICK CHANGE

KR • Romicron Boring Head Adapter

order number	catalog number	CSWS system size	D2	L1	kg
1831590	**KM63XMZKR5060Y**	KR50	65	60	1,40
1831589	**KM63XMZKR6375Y**	KR63	85	75	2,20

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For a complete listing of Romicron boring adapters, see the Kennametal Innovations Master Catalog Cutting Tools 2013.







KM QUICK CHANGE

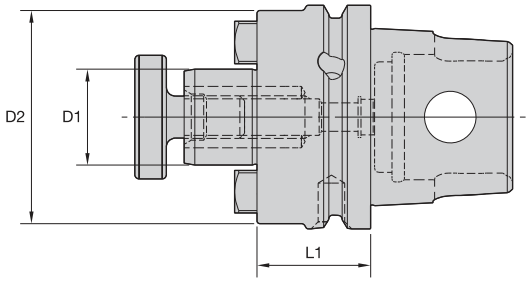
DAI

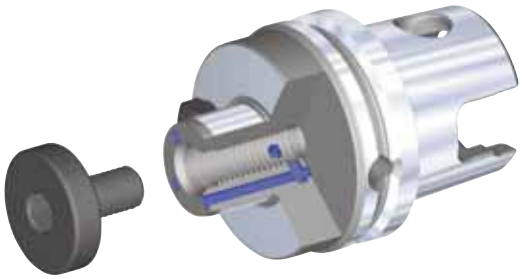


order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	Nm	kg
1516811	**KM63XMZDAI3270Y**	32	72	70	59	**SS03M026**	8 mm	95	1,81
1516812	**KM63XMZDAI40100Y**	40	90	100	75	**SS03M029**	10 mm	160	4,30



KM QUICK CHANGE





SMC • Metric



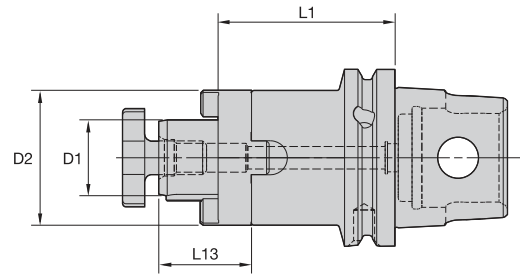

order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3950758	KM63XMZSMC16028MY	16	44	28	MS1294	KDK16M	6mm	0,78
3950759	KM63XMZSMC22028MY	22	49	28	MS1234	KDK22M	8mm	0,84
3950760	KM63XMZSMC27032MY	27	60	32	KLSS27M	KDK27M	10mm	1,05
3950761	KM63XMZSMC32040MY	32	78	40	KLSS32M	KDK32M	14mm	1,60

SMC/SM2C • Inch




order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	lbs
3950898	KM63XMZSMC050102Y	1/2	1.44	1.024	KLS05	KDK04	3/16	1.56
3950900	KM63XMZSM2C075102Y	3/4	1.46	1.024	KLS07	—	1/4	1.63
3950899	KM63XMZSMC075102Y	3/4	1.75	1.024	KLS07	KDK05	3/16	1.70
3950902	KM63XMZSM2C100126Y	1	2.19	1.260	KLS10	KDK06	5/16	2.19
3950901	KM63XMZSMC100126Y	1	2.75	1.260	KLS10	KDK06	5/16	2.49
3950903	KM63XMZSMC125157Y	1 1/4	2.88	1.575	KLS12	KDK08	5/16	3.35
3950904	KM63XMZSMC150177Y	1 1/2	3.69	1.770	KLS15	KDK10	3/8	5.11

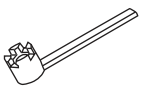
NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.





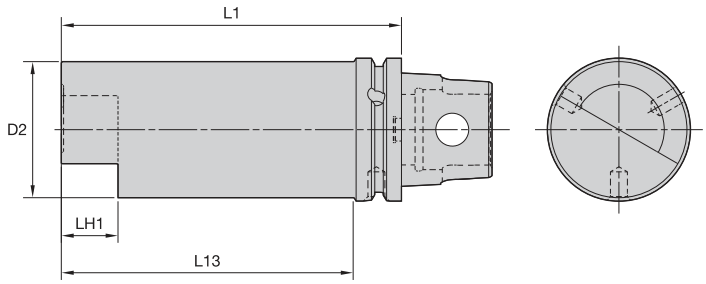
CS • Metric





order number	catalog number	D1	D2	L1	L13	lock screw	lock screw	wrench size lock screw	wrench	kg
2231604	**KM63XMZCS1663Y**	16	32	63	17	**MS1294**	**–**	6mm	**–**	0,98
2231606	**KM63XMZCS22110Y**	22	50	110	19	**MS1234**	**–**	8mm	**–**	2,29
2231601	**KM63XMZCS2228Y**	22	50	28	19	**MS1234**	**–**	8mm	**–**	1,87
2231605	**KM63XMZCS2263Y**	22	50	63	19	**MS1234**	**–**	8mm	**–**	0,88
2231608	**KM63XMZCS27110Y**	27	63	110	21	**–**	**KLS27M**	–	**SMW27M**	1,70
2231602	**KM63XMZCS2732Y**	27	63	32	21	**–**	**KLS27M**	–	**SMW27M**	2,98
2231607	**KM63XMZCS2763Y**	27	63	63	21	**–**	**KLS27M**	–	**SMW27M**	3,46
2231610	**KM63XMZCS32110Y**	32	78	110	24	**–**	**KLS32M**	–	**SMW32M**	2,20
2231603	**KM63XMZCS3240Y**	32	78	40	24	**–**	**KLS32M**	–	**SMW32M**	1,10
2231609	**KM63XMZCS3263Y**	32	78	63	24	**–**	**KLS32M**	–	**SMW32M**	1,42

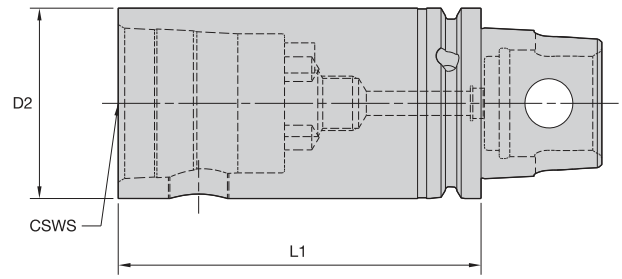
NOTE: Do not overtighten lock screw.
Supplied with lock screw, drive ring, and key.
Lock screw wrench not included.





GB • Gage Bar

order number	catalog number	D2 mm	D2 in	L1 mm	L1 in	L13 mm	L13 in	LH1 mm	LH1 in	kg	lbs
1797483	**KM63XMZGB50200Y**	50	1.97	200	7.87	178	7.00	20	.79	3,28	7.22
1661912	**KM63XMZGB60150Y**	60	2.36	150	5.91	129	5.07	25	.98	3,26	7.20

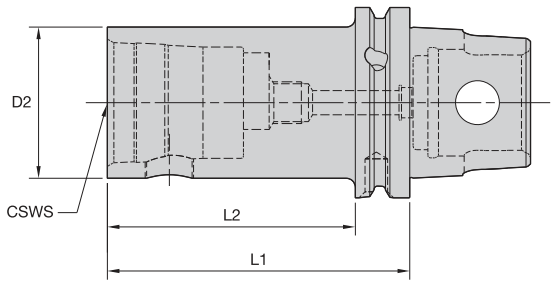




KM QUICK CHANGE

S • KM Extensions

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
1319536	**KM63XMZS6380Y**	KM63	63	2.480	80	3.150	12mm	47-54	35-40	**KM63PKG3S**	1,73	3.81
1511923	**KM63XMZS63120Y**	KM63	63	2.480	120	4.724	12mm	47-54	35-40	**KM63PKG3S**	2,68	5.92





KM QUICK CHANGE

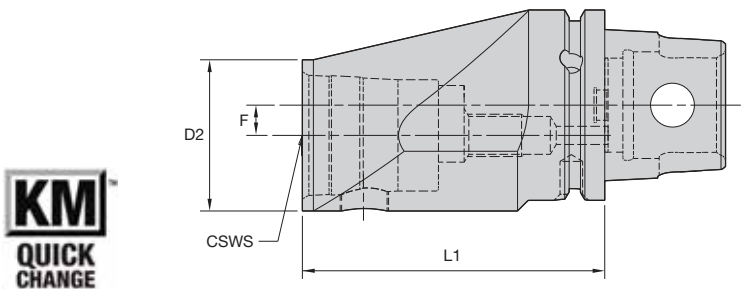
S • KM Reducer

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	L2 mm	L2 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
1512243	**KM63XMZS3270Y**	KM32	32	1.260	70	2.756	46	1.811	5mm	8-11	6-8	**KM32PKG3S**	0,91	2.00
1511925	**KM63XMZS4080Y**	KM40	40	1.575	80	3.150	59	2.323	6mm	12-16	9-12	**KM40PKG3S**	1,14	2.51
1831639	**KM63XMZS5058Y**	KM50	50	1.969	58	2.299	36	1.417	10mm	27-34	20-25	**KM50PKG3S**	0,87	1.91
1509861	**KM63XMZS50100Y**	KM50	50	1.969	100	3.937	79	3.110	10mm	27-34	20-25	**KM50PKG3S**	1,67	3.68

S • KM Reducer • Centerline

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
3306139	**KM63XMZS5065Y**	KM50	50	1.969	65	2.559	10 mm	27-34	20-25	**KM50PKG3L**	1,42	3.13

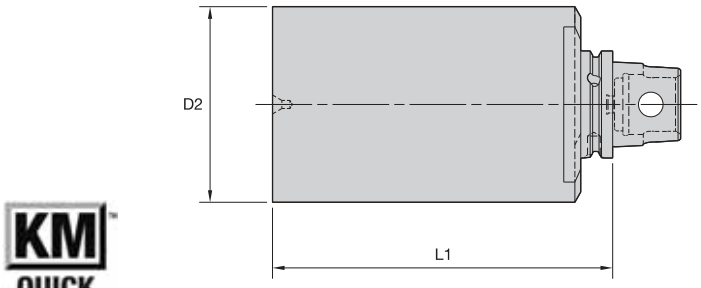
NOTE: Designed for centerline KM cutting units.





ES • KM Offset Reducer

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	F mm	F in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
1831587	**KM63XMZES40110Y**	KM40	40	1.575	110	4.331	18	.709	6mm	12-16	9-12	**KM40PKG3S**	2,38	5.25
1516814	**KM63XMZES50100Y**	KM50	50	1.969	100	3.937	10	.394	10mm	27-34	20-25	**KM50PKG3S**	2,21	4.87





BN • Blank

order number	catalog number	D2 mm	D2 in	L1 mm	L1 in	hardness range	kg	lbs
1831586	**KM63XMZBN115200Y**	115	4.528	200	7.874	32–38 RW C	15,21	33.54



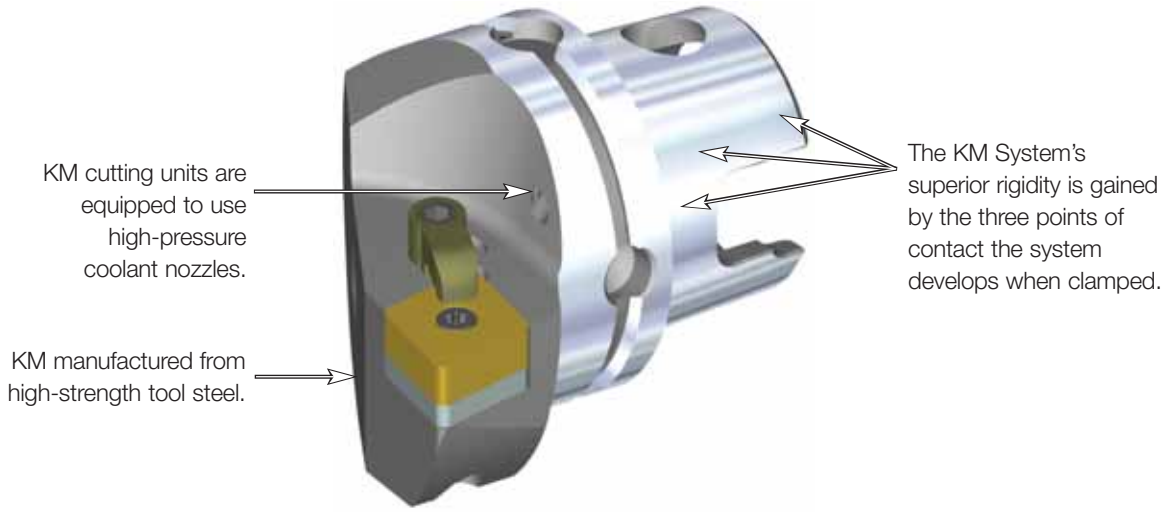
KM™ Quick Change Clamping System • KM80ATC™ Series

Primary Application

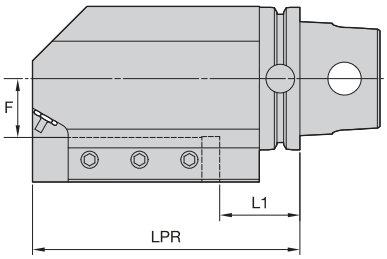
The KM Quick Change Clamping System is the best system on the market suitable for static, rotating, and multitasking operations. With its industry-leading design, the KM Quick Change System provides greater clamping forces than other quick-change systems. The KM Quick Change System gives you the flexibility to use KM on any application within your shop.

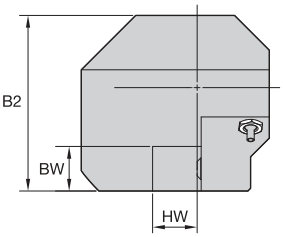
Features and Benefits

- KM80ATC is designed to be used on MAG Corporation VTL machines.
- KM80ATC is your solution for multitasking.











KM QUICK CHANGE

STA • Straight Side Mount • Metric





order number	catalog number	L1	LPR	F	HW	BW	B2	cup point socket set screw	nozzle	Nm	kg
	right hand										
3545087	KM80ATCSTAR2525	45	150	33	25	25	99	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	9,51
3545089	KM80ATCSTAR3232	45	150	25	32	32	98	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	8,98
	left hand										
3545088	KM80ATCSTAL2525	45	150	33	25	25	99	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	9,51
3545090	KM80ATCSTAL3232	45	150	25	32	32	98	MS1430	PMT04526 COOLANT NOZZLE SPRAY	55	8,98

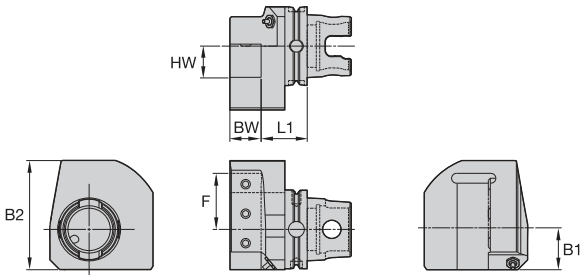
STA • Straight Side Mount • Inch

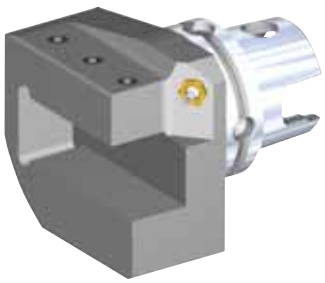




order number	catalog number	L1	LPR	F	HW	BW	B2	cup point socket set screw	nozzle	ft. lbs.	lbs
	right hand										
3480215	KM80ATCSTAR20	1.693	5.906	1.059	1.250	1.250	3.904	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	20.17
2601528	KM80ATCSTAR24	1.480	6.693	.559	1.500	1.500	3.654	MS1954	PMT04526 COOLANT NOZZLE SPRAY	90	21.44
	left hand										
2628561	KM80ATCSTAL20	1.693	5.906	1.059	1.250	1.250	3.904	MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	20.14
2601530	KM80ATCSTAL24	1.480	6.693	.559	1.500	1.500	3.654	MS1954	PMT04526 COOLANT NOZZLE SPRAY	90	21.44







KM QUICK CHANGE

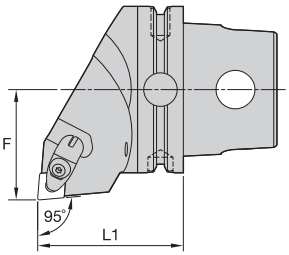
ETA • Straight End Mount • Inch

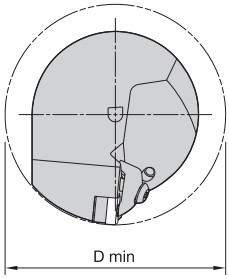




order number	catalog number	L1	B1	F	HW	BW	B2	cup point socket set screw	nozzle	ft. lbs.	lbs
	right hand										
2203618	KM80ATCETAR20	1.846	1.614	2.244	1.25	1.25	4	DWG MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	10.32
	left hand										
2203619	KM80ATCETAL20	1.846	1.614	2.244	1.25	1.25	4	DWG MS1430	PMT04526 COOLANT NOZZLE SPRAY	40	10.32









KM QUICK CHANGE

DCLN 95°

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
2036330	KM80ATCDCLNR12KC04	70	2.756	53	2.087	106	4.17	CN..120408/CN..432	2,13
2036332	KM80ATCDCLNR16KC06	70	2.756	53	2.086	106	4.17	CN..160612/CN..543	2,24
	left hand								
2036331	KM80ATCDCLNL12KC04	70	2.756	53	2.087	106	4.17	CN..120408/CN..432	2,13
2036406	KM80ATCDCLNL16KC06	70	2.756	53	2.086	106	4.17	CN..160612/CN..543	2,24

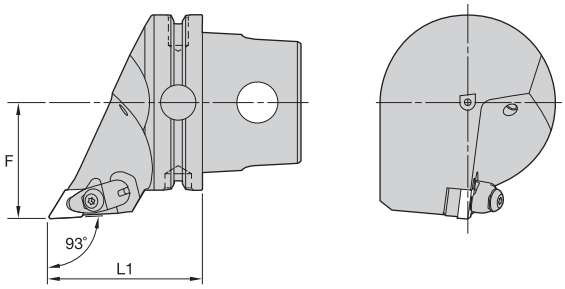
Spare Parts






catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM80ATCDCLNR12KC04	ICSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM80ATCDCLNR16KC06	ICSN543	KMSP515IP	CM209R ASSY	SSP025018M
left hand				
KM80ATCDCLNL12KC04	ICSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM80ATCDCLNL16KC06	ICSN543	KMSP515IP	CM209R ASSY	SSP025018M







KM QUICK CHANGE

DDJN 93°

order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	kg
	right hand						
2220270	KM80ATCDDJNR15KC04	70	2.7560	53	2.087	DN..150408/DN..432	1,90
2036377	KM80ATCDDJNR15KC06	70	2.7560	53	2.087	DN..150608/DN..442	1,90
	left hand						
2220271	KM80ATCDDJNL15KC04	70	2.7560	53	2.087	DN..150408/DN..432	1,90
2036378	KM80ATCDDJNL15KC06	70	2.7560	53	2.087	DN..150608/DN..442	1,90

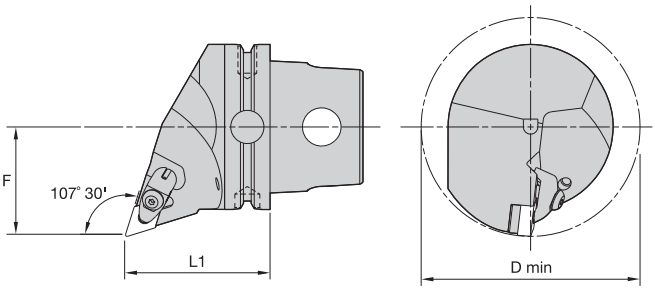
Spare Parts






catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM80ATCDDJNR15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM80ATCDDJNR15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM80ATCDDJNL15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM80ATCDDJNL15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M







KM QUICK CHANGE

DDQN 107° 30'

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
2220278	**KM80ATCDDQNR15KC04**	70	2.756	53	2.087	106	4.17	DN..150408/DN..432	2,07
2036379	**KM80ATCDDQNR15KC06**	70	2.756	53	2.087	106	4.17	DN..150608/DN..442	2,06
	left hand								
2220279	**KM80ATCDDQNL15KC04**	70	2.756	53	2.087	106	4.17	DN..150408/DN..432	2,07
2036380	**KM80ATCDDQNL15KC06**	70	2.756	53	2.087	106	4.17	DN..150608/DN..442	2,06

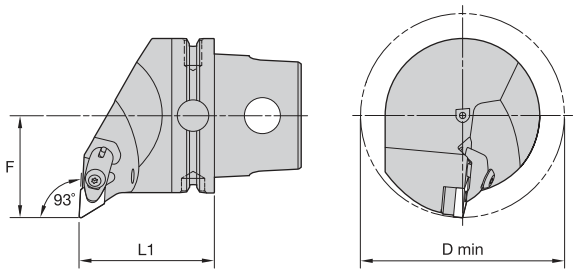
Spare Parts






catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM80ATCDDQNR15KC04	**IDSN443**	**KMSP415IP**	**CM234R ASSY**	**SSP025016M**
KM80ATCDDQNR15KC06	**IDSN433**	**KMSP415IP**	**CM234R ASSY**	**SSP025016M**
left hand				
KM80ATCDDQNL15KC04	**IDSN443**	**KMSP415IP**	**CM234R ASSY**	**SSP025016M**
KM80ATCDDQNL15KC06	**IDSN433**	**KMSP415IP**	**CM234R ASSY**	**SSP025016M**







KM QUICK CHANGE

DDUN 93°

order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	kg
	right hand								
2220286	KM80ATCDDUNR15KC04	70	2.756	53	2.087	106	4.17	DN..150408/DN..432	2,23
2036381	KM80ATCDDUNR15KC06	70	2.756	53	2.087	106	4.17	DN..150608/DN..442	2,23
	left hand								
2220287	KM80ATCDDUNL15KC04	70	2.756	53	2.087	106	4.17	DN..150408/DN..432	2,23
2036382	KM80ATCDDUNL15KC06	70	2.756	53	2.087	106	4.17	DN..150608/DN..442	2,23

Spare Parts

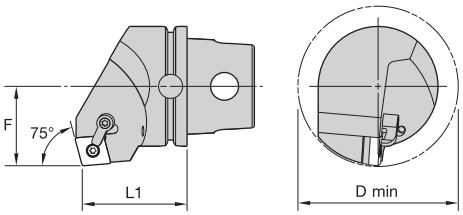





catalog number	shim	shim screw	clamp assembly	pin
right hand				
KM80ATCDDUNR15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM80ATCDDUNR15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M
left hand				
KM80ATCDDUNL15KC04	IDSN443	KMSP415IP	CM234R ASSY	SSP025016M
KM80ATCDDUNL15KC06	IDSN433	KMSP415IP	CM234R ASSY	SSP025016M

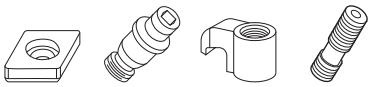


KM QUICK CHANGE





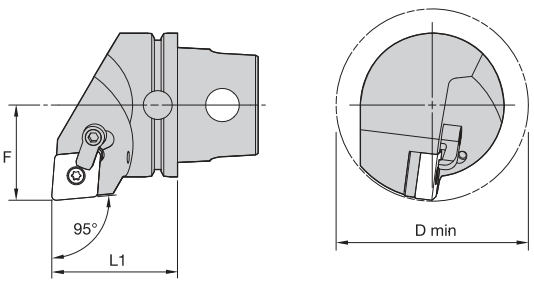
MCKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2036393	**KM80ATCMCKNR19**	70	2.756	53	2.087	106	4.173	CN..190612/CN..643	**ICSN633**	**KLM68**	**CKM12**	**STCM4**	2,40	5.30
3758113	**KM80ATCMCKNR25**	70	2.756	53	2.087	106	4.173	CN..250924/CN..866	**ICSN846**	**KLM810**	**CKM24**	**STCM19**	2,54	5.61
	left hand													
1961291	**KM80ATCMCKNL19**	70	2.756	53	2.087	106	4.173	CN..190612/CN..643	**ICSN633**	**KLM68**	**CKM12**	**STCM4**	2,41	5.30
3684524	**KM80ATCMCKNL25**	70	2.756	53	2.087	106	4.173	CN..250924/CN..866	**ICSN846**	**KLM810**	**CKM24**	**STCM19**	2,54	5.61



KM QUICK CHANGE





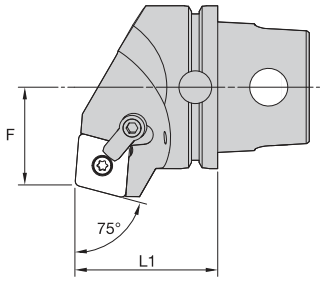
MCLN 95°



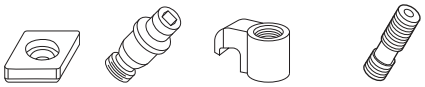
order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2036373	**KM80ATCMCLNR19**	70	2.756	53	2.087	106	4.173	CN..190612/CN..643	**ICSN633**	**KLM68**	**CKM12**	**STCM4**	2,19	4.83
2036374	**KM80ATCMCLNR25**	70	2.756	53	2.087	106	4.173	CN..250924/CN..866	**ICSN846**	**KLM810**	**CKM24**	**STCM19**	2,20	4.84
	left hand													
1958408	**KM80ATCMCLNL19**	70	2.756	53	2.087	106	4.173	CN..190612/CN..643	**ICSN633**	**KLM68**	**CKM12**	**STCM4**	2,19	4.83
1958411	**KM80ATCMCLNL25**	70	2.756	53	2.087	106	4.173	CN..250924/CN..866	**ICSN846**	**KLM810**	**CKM24**	**STCM19**	2,20	4.84





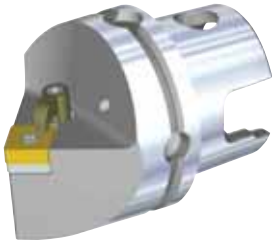


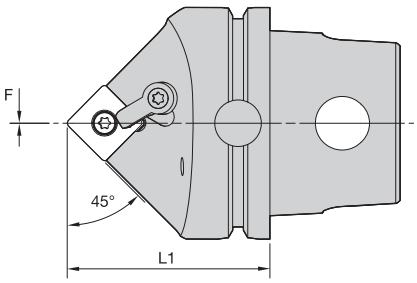
MCRN 75°



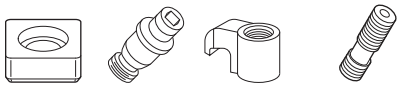
order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
2036375	KM80ATCMCRNR19	70	2.756	48	1.890	CN..190612/CN..643	ICSN633	KLM68	CKM12	STCM4	2,29	5.06
2036376	KM80ATCMCRNR25	70	2.756	48	1.890	CN..250924/CN..866	ICSN846	KLM810	CKM24	STCM19	2,31	5.09
	left hand											
1960916	KM80ATCMCRNL19	70	2.756	48	1.890	CN..190612/CN..643	ICSN633	KLM68	CKM12	STCM4	2,29	5.06
2033887	KM80ATCMCRNL25	70	2.756	48	1.890	CN..250924/CN..866	ICSN846	KLM810	CKM24	STCM19	2,31	5.09





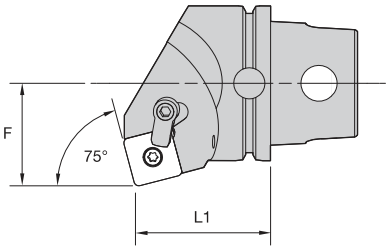


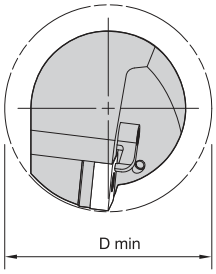
MSDN 45°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
2036383	KM80ATCMSDNN19	70	2.756	0	.000	SN..190612/SN..643	ISSN633	KLM68	CKM12	STCM4	1,88	4.14
2036384	KM80ATCMSDNN25	70	2.756	0	.000	SN..250924/SN..866	ISSN846	KLM810	CKM24	STCM19	1,79	3.95



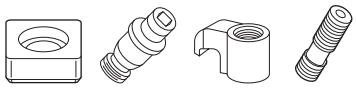






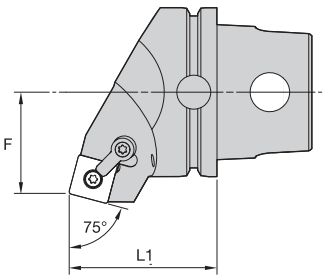
KM QUICK CHANGE

MSKN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2036385	KM80ATCMSKNR19	70	2.756	53	2.087	106	4.173	SN..190612/SN..643	ISSN633	KLM68	CKM12	STCM4	2,52	5.55
2036387	KM80ATCMSKNR25	70	2.756	53	2.087	106	4.173	SN..250924/SN..866	ISSN846	KLM810	CKM24	STCM19	2,47	5.44
	left hand													
2036386	KM80ATCMSKNL19	70	2.756	53	2.087	106	4.173	SN..190612/SN..643	ISSN633	KLM68	CKM12	STCM4	2,52	5.55
1960917	KM80ATCMSKNL25	70	2.756	53	2.087	106	4.173	SN..250924/SN..866	ISSN846	KLM810	CKM24	STCM19	2,53	5.57

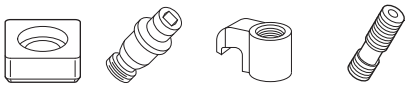






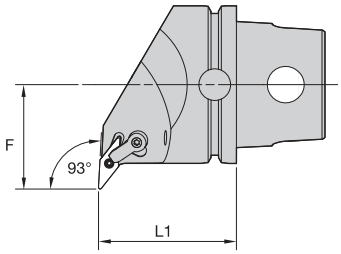
KM QUICK CHANGE

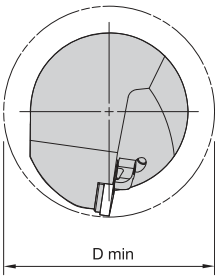
MSRN 75°



order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand											
2036388	KM80ATCMSRNR19	70	2.756	48	1.890	SN..190612/SN..643	ISSN633	KLM68	CKM12	STCM4	2,11	4.66
2036390	KM80ATCMSRNR25	70	2.756	48	1.890	SN..250924/SN..866	ISSN846	KLM810	CKM24	STCM19	2,08	4.59
	left hand											
2036389	KM80ATCMSRNL19	70	2.756	48	1.890	SN..190612/SN..643	ISSN633	KLM68	CKM12	STCM4	2,11	4.66
1961718	KM80ATCMSRNL25	70	2.756	48	1.890	SN..250924/SN..866	ISSN846	KLM810	CKM24	STCM19	2,08	4.59



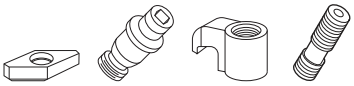






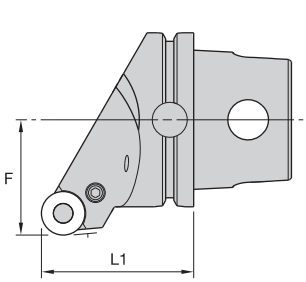
KM QUICK CHANGE

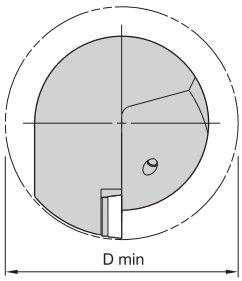
MVUN 93°



order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	lock pin	clamp	clamp screw	kg	lbs
	right hand													
2036391	KM80ATCMVUNR16	70	2.756	53	2.087	106	4.173	VN..160408/VN..332	IVSN322	KLM34L	CKM22	STCM20	2,23	4.92
	left hand													
1961335	KM80ATCMVUNL16	70	2.756	53	2.087	106	4.173	VN..160408/VN..332	IVSN322	KLM34L	CKM22	STCM20	2,23	4.92









KM QUICK CHANGE

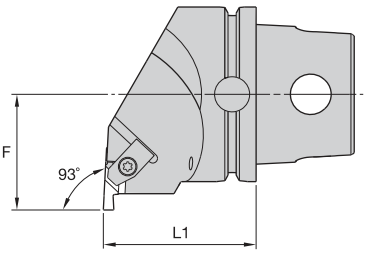
PRGC 0°

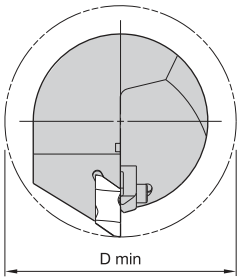


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	shim	clamp screw	clamp stud	kg	lbs
1961340	KM80ATCPRGCL20	70	2.756	53	2.087	106	4.173	RC..2006M0	169.333	121.820	119.073	1,87	4.12
3897198	KM80ATCPRGCL25	70	2.756	53	2.087	—	—	RC..2507M0..	169.337	121.820	118.404	2,08	4.58
3897200	KM80ATCPRGCL32	80	3.150	53	2.087	—	—	RC..3209M0..	169.339	121.030	118.604	2,66	5.86
2203621	KM80ATCPRGCR20	70	2.756	53	2.087	106	4.173	RC..2006M0	169.333	121.820	119.073	1,87	4.12
3897199	KM80ATCPRGCR25	70	2.756	53	2.087	—	—	RC..2507M0..	169.337	121.820	118.404	2,08	4.58
3897201	KM80ATCPRGCR32	80	3.150	53	2.087	—	—	RC..3209M0..	169.339	121.030	118.604	2,66	5.86



KM QUICK CHANGE







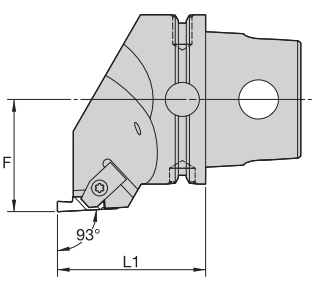
NE 93°

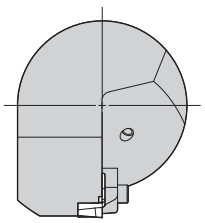


order number	catalog number	L1 mm	L1 in	F mm	F in	D min mm	D min in	gage insert	clamp	clamp screw	kg	lbs
	right hand											
2036394	KM80ATCNER3	70	2.756	53	2.087	106	4.173	NG3L	CM73	MS2091	2,12	4.67
2036395	KM80ATCNER4	70	2.756	53	2.087	106	4.173	NG4L	CM73	MS2091	2,19	4.83
2036396	KM80ATCNER5	70	2.756	53	2.087	106	4.173	NG5L	CM81	MS1490	2,26	4.99
2036397	KM80ATCNER6	70	2.756	53	2.087	106	4.173	NG6L	CM121	MS2091	2,15	4.74
	left hand											
1961333	KM80ATCNEL3	70	2.756	53	2.087	106	4.173	NG3R	CM72	MS2091	2,12	4.67
1960915	KM80ATCNEL4	70	2.756	53	2.087	106	4.173	NG4R	CM72	MS2091	2,19	4.83
2036400	KM80ATCNEL5	70	2.756	53	2.087	106	4.173	NG5R	CM80	MS1490	2,26	4.99
2036398	KM80ATCNEL6	70	2.756	53	2.087	106	4.173	NG6R	CM120	MS2091	2,15	4.74



KM QUICK CHANGE







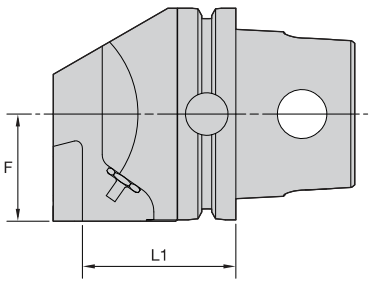
NS 93°

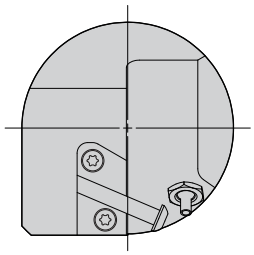


order number	catalog number	L1 mm	L1 in	F mm	F in	gage insert	clamp	clamp screw	kg	lbs
	right hand									
3330949	KM80ATCNSR3	70	2.756	53	2.087	NG3R	CM72	MS1489	2,16	4.77
2203622	KM80ATCNSR4	70	2.756	53	2.087	NG4R	CM72	MS2091	2,17	4.77
	left hand									
2398753	KM80ATCNSL3	70	2.756	53	2.087	NG3L	CM73	MS1489	2,16	4.77
2044321	KM80ATCNSL4	70	2.756	53	2.087	NG4L	CM73	MS2091	2,17	4.77



KM QUICK CHANGE







KGME • End Mount



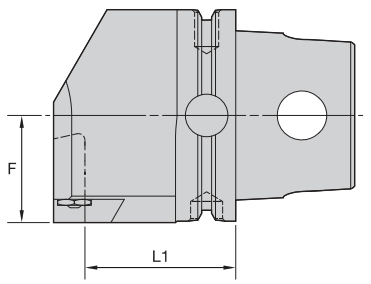


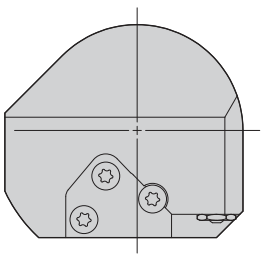
order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	insert screw	button-head cap screw	nozzle	kg	lbs
	right hand										
2036392	KM80ATCKGMER50	58	2.283	41	1.594	50	MS1162	MS2002	PMT04526 COOLANT NOZZLE SPRAY	2,45	5.39
	left hand										
1961339	KM80ATCKGMEL50	58	2.283	41	1.594	50	MS1162	MS2002	PMT04526 COOLANT NOZZLE SPRAY	2,45	5.39

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use left-hand blades.



KM QUICK CHANGE







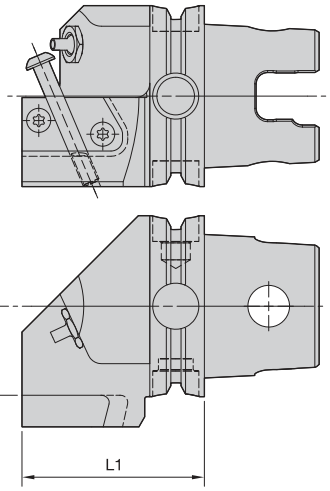
KGME • End Mount





order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	nozzle	kg	lbs
	right hand									
3588800	KM80ATCKGMER65	57	2.24	40,5	1.595	65	MS1163	PMT04525	3,11	6.86
	left hand									
3588804	KM80ATCKGMEL65	57	2.24	40,5	1.595	65	MS1163	PMT04525	3,11	6.86

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use left-hand blades.





KM QUICK CHANGE

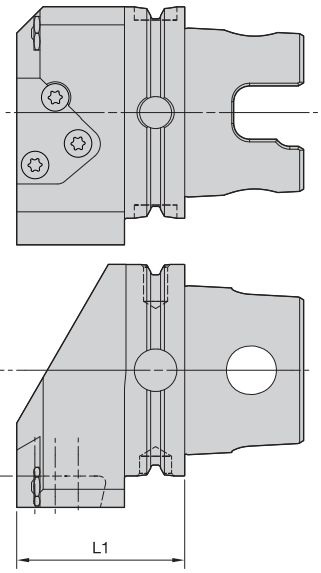
KGMS • Side Mount





order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	nozzle	clamp screw	kg	lbs
	right hand										
3138942	KM80ATCKGMSR50	66,5	2.618	41	1.614	50	MS1162	PMT04526 COOLANT NOZZLE SPRAY	MS2002	2,43	5.36
	left hand										
3138941	KM80ATCKGMSL50	66,5	2.618	41	1.614	50	MS1162	PMT04526 COOLANT NOZZLE SPRAY	MS2002	2,43	5.36

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use right-hand blades.





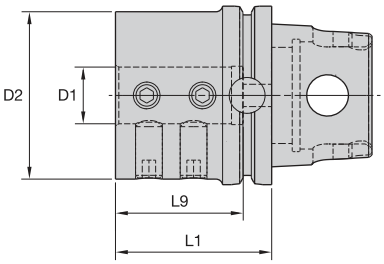
KM QUICK CHANGE

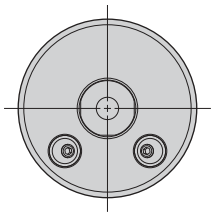
KGMS • Side Mount




order number	catalog number	L1 mm	L1 in	F mm	F in	cartridge size	blade screw	nozzle	kg	lbs
	right hand									
3588790	KM80ATCKGMSR65	63,5	2.500	40	1.575	65	MS1163	PMT04525	2,81	6.20
	left hand									
3588795	KM80ATCKGMSL65	63,5	2.500	40	1.575	65	MS1163	PMT04525	2,81	6.20

NOTE: For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.
Right-hand cutting units use right-hand blades.







BA • Boring Bar Adapter • Internal and External Coolant • Metric




order number	catalog number	D1	D2	L1	L9	lock screw	nozzle	wrench size clamp screw	Nm	kg
3896952	**KM80ATCBA40105M**	40	80	105	76	**MS1947**	**PWZ1012**	8mm	125	3,58
3897203	**KM80ATCBA50130M**	50	90	130	95	**MS1947**	**PWZ1012**	8mm	125	4,96

BA • Boring Bar Adapter • Internal and External Coolant • Inch




order number	catalog number	D1	D2	L1	L9	lock screw	nozzle	wrench size clamp screw	ft. lbs.	lbs
2024399	**KM80ATCBA100276**	1	2.95	2.756	2.24	**—**	**PWZ1012**	6mm	30	5.57
2024400	**KM80ATCBA125295**	1 1/4	3.15	2.953	2.48	**—**	**PWZ1012**	6mm	30	6.11
2024401	**KM80ATCBA150413**	1 1/2	3.15	4.134	2.99	**MS1947**	**PWZ1012**	8mm	90	8.04
2024402	**KM80ATCBA200512**	2	3.54	5.118	3.98	**MS1947**	**PWZ1012**	8mm	90	10.57

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.
For boring bar reducers, see page A570.



More than just the right tool • the ultimate solution.

That's **Beyond BLAST.**™

That's **Different Thinking.**

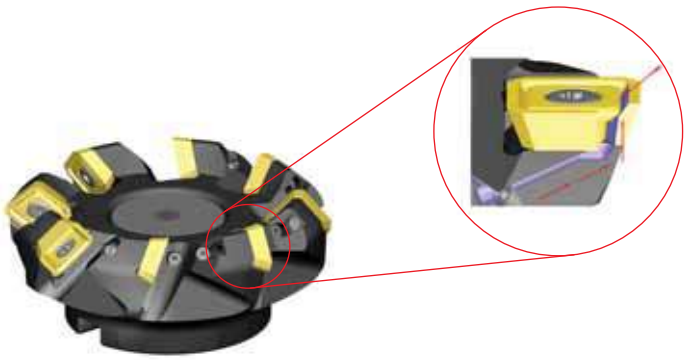
At Kennametal, innovation follows vision. Our revolutionary products and services are inspired by asking "what if?" The solutions that follow — like our Beyond BLAST through-coolant inserts — deliver remarkable results in the world's most demanding machining environments.

A cutting-edge insert that delivers coolant precisely at the cutting edge. Now that's Different Thinking. That's Kennametal.

To learn more about your productivity gains using Beyond BLAST technology, visit www.kennametal.com.

Milling

- Beyond BLAST technology uses low-pressure conditions to offer many of the high-pressure performance benefits.
- Delivers superior performance on titanium, using either high- or low-pressure coolant systems.
- Effective thermal management results in reduced cutting temperatures, improved lubricity, superior chip control, and longer tool life.
- Beyond BLAST for milling increases tool life by up to 300% compared with conventional coolant delivery systems.

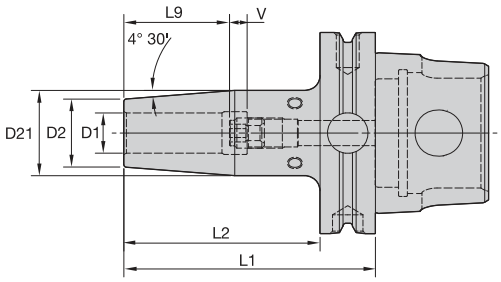


beyond™ BLAST™

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32, 40, & 50	h6	0,000/-0,016

KM QUICK CHANGE

HPV TT • Metric



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3661841	KM80ATCHPVTT10090M	10	24	32	90	68	31	10	TTSS08014M	4mm	1,47
3661842	KM80ATCHPVTT10170M	10	24	32	170	63	31	10	TTSS08014M	4mm	2,02
3662743	KM80ATCHPVTT12095M	12	24	32	95	73	36	10	TTSS10014M	5mm	1,48
3662744	KM80ATCHPVTT12160M	12	24	32	160	63	36	10	TTSS10014M	5mm	1,93
3662745	KM80ATCHPVTT14095M	14	27	34	95	73	36	10	TTSS10014M	5mm	1,54
3662746	KM80ATCHPVTT16100M	16	27	34	100	78	39	10	TTSS12014M	6mm	1,55
3662747	KM80ATCHPVTT18100M	18	33	42	100	78	39	10	TTSS12014M	6mm	1,75
3662748	KM80ATCHPVTT18160M	18	33	42	160	70	39	10	TTSS12014M	6mm	2,45
3662749	KM80ATCHPVTT20105M	20	33	42	105	83	41	10	TTSS16014M	8mm	1,77
3662750	KM80ATCHPVTT25115M	25	44	53	115	93	47	10	TTSS16014M	8mm	2,34
3662751	KM80ATCHPVTT32120M	32	44	53	120	98	51	10	TTSS16014M	8mm	2,26
3662752	KM80ATCHPVTT40130M	40	60	61	130	108	51	10	TTSS20014M	10mm	3,47
3662753	KM80ATCHPVTT50140M	50	69	79	140	118	56	10	TTSS20014M	10mm	4,28

(continued)

(HPV TT continued)

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameter	tolerance
5/16 & 3/8	-.0001/-.0004
7/16, 1/2, 9/16, & 5/8	.0000/-.0004
3/4, 7/8, 1, 1-1/4, 1-1/2, & 2	.0000/-.0005

HPV TT • Inch



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3599309	**KM80ATCHPVTT031335**	5/16	.83	1.06	3.347	2.48	1.02	.39	**TTSS06014M**	3mm	3.03
3599310	**KM80ATCHPVTT038630**	3/8	.95	1.26	6.299	2.48	1.22	.39	**TTSS08014M**	4mm	4.29
3599311	**KM80ATCHPVTT044374**	7/16	.95	1.26	3.740	2.87	1.42	.39	**TTSS10014M**	5mm	3.28
3599304	**KM80ATCHPVTT050374**	1/2	.95	1.26	3.740	2.87	1.42	.39	**TTSS10014M**	5mm	3.25
3594191	**KM80ATCHPVTT056374**	9/16	1.06	1.34	3.740	2.87	1.42	.39	**TTSS10014M**	5mm	3.38
3599305	**KM80ATCHPVTT062394**	5/8	1.06	1.34	3.937	3.07	1.54	.39	**TTSS12014M**	6mm	3.41
3594317	**KM80ATCHPVTT062850**	5/8	1.06	1.34	8.500	2.48	1.54	.39	**TTSS12014M**	6mm	5.65
3594316	**KM80ATCHPVTT075413**	3/4	1.30	1.65	4.134	3.27	1.61	.39	**TTSS16014M**	6mm	3.93
3599306	**KM80ATCHPVTT075630**	3/4	1.30	1.65	6.299	2.76	1.61	.39	**TTSS16014M**	8mm	5.35
3599307	**KM80ATCHPVTT088413**	7/8	1.30	1.65	4.134	3.27	1.61	.39	**TTSS16014M**	8mm	3.84
3594315	**KM80ATCHPVTT100453**	1	1.73	2.08	4.528	3.66	1.85	.39	**TTSS16014M**	8mm	5.14
3594313	**KM80ATCHPVTT125472**	1 1/4	1.73	2.08	4.724	3.86	2.01	.39	**TTSS16014M**	8mm	4.99
3594314	**KM80ATCHPVTT150512**	1 1/2	2.36	2.75	5.118	4.25	2.01	.39	**TTSS20014M**	10mm	7.78
3599308	**KM80ATCHPVTT200551**	2	2.72	3.11	5.512	4.65	2.20	.39	**TTSS20014M**	10mm	9.37

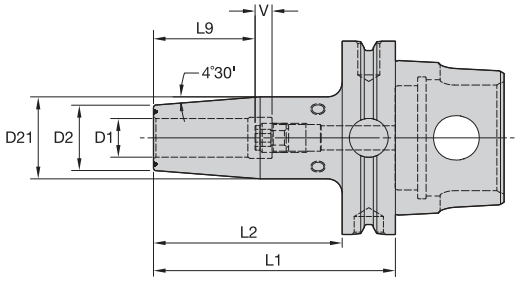
NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see page L12–L13.
Optional M6~1.0P x 5 lg fine balancing screw set (10 pieces) is available.
Order number is MS1276PKG and must be ordered separately.

- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.





SHRINKER



Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

KM QUICK CHANGE

HPV TT HT • Metric



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3662754	KM80ATCHPVTTHT12095M	12	24	32	95	73	36	10	TTSS10014M	5mm	1,48
3662755	KM80ATCHPVTTHT12160M	12	24	32	160	63	36	10	TTSS10014M	5mm	1,96
3662756	KM80ATCHPVTTHT14095M	14	27	34	95	73	36	10	TTSS10014M	5mm	1,54
3662757	KM80ATCHPVTTHT16100M	16	27	34	100	78	39	10	TTSS12014M	6mm	1,55
3662758	KM80ATCHPVTTHT18100M	18	33	42	100	78	39	10	TTSS12014M	6mm	1,75
3662759	KM80ATCHPVTTHT18160M	18	33	42	160	70	39	10	TTSS12014M	6mm	2,45
3662760	KM80ATCHPVTTHT20105M	20	33	42	105	83	41	10	TTSS16014M	8mm	1,77
3662761	KM80ATCHPVTTHT25115M	25	44	53	115	93	47	10	TTSS16014M	8mm	2,34
3662762	KM80ATCHPVTTHT32120M	32	44	53	120	98	51	10	TTSS16014M	8mm	2,26

(continued)

(HPV TT HT continued)

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameter	tolerance
1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

HPV TT HT • Inch

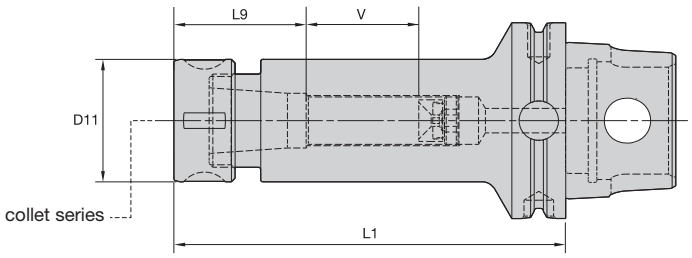


order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3598813	**KM80ATCHPVTTHT050374**	1 /2	.95	1.26	3.740	2.87	1.42	.39	**TTSS10014M**	5mm	3.25
3598814	**KM80ATCHPVTTHT056374**	9/16	1.06	1.34	3.740	2.87	1.42	.39	**TTSS10014M**	5mm	3.38
3598815	**KM80ATCHPVTTHT062394**	5/8	1.06	1.34	3.937	3.07	1.54	.39	**TTSS12014M**	6mm	3.41
3598816	**KM80ATCHPVTTHT062850**	5/8	1.06	1.34	8.500	2.48	1.54	.39	**TTSS12014M**	6mm	5.65
3598817	**KM80ATCHPVTTHT075413**	3/4	1.30	1.65	4.134	3.27	1.61	.39	**TTSS16014M**	8mm	3.93
3598818	**KM80ATCHPVTTHT075630**	3/4	1.30	1.65	6.299	2.76	1.61	.39	**TTSS16014M**	8mm	5.35
3598819	**KM80ATCHPVTTHT088413**	7/8	1.30	1.65	4.134	3.27	1.61	.39	**TTSS16014M**	8mm	3.84
3598820	**KM80ATCHPVTTHT100453**	1	1.73	2.08	4.528	3.66	1.85	.39	**TTSS16014M**	8mm	5.14
3598821	**KM80ATCHPVTTHT125472**	1 1/4	1.73	2.08	4.724	3.86	2.01	.39	**TTSS16014M**	8mm	4.99

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see page L12–L13.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available.
Order number is MS1276PKG and must be ordered separately.

• Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1
TG150	11,6	40,0	23/64	1-1/2

KM QUICK CHANGE

TG • Single-Angle Collet Chucks

			D11		L1		L9		V			
order number	catalog number	collet series	mm	in	mm	in	mm	in	mm	in	kg	lbs
3138953	KM80ATCTG075160	TG75	50	1.97	160	6.299	53	2.09	47	1.85	2,96	6.52
2022194	KM80ATCTG100394	TG100	60	2.36	100	3.937	70	2.75	—	—	2,32	5.11
2022195	KM80ATCTG150492	TG150	85	3.35	125	4.921	83	3.27	—	—	4,31	9.50

Spare Parts



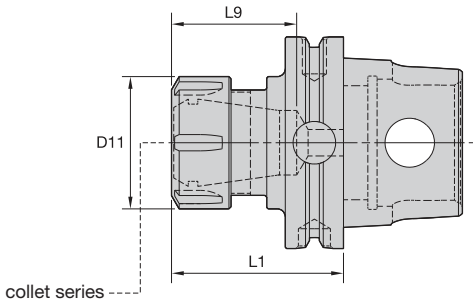



catalog number	locknut	wrench	stop screw	wrench size stop screw	coolant cap	Nm	ft. lbs.
KM80ATCTG075160	LNA075M	HSW45M	SS081041G	4mm & 5/32	SSCC081	108-136	80-100
KM80ATCTG100394	LNA100M	HSW58M	—	—	—	163-203	120-150
KM80ATCTG150492	LNA150M	HSW80M	—	—	—	217-271	160-200

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.

• Grip (2:1 advantage).







KM QUICK CHANGE

ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

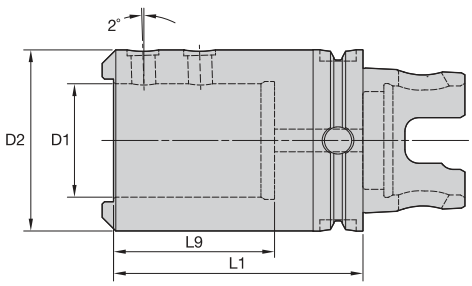
ER • Single-Angle Collet Chucks




order number	catalog number	collet series	D11 mm	D11 in	L1 mm	L1 in	L9 mm	L9 in	locknut	wrench	Nm	ft. lbs.	kg	lbs
1953471	**KM80ATCER3265**	ER32	50	1.97	65	2.559	46,0	1.81	**LNSER32M**	**ER32WM**	136	100	1,45	3.20
2022196	**KM80ATCER4090**	ER40	50	1.97	90	3.543	70,3	2.77	**LNSER40M**	**ER40WM**	176	130	2,09	4.61

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut.
Locknut wrench must be ordered separately.
Interchangeable coolant-style locknuts and coolant disks are available and must be ordered separately; see page L19.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.







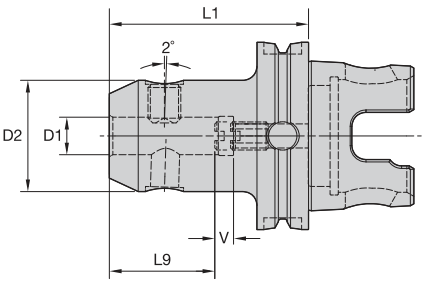
KM QUICK CHANGE

WD • Drill Adapters with Drive



order number	catalog number	D1 mm	D1 in	L9 mm	L9 in	D2 mm	D2 in	L1 mm	L1 in	cup point socket set screw	wrench size stop screw	kg	lbs
3891593	**KM80ATCWD32090M**	32	1.260	61	2.400	62	2.435	90,0	3.543	**SS03M023**	6 mm	2,37	5.23
3891594	**KM80ATCWD40100M**	40	1.575	71	2.800	70	2.750	100,0	3.937	**SS03M023**	6 mm	2,80	6.18
3138896	**KM80ATCWD50110M**	50	1.969	71	2.795	80	3.144	110,0	4.331	**SS03M023**	6 mm	3,51	7.73







KM QUICK CHANGE

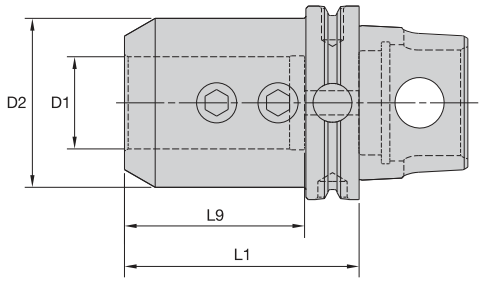
WN/EM • Whistle Notch/End Mill Combination Adapter




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	stop screw	stop screw wrench size	Nm	kg
3901247	**KM80ATCWNEM06065M**	6	25	65	30	10	**SS03M012**	3mm	**571.060**	2,5mm	7	1,29
3901248	**KM80ATCWNEM08065M**	8	28	65	30	10	**SS03M014**	4mm	**571.067**	3mm	15	1,33
3901249	**KM80ATCWNEM10075M**	10	35	75	35	10	**SS03M018**	5mm	**571.068**	4mm	25	1,49
3901250	**KM80ATCWNEM12080M**	12	42	80	40	10	**SS03M023**	6mm	**571.074**	5mm	35	1,68
3901251	**KM80ATCWNEM14080M**	14	44	80	41	8	**SS03M023**	6mm	**571.074**	5mm	35	1,72
3901252	**KM80ATCWNEM16085M**	16	48	85	44	8	**SS03M025**	6mm	**571.075**	6mm	50	1,89
3901283	**KM80ATCWNEM18085M**	18	50	85	43	10	**SS03M025**	6mm	**571.075**	6mm	50	1,94
3901284	**KM80ATCWNEM20085M**	20	52	85	45	10	**SS03M026**	8mm	**571.076**	6mm	95	1,98
3901285	**KM80ATCWNEM25100M**	25	65	100	50	10	**SS03M027**	10mm	**571.077**	6mm	135	2,76
3901286	**KM80ATCWNEM32105M**	32	72	105	55	10	**SS03M029**	10mm	**571.077**	6mm	160	3,18
3901287	**KM80ATCWNEM40115M**	40	90	115	65	10	**SS03M029**	10mm	**571.077**	6mm	160	4,71

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw and stop screw wrenches are not included.







KM QUICK CHANGE

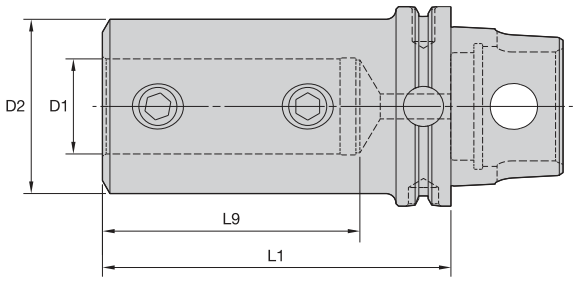
EM • Inch



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
2022197	**KM80ATCEM100354**	1	2.00	3.543	2.46	**ELS075056PKG**	3/8	110	4.26
2022198	**KM80ATCEM125354**	1 1/4	2.50	3.543	2.51	**ELS075062PKG**	3/8	110	5.21
1961336	**KM80ATCEM150382**	1 1/2	2.75	3.819	2.93	**ELS075069PKG**	3/8	110	5.88
2022199	**KM80ATCEM200492**	2	3.74	4.921	3.53	**ELS100088PKG**	1/2	150	11.61

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.







KM QUICK CHANGE

SSF • Straight Shank Adapter for Drill Shanks with Flats

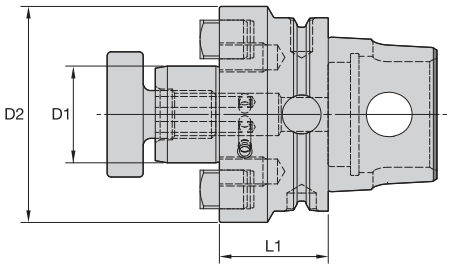


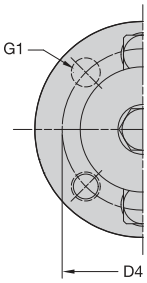
order number	catalog number	D1	L1	D2	L9	lock screw	wrench size stop screw	ft. lbs.	lbs
2024413	**KM80ATCSSF075350**	.750	3.500	3.150	2.250	**ELS062050PKG**	5/16	70	4.02
2024414	**KM80ATCSSF100450**	1.000	4.500	3.150	3.250	**—**	3/8	110	4.99
2024415	**KM80ATCSSF125500**	1.250	5.000	3.150	3.500	**ELS075056PKG**	3/8	110	6.96
2024416	**KM80ATCSSF150550**	1.500	5.500	3.150	4.000	**ELS075056PKG**	3/8	110	8.18
2024417	**KM80ATCSSF200650**	2.000	6.500	3.150	4.250	**ELS100088PKG**	1/8	150	15.93

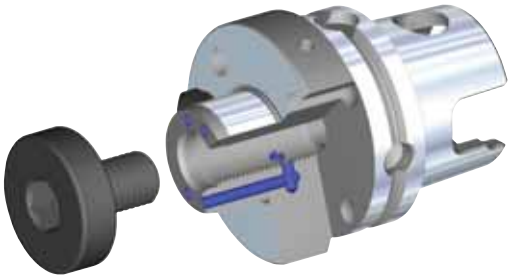


WARNING
During through-hole operations, a slug or disk is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.









KM QUICK CHANGE

SMC • Metric





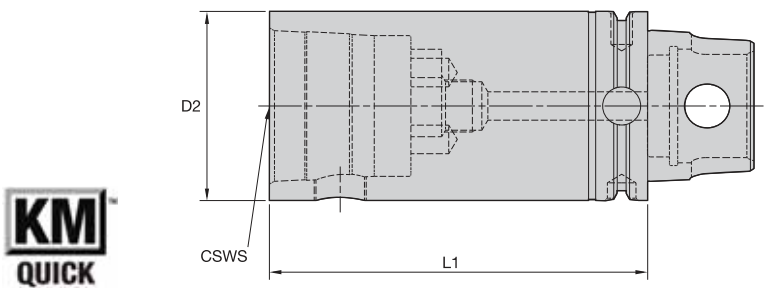
order number	catalog number	D1	D2	D4	G1	L1	socket-head cap screw	lock screw	drive key	wrench size lock screw	kg
3897160	KM80ATCSMC22040M	22	49	–	–	40	MS1234	–	KDK22M	8mm	1,52
3897161	KM80ATCSMC27040M	27	60	–	–	40	–	KLSS27M	KDK27M	10mm	1,70
3897162	KM80ATCSMC32040M	32	78	–	–	40	–	KLSS32M	KDK32M	12mm	2,02
3897193	KM80ATCSMC40045M	40	89	67	M12 X 1.75	45	–	KLSS40M	KDK40M	12mm	2,55
3897194	KM80ATCSMC50055M	50	98	–	–	55	–	KLS50M	–	–	3,60
3897195	KM80ATCSMC60060M	60	129	102	M16 X 2.0	60	–	–	KDK60M	–	5,28

SMC • Inch




order number	catalog number	D1	D2	D4	G1	L1	lock screw	drive key	wrench size lock screw	lbs
3955375	KM80ATCSM2C100158	1	2.19	–	–	1.575	KLS10	KDK06	5/16	3.52
3955376	KM80ATCSMC125158	1 1/4	2.88	–	–	1.575	KLS12	KDK08	5/16	4.26
3955377	KM80ATCSMC125394	1 1/4	2.88	–	–	3.937	KLS12	KDK08	5/16	8.49
3955378	KM80ATCSMC150158	1 1/2	3.81	–	–	1.575	KLS15	KDK10	3/8	5.46
3955379	KM80ATCSMC200216	2	4.88	4.000	.625-11 UNC	2.165	KLS20	KDK12	9/16	9.55
3955380	KM80ATCSMC250225	2 1/2	4.88	4.000	.625-11 UNC	2.250	–	KDK16	9/16	10.82
3955381	KM80ATCSMC250450	2 1/2	4.88	4.000	.625-11 UNC	4.500	–	KDK16	9/16	14.77

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.

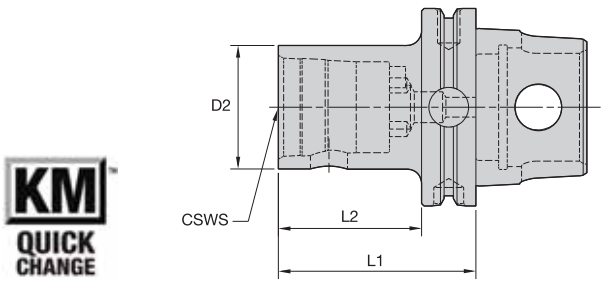




KM QUICK CHANGE

S • KM Extension

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
2024394	**KM80ATCS80120**	KM80	80	3.150	120	4.724	14mm	78-84	58-64	**KM80PKG3S**	4,28	9.43
2024395	**KM80ATCS80160**	KM80	80	3.150	160	6.299	14mm	78-84	58-64	**KM80PKG3S**	5,82	12.82



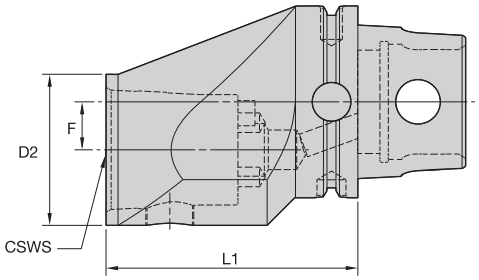


KM QUICK CHANGE

S • KM Reducer

order number	catalog number	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	L2 mm	L2 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
2024396	**KM80ATCS4060**	KM40	40	1.575	60	2.362	38	1.496	6mm	12-16	9-12	**KM40PKG3S**	1,45	3.20
2024397	**KM80ATCS5080**	KM50	50	1.969	80	3.150	58	2.284	10mm	27-34	20-25	**KM50PKG3S**	1,86	4.09
2024398	**KM80ATCS6380**	KM63	63	2.480	80	3.150	58	2.284	12mm	47-54	35-40	**KM63PKG3S**	2,18	4.81

NOTE: Designed for centerline KM cutting units.

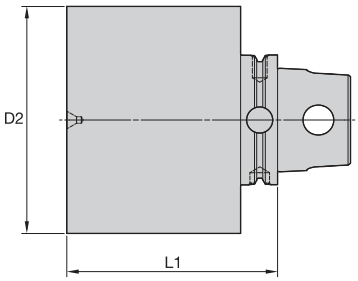




KM QUICK CHANGE

ES • KM Offset Reducer

order number	catalog number	CSWS system size	D2 mm	D2 in	F mm	F in	L1 mm	L1 in	wrench size actuation screw	Nm	ft. lbs.	spare parts package	kg	lbs
2203620	KM80ATCESL63105	KM63	80	3.150	20	.787	105	4.134	12mm	47-54	35-40	KM63PKG3S	3,87	8.50
2048377	KM80ATCESR63105	KM63	80	3.150	20	.787	105	4.134	12mm	47-54	35-40	KM63PKG3S	3,87	8.50



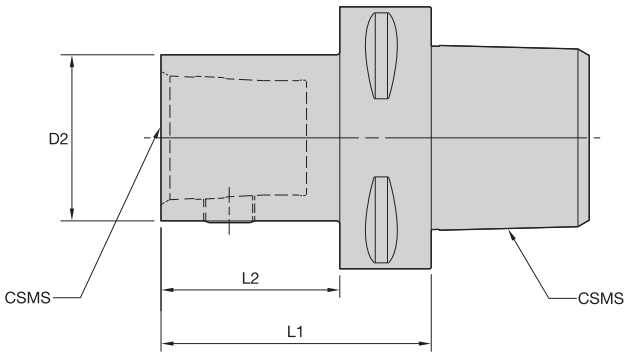


KM QUICK CHANGE

BN • Blank

order number	catalog number	D2 mm	D2 in	L1 mm	L1 in	hardness range	kg	lbs
2873209	KM80ATCBN125075M	125	4.921	75	2.953	32–38 HRC	6,20	13.68
2879350	KM80ATCBN140130M	140	5.512	130	5.118	32–38 HRC	14,11	31.11





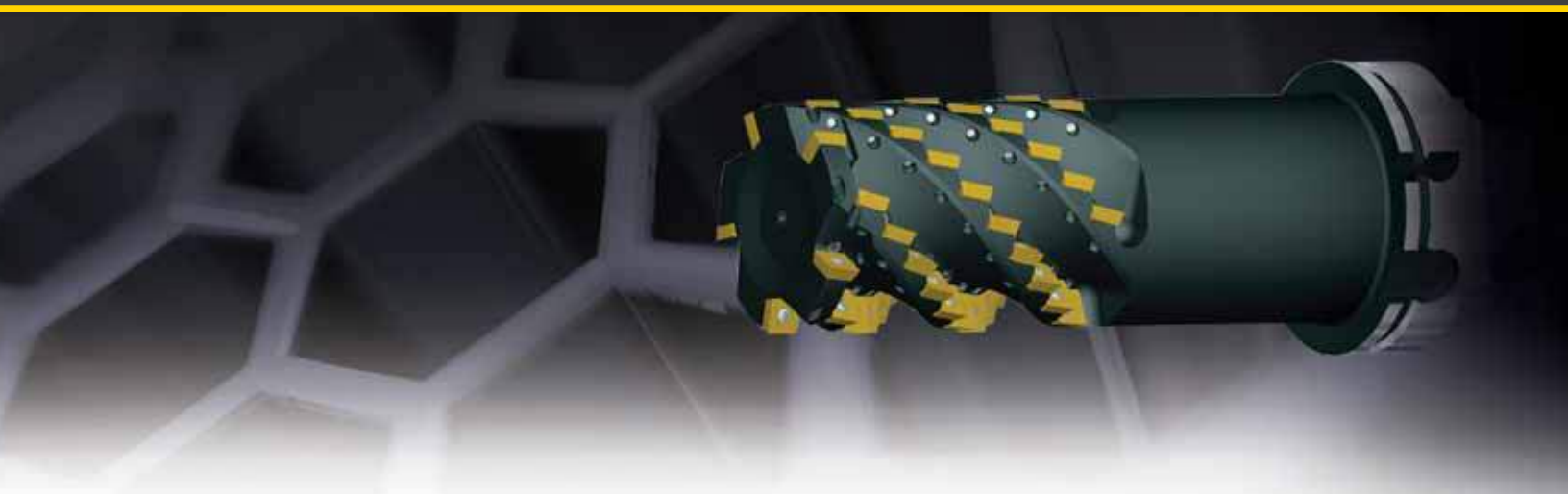


KM QUICK CHANGE

ERICKSON

PSC-KM

order number	catalog number	CSMS system size	CSWS system size	D2	L1	L2	wrench size actuation screw	Nm	ft. lbs.	KM spare parts package	kg	lbs
3852030	**PSC63KM40TS065M**	PSC63	KM40TS	40	65	43	6 mm	12	9	**KM40PKG3S**	1,09	2.41
3852063	**PSC63KM40TS090M**	PSC63	KM40TS	40	90	68	6 mm	12	9	**KM40PKG3S**	1,32	2.91
3874895	**PSC80KM50TS070M**	PSC80	KM50TS	50	70	40	10 mm	27	20	**KM50PKG3S**	2,16	4.77
3852064	**PSC63KM50TS090M**	PSC63	KM50TS	50	90	68	10 mm	27	20	**KM50PKG3S**	1,59	3.50
3852031	**PSC63KM50TS075M**	PSC63	KM50TS	50	75	53	10 mm	27	20	**KM50PKG3S**	1,37	3.03
3874897	**PSC80KM50TS100M**	PSC80	KM50TS	50	100	70	10 mm	27	20	**KM50PKG3S**	2,61	5.76
3864845	**PSC80KM63TS155M**	PSC80	KM63TS	63	155	125	12 mm	47	35	**KM63PKG3S**	4,35	9.59
3852065	**PSC63KM63TS105M**	PSC63	KM63TS	63	105	105	12 mm	47	35	**KM63PKG3S**	2,34	5.17
3864844	**PSC80KM63TS080M**	PSC80	KM63TS	63	80	50	12 mm	47	35	**KM63PKG3S**	2,57	5.67
3852032	**PSC63KM63TS090M**	PSC63	KM63TS	63	90	90	12 mm	47	35	**KM63PKG3S**	2,00	4.42
3874898	**PSC80KM80TS155M**	PSC80	KM80TS	80	155	155	14 mm	79	58	**KM80PKG3S**	5,89	12.99
3874896	**PSC80KM80TS090M**	PSC80	KM80TS	80	90	90	14 mm	79	58	**KM80PKG3S**	3,40	7.49



KM4X™ • The New Choice for Heavy-Duty Milling

Primary Application

The KM4X 4-ball spindle interface provides up to 3x more bending capacity than HSK.
The greater bending capacity enables customers to fully utilize the capabilities of their machine and cutting tools when working with tough materials like titanium or during heavy machining.
Increased metal removal rates optimize machine production and decrease overall manufacturing cost.

- Heavy-duty, rigid configuration.
- 3x more bending capacity than HSK.
- Increased metal removal rates.
- Full utilization of machine tools.
- Decreased manufacturing costs.
- Balanced-by-design for higher spindle speeds.
- Highest maximum speed capability.

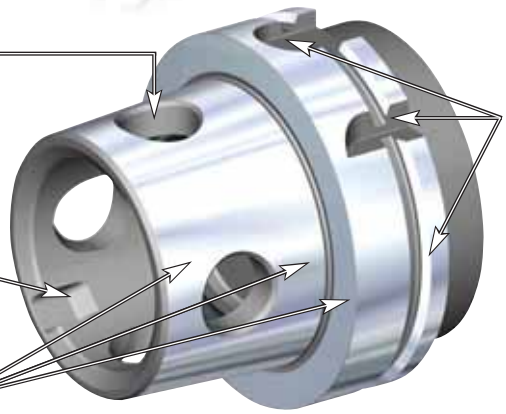
Features and Benefits

The Latest Innovation in Spindle Interface Technology

- KM4X offers the most rigid connection able to withstand extremely high bending due to a combination of high interference and high clamping forces.
- KM™ is the only connection that maintains stiffness at elevated rotational speeds and is suitable for a range of applications from low speeds with high torque to very high spindle speeds.
- KM4X is better balanced between bending and torsion capabilities.

*To learn more, **scan here**.*
For instructions on how to scan, please see page xxxiii.





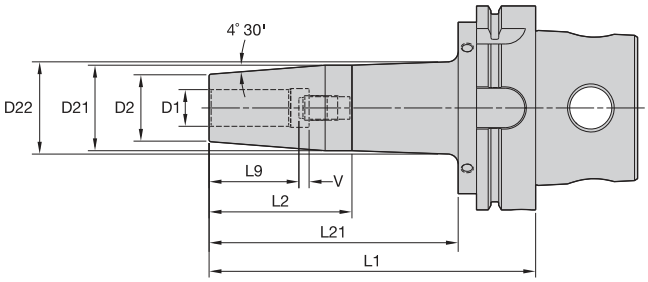
Four locking elements for power, drive, and uniform rigid locking. Provides even distribution of forces.

Standardized HSK V-flange and features for automatic tool-change arms.

Systems secondary drive/location and orientation feature.

The KM™ System's superior rigidity and accuracy is gained by optimized interference levels. Three surface areas of contact develop when clamped, resulting in superior performance.







KM QUICK CHANGE

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools.

Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32, 40, & 50	h6	0,000/-0,016

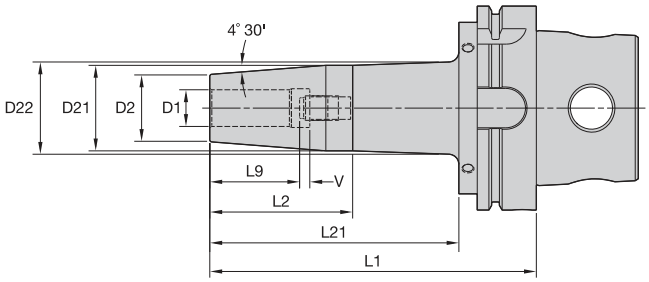
TT GP HPV MM-KM4X • Metric



order number	catalog number	D1	D2	D21	D22	L1	L2	L9	L21	V	stop screw	wrench size stop screw
4156046	KM4X100HPVTT06085M	6	21	27	—	85	56	26	—	10	TTSS05014M	2,5mm
4156047	KM4X100HPVTT06160M	6	21	27	32	160	50	26	122	10	TTSS05014M	2,5mm
4156048	KM4X100HPVTT08085M	8	21	27	—	85	56	26	—	10	TTSS06014M	3mm
4156049	KM4X100HPVTT08160M	8	21	27	32	160	50	26	122	10	TTSS06014M	3mm
4156050	KM4X100HPVTT10090M	10	24	32	—	90	61	31	—	10	TTSS08014M	4mm
4156051	KM4X100HPVTT10160M	10	24	32	36	160	63	31	122	10	TTSS08014M	4mm
4156052	KM4X100HPVTT12095M	12	24	32	—	95	66	36	—	10	TTSS10014M	5mm
4156113	KM4X100HPVTT12160M	12	24	32	36	160	63	36	122	10	TTSS10014M	5mm
4156114	KM4X100HPVTT14095M	14	27	34	—	95	66	36	—	10	TTSS10014M	5mm
4156115	KM4X100HPVTT14160M	14	27	34	38	160	57	36	122	10	TTSS10014M	5mm
4156116	KM4X100HPVTT16100M	16	27	34	—	100	71	39	—	10	TTSS12014M	6mm
4156117	KM4X100HPVTT16160M	16	27	34	38	160	57	39	122	10	TTSS12014M	6mm
4156118	KM4X100HPVTT18100M	18	33	42	—	100	71	39	—	10	TTSS12014M	6mm
4156119	KM4X100HPVTT18160M	18	33	42	46	160	69	39	122	10	TTSS12014M	6mm
4156120	KM4X100HPVTT20105M	20	33	42	—	105	76	41	—	10	TTSS16014M	8mm
4156121	KM4X100HPVTT20160M	20	33	42	46	160	69	41	122	10	TTSS16014M	8mm
4156122	KM4X100HPVTT25115M	25	44	53	—	115	86	47	—	10	TTSS16014M	8mm
4156123	KM4X100HPVTT25160M	25	44	53	57	160	69	47	122	10	TTSS16014M	8mm
.4156124	KM4X100HPVTT32120M	32	44	53	—	120	91	51	—	10	TTSS16014M	8mm
4156125	KM4X100HPVTT32160M	32	44	53	57	160	69	51	122	10	TTSS16014M	8mm

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Supplied with stop screw.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) available. Order number: MS1276PKG. Must be ordered separately.







KM QUICK CHANGE

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools.

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameter	tolerance
1/4, 5/16, & 3/8	-.0001/-.0004
7/16, 1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, 1-1/4, 1-1/2, & 2	.0000/-.0005

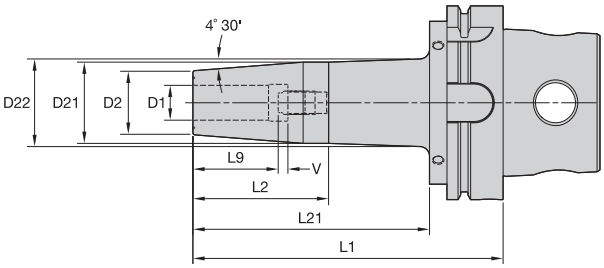
TT GP HPV IN-KM4X • Inch



order number	catalog number	D1	D2	D21	D22	L1	L2	L9	L21	V	stop screw	wrench size stop screw
4155746	**KM4X100HPVTT025335**	1/4	0.83	1.06	—	3.35	2.21	1.02	—	0.39	**TTSS05014M**	2,5mm
4155747	**KM4X100HPVTT025630**	1/4	0.83	1.06	1.26	6.30	1.97	1.02	4.81	0.39	**TTSS05014M**	2,5mm
4155748	**KM4X100HPVTT031335**	5/16	0.83	1.06	—	3.35	2.21	1.02	—	0.39	**TTSS06014M**	3mm
4155749	**KM4X100HPVTT031630**	5/16	0.83	1.06	1.26	6.30	1.97	1.02	4.81	0.39	**TTSS06014M**	3mm
4155750	**KM4X100HPVTT038354**	3/8	0.95	1.24	—	3.54	2.40	1.22	—	0.39	**TTSS08014M**	4mm
4155751	**KM4X100HPVTT038630**	3/8	0.95	1.26	1.42	6.30	2.48	1.22	4.81	0.39	**TTSS08014M**	4mm
4155752	**KM4X100HPVTT050374**	1/2	0.95	1.26	—	3.74	2.60	1.42	—	0.39	**TTSS10014M**	5mm
4156153	**KM4X100HPVTT050630**	1/2	0.95	1.26	1.42	6.30	2.48	1.42	4.81	0.39	**TTSS10014M**	5mm
4156154	**KM4X100HPVTT062394**	5/8	1.06	1.34	—	3.94	2.80	1.54	—	0.39	**TTSS12014M**	6mm
4156155	**KM4X100HPVTT062630**	5/8	1.06	1.34	1.51	6.30	2.24	1.54	4.81	0.39	**TTSS12014M**	6mm
4156156	**KM4X100HPVTT075413**	3/4	1.30	1.65	—	4.13	2.99	1.61	—	0.39	**TTSS16014M**	8mm
4156157	**KM4X100HPVTT075630**	3/4	1.30	1.65	1.8	6.30	2.72	1.61	4.81	0.39	**TTSS16014M**	8mm
4156158	**KM4X100HPVTT088413**	7/8	1.30	1.65	—	4.13	2.99	1.61	—	0.39	**TTSS16014M**	8mm
4156159	**KM4X100HPVTT088630**	7/8	1.30	1.65	1.8	6.30	2.72	1.61	4.81	0.39	**TTSS16014M**	8mm
4156160	**KM4X100HPVTT100453**	1	1.73	2.08	—	4.53	3.39	1.85	—	0.39	**TTSS16014M**	8mm
4156161	**KM4X100HPVTT100630**	1	1.73	2.08	2.23	6.30	2.72	1.85	4.81	0.39	**TTSS16014M**	8mm
4156162	**KM4X100HPVTT125472**	1 1/4	1.73	2.08	—	4.72	3.59	2.01	—	0.39	**TTSS16014M**	8mm
4156163	**KM4X100HPVTT125630**	1 1/4	1.73	2.08	2.23	6.30	2.72	2.01	4.81	0.39	**TTSS16014M**	8mm
4156164	**KM4X100HPVTT150531**	1 1/2	2.36	2.75	—	5.31	4.18	2.01	—	0.39	**TTSS20014M**	10mm

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Supplied with stop screw.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) available. Order number: MS1276PKG. Must be ordered separately.







KM QUICK CHANGE

SHRINKER

- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face.
- 10 kW power or greater Shrink Fit device must be used.

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameter	tolerance
1/2 & 5/8	.0000/-.0004
3/4, 7/8, 1, 1-1/4, & 1-1/2	.0000/-.0005

Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32, 40, & 50	h6	0,000/-0,016

TT HT HPV MM-KM4X • Metric



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw
4156182	**KM4X100HPVTTHT12095M**	12	24	31,9	95	66	36	10	**TTSS10014M**	5mm
4156193	**KM4X100HPVTTHT14095M**	14	27	33,9	95	66	36	10	**TTSS10014M**	5mm
4156194	**KM4X100HPVTTHT16100M**	16	27	33,9	100	71	39	10	**TTSS12014M**	6mm
4156195	**KM4X100HPVTTHT18100M**	18	33	41,9	100	71	39	10	**TTSS12014M**	6mm
4156196	**KM4X100HPVTTHT20105M**	20	33	41,9	105	76	41	10	**TTSS16014M**	8mm
4156197	**KM4X100HPVTTHT25115M**	25	44	52,9	115	86	47	10	**TTSS16014M**	8mm
4156198	**KM4X100HPVTTHT32120M**	32	44	52,9	120	91	51	10	**TTSS16014M**	8mm

(continued)

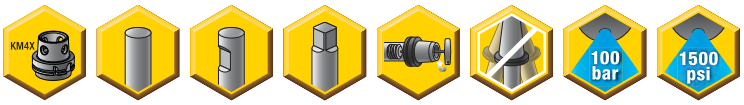
(continued)

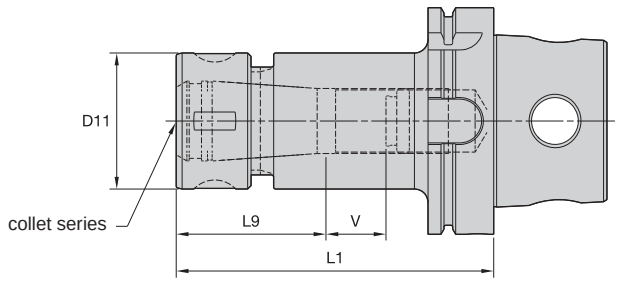
TT HT HPV IN-KM4X • Inch



order number	catalog number	D1	D2	D21	D22	L1	L2	L9	L21	V	stop screw	wrench size stop screw
4156166	**KM4X100HPVTTHT050374**	1/2	0.95	1.26	—	3.74	2.60	1.42	—	0.39	**TTSS10014M**	5mm
4156167	**KM4X100HPVTTHT050630**	1/2	0.95	1.26	1.42	6.30	2.48	1.42	4.81	0.39	**TTSS10014M**	5mm
4156168	**KM4X100HPVTTHT062394**	5/8	1.06	1.34	—	3.94	2.80	1.54	—	0.39	**TTSS12014M**	6mm
4156169	**KM4X100HPVTTHT062630**	5/8	1.06	1.34	1.51	6.30	2.24	1.54	4.81	0.39	**TTSS12014M**	6mm
4156170	**KM4X100HPVTTHT075413**	3/4	1.30	1.65	—	4.13	2.99	1.61	—	0.39	**TTSS16014M**	8mm
4156171	**KM4X100HPVTTHT075630**	3/4	1.30	1.65	1.8	6.30	2.72	1.61	4.81	0.39	**TTSS16014M**	8mm
4156172	**KM4X100HPVTTHT088413**	7/8	1.30	1.65	—	4.13	2.99	1.61	—	0.39	**TTSS16014M**	8mm
4156203	**KM4X100HPVTTHT088630**	7/8	1.30	1.65	1.8	6.30	2.72	1.61	4.81	0.39	**TTSS16014M**	8mm
4156204	**KM4X100HPVTTHT100453**	1	1.73	2.08	—	4.53	3.39	1.85	—	0.39	**TTSS16014M**	8mm
4156205	**KM4X100HPVTTHT100630**	1	1.73	2.08	2.23	6.30	2.72	1.85	4.81	0.39	**TTSS16014M**	8mm
4156206	**KM4X100HPVTTHT125472**	1 1/4	1.73	2.08	—	4.72	3.59	2.01	—	0.39	**TTSS16014M**	8mm
4156207	**KM4X100HPVTTHT125630**	1 1/4	1.73	2.08	2.23	6.30	2.72	2.01	4.81	0.39	**TTSS16014M**	8mm
4156208	**KM4X100HPVTTHT150531**	1 1/2	2.36	2.75	—	5.31	4.18	2.01	—	0.39	**TTSS20014M**	10mm

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Supplied with stop screw.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) available. Order number: MS1276PKG. Must be ordered separately.







- Tremendous Grip (3:1 advantage).

	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG50	1,1	13,5	1/32	17/32
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1
TG150	11,6	40,0	23/64	1-1/2

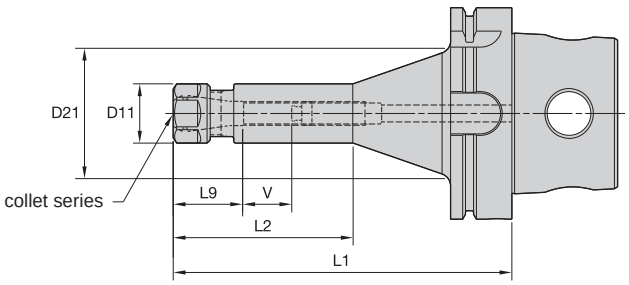
TG Round-KM4X

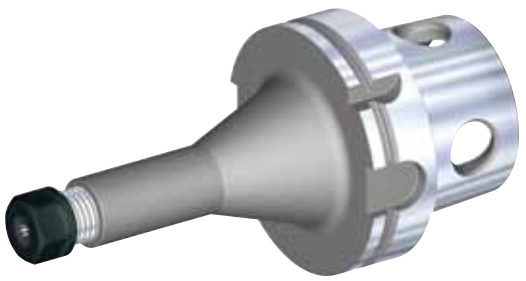




order number	catalog number	collet series	D11	L1	L9	V	locknut	locknut wrench	Nm	stop screw	wrench size stop screw
4156445	**KM4X100TG050105M**	TG50	38	105	42	40	**LNA050M**	**HSW34M**	68	**SS056041G**	4mm & 5/32
4156446	**KM4X100TG050160M**	TG50	38	160	42	58	**LNA050M**	**HSW34M**	68	**SS056041G**	4mm & 5/32
4156447	**KM4X100TG075120M**	TG75	50	120	54	46	**LNA075M**	**HSW45M**	136	**SS081041G**	4mm & 5/32
4156448	**KM4X100TG100140M**	TG100	60	140	70	45	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32
4156449	**KM4X100TG150165M**	TG150	85	165	84	46	**LNA150M**	**HSW80M**	271	**SS162062G**	4mm & 5/32

NOTE: First, load collet into locknut. Before loading into the chuck body, insert cutting tool, then tighten to recommended tightening torque.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.



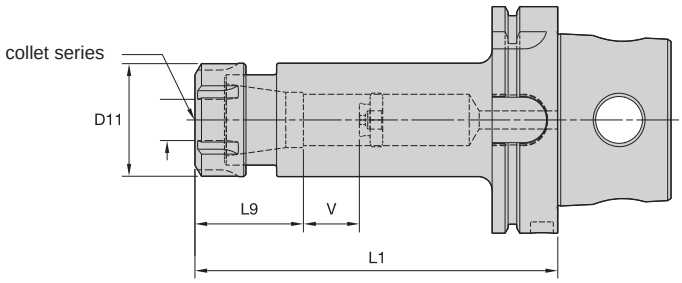


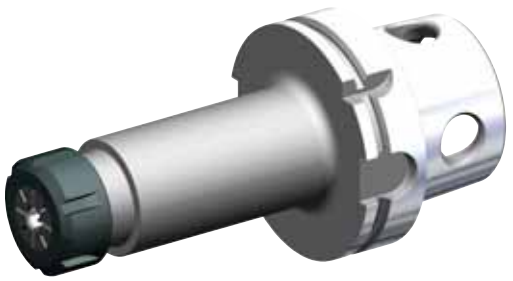
- Grip (2:1 advantage).

	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ER Hex-KM4X

order number	catalog number	collet series	D11	D21	L1	L2	L9	V	locknut	locknut wrench	Nm	stop screw	wrench size stop screw
4159999	**KM4X100ER16100M**	ER16	28	—	100	—	32	53	**LNHSER16M**	**OEW25M**	56	**SS044038G**	4mm & 5/32
4160000	**KM4X100ER16160M**	ER16	28	60	160	85	32	68	**LNHSER16M**	**OEW25M**	56	**SS044038G**	4mm & 5/32
4160001	**KM4X100ER20100M**	ER20	34	—	100	—	36	35	**LNHSER20M**	**OEW30M**	80	**SS056041G**	4mm & 5/32

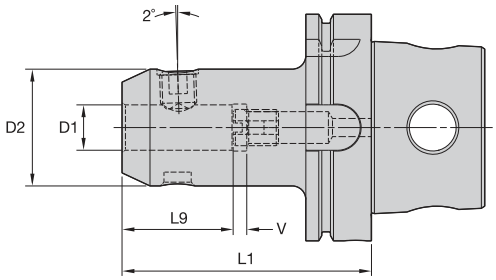




ER Round-KM4X

order number	catalog number	collet series	D11	L1	L9	V	locknut	locknut wrench	Nm	stop screw	wrench size stop screw
4160002	**KM4X100ER25100M**	ER25	42	100	40	33	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
4160043	**KM4X100ER32100M**	ER32	50	100	45	32	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
4160044	**KM4X100ER32160M**	ER32	50	160	45	92	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
4160045	**KM4X100ER40120M**	ER40	63	120	52	38	**LNSER40M**	**ER40WM**	175	**SS112041G**	4mm & 5/32

NOTE: First, load collet into locknut. Before loading into the chuck body, insert cutting tool, then tighten to recommended tightening torque.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.

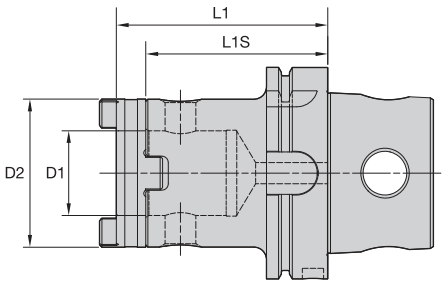




WN MM-KM4X • Metric

order number	catalog number	D1	D2	L1	L9	V	clamp screw	wrench size clamp screw	Nm	stop screw	wrench size stop screw
4160047	**KM4X100WN06090M**	6	24,5	90	30	10	**SS03M012**	3mm	7	**571.060**	2,5mm
4160048	**KM4X100WN08090M**	8	27,5	90	30	10	**SS03M014**	4mm	15	**571.067**	3mm
4160049	**KM4X100WN10090M**	10	34,5	90	35	10	**SS03M018**	5mm	25	**571.068**	4mm
4160050	**KM4X100WN12100M**	12	41,5	100	40	10	**SS03M023**	6mm	35	**571.074**	5mm
4160051	**KM4X100WN14100M**	14	43,5	100	40	10	**SS03M023**	6mm	35	**571.074**	5mm
4160052	**KM4X100WN16100M**	16	47,5	100	43	10	**SS03M025**	6mm	50	**571.069**	6mm
4160073	**KM4X100WN18100M**	18	49,5	100	43	10	**SS03M025**	6mm	50	**571.069**	6mm
4160074	**KM4X100WN20110M**	20	51,5	110	45	10	**SS03M026**	8mm	95	**571.076**	6mm
4160075	**KM4X100WN25120M**	25	64,5	120	50	10	**SS03M027**	10mm	135	**571.077**	6mm
4160076	**KM4X100WN32120M**	32	71,5	120	54	10	**SS03M029**	10mm	160	**571.077**	6mm

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw and stop screw.
Clamp screw and stop screw wrenches not included.



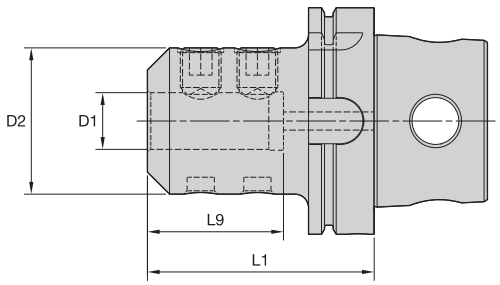


HTS-KM4X

order number	catalog number	D1	D2	L1	L1S	clamp screw	hex wrench	drive ring	ft. lbs.	kg
4159439	**KM4X100HTS40085M**	40	70	99	85	**191.728**	**170.008**	**192.424**	26	3.80
4159440	**KM4X100HTS50090M**	50	80	106	90	**191.728**	**170.008**	**192.425**	26	4.27

NOTE: Shipped with drive ring and clamping screw.
Assemble components using recommended torque values.



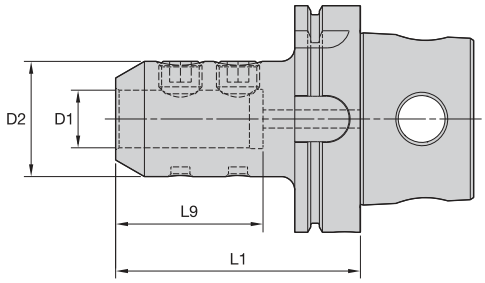


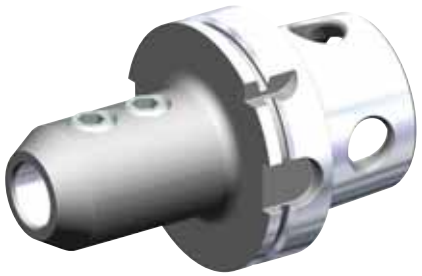


EM MM-KM4X • Metric



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	Nm
4160510	KM4X100EM06080M	6	24,5	80	52	SS03M012	3mm	7
4160511	KM4X100EM08080M	8	27,5	80	52	SS03M014	4mm	15
4160512	KM4X100EM10080M	10	34,5	80	52	SS03M018	5mm	25
4160533	KM4X100EM12080M	12	41,5	80	49	SS03M023	6mm	35
4160534	KM4X100EM14080M	14	43,5	80	49	SS03M023	6mm	35
4160535	KM4X100EM16100M	16	47,5	100	53	SS03M025	6mm	50
4160536	KM4X100EM18100M	18	49,5	100	53	SS03M025	6mm	50
4160537	KM4X100EM20100M	20	51,5	100	55	SS03M026	8mm	95
4160538	KM4X100EM25100M	25	64,5	100	60	SS03M027	10mm	135
4160539	KM4X100EM32100M	32	71,5	100	65	SS03M029	10mm	160
4160540	KM4X100EM40120M	40	89,5	120	75	SS03M032	10mm	160
4160541	KM4X100EM50130M	50	99,5	130	85	SS03M030	12mm	200





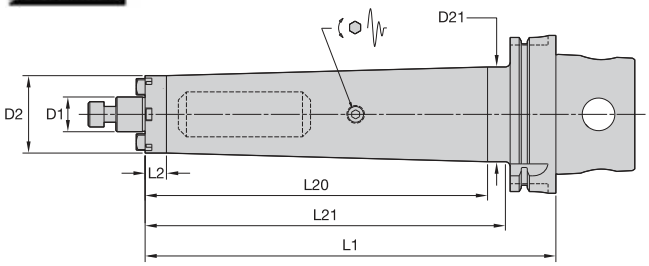
EM IN-KM4X • Inch



order number	catalog number	D1	D2	L1	L9	clamp screw	wrench size clamp screw	ft. lbs.
4160518	KM4X100EM025300	1/4	1.000	3.000	1.89	ELS025025	1/8	8
4160519	KM4X100EM038300	3/8	1.000	3.000	1.89	ELS038031	3/16	15
4160520	KM4X100EM050325	1/2	1.375	3.250	1.97	ELS044038	7/32	20
4160521	KM4X100EM062375	5/8	1.625	3.750	2.09	ELS056050	1/4	40
4160522	KM4X100EM075375	3/4	1.750	3.750	2.22	ELS062050	5/16	70
4160573	KM4X100EM100425	1	2.000	4.250	2.46	ELS075056	3/8	110
4160574	KM4X100EM125425	1 1/4	2.500	4.250	2.51	ELS075062	3/8	110
4160575	KM4X100EM150450	1 1/2	2.750	4.500	2.93	ELS075069	3/8	110
4160576	KM4X100EM200550	2	3.750	5.500	3.53	ELS100088	1/2	150
4160577	KM4X100EM250575	2 1/2	4.188	5.750	3.63	ELS100088	1/2	150

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.

KM

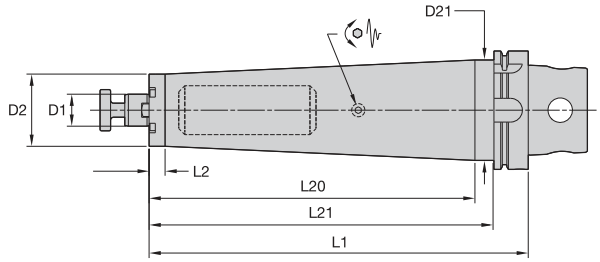




SMC TD CAP MM-KM4X • Metric



order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	wrench size lock screw
4169583	**KM4X100TDSMC22260M**	22	49	65	260	13,5	215	231	**MS-1234**	8mm

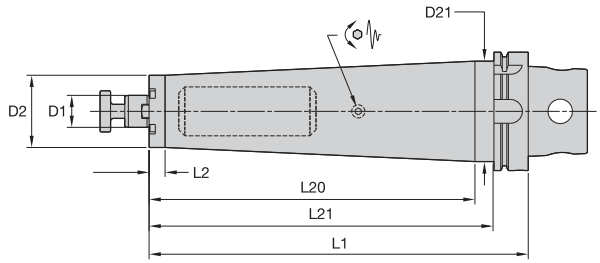




SMC TD Lock MM-KM4X • Metric



order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	wrench size lock screw
4169584	**KM4X100TDSMC27320M**	27	61	85	320	13,5	275	291	**KLSS27M**	10mm
4169585	**KM4X100TDSMC32330M**	32	78	—	330	299	—	—	**KLSS32M**	14mm





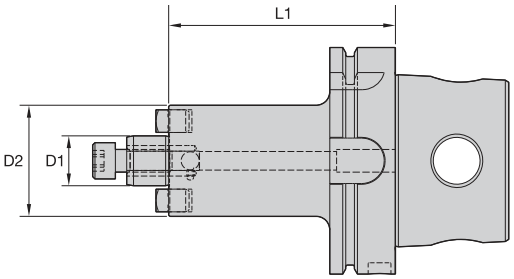
SMC TD Lock IN-KM4X • Inch



order number	catalog number	D1	D2	D21	L1	L2	L20	L21	clamp screw	wrench size clamp screw
4169586	**KM4X100TDSMC0751050**	3/4	1.75	2.56	10.5	.53	8.73	9.24	**KLS07**	1/4
4169587	**KM4X100TDSMC1001250**	1	2.75	3.33	12.5	.53	10.73	11.36	**KLS10**	5/16
4169588	**KM4X100TDSMC1251300**	1 1/4	2.88	3.33	13	.63	11.23	11.86	**KLS12**	5/16

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and drive keys.
Lock screw wrench not included.



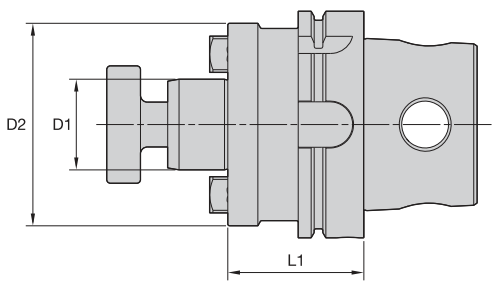


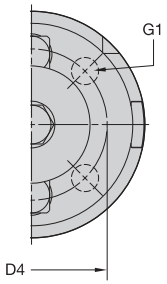


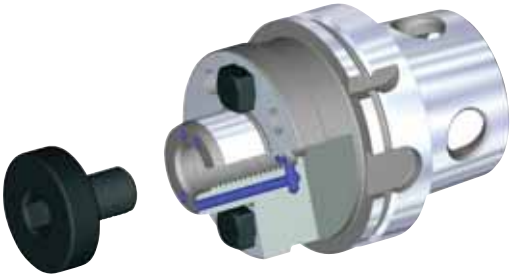
SMC CAP MM-KM4X • Metric



order number	catalog number	D1	D2	L1	lock screw	wrench size lock screw
4160335	**KM4X100SMC22050M**	22	49	50	**MS1234**	8mm
4160337	**KM4X100SMC22100M**	22	49	100	**MS1234**	8mm
4160338	**KM4X100SMC22160M**	22	49	160	**MS1234**	8mm





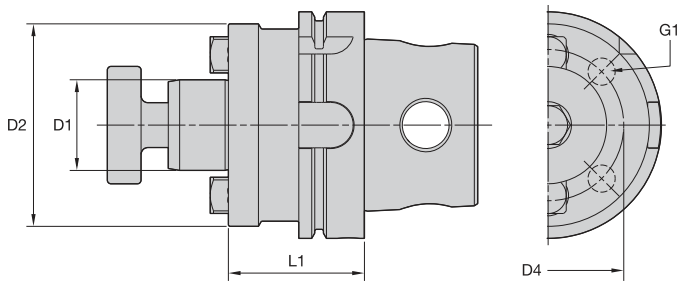


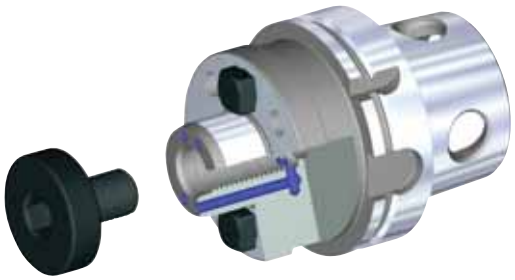
SMC Lock MM-KM4X • Metric



order number	catalog number	D1	D2	D4	G1	L1	lock screw	wrench size lock screw
4160340	**KM4X100SMC27050M**	27	60	–	–	50	**KLSS27M**	10mm
4160341	**KM4X100SMC27100M**	27	60	–	–	100	**KLSS27M**	10mm
4160342	**KM4X100SMC27160M**	27	60	–	–	160	**KLSS27M**	10mm
4160343	**KM4X100SMC32050M**	32	78	–	–	50	**KLSS32M**	14mm
4160344	**KM4X100SMC32100M**	32	78	–	–	100	**KLSS32M**	14mm
4160345	**KM4X100SMC32160M**	32	78	–	–	160	**KLSS32M**	14mm
4160346	**KM4X100SMC40060M**	40	89	67	M12x1,75	60	**KLSS40M**	17mm
4160347	**KM4X100SMC40100M**	40	89	67	M12x1,75	100	**KLSS40M**	17mm
4160348	**KM4X100SMC40160M**	40	89	67	M12x1,75	160	**KLSS40M**	17mm
4160350	**KM4X100SMC50070M**	50	98	–	–	70	**KLS50M**	SMW50M
4160351	**KM4X100SMC50100M**	50	98	–	–	100	**KLS50M**	SMW50M
4160352	**KM4X100SMC50160M**	50	98	–	–	160	**KLS50M**	SMW50M
4160353	**KM4X100SMC60070M**	60	129	102	M16x2,0	70	**–**	–
4160354	**KM4X100SMC60100M**	60	129	102	M16x2,0	100	**–**	–
4160355	**KM4X100SMC60160M**	60	129	102	M16x2,0	160	**–**	–





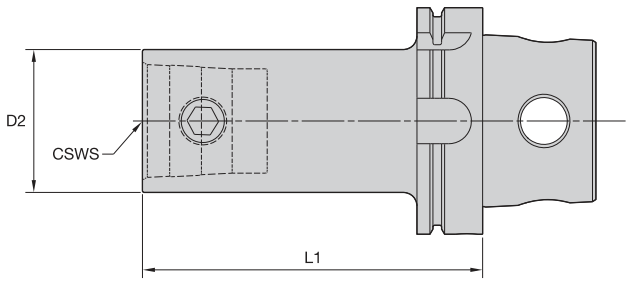


SMC Lock IN-KM4X • Inch



order number	catalog number	D1	D2	D4	G1	L1	lock screw	wrench size lock screw
4160286	**KM4X100SMC075400**	3/4	1.75	—	—	4.00	**KLS07**	1/4
4160287	**KM4X100SM2C075400**	3/4	1.46	—	—	4.00	**KLS07**	1/4
4160289	**KM4X100SMC075600**	3/4	1.75	—	—	6.00	**KLS07**	1/4
4160290	**KM4X100SM2C075600**	3/4	1.46	—	—	6.00	**KLS07**	1/4
4160291	**KM4X100SMC100400**	1	2.75	—	—	4.00	**KLS10**	5/16
4160292	**KM4X100SM2C100400**	1	2.19	—	—	4.00	**KLS10**	5/16
4160313	**KM4X100SMC100600**	1	2.75	—	—	6.00	**KLS10**	5/16
4160314	**KM4X100SM2C100600**	1	2.19	—	—	6.00	**KLS10**	5/16
4160315	**KM4X100SMC125400**	1 1/4	2.88	—	—	4.00	**KLS12**	5/16
4160316	**KM4X100SMC125600**	1 1/4	2.88	—	—	6.00	**KLS12**	5/16
4160317	**KM4X100SMC150400**	1 1/2	3.81	—	—	4.00	**KLS15**	3/8
4160318	**KM4X100SMC150600**	1 1/2	3.81	—	—	6.00	**KLS15**	3/8
4160319	**KM4X100SMC200400**	2	4.88	4.00	5/8 - 11	4.00	**KLS20**	9/16
4160320	**KM4X100SMC200600**	2	4.88	4.00	5/8 - 11	6.00	**KLS20**	9/16
4160321	**KM4X100SMC250400**	2 1/2	4.88	4.00	5/8 - 11	4.00	**—**	1/2
4160322	**KM4X100SMC250600**	2 1/2	4.88	4.00	5/8 - 11	6.00	**—**	1/2

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and drive keys.
Lock screw wrench not included.

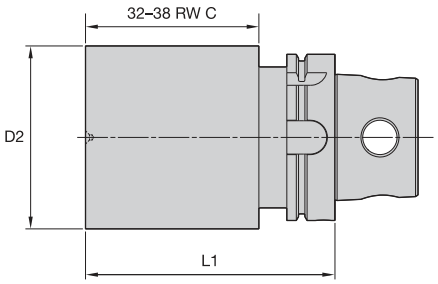




KM-KM4X

order number	catalog number	CSWS	D2	L1	spare parts package	wrench size actuation screw	Nm
4161856	**KM4X100KM32075M**	32	32	75	**KM32PKGS**	5mm	8 - 11
4161858	**KM4X100KM40080M**	40	40	80	**KM40PKGS**	6mm	12 - 16
4161859	**KM4X100KM40100M**	40	40	100	**KM40PKGS**	6mm	12 - 16
4161860	**KM4X100KM40150M**	40	40	150	**KM40PKGS**	6mm	12 - 16
4161861	**KM4X100KM50100M**	50	50	100	**KM50PKGS**	10mm	27 - 34
4161862	**KM4X100KM50150M**	50	50	150	**KM50PKGS**	10mm	27 - 34
4161863	**KM4X100KM50200M**	50	50	200	**KM50PKGS**	10mm	27 - 34
4161864	**KM4X100KM63100M**	63	63	100	**KM63PKGS**	12mm	47 - 54
4161865	**KM4X100KM63150M**	63	63	150	**KM63PKGS**	12mm	47 - 54
4161866	**KM4X100KM63200M**	63	63	200	**KM63PKGS**	12mm	47 - 54
4161867	**KM4X100KM80100M**	80	80	100	**KM80PKGS**	14mm	79 - 85
4161868	**KM4X100KM80150M**	80	80	150	**KM80PKGS**	14mm	79 - 85
4161869	**KM4X100KM80200M**	80	80	200	**KM80PKGS**	14mm	79 - 85

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.

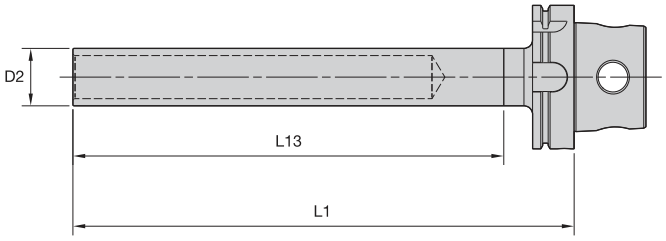




- Machinable front 32–38 RW C.

BB-KM4X

order number	catalog number	D2	L1
4160571	KM4X100BN080150M	80	150
4160572	KM4X100BN110150M	110	150
4160613	KM4X100BN130200M	130	200





- For acceptance testing on machine tool spindles.
- 0,003mm (.0001") maximum TIR.
- Precision ground.

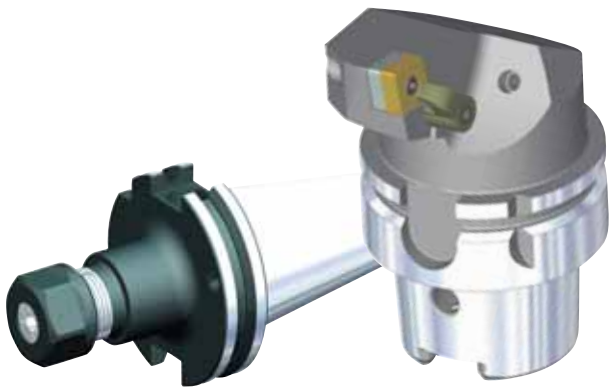
GB-KM4X

order number	catalog number	D2	L1	L13
4160529	KM4X100GB40349M	40	349	330



ERICKSON™ Shank Tools

Introduction **B2**
Productivity **B3**
Selection Guides **B4–B19**
Turning B4–B5
Mill/Turn B5
Milling B6–B12
Drilling B12–B16
Tapping B16–B18
Boring B18–B19
HSK Shank Tools **C1–C165**
BTKV Shank Tools **D1–D37**
CVKV Shank Tools **D38–C67**
BT Shank Tools **E1–E95**
CV Shank Tools **F1–F83**
DV Shank Tools **G1–G77**
QC Shank Tools **H1–H22**
R8 Shank Tools **H24–H27**
Straight Shank Tools **I1–I27**



The power of the Kennametal enterprise



Tooling Systems

Kennametal proudly offers premium quality ERICKSON™ toolholder products, so you can be sure that you're buying the best the industry has to offer. The entire portfolio — including steep taper, HSK, straight shank extensions, collets, sleeves, and accompanying products — offers high productivity, increased accuracy, and application flexibility.

Designed for both manual and automatic tool changing, ERICKSON interfaces are ideally suited for most machine tools and feature a compact and rigid construction guaranteed to handle high torque and deliver optimal metal removal rates.

Machinists have relied on the ERICKSON name for more than 60 years. With one of the broadest product offerings in the industry, ERICKSON tools may be used on all types of machine tools and in applications ranging from low-speed, heavy-milling jobs to high-speed operations greater than 20,000 RPMs.

Kennametal Shrink Fit Technology

Heat shrinking is not new technology in the tooling industry, but only recently has it been applied to quick-change toolholding systems. Shrink fitting works by having toolholders with an internal bore that is slightly smaller than the connecting end of a cutting shank.

When the toolholder is heated, the bore expands and the shank is able to slip inside the bore. As the toolholder cools, it shrinks, clamping the two pieces together. This creates evenly distributed pressure with minimal vibration between the toolholder and shank that resembles a monoblock tool.

Advantages of Shrink Fit Tooling

- Evenly distributed pressure 360° along the length of the cutting tool.
- Slim and short toolholder designs can be achieved due to the lack of moveable parts.
- Absolute symmetry of the grip provides the best possible balance for high-speed operations.
- Stronger clamping force than collet or hydraulic chucks.
- Can be repeated thousands of times.
- Capable of greater speeds and feeds.
- Adapts to various shank types.
- Increased productivity.



Kennametal Hydraulic Chucks

Kennametal Hydraulic Chucks provide optimum performance when clamping full-cylindrical straight shanks such as solid carbide drills and end mills. Turning a piston pressurizes hydraulic fluid, which expands a thin-walled membrane along the length of the clamping bore. This creates a secure grip that reduces vibration and eliminates microcracking on cutting tools.

All chucks are capable of utilizing reducer sleeves to maximize their versatility. Hydraulic chucks require virtually no maintenance, aside from routinely cleaning the bore and removing any grease.



Slim Line

Slim-shaped hydraulic chucks for universal use with maximum precision.



Standard/HP Line

Prebalanced chucks with an external screw for radial adjustments.
This eliminates the need for removing cutting tools to make fine adjustments.



Trend Line

Similar to the Standard Line chucks but with 3/8" radial adjustment of the cutting tool length by use of an axial back-up screw through the chuck bore.



Basic Line

Similar to the Trend Line but with larger body diameters that translate to higher stability and increased torque transmission.

Kennametal Collet Chucks

TG Collet Series

A single-angle collet that grips 1:3 tightening torque versus grip torque without a stop screw.

ER Collet Series

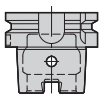
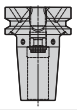
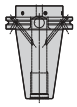
An international standard-style collet that can be used in machining applications such as milling, reaming, tapping, and grinding.

Kennametal Shell Mill Adapters

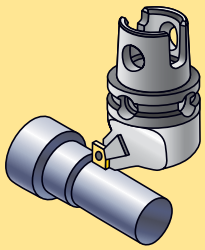
All units come standard with a new coolant to the cutting edge capability. This improves tool life and chip control. Shell mill adapters are available in extended lengths and a range of small mounting diameters.



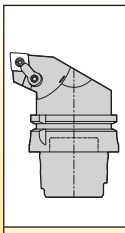
ERICKSON Toolholder Options

HSK40A • HSK50A • HSK63T HSK63A • HSK80A • HSK100A	HSK32C • HSK40C HSK50C • HSK63C	HSK40E • HSK50E	HSK63FP • HSK80FP	BTKV40 • BTKV50	CVKV40 • CVKV50
					

External Turning

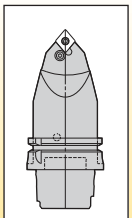


M-Clamping



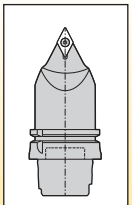
HSK63T | Page: C34

P-Clamping (Centerline)



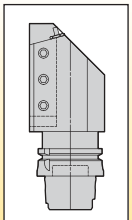
HSK63T | Pages: C35–C36

S-Clamping (Centerline)



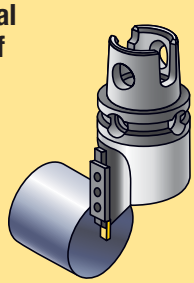
HSK63T | Page: C37

STA and ETA Square Shank Adapters

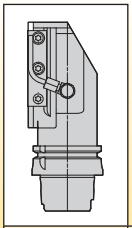


HSK63T | Pages: C33–C34

External Cut-Off

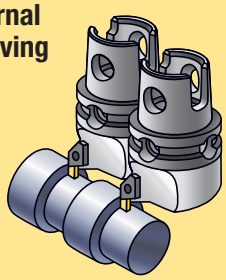


A2™

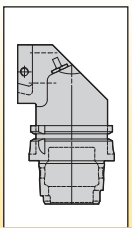


HSK63T | Page: C39

External Grooving

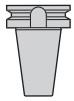
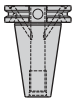
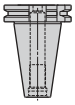
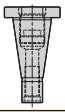


A3™/A4™ Modular



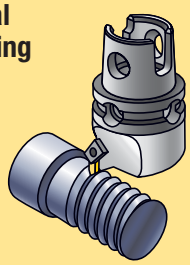
HSK63T | Page: C38

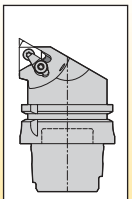
Indicates "Not Available".

BT30 • BT40 • BT50	CV40 • CV50	DV40 • DV50	QC30 • QC40 • QC50	R8	SS
					

ERICKSON Toolholder Options

External Threading

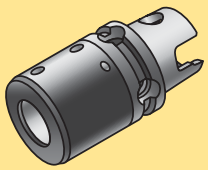


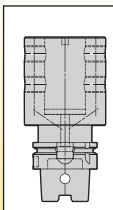


LT Threading

HSK63T	Page: C40

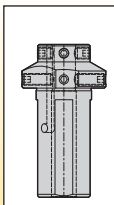
Turning Adapters





Boring Bar Adapters

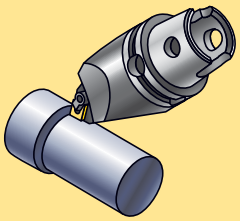
HSK63T	Pages: C41–C42

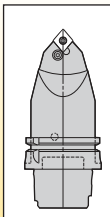


Boring Bar Sleeves

Page: A570

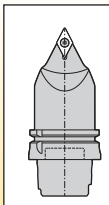
External Centerline





P-Clamping

HSK63T	Pages: C35–C36

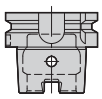
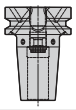
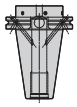


S-Clamping

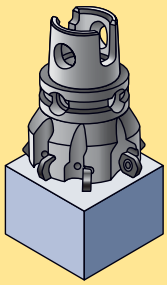
HSK63T	Page: C37

Indicates "Not Available".

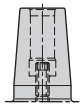
ERICKSON Toolholder Options

HSK40A • HSK50A • HSK63T HSK63A • HSK80A • HSK100A	HSK32C • HSK40C HSK50C • HSK63C	HSK40E • HSK50E	HSK63FP • HSK80FP	BTKV40 • BTKV50	CVKV40 • CVKV50
					

Milling



Shrink Fit



HSK40A	Pages: C8–C11	HSK40E	Pages: C147–C149	BT50	Pages: E66–E69
HSK50A	Pages: C24–C25	HSK50E	Page: C155	CV40	Pages: F6–F9
HSK63T	◀	HSK63F	Page: C159	CV50	Pages: F44–F47
HSK63A	Pages: C46–C50	HSK80F	Page: C163	DV40	Pages: G6–G9
HSK80A	Pages: C76–C79	BTKV40	Pages: D4–D7	DV50	Pages: G46–G49
HSK100A	Pages: C96–C99	BTKV50	Pages: D22–D25	QC30	◀
HSK32C	◀	CVKV40	Pages: D40–D43	QC40	
HSK40C		CVKV50	Pages: D54–D57	QC50	
HSK50C		BT30	Pages: E24–E27	R8	
HSK63C		BT40	Page: E4–E6	Straight Shanks	Pages: I4–I5

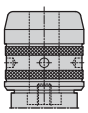
Shrink Fit SAFE-LOCK

SAFE-λOCK™ by HAIMER



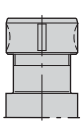
HSK40A	◀	HSK40E	◀	BT50	Page: E64
HSK50A		HSK50E		CV40	Page: F5
HSK63T		HSK63F		CV50	Pages: F42–F43
HSK63A	Page: C45	HSK80F		DV40	Page: G5
HSK80A	◀	BTKV40		DV50	Page: G44
HSK100A	Pages: C94–C95	BTKV50		QC30	◀
HSK32C	◀	CVKV40		QC40	
HSK40C		CVKV50		QC50	
HSK50C		BT30		R8	
HSK63C		BT40	Page: E23	Straight Shanks	

Milling Chucks



HSK40A	◀	HSK40E	◀	BT50	Page: E75
HSK50A		HSK50E		CV40	Page: F17
HSK63T		HSK63F		CV50	Page: F55
HSK63A	Page: C56	HSK80F		DV40	Page: G15
HSK80A	◀	BTKV40		DV50	Page: G54
HSK100A	Page: C104	BTKV50		QC30	◀
HSK32C	◀	CVKV40		QC40	
HSK40C		CVKV50		QC50	
HSK50C		BT30	Page: E8	R8	
HSK63C		BT40	Page: E33	Straight Shanks	

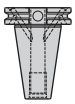
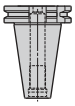
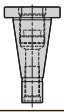
TG Collet Chucks



HSK40A	Page: C16	HSK40E	◀	BT50	Page: E76
HSK50A	Page: C27	HSK50E		CV40	Pages: F18–F20
HSK63T	◀	HSK63F		CV50	Pages: F56–F60
HSK63A	Page: C57	HSK80F		DV40	Pages: G16–G17
HSK80A	Page: C82	BTKV40	Page: D8	DV50	Pages: G55–G56
HSK100A	Page: C105	BTKV50	Page: D26	QC30	Page: H4
HSK32C	◀	CVKV40	Page: D45	QC40	Page: H11
HSK40C		CVKV50	Page: D58	QC50	Page: H19
HSK50C		BT30	Page: E9	R8	◀
HSK63C		BT40	Page: E34	Straight Shanks	Pages: I6–I7

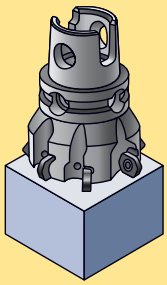
(continued)

◀ Indicates "Not Available".

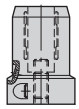
BT30 • BT40 • BT50	CV40 • CV50	DV40 • DV50	QC30 • QC40 • QC50	R8	SS
					

ERICKSON Toolholder Options

Milling *(continued)*

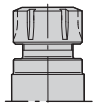


Hydraulic Chucks



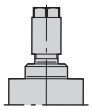
	HSK40A	Pages: C12–C15	HSK40E	Page: C150	BT50	Pages: E70–E74
	HSK50A	Page: C26	HSK50E	Page: C156	CV40	Pages: F10–F16
	HSK63T	◀	HSK63F		CV50	Pages: F48–F54
	HSK63A	Pages: C52–C55	HSK80F		DV40	Pages: G10–G14
	HSK80A	Pages: C80–C81	BTKV40	◀	DV50	Pages: G50–G53
	HSK100A	Pages: C100–C103	BTKV50		QC30	
	HSK32C	Page: C124	CVKV40		QC40	
	HSK40C	Pages: C128–C130	CVKV50		QC50	◀
	HSK50C	Pages: C136–C137	BT30	Page: E7	R8	
	HSK63C	Pages: C141–C142	BT40	Pages: E28–E32	Straight Shanks	

ER Collet Chucks



	HSK40A	Page: C17	HSK40E	Page: C151	BT50	Pages: E77–E79
	HSK50A	Pages: C28–C29	HSK50E	◀	CV40	Pages: F21–F23
	HSK63T	◀	HSK63F	Page: C160	CV50	Pages: F61–F63
	HSK63A	Pages: C58–C59	HSK80F	Page: C164	DV40	Pages: G18–G21
	HSK80A	Pages: C83–C84	BTKV40	Pages: D10–D11	DV50	Pages: G57–G59
	HSK100A	Pages: C106–C107	BTKV50	Pages: D28–D29	QC30	
	HSK32C	Page: C125	CVKV40	Pages: D46–D47	QC40	
	HSK40C	Page: C131	CVKV50	Pages: D60–D61	QC50	◀
	HSK50C	Page: C138	BT30	Pages: E10–E11	R8	
	HSK63C	Page: C143	BT40	Pages: E35–E37	Straight Shanks	Pages: I8–I11

DA Collet Chucks



	HSK40A		HSK40E		BT50	Page: E80
	HSK50A		HSK50E		CV40	Page: F24
	HSK63T		HSK63F		CV50	Page: F64
	HSK63A		HSK80F		DV40	Pages: G22–G25
	HSK80A		BTKV40	◀	DV50	Pages: G60–G61
	HSK100A	◀	BTKV50		QC30	Page: H5
	HSK32C		CVKV40		QC40	Page: H12
	HSK40C		CVKV50		QC50	◀
	HSK50C		BT30	Pages: E12–E13	R8	Page: H26
	HSK63C		BT40	Pages: E38–E39	Straight Shanks	Pages: I12–I22

Whistle Notch™ Adapters

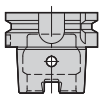
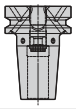
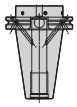


	HSK40A	Page: C18	HSK40E		BT50	Pages: E81–E82
	HSK50A	◀	HSK50E		CV40	Pages: F26–F27
	HSK63T		HSK63F		CV50	Pages: F66–F68
	HSK63A	Pages: C60–C61	HSK80F	◀	DV40	Pages: G27–G28
	HSK80A	Page: C85	BTKV40		DV50	Pages: G63–G64
	HSK100A	Pages: C108–C109	BTKV50		QC30	
	HSK32C	◀	CVKV40		QC40	
	HSK40C	Page: C132	CVKV50		QC50	◀
	HSK50C	Page: C139	BT30	Pages: E41–E42	R8	
	HSK63C	Page: C144	BT40	Page: E14	Straight Shanks	

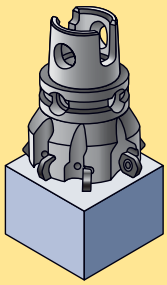
◀ Indicates "Not Available".

(continued)

ERICKSON Toolholder Options

HSK40A • HSK50A • HSK63T HSK63A • HSK80A • HSK100A	HSK32C • HSK40C HSK50C • HSK63C	HSK40E • HSK50E	HSK63FP • HSK80FP	BTKV40 • BTKV50	CVKV40 • CVKV50
					

Milling *(continued)*



End Mill Adapters



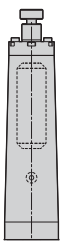
HSK40A	Page: C19	HSK40E		BT50	Page: E83
HSK50A		HSK50E		CV40	Pages: F28–F29
HSK63T		HSK63F		CV50	Pages: F70–F72
HSK63A	Page: C62	HSK80F		DV40	Pages: G29–G30
HSK80A	Page: C86	BTKV40	Pages: D12–D13	DV50	Pages: G65–G66
HSK100A	Page: C110	BTKV50	Pages: D30–D31	QC30	Page: H6
HSK32C		CVKV40	Page: D48	QC40	Page: H14
HSK40C		CVKV50	Page: D63	QC50	Page: H20
HSK50C		BT30	Page: E15	R8	Page: H27
HSK63C		BT40	Pages: E43–E45	Straight Shanks	

Shell Mill Adapters



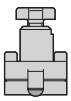
HSK40A	Page: C20	HSK40E	Page: C152	BT50	Pages: E86–E88
HSK50A	Page: C30	HSK50E		CV40	Page: F32
HSK63T		HSK63F		CV50	Pages: F76–F77
HSK63A	Pages: C65–C66	HSK80F	Page: C165	DV40	Pages: G32–G33
HSK80A	Pages: C87–C88	BTKV40	Pages: D16–D17	DV50	Pages: G68–G69
HSK100A	Pages: C114–C115	BTKV50	Pages: D34–D35	QC30	Page: H7
HSK32C		CVKV40	Page: D50	QC40	Page: H15
HSK40C		CVKV50	Page: D65	QC50	Page: H21
HSK50C		BT30	Pages: E16–E17	R8	Page: H27
HSK63C		BT40	Pages: E50–E52	Straight Shanks	

Tunable Shell Mill Adapters



HSK40A		HSK40E		BT50	Pages: E84–E85
HSK50A		HSK50E		CV40	Page: F31
HSK63T		HSK63F		CV50	Page: F75
HSK63A	Page: C64	HSK80F		DV40	Page: G31
HSK80A		BTKV40	Pages: D14–D15	DV50	Page: G67
HSK100A	Pages: C112–C113	BTKV50	Pages: D32–D33	QC30	
HSK32C		CVKV40	Page: D49	QC40	
HSK40C		CVKV50	Page: D64	QC50	
HSK50C		BT30		R8	
HSK63C		BT40	Pages: E48–E49	Straight Shanks	

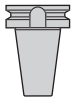
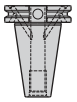
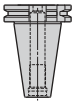
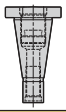
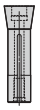
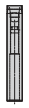
Combi Shell Adapters



HSK40A		HSK40E		BT50	Page: E89
HSK50A		HSK50E		CV40	
HSK63T		HSK63F		CV50	
HSK63A	Page: C67	HSK80F		DV40	Page: G34
HSK80A	Page: C89	BTKV40		DV50	Page: G70
HSK100A	Page: C116	BTKV50		QC30	
HSK32C		CVKV40		QC40	
HSK40C		CVKV50		QC50	
HSK50C		BT30		R8	
HSK63C		BT40	Page: E53	Straight Shanks	

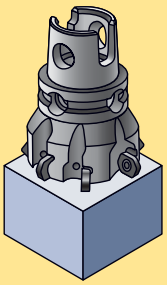
Indicates "Not Available".

(continued)

BT30 • BT40 • BT50	CV40 • CV50	DV40 • DV50	QC30 • QC40 • QC50	R8	SS
					

ERICKSON Toolholder Options

Milling *(continued)*

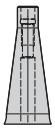


Slotting Cutter Adapters



HSK40A		HSK40E		BT50	Page: E90
HSK50A		HSK50E		CV40	Page: F33
HSK63T		HSK63F		CV50	Page: F77
HSK63A	Page: C68	HSK80F		DV40	
HSK80A		BTKV40		DV50	
HSK100A	Page: C117	BTKV50		QC30	
HSK32C		CVKV40		QC40	
HSK40C		CVKV50		QC50	Page: H22
HSK50C		BT30		R8	
HSK63C		BT40	Page: E54	Straight Shanks	Page: I27

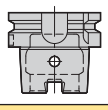
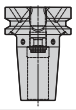
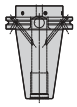
Screw-On Adapters



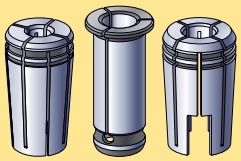
HSK40A	Page: C21	HSK40E	Page: C153	BT50	Page: E90
HSK50A	Page: C31	HSK50E	Page: C157	CV40	Page: F34
HSK63T		HSK63F		CV50	Page: F78
HSK63A	Page: C69	HSK80F		DV40	Page: G35
HSK80A		BTKV40		DV50	Page: G71
HSK100A	Page: C117	BTKV50		QC30	
HSK32C		CVKV40		QC40	
HSK40C		CVKV50		QC50	
HSK50C		BT30	Page: E18	R8	
HSK63C		BT40	Page: E55	Straight Shanks	Pages: I23–I26

Indicates "Not Available".

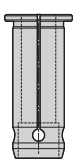
ERICKSON Toolholder Options

HSK40A • HSK50A • HSK63T HSK63A • HSK80A • HSK100A	HSK32C • HSK40C HSK50C • HSK63C	HSK40E • HSK50E	HSK63FP • HSK80FP	BTKV40 • BTKV50	CVKV40 • CVKV50
					

Milling Collets and Sleeves

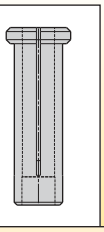


Milling Sleeves



Pages: J6–J9

Hydraulic Sleeves



Pages: J2–J5

TG Collets



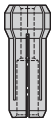
Pages: J14–J19, J22–J27, J30–J38, J42–J47

ER Collets



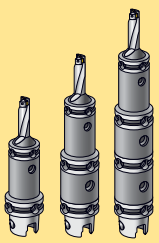
Pages: J54–J57

DA Collets

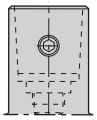


Pages: J65–J69

Modular

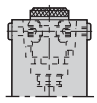


KM™ Modular



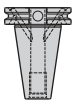
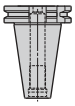
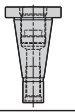
HSK40A		HSK40E		BT50	Page: E94
HSK50A		HSK50E		CV40	Page: F38
HSK63T	Page: C41	HSK63F		CV50	Page: F82
HSK63A	Page: C72	HSK80F		DV40	Page: G39
HSK80A		BTKV40	Page: D18	DV50	Page: G75
HSK100A	Page: C120	BTKV50	Page: D36	QC30	
HSK32C		CVKV40	Page: D51	QC40	
HSK40C		CVKV50	Page: D66	QC50	
HSK50C		BT30	Page: E18	R8	
HSK63C		BT40	Page: E59	Straight Shanks	

HSK Modular



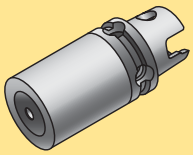
HSK40A		HSK40E		BT50	Page: E95
HSK50A		HSK50E		CV40	Page: F39
HSK63T		HSK63F		CV50	Page: F83
HSK63A	Page: C72	HSK80F		DV40	Page: G40
HSK80A		BTKV40		DV50	Page: G76
HSK100A	Page: C120	BTKV50		QC30	
HSK32C		CVKV40		QC40	
HSK40C	Page: C132	CVKV50		QC50	
HSK50C		BT30		R8	
HSK63C		BT40	Page: E60	Straight Shanks	

Indicates "Not Available".

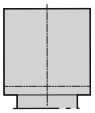
BT30 • BT40 • BT50	CV40 • CV50	DV40 • DV50	QC30 • QC40 • QC50	R8	SS
					

ERICKSON Toolholder Options

Auxilliary



Blanks



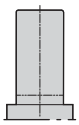
HSK40A	Page: C21	HSK40E	Page: C153	BT50	Page: E95
HSK50A	Page: C31	HSK50E		CV40	Page: F39
HSK63T	Page: C40	HSK63F		CV50	Page: F83
HSK63A	Page: C73	HSK80F		DV40	Page: G41
HSK80A	Page: C90	BTKV40	Page: D19	DV50	Page: G77
HSK100A	Page: C121	BTKV50	Page: D37	QC30	
HSK32C	Page: C125	CVKV40	Page: D51	QC40	
HSK40C	Page: C133	CVKV50	Page: D67	QC50	
HSK50C	Page: C139	BT30		R8	
HSK63C	Page: C145	BT40	Page: E60	Straight Shanks	

Plugs



HSK40A		HSK40E		BT50	
HSK50A		HSK50E		CV40	
HSK63T		HSK63F		CV50	
HSK63A	Page: L54	HSK80F		DV40	
HSK80A		BTKV40		DV50	
HSK100A	Page: L54	BTKV50		QC30	
HSK32C		CVKV40		QC40	
HSK40C		CVKV50		QC50	
HSK50C		BT30		R8	
HSK63C		BT40		Straight Shanks	

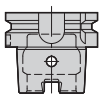
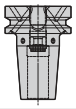
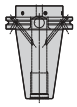
Gage Bars



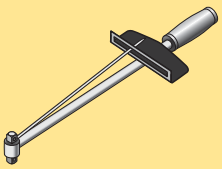
HSK40A		HSK40E		BT50	
HSK50A		HSK50E		CV40	
HSK63T		HSK63F		CV50	
HSK63A	Page: C73	HSK80F		DV40	
HSK80A		BTKV40		DV50	
HSK100A	Page: C121	BTKV50		QC30	
HSK32C		CVKV40		QC40	
HSK40C		CVKV50		QC50	
HSK50C		BT30		R8	
HSK63C		BT40		Straight Shanks	

Indicates "Not Available".

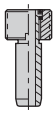
ERICKSON Toolholder Options

HSK40A • HSK50A • HSK63T HSK63A • HSK80A • HSK100A	HSK32C • HSK40C HSK50C • HSK63C	HSK40E • HSK50E	HSK63FP • HSK80FP	BTKV40 • BTKV50	CVKV40 • CVKV50
					

Accessories

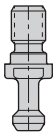


Coolant Units



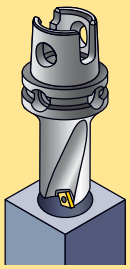
HSK40A	Page: L56	HSK40E	Page: L56	BT50	
HSK50A	Page: L56	HSK50E	Page: L56	CV40	
HSK63T	Page: L56	HSK63F	Page: L56	CV50	
HSK63A	Page: L56	HSK80F	Page: L56	DV40	
HSK80A	Page: L56	BTKV40		DV50	
HSK100A	Page: L56	BTKV50		QC30	
HSK32C		CVKV40		QC40	
HSK40C		CVKV50		QC50	
HSK50C		BT30		R8	
HSK63C		BT40		Straight Shanks	

Retention Knobs

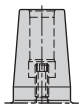


HSK40A		HSK40E		BT50	Pages: L57–L62
HSK50A		HSK50E		CV40	Pages: L57–L62
HSK63T		HSK63F		CV50	Pages: L57–L62
HSK63A		HSK80F		DV40	Pages: L57–L62
HSK80A		BTKV40	Pages: L57–L62	DV50	Pages: L57–L62
HSK100A		BTKV50	Pages: L57–L62	QC30	
HSK32C		CVKV40	Pages: L57–L62	QC40	
HSK40C		CVKV50	Pages: L57–L62	QC50	
HSK50C		BT30	Pages: L57–L62	R8	
HSK63C		BT40	Pages: L57–L62	Straight Shanks	

Drilling



Shrink Fit



HSK40A	Pages: C8–C11	HSK40E	Pages: C147–C149	BT50	Pages: E66–E69
HSK50A	Pages: C24–C25	HSK50E	Page: C155	CV40	Pages: F6–F9
HSK63T		HSK63F	Page: C159	CV50	Pages: F44–F47
HSK63A	Pages: C46–C50	HSK80F	Page: C163	DV40	Pages: G6–G9
HSK80A	Pages: C76–C79	BTKV40	Pages: D4–D7	DV50	Pages: G46–G49
HSK100A	Pages: C96–C99	BTKV50	Pages: D22–D25	QC30	
HSK32C		CVKV40	Pages: D40–D43	QC40	
HSK40C		CVKV50	Pages: D54–D57	QC50	
HSK50C		BT30	Pages: E4–E6	R8	
HSK63C		BT40	Pages: E24–E27	Straight Shanks	Pages: I4–I5

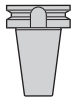
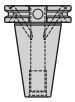
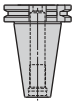
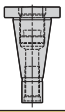
Slim Line Hydraulic



HSK40A	Pages: C12–C13	HSK40E		BT50	Pages: E70–E71
HSK50A		HSK50E		CV40	Pages: F10–F11
HSK63T		HSK63F		CV50	Pages: F48–F49
HSK63A	Pages: C52–C53	HSK80F		DV40	Pages: G10–G11
HSK80A		BTKV40		DV50	Pages: G50–G51
HSK100A	Pages: C100–C101	BTKV50		QC30	
HSK32C		CVKV40		QC40	
HSK40C	Pages: C128–C129	CVKV50		QC50	
HSK50C		BT30		R8	
HSK63C		BT40	Pages: E28–E29	Straight Shanks	

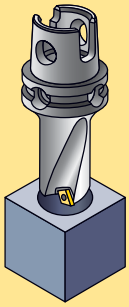
Indicates "Not Available".

(continued)

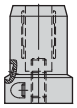
BT30 • BT40 • BT50	CV40 • CV50	DV40 • DV50	QC30 • QC40 • QC50	R8	SS
					

ERICKSON Toolholder Options

Drilling *(continued)*

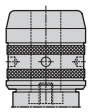


Hydraulic Chucks



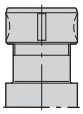
HSK40A	Pages: C12–C15	HSK40E	Page: C150	BT50	Pages: E70–E74
HSK50A	Page: C26	HSK50E	Page: C156	CV40	Pages: F10–F16
HSK63T	◀	HSK63F		CV50	Pages: F48–F54
HSK63A	Pages: C52–C55	HSK80F		DV40	Pages: G10–G14
HSK80A	Pages: C80–C81	BTKV40	◀	DV50	Pages: F50–F53
HSK100A	Pages: C100–C103	BTKV50		QC30	
HSK32C	Page: C124	CVKV40		QC40	
HSK40C	Pages: C128–C130	CVKV50		QC50	◀
HSK50C	Pages: C136–C137	BT30	Page: E7	R8	
HSK63C	Pages: C141–C142	BT40	Pages: E28–E32	Straight Shanks	

Milling Chucks



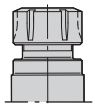
HSK40A	◀	HSK40E		BT50	Page: E75
HSK50A		HSK50E		CV40	Page: F17
HSK63T		HSK63F		CV50	Page: F55
HSK63A	Page: C56	HSK80F		DV40	Page: G15
HSK80A	◀	BTKV40	◀	DV50	Page: G54
HSK100A	Page: C104	BTKV50		QC30	
HSK32C		CVKV40		QC40	
HSK40C	◀	CVKV50		QC50	◀
HSK50C		BT30	Page: E8	R8	
HSK63C		BT40	Page: E33	Straight Shanks	

TG Collet Chucks



HSK40A	Page: C16	HSK40E		BT50	Page: E76
HSK50A	Page: C27	HSK50E	◀	CV40	Pages: F18–F20
HSK63T	◀	HSK63F		CV50	Pages: F56–F60
HSK63A	Page: C57	HSK80F		DV40	Pages: G16–G17
HSK80A	Page: C82	BTKV40	Page: D3	DV50	Pages: G55–G56
HSK100A	Page: C105	BTKV50	Page: D26	QC30	Page: H4
HSK32C		CVKV40	Page: D45	QC40	Page: H11
HSK40C	◀	CVKV50	Page: D58	QC50	Page: H19
HSK50C		BT30	Page: E9	R8	◀
HSK63C		BT40	Page: E34	Straight Shanks	Pages: I6–I7

ER Collet Chucks

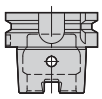
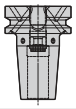
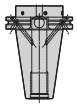


HSK40A	Page: C17	HSK40E	Page: C151	BT50	Pages: E77–E79
HSK50A	Pages: C28–C29	HSK50E	◀	CV40	Pages: F21–F23
HSK63T	◀	HSK63F	Page: C160	CV50	Pages: F61–F63
HSK63A	Pages: C58–C59	HSK80F	Page: C164	DV40	Pages: G18–G21
HSK80A	Pages: C83–C84	BTKV40	Pages: D10–D11	DV50	Pages: G57–G59
HSK100A	Pages: C106–C107	BTKV50	Pages: D28–D29	QC30	
HSK32C	Page: C125	CVKV40	Pages: D46–D47	QC40	
HSK40C	Page: C131	CVKV50	Pages: D60–D61	QC50	◀
HSK50C	Page: C138	BT30	Pages: E10–E11	R8	
HSK63C	Page: C143	BT40	Pages: E35–E37	Straight Shanks	Pages: I8–I11

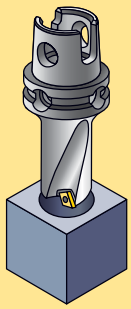
◀ Indicates "Not Available".

(continued)

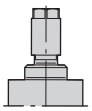
ERICKSON Toolholder Options

HSK40A • HSK50A • HSK63T HSK63A • HSK80A • HSK100A	HSK32C • HSK40C HSK50C • HSK63C	HSK40E • HSK50E	HSK63FP • HSK80FP	BTKV40 • BTKV50	CVKV40 • CVKV50
					

Drilling *(continued)*

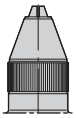


DA Collet Chucks



HSK40A	✓	HSK40E	✓	BT50	Page: E80
HSK50A		HSK50E		CV40	Page: F24
HSK63T		HSK63F		CV50	Page: F64
HSK63A		HSK80F		DV40	Pages: G22–G25
HSK80A		BTKV40		DV50	Pages: G60–G61
HSK100A		BTKV50		QC30	Page: H5
HSK32C		CVKV40		QC40	Page: H12
HSK40C		CVKV50		QC50	✓
HSK50C		BT30	Pages: E12–E13	R8	Page: H26
HSK63C		BT40	Pages: E38–E39	Straight Shanks	Pages: I12–I22

Drill Chucks



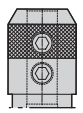
HSK40A	✓	HSK40E	✓	BT50	Page: E80
HSK50A		HSK50E		CV40	Page: F25
HSK63T		HSK63F		CV50	Page: F65
HSK63A	Page: C60	HSK80F		DV40	Page: G26
HSK80A	✓	BTKV40		DV50	Page: G62
HSK100A	Page: C108	BTKV50		QC30	✓
HSK32C	✓	CVKV40		QC40	
HSK40C		CVKV50		QC50	
HSK50C		BT30	Page: E14	R8	
HSK63C		BT40	Page: E40	Straight Shanks	

Whistle Notch™ Adapters



HSK40A	Page: C18	HSK40E	✓	BT50	Pages: E81–E82
HSK50A	✓	HSK50E		CV40	Pages: F26–F27
HSK63T		HSK63F		CV50	Pages: F66–F68
HSK63A	Pages: C60–C61	HSK80F		DV40	Pages: G27–G28
HSK80A	Page: C85	BTKV40		DV50	Pages: G63–G64
HSK100A	Pages: C108–C109	BTKV50		QC30	✓
HSK32C	✓	CVKV40		QC40	
HSK40C	Page: C132	CVKV50		QC50	
HSK50C	Page: C139	BT30	Page: E14	R8	
HSK63C	Page: C144	BT40	Pages: E41–E42	Straight Shanks	

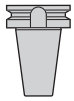
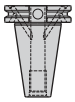
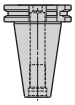
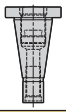
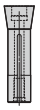
Straight Shanks



HSK40A	✓	HSK40E	✓	BT50	✓
HSK50A		HSK50E		CV40	Page: F30
HSK63T		HSK63F		CV50	Pages: F73–F74
HSK63A	Page: C63	HSK80F		DV40	✓
HSK80A	✓	BTKV40		DV50	
HSK100A		BTKV50		QC30	
HSK32C		CVKV40		QC40	
HSK40C		CVKV50		QC50	
HSK50C		BT30		R8	
HSK63C		BT40	Page: E46	Straight Shanks	

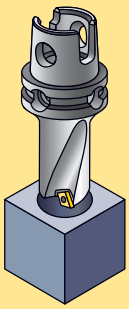
✓ Indicates "Not Available".

(continued)

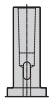
BT30 • BT40 • BT50	CV40 • CV50	DV40 • DV50	QC30 • QC40 • QC50	R8	SS
					

ERICKSON Toolholder Options

Drilling *(continued)*



Morse Tapers



HSK40A		HSK40E		BT50	Page: E92
HSK50A		HSK50E		CV40	Page: F36
HSK63T		HSK63F		CV50	Page: F80
HSK63A	Page: C70	HSK80F		DV40	Page: G37
HSK80A		BTKV40		DV50	Page: G73
HSK100A	Page: C118	BTKV50		QC30	Page: H8
HSK32C		CVKV40		QC40	Page: H16
HSK40C		CVKV50		QC50	Page: H22
HSK50C		BT30		R8	
HSK63C		BT40	Page: E57	Straight Shanks	

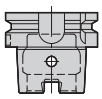
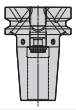
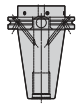
Jacobs/DIN



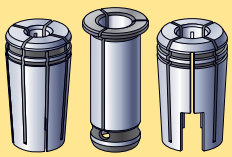
HSK40A		HSK40E		BT50	Page: E92
HSK50A		HSK50E		CV40	Page: F37
HSK63T		HSK63F		CV50	Page: F81
HSK63A		HSK80F		DV40	
HSK80A		BTKV40		DV50	
HSK100A		BTKV50		QC30	Page: H9
HSK32C		CVKV40		QC40	Page: H17
HSK40C		CVKV50		QC50	
HSK50C		BT30		R8	
HSK63C		BT40	Page: E57	Straight Shanks	

Indicates "Not Available".

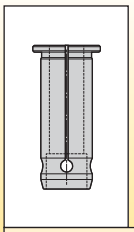
ERICKSON Toolholder Options

HSK40A • HSK50A • HSK63T HSK63A • HSK80A • HSK100A	HSK32C • HSK40C HSK50C • HSK63C	HSK40E • HSK50E	HSK63FP • HSK80FP	BTKV40 • BTKV50	CVKV40 • CVKV50
					

Drilling Collets and Sleeves

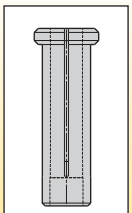


Milling Sleeves



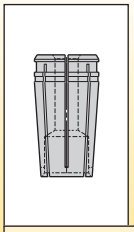
Pages: J6–J9

Hydraulic Sleeves



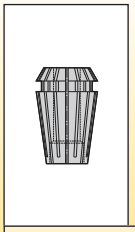
Pages: J2–J5

TG Collets



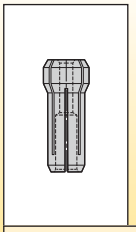
Pages: J14–J19, J22–J27, J30–J38, J42–J47

ER Collets



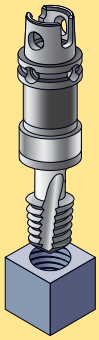
Pages: J54–J57

DA Collets

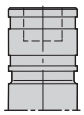


Pages: J65–J69

Tapping

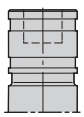


RC Rapid Change • Tension and Compression



HSK40A	✓	HSK40E	✓	BT50	Page: E91
HSK50A	✓	HSK50E	✓	CV40	Page: F35
HSK63T	✓	HSK63F	✓	CV50	Page: F79
HSK63A	Page: C70	HSK80F	✓	DV40	Page: G36
HSK80A	✓	BTKV40	✓	DV50	Page: G72
HSK100A	Page: C118	BTKV50	✓	QC30	✓
HSK32C	✓	CVKV40	✓	QC40	✓
HSK40C	✓	CVKV50	✓	QC50	✓
HSK50C	✓	BT30	✓	R8	✓
HSK63C	✓	BT40	Page: E56	Straight Shanks	✓

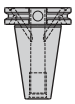
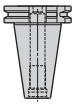
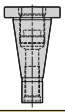
RC Rapid Change • Solid



HSK40A	✓	HSK40E	✓	BT50	Page: E91
HSK50A	✓	HSK50E	✓	CV40	Page: F36
HSK63T	✓	HSK63F	✓	CV50	Page: F80
HSK63A	✓	HSK80F	✓	DV40	Page: G36
HSK80A	✓	BTKV40	✓	DV50	Page: G73
HSK100A	✓	BTKV50	✓	QC30	✓
HSK32C	✓	CVKV40	✓	QC40	✓
HSK40C	✓	CVKV50	✓	QC50	✓
HSK50C	✓	BT30	✓	R8	✓
HSK63C	✓	BT40	Page: E56	Straight Shanks	✓

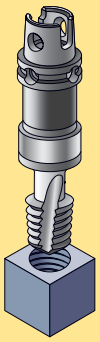
✓ Indicates "Not Available".

(continued)

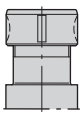
BT30 • BT40 • BT50	CV40 • CV50	DV40 • DV50	QC30 • QC40 • QC50	R8	SS
					

ERICKSON Toolholder Options

Tapping *(continued)*

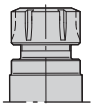


TG Collet Chucks



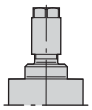
HSK40A	Page: C16	HSK40E		BT50	Page: E76
HSK50A	Page: C27	HSK50E		CV40	Pages: F18–F20
HSK63T		HSK63F		CV50	Pages: F56–F60
HSK63A	Page: C57	HSK80F		DV40	Pages: G16–G17
HSK80A	Page: C82	BTKV40	Page: D8	DV50	Pages: G55–G56
HSK100A	Page: C105	BTKV50	Page: D26	QC30	Page: H4
HSK32C		CVKV40	Page: D45	QC40	Page: H11
HSK40C		CVKV50	Page: D58	QC50	Page: H19
HSK50C		BT30	Page: E9	R8	
HSK63C		BT40	Page: E34	Straight Shanks	Pages: I6–I7

ER Collet Chucks



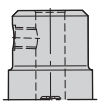
HSK40A	Page: C17	HSK40E	Page: C151	BT50	Pages: E77–E79
HSK50A	Pages: C28–C29	HSK50E		CV40	Pages: F21–F23
HSK63T		HSK63F	Page: C160	CV50	Pages: F61–F63
HSK63A	Pages: C58–C59	HSK80F	Page: C164	DV40	Pages: G18–G21
HSK80A	Pages: C83–C84	BTKV40	Pages: D10–D11	DV50	Pages: G57–G59
HSK100A	Pages: C106–C107	BTKV50	Pages: D28–D29	QC30	
HSK32C	Page: C125	CVKV40	Pages: D46–D47	QC40	
HSK40C	Page: C131	CVKV50	Pages: D60–D61	QC50	
HSK50C	Page: C138	BT30	Pages: E10–E11	R8	
HSK63C	Page: C143	BT40	Pages: E35–E37	Straight Shanks	Pages: I8–I11

DA Collet Chucks



HSK40A		HSK40E		BT50	Page: E80
HSK50A		HSK50E		CV40	Page: F24
HSK63T		HSK63F		CV50	Page: F64
HSK63A		HSK80F		DV40	Pages: G22–G25
HSK80A		BTKV40		DV50	Pages: G60–G61
HSK100A		BTKV50		QC30	Page: H5
HSK32C		CVKV40		QC40	Page: H12
HSK40C		CVKV50		QC50	
HSK50C		BT30	Pages: E12–E13	R8	Page: H26
HSK63C		BT40	Pages: E38–E39	Straight Shanks	Pages: I12–I22

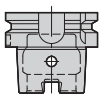
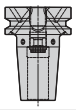
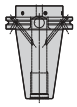
TA Adapters



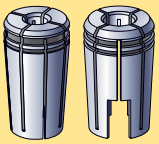
HSK40A		HSK40E		BT50	Page: E82
HSK50A		HSK50E		CV40	Page: F27
HSK63T		HSK63F		CV50	
HSK63A		HSK80F		DV40	
HSK80A		BTKV40		DV50	
HSK100A		BTKV50		QC30	
HSK32C		CVKV40		QC40	
HSK40C		CVKV50		QC50	
HSK50C		BT30		R8	
HSK63C		BT40	Page: E42	Straight Shanks	

Indicates "Not Available".

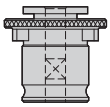
ERICKSON Toolholder Options

HSK40A • HSK50A • HSK63T HSK63A • HSK80A • HSK100A	HSK32C • HSK40C HSK50C • HSK63C	HSK40E • HSK50E	HSK63FP • HSK80FP	BTKV40 • BTKV50	CVKV40 • CVKV50
					

Tapping Collets and Adapters



RC Rapid Change Adapters



Pages: J76–J81

TG Collets



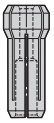
Pages: J20–J21, J28–J29, J40–J41, J48

ER Collets



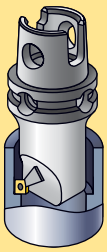
Pages: J58–J60

DA Collets



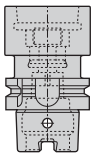
Pages: J71–J75

Boring

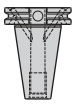
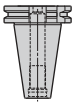
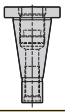


Indicates "Not Available".

Romicron™

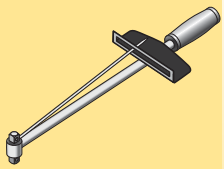


HSK40A		HSK40E		BT50	Page: E93
HSK50A		HSK50E		CV40	Page: F37
HSK63T		HSK63F		CV50	Page: F81
HSK63A	Page: C71	HSK80F		DV40	Page: G38
HSK80A		BTKV40		DV50	Page: G74
HSK100A	Page: C119	BTKV50		QC30	
HSK32C		CVKV40		QC40	
HSK40C		CVKV50		QC50	
HSK50C		BT30		R8	
HSK63C		BT40	Page: E58	Straight Shanks	

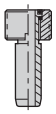
BT30 • BT40 • BT50	CV40 • CV50	DV40 • DV50	QC30 • QC40 • QC50	R8	SS
					

ERICKSON Toolholder Options

Accessories

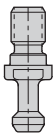


Coolant Units



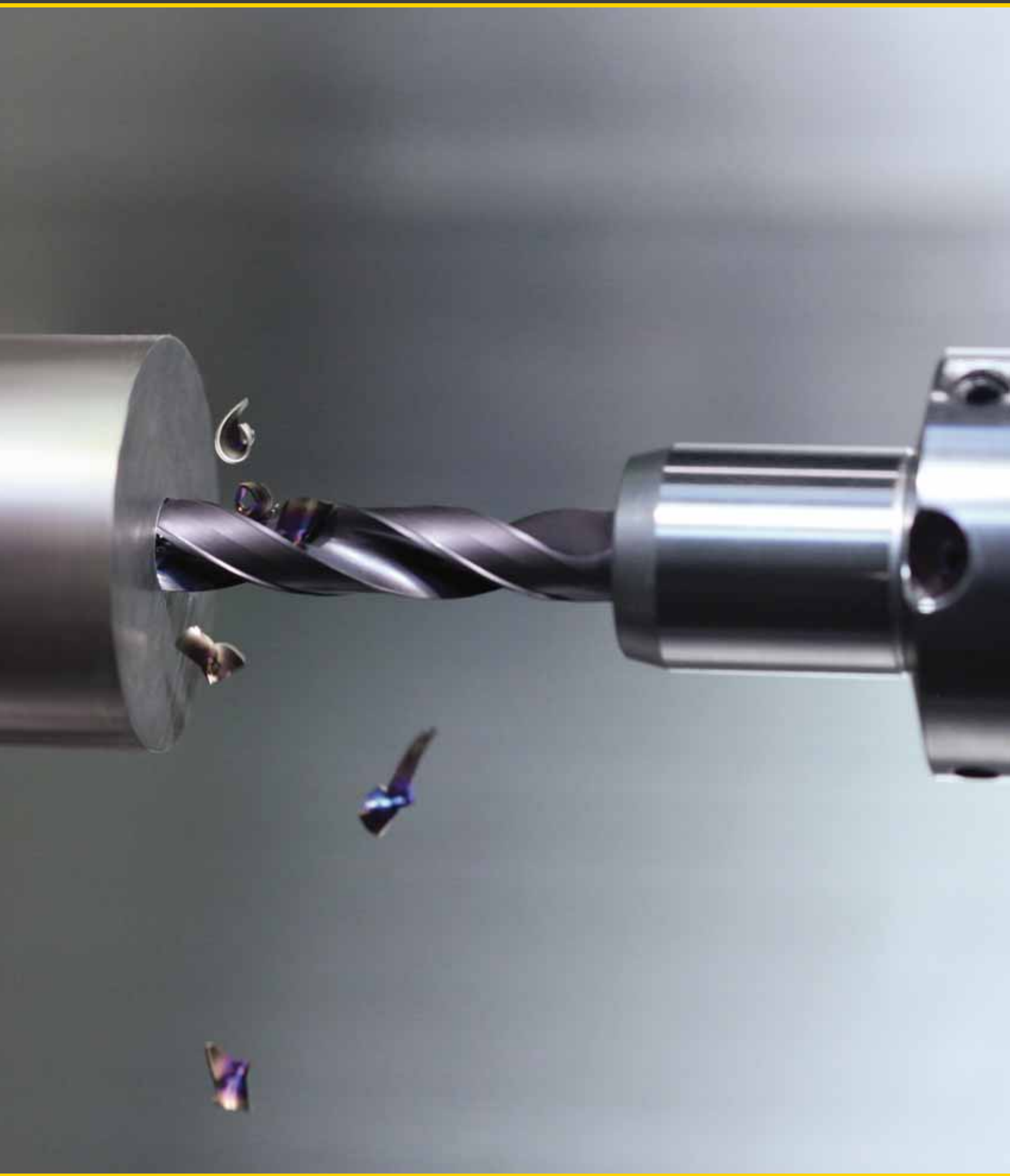
HSK40A	Page: L44	HSK40E	Page: L44	BT50	
HSK50A	Page: L44	HSK50E	Page: L44	CV40	
HSK63T	Page: L44	HSK63F	Page: L44	CV50	
HSK63A	Page: L44	HSK80F	Page: L44	DV40	
HSK80A	Page: L44	BTKV40		DV50	
HSK100A	Page: L44	BTKV50		QC30	
HSK32C		CVKV40		QC40	
HSK40C		CVKV50		QC50	
HSK50C		BT30		R8	
HSK63C		BT40		Straight Shanks	

Retention Knobs



HSK40A		HSK40E		BT50	Pages: L46–L50
HSK50A		HSK50E		CV40	Pages: L46–L50
HSK63T		HSK63F		CV50	Pages: L46–L50
HSK63A		HSK80F		DV40	Pages: L46–L50
HSK80A		BTKV40	Pages: L46–L50	DV50	Pages: L46–L50
HSK100A		BTKV50	Pages: L46–L50	QC30	
HSK32C		CVKV40	Pages: L46–L50	QC40	
HSK40C		CVKV50	Pages: L46–L50	QC50	
HSK50C		BT30	Pages: L46–L50	R8	
HSK63C		BT40	Pages: L46–L50	Straight Shanks	

Indicates "Not Available".



HSK Shank Tools

Catalog Numbering System C2–C5
HSK40A Shank Tools C6–C21
HSK50A Shank Tools C22–C31
HSK63T Adapters and Cutting Units C32–C42
HSK63A Shank Tools C44–C73
HSK80A Shank Tools C74–C90
HSK100A Shank Tools C92–C121
HSK32C Shank Tools C122–C125
HSK40C Shank Tools C126–C133
HSK50C Shank Tools C134–C139
HSK63C Shank Tools C140–C145
HSK40E Shank Tools C146–C153
HSK50E Shank Tools C154–C157
HSK63F (Pin) Shank Tools C158–C160
HSK80F (Pin) Shank Tools C162–C165



How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.

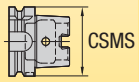


HSK63TPCLNR1204

HSK — Shank Style

63 — System Size

40 = 40mm
50 = 50mm
63 = 63mm
80 = 80mm
100 = 100mm

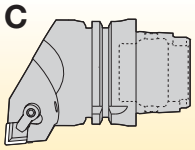


T — Form

A = Form A
B = Form B
C = Form C
D = Form D
E = Form E
F = Form F
T = Form T

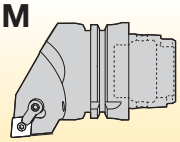
P — Insert Holding Method

C



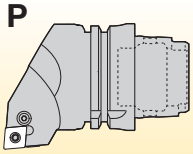
Top clamping by clamping finger for inserts without hole

M



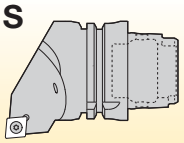
Top and hole clamping for inserts with hole

P



Insert clamping by toggle lever for insert with hole

S



Center clamping by screw for inserts with hole

C — Insert Shape

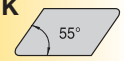
C



D



K



R



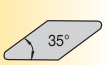
S



T



V

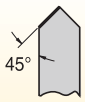


W



L — Toolholder Style

D



E



F



G



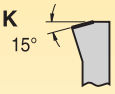
H



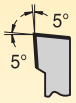
J



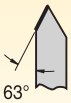
K



L



N

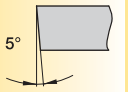


P

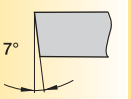


N — Insert Clearance Angle

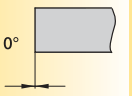
B



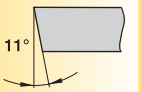
C



N



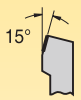
P



Q



R



S



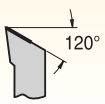
U



V



X



By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



R	12		04		
Hand of Tool	Insert Size Cutting Edge Length L10	Additional Information	Insert Thickness	Gage Length	Special Features

R = Right hand
L = Left hand
N = Neutral

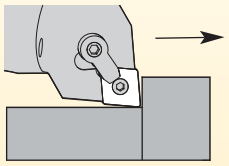
MX = Ceramic Inserts

03 = .125"
04 = .188"
06 = .250"
07 = .312"

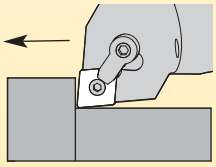
30 = 30mm
45 = 45mm
120 = 120mm

Y = Mazak® INTEGREX®
M = Metric

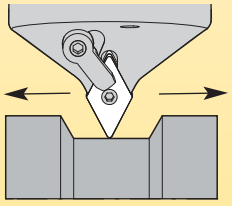
R



L



N



Metric

IC	C	D	K	R	S	T	V	W
3,97		04		03	03	06		
4,76	04	05		04	04	08	08	S3
5,56	05	06	03	05	05	09	09	03
6,00				06				
6,35	06	07	04	06	06	11	11	04
7,94	08	09	05	07	07	13	13	05
8,00				08			11	
9,52	09	11	06	09	09	16	16	06
9,52								
10,00				10				
11,11	11	13	07	11	11	19	19	07
12,00				12				
12,70	12	15	08	12	12	22	22	08
14,29	14	17	09	14	14	24	24	09
15,88	16	19	10	15	15	27	27	10
16,00				16				
17,46	17	21	11	17	17	30	30	11
19,05	19	23	13	19	19	33	33	13
20,00				20				
22,22	22	27	15	22	22	38	38	15
25,00				25				
25,40	25	31	17	25	25	44	44	17
31,75	32	38	21	31	31	54	54	21
32,00				32				

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



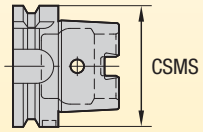
HSK63ACHTG50100M

HSK
Shank Style

JIS 6339

63
System Size

- **25** = 25
- **32** = 32
- **40** = 40
- **50** = 50
- **63** = 63
- **80** = 80
- **100** = 100
- **125** = 125
- **160** = 160



A
Form

DIN Form

- **A** = Form A
- **B** = Form B
- **C** = Form C
- **D** = Form D
- **E** = Form E
- **F** = Form F

CH
Special Feature *(optional)*

- **CH** = Coolant, high pressure
- **HPV** = High performance and balanceable
- **TD** = Tunable
- **P** = Pin style

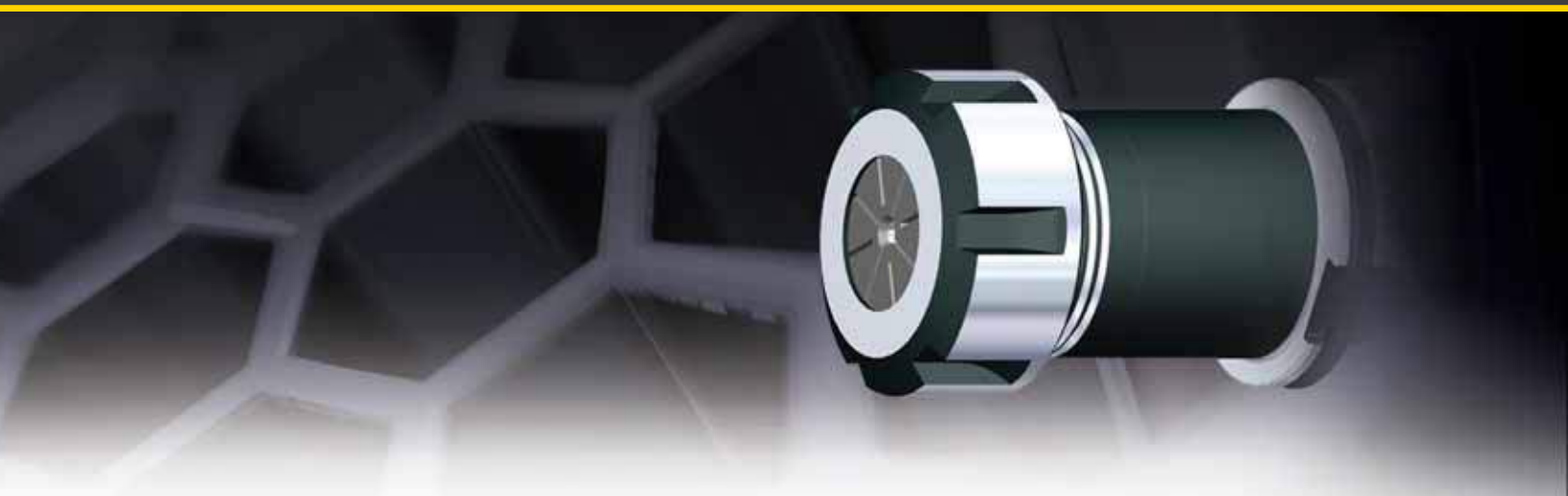
By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



HSK63ACHTG50100M

TG	50	100	M
Toolholder Style	Toolholder Size	Gage Length	Identification Values
	TG = Collet series xx (50), xxx (100) **EM** = I.D. size: metric — xx = xx, (20); inch — xxx = x.xx, (075) **SM** = O.D. size: metric — xx = xx, (20); inch — xxx = x.xx, (075)	(Taper gage line to front of tool) **metric** xxx = xxx **inch** xxx = x.xx	**(blank)** = Tool built to inch values **M** = Tool built to metric values

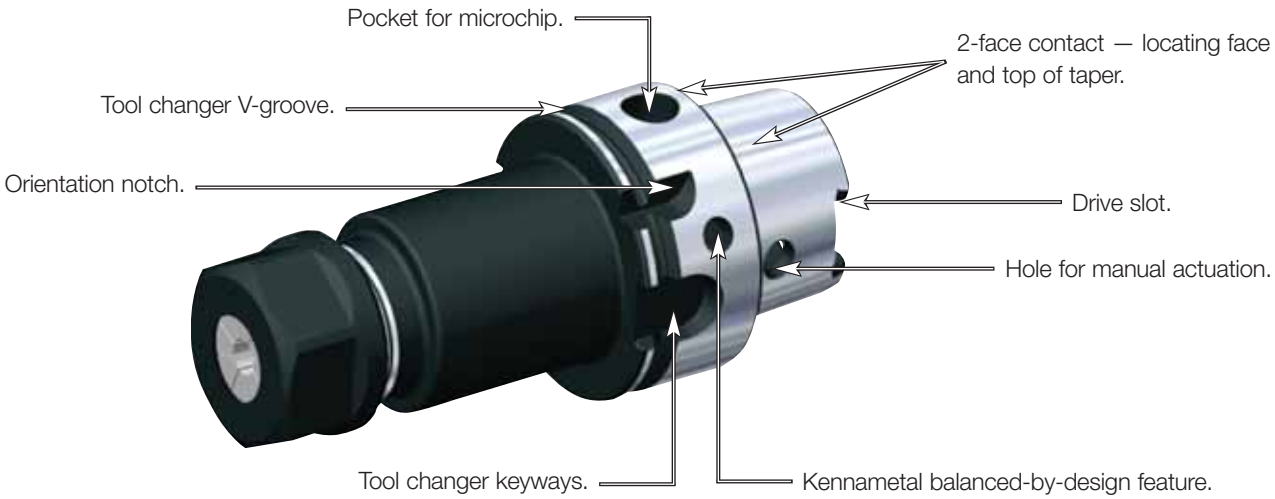
BB = Bar blank
CS = Combination shell mill and slotting cutter adapter
DA = Double-angle collet chuck
DC = Drill chuck
EM = End mill adapter
ER = DIN 6499 single-angle collet chuck
GB = Gage bar
HC = Hydraulic chuck — Standard Line
HCB = Hydraulic chuck — Basic Line
HCSL = Hydraulic chuck — Slim Line
HCSLT = Hydraulic chuck — Slim Line — Trend
HCT = Hydraulic chuck — Trend Line
HPMC = Bearing milling chuck — high performance
HSK = HSK modular adapter
JT = Jacobs modular taper adapter
KM = KM™ adapter
KR = Romicron™ Boring Adapters
MT = Morse taper adapter
RC = Rapid Change — T&C tapping adapter chuck
SA = Slotting cutter adapter
SFHDTT = **SAFE-LOCK**™ heavy-duty Shrink Fit thermo toolholder
SFTT = **SAFE-LOCK**™ Shrink Fit thermo toolholder
SM2C = Shell mill adapter with coolant and small diameter
SMC = Shell mill adapter with coolant
SS = Adapter for straight shanks (drills)
SSF = Adapter for straight shanks with flat (drills)
ST = Screw-on adapters
STRC = Rapid Change — solid tapping adapter chuck
SWN = Whistle Notch™ 2° — short — (not to DIN standard)
TA = Tap chuck adapter
TG = Tremendous Grip single-angle collet chuck
TT = Shrink Fit thermo toolholder
TTHT = Shrink Fit thermo toolholder — high torque
WD = Whistle Notch with drive
WN = Whistle Notch (2° metric; 5° inch)



ERICKSON™ HSK Shank Tooling System • HSK40A Series

Primary Application

ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form A versions generally used in machining centers and milling machines with automatic tool changers. The HSK40A tools are either pre-balanced to a high specification or balanced-by-design. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, coolant tubes, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.



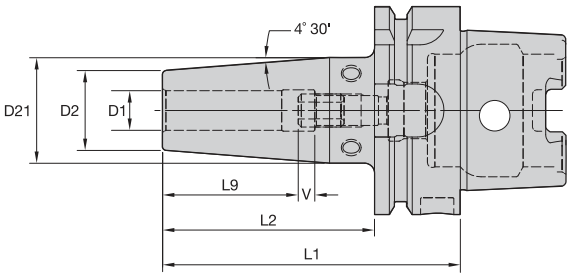


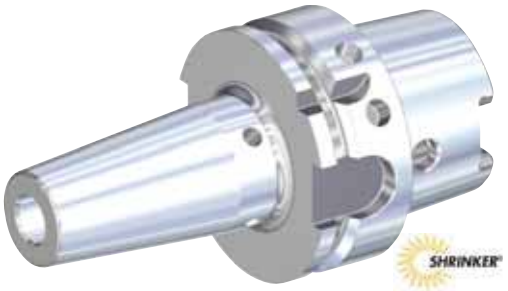
Features and Benefits

- ISO 12164-1/DIN 69893-1 Form A 1:10 short taper.
- High axial and radial repeatability compared to CAT, BT, and DV V-flange 7/24 taper tooling.
- Maximum 100 bar (1,500 psi) coolant pressure.

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
3	h4	0,000/-0,003
4	h4	0,000/-0,004
5	h5	0,000/-0,005
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20	h6	0,000/-0,013

ERICKSON

TT GP HPV MM-HSK Form A



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3866456	HSK40AHPVTT03060M	3	9	13	60	32	14	10	TTSS05014M	2,5mm	0,26
3866457	HSK40AHPVTT04060M	4	9	13	60	32	15	10	TTSS05014M	2,5mm	0,26
3866458	HSK40AHPVTT05060M	5	9	13	60	32	15	10	TTSS06014M	3mm	0,26
3866459	HSK40AHPVTT06080M	6	21	27	80	60	26	10	TTSS05014M	2,5mm	0,40
3866460	HSK40AHPVTT08080M	8	21	27	80	60	26	10	TTSS06014M	3mm	0,40
3866461	HSK40AHPVTT10080M	10	24	32	80	60	31	10	TTSS08014M	4mm	0,46
3866462	HSK40AHPVTT12090M	12	24	32	90	70	36	10	TTSS10014M	5mm	0,50
3866563	HSK40AHPVTT14090M	14	27	34	90	70	36	10	TTSS10014M	5mm	0,55
3866564	HSK40AHPVTT16090M	16	27	34	90	70	39	10	TTSS12014M	6mm	0,52
3866565	HSK40AHPVTT18095M	18	33	41	95	95	39	10	TTSS12014M	6mm	0,70
3866566	HSK40AHPVTT20095M	20	33	41	95	95	41	10	TTSS16014M	8mm	0,66

(continued)

(TT GP HPV Form A continued)

Cutting Tool Shank Requirements inch (industry standard)	
cutting tool shank diameter	**tolerance**
1/4, 5/16, & 3/8	.0000/-.0004
1/2, 9/16, & 5/8	.0000/-.0004
3/4	.0000/-.0005

TT GP HPV IN-HSK Form A

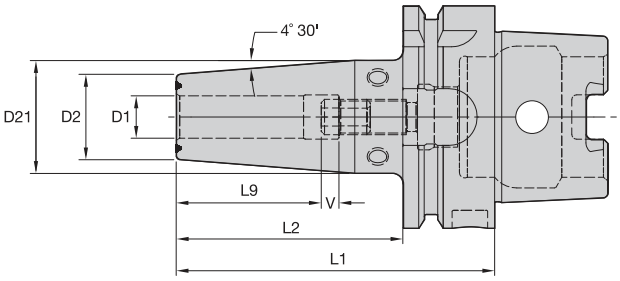


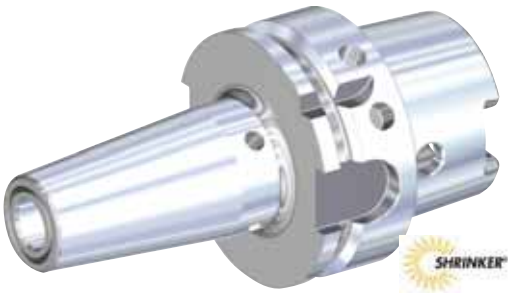
order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3864029	**HSK40AHPVTT025315**	1/4	.83	1.06	3.15	2.36	1.02	.39	**TTSS05014M**	2,5mm	.89
3864031	**HSK40AHPVTT031315**	5/16	.83	1.06	3.15	2.36	1.02	.39	**TTSS06014M**	3mm	.87
3864032	**HSK40AHPVTT038315**	3/8	.94	1.26	3.15	2.36	1.22	.39	**TTSS08014M**	4mm	1.01
3864073	**HSK40AHPVTT050354**	1/2	.94	1.26	3.54	2.76	1.42	.39	**TTSS10014M**	5mm	1.09
3864074	**HSK40AHPVTT056354**	9/16	1.06	1.32	3.54	2.76	1.42	.39	**TTSS10014M**	5mm	1.21
3864075	**HSK40AHPVTT062354**	5/8	1.06	1.32	3.54	2.76	1.54	.39	**TTSS12014M**	6mm	1.16
3864076	**HSK40AHPVTT075374**	3/4	1.30	1.61	3.74	3.74	1.61	.39	**TTSS16014M**	8mm	1.49

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20	h6	0,000/-0,013

ERICKSON

TT HT HPV MM-HSK Form A



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3866982	**HSK40AHPVTTHT12090M**	12	24	32	90	71	36	10	**TTSS10014M**	5mm	0,50
3867174	**HSK40AHPVTTHT14090M**	14	27	34	90	71	36	10	**TTSS10014M**	5mm	0,55
3867175	**HSK40AHPVTTHT16090M**	16	27	34	90	71	39	10	**TTSS12014M**	6mm	0,52
3867176	**HSK40AHPVTTHT18095M**	18	33	41	95	95	39	10	**TTSS12014M**	6mm	0,70
3867177	**HSK40AHPVTTHT20095M**	20	33	41	95	95	41	10	**TTSS16014M**	8mm	0,66

(continued)

(TT HT HPV Form A continued)

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameter	tolerance
1/2, 9/16, & 5/8	.0000/-.0004
3/4	.0000/-.0005

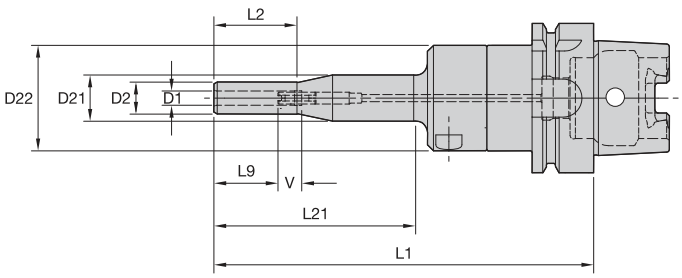
TT HT HPV IN-HSK Form A



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3872696	**HSK40AHPVTTHT050354**	1/2	.94	1.26	3.54	2.76	1.42	.39	**TTSS10014M**	5mm	1.09
3872697	**HSK40AHPVTTHT056354**	9/16	1.06	1.32	3.54	2.76	1.42	.39	**TTSS10014M**	5mm	1.21
3872698	**HSK40AHPVTTHT062354**	5/8	1.06	1.32	3.54	2.76	1.54	.39	**TTSS12014M**	6mm	1.16
3872699	**HSK40AHPVTTHT075374**	3/4	1.30	1.61	3.74	3.74	1.61	.39	**TTSS16014M**	8mm	1.49

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







ERICKSON

HC Slim-T MM-HSK Form A

order number	catalog number	D1	D2	D21	D22	L1	L2	L9	L21	V	kg
3061264	**HSK40AHCSLT06160M**	6	13,5	19,5	44	160	35	27	85	10	0,81
3061265	**HSK40AHCSLT08160M**	8	15,5	19,5	44	160	35	27	85	10	0,82

Spare Parts

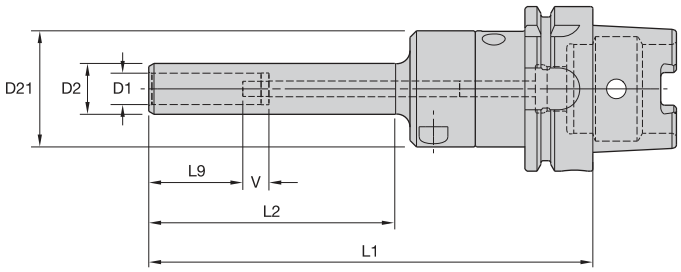


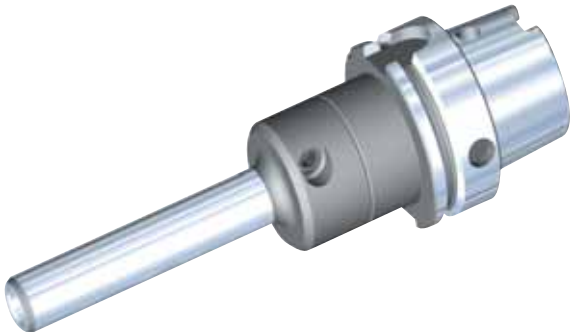


catalog number	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw
HSK40AHCSLT06160M	**170.135**	5mm	**170.002**	2,5mm
HSK40AHCSLT08160M	**170.135**	5mm	**170.002**	2,5mm

(continued)

(HC Slim HSK Form A continued)





HC Slim MM-HSK Form A

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
3061266	**HSK40AHCSLT10160M**	10	17,5	44,5	160	85	31	10	0,81
3061267	**HSK40AHCSLT12170M**	12	19,5	44,5	170	95	36	10	0,86
3061268	**HSK40AHCSLT14170M**	14	21,5	52,5	170	95	36	10	1,02
3061269	**HSK40AHCSLT16170M**	16	23,5	52,5	170	95	39	10	1,05
3061270	**HSK40AHCSLT18170M**	18	25,5	52,5	170	95	39	10	1,09
3061271	**HSK40AHCSLT20170M**	20	27,5	52,5	170	95	41	10	1,13

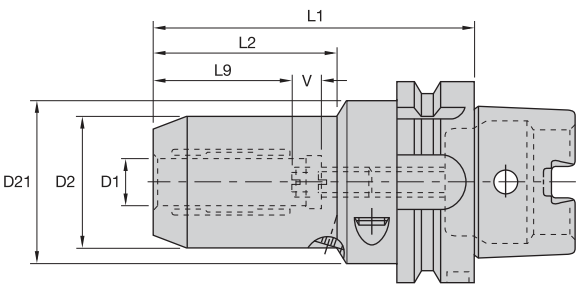
Spare Parts





catalog number	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw
HSK40AHCSLT10160M	**170.135**	5mm	**170.003**	3mm
HSK40AHCSLT12170M	**170.135**	5mm	**170.003**	3mm
HSK40AHCSLT14170M	**170.135**	5mm	**170.003**	3mm
HSK40AHCSLT16170M	**170.135**	5mm	**170.005**	5mm
HSK40AHCSLT18170M	**170.135**	5mm	**170.005**	5mm
HSK40AHCSLT20170M	**170.135**	5mm	**170.005**	5mm

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrenches must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.





ERICKSON

HC MM-HSK Form A

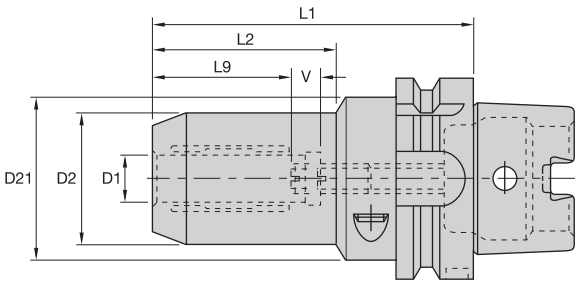




order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	kg
1960118	**HSK40AHC06080M**	6	25,7	32	80	35	27	10	**170.135**	5mm	**170.002**	2,5mm	0,45
1960119	**HSK40AHC08080M**	8	27,7	32	80	36	27	10	**170.254**	4mm	**170.002**	2,5mm	0,47
1960120	**HSK40AHC10085M**	10	29,7	32	85	40	31	10	**170.254**	4mm	**170.002**	2,5mm	0,51
1960121	**HSK40AHC12090M**	12	31,6	32	90	43	36	10	**170.254**	4mm	**170.002**	2,5mm	0,55

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







ERICKSON

HC Trend MM-HSK Form A





order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw	wrench size stop screw	kg
2386931	**HSK40AHCT14100M**	14	33,6	50	100	42	36	10	**170.135**	5mm	**571.063**	5mm	0,79
2386932	**HSK40AHCT16100M**	16	37,6	50	100	47	39	10	**170.135**	5mm	**571.063**	5mm	0,84
2387463	**HSK40AHCT18100M**	18	39,6	50	100	47	39	10	**170.135**	5mm	**571.063**	5mm	0,86
2387464	**HSK40AHCT20100M**	20	41,6	50	100	48	41	10	**170.135**	5mm	**571.063**	5mm	0,87

HC Trend IN-HSK Form A

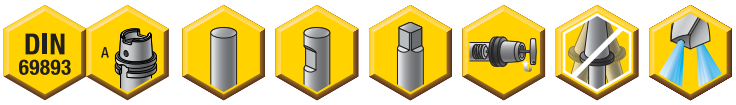


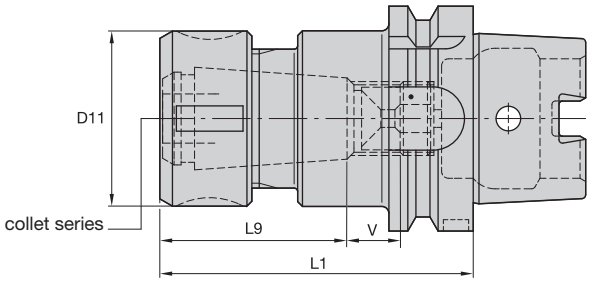


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	lbs
2233132	**HSK40AHCT025315**	1/4	1.01	1.25	3.15	1.38	1.46	.39	**170.135**	5mm	**170.003**	3mm	.99
2233273	**HSK40AHCT038335**	3/8	1.17	1.25	3.35	1.57	1.61	.39	**170.135**	5mm	**170.003**	3mm	1.13
2233274	**HSK40AHCT050354**	1/2	1.24	1.25	3.54	1.69	1.81	.39	**170.135**	5mm	**170.003**	3mm	1.21
2387465	**HSK40AHCT062394**	5/8	1.48	1.96	3.94	1.83	1.54	.39	**170.135**	5mm	–	5mm	1.85
2387466	**HSK40AHCT075394**	3/4	1.64	1.96	3.94	1.89	1.61	.39	**170.135**	5mm	–	5mm	1.98

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- Tremendous Grip (3:1 advantage).







TG collet series	Collet Capacity mm min	mm max	inch min	inch max
TG50	1,1	13,5	1/32	17/32
TG75	2,6	20,0	3/64	3/4

ERICKSON

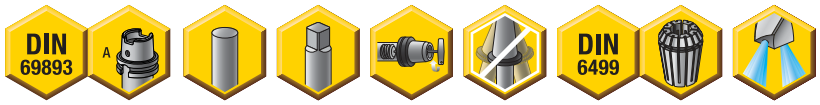
TG Round-HSK Form A

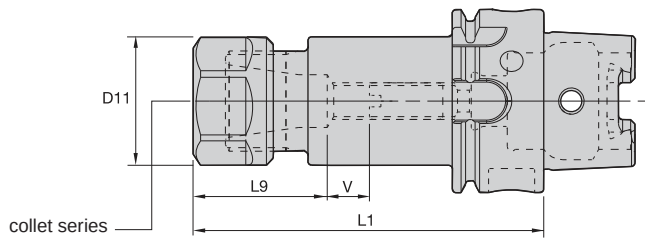


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	kg
2455912	**HSK40ATG050080M**	TG50	38	80	42,0	5	**LNA050M**	**HSW34M**	68	**SS056041G**	4mm & 5/32	0,45
2455993	**HSK40ATG075090M**	TG75	50	90	54,0	7	**LNA075M**	**HSW45M**	136	**SS081041G**	4mm & 5/32	0,69

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M84.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see page L38.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Grip (2:1 advantage).







Collet Capacity

ER collet series	mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81

ERICKSON

ER Hex-HSK Form A

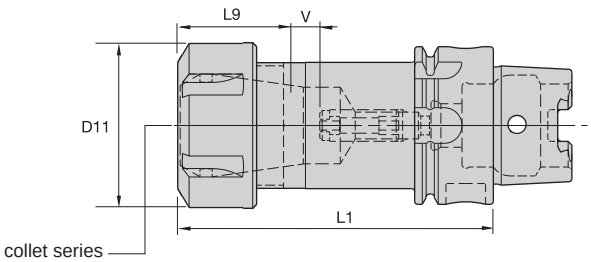
order number	catalog number	collet series	D11	L1	L9	V	kg
2260343	HSK40AER16080M	ER16	28	80	27,0	5	0,40

Spare Parts





catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
HSK40AER16080M	LNHSER16M	OEW25M	40	56	571.068	4mm & 5/32





ER Round-HSK Form A

order number	catalog number	collet series	D11	L1	L9	V	kg
1833498	HSK40AER25080M	ER25	42	80	31,0	5	0,50
2260344	HSK40AER32090M	ER32	50	90	46,0	5	0,56
2386935	HSK40AER32100M	ER32	50	100	40,0	10	0,69

Spare Parts

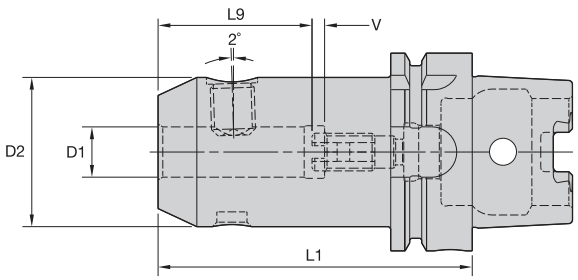




catalog number	round locknut	wrench	Nm	stop screw	wrench size stop screw
HSK40AER25080M	LNSER25M	ER25WM	104	571.062	4mm & 5/32
HSK40AER32090M	LNSER32M	ER32WM	136	571.062	4mm & 5/32
HSK40AER32100M	LNER32M	ER32WM	136	571.062	4mm

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







ERICKSON™

WN MM-HSK Form A

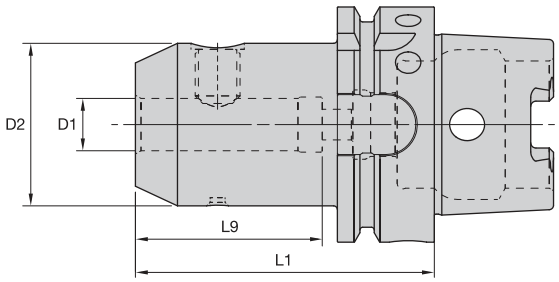




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
2260348	**HSK40AWN06080M**	6	25	80	30	10	**SS03M012**	3mm	7	**571.060**	2,5mm	0,39
2260349	**HSK40AWN08080M**	8	28	80	30	10	**SS03M014**	4mm	15	**571.067**	3mm	0,44
2260350	**HSK40AWN10080M**	10	34	80	35	10	**SS03M018**	5mm	25	**571.068**	4mm	0,56
2260351	**HSK40AWN12090M**	12	42	90	40	10	**SS03M023**	6mm	35	**571.074**	5mm	0,71
2260352	**HSK40AWN14090M**	14	44	90	40	10	**SS03M023**	6mm	35	**571.074**	5mm	0,73
2260353	**HSK40AWN16090M**	16	48	90	43	10	**SS03M025**	6mm	50	**571.075**	6mm	0,79

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with clamp screw and stop screw.
Lock screw or stop screw wrenches are not included.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.





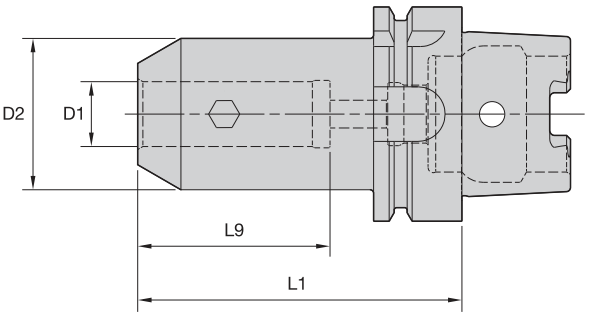


ERICKSON

EM MM-HSK Form A



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
2260357	HSK40AEM06060M	6	25	60	40	SS03M012	3mm	7	0,31
2260358	HSK40AEM08060M	8	28	60	40	SS03M014	4mm	15	0,35
2260359	HSK40AEM10060M	10	34	60	42	SS03M018	5mm	25	0,42
2260360	HSK40AEM12070M	12	42	70	50	SS03M023	6mm	35	0,57
2260361	HSK40AEM14075M	14	44	75	50	SS03M023	6mm	35	0,63
1852320	HSK40AEM16075M	16	48	75	53	SS03M025	6mm	50	0,69



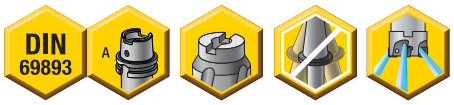


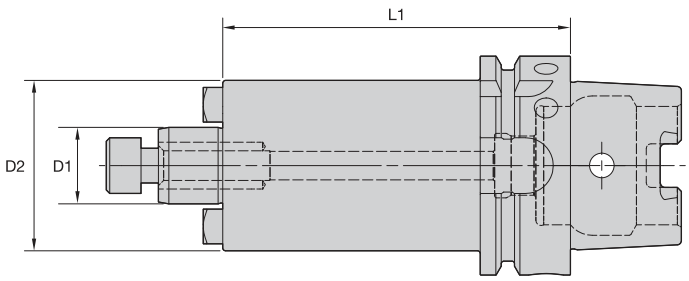
EM IN-HSK Form A



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
2249258	HSK40AEM025250	1/4	1.00	2.50	1.70	ELS025025PKG	1/8	8	.74
2249259	HSK40AEM038250	3/8	1.00	2.50	1.73	ELS038031PKG	3/16	15	.71
2249260	HSK40AEM050275	1/2	1.33	2.75	1.97	ELS044038PKG	7/32	20	.99
2249261	HSK40AEM062300	5/8	1.63	3.00	2.09	ELS056050PKG	1/4	40	1.27

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







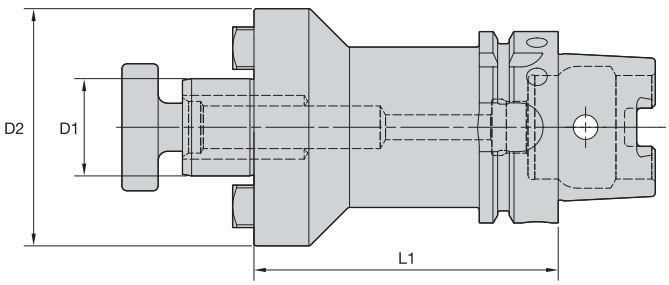
ERICKSON

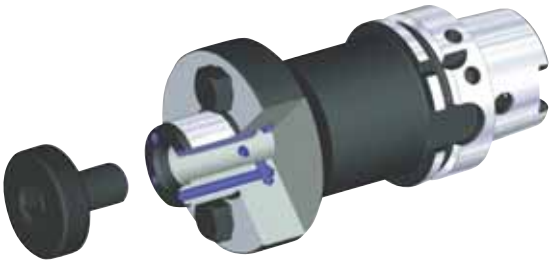
SMC Cap MM-HSK Form A





order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3872589	HSK40ASM2C16050M	16	38	50	MS1294	KDK16M	6mm	0,44
3872588	HSK40ASMC16050M	16	44	50	MS1294	KDK16M	6mm	0,49
3872591	HSK40ASM2C22050M	22	42	50	MS1234	—	8mm	0,50
3872590	HSK40ASMC22050M	22	49	50	MS1234	KDK22M	8mm	0,55





SMC Lock MM-HSK Form A





order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3872592	HSK40ASMC27075M	27	60	75	KLSS27M	KDK27M	10mm	1,01

SMC Lock IN-HSK Form A

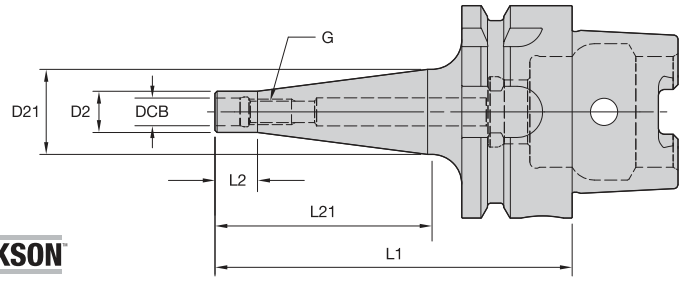




order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	lbs
3762350	HSK40ASM2C050200	1/2	1.20	2.00	KLS05	KDK04	3/16	.85
3762349	HSK40ASMC050200	1/2	1.44	2.00	KLS05	KDK04	3/16	.95
3762352	HSK40ASM2C075200	3/4	1.46	2.00	KLS07	—	1/4	1.03
3762351	HSK40ASMC075200	3/4	1.75	2.00	KLS07	KDK05	1/4	1.14
3762404	HSK40ASM2C100200	1	2.19	2.00	KLS10	KDK06	5/16	1.45
3762403	HSK40ASMC100200	1	2.75	2.00	KLS10	KDK06	5/16	1.73

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For HSK coolant unit and wrench, see page L44.







ERICKSON

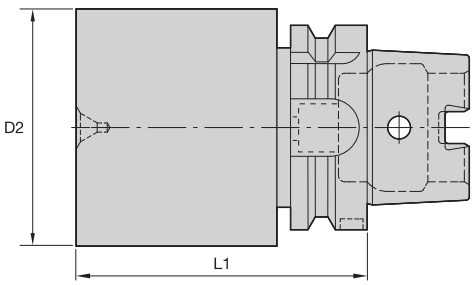
ST-HSK Form A

order number	catalog number	DCB	G	D2	D21	L1	L2	L21	kg
4061374	HSK40AST06053M	6,5	M6	10	–	53	27	–	0,20
4061375	HSK40AST06078M	6,5	M6	10	20	78	10	50	0,26
4061376	HSK40AST06103M	6,5	M6	10	23	103	10	75	0,32
4061377	HSK40AST08053M	8,5	M8	13	15	53	10	25	0,22
4061378	HSK40AST08078M	8,5	M8	13	23	78	10	50	0,30
4061379	HSK40AST08103M	8,5	M8	13	23	103	10	75	0,34
4061380	HSK40AST08128M	8,5	M8	13	25	128	10	100	0,42
4061381	HSK40AST10053M	10,5	M10	18	20	53	10	25	0,25
4061382	HSK40AST10078M	10,5	M10	18	25	78	10	50	0,33
4061423	HSK40AST10103M	10,5	M10	18	28	103	10	75	0,44
4061424	HSK40AST10128M	10,5	M10	18	30	128	10	100	0,55
4061425	HSK40AST12053M	12,5	M12	21	24	53	10	25	0,27
4061426	HSK40AST12078M	12,5	M12	21	24	78	10	50	0,34
4061427	HSK40AST12103M	12,5	M12	21	31	103	10	75	0,50
4061428	HSK40AST12128M	12,5	M12	21	31	128	10	100	0,61

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Machinable front 32–38 RW C.







ERICKSON

BB-HSK Form A

order number	catalog number	D2	L1	kg
2260649	HSK40ABB040120M	40,8	120	1,16

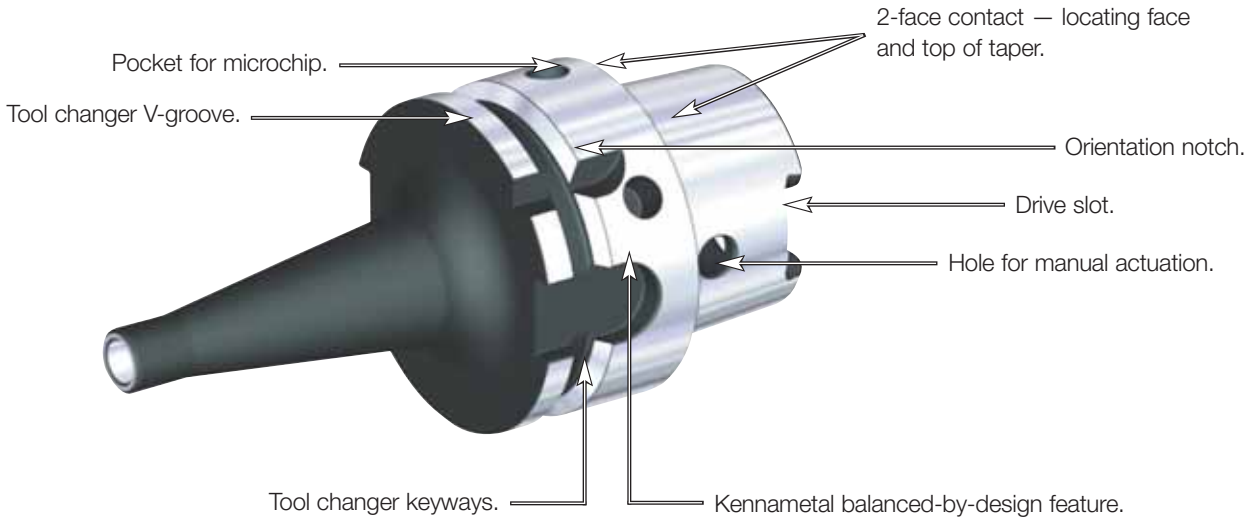
NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.



ERICKSON™ HSK Shank Tooling System • HSK50A Series

Primary Application

ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form A versions are generally used in machining centers and milling machines with automatic tool changers.
The HSK50A tools are either pre-balanced to a high specification or balanced-by-design. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, coolant tubes, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.



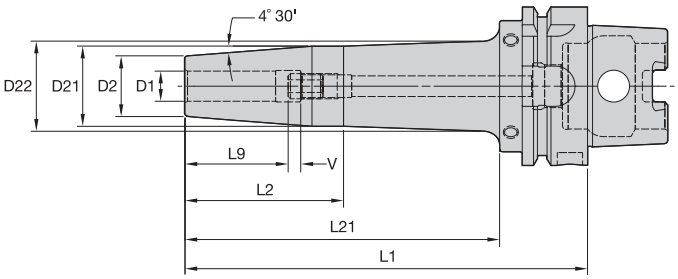


Features and Benefits

- ISO 12164-1/DIN 69893-1 Form A 1:10 short taper.
- High axial and radial repeatability compared to CAT, BT, and DV V-flange 7/24 taper tooling.
- Maximum 100 bar (1,500 psi) coolant pressure.

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







ERICKSON

TT GP HPV MM-HSK Form A



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3874888	HSK50AHPVTT03080M	3	9	15	—	80	45	54	14	10,0	TTSS05014M	2,5mm	0,50
3874889	HSK50AHPVTT04080M	4	9	15	—	80	45	54	15	10,0	TTSS05014M	2,5mm	0,50
3874890	HSK50AHPVTT05080M	5	9	15	—	80	45	54	15	10,0	TTSS06014M	3mm	0,50
3874891	HSK50AHPVTT06080M	6	21	27	—	80	54	—	26	10,0	TTSS05014M	2,5mm	0,57
3874989	HSK50AHPVTT06120M	6	21	27	—	120	85	94	26	10,0	TTSS05014M	2,5mm	0,79
3874997	HSK50AHPVTT06160M	6	21	27	32	160	50	125	26	10,0	TTSS05014M	2,5mm	1,03
3874892	HSK50AHPVTT08080M	8	21	27	—	80	45	54	26	10,0	TTSS06014M	3mm	0,62
3874990	HSK50AHPVTT08120M	8	21	27	—	120	85	94	26	10,0	TTSS06014M	3mm	0,78
3874998	HSK50AHPVTT08160M	8	21	27	32	160	50	125	26	10,0	TTSS06014M	3mm	1,02
3874983	HSK50AHPVTT10085M	10	24	32	—	85	59	—	31	10,0	TTSS08014M	4mm	0,64
3874991	HSK50AHPVTT10120M	10	24	32	—	120	85	94	31	10,0	TTSS08014M	4mm	0,89
3874999	HSK50AHPVTT10160M	10	24	32	36	160	63	125	31	10,0	TTSS08014M	4mm	1,18
3874984	HSK50AHPVTT12090M	12	24	32	—	90	64	—	36	10,0	TTSS10014M	5mm	0,66
3874992	HSK50AHPVTT12120M	12	24	32	—	120	85	94	36	10,0	TTSS10014M	5mm	0,87
3875000	HSK50AHPVTT12160M	12	24	32	36	160	63	125	36	10,0	TTSS10014M	5mm	1,16
3874985	HSK50AHPVTT14090M	14	27	34	—	90	64	—	36	10,0	TTSS10014M	5mm	0,71
3874993	HSK50AHPVTT14120M	14	27	34	—	120	85	94	36	10,0	TTSS10014M	5mm	0,94
3875001	HSK50AHPVTT14160M	14	27	34	39	160	57	125	36	10,0	TTSS10014M	5mm	1,28
3874986	HSK50AHPVTT16095M	16	27	34	—	95	69	—	39	10,0	TTSS12014M	6mm	0,71
3874994	HSK50AHPVTT16120M	16	27	34	—	120	85	94	39	10,0	TTSS12014M	6mm	0,91
3875002	HSK50AHPVTT16160M	16	27	34	39	160	57	125	39	10,0	TTSS12014M	6mm	1,26
3874987	HSK50AHPVTT18095M	18	33	41	—	95	69	—	39	10,0	TTSS12014M	6mm	0,88
3874995	HSK50AHPVTT18120M	18	33	41	—	120	94	—	39	10,0	TTSS12014M	6mm	1,13
3875003	HSK50AHPVTT18160M	18	33	41	—	160	134	—	39	10,0	TTSS12014M	6mm	1,53
3874988	HSK50AHPVTT20100M	20	33	41	—	100	74	—	41	10,0	TTSS16014M	3mm	0,90
3874996	HSK50AHPVTT20120M	20	33	41	—	120	94	—	41	10,0	TTSS16014M	8mm	1,10
3875004	HSK50AHPVTT20160M	20	33	41	—	160	134	—	41	10,0	TTSS16014M	8mm	1,50

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

(continued)

(TT GP HPV continued)

Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
3	h4	0,000/-0,003
4	h4	0,000/-0,004
5	h5	0,000/-0,005
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20	h6	0,000/-0,013

Cutting Tool Shank Requirements inch (industry standard)

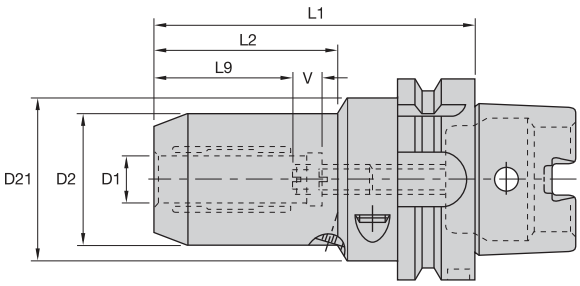
cutting tool shank diameter	tolerance
1/8 & 3/16	.0000/-.0003
1/4 & 3/8	.0000/-.0004
1/2 & 5/8	.0000/-.0004
3/4	.0000/-.0005

TT GP HPV IN-HSK Form A



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	lbs
3863678	**HSK50AHPVTT012315**	1/8	.35	.59	—	3.15	1.77	—	.63	.39	**TTSS05014M**	2,5mm	1.10
3863705	**HSK50AHPVTT012472**	1/8	.35	.59	.68	4.72	1.97	3.35	.63	.39	**TTSS05014M**	2,5mm	1.22
3863711	**HSK50AHPVTT012630**	1/8	.35	.59	.79	6.30	1.97	4.92	.63	.39	**TTSS05014M**	2,5mm	1.40
3863679	**HSK50AHPVTT018315**	3/16	.35	.59	—	3.15	1.77	—	.59	.39	**TTSS06014M**	3mm	1.10
3863712	**HSK50AHPVTT018630**	3/16	.35	.59	.79	6.30	1.97	4.92	.59	.39	**TTSS06014M**	3mm	1.40
3863680	**HSK50AHPVTT025315**	1/4	.83	1.06	—	3.15	2.13	—	1.02	.39	**TTSS05014M**	2,5mm	1.26
3863706	**HSK50AHPVTT025472**	1/4	.83	1.06	—	4.72	3.35	—	1.02	.39	**TTSS05014M**	2,5mm	1.74
3863713	**HSK50AHPVTT025630**	1/4	.83	1.06	1.27	6.30	1.97	4.92	1.02	.39	**TTSS05014M**	2,5mm	2.26
3863681	**HSK50AHPVTT038335**	3/8	.94	1.26	—	3.35	2.32	—	1.22	.39	**TTSS08014M**	4mm	1.42
3863707	**HSK50AHPVTT038472**	3/8	.94	1.26	—	4.72	3.35	—	1.22	.39	**TTSS08014M**	4mm	1.96
3863714	**HSK50AHPVTT038630**	3/8	.94	1.26	1.43	6.30	2.48	4.92	1.22	.39	**TTSS08014M**	4mm	2.61
3863682	**HSK50AHPVTT050354**	1/2	.94	1.26	—	3.54	2.52	—	1.42	.39	**TTSS10014M**	5mm	1.43
3863708	**HSK50AHPVTT050472**	1/2	.94	1.26	—	4.72	3.35	—	1.42	.39	**TTSS10014M**	5mm	1.91
3863715	**HSK50AHPVTT050630**	1/2	.94	1.26	1.43	6.30	2.48	4.92	1.42	.39	**TTSS10014M**	5mm	2.55
3863703	**HSK50AHPVTT062374**	5/8	1.06	1.33	—	3.74	2.72	—	1.54	.39	**TTSS12014M**	6mm	1.58
3863709	**HSK50AHPVTT062472**	5/8	1.06	1.33	—	4.72	3.35	—	1.54	.39	**TTSS12014M**	6mm	2.01
3863716	**HSK50AHPVTT062630**	5/8	1.06	1.33	1.52	6.30	2.24	4.92	1.54	.39	**TTSS12014M**	6mm	2.77
3863704	**HSK50AHPVTT075394**	3/4	1.30	1.61	—	3.94	2.92	—	1.61	.39	**TTSS16014M**	8mm	2.00
3863710	**HSK50AHPVTT075472**	3/4	1.30	1.61	—	4.72	3.70	—	1.61	.39	**TTSS16014M**	8mm	2.44
3863717	**HSK50AHPVTT075630**	3/4	1.30	1.61	—	6.30	5.28	—	1.61	.39	**TTSS16014M**	8mm	3.33

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

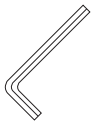




ERICKSON

HC MM-HSK Form A

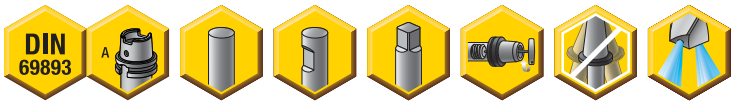


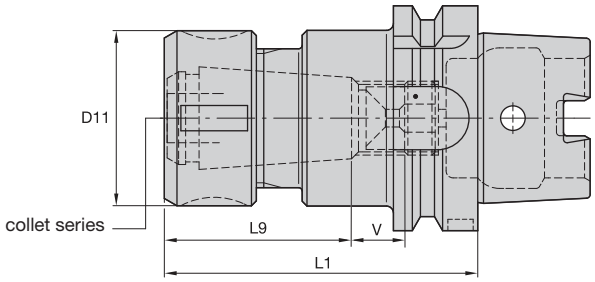


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	kg
1245473	**HSK50AHC06080M**	6	25,7	40	80	35	27	10	**170.135**	5mm	**170.002**	2,5mm	0,80
1245474	**HSK50AHC08080M**	8	27,7	40	80	36	27	10	**170.135**	5mm	**170.002**	2,5mm	0,90
1245475	**HSK50AHC10085M**	10	29,7	40	85	41	31	10	**170.135**	5mm	**170.002**	2,5mm	0,90
1245476	**HSK50AHC12090M**	12	31,6	40	90	47	36	10	**170.135**	5mm	**170.002**	2,5mm	1,30

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
For hydraulic chuck technical section, see page M84.
Chucks supplied with stop screw.
Wrenches must be ordered separately.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J63.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG50	1,1	13,5	1/32	17/32
TG75	2,6	20,0	3/64	3/4

ERICKSON

TG Round-HSK Form A • Metric

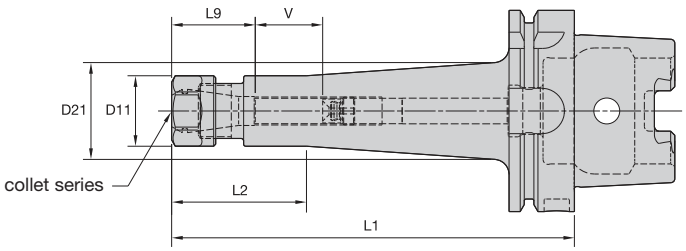


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	stop screw cone cap	kg
1307819	**HSK50ATG050100M**	TG50	38	100	42	12	**LNA050M**	**HSW34M**	68	**SS056041G**	4mm & 5/32	**SSCC056**	0,86
1307821	**HSK50ATG075115M**	TG75	50	115	54	11	**LNA075M**	**HSW45M**	136	**SS081041G**	4mm & 5/32	**SSCC081**	0,79

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Grip (2:1 advantage).







ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81

ERICKSON

ER HEX-HSK Form A

order number	catalog number	collet series	D11	D21	L2	L1	L9	V	kg
1307789	**HSK50AER16100M**	ER16	28	—	71	100	32	24	0,64
1307790	**HSK50AER16160M**	ER16	28	40	71	160	32	48	1,05
1307791	**HSK50AER20100M**	ER20	34	—	73	100	36	17	0,72

Spare Parts

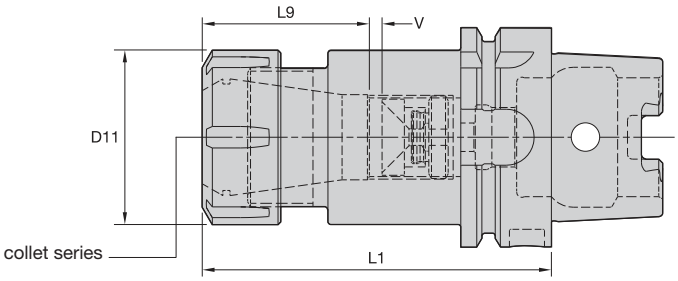





catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw	stop screw cone cap
HSK50AER16100M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32	**SSCC044**
HSK50AER16160M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32	**SSCC044**
HSK50AER20100M	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32	**SSCC056**

(continued)

(ER-HSK continued)





ER Round-HSK Form A

order number	catalog number	collet series	D11	L1	L9	V	kg
1307792	**HSK50AER25100M**	ER25	42	100	40	11	0,91
1134534	**HSK50AER32100M**	ER32	50	100	45	4	0,90

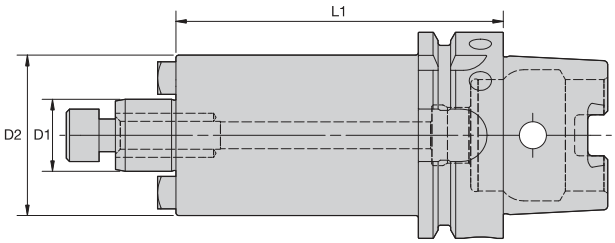
Spare Parts

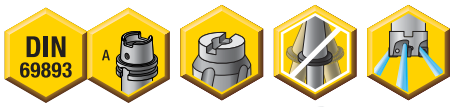





catalog number	locknut	wrench	Nm	stop screw	wrench size stop screw	stop screw cone cap
HSK50AER25100M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32	**SSCC075**
HSK50AER32100M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32	**SSCC094**

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







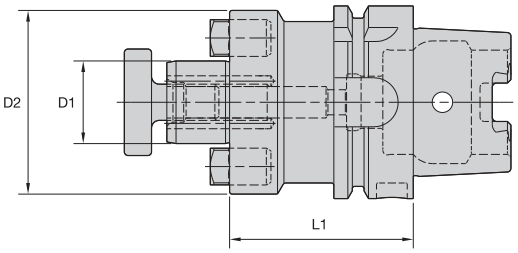
ERICKSON

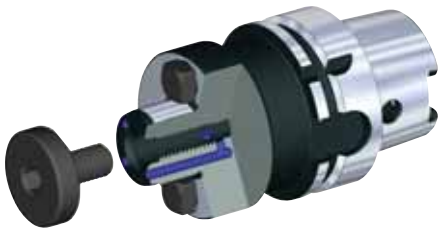
SMC Cap MM-HSK Form A





order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
4144667	HSK50ASM2C16050M	16	38	50	MS1294	KDK16M	6mm	0,62
3872678	HSK50ASMC16050M	16	44	50	MS1294	KDK16M	6mm	0,67
4144668	HSK50ASM2C22060M	22	42	60	MS1234	—	8mm	0,80
3872679	HSK50ASMC22060M	22	49	60	MS1234	KDK22M	8mm	0,86





SMC Lock MM-HSK Form A





order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3872680	HSK50ASMC27060M	27	60	60	KLSS27M	KDK27M	10mm	1,07

SMC Lock IN-HSK Form A

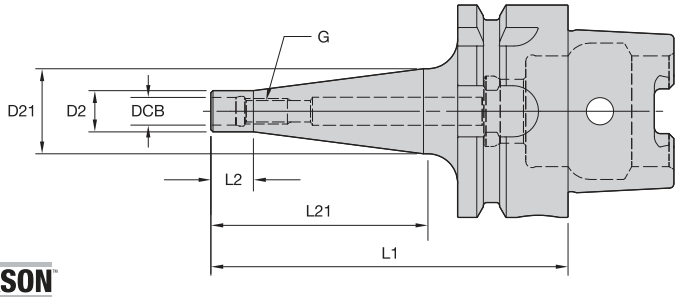


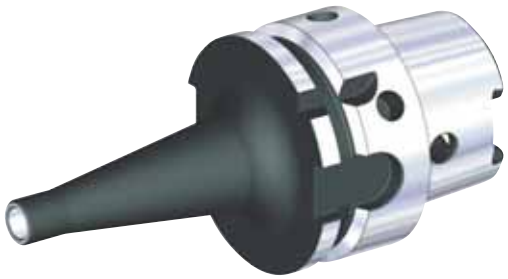


order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	lbs
3762406	HSK50ASM2C050200	1/2	1.20	2	KLS05	KDK04	3/16	1.20
3762405	HSK50ASMC050200	1/2	1.44	2	KLS05	KDK04	3/16	1.33
3872517	HSK50ASMC100225	1	2.75	2	KLS10	KDK06	5/16	2.31

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For HSK coolant unit and wrench, see page L44.







ERICKSON

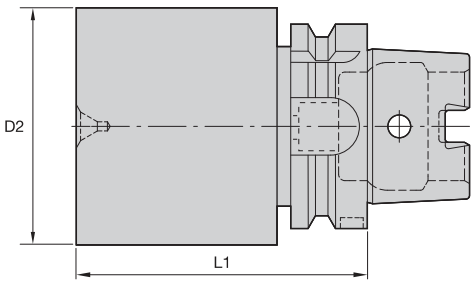
ST-HSK Form A

order number	catalog number	DCB	G	D2	D21	L1	L2	L21	kg
4061440	**HSK50AST06059M**	6,5	M6	10	10	59	10	25	0,39
4061441	**HSK50AST06084M**	6,5	M6	10	20	84	10	50	0,45
4061442	**HSK50AST06109M**	6,5	M6	10	23	109	10	75	0,51
4061443	**HSK50AST08059M**	8,5	M8	13	15	59	10	25	0,41
4061444	**HSK50AST08084M**	8,5	M8	13	23	84	10	50	0,48
4061445	**HSK50AST08109M**	8,5	M8	13	23	109	10	75	0,53
4061446	**HSK50AST08134M**	8,5	M8	13	25	134	10	100	0,60
4061447	**HSK50AST10059M**	10,5	M10	18	20	59	10	25	0,44
4061448	**HSK50AST10084M**	10,5	M10	18	25	84	10	50	0,53
4061449	**HSK50AST10109M**	10,5	M10	18	28	109	10	75	0,63
4061450	**HSK50AST10134M**	10,5	M10	18	30	134	10	100	0,74
4061451	**HSK50AST12059M**	12,5	M12	21	24	59	10	25	0,46
4061452	**HSK50AST12084M**	12,5	M12	21	24	84	10	50	0,53
4061453	**HSK50AST12109M**	12,5	M12	21	31	109	10	75	0,69
4061454	**HSK50AST12134M**	12,5	M12	21	31	134	10	100	0,79

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Machinable front 32–38 RWC.







ERICKSON

BB-HSK Form A • Metric

order number	catalog number	D2	L1	kg
1256059	**HSK50ABB063200M**	63,8	200	4,49
1256060	**HSK50ABB100125M**	100,8	125	5,69

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.



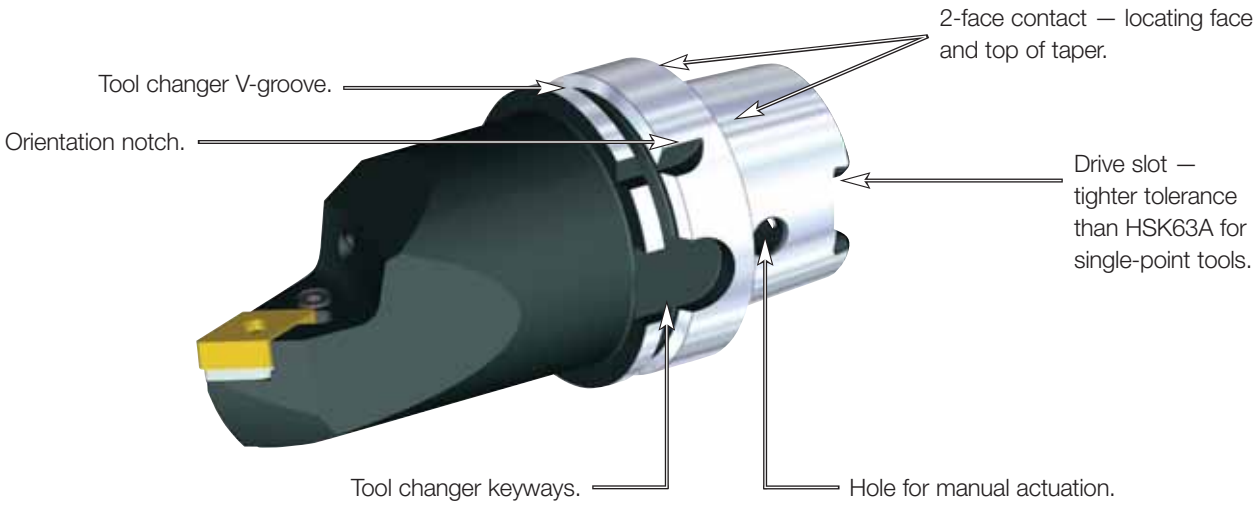
ERICKSON™ HSK Shank Tooling System • HSK63T Series

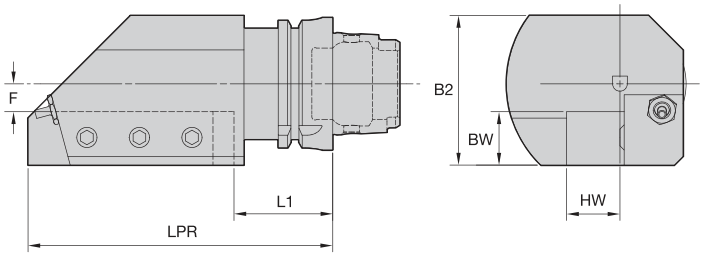
Primary Application

ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form T versions are generally used in static and multitasking operations. The HSK63T has qualified drive slot widths for single-point cutting.

Features and Benefits

- ISO 12164-1/DIN 69893-1 Form A 1:10 short taper.
- High axial and radial repeatability.
- Maximum 100 bar (1,500 psi) coolant pressure.







ERICKSON

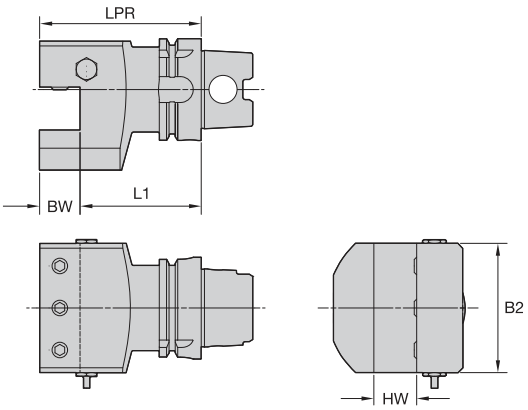
STAR/L • Metric

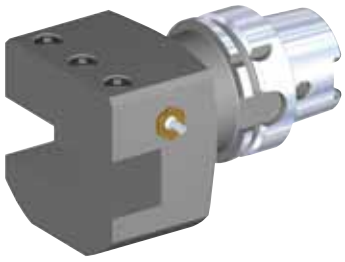




order number	catalog number	B2	BW	F	HW	L1	LPR	cup point socket set screw	nozzle	kg
	right hand									
3377242	HSK63TSTAR2525M	70	25	13	25	49	145	MS1430	PMT04526 COOLANT NOZZLE SPRAY	3,97
	left hand									
3377313	HSK63TSTAL2525M	70	25	13	25	49	145	MS1430	PMT04526 COOLANT NOZZLE SPRAY	3,96

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.





ERICKSON

ETAN • Metric

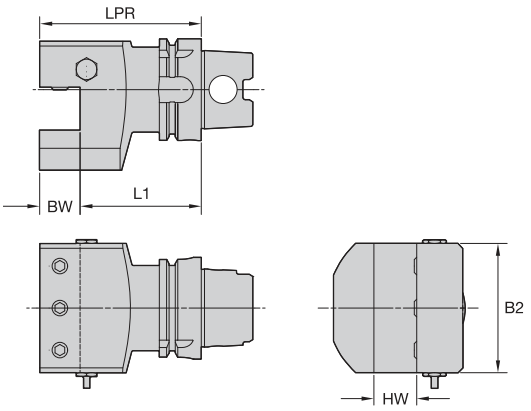






order number	catalog number	B2	BW	HW	L1	LPR	cup point socket set screw	nozzle	plug	kg
3897805	HSK63TETAN2525M	80	25	25	75	100	MS1430	PMT04526 COOLANT NOZZLE SPRAY	PMP08350	3,14

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.







ERICKSON

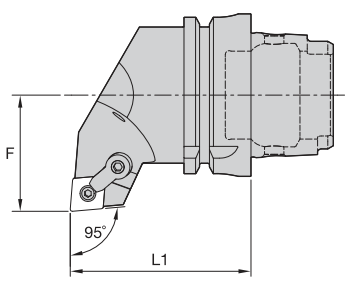
ETAN • Inch

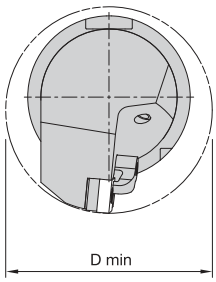




order number	catalog number	B2	BW	HW	L1	LPR	cup point socket set screw	nozzle	plug	kg
3897806	**HSK63TETAN16**	3.150	1.000	1.000	2.963	3.963	**MS1430**	**PMT04526 COOLANT NOZZLE SPRAY**	**PMP08350**	3,20

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.









ERICKSON

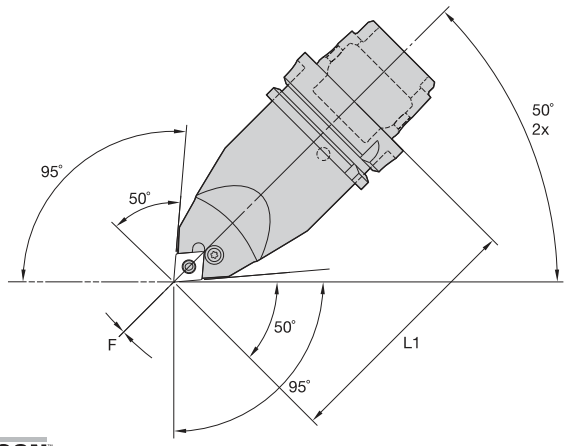
MCLN 95°






order number	catalog number	D min	F	L1	gage insert	shim	lock pin	clamp	clamp screw	kg
	right hand									
3897467	**HSK63TMCLNR12070**	80	45	70	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20**	**STCM11**	1,20
	left hand									
3897468	**HSK63TMCLNL12070**	80	45	70	CN..120408/CN..432	**ICSN432**	**KLM46**	**CKM20**	**STCM11**	1,20

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.



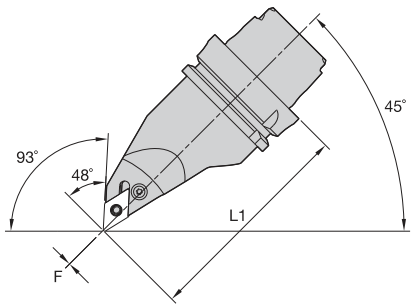


ERICKSON

PCMN 50° • 95° Application • Centerline

order number	catalog number	F	L1	gage insert	shim	lever lock screw	shim pin	toggle lever	punch	kg
3575690	**HSK63TPCMNN12115**	0	115	CN..120408/CN..432	**512.112**	**514.123**	**513.023**	**511.023**	**515.018**	1,64

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.





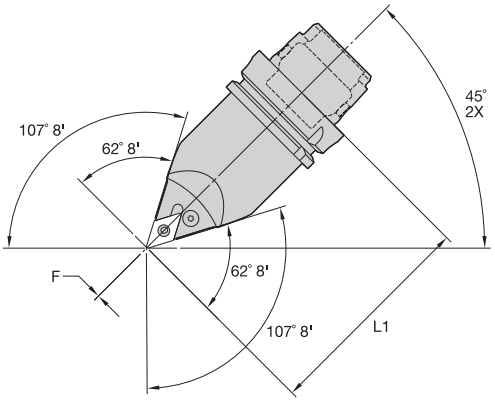
Left-Hand Tool

ERICKSON

PDMN 48° • 93° Application • Centerline

order number	catalog number	F	L1	gage insert	shim	lever lock screw	shim pin	toggle lever	punch	kg
	right hand									
3897470	**HSK63TPDMNR15115**	0	115	DN..150608/DN..442	**512.153**	**514.128**	**513.023**	**511.024**	**515.018**	1,46
	left hand									
3575691	**HSK63TPDMNL15115**	0	115	DN..150608/DN..442	**512.153**	**514.128**	**513.023**	**511.024**	**515.018**	1,62

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.

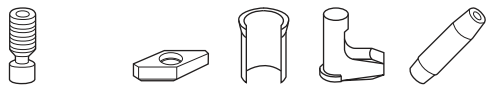






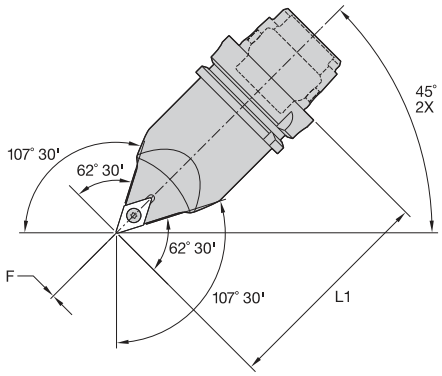
ERICKSON

■ PDNN 45° • Centerline



order number	catalog number	F	L1	gage insert	lever lock screw	shim	shim pin	toggle lever	punch	kg
3897469	**HSK63TPDNNN15115**	0	115	DN..150608/DN..442	**514.128**	**512.153**	**513.023**	**511.024**	**515.018**	1,61

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.



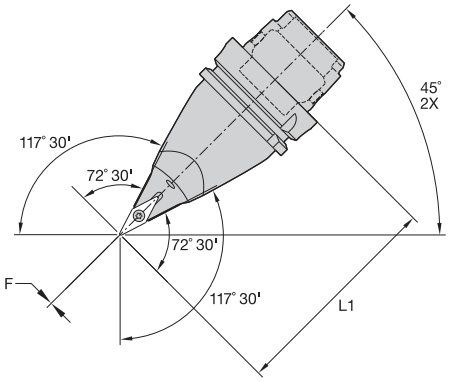


ERICKSON

SDNC 45° • Centerline

order number	catalog number	F	L1	gage insert	insert screw	shim	shim screw	kg
3897553	HSK63TSDNCN11115	0	115	DC..11T308DC..3252	MS1156	SKDP343	SRS3	1,59
3897554	HSK63TSDNCN15115	0	115	DC..150408/DC..432	MS1158	SKDP453	SRS4	1,59

NOTE: HSK coolant unit and wrench are available and must be ordered separately, see page L44.



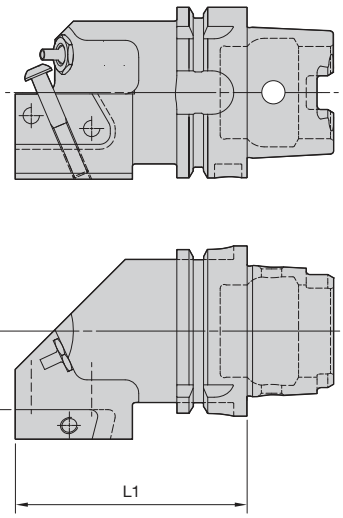


ERICKSON

SVVB 45° • Centerline

order number	catalog number	F	L1	gage insert	insert screw	shim	shim screw	kg
3897472	HSK63TSVVBN11115	0	115	VB..110304/VB..221	MS1153	–	–	1,41
3897471	HSK63TSVVBN16115	0	115	VB..160408/VB..332	MS1156	SKVN343	SRS3	1,41

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.



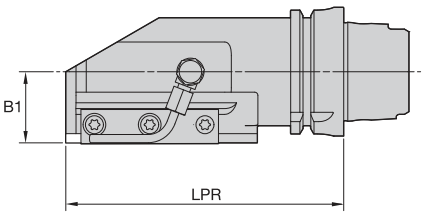


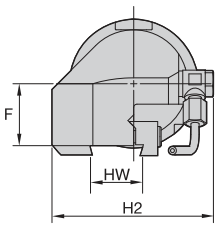
ERICKSON™

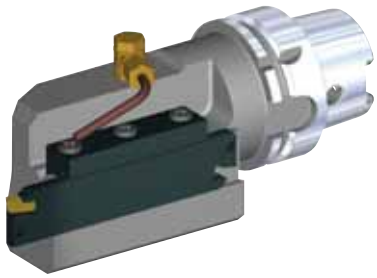
KGMS • Side Mount

order number	catalog number	F mm	F in	L1 mm	L1 in	cartridge size	blade screw	nozzle	clamp screw	kg
	right hand									
3897561	HSK63TKGMSR50	29,00	1.142	85,50	3.366	50	MS1162	PMT04526	MS2002	1,49
	left hand									
3897562	HSK63TKGMSL50	29,00	1.142	85,50	3.366	50	MS1162	PMT04526	MS2002	1,49

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.
For A3/A4 modular blades, see the Kennametal Innovations Master Catalog Cutting 2013.
Right-hand cutting units use right hand blades.







ERICKSON

BS • Side Mount

order number	catalog number	B1	F	H2	HW	LPR	cartridge size	cartridge 1	kg
	right hand								
3897571	HSK63TBSR4	35	30	79	26	136	26	A2BNSN26...	2,74
3897573	HSK63TBSR5	45	39	84	32	157	32	A2BNSN32...	3,86
	left hand								
3897572	HSK63TBSL4	35	30	79	26	136	26	A2BNSN26...	2,74
3897574	HSK63TBSL5	45	39	84	32	157	32	A2BNSN32...	3,86

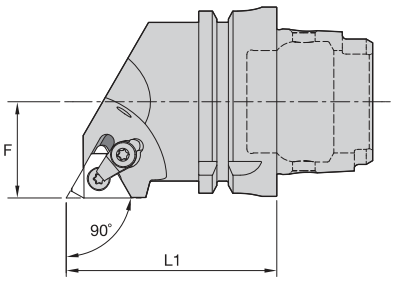
Spare Parts

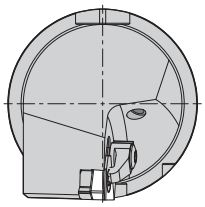


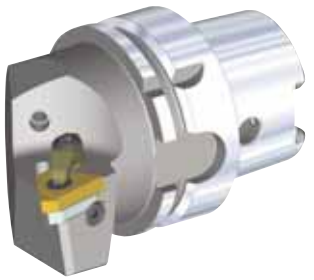



catalog number	clamp	clamp screw	coolant tube	coolant swivel base
right hand				
HSK63TBSR4	CGS4	MS1595	12649910900	12649910800
HSK63TBSR5	CGS5	MS1595	12649910900	12649910800
left hand				
HSK63TBSL4	CGS4	MS1595	12649910900	12649910800
HSK63TBSL5	CGS5	MS1595	12649910900	12649910800

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.
For A2 blades, see the Kennametal Innovations Master Catalog Cutting Tools 2013.







ERICKSON

■ LSS 90°

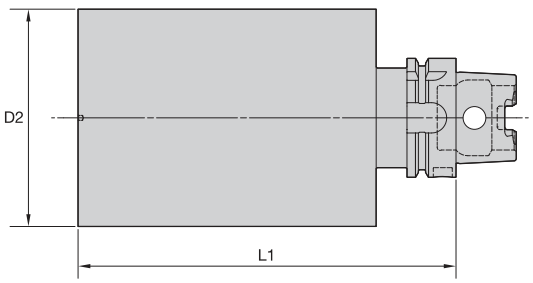





order number	catalog number	F	L1	gage insert	insert screw	shim screw	shim	clamp assembly	kg
	right hand								
3897556	**HSK63TLSSR16**	32	70	LT16ER	**SSA3T**	**SSY3T**	**SMYE3**	**CKC3**	1,12
3897558	**HSK63TLSSR22**	32	70	LT22ER	**SSA4T**	**SSY4T**	**SMYE4**	**CKC4**	1,11
	left hand								
3897557	**HSK63TLSSL16**	32	70	LT16EL	**SSA3T**	**SSY3T**	**SMYI3**	**CKC3**	1,12
3897559	**HSK63TLSSL22**	32	70	LT22EL	**SSA4T**	**SSY4T**	**SMYI4**	**CKC4**	1,11

NOTE: Cutting units are supplied with insert screw and clamp assembly. However, tools are designed to use either the insert screw or the clamp assembly, not both.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Machinable front 32–38 RW C.



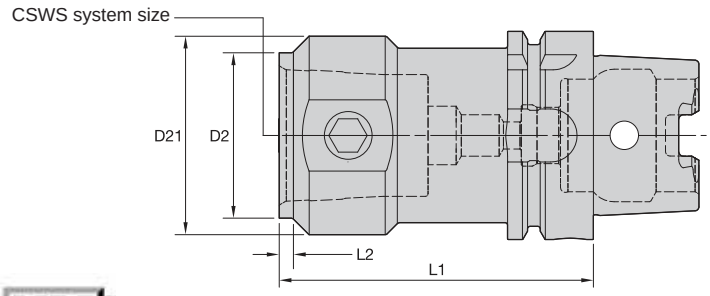


ERICKSON

■ BN

order number	catalog number	D2 mm	D2 in	L1 mm	L1 in	kg
3897546	**HSK63TBN115200M**	115,00	4.528	200,00	7.874	13,74

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.





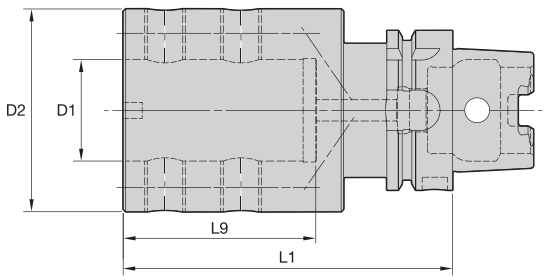
KM QUICK CHANGE

ERICKSON

HSK63T to KM

order number	catalog number	CSWS system size	D2	D21	L1	L2	Nm	KM spare parts package	kg
3387620	**HSK63TKM40070M**	KM40	40	48	70	4,000	12-16	**KM40PKG3L**	1,13
3895298	**HSK63TKM50095M**	KM50	50	60	95	4,000	27-37	**KM50PKG3L**	1,74
3892899	**HSK63TKM63105M**	KM63	63	76	105	4,000	47-54	**KM63PKG3L**	2,54

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.
For torque wrench, see page L52–L53.



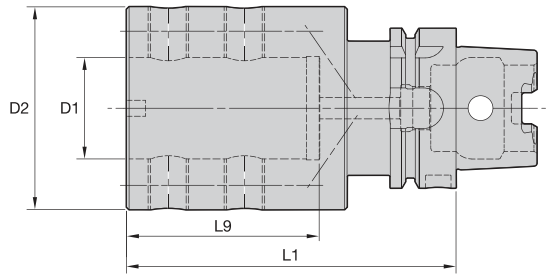


ERICKSON

BA Boring Bar Adapter • Internal and External Coolant • Metric

order number	catalog number	D1	D2	L1	L9	nozzle	Nm	clamp screw	kg
3892897	**HSK63TBA40130M**	40	80	130	76	**PWZ1012**	125	**MS1947**	3,52

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.
For bushings, see page A570.







ERICKSON

BA Boring Bar Adapter • Internal and External Coolant • Inch





order number	catalog number	D1	D2	L1	L9	nozzle	ft. lbs.	clamp screw	kg
3892898	**HSK63TBA150512**	1.500	3.150	5.118	2.992	**PWZ1012**	90	**MS1947**	3,58

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.
For bushings, see page A570.

TG&C • The Latest Metalcutting Innovations

Our latest metalcutting innovations are designed to deliver higher productivity, longer tool life, and increased application versatility.

A2™ — Cut-Off

- The cutting edge has a molded-in chipbreaker ramp to direct chips away from the blade, extending blade life.
- Fixed insert stop ensures solid seating with every index and delivers up to 30% longer life.

A3™ — Deep Grooving

- Designed for deep grooving.
- Reach deeper depths while maintaining chip control and tool rigidity.

A4™ — Grooving

- One tool for turning, facing, grooving, face-grooving, and cut-off in O.D. and I.D. applications — that means exceptionally fast cycle times, no turret indexes!
- Precise insert positioning is ensured — for accurate cuts!

Top Notch™

- Rigid clamping securely locks insert in place through the toughest cuts.
- Chip control inserts provide excellent chip evacuation in grooving and offer better chip control in multi-directional turning.



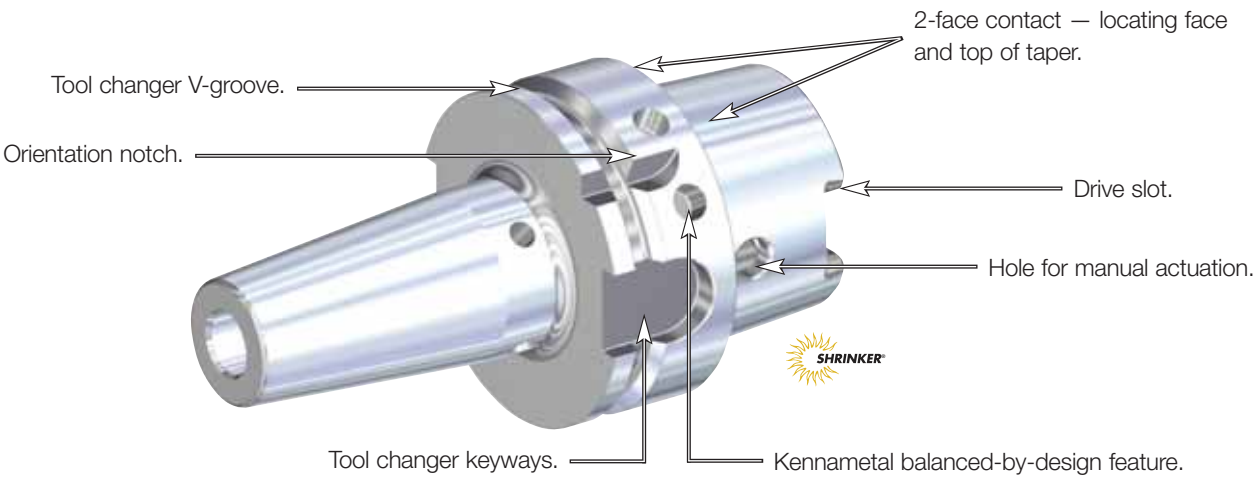
ERICKSON™ HSK Shank Tooling System • HSK63A Series

Primary Application

ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form A versions are generally used in machining centers and milling machines with automatic tool changers.
The HSK63A tools are either pre-balanced to a high specification or balanced-by-design. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, coolant tubes, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjuction with tooling design and safety limits factored as a complete system.

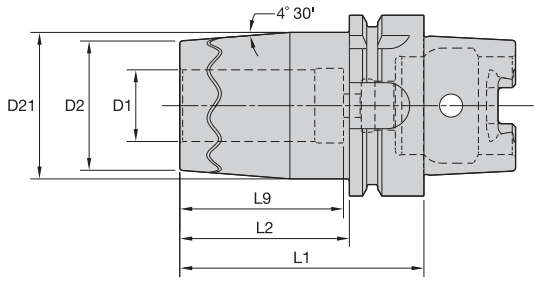
Features and Benefits

- ISO 12164-1/DIN 69893-1 Form A 1:10 short taper.
- High axial and radial repeatability compared to CAT, BT, and DV V-flange 7/24 taper tooling.
- Maximum 100 bar (1,500 psi) coolant pressure.



- **SAFE-LOCK™**, innovative and unique non-slip system.
- Suitable for carbide and HSS cutting tools.
- Need ≥ 10 kW shrink unit.







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameter	tolerance
7/16, 1/2, 9/16, & 5/8	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

ERICKSON

TT SF MM-HSK Form A

order number	catalog number	D1	D2	D21	L1	L2	L9	kg
5090218	HSK63ASFTT12070M	12	27	33	70	44	46	0,84
5090219	HSK63ASFTT14075M	14	30	37	75	49	48	0,91
5090220	HSK63ASFTT16075M	16	30	37	75	49	49	0,89
5090221	HSK63ASFTT18075M	18	36	43	75	49	49	1,00
5090222	HSK63ASFTT20075M	20	36	43	75	49	49	0,97
5090223	HSK63ASFTT25085M	25	45	51	85	59	57	1,27
5090224	HSK63ASFTT32085M	32	45	51	85	59	59	1,12

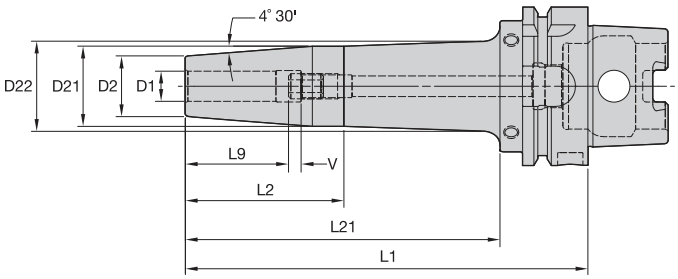
TT SF IN-HSK Form A

order number	catalog number	D1	D2	D21	L1	L2	L9	lbs
5090233	HSK63ASFTT050276	1/2	1.04	1.32	2.76	1.73	1.81	1.84
5090234	HSK63ASFTT062295	5/8	1.16	1.47	2.95	1.93	1.93	1.96
5090235	HSK63ASFTT075295	3/4	1.40	1.70	2.95	1.93	1.93	2.16
5090236	HSK63ASFTT100335	1	1.77	2.01	3.35	2.32	2.24	2.78
5090237	HSK63ASFTT125335	1 1/4	1.77	2.01	3.35	2.32	2.32	2.49

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Shrink Fit accessories, see pages L12–L13.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
3	h4	0,000/-0,003
4	h4	0,000/-0,004
5	h5	0,000/-0,005
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT GP HPV MM-HSK Form A



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3866567	HSK63AHPVTT03080M	3	9	15	—	80	45	—	14	10,0	TTSS05014M	2,5mm	0,81
3866576	HSK63AHPVTT04080M	4	9	15	—	80	45	—	15	10,0	TTSS05014M	2,5mm	0,81
3866577	HSK63AHPVTT05080M	5	9	15	—	80	45	—	15	10,0	TTSS06014M	3mm	0,81
3866568	HSK63AHPVTT06080M	6	21	27	—	80	54	—	26	10,0	TTSS05014M	2,5mm	0,83
3866569	HSK63AHPVTT06120M	6	21	27	—	120	85	—	26	10,0	TTSS05014M	2,5mm	1,09
3866570	HSK63AHPVTT06160M	6	21	27	32	160	50	125	26	10,0	TTSS05014M	2,5mm	1,33
3866571	HSK63AHPVTT08080M	8	21	27	—	80	54	—	26	10,0	TTSS06014M	3mm	0,82
3866572	HSK63AHPVTT08120M	8	21	27	—	120	85	—	26	10,0	TTSS06014M	3mm	1,09
3866573	HSK63AHPVTT08160M	8	21	27	32	160	50	125	26	10,0	TTSS06014M	3mm	1,32
3866574	HSK63AHPVTT10085M	10	24	32	—	85	59	—	31	10,0	TTSS08014M	4mm	0,90
3866575	HSK63AHPVTT10120M	10	24	32	—	120	85	—	31	10,0	TTSS08014M	4mm	1,19
3866581	HSK63AHPVTT10160M	10	24	32	36	160	63	125	31	10,0	TTSS08014M	4mm	1,48
3866582	HSK63AHPVTT12090M	12	24	32	—	90	64	—	36	10,0	TTSS10014M	5mm	0,91
3866683	HSK63AHPVTT12120M	12	24	32	—	120	85	—	36	10,0	TTSS10014M	5mm	1,18
3866684	HSK63AHPVTT12160M	12	24	32	36	160	63	125	36	10,0	TTSS10014M	5mm	1,47
3866685	HSK63AHPVTT14090M	14	27	34	—	90	64	—	36	10,0	TTSS10014M	5mm	0,96
3866686	HSK63AHPVTT14120M	14	27	34	—	120	85	—	36	10,0	TTSS10014M	5mm	1,25
3866687	HSK63AHPVTT14160M	14	27	34	39	160	57	125	36	10,0	TTSS10014M	5mm	1,58
3866688	HSK63AHPVTT16095M	16	27	34	—	95	69	—	39	10,0	TTSS12014M	6mm	0,97
3866689	HSK63AHPVTT16120M	16	27	34	—	120	85	—	39	10,0	TTSS12014M	6mm	1,22
3866690	HSK63AHPVTT16160M	16	27	34	39	160	57	125	39	10,0	TTSS12014M	6mm	1,56
3866691	HSK63AHPVTT18095M	18	33	42	—	95	69	—	39	10,0	TTSS12014M	6mm	1,14
3866692	HSK63AHPVTT18120M	18	33	42	—	120	85	—	39	10,0	TTSS12014M	6mm	1,45
3866693	HSK63AHPVTT18160M	18	33	42	46	160	69	125	39	10,0	TTSS12014M	6mm	1,92
3866694	HSK63AHPVTT20100M	20	33	42	—	100	74	—	41	10,0	TTSS16014M	8mm	1,16
3866695	HSK63AHPVTT20120M	20	33	42	—	120	85	—	41	10,0	TTSS16014M	8mm	1,42
3866696	HSK63AHPVTT20160M	20	33	42	46	160	69	125	41	10,0	TTSS16014M	8mm	1,89
3866697	HSK63AHPVTT25115M	25	44	53	—	115	89	—	47	10,0	TTSS16014M	8mm	1,74
3866698	HSK63AHPVTT25160M	25	44	53	—	160	134	—	47	10,0	TTSS16014M	8mm	2,49
3866699	HSK63AHPVTT32120M	32	44	53	—	120	94	—	51	10,0	TTSS16014M	8mm	1,66
3866700	HSK63AHPVTT32160M	32	44	53	—	160	134	—	51	10,0	TTSS16014M	8mm	2,32

(continued)

(TT GP HPV continued)

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameter	tolerance
1/4, 5/16, & 3/8	.0000/-.0004
7/16, 1/2, 9/16, & 5/8	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT GP HPV IN-HSK Form A

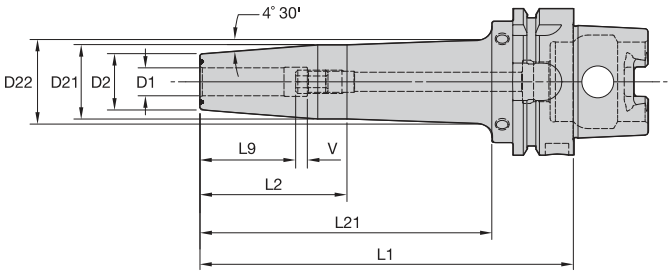


order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	lbs
3864077	**HSK63AHPVTT025315**	1/4	.83	1.06	—	3.15	2.13	—	1.02	.39	**TTSS05014M**	2,5mm	1.82
3864078	**HSK63AHPVTT025472**	1/4	.83	1.06	—	4.72	3.35	—	1.02	.39	**TTSS05014M**	2,5mm	2.41
3864079	**HSK63AHPVTT025630**	1/4	.83	1.06	1.27	6.30	1.97	4.92	1.02	.39	**TTSS05014M**	2,5mm	2.92
3864080	**HSK63AHPVTT031315**	5/16	.83	1.06	—	3.15	2.13	—	1.02	.39	**TTSS06014M**	3mm	1.81
3864081	**HSK63AHPVTT031472**	5/16	.83	1.06	—	4.72	3.35	—	1.02	.39	**TTSS06014M**	3mm	2.40
3864082	**HSK63AHPVTT031630**	5/16	.83	1.06	1.27	6.30	1.97	4.92	1.02	.39	**TTSS06014M**	3mm	2.91
3864083	**HSK63AHPVTT038335**	3/8	.94	1.24	—	3.35	2.32	—	1.22	.39	**TTSS08014M**	4mm	1.98
3864084	**HSK63AHPVTT038472**	3/8	.94	1.26	—	4.72	3.35	—	1.22	.39	**TTSS08014M**	4mm	2.64
3864085	**HSK63AHPVTT038630**	3/8	.94	1.26	1.43	6.30	2.48	4.92	1.22	.39	**TTSS08014M**	4mm	3.28
3864086	**HSK63AHPVTT044354**	7/16	.94	1.26	—	3.54	2.52	—	1.42	.39	**TTSS10014M**	5mm	2.02
3864087	**HSK63AHPVTT044472**	7/16	.94	1.26	—	4.72	3.35	—	1.42	.39	**TTSS10014M**	5mm	2.61
3864088	**HSK63AHPVTT050354**	1/2	.94	1.26	—	3.54	2.52	—	1.42	.39	**TTSS10014M**	5mm	2.00
3864089	**HSK63AHPVTT050472**	1/2	.94	1.26	—	4.72	3.35	—	1.42	.39	**TTSS10014M**	5mm	2.59
3864090	**HSK63AHPVTT050630**	1/2	.94	1.26	1.43	6.30	2.48	4.92	1.42	.39	**TTSS10014M**	5mm	3.23
3864091	**HSK63AHPVTT056354**	9/16	1.06	1.33	—	3.54	2.52	—	1.42	.39	**TTSS10014M**	5mm	2.11
3864092	**HSK63AHPVTT062374**	5/8	1.06	1.33	—	3.74	2.72	—	1.54	.39	**TTSS12014M**	6mm	2.14
3864093	**HSK63AHPVTT062472**	5/8	1.06	1.33	—	4.72	3.35	—	1.54	.39	**TTSS12014M**	6mm	2.70
3864094	**HSK63AHPVTT062630**	5/8	1.06	1.33	1.52	6.30	2.24	4.92	1.54	.39	**TTSS12014M**	6mm	3.44
3864095	**HSK63AHPVTT075394**	3/4	1.30	1.65	—	3.94	2.92	—	1.61	.39	**TTSS16014M**	8mm	2.59
3864096	**HSK63AHPVTT075630**	3/4	1.30	1.65	1.80	6.30	2.72	4.92	1.61	.39	**TTSS16014M**	8mm	4.19
3864097	**HSK63AHPVTT088394**	7/8	1.30	1.65	—	3.94	2.92	—	1.61	.39	**TTSS16014M**	8mm	2.50
3864098	**HSK63AHPVTT088630**	7/8	1.30	1.65	1.80	6.30	2.72	4.92	1.61	.39	**TTSS16014M**	8mm	4.10
3864099	**HSK63AHPVTT100453**	1	1.73	2.07	—	4.53	3.51	—	1.85	.39	**TTSS16014M**	8mm	3.82
3864100	**HSK63AHPVTT100630**	1	1.73	2.07	—	6.30	5.28	—	1.85	.39	**TTSS16014M**	8mm	5.46
3864101	**HSK63AHPVTT125472**	1 1/4	1.73	2.07	—	4.72	3.70	—	2.01	.39	**TTSS16014M**	8mm	3.67
3864102	**HSK63AHPVTT125630**	1 1/4	1.73	2.07	—	6.30	5.28	—	2.01	.39	**TTSS16014M**	8mm	5.13

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT HT HPV MM-HSK Form A



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3867178	HSK63AHPVTTHT12090M	12	24	32	—	90	64	—	36	10,00	TTSS10014M	5mm	0,91
3867179	HSK63AHPVTTHT12120M	12	24	32	—	120	85	—	36	10,00	TTSS10014M	5mm	1,18
3867180	HSK63AHPVTTHT12160M	12	24	32	36	160	63	125	36	10,00	TTSS10014M	5mm	1,47
3867181	HSK63AHPVTTHT14090M	14	27	34	—	90	64	—	36	10,00	TTSS10014M	5mm	0,96
3867182	HSK63AHPVTTHT14120M	14	27	34	—	120	85	—	36	10,00	TTSS10014M	5mm	1,25
3867193	HSK63AHPVTTHT14160M	14	27	34	36	160	57	125	36	10,00	TTSS10014M	5mm	1,58
3867194	HSK63AHPVTTHT16095M	16	27	34	—	95	69	—	39	10,00	TTSS12014M	6mm	0,97
3867195	HSK63AHPVTTHT16120M	16	27	34	—	120	85	—	39	10,00	TTSS12014M	6mm	1,22
3867196	HSK63AHPVTTHT16160M	16	27	34	39	160	57	125	39	10,00	TTSS12014M	6mm	1,56
3867197	HSK63AHPVTTHT18095M	18	33	42	—	95	69	—	39	10,00	TTSS12014M	6mm	1,14
3867198	HSK63AHPVTTHT18120M	18	33	42	—	120	85	—	39	10,00	TTSS12014M	6mm	1,45
3867199	HSK63AHPVTTHT18160M	18	33	42	46	160	69	125	39	10,00	TTSS12014M	6mm	1,92
3867200	HSK63AHPVTTHT20100M	20	33	42	—	100	74	—	41	10,00	TTSS16014M	8mm	1,16
3867201	HSK63AHPVTTHT20120M	20	33	42	—	120	85	—	41	10,00	TTSS16014M	8mm	1,42
3867202	HSK63AHPVTTHT20160M	20	33	42	46	160	69	125	41	10,00	TTSS16014M	8mm	1,89
3867206	HSK63AHPVTTHT25115M	25	44	53	—	115	89	—	47	10,00	TTSS16014M	8mm	1,74
3867207	HSK63AHPVTTHT25160M	25	44	53	—	160	134	—	47	10,00	TTSS16014M	8mm	2,49
3867208	HSK63AHPVTTHT32120M	32	44	53	—	120	94	—	51	10,00	TTSS16014M	8mm	1,66
3867209	HSK63AHPVTTHT32160M	32	44	53	—	160	134	—	51	10,00	TTSS16014M	8mm	2,32

(continued)

(TT HT HPV continued)

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameter	tolerance
1/2, 9/16, & 5/8	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT HT HPV IN-HSK Form A

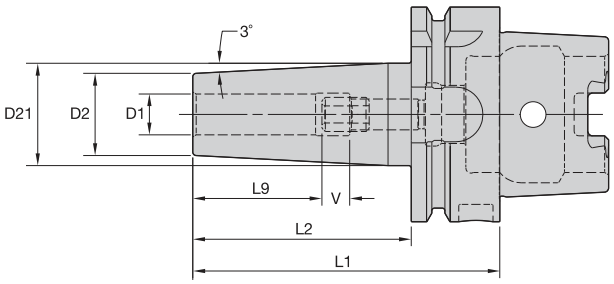


order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	lbs
3872700	**HSK63AHPVTTHT050354**	1/2	.94	1.26	—	3.54	2.52	—	1.42	.39	**TTSS10014M**	5mm	2.00
3872701	**HSK63AHPVTTHT050472**	1/2	.94	1.26	—	4.72	3.35	—	1.42	.39	**TTSS10014M**	5mm	2.59
3872702	**HSK63AHPVTTHT050630**	1/2	.94	1.26	1.43	6.30	2.48	4.92	1.42	.39	**TTSS10014M**	5mm	3.23
3872703	**HSK63AHPVTTHT056354**	9/16	1.06	1.33	—	3.54	2.52	—	1.42	.39	**TTSS10014M**	5mm	2.11
3872704	**HSK63AHPVTTHT062374**	5/8	1.06	1.33	—	3.74	2.72	—	1.54	.39	**TTSS12014M**	6mm	2.14
3872705	**HSK63AHPVTTHT062472**	5/8	1.06	1.33	—	4.72	3.35	—	1.54	.39	**TTSS12014M**	6mm	2.70
3872706	**HSK63AHPVTTHT062630**	5/8	1.06	1.33	1.52	6.30	2.24	4.92	1.54	.39	**TTSS12014M**	6mm	3.44
3872707	**HSK63AHPVTTHT075394**	3/4	1.30	1.65	—	3.94	2.92	—	1.61	.39	**TTSS16014M**	8mm	2.59
3872708	**HSK63AHPVTTHT075630**	3/4	1.30	1.65	1.80	6.30	2.72	4.92	1.61	.39	**TTSS16014M**	8mm	4.19
3872709	**HSK63AHPVTTHT088394**	7/8	1.30	1.65	—	3.94	2.92	—	1.61	.39	**TTSS16014M**	8mm	2.50
3872710	**HSK63AHPVTTHT088630**	7/8	1.30	1.65	1.80	6.30	2.72	4.92	1.61	.39	**TTSS16014M**	8mm	4.10
3872711	**HSK63AHPVTTHT100453**	1	1.73	2.07	—	4.53	3.51	—	1.85	.39	**TTSS16014M**	8mm	3.82
3872712	**HSK63AHPVTTHT100630**	1	1.73	2.07	—	6.30	5.28	—	1.85	.39	**TTSS16014M**	8mm	5.46
3872713	**HSK63AHPVTTHT125472**	1 1/4	1.73	2.07	—	4.72	3.70	—	2.01	.39	**TTSS16014M**	8mm	3.67
3872714	**HSK63AHPVTTHT125630**	1 1/4	1.73	2.07	—	6.30	5.28	—	2.01	.39	**TTSS16014M**	8mm	5.13

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
HSK coolant unit and wrench are available and must be ordered separately, see page L44.

- Suitable for carbide and HSS cutting tools (requirements below).
- Die and mold.







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
5	h5	0,000/-0,005
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12 & 16	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013

ERICKSON

TT MD MM-HSK Form A



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw
1926291	**HSK63ATTMD05080M**	5	10	14,4	80	54	14	10	**TTSS06014M**	3mm
1926292	**HSK63ATTMD06080M**	6	12	16,4	80	54	26	10	**TTSS05014M**	2,5mm
1926293	**HSK63ATTMD08080M**	8	16	20,4	80	54	26	10	**TTSS06014M**	3mm
1926294	**HSK63ATTMD10085M**	10	20	24,9	85	59	31	10	**TTSS08014M**	4mm
1926295	**HSK63ATTMD12090M**	12	24	29,9	90	64	36	10	**TTSS10014M**	5mm
1926296	**HSK63ATTMD16095M**	16	28	33,9	95	69	39	10	**TTSS12014M**	6mm
1926297	**HSK63ATTMD20100M**	20	34	40,9	100	74	41	10	**TTSS16014M**	8mm
1926298	**HSK63ATTMD25115M**	25	39	46,9	115	89	47	10	**TTSS16014M**	8mm

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.



ERICKSON™

Superior Gripping

For bearing milling chucks when grip counts. ERICKSON — the industry name you can trust.

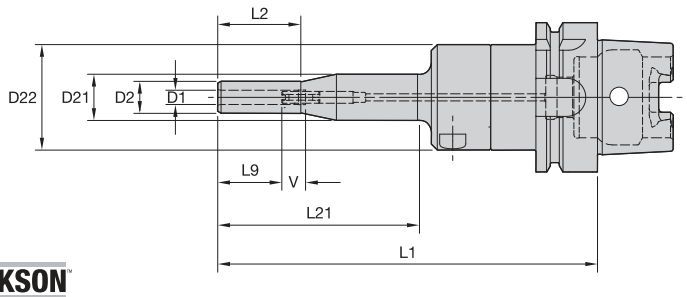
- Heavy and fine milling applications.
- Great accuracy ≤5µm (.0002") at 3 x D and best gripping system.
- Pre-balanced to high specifications.
- Versatile as a collet chuck with the use of reduction sleeves.

Visit **www.kennametal.com** or contact your local Authorized Kennametal Distributor.

www.kennametal.com

KENNAMETAL®







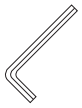
ERICKSON

HC Slim-T MM-HSK Form A

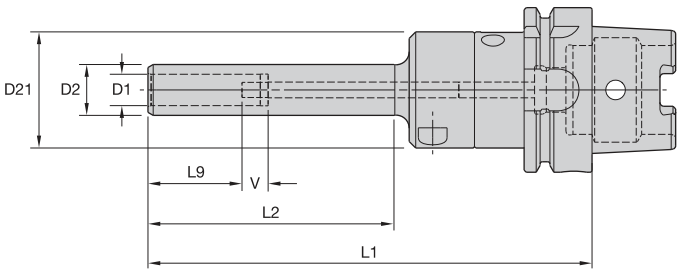
order number	catalog number	D1	D2	D21	D22	L1	L2	L9	L21	V	kg
2639015	**HSK63AHCSLT06160M**	6	13,5	19,5	44	160	35	27	85	10	1,29
2868501	**HSK63AHCSLT08160M**	8	15,5	19,5	44	160	35	27	85	10	1,30
2638477	**HSK63AHCSLT10160M**	10	17,5	44,5	—	160	85	31	—	10	1,29

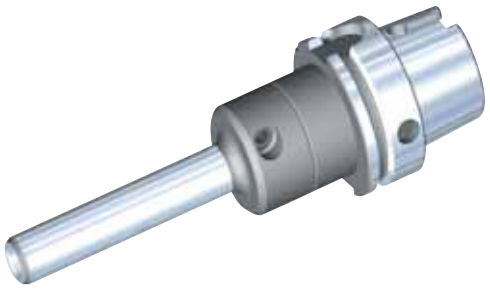
Spare Parts





catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
HSK63AHCSLT06160M	**170.135**	5mm	**170.002**	2,5mm
HSK63AHCSLT08160M	**170.135**	5mm	**170.002**	2,5mm
HSK63AHCSLT10160M	**170.135**	5mm	**170.003**	3mm





HC Slim MM-HSK Form A

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
2458200	**HSK63AHCSL12170M**	12	19,5	44,5	170	95	36	10	1,33
2541833	**HSK63AHCSL14170M**	14	21,5	52,5	170	95	36	10	1,57
2458202	**HSK63AHCSL16170M**	16	23,5	52,5	170	95	39	10	1,59
2541834	**HSK63AHCSL18170M**	18	25,5	52,5	170	95	39	10	1,63
2458203	**HSK63AHCSL20170M**	20	27,5	52,5	170	95	41	10	1,67

(continued)

(HC Slim continued)

Spare Parts





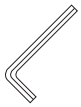
catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
HSK63AHCSL12170M	**170.135**	5mm	**170.002**	2,5mm
HSK63AHCSL14170M	**170.135**	5mm	**170.002**	2,5mm
HSK63AHCSL16170M	**170.135**	5mm	**170.002**	2,5mm
HSK63AHCSL18170M	**170.135**	5mm	**170.002**	2,5mm
HSK63AHCSL20170M	**170.135**	5mm	**170.002**	2,5mm

HC Slim IN-HSK Form A

order number	catalog number	D1	D2	D21	L1	L2	L9	V	lbs
2508159	**HSK63AHCSL050669**	1/2	.81	2.07	6.69	3.74	1.42	.39	3.42
2508160	**HSK63AHCSL075669**	3/4	1.06	2.07	6.69	3.74	1.61	.39	3.68

Spare Parts

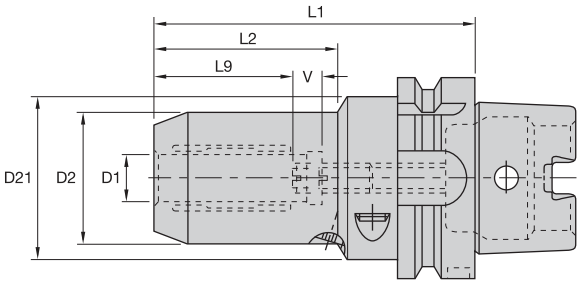




catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
HSK63AHCSL050669	**170.135**	5mm	**170.002**	2,5mm
HSK63AHCSL075669	**170.135**	5mm	**170.002**	2,5mm

NOTE: Do not overtighten actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrenches must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.
Unable to use SEFAS™ chamfering rings on these adapters.



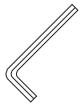




ERICKSON

HC MM-HSK Form A

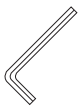




order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	kg
1245440	HSK63AHC06080M	6	25,7	50	80	33	27	10	170.135	5mm	170.002	2,5mm	1,00
1245441	HSK63AHC08080M	8	27,7	50	80	34	27	10	170.135	5mm	170.002	2,5mm	1,10
1245477	HSK63AHC10085M	10	29,7	50	85	39	31	10	170.135	5mm	170.002	2,5mm	1,10
1245478	HSK63AHC12090M	12	31,6	50	90	45	36	10	170.135	5mm	170.002	2,5mm	2,00
1245479	HSK63AHC14090M	14	33,6	50	90	46	36	10	170.135	5mm	170.003	3mm	2,00
1245480	HSK63AHC16095M	16	37,6	50	95	52	39	10	170.135	5mm	170.003	3mm	2,00
1245481	HSK63AHC18095M	18	39,6	50	95	52	39	10	170.135	5mm	170.003	3mm	2,10
1191019	HSK63AHC20100M	20	41,6	50	100	58	41	10	170.135	5mm	170.003	3mm	2,10
1245482	HSK63AHC25120M	25	49,8	63	120	51	47	10	170.136	6mm	170.004	4mm	2,30
1192226	HSK63AHC32125M	32	59,8	63	125	59	51	10	170.136	6mm	170.004	4mm	2,26

HC IN-HSK Form A

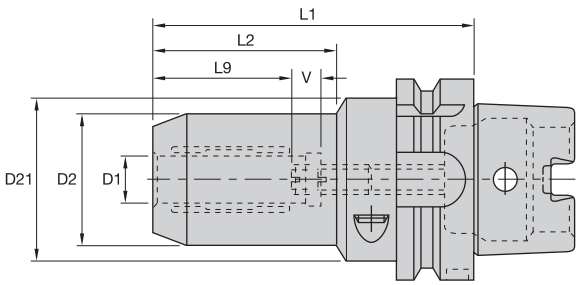




order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	lbs
1246521	HSK63AHC025325	1/4	1.01	1.97	3.25	1.30	1.06	–	170.135	5mm	170.002	2,5mm	2.20
1246525	HSK63AHC038338	3/8	1.17	1.97	3.38	1.54	1.22	–	170.135	5mm	170.002	2,5mm	2.40
1246528	HSK63AHC050350	1/2	1.24	1.97	3.50	1.75	1.42	–	170.135	5mm	170.002	2,5mm	4.40
1246532	HSK63AHC062375	5/8	1.48	1.97	3.75	2.03	1.54	–	170.135	5mm	170.003	3mm	4.40
1246534	HSK63AHC075400	3/4	1.64	1.97	4.00	2.28	1.61	–	170.135	5mm	170.003	3mm	4.60
1246536	HSK63AHC100475	1	1.97	2.48	4.75	2.01	1.81	–	170.136	6mm	170.004	4mm	5.10
1246540	HSK63AHC125500	1 1/4	2.35	2.48	5.00	2.32	1.97	–	170.136	6mm	170.004	4mm	5.30

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Wrenches must be ordered separately.
Supplied with stop screw.
Reduction sleeves are available and must be ordered separately; see page J2.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







ERICKSON

HC Trend MM-HSK Form A

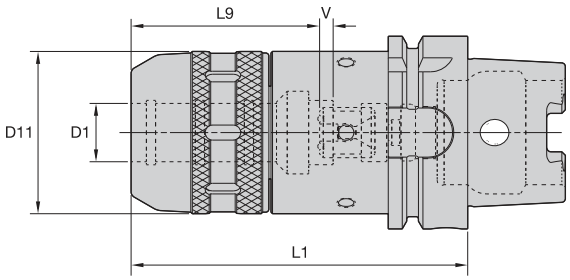


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	wrench size stop screw	kg
1724543	**HSK63AHCT06080M**	6	25,7	50	80	33	27	10	**170.135**	5mm	3mm	1,01
1724615	**HSK63AHCT06150M**	6	25,7	50	150	105	27	10	**170.135**	5mm	3mm	1,27
1724544	**HSK63AHCT08080M**	8	27,7	50	80	34	27	10	**170.135**	5mm	3mm	1,03
1724657	**HSK63AHCT08150M**	8	27,7	50	150	105	27	10	**170.135**	5mm	3mm	1,33
1724545	**HSK63AHCT10085M**	10	29,7	50	85	39	31	10	**170.135**	5mm	3mm	1,07
1724658	**HSK63AHCT10150M**	10	29,7	50	150	105	31	10	**170.135**	5mm	3mm	1,40
1724546	**HSK63AHCT12090M**	12	31,6	50	90	45	36	10	**170.135**	5mm	3mm	1,10
1724660	**HSK63AHCT12150M**	12	31,6	50	150	105	36	10	**170.135**	5mm	3mm	1,46
1724547	**HSK63AHCT14090M**	14	33,6	50	90	46	36	10	**170.135**	5mm	5mm	1,12
1724761	**HSK63AHCT14150M**	14	33,6	50	150	105	36	10	**170.135**	5mm	5mm	1,51
1724548	**HSK63AHCT16095M**	16	37,6	50	95	52	39	10	**170.135**	5mm	5mm	1,22
1724763	**HSK63AHCT16150M**	16	37,6	50	150	105	39	10	**170.135**	5mm	5mm	1,68
1724550	**HSK63AHCT18095M**	18	39,6	50	95	52	39	10	**170.135**	5mm	5mm	1,25
1724764	**HSK63AHCT18150M**	18	39,6	50	150	105	39	10	**170.135**	5mm	5mm	1,76
1724611	**HSK63AHCT20100M**	20	41,6	50	100	58	41	10	**170.135**	5mm	5mm	1,32
1724765	**HSK63AHCT20150M**	20	41,6	50	150	105	41	10	**170.135**	5mm	5mm	1,84
1724612	**HSK63AHCT25120M**	25	49,8	63	120	51	47	10	**170.136**	6mm	5mm	2,00
1724613	**HSK63AHCT32125M**	32	59,8	63	125	59	51	10	**170.136**	6mm	5mm	2,59

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Wrenches must be ordered separately.
Supplied with stop screw.
Reduction sleeves are available and must be ordered separately; see page J2.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- Balanceable — fine tune with set screws.
- Heavy and fine capabilities.







ERICKSON

HPMC MM-HSK Form A




order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	kg
3100547	**HSK63AHPMC20110M**	20	53	110	56	10	**PSW52M**	**MCSS16018M**	2,5mm & 5mm	1,77
3100548	**HSK63AHPMC32120M**	32	70	120	66	10	**PSW68M**	**MCSS16018M**	2,5mm & 5mm	2,61

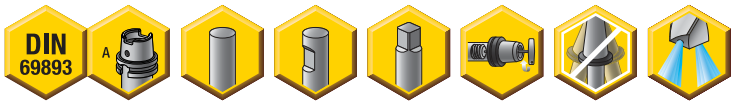
HPMC IN-HSK Form A

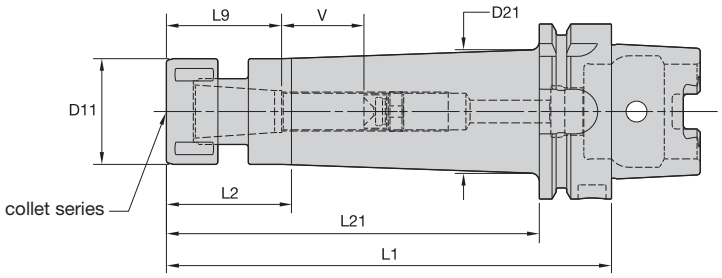



order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	lbs
3100544	**HSK63AHPMC075433**	3/4	2.09	4.33	2.20	.39	**PSW52M**	**MCSS16018M**	2,5mm & 5mm	3.90
3100545	**HSK63AHPMC100472**	1	2.40	4.72	2.60	.39	**PSW58M**	**MCSS16018M**	2,5mm & 5mm	5.30
3100546	**HSK63AHPMC125472**	1 1/4	2.76	4.72	2.56	.39	**PSW68M**	**MCSS16018M**	2,5mm & 5mm	5.70

NOTE: Milling chuck technical section, see page M88.
Supplied with locknut and stop screw.
Locknut wrench not included.
Optional M6~1,0P fine-balancing screw set is available (order number HPMCBALSCREWSET) and must be ordered separately; see page L14.
Reduction sleeves are available and must be ordered separately; see page J6.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.
Heavy milling with locknut tightened to face stop.
Fine milling with locknut tightened to face stop then back off a 1/2 turn.

• Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG50	1,1	13,5	1/32	17/32
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

ERICKSON

TG Round-HSK Form A

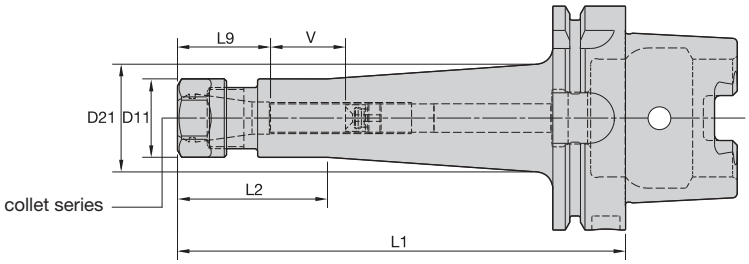


order number	catalog number	collet series	D11	D21	L1	L2	L21	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	stop screw cone cap	kg
1119347	**HSK63ATG050100M**	TG50	38	—	100	74	—	42	12	**LNA050M**	**HSW34M**	68	**SS056041G**	4mm & 5/32	**SSCC056**	1,14
1086567	**HSK63ATG050160M**	TG50	38	44,5	160	41	134	42	58	**LNA050M**	**HSW34M**	68	**SS056041G**	4mm & 5/32	**SSCC056**	1,75
1086568	**HSK63ATG075115M**	TG75	50	—	115	89	—	54	13	**LNA075M**	**HSW45M**	136	**SS081041G**	4mm & 5/32	**SSCC081**	1,65
1086559	**HSK63ATG100135M**	TG100	60	—	135	109	—	70	12	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	**SSCC112**	2,05

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Grip (2:1 advantage).







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON™

ER Hex-HSK Form A

order number	catalog number	collet series	D11	D21	L1	L2	L9	V	kg
1086425	**HSK63AER16100M**	ER16	28	—	100	74	32	24	0,90
1086426	**HSK63AER16160M**	ER16	28	45	160	85	32	48	1,32
1086427	**HSK63AER20100M**	ER20	34	—	100	68	36	17	1,03

Spare Parts

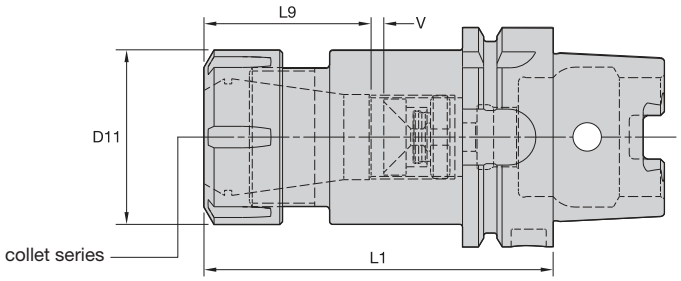





catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw	stop screw cone cap
HSK63AER16100M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32	**SSCC044**
HSK63AER16160M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32	**SSCC044**
HSK63AER20100M	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32	**SSCC056**

(continued)

(ER continued)





ER Round-HSK Form A

order number	catalog number	collet series	D11	L1	L9	V	kg
1086855	**HSK63AER25100M**	ER25	42	100	40	12	1,18
1086566	**HSK63AER32100M**	ER32	50	100	45	4	1,37
1086856	**HSK63AER40120M**	ER40	63	120	54	15	1,80

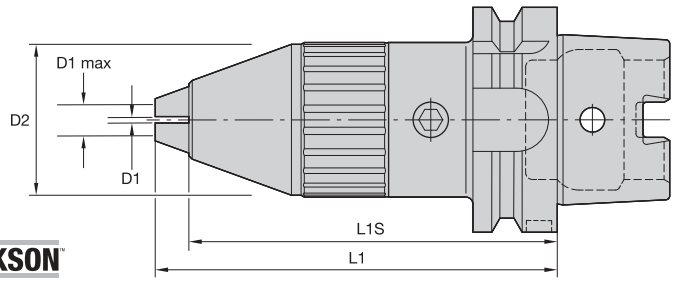
Spare Parts






catalog number	locknut	wrench	Nm	stop screw	wrench size stop screw	stop screw cone cap
HSK63AER25100M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32	**SSCC075**
HSK63AER32100M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32	**SSCC094**
HSK63AER40120M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32	**SSCC112**

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.





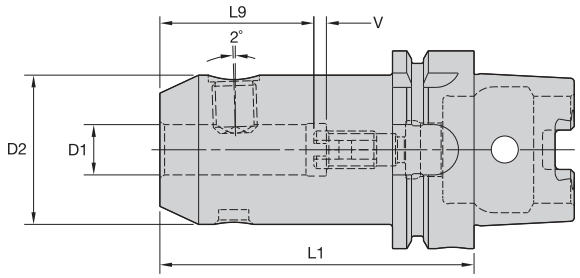


ERICKSON

DC-HSK Form A

order number	catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D2	L1	L1S
2636451	**HSK63ADC13117M**	0,5	.020	13,0	.512	50	126	117
2636452	**HSK63ADC16117M**	3,0	.118	16,0	.630	52	127	117

NOTE: Tighten to the recommended tightening torque.
4mm locking wrench must be ordered separately; order number 170.304.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







ERICKSON

WN MM-HSK Form A

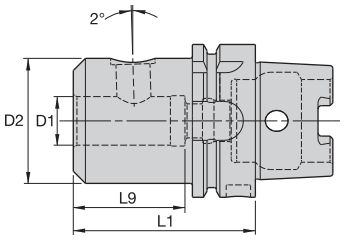




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size clamp screw	Nm	stop screw	wrench size stop screw	kg
1126142	**HSK63AWN06080M**	6	25	80	30	10	**SS03M012**	3mm	7	**571.060**	2,5mm	0,82
1126151	**HSK63AWN08080M**	8	28	80	30	10	**SS03M014**	4mm	15	**571.067**	3mm	0,86
1126161	**HSK63AWN10080M**	10	35	80	35	7	**SS03M018**	5mm	25	**571.068**	4mm	1,00
1126168	**HSK63AWN12090M**	12	42	90	40	7	**SS03M023**	6mm	35	**571.074**	5mm	1,23
1126178	**HSK63AWN14090M**	14	44	90	40	8	**SS03M023**	6mm	35	**571.074**	5mm	1,28
1126187	**HSK63AWN16100M**	16	48	100	43	10	**SS03M025**	6mm	50	**571.069**	6mm	1,53
1130396	**HSK63AWN18100M**	18	50	100	43	10	**SS03M025**	6mm	50	**571.069**	6mm	1,59
1126205	**HSK63AWN20100M**	20	52	100	45	8	**SS03M026**	8mm	95	**571.076**	6mm	1,65
1126220	**HSK63AWN25110M**	25	65	110	50	9	**SS03M027**	10mm	135	**571.077**	6mm	2,31
1126230	**HSK63AWN32110M**	32	72	110	54	9	**SS03M029**	10mm	160	**571.077**	6mm	2,55

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw and stop screw.
Clamp screw or stop screw wrenches not included.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.





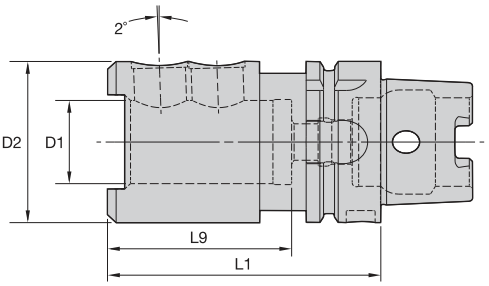


ERICKSON

SWN MM-HSK Form A



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1254119	**HSK63ASWN20075M**	20	50	75	48	**SS03M026**	8mm	95	3,00
1254120	**HSK63ASWN25080M**	25	55	80	48	**SS03M023**	6mm	35	2,90





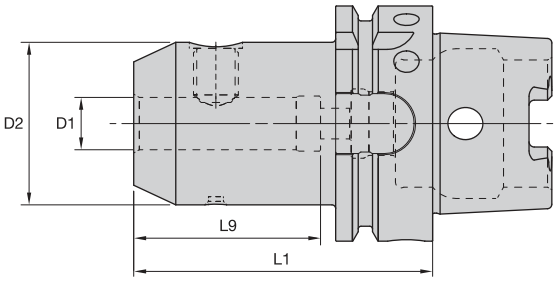
SWN MM • With Drive • HSK Form A



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1254121	**HSK63ASWN32090M**	32	62	90	66	**SS03M023**	6mm	35	1,67

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrenches not included.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.





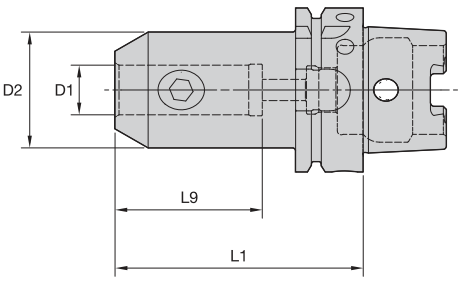


ERICKSON

EM MM-HSK Form A



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size clamp screw	Nm	kg
1125914	HSK63AEM06065M	6	25	65	43	SS03M012	3mm	7	0,76
1125924	HSK63AEM08065M	8	28	65	40	SS03M014	4mm	15	0,79
1125931	HSK63AEM10065M	10	35	65	41	SS03M018	5mm	25	0,88
1125940	HSK63AEM12080M	12	42	80	50	SS03M023	6mm	35	1,13
1125951	HSK63AEM14080M	14	44	80	50	SS03M023	6mm	35	1,17
1125958	HSK63AEM16080M	16	48	80	53	SS03M025	6mm	50	1,26
1125987	HSK63AEM18080M	18	50	80	53	SS03M025	6mm	50	1,30
1125997	HSK63AEM20080M	20	52	80	55	SS03M026	8mm	95	1,33
1126005	HSK63AEM25110M	25	65	110	60	SS03M027	10mm	135	2,30
1126012	HSK63AEM32110M	32	72	110	65	SS03M029	10mm	160	2,52





EM IN-HSK Form A

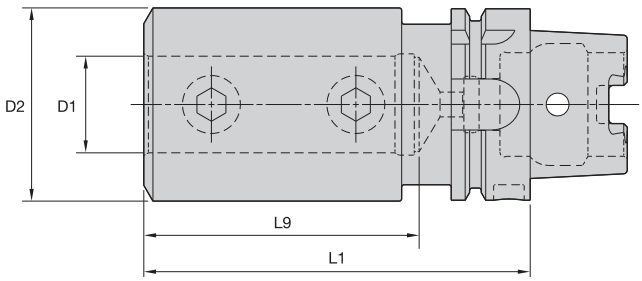


order number	catalog number	D1	D2	L1	L9	lock screw	wrench size clamp screw	ft. lbs.	lbs
1015191	HSK63AEM025300	1/4	1.00	3.00	2.14	ELS025025PKG	1/8	8	1.79
1015192	HSK63AEM038300	3/8	1.00	3.00	1.73	ELS038031PKG	3/16	15	1.76
1015193	HSK63AEM050300	1/2	1.38	3.00	1.97	ELS044038PKG	7/32	20	2.05
1015224	HSK63AEM062375	5/8	1.63	3.75	2.09	ELS056050PKG	1/4	40	2.71
1015225	HSK63AEM075375	3/4	1.75	3.75	2.22	ELS062050PKG	5/16	70	2.85
1015226	HSK63AEM100375	1	2.00	3.75	2.46	ELS075056PKG	3/8	110	3.12
1015227	HSK63AEM125425	1 1/4	2.50	4.25	2.51	ELS075062PKG	3/8	110	4.51

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.
HSK coolant unit and wrench are available and must be ordered separately, see page L44.

• For drill with flats.







ERICKSON

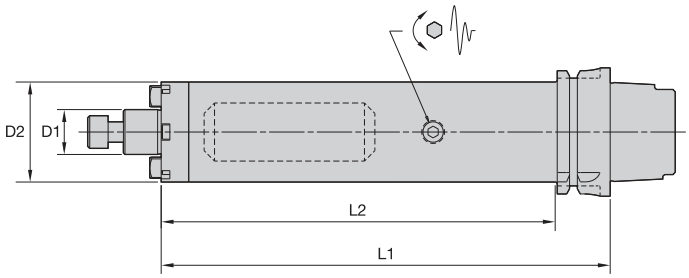
SSF IN-HSK Form A



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1808884	**HSK63ASSF125500**	1 1/4	2.50	5.00	3.50	**ELS075056PKG**	3/8	110	4.99
1809016	**HSK63ASSF150550**	1 1/2	2.75	5.50	4.00	**ELS075056PKG**	3/8	110	5.99

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrenches not included.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







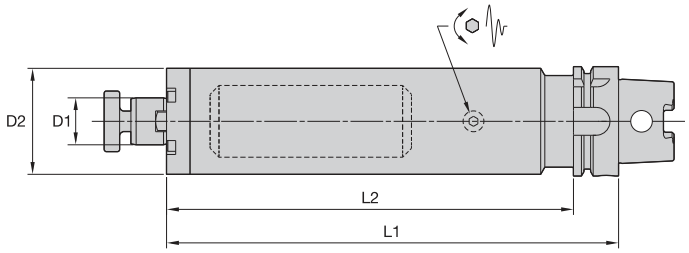
ERICKSON

SMC TD Cap MM-HSK Form A





order number	catalog number	D1	D2	L1	L2	lock screw	drive key	wrench size lock screw	kg
4136192	HSK63ATDSMC22220M	22	49	220	194	MS1234	KDK22M	8mm	3,34



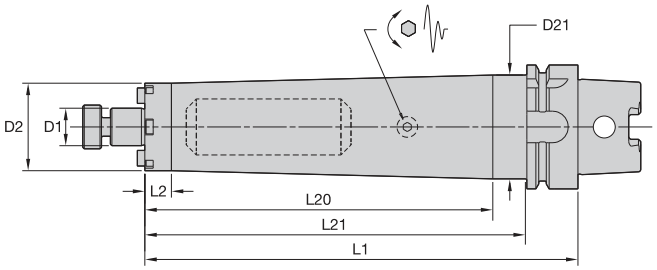


SMC TD Lock MM-HSK Form A





order number	catalog number	D1	D2	L1	L2	lock screw	drive key	wrench size lock screw	kg
4135978	HSK63ATDSMC27260M	27	61	260	234	KLSS27M	—	10mm	5,59





SMC TD Lock IN-HSK Form A

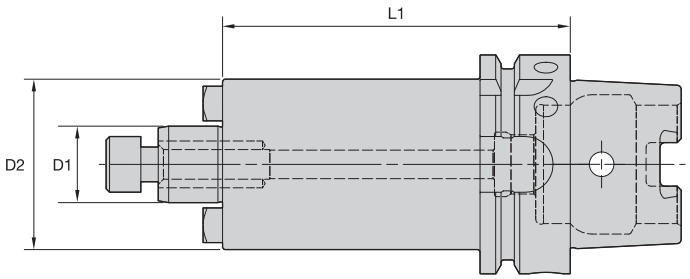




order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	drive key	wrench size lock screw	lbs
4135979	HSK63ATDSMC0750866	3/4	1.75	2.08	8.66	.53	6.96	7.64	KLS07	KDK05	1/4	7.28
4135980	HSK63ATDSMC1001050	1	2.19	—	10.50	9.48	—	—	KLS10	KDK06	5/16	11.06

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For HSK coolant unit and wrench, see page L44.







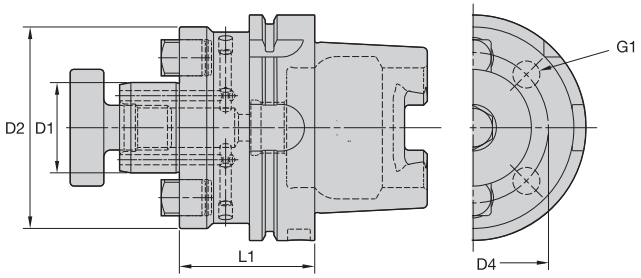
ERICKSON

SMC Cap MM-HSK Form A





order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3872682	HSK63ASM2C16050M	16	38	50	MS1294	KDK16M	6mm	0,88
3872681	HSK63ASMC16050M	16	44	50	MS1294	KDK16M	6mm	0,95
3872684	HSK63ASM2C22050M	22	42	50	MS1234	–	8mm	0,96
3872683	HSK63ASMC22050M	22	49	50	MS1234	KDK22M	8mm	1,05
3872685	HSK63ASMC22100M	22	49	100	MS1234	KDK22M	8mm	1,77
3872686	HSK63ASMC22160M	22	49	160	MS1234	KDK22M	8mm	2,63





SMC Lock MM-HSK Form A

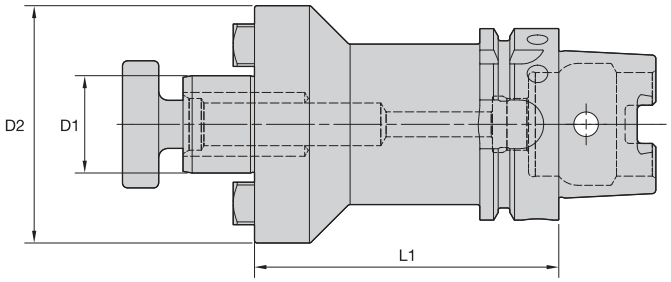


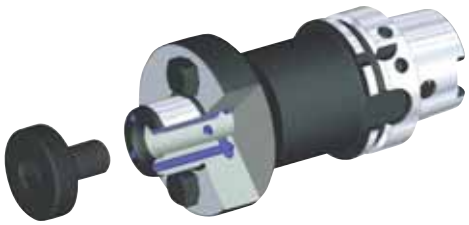


order number	catalog number	D1	D2	D4	G1	L1	lock screw	drive key	wrench size lock screw	kg
3872687	HSK63ASMC27060M	27	60	–	–	60	KLSS27M	KDK27M	10mm	1,42
3872688	HSK63ASMC27100M	27	60	–	–	100	KLSS27M	KDK27M	10mm	2,11
3872689	HSK63ASMC27160M	27	60	–	–	160	KLSS27M	KDK27M	10mm	3,11
3872690	HSK63ASMC32060M	32	78	–	–	60	KLSS32M	KDK32M	14mm	1,77
3872691	HSK63ASMC32100M	32	78	–	–	100	KLSS32M	KDK32M	14mm	2,59
3872692	HSK63ASMC32160M	32	78	–	–	160	KLSS32M	KDK32M	14mm	3,59
3872693	HSK63ASMC40060M	40	89	67	M12X1.75	60	KLSS40M	KDK40M	17mm	2,14
3872694	HSK63ASMC40100M	40	89	67	M12X1.75	100	KLSS40M	KDK40M	17mm	3,18
3872695	HSK63ASMC40160M	40	89	67	M12X1.75	160	KLSS40M	KDK40M	17mm	4,19

(continued)

(SMC continued)





SMC Lock IN-HSK Form A



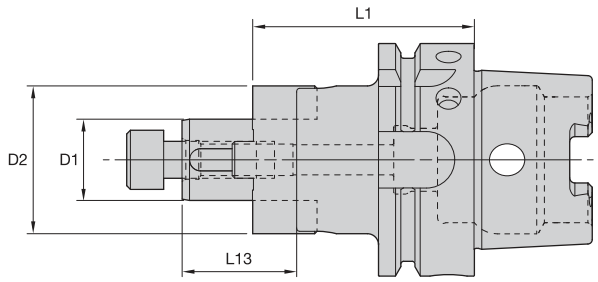


order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	lbs
3762410	**HSK63ASM2C050200**	1/2	1.20	2	**KLS05**	**KDK04**	3/16	1.76
3762409	**HSK63ASMC050200**	1/2	1.44	2	**KLS05**	**KDK04**	3/16	1.89
3762412	**HSK63ASM2C075200**	3/4	1.46	2	**KLS07**	**—**	1/4	1.97
3762411	**HSK63ASMC075200**	3/4	1.75	2	**KLS07**	**KDK05**	1/4	2.17
3762414	**HSK63ASM2C100225**	1	2.19	2	**KLS10**	**KDK06**	5/16	2.83
3762413	**HSK63ASMC100225**	1	2.75	2	**KLS10**	**KDK06**	5/16	3.11
3762415	**HSK63ASMC125225**	1 1/4	2.88	2	**KLS12**	**KDK08**	5/16	3.40
3762416	**HSK63ASMC150225**	1 1/2	3.81	2	**KLS15**	**KDK10**	3/8	4.59

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For HSK coolant unit and wrench, see page L44.

• Through-the-toolholder coolant capability.







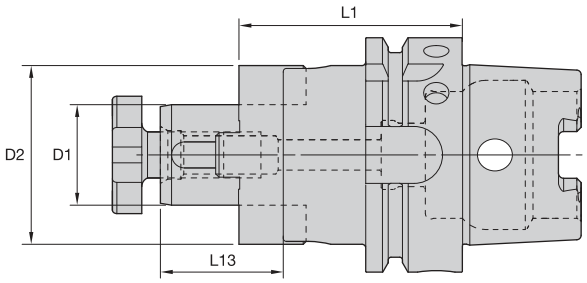
ERICKSON

CS MM-HSK Form A



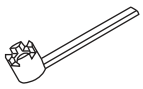


order number	catalog number	D1	D2	L1	L13	lock screw	wrench size lock screw	combi driver ring	combi drive key	kg
1126799	HSK63ACS16060M	16	32	60	27	MS1294	6mm	CDR16M	CDK16M	0,88
1126808	HSK63ACS22060M	22	40	60	31	MS1234	8mm	CDR22M	CDK22M	1,03





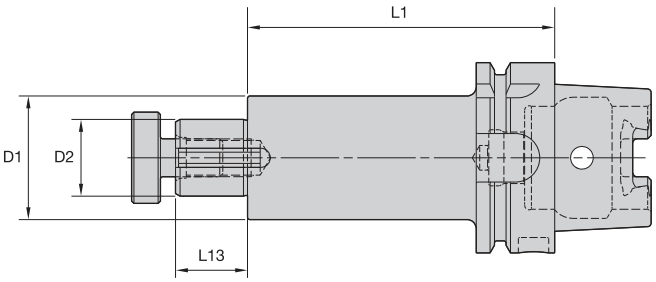
CS Lock MM-HSK Form A



order number	catalog number	D1	D2	L1	L13	lock screw	locknut wrench	combi driver ring	combi drive key	kg
1126816	HSK63ACS27060M	27	48	60	33	KLS27M	SMW27M	CDR27M	CDK27M	1,23
1126823	HSK63ACS32060M	32	58	60	38	KLS32M	SMW32M	CDR32M	CDK32M	1,48
1126829	HSK63ACS40070M	40	70	70	41	KLS40M	SMW40M	CDR40M	CDK40M	2,08

NOTE: Do not overtighten lock screw.
Supplied with lock screw, drive ring, and drive keys.
Lock screw wrench not included.
For HSK coolant unit and wrench, see page L44.





ERICKSON

SA IN-HSK Form A

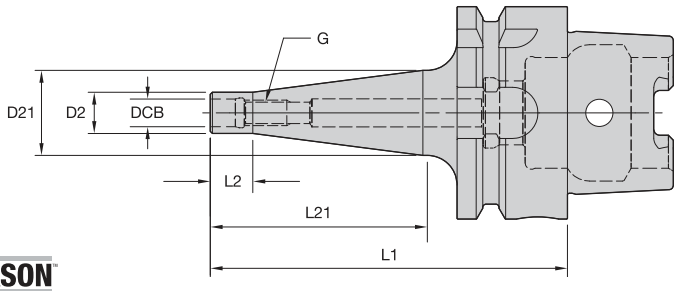


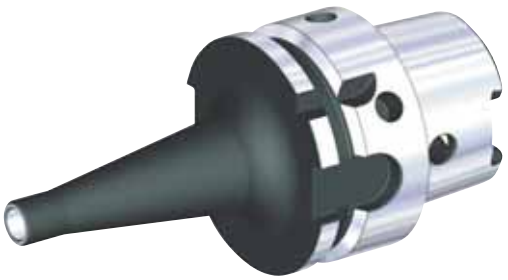


order number	catalog number	D1	D2	L1	L13	lock screw	wrench size lock screw	drive key	lbs
1307823	**HSK63ASA062400**	5/8	1.25	4.00	.78	**KLS07**	1/4	**DWG SDK062088**	2.22
1307824	**HSK63ASA100400**	1	1.61	4.00	.94	**KLS10**	5/16	**DWG SDK100106**	3.09
1307825	**HSK63ASA125400**	1 1/4	1.86	4.00	1.09	**KLS12**	5/16	**DWG SDK125119**	3.97

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive key.
Lock screw wrench not included.
For HSK coolant unit and wrench, see page L44.







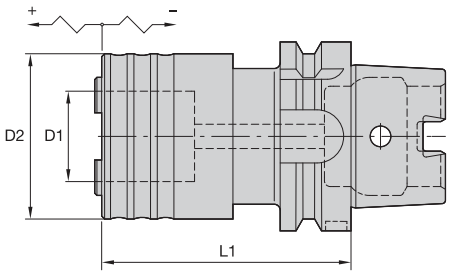
ERICKSON

ST-HSK Form A

order number	catalog number	DCB	G	D2	D21	L1	L2	L21	kg
4061564	HSK63AST06059M	6,5	M6	10	10	59	10	25	0,65
4061565	HSK63AST06084M	6,5	M6	10	20	84	10	50	0,71
4061566	HSK63AST06109M	6,5	M6	10	23	109	10	75	0,77
4061567	HSK63AST08059M	8,5	M8	13	15	59	10	25	0,66
4061568	HSK63AST08084M	8,5	M8	13	23	84	10	50	0,74
4061569	HSK63AST08109M	8,5	M8	13	23	109	10	75	0,78
4061570	HSK63AST08134M	8,5	M8	13	25	134	10	100	0,85
4061571	HSK63AST10059M	10,5	M10	18	20	59	10	25	0,70
4061572	HSK63AST10084M	10,5	M10	18	25	84	10	50	0,78
4061573	HSK63AST10109M	10,5	M10	18	28	109	10	75	0,88
4061574	HSK63AST10134M	10,5	M10	18	30	134	10	100	1,00
4061575	HSK63AST12059M	12,5	M12	21	24	59	10	25	0,72
4061576	HSK63AST12084M	12,5	M12	21	24	84	10	50	0,78
4061577	HSK63AST12109M	12,5	M12	21	31	109	10	75	0,95
4061578	HSK63AST12134M	12,5	M12	21	31	134	10	100	1,05
4061579	HSK63AST16059M	17,0	M16	29	34	59	10	25	0,79
4061580	HSK63AST16084M	17,0	M16	29	34	84	10	50	0,94
4061581	HSK63AST16109M	17,0	M16	29	34	109	10	75	1,09
4061582	HSK63AST16134M	17,0	M16	29	39	134	10	100	1,35

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.
For technical information, see pages M96–M97.

• Rapid Change style.





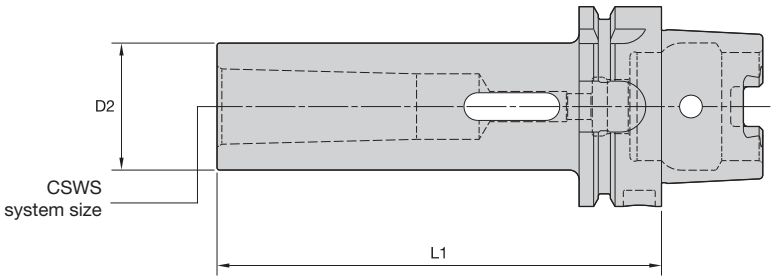
ERICKSON

RC-HSK Form A

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	tension	compression	kg
1520637	**HSK63ACHRC1105M**	1	M1.0 - M14	#0 - 9/16	19	39	105	7,5	7,5	1,30
1520639	**HSK63ACHRC2140M**	2	M4.5 - M24	5/16 - 7/8	31	60	140	10,0	10,0	2,20
1520641	**HSK63ACHRC3203M**	3	M14.0 - M36	13/16 - 1 3/8	48	86	203	17,5	17,5	4,90

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.
For HSK adapters to DIN 69893-1.
Form A or Form C (coolant pipe must be removed).

• Balanced by design.





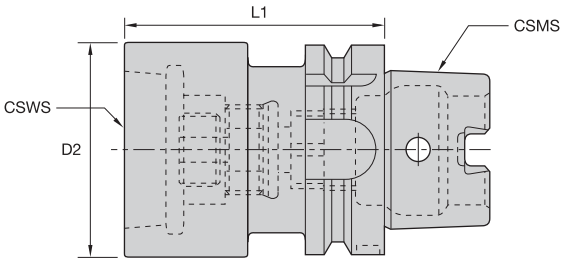
ERICKSON

MT-HSK Form A

order number	catalog number	CSWS system size	D2	L1	kg
1125543	**HSK63AMT1100M**	1	25	100	0,72
1127318	**HSK63AMT2120M**	2	32	120	0,94
1152347	**HSK63AMT3140M**	3	40	140	1,29
1230360	**HSK63AMT4160M**	4	48	160	1,72

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Differential connector included.





ERICKSON

HSK Form A to KR Adapters • Metric



order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	kg	reference head
1153403	**HSK63AKR32075M**	HSK63A	KR32	50	75	**KRDCKR32M**	1,20	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1153604	**HSK63AKR50080M**	HSK63A	KR50	65	80	**KRDCKR50M**	1,60	SVS4B,5B,SVU65,SVUBB2

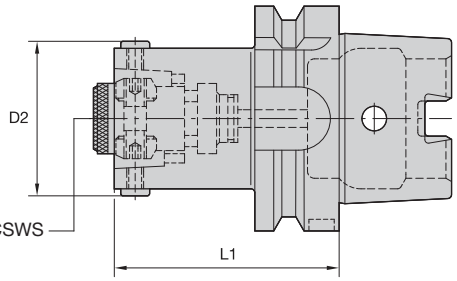
HSK Form A to KR Adapters • Inch



order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	lbs	reference head
1153403	**HSK63AKR32075M**	HSK63A	KR32	1.96	2.953	**KRDCKR32M**	2.64	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1153604	**HSK63AKR50080M**	HSK63A	KR50	2.56	3.150	**KRDCKR50M**	3.52	SVS4B,5B,SVU65,SVUBB2

NOTE: Plug may need to be removed to access the differential screw drive through the HSK taper.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







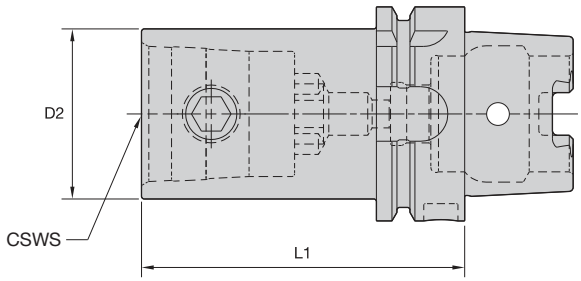
ERICKSON

HSK-HSK Form A

order number	catalog number	CSWS system size	D2	L1	wrench size actuation screw	Nm	kg
1520609	**HSK63AHSK32070M**	HSK32	37	70	3mm	6	1,00
1189415	**HSK63AHSK40080M**	HSK40	45	80	3mm	8	1,10
1520612	**HSK63AHSK50080M**	HSK50	55	80	4mm	15	1,20
1188038	**HSK63AHSK63080M**	HSK63	70	80	5mm	20	1,60
1188027	**HSK63AHSK63120M**	HSK63	70	120	5mm	20	2,40

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with actuation mechanism and sealing ring.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







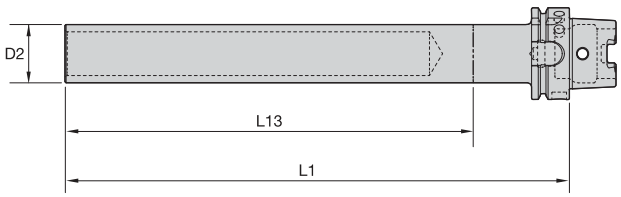
ERICKSON

KM-HSK Form A

order number	catalog number	CSWS system size	D2	L1	KM spare parts package	wrench size actuation screw	Nm	kg
1307929	**HSK63AKM32070M**	KM32	32	70	**KM32PKG3S**	5mm	8-11	0,87
1151763	**HSK63AKM40080M**	KM40	40	80	**KM40PKG3S**	6mm	12-16	1,08
1121672	**HSK63AKM50095M**	KM50	50	95	**KM50PKG3S**	10mm	27-34	1,49
1148578	**HSK63AKM63105M**	KM63	63	105	**KM63PKG3S**	12mm	47-54	2,03

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- For acceptance testing on machine tool spindles.
- 0,003mm (.0001") maximum TIR.
- Precision ground.



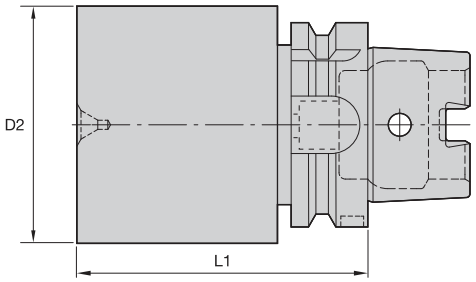


ERICKSON

GB-HSK Form A

order number	catalog number	D2 mm	D2 in	L1 mm	L1 in	L13 mm	L13 in	kg
1228288	HSK63AGB40346M	40,0	1.57	346	13.62	300	11.81	2,38

- Machinable front 32–38 RW C.



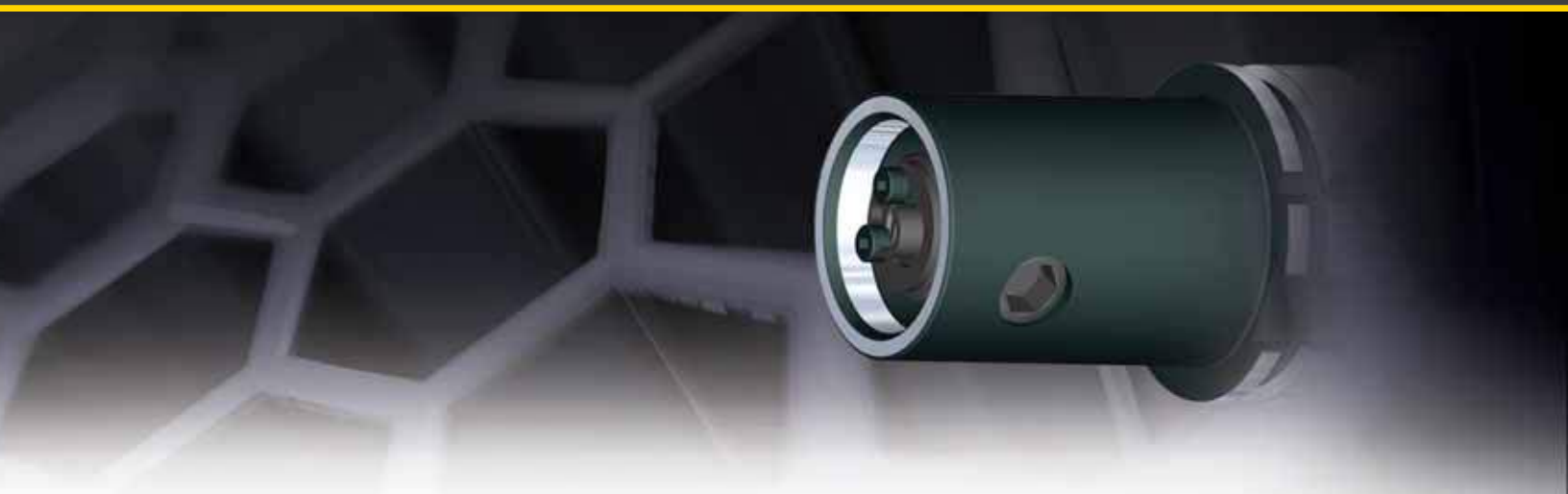


ERICKSON

BB-HSK Form A

order number	catalog number	D2	L1	kg
1015288	HSK63ABB080250M	80,8	250	9,09
1015289	HSK63ABB115150M	115,8	150	9,78

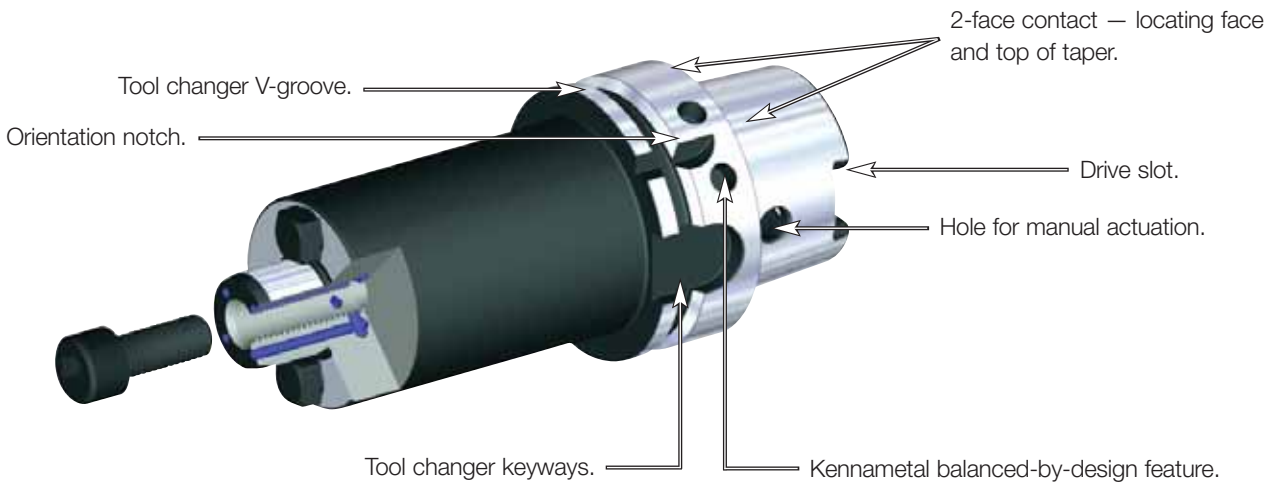
NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.



ERICKSON™ HSK Shank Tooling System • HSK80A Series

Primary Application

ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form A versions are generally used in machining centers and milling machines with automatic tool changers.
The HSK80A tools are either pre-balanced to a high specification or balanced-by-design. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, coolant tubes, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjuction with tooling design and safety limits factored as a complete system.



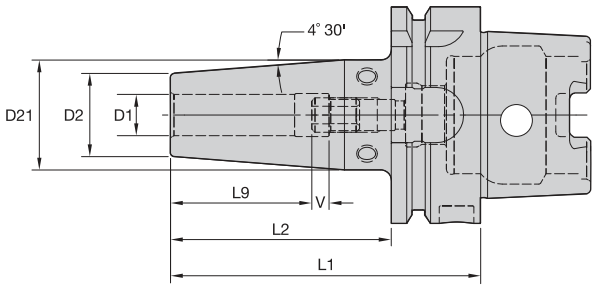


Features and Benefits

- ISO 12164-1/DIN 69893-1 Form A 1:10 short taper.
- High axial and radial repeatability compared to CAT, BT, and DV V-flange 7/24 taper tooling.
- Maximum 100 bar (1,500 psi) coolant pressure.

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
3	h4	0,000/-0,003
4	h4	0,000/-0,004
5	h5	0,000/-0,005
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32, 40, & 50	h6	0,000/-0,016

ERICKSON

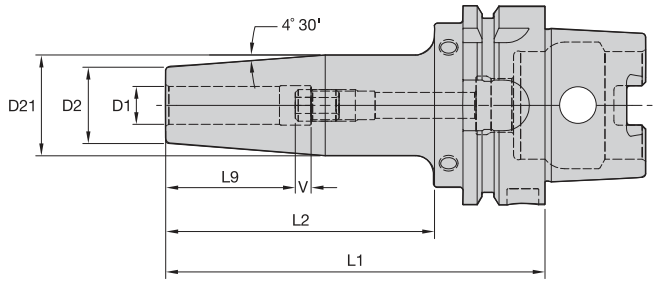
TT GP HPV MM-HSK Form A



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3867270	**HSK80AHPVTT06085M**	6	21	27	85	59	26	10	**TTSS05014M**	2,5mm	1,28
3867271	**HSK80AHPVTT08085M**	8	21	27	85	59	26	10	**TTSS06014M**	3mm	1,28
3867272	**HSK80AHPVTT10090M**	10	24	32	90	64	31	10	**TTSS08014M**	4mm	1,36
3867273	**HSK80AHPVTT12095M**	12	24	32	95	69	36	10	**TTSS10014M**	5mm	1,38
3867274	**HSK80AHPVTT14095M**	14	27	34	95	69	36	10	**TTSS10014M**	5mm	1,43
3867275	**HSK80AHPVTT16100M**	16	27	34	100	74	39	10	**TTSS12014M**	6mm	1,44
3867276	**HSK80AHPVTT18100M**	18	33	42	100	74	39	10	**TTSS12014M**	6mm	1,63
3867277	**HSK80AHPVTT20105M**	20	33	42	105	79	41	10	**TTSS16014M**	8mm	1,65
3867278	**HSK80AHPVTT25115M**	25	44	53	115	89	47	10	**TTSS16014M**	8mm	2,19
3867279	**HSK80AHPVTT32120M**	32	44	53	120	94	51	10	**TTSS16014M**	8mm	2,11
3867280	**HSK80AHPVTT40130M**	40	60	70	130	104	51	10	**TTSS20014M**	10mm	3,23
3867281	**HSK80AHPVTT50140M**	50	69	79	140	114	56	10	**TTSS20014M**	10mm	3,88

(continued)

(TT GP HPV continued)





TT GP HPV MM-HSK Form A



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3867282	**HSK80AHPVTT03085M**	3	9	15	85	50	14	10	**TTSS05014M**	2,5mm	1,34
3867283	**HSK80AHPVTT04085M**	4	9	15	85	50	15	10	**TTSS05014M**	2,5mm	1,34
3867284	**HSK80AHPVTT05085M**	5	9	15	85	50	15	10	**TTSS06014M**	3mm	1,34

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameters	tolerance
1/4, 5/16, & 3/8	.0000/-.0004
7/16, 1/2, 9/16, & 5/8	.0000/-.0004
3/4, 7/8, 1, 1-1/4, 1-1/2, & 2	.0000/-.0005

TT GP HPV IN-HSK Form A



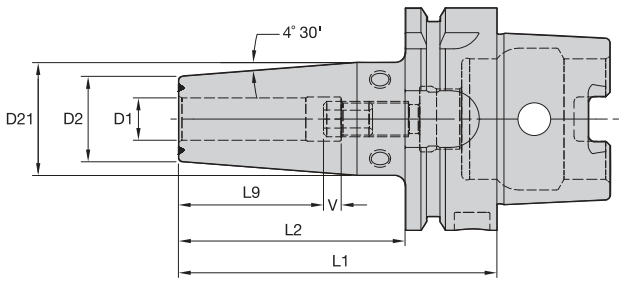
order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3863755	**HSK80AHPVTT025335**	1/4	.83	1.06	3.35	2.32	1.02	.39	**TTSS05014M**	2,5mm	2.83
3863756	**HSK80AHPVTT031335**	5/16	.83	1.06	3.35	2.32	1.02	.39	**TTSS06014M**	3mm	2.82
3863757	**HSK80AHPVTT038354**	3/8	.94	1.26	3.54	2.52	1.22	.39	**TTSS08014M**	4mm	3.01
3863758	**HSK80AHPVTT044374**	7/16	.94	1.26	3.74	2.72	1.42	.39	**TTSS10014M**	5mm	3.05
3863759	**HSK80AHPVTT050374**	1/2	.94	1.26	3.74	2.72	1.42	.39	**TTSS10014M**	5mm	3.03
3863760	**HSK80AHPVTT056374**	9/16	1.06	1.33	3.74	2.72	1.42	.39	**TTSS10014M**	5mm	3.15
3863761	**HSK80AHPVTT062394**	5/8	1.06	1.33	3.94	2.92	1.54	.39	**TTSS12014M**	6mm	3.18
3863762	**HSK80AHPVTT075413**	3/4	1.30	1.65	4.13	3.11	1.61	.39	**TTSS16014M**	8mm	3.66
3863763	**HSK80AHPVTT088413**	7/8	1.30	1.65	4.13	3.11	1.61	.39	**TTSS16014M**	8mm	3.57
3863764	**HSK80AHPVTT100453**	1	1.73	2.08	4.53	3.51	1.85	.39	**TTSS16014M**	8mm	4.81
3863765	**HSK80AHPVTT125472**	1 1/4	1.73	2.08	4.72	3.70	2.01	.39	**TTSS16014M**	8mm	4.66
3863766	**HSK80AHPVTT150512**	1 1/2	2.36	2.75	5.12	4.10	2.01	.39	**TTSS20014M**	10mm	7.25
3863767	**HSK80AHPVTT200551**	2	2.72	3.11	5.51	4.49	2.20	.39	**TTSS20014M**	10mm	8.49

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32, 40, & 50	h6	0,000/-0,016

ERICKSON

TT HT HPV MM-HSK Form A



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3867213	HSK80AHPVTTHT12095M	12	24	32	95	69	36	10	TTSS10014M	5mm	1,38
3867214	HSK80AHPVTTHT14095M	14	27	34	95	69	36	10	TTSS10014M	5mm	1,44
3867215	HSK80AHPVTTHT16100M	16	27	34	100	74	39	10	TTSS12014M	6mm	1,45
3867216	HSK80AHPVTTHT18100M	18	33	42	100	74	39	10	TTSS12014M	6mm	1,64
3867217	HSK80AHPVTTHT20105M	20	33	42	105	79	41	10	TTSS16014M	8mm	1,65
3867218	HSK80AHPVTTHT25115M	25	44	53	115	89	47	10	TTSS16014M	8mm	2,19
3867219	HSK80AHPVTTHT32120M	32	44	53	120	94	51	10	TTSS16014M	8mm	2,12
3867220	HSK80AHPVTTHT40130M	40	60	70	130	104	51	10	TTSS20014M	10mm	3,23
3867221	HSK80AHPVTTHT50140M	50	69	79	140	114	56	10	TTSS20014M	10mm	3,88

(continued)

(TT HT HPV continued)

Cutting Tool Shank Requirements
inch (industry standard)

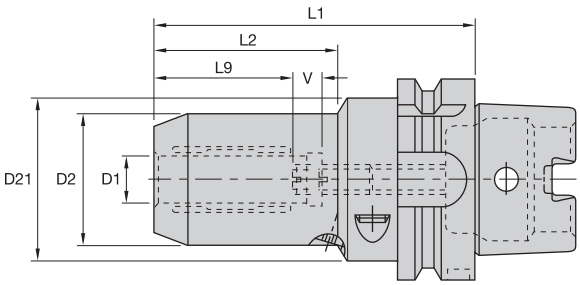
cutting tool shank diameters	tolerance
1/2, 9/16 & 5/8	.0000/-.0004
3/4, 7/8, 1, 1-1/4, 1-1/2, & 2	.0000/-.0005

TT HT HPV IN-HSK Form A



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3862011	**HSK80AHPVTTHT050374**	1/2	.94	1.26	3.74	2.72	1.42	.39	**TTSS10014M**	5mm	3.03
3862012	**HSK80AHPVTTHT056374**	9/16	1.06	1.33	3.74	2.72	1.42	.39	**TTSS10014M**	5mm	3.15
3862393	**HSK80AHPVTTHT062394**	5/8	1.06	1.33	3.94	2.92	1.54	.39	**TTSS12014M**	6mm	3.18
3862394	**HSK80AHPVTTHT075413**	3/4	1.30	1.65	4.13	3.11	1.61	.39	**TTSS16014M**	8mm	3.66
3862395	**HSK80AHPVTTHT088413**	7/8	1.30	1.65	4.13	3.11	1.61	.39	**TTSS16014M**	8mm	3.57
3862396	**HSK80AHPVTTHT100453**	1	1.73	2.08	4.53	3.51	1.85	.39	**TTSS16014M**	8mm	4.81
3862397	**HSK80AHPVTTHT125472**	1 1/4	1.73	2.08	4.72	3.70	2.01	.39	**TTSS16014M**	8mm	4.66
3862398	**HSK80AHPVTTHT150512**	1 1/2	2.36	2.75	5.12	4.10	2.01	.39	**TTSS20014M**	10mm	7.25
3862399	**HSK80AHPVTTHT200551**	2	2.72	3.11	5.51	4.49	2.20	.39	**TTSS20014M**	10mm	8.49

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

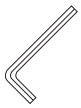




ERICKSON

HC MM-HSK Form A

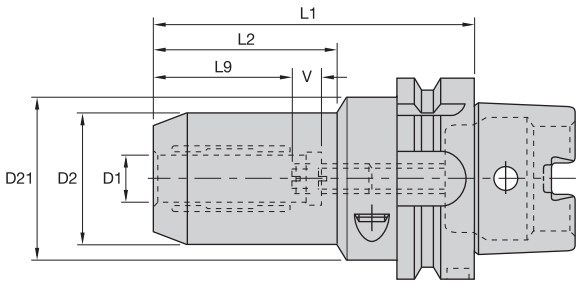




order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	kg
1960122	**HSK80AHC06085M**	6	25,7	50	85	35	27	10	**170.135**	5mm	**170.002**	2,5mm	1,5
1960133	**HSK80AHC08085M**	8	27,7	50	85	36	27	10	**170.135**	5mm	**170.002**	2,5mm	1,5
1960134	**HSK80AHC10090M**	10	29,7	50	90	38	31	10	**170.135**	5mm	**170.002**	2,5mm	1,6
1960135	**HSK80AHC12095M**	12	31,6	50	95	43	36	10	**170.135**	5mm	**170.002**	2,5mm	1,6
1960136	**HSK80AHC14095M**	14	33,6	50	95	43	36	10	**170.135**	5mm	**170.003**	3mm	1,6
1960137	**HSK80AHC16100M**	16	37,6	50	100	46	39	10	**170.135**	5mm	**170.003**	3mm	1,7
1960138	**HSK80AHC18100M**	18	39,6	50	100	48	39	10	**170.135**	5mm	**170.003**	3mm	1,8
1960139	**HSK80AHC20105M**	20	41,6	50	105	54	41	10	**170.135**	5mm	**170.003**	3mm	1,8
1960140	**HSK80AHC25115M**	25	49,8	63	115	51	47	10	**170.136**	6mm	**170.004**	4mm	2,4
1960141	**HSK80AHC32125M**	32	59,8	63	125	59	51	10	**170.136**	6mm	**170.004**	4mm	2,8

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







ERICKSON

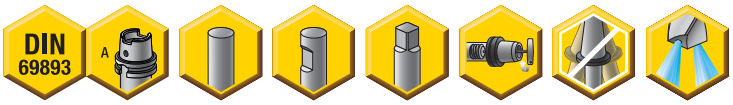
HC Trend MM-HSK Form A

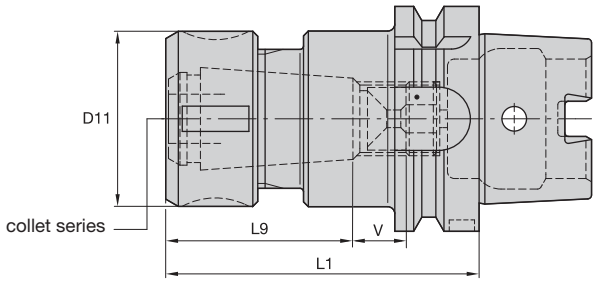


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	kg
1749613	**HSK80AHCT06085M**	6	25,7	50	85	36	27	10	**170.135**	5mm	1,51
1749614	**HSK80AHCT08085M**	8	27,7	50	85	37	27	10	**170.135**	5mm	1,52
1749615	**HSK80AHCT10090M**	10	29,7	50	90	39	31	10	**170.135**	5mm	1,57
1749616	**HSK80AHCT12095M**	12	31,6	50	95	45	36	10	**170.135**	5mm	1,61
1749617	**HSK80AHCT14095M**	14	33,6	50	95	46	36	10	**170.135**	5mm	1,63
1749618	**HSK80AHCT16100M**	16	37,6	50	100	52	39	10	**170.135**	5mm	1,74
1749619	**HSK80AHCT18100M**	18	39,6	50	100	52	39	10	**170.135**	5mm	1,79
1749620	**HSK80AHCT20105M**	20	41,6	50	105	58	41	10	**170.135**	5mm	1,83
1749621	**HSK80AHCT25115M**	25	49,8	63	115	51	47	10	**170.136**	6mm	2,45
1749622	**HSK80AHCT32125M**	32	59,8	63	125	59	51	10	**170.136**	6mm	2,85

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collect series	min	max	min	max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

ERICKSON

TG Round-HSK Form A

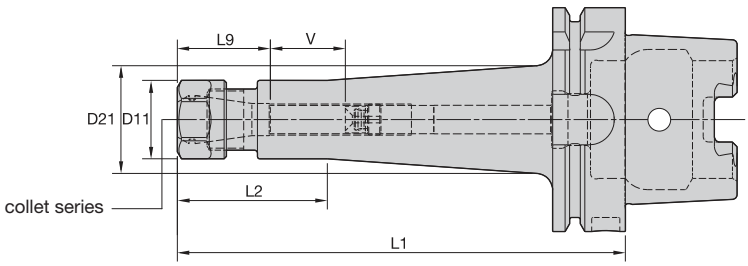


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	stop screw cone cap	kg
1860140	**HSK80ATG075120M**	TG75	50	120	54	13	**LNA075M**	**HSW45M**	136	**SS081041G**	4mm & 5/32	**SSCC081**	2,16
1860141	**HSK80ATG100140M**	TG100	60	140	70	12	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	**SSCC112**	2,92

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Grip (2:1 advantage).







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Hex • HSK Form A

order number	catalog number	collet series	D11	D21	L1	L2	L9	V	kg
1727216	**HSK80AER16100M**	ER16	28	—	100	74	32	22	1,36
1778237	**HSK80AER16160M**	ER16	28	39	160	54	32	38	1,77
1885325	**HSK80AER20100M**	ER20	34	—	100	62	36	14	1,47

Spare Parts



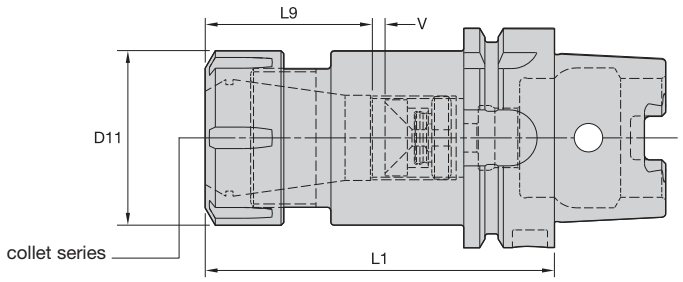




catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw	stop screw cone cap
HSK80AER16100M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32	**SSCC044**
HSK80AER16160M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32	**SSCC044**
HSK80AER20100M	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32	**SSCC056**

(continued)

(ER continued)





ERICKSON

ER Round • HSK Form A

order number	catalog number	collet series	D11	L1	L9	V	kg
1751709	**HSK80AER25100M**	ER25	42	100	40	7	1,63
1727217	**HSK80AER32100M**	ER32	50	100	46	6	1,83
1727218	**HSK80AER40120M**	ER40	63	120	52	6	2,66

Spare Parts

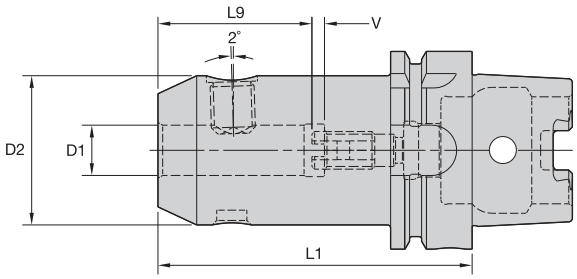





catalog number	round locknut	wrench	Nm	stop screw	wrench size stop screw	stop screw cone cap
HSK80AER25100M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32	**SSCC075**
HSK80AER32100M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32	**SSCC094**
HSK80AER40120M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32	**SSCC112**

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







ERICKSON

WN MM • HSK Form A

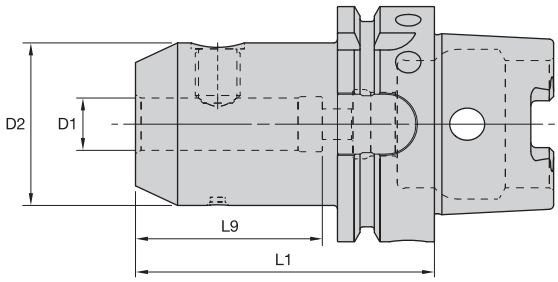




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1885322	**HSK80AWN06090M**	6	25	90	30	10	**SS03M012**	3mm	7	**571.060**	2,5mm	1,30
1885443	**HSK80AWN08090M**	8	28	90	30	10	**SS03M014**	4mm	15	**571.067**	3mm	1,36
1750661	**HSK80AWN10090M**	10	35	90	33	10	**SS03M018**	5mm	25	**571.068**	4mm	1,52
1729444	**HSK80AWN12100M**	12	42	100	40	10	**SS03M023**	6mm	35	**571.074**	5mm	1,78
1885444	**HSK80AWN14100M**	14	44	100	40	10	**SS03M023**	6mm	35	**571.074**	5mm	1,84
1885445	**HSK80AWN16100M**	16	48	100	43	10	**SS03M025**	6mm	50	**571.075**	6mm	1,98
1885446	**HSK80AWN18100M**	18	50	100	43	10	**SS03M025**	6mm	50	**571.075**	6mm	2,04
1748577	**HSK80AWN20110M**	20	52	110	45	10	**SS03M026**	8mm	95	**571.076**	6mm	2,26
1730388	**HSK80AWN25110M**	25	65	110	50	10	**SS03M027**	10mm	135	**571.077**	6mm	2,90
1730699	**HSK80AWN32120M**	32	72	120	54	10	**SS03M029**	10mm	160	**571.077**	6mm	3,45

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw or stop screw wrenches not included.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.





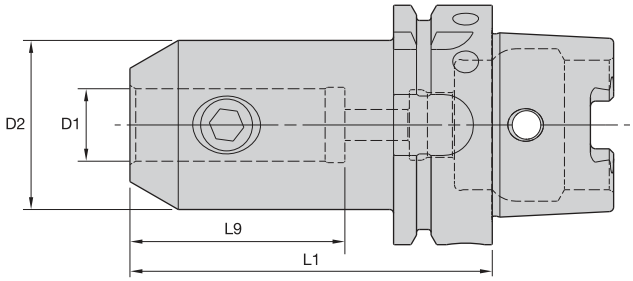


ERICKSON

EM MM • HSK Form A



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1727202	HSK80AEM06080M	6	25	80	54	SS03M012	3mm	7	1,26
1727203	HSK80AEM08080M	8	28	80	54	SS03M014	4mm	15	1,31
1727204	HSK80AEM10080M	10	35	80	45	SS03M018	5mm	25	1,44
1727205	HSK80AEM12080M	12	42	80	50	SS03M023	6mm	35	1,57
1885447	HSK80AEM14080M	14	44	80	50	SS03M023	6mm	35	1,61
1885448	HSK80AEM16100M	16	48	100	53	SS03M025	6mm	50	1,97
1885449	HSK80AEM18100M	18	50	100	53	SS03M025	6mm	50	2,04
1778182	HSK80AEM20100M	20	52	100	55	SS03M026	8mm	95	2,09
1885450	HSK80AEM25100M	25	65	100	60	SS03M027	10mm	135	2,63
1727209	HSK80AEM32110M	32	72	110	65	SS03M029	10mm	160	3,15





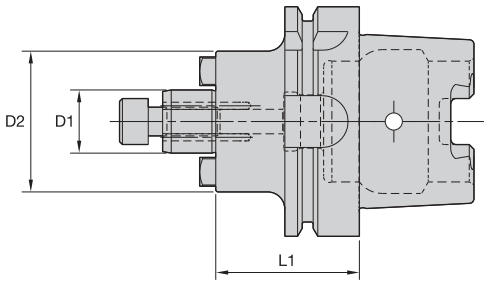
ERICKSON

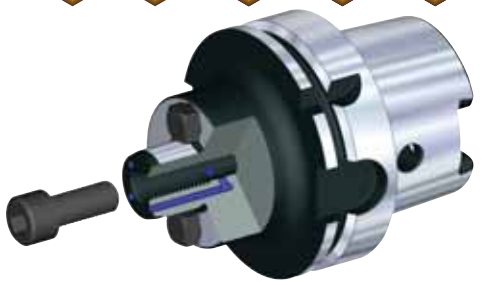
EM IN • HSK Form A



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1860166	HSK80AEM038300	3/8	1.00	3.00	2	ELS038031PKG	3/16	15	3
1860167	HSK80AEM050325	1/2	1.38	3.25	2	ELS044038PKG	7/32	20	3
1860168	HSK80AEM062375	5/8	1.63	3.75	2	ELS056050PKG	1/4	40	4
1860169	HSK80AEM075375	3/4	1.75	3.75	2	ELS062050PKG	5/16	70	4
1860170	HSK80AEM100425	1	2.00	4.25	2	ELS075056PKG	3/8	110	5
1860171	HSK80AEM125425	1 1/4	2.50	4.25	3	ELS075062PKG	3/8	110	6

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.



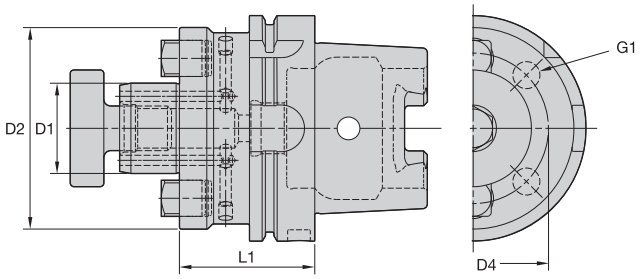


ERICKSON

SMC Cap MM-HSK Form A



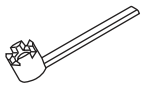

order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size retention screw	kg
3872280	HSK80ASM2C22050M	22	42	50	MS1234	–	8mm	1,40
3872279	HSK80ASMC22050M	22	49	50	MS1234	KDK22M	8mm	1,49





SMC Lock MM-HSK Form A

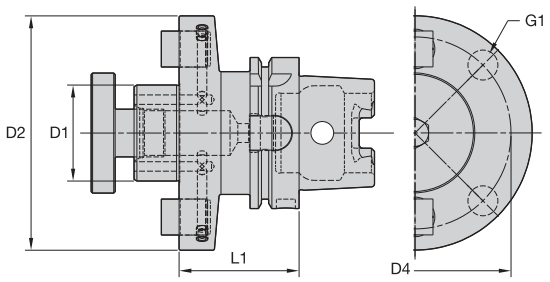


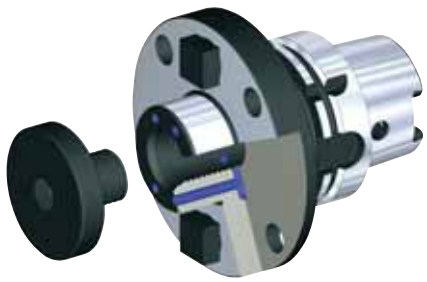


order number	catalog number	D1	D2	D4	G1	L1	lock screw	drive key	wrench size lock screw	locknut wrench	kg
3872281	HSK80ASMC27050M	27	60	–	–	50	KLSS27M	KDK27M	10mm	–	1,73
3872282	HSK80ASMC32060M	32	78	–	–	60	KLSS32M	KDK32M	14mm	–	2,39
3872493	HSK80ASMC40060M	40	89	67	M12X1.75	60	KLSS40M	KDK40M	17mm	–	2,73
3872494	HSK80ASMC50070M	50	98	–	–	70	KLS50M	–	–	SMW50M	3,42
3872495	HSK80ASMC60070M	60	129	102	M16X2.0	70	–	KDK60M	–	–	4,49

(continued)

(SMC continued)



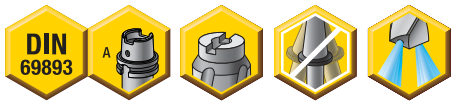


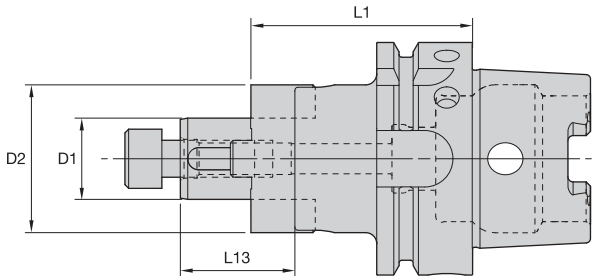
SMC Lock IN-HSK Form A




order number	catalog number	D1	D2	D4	G1	L1	lock screw	drive key	wrench size lock screw	lbs
3762772	**HSK80ASM2C075225**	3/4	1.457	—	—	2.250	**KLS07**	**—**	1/4	3.05
3762771	**HSK80ASMC075225**	3/4	1.752	—	—	2.250	**KLS07**	**KDK05**	1/4	3.31
3763064	**HSK80ASM2C100225**	1	2.189	—	—	2.250	**KLS10**	**KDK06**	5/16	3.88
3763063	**HSK80ASMC100225**	1	2.752	—	—	2.250	**KLS10**	**KDK06**	5/16	4.47
3763065	**HSK80ASMC125250**	1 1/4	2.878	—	—	2.500	**KLS12**	**KDK08**	5/16	5.18
3763066	**HSK80ASMC150250**	1 1/2	3.811	—	—	2.500	**KLS15**	**KDK10**	3/8	6.57
3763067	**HSK80ASMC200250**	2	4.882	.158	.625-11 UNC	2.500	**KLS20**	**KDK12**	9/16	8.61
3763068	**HSK80ASMC250250**	2 1/2	4.882	.158	.625-11 UNC	2.500	**KLS25**	**KDK16**	9/16	9.77

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately, see page L38.
Lock screw wrench not included.
For HSK coolant unit and wrench, see page L44.
HSK80ASMC250250 supplied with four locking bolts (S-388).







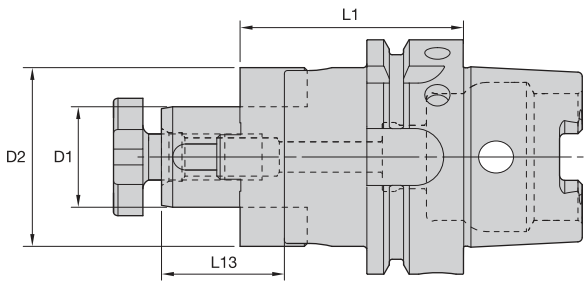
ERICKSON

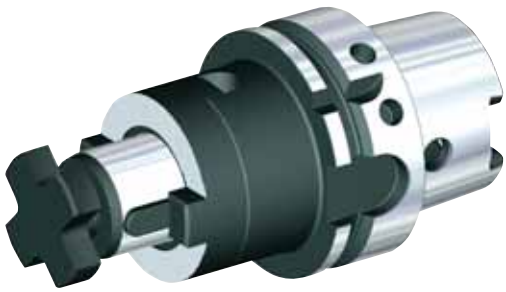
CS • Cap Screw Design • HSK Form A



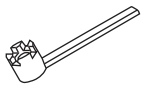


order number	catalog number	D1	D2	L1	L13	lock screw	wrench size lock screw	Nm	combi driver ring	combi drive key	kg
1839882	HSK80ACS16060M	16	32	60	27	MS1294	6mm	40	CDR16M	CDK16M	1,33
1778235	HSK80ACS22060M	22	40	60	31	MS1234	8mm	60	CDR22M	CDK22M	1,49





CS • Lock Screw Design • HSK Form A

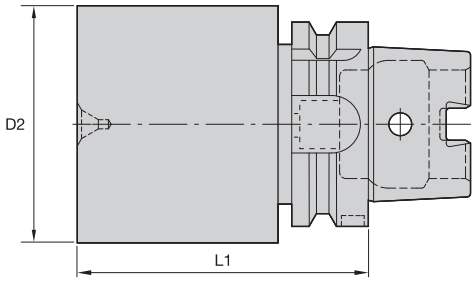





order number	catalog number	D1	D2	L1	L13	lock screw	wrench	combi driver ring	combi drive key	kg
1730386	HSK80ACS27060M	27	48	60	33	KLS27MPKG	SMW27M	CDR27M	CDK27M	1,67
1730387	HSK80ACS32060M	32	58	60	38	KLS32M	SMW32M	CDR32M	CDK32M	1,96
1878181	HSK80ACS40070M	40	70	70	41	KLS40M	SMW40M	CDR40M	CDK40M	2,69
1126837	HSK80ACS50080M	50	90	80	46	KLS50M	SMW50M	CDR50M	CDK50M	4,01

NOTE: Do not overtighten lock screw.
Supplied with lock screw, drive ring, and drive keys.
Lock screw wrench not included.
For HSK coolant unit and wrench, see page L44.

- Machinable front 32–38 RW C.





ERICKSON

BB-HSK Form A

order number	catalog number	D2	L1	kg
1860172	**HSK80ABB100250M**	100,8	250	14,47
1860203	**HSK80ABB150150M**	150,8	150	16,51

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.



Increased Efficiency

Automatic adjustment with Romicron™ Closed Loop Boring (CLB)

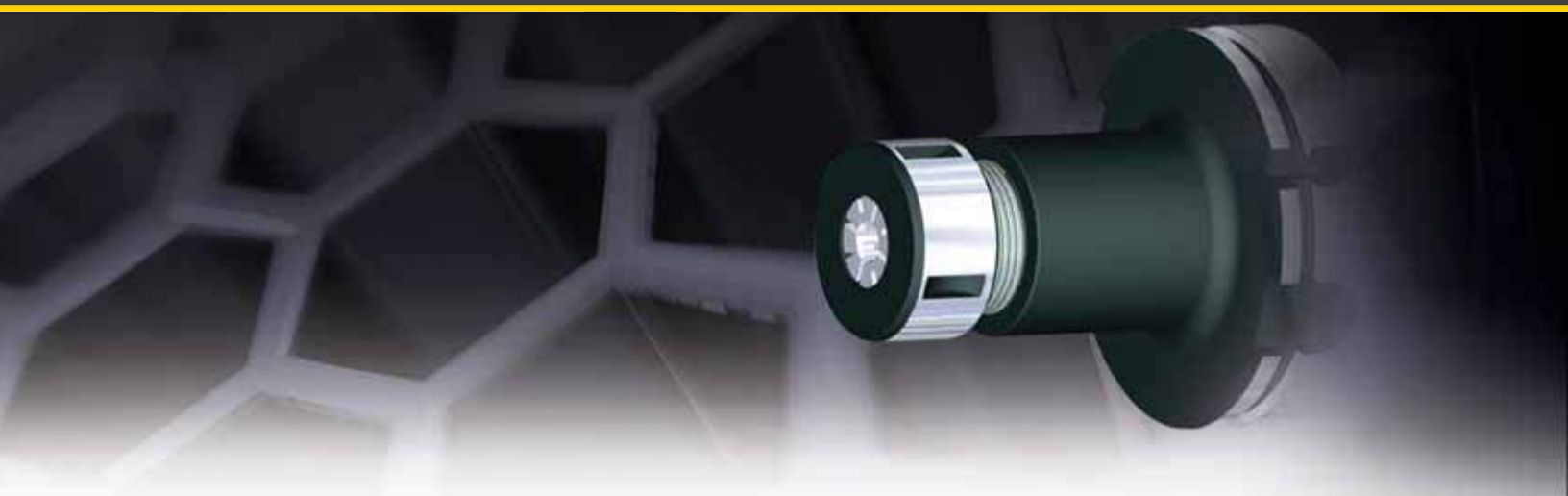
- Reduce scrap rates and setup time due to backlash-free adjustment.
- Make use of the entire tool life of used inserts as diameter adjustment can be done inside of the machine, avoiding routine insert changes in the setup room.
- Avoid time-consuming control cuts or sister tooling.
- No additional training or experience needed, resulting in less stress during adjustments.



Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

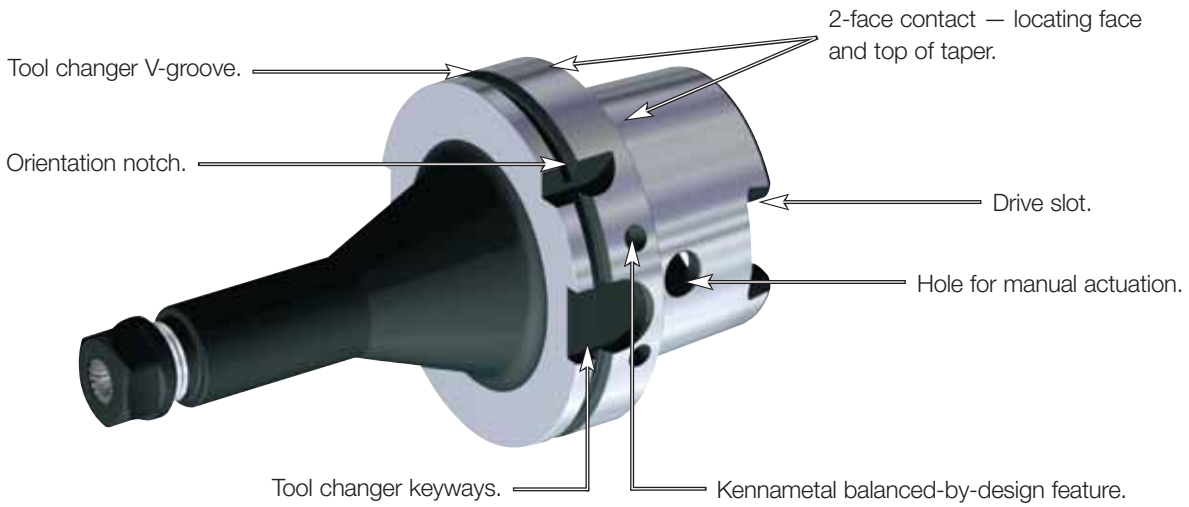
KENNAMETAL®



ERICKSON™ HSK Shank Tooling System • HSK100A Series

Primary Application

ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form A versions are generally used in machining centers and milling machines with automatic tool changers.
The HSK100A tools are either pre-balanced to a high specification or balanced-by-design. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, coolant tubes, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjuction with tooling design and safety limits factored as a complete system.



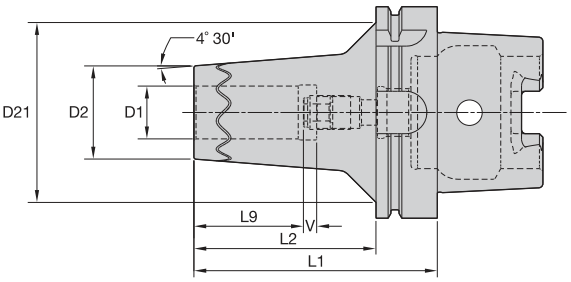


Features and Benefits

- ISO 12164-1/DIN 69893-1 Form A 1:10 short taper.
- High axial and radial repeatability compared to CAT, BT, and DV V-flange 7/24 taper tooling.
- Maximum 100 bar (1,500 psi) coolant pressure.

- **SAFE-LOCK™**, innovative and unique non-slip system.
- Suitable for carbide and HSS cutting tools.
- Need ≥ 10 kW shrink unit.







SAFE-λOCK™
by HAIMER

Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT SF MM-HSK Form A

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
5090056	**HSK100ASFTT12095M**	12	27	73	95	66	37	10	2,45
5090057	**HSK100ASFTT14095M**	14	33	60	95	66	37	10	2,54
5090058	**HSK100ASFTT16100M**	16	33	78	100	71	40	10	2,60
5090059	**HSK100ASFTT18100M**	18	44	76	100	71	40	10	2,98
5090210	**HSK100ASFTT20105M**	20	44	85	105	76	42	10	3,07
5090211	**HSK100ASFTT25115M**	25	44	85	115	86	48	10	3,16

Cutting Tool Shank Requirements
inch (industry standard)

cutting tool shank diameters	tolerance
1/4, 5/16, & 3/8	.0000/-.0004
1/2 & 5/8	.0000/-.0004
3/4, 7/8, 1, 1-1/4, & 1-1/2	.0000/-.0005

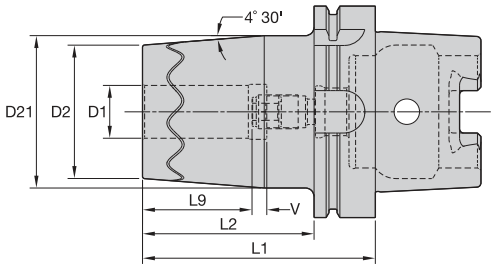
TT SF IN-HSK Form A

order number	catalog number	D1	D2	D21	L1	L2	L9	V	lbs
5090225	**HSK100ASFTT050374**	1/2	1.06	2.87	3.74	2.60	1.46	.39	5.40
5090226	**HSK100ASFTT062394**	5/8	1.30	3.07	3.94	2.80	1.57	.39	5.64
5090227	**HSK100ASFTT075413**	3/4	1.73	3.35	4.13	2.99	1.65	.39	6.81
5090228	**HSK100ASFTT100453**	1	1.73	3.35	4.53	3.39	1.89	.39	6.94

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Shrink Fit accessories, see pages L12–L13.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- **SAFE-LOCK™**, innovative and unique non-slip system.
- Ultra short and heavy-duty design.
- Suitable for carbide and HSS cutting tools.
- Need ≥ 20 kW shrink unit.







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT SF HD MM-HSK Form A

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
5090212	HSK100ASFHDTT16100M	16	51	62	100	71	40	10	3,27
5090213	HSK100ASFHDTT20100M	20	58	67	100	71	42	10	3,57
5090214	HSK100ASFHDTT25110M	25	63	72	110	81	48	10	4,06
5090215	HSK100ASFHDTT32110M	32	70	78	110	81	52	10	4,37
5090216	HSK100ASFHDTT40140M	40	82	94	140	111	77	10	6,36
5090217	HSK100ASFHDTT50140M	50	82	94	140	111	77	10	5,90

Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameters	tolerance
1/4, 5/16, & 3/8	.0000/-.0004
1/2 & 5/8	.0000/-.0004
3/4, 7/8, 1, 1-1/4, & 1-1/2	.0000/-.0005

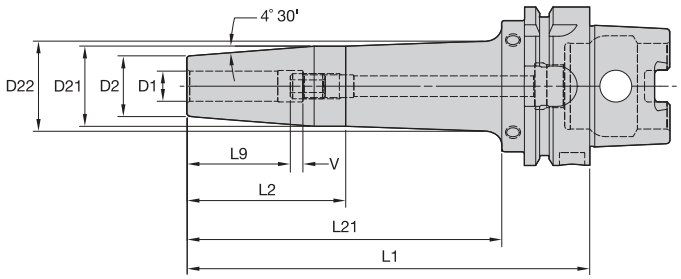
TT SF HD IN-HSK Form A

order number	catalog number	D1	D2	D21	L1	L2	L9	V	lbs
5090229	HSK100ASFHDTT100433	1	2.48	2.83	4.33	3.19	1.89	.39	8.90
5090230	HSK100ASFHDTT125433	1 1/4	2.76	3.07	4.33	3.19	2.05	.39	9.64
5090231	HSK100ASFHDTT150551	1 1/2	3.23	3.70	5.51	4.37	3.03	.39	14.15
5090232	HSK100ASFHDTT200551	2	3.23	3.70	5.51	4.37	3.03	.39	12.90

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Shrink Fit accessories, see pages L12–L13.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT GP HPV MM-HSK Form A



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3866701	HSK100AHPVTT06085M	6	21	27	—	85	56	—	26	10	TTSS05014M	2,5mm	2,18
3866711	HSK100AHPVTT06160M	6	21	27	32	160	50	122	26	10	TTSS05014M	2,5mm	2,86
3866702	HSK100AHPVTT08085M	8	21	27	—	85	56	—	26	10	TTSS06014M	3mm	2,18
3866712	HSK100AHPVTT08160M	8	21	27	32	160	50	122	26	10	TTSS06014M	3mm	2,85
3866703	HSK100AHPVTT10090M	10	24	32	—	90	61	—	31	10	TTSS08014M	4mm	2,26
3866713	HSK100AHPVTT10160M	10	24	32	36	160	63	122	31	10	TTSS08014M	4mm	3,02
3866704	HSK100AHPVTT12095M	12	24	32	—	95	66	—	36	10	TTSS10014M	5mm	2,27
3866714	HSK100AHPVTT12160M	12	24	32	36	160	63	122	36	10	TTSS10014M	5mm	3,00
3866705	HSK100AHPVTT14095M	14	27	34	—	95	66	—	36	10	TTSS10014M	5mm	2,33
3866715	HSK100AHPVTT14160M	14	27	34	38	160	57	122	36	10	TTSS10014M	5mm	3,11
3866706	HSK100AHPVTT16100M	16	27	34	—	100	71	—	39	10	TTSS12014M	6mm	2,33
3866716	HSK100AHPVTT16160M	16	27	34	38	160	57	122	39	10	TTSS12014M	6mm	3,09
3866707	HSK100AHPVTT18100M	18	33	42	—	100	71	—	39	10	TTSS12014M	6mm	2,52
3866717	HSK100AHPVTT18160M	18	33	42	46	160	69	122	39	10	TTSS12014M	6mm	3,45
3866708	HSK100AHPVTT20105M	20	33	42	—	105	76	—	41	10	TTSS16014M	8mm	2,53
3866718	HSK100AHPVTT20160M	20	33	42	46	160	69	122	41	10	TTSS16014M	8mm	3,42
3866709	HSK100AHPVTT25115M	25	44	53	—	115	86	—	47	10	TTSS16014M	8mm	3,06
3866719	HSK100AHPVTT25160M	25	44	53	57	160	69	122	47	10	TTSS16014M	8mm	4,09
3866710	HSK100AHPVTT32120M	32	44	53	—	120	91	—	51	10	TTSS16014M	8mm	2,98
3866720	HSK100AHPVTT32160M	32	44	53	57	160	69	122	51	10	TTSS16014M	8mm	3,93

(continued)

(TT GP HPV continued)

Cutting Tool Shank Requirements
inch (industry standard)

cutting tool shank diameters	tolerance
1/4, 5/16, & 3/8	.0000/-.0004
1/2 & 5/8	.0000/-.0004
3/4, 7/8, 1, 1-1/4, & 1-1/2	.0000/-.0005

TT GP HPV IN-HSK Form A

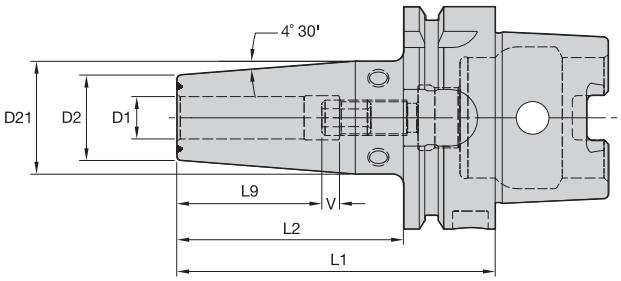


order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	lbs
3863572	**HSK100AHPVTT025335**	1/4	.83	1.06	—	3.35	2.21	—	1.02	.39	**TTSS05014M**	2,5mm	4.81
3863643	**HSK100AHPVTT025630**	1/4	.83	1.06	1.26	6.30	1.97	4.81	1.02	.39	**TTSS05014M**	2,5mm	6.31
3863644	**HSK100AHPVTT031335**	5/16	.83	1.06	—	3.35	2.21	—	1.02	.39	**TTSS06014M**	3mm	4.80
3863645	**HSK100AHPVTT031630**	5/16	.83	1.06	1.26	6.30	1.97	4.81	1.02	.39	**TTSS06014M**	3mm	6.29
3863646	**HSK100AHPVTT038354**	3/8	.94	1.26	—	3.54	2.40	—	1.22	.39	**TTSS08014M**	4mm	4.98
3863647	**HSK100AHPVTT038630**	3/8	.94	1.26	1.42	6.30	2.48	4.81	1.22	.39	**TTSS08014M**	4mm	6.65
3863648	**HSK100AHPVTT050374**	1/2	.94	1.26	—	3.74	2.60	—	1.42	.39	**TTSS10014M**	5mm	5.00
3863649	**HSK100AHPVTT050630**	1/2	.94	1.26	1.42	6.30	2.48	4.81	1.42	.39	**TTSS10014M**	5mm	6.61
3863650	**HSK100AHPVTT062394**	5/8	1.06	1.33	—	3.94	2.80	—	1.54	.39	**TTSS12014M**	6mm	5.15
3863651	**HSK100AHPVTT062630**	5/8	1.06	1.33	1.51	6.30	2.24	4.81	1.54	.39	**TTSS12014M**	6mm	6.82
3863652	**HSK100AHPVTT075413**	3/4	1.30	1.65	—	4.13	2.99	—	1.61	.39	**TTSS16014M**	8mm	5.61
3863653	**HSK100AHPVTT075630**	3/4	1.30	1.65	1.80	6.30	2.72	4.81	1.61	.39	**TTSS16014M**	8mm	7.56
3863654	**HSK100AHPVTT088413**	7/8	1.30	1.65	—	4.13	2.99	—	1.61	.39	**TTSS16014M**	8mm	5.52
3863655	**HSK100AHPVTT088630**	7/8	1.30	1.65	1.80	6.30	2.72	4.81	1.61	.39	**TTSS16014M**	8mm	7.47
3863656	**HSK100AHPVTT100453**	1	1.73	2.08	—	4.53	3.39	—	1.85	.39	**TTSS16014M**	8mm	6.72
3863657	**HSK100AHPVTT100630**	1	1.73	2.08	2.23	6.30	2.72	4.81	1.85	.39	**TTSS16014M**	8mm	9.00
3863658	**HSK100AHPVTT125472**	1 1/4	1.73	2.08	—	4.72	3.58	—	2.01	.39	**TTSS16014M**	8mm	6.57
3863659	**HSK100AHPVTT125630**	1 1/4	1.73	2.08	2.23	6.30	2.72	4.81	2.01	.39	**TTSS16014M**	8mm	8.67
3863660	**HSK100AHPVTT150531**	1 1/2	2.36	2.75	—	5.31	4.18	—	2.01	.39	**TTSS20014M**	10mm	9.50

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

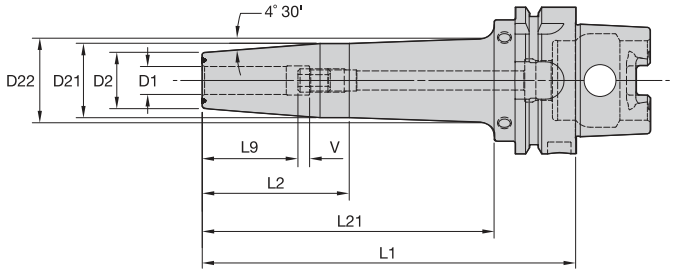
TT HT HPV MM-HSK Form A



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3867222	**HSK100AHPVTTHT12095M**	12	24	32	95	66	36	10	**TTSS10014M**	5mm	2,28
3867223	**HSK100AHPVTTHT14095M**	14	27	34	95	66	36	10	**TTSS10014M**	5mm	2,33
3867224	**HSK100AHPVTTHT16100M**	16	27	34	100	71	39	10	**TTSS12014M**	6mm	2,33
3867225	**HSK100AHPVTTHT18100M**	18	33	42	100	71	39	10	**TTSS12014M**	6mm	2,52
3867226	**HSK100AHPVTTHT20105M**	20	33	42	105	76	41	10	**TTSS16014M**	8mm	2,53
3867227	**HSK100AHPVTTHT25115M**	25	44	53	115	86	47	10	**TTSS16014M**	8mm	3,06
3867228	**HSK100AHPVTTHT32120M**	32	44	53	120	91	51	10	**TTSS16014M**	8mm	2,98

(continued)

(TT HT HPV continued)





Cutting Tool Shank Requirements
inch (industry standard)

cutting tool shank diameters	tolerance
1/2 & 5/8	.0000/-.0004
3/4, 7/8, 1, 1-1/4, & 1-1/2	.0000/-.0005

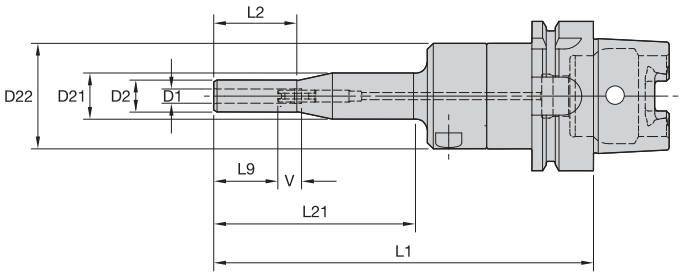
TT HT HPV IN-HSK Form A



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	lbs
3862400	**HSK100AHPVTTHT050374**	1/2	.94	1.26	—	3.74	2.60	—	1.42	.39	**TTSS10014M**	5mm	5.00
3862401	**HSK100AHPVTTHT050630**	1/2	.94	1.26	1.42	6.30	2.48	4.81	1.42	.39	**TTSS10014M**	5mm	6.61
3862402	**HSK100AHPVTTHT062394**	5/8	1.06	1.33	—	3.94	2.80	—	1.54	.39	**TTSS12014M**	6mm	5.15
3862403	**HSK100AHPVTTHT062630**	5/8	1.06	1.33	1.51	6.30	2.24	4.81	1.54	.39	**TTSS12014M**	6mm	6.82
3862404	**HSK100AHPVTTHT075413**	3/4	1.30	1.65	—	4.13	2.99	—	1.61	.39	**TTSS16014M**	8mm	5.61
3862405	**HSK100AHPVTTHT075630**	3/4	1.30	1.65	1.80	6.30	2.72	4.81	1.61	.39	**TTSS16014M**	8mm	7.56
3862406	**HSK100AHPVTTHT088413**	7/8	1.30	1.65	—	4.13	2.99	—	1.61	.39	**TTSS16014M**	8mm	5.52
3862407	**HSK100AHPVTTHT088630**	7/8	1.30	1.65	1.80	6.30	2.72	4.81	1.61	.39	**TTSS16014M**	8mm	7.47
3862408	**HSK100AHPVTTHT100453**	1	1.73	2.08	—	4.53	3.39	—	1.85	.39	**TTSS16014M**	8mm	6.72
3862409	**HSK100AHPVTTHT100630**	1	1.73	2.08	2.23	6.30	2.72	4.81	1.85	.39	**TTSS16014M**	8mm	8.99
3862410	**HSK100AHPVTTHT125472**	1 1/4	1.73	2.08	—	4.72	3.58	—	2.01	.39	**TTSS16014M**	8mm	6.57
3862411	**HSK100AHPVTTHT125630**	1 1/4	1.73	2.08	2.23	6.30	2.72	4.81	2.01	.39	**TTSS16014M**	8mm	8.66
3862412	**HSK100AHPVTTHT150531**	1 1/2	2.36	2.75	—	5.31	4.18	—	2.01	.39	**TTSS20014M**	10mm	9.48

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







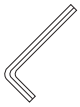
ERICKSON

HC Slim-T MM-HSK Form A

order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	kg
3061086	HSK100AHCSLT06200M	6	13,5	19,5	44	200	35	85	27	10	3,08
3061087	HSK100AHCSLT08200M	8	15,5	19,5	44	200	35	85	27	10	3,09
3061088	HSK100AHCSLT10200M	10	17,5	44,5	–	200	85	171	31	10	3,08

Spare Parts

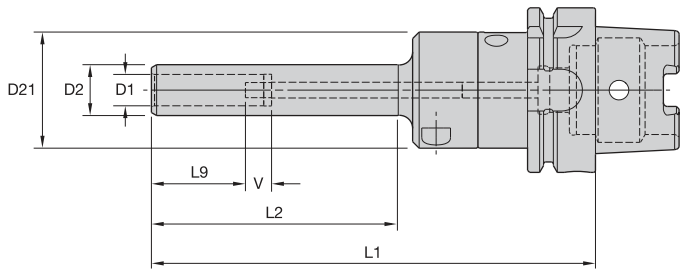


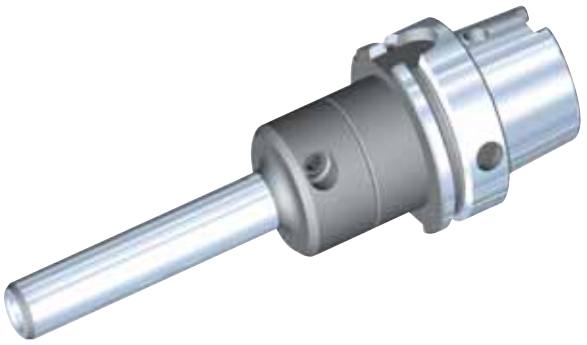


catalog number	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw
HSK100AHCSLT06200M	170.135	5mm	170.002	2,5mm
HSK100AHCSLT08200M	170.135	5mm	170.002	2,5mm
HSK100AHCSLT10200M	170.135	5mm	170.003	3mm

(continued)

(HC Slim continued)



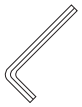


HC Slim MM-HSK Form A

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
3061089	**HSK100AHCSL12200M**	12	19,5	44,5	200	95	36	10	3,00
3061090	**HSK100AHCSL14200M**	14	21,5	52,5	200	95	36	10	3,37
3061091	**HSK100AHCSL16200M**	16	23,5	52,5	200	95	39	10	3,38
3061092	**HSK100AHCSL18200M**	18	25,5	52,5	200	95	39	10	3,42
3061263	**HSK100AHCSL20200M**	20	27,5	52,5	200	95	41	10	3,46

Spare Parts

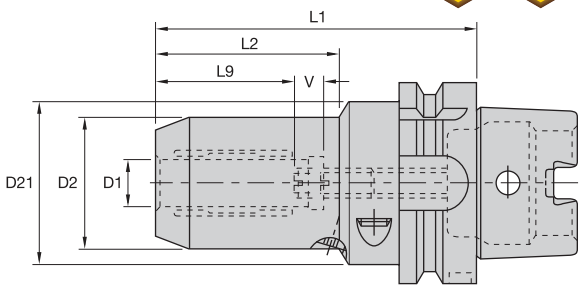




catalog number	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw
HSK100AHCSL12200M	**170.135**	5mm	**170.002**	2,5mm
HSK100AHCSL14200M	**170.135**	5mm	**170.002**	2,5mm
HSK100AHCSL16200M	**170.135**	5mm	**170.002**	2,5mm
HSK100AHCSL18200M	**170.135**	5mm	**170.002**	2,5mm
HSK100AHCSL20200M	**170.135**	5mm	**170.002**	2,5mm

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Activation wrench must be ordered separately.
Unable to use SEFAS™ chamfering rings on this design.
Reduction sleeves are available and must be ordered separately; see pages J12–J13.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.



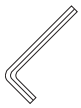




ERICKSON

HC MM-HSK Form A

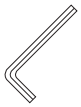




order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	kg
1245483	**HSK100AHC06085M**	6	25,7	63	85	33	27	10	**170.135**	5mm	**170.002**	2,5mm	2,57
2229193	**HSK100AHC06150M**	6	25,7	63	150	90	27	10	**170.135**	5mm	**170.002**	2,5mm	2,96
1245484	**HSK100AHC08085M**	8	27,7	63	85	33	27	10	**170.135**	5mm	**170.002**	2,5mm	2,59
2215823	**HSK100AHC08150M**	8	27,7	63	150	90	27	10	**170.135**	5mm	**170.002**	2,5mm	3,00
1245485	**HSK100AHC10090M**	10	29,7	63	90	38	31	10	**170.135**	5mm	**170.002**	2,5mm	2,64
2229194	**HSK100AHC10150M**	10	29,7	63	150	94	31	10	**170.135**	5mm	**170.002**	2,5mm	3,00
1245486	**HSK100AHC12095M**	12	31,6	63	95	41	36	10	**170.135**	5mm	**170.002**	2,5mm	3,80
2229195	**HSK100AHC12150M**	12	31,6	63	150	100	36	10	**170.135**	5mm	**170.002**	2,5mm	2,94
1245487	**HSK100AHC14095M**	14	33,6	63	95	42	36	10	**170.135**	5mm	**170.003**	3mm	4,00
2229196	**HSK100AHC14150M**	14	33,6	63	150	92	36	10	**170.135**	5mm	**170.003**	3mm	3,10
1245488	**HSK100AHC16100M**	16	37,6	63	100	48	39	10	**170.135**	5mm	**170.003**	3mm	4,00
2229197	**HSK100AHC16150M**	16	37,6	63	150	96	39	10	**170.135**	5mm	**170.003**	3mm	3,20
1245489	**HSK100AHC18100M**	18	39,6	63	100	48	39	10	**170.135**	5mm	**170.003**	3mm	2,78
2229198	**HSK100AHC18150M**	18	39,6	63	150	96	39	10	**170.135**	5mm	**170.003**	3mm	3,28
1245490	**HSK100AHC20105M**	20	41,6	63	105	54	41	10	**170.135**	5mm	**170.003**	3mm	4,20
2229199	**HSK100AHC20150M**	20	41,6	63	150	100	41	10	**170.135**	5mm	**170.003**	3mm	3,31
1245491	**HSK100AHC25115M**	25	49,8	63	115	51	47	10	**170.136**	6mm	**170.004**	4mm	3,27
2229200	**HSK100AHC25200M**	25	49,8	63	200	137	47	10	**170.136**	6mm	**170.004**	4mm	4,50
1245492	**HSK100AHC32120M**	32	59,8	63	120	59	51	10	**170.136**	6mm	**170.004**	4mm	3,55
2229201	**HSK100AHC32200M**	32	59,8	63	200	139	51	10	**170.136**	6mm	**170.004**	4mm	5,26

HC IN-HSK Form A

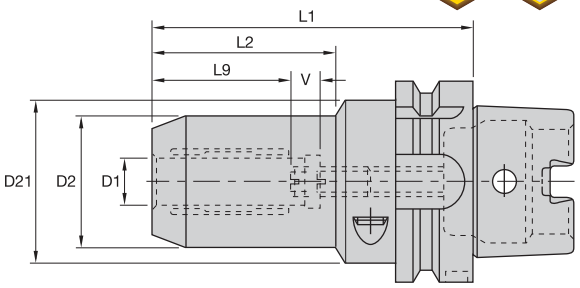




order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	lbs
1246557	**HSK100AHC038350**	3/8	1.17	2.48	3.50	1.38	1.22	.4	**170.135**	5mm	**170.002**	2,5mm	5.84
1246560	**HSK100AHC050375**	1/2	1.24	2.48	3.75	1.59	1.42	.4	**170.135**	5mm	**170.002**	2,5mm	5.95
1246563	**HSK100AHC062400**	5/8	1.48	2.48	4.00	1.87	1.54	.4	**170.135**	5mm	**170.003**	3mm	6.17
1246567	**HSK100AHC075425**	3/4	1.64	2.48	4.25	2.13	1.61	.4	**170.135**	5mm	**170.003**	3mm	6.39
1246569	**HSK100AHC100475**	1	1.95	2.48	4.75	2.01	1.81	.4	**170.136**	6mm	**170.004**	4mm	7.28
1246573	**HSK100AHC125500**	1 1/4	2.36	2.48	5.00	2.32	1.97	.4	**170.136**	6mm	**170.004**	4mm	7.94

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.



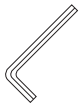




ERICKSON

HC Trend MM-HSK Form A

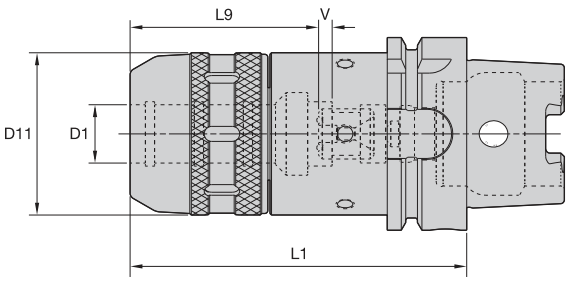




order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	kg
1749601	**HSK100AHCT06085M**	6	25,7	63	85	33	27	10	**170.135**	5mm	**170.003**	3mm	2,61
1749602	**HSK100AHCT08085M**	8	27,7	63	85	33	27	10	**170.135**	5mm	**170.003**	3mm	2,63
1749603	**HSK100AHCT10090M**	10	29,7	63	90	38	31	10	**170.135**	5mm	**170.003**	3mm	2,66
1749604	**HSK100AHCT12095M**	12	31,6	63	95	40	36	10	**170.135**	5mm	**170.003**	3mm	2,70
1749605	**HSK100AHCT14095M**	14	33,6	63	95	42	36	10	**170.135**	5mm	**170.005**	5mm	2,70
1749606	**HSK100AHCT16100M**	16	37,6	63	100	48	39	10	**170.135**	5mm	**170.005**	5mm	2,80
1749608	**HSK100AHCT18100M**	18	39,6	63	100	48	39	10	**170.135**	5mm	**170.005**	5mm	2,82
1749609	**HSK100AHCT20105M**	20	41,6	63	105	54	41	10	**170.135**	5mm	**170.005**	5mm	2,89
1749611	**HSK100AHCT25115M**	25	49,8	63	115	51	47	10	**170.136**	6mm	**170.005**	5mm	3,29
1749612	**HSK100AHCT32120M**	32	59,8	63	120	59	51	10	**170.136**	6mm	**170.005**	5mm	3,57

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







ERICKSON

HPMC MM-HSK Form A




order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	kg
3100542	**HSK100AHPMC20115M**	20	53	115	54	10	**PSW52M**	**MCSS16018M**	2,5mm & 5mm	3,13
3100543	**HSK100AHPMC32135M**	32	70	135	68	10	**PSW68M**	**MCSS16018M**	2,5mm & 5mm	4,13

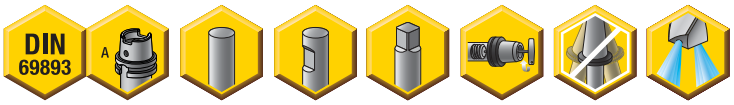
HPMC IN-HSK Form A

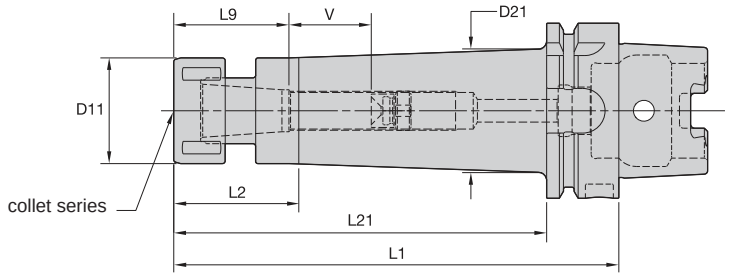



order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	lbs
3100539	**HSK100AHPMC075453**	3/4	2.09	4.53	2.05	.4	**PSW52M**	**MCSS16018M**	2,5mm & 5mm	7.00
3100540	**HSK100AHPMC100512**	1	2.40	5.12	2.56	.4	**PSW58M**	**MCSS16018M**	2,5mm & 5mm	8.45
3100541	**HSK100AHPMC125531**	1 1/4	2.76	5.32	2.68	.4	**PSW68M**	**MCSS16018M**	2,5mm & 5mm	9.05

NOTE: Milling chuck technical section, see page M88.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Optional M6~1,0P fine-balancing screw set is available (order number HPMCBALSCREWSET) and must be ordered separately; see page L14.
Reduction sleeves are available and must be ordered separately; see page J6.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG50	1,1	13,5	1/32	17/32
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1
TG150	11,6	40,0	23/64	1-1/2

ERICKSON

TG Round-HSK Form A

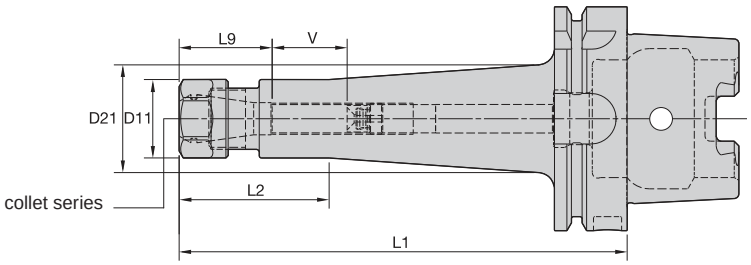


order number	catalog number	collet series	D11	D21	L1	L2	L21	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	stop screw cone cap	kg
1086586	**HSK100ATG050105M**	TG50	38	—	105	76	76	42	10	**LNA050M**	**HSW34M**	68	**SS056041G**	4mm & 5/32	**SSCC056**	2,48
1086587	**HSK100ATG050160M**	TG50	38	44	160	41	131	42	58	**LNA050M**	**HSW34M**	68	**SS056041G**	4mm & 5/32	**SSCC056**	3,06
1085040	**HSK100ATG075120M**	TG75	50	—	120	91	91	54	11	**LNA075M**	**HSW45M**	136	**SS081041G**	4mm & 5/32	**SSCC081**	3,04
1086588	**HSK100ATG100140M**	TG100	60	—	140	111	111	70	12	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	**SSCC112**	3,79
1086589	**HSK100ATG150165M**	TG150	85	—	165	136	—	84	11	**LNA150M**	**HSW80M**	271	**SS162062G**	4mm & 5/32	**SSCC162**	6,40

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Grip (2:1 advantage).







Collet Capacity

ER collet series	mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON™

ER Hex-HSK Form A

order number	catalog number	collet series	D11	D21	L1	L2	L9	V	kg
1086560	**HSK100AER16100M**	ER16	28	—	100	71	32	27	2,26
1086561	**HSK100AER16160M**	ER16	28	60	160	85	32	48	2,83
1086562	**HSK100AER20100M**	ER20	34	—	100	65	36	7	2,33

Spare Parts



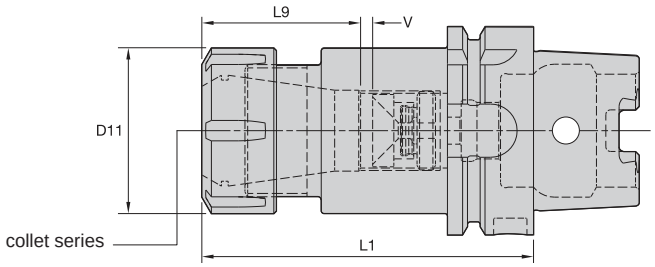




catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw	stop screw cone cap
HSK100AER16100M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32	**SSCC044**
HSK100AER16160M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32	**SSCC044**
HSK100AER20100M	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32	**SSCC056**

(continued)

(ER-HSK Form A continued)





ER Round-HSK Form A

order number	catalog number	collet series	D11	L1	L9	V	kg
1086563	**HSK100AER25100M**	ER25	42	100	40	5	2,51
1086584	**HSK100AER32100M**	ER32	50	100	45	4	2,70
1086585	**HSK100AER40120M**	ER40	63	120	52	8	3,51

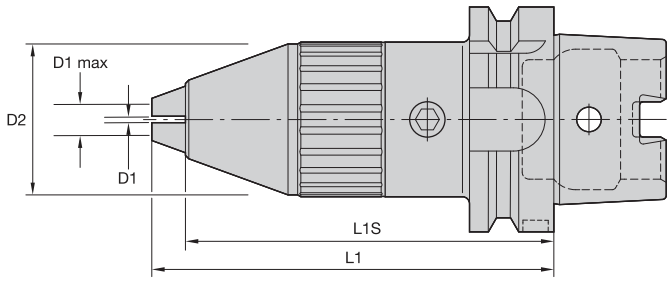
Spare Parts






catalog number	locknut	wrench	Nm	stop screw	wrench size stop screw	stop screw cone cap
HSK100AER25100M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32	**SSCC075**
HSK100AER32100M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32	**SSCC094**
HSK100AER40120M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32	**SSCC112**

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.



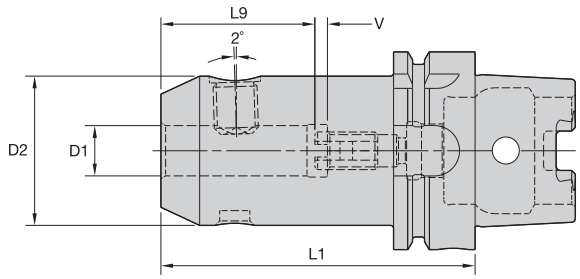


ERICKSON

DC-HSK Form A

order number	catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D2	L1	L1S
2637153	**HSK100ADC13125M**	0,5	.020	13,0	.512	50	134	125
2637154	**HSK100ADC16125M**	3,0	.118	16,0	.630	52	135	125

NOTE: Locking wrench not supplied.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







ERICKSON

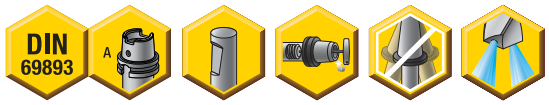
WN MM-HSK Form A

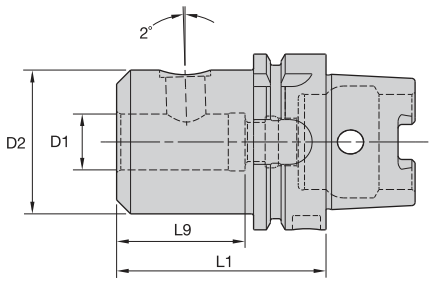




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1155902	**HSK100AWN06090M**	6	25	90	30	10	**SS03M012**	3mm	7	**571.060**	2,5mm	2,20
1155903	**HSK100AWN08090M**	8	28	90	30	10	**SS03M014**	4mm	15	**571.067**	3mm	2,26
1155904	**HSK100AWN10090M**	10	35	90	35	10	**SS03M018**	5mm	25	**571.068**	4mm	2,40
1155905	**HSK100AWN12100M**	12	42	100	40	10	**SS03M023**	6mm	35	**571.074**	5mm	2,65
1155906	**HSK100AWN14100M**	14	44	100	40	10	**SS03M023**	6mm	35	**571.074**	5mm	2,71
1155909	**HSK100AWN16100M**	16	48	100	43	10	**SS03M025**	6mm	50	**571.069**	6mm	2,84
1126240	**HSK100AWN18100M**	18	50	100	43	10	**SS03M025**	6mm	50	**571.069**	6mm	2,91
1155911	**HSK100AWN20110M**	20	52	110	45	10	**SS03M026**	8mm	95	**571.076**	6mm	3,11
1188828	**HSK100AWN25120M**	25	65	120	50	10	**SS03M027**	10mm	135	**571.077**	6mm	3,97
1188829	**HSK100AWN32120M**	32	72	120	54	10	**SS03M029**	10mm	160	**571.077**	6mm	4,34

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw or stop screw wrench not included.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.





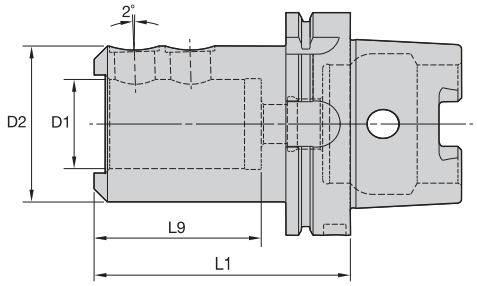


ERICKSON

SWN MM-HSK Form A



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1254122	**HSK100ASWN20085M**	20	50	85	48	**SS03M026**	8mm	95	4,53
1254123	**HSK100ASWN25085M**	25	55	85	48	**SS03M023**	6mm	35	4,25





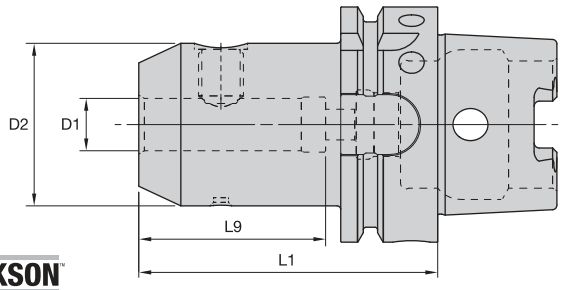
SWN MM • With Drive • HSK Form A



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1254124	**HSK100ASWN32100M**	32	62	100	66	**SS03M023**	6mm	35	3,29
1254125	**HSK100ASWN40110M**	40	70	110	76	**SS03M023**	6mm	35	3,72
1254126	**HSK100ASWN50110M**	50	80	110	76	**SS03M023**	6mm	35	4,08

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.





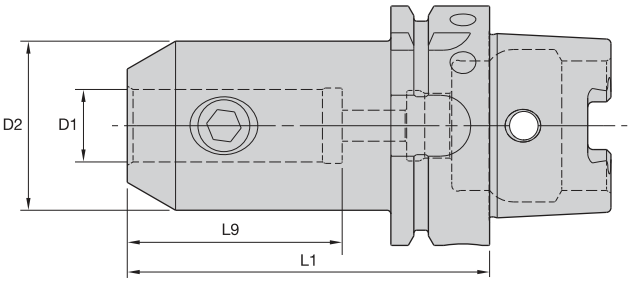


ERICKSON

EM MM-HSK Form A



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1188810	HSK100AEM06080M	6	25	80	52	SS03M012	3mm	7	2,16
1333701	HSK100AEM08080M	8	28	80	52	SS03M014	4mm	15	2,19
1188811	HSK100AEM10080M	10	35	80	52	SS03M018	5mm	25	2,31
1155899	HSK100AEM12080M	12	42	80	49	SS03M023	6mm	35	2,45
1188812	HSK100AEM14080M	14	44	80	49	SS03M023	6mm	35	2,49
1155900	HSK100AEM16100M	16	48	100	53	SS03M025	6mm	50	2,84
1188813	HSK100AEM18100M	18	50	100	53	SS03M025	6mm	50	2,90
1126421	HSK100AEM20100M	20	52	100	55	SS03M026	8mm	95	2,95
1149696	HSK100AEM25100M	25	65	100	60	SS03M027	10mm	135	3,46
1126304	HSK100AEM32100M	32	72	100	65	SS03M029	10mm	160	3,73
1188814	HSK100AEM40120M	40	90	120	75	SS03M032	10mm	160	5,51
1322096	HSK100AEM50130M	50	100	130	85	–	12mm	200	6,37





EM IN-HSK Form A



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1015228	HSK100AEM025300	1/4	1.00	3.00	2	ELS025025PKG	1/8	8	4.77
1015229	HSK100AEM038300	3/8	1.00	3.00	2	ELS038031PKG	3/16	15	4.74
1015230	HSK100AEM050325	1/2	1.38	3.25	2	ELS044038PKG	7/32	20	5.06
1015231	HSK100AEM062375	5/8	1.63	3.75	2	ELS056050PKG	1/4	40	5.61
1015232	HSK100AEM075375	3/4	1.75	3.75	2	ELS062050PKG	5/16	70	5.75
1015233	HSK100AEM100425	1	2.00	4.25	2	ELS075056PKG	3/8	110	6.43
1015254	HSK100AEM125425	1 1/4	2.50	4.25	3	ELS075062PKG	3/8	110	7.63
1015255	HSK100AEM150450	1 1/2	2.75	4.50	3	ELS075069PKG	3/8	110	8.35
1015285	HSK100AEM200550	2	3.75	5.50	4	ELS100088PKG	1/2	150	14.05
1015286	HSK100AEM250575	2 1/2	4.19	5.75	4	ELS100088PKG	1/2	150	16.04

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.



The Kennametal Solution

Kennametal Global Engineered Solutions. Coordinated global resources with world-class manufacturing, process development, and implementation capabilities.

No matter how small or large your project.

- Whether it's a single tailored tool or the development of a comprehensive manufacturing process, Kennametal's team can manage the development, personnel training, and successful implementation of the complete solution.

Regardless of where you're located, Kennametal is everywhere you are.

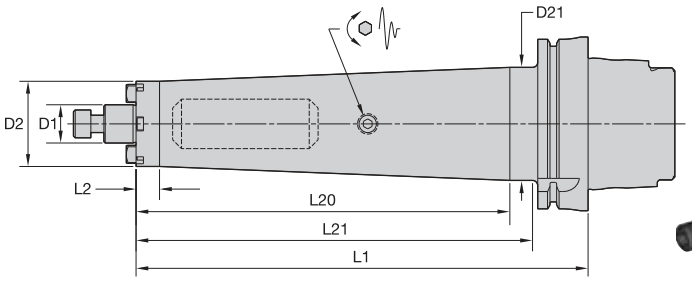
- With Kennametal's team, you receive globally coordinated manufacturing, process development, implementation, and optimization support and key alliances with machine tool builders and other leading technology manufacturers that ensure a complete solution.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®







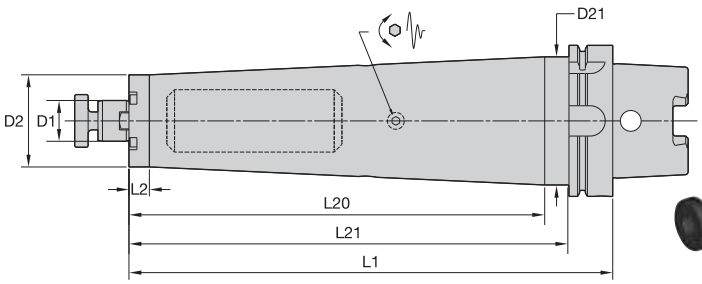
ERICKSON

Cap MM-HSK Form A





order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	drive key	wrench size lock screw	kg
4135981	**HSK100ATDSMC22260M**	22	49	65	260	14	215	231	**MS1234**	**KDK22M**	8mm	6,43





SMC Lock MM-HSK Form A

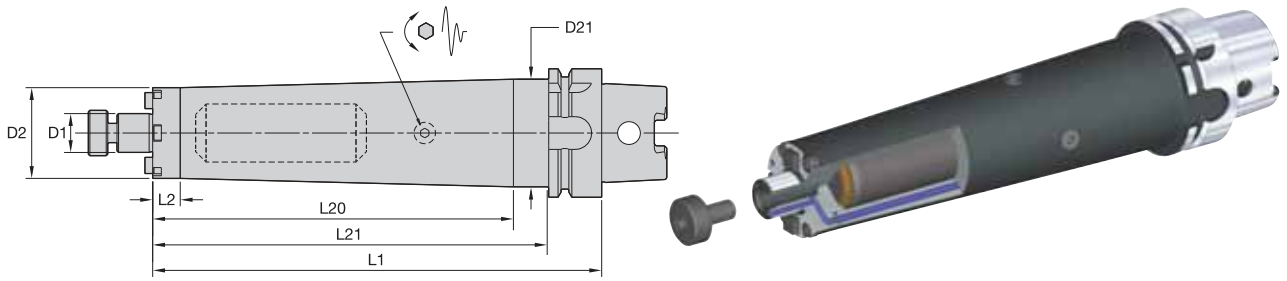




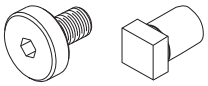
order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	drive key	wrench size lock screw	kg
4135982	**HSK100ATDSMC27320M**	27	61	85	320	13,5	275	291	**KLSS27M**	**–**	10mm	11,22
4136283	**HSK100ATDSMC32330M**	32	78	–	330	301,1	–	–	**KLSS32M**	**KDK32M**	14mm	14,92

(continued)

(SMC continued)

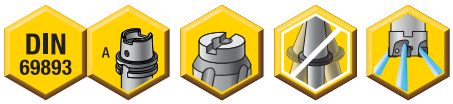


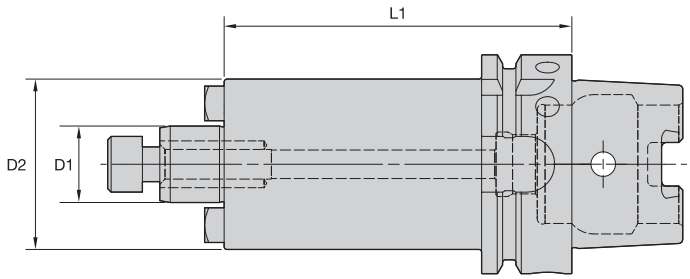
SMC Lock IN-HSK Form A



order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	drive key	wrench size lock screw	lbs
4136284	**HSK100ATDSMC0751050**	3/4	1.750	2.559	10.500	.532	8.728	9.360	**KLS07**	**KDK05**	1/4	13.69
4136285	**HSK100ATDSMC1001250**	1	2.752	3.337	12.500	.532	10.728	11.360	**KLS10**	**KDK06**	5/16	26.94
4136286	**HSK100ATDSMC1251300**	1 1/4	2.878	3.337	13.000	.630	11.228	11.860	**KLS12**	**KDK08**	5/16	33.52

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For HSK coolant unit and wrench; see page L44.







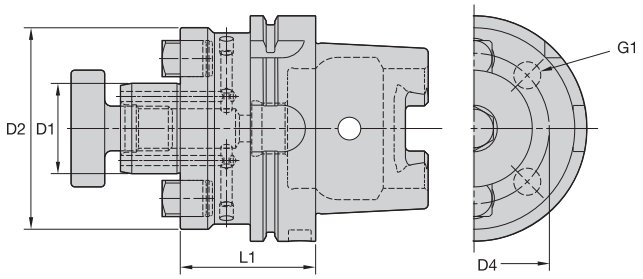
ERICKSON

SMC Cap MM-HSK Form A





order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size retention screw	kg
4144669	HSK100ASM2C16050M	16	38	50	MS1294	KDK16M	6mm	2,20
4144670	HSK100ASM2C22050M	22	42	50	MS1234	–	8mm	2,28
3872496	HSK100ASMC16050M	16	44	50	MS1294	KDK16M	6mm	2,26
3872497	HSK100ASMC16100M	16	44	100	MS1294	KDK16M	6mm	2,81
3872498	HSK100ASMC16160M	16	44	160	MS1294	KDK16M	6mm	3,48
3872499	HSK100ASMC22050M	22	49	50	MS1234	KDK22M	8mm	2,36
3872500	HSK100ASMC22100M	22	49	100	MS1234	KDK22M	8mm	3,05
3872501	HSK100ASMC22160M	22	49	160	MS1234	KDK22M	8mm	3,89





SMC Lock MM-HSK Form A

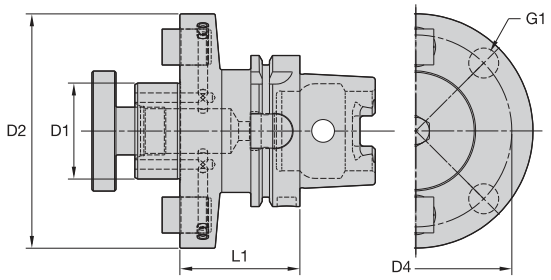




order number	catalog number	D1	D2	D4	G1	L1	lock screw	drive key	wrench size retention screw	kg
3872502	HSK100ASMC27050M	27	60	–	–	50	KLSS27M	KDK27M	10mm	2,59
3872503	HSK100ASMC27100M	27	60	–	–	100	KLSS27M	KDK27M	10mm	3,65
3872504	HSK100ASMC27160M	27	60	–	–	160	KLSS27M	KDK27M	10mm	4,93
3872505	HSK100ASMC32050M	32	78	–	–	50	KLSS32M	KDK32M	14mm	3,00
3872506	HSK100ASMC32100M	32	78	–	–	100	KLSS32M	KDK32M	14mm	4,82
3872507	HSK100ASMC32160M	32	78	–	–	160	KLSS32M	KDK32M	14mm	7,02
3872508	HSK100ASMC40060M	40	89	67	M12X1.75	60	KLSS40M	KDK40M	17mm	3,78
3872509	HSK100ASMC40100M	40	89	67	M12X1.75	100	KLSS40M	KDK40M	17mm	5,54
3872510	HSK100ASMC40160M	40	89	67	M12X1.75	160	KLSS40M	KDK40M	17mm	8,14
3872511	HSK100ASMC50070M	50	98	–	–	70	KLS50M	–	–	4,67
3872512	HSK100ASMC50100M	50	98	–	–	100	KLS50M	–	–	6,14
3872513	HSK100ASMC50160M	50	98	–	–	160	KLS50M	–	–	8,70
3872514	HSK100ASMC60070M	60	129	102	M16X2.0	70	–	KDK60M	–	5,53
3872515	HSK100ASMC60100M	60	129	102	M16X2.0	100	–	KDK60M	–	7,58
3872516	HSK100ASMC60160M	60	129	102	M16X2.0	160	–	KDK60M	–	10,18

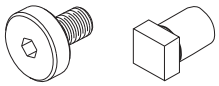
(continued)

(SMC continued)





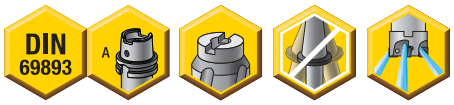
SMC Lock IN-HSK Form A

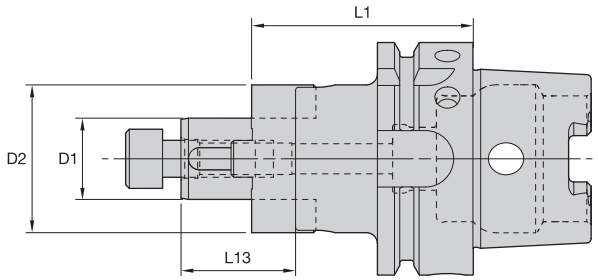


order number	catalog number	D1	D2	D4	G1	L1	lock screw	drive key	wrench size retention screw	lbs
3763072	**HSK100ASM2C075225**	3/4	1.535	—	—	2.250	**KLS07**	**—**	1/4	4.99
3763071	**HSK100ASMC075225**	3/4	1.752	—	—	2.250	**KLS07**	**KDK05**	1/4	5.23
3763074	**HSK100ASM2C100225**	1	2.189	—	—	2.250	**KLS10**	**KDK06**	5/16	5.77
3763073	**HSK100ASMC100225**	1	2.752	—	—	2.250	**KLS10**	**KDK06**	5/16	6.43
3763075	**HSK100ASMC125250**	1 1/4	2.878	—	—	2.500	**KLS12**	**KDK08**	5/16	7.26
3763076	**HSK100ASMC150250**	1 1/2	3.811	—	—	2.500	**KLS15**	**KDK10**	3/8	8.94
3763077	**HSK100ASMC200250**	2	4.882	4.000	.625-11 UNC	2.500	**KLS20**	**KDK12**	9/16	10.87
3763078	**HSK100ASMC250250**	2 1/2	4.882	4.000	.625-11 UNC	2.500	**KLS25**	**KDK16**	9/16	11.83

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For HSK coolant unit and wrench, see page L44.
Supplied with four locking bolts (S-388).

- Through-the-toolholder coolant capability.







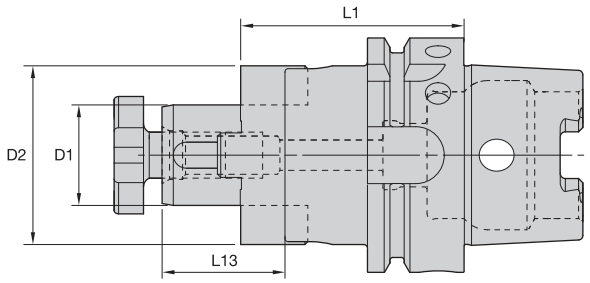
ERICKSON

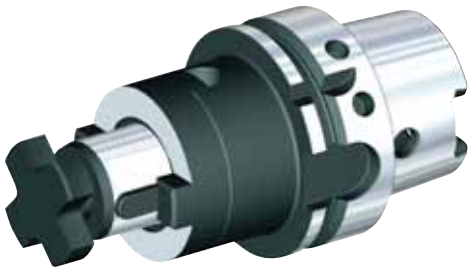
CS Cap MM-HSK Form A



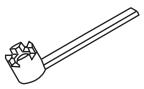


order number	catalog number	D1	D2	L1	L13	lock screw	wrench size lock screw	combi driver ring	combi drive key	kg
1125162	HSK100ACS16060M	16	32	60	27	MS1294	6mm	CDR16M	CDK16M	2,22
1151595	HSK100ACS22060M	22	40	60	31	MS1234	8mm	CDR22M	CDK22M	2,34





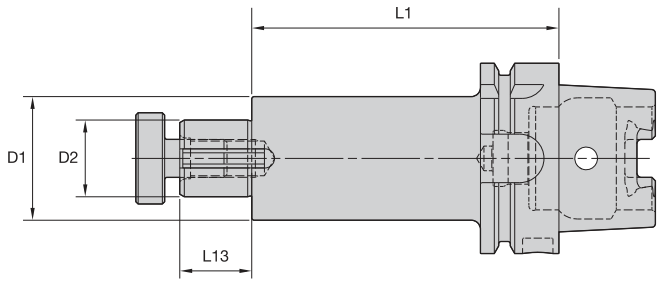
CS Lock MM-HSK Form A



order number	catalog number	D1	D2	L1	L13	lock screw	locknut wrench	combi driver ring	combi drive key
1126856	HSK100ACS27060M	27	48	60	33	KLS27MPKG	SMW27M	CDR27M	CDK27M
1126865	HSK100ACS32060M	32	58	60	38	KLS32M	SMW32M	CDR32M	CDK32M
1126873	HSK100ACS40070M	40	70	70	41	KLS40M	SMW40M	CDR40M	CDK40M
1188682	HSK100ACS50080M	50	90	80	46	KLS50M	SMW50M	CDR50M	CDK50M

NOTE: Do not overtighten lock screw.
Supplied with lock screw, drive ring, and drive keys.
Lock screw wrench must be ordered separately.
For HSK coolant unit and wrench, see page L44.





ERICKSON

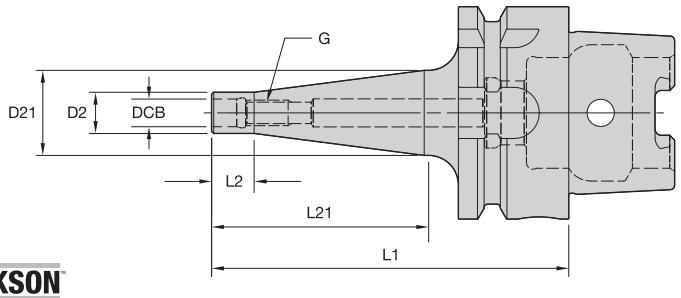
SA IN-HSK Form A





order number	catalog number	D1	D2	L1	L13	lock screw	wrench size lock screw	drive key	lbs
1256067	HSK100ASA062400	5/8	1.25	4.00	.78	KLS07	1/4	DWG SDK062088	5.46
1256068	HSK100ASA100400	1	1.61	4.00	.94	KLS10	5/16	DWG SDK100106	6.23
1256069	HSK100ASA125600	1 1/4	1.86	6.00	1.09	KLS12	5/16	DWG SDK125119	8.49
1256070	HSK100ASA150600	1 1/2	2.11	6.00	1.70	KLS15	3/8	DWG SDK150175	10.09
1256071	HSK100ASA200600	2	2.75	6.00	1.70	KLS20	9/16	SDK200169	14.19

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive key.
Lock screw wrench not included.
For HSK coolant unit and wrench, see page L44.



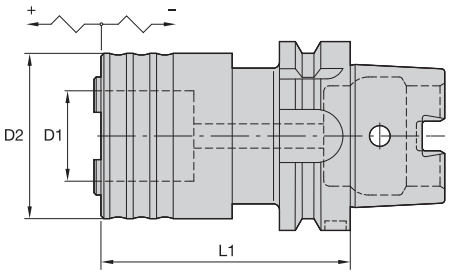


ERICKSON

ST-HSK Form A

order number	catalog number	DCB	G	D2	D21	L1	L2	L21	kg
4061397	HSK100AST12087M	12,5	M12	21	24	87	10	50	2,13
4061398	HSK100AST12137M	12,5	M12	21	31	137	10	100	2,40
4061399	HSK100AST12187M	12,5	M12	21	31	187	10	150	2,57
4061400	HSK100AST12237M	12,5	M12	21	36	237	10	200	2,95
4061401	HSK100AST16087M	17,0	M16	29	31	87	10	50	2,24
4061402	HSK100AST16137M	17,0	M16	29	39	137	10	100	2,69
4061413	HSK100AST16187M	17,0	M16	29	39	187	10	150	3,02
4061414	HSK100AST16237M	17,0	M16	29	39	237	10	200	3,36

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.







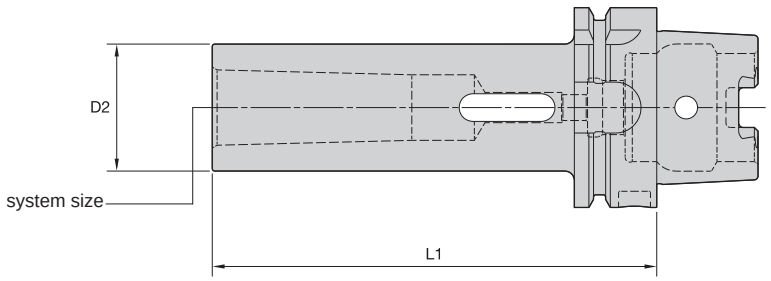
ERICKSON

RC-HSK Form A

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	tension	compression	kg
1520643	**HSK100ACHRC1112M**	1	M1.0 - M14	#0 - 9/16	19	39	112	7,5	7,5	3,60
1520644	**HSK100ACHRC2144M**	2	M4.5 - M24	5/16 - 7/8	31	60	144	10,0	10,0	4,10
1520645	**HSK100ACHRC3210M**	3	M14.0 - M36	13/16 - 1 3/8	48	86	210	17,5	17,5	6,90

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Balanced-by-design.







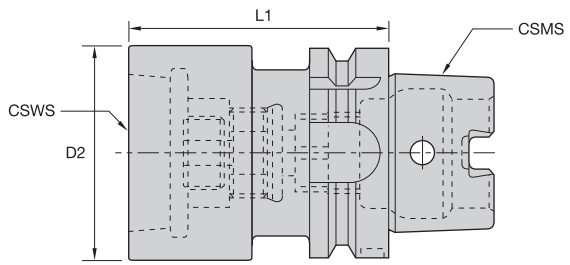
ERICKSON

MT-HSK Form A

order number	catalog number	system size	D2	L1	kg
1323373	**HSK100AMT2120M**	2	32,00	120	1,89
1323375	**HSK100AMT3150M**	3	40,00	150	2,31
1507601	**HSK100AMT4170M**	4	48,00	170	2,78
1518711	**HSK100AMT5200M**	5	70,00	200	4,92

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Differential connector included.





ERICKSON

HSK Form A to KR Adapters • Metric



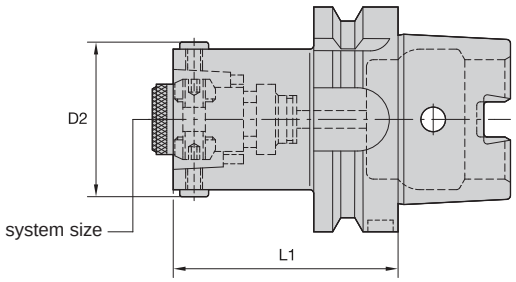
order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	kg	reference head
1153606	**HSK100AKR32075M**	HSK100A	KR32	50	75	KRDCKR32M	2,56	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1107188	**HSK100AKR50085M**	HSK100A	KR50	65	85	KRDCKR50M	3,12	SVS4B,5B,SVU65,SVUBB2
1173988	**HSK100AKR63100M**	HSK100A	KR63	85	100	KRDCKR63M	4,26	SVS6B,7B,8B
1153612	**HSK100AKR80090M**	HSK100A	KR80	95	90	KRDCKR80M	4,36	SVU92,120

HSK Form A to KR Adapters • Inch



order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	lbs	reference head
1153606	**HSK100AKR32075M**	HSK100A	KR32	1.96	2.953	KRDCKR32M	5.64	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1107188	**HSK100AKR50085M**	HSK100A	KR50	2.56	3.347	KRDCKR50M	6.87	SVS4B,5B,SVU65,SVUBB2
1173988	**HSK100AKR63100M**	HSK100A	KR63	3.34	3.937	KRDCKR63M	9.40	SVS6B,7B,8B
1153612	**HSK100AKR80090M**	HSK100A	KR80	3.73	3.543	KRDCKR80M	9.62	SVU92,120

NOTE: Plug may need to be removed to access the differential screw drive through the HSK taper.



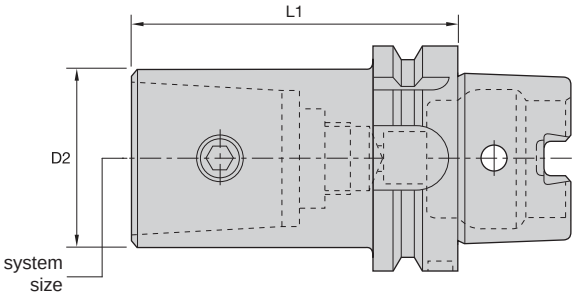


ERICKSON™

HSK-HSK Form A

order number	catalog number	system size	D2	L1	wrench size actuation screw	Nm	kg
1318870	**HSK100AHSK50080M**	HSK50	55	80	4mm	15	2
1312947	**HSK100AHSK63100M**	HSK63	70	100	5mm	20	2
1320682	**HSK100AHSK100140M**	HSK100	110	140	8mm	40	7
1520596	**HSK100AHSK100200M**	HSK100	110	200	8mm	40	9

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with actuation mechanism and sealing ring.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.
With HSK adapters to DIN 69893-1 Form A or Form C, coolant pipe must be removed.





ERICKSON™

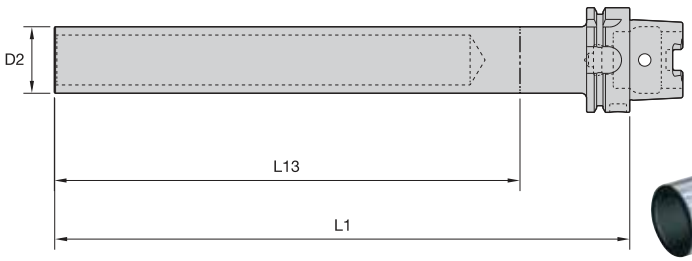
KM-HSK Form A

order number	catalog number	system size	D2	L1	spare parts package	wrench size actuation screw	Nm	kg
1139877	**HSK100AKM32075M**	KM32	32	75	**KM32PKG3S**	5mm	8	2,25
1140647	**HSK100AKM40080M**	KM40	40	80	**KM40PKG3S**	6mm	12	2,42
1140651	**HSK100AKM50100M**	KM50	50	100	**KM50PKG3S**	10mm	27	2,87
1140655	**HSK100AKM63115M**	KM63	63	115	**KM63PKG3S**	12mm	47	3,67
1255791	**HSK100AKM80125M**	KM80	80	125	**KM80PKG3S**	14mm	79	5,04

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- For acceptance testing on machine tool spindles.
- 0,003mm (.0001") maximum TIR.
- Precision ground.





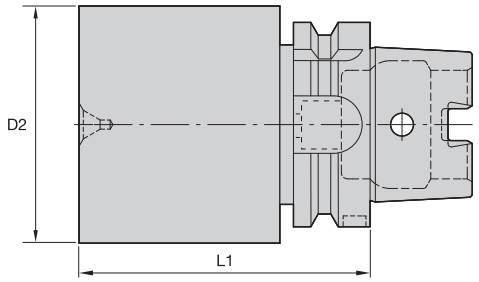
ERICKSON

GB-HSK Form A

		D2		L1		L13		
order number	catalog number	mm	in	mm	in	mm	in	kg
1316356	HSK100AGB40349M	40,0	1.57	349,0	13.74	300,0	11.81	3,73

- Machinable front 32–38 RW C.





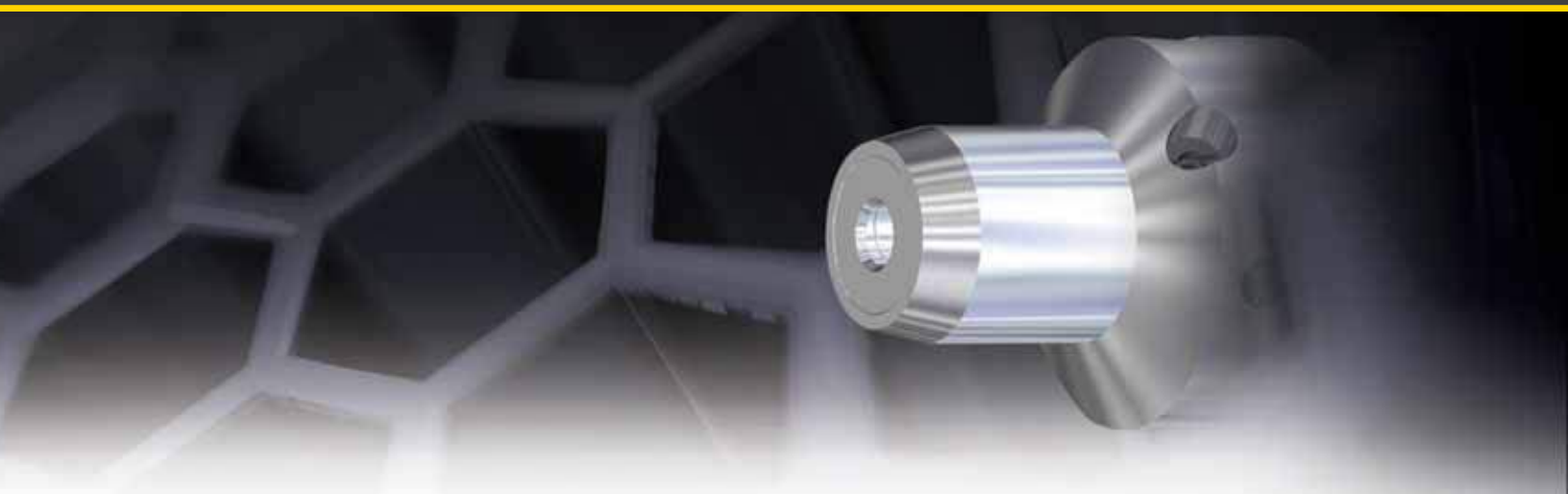


ERICKSON

BB-HSK Form A

order number	catalog number	D2	L1	kg
1026681	HSK100ABB100300M	100,8	300	18,11
1015290	HSK100ABB200175M	200,8	175	34,36

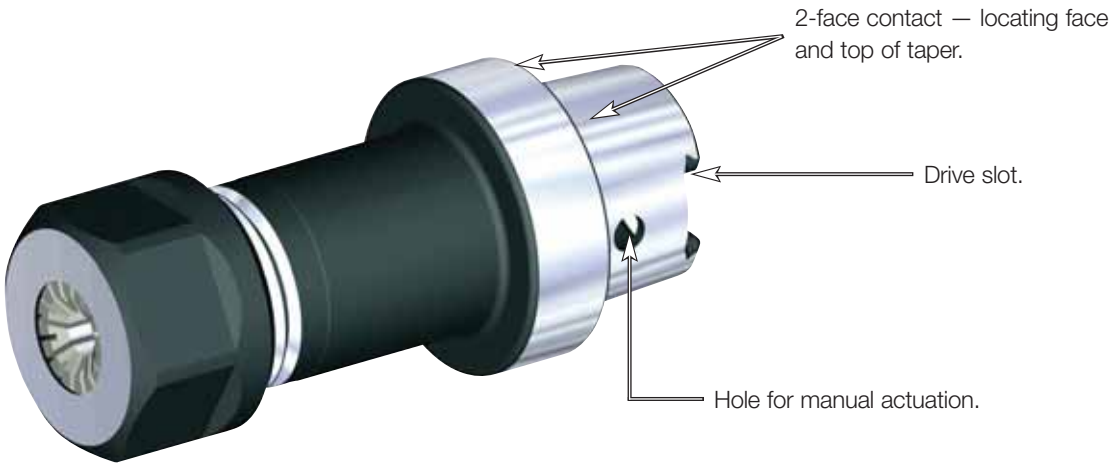
NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.



ERICKSON™ HSK Shank Tooling System • HSK32C Series

Primary Application

ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form C versions are generally used in transfer lines, multispindles, and special machines without automatic tool changers.

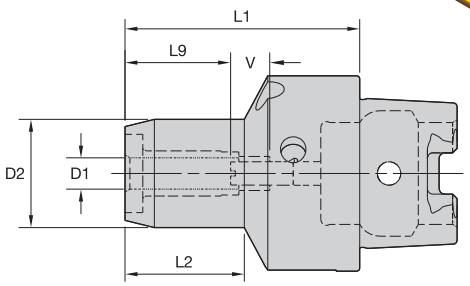




Features and Benefits

- ISO 12164-1/DIN 69893-1 Form C 1:10 short taper.
- High axial and radial repeatability.
- Maximum 100 bar (1,500 psi) coolant pressure.



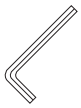




ERICKSON

HC MM-HSK Form C

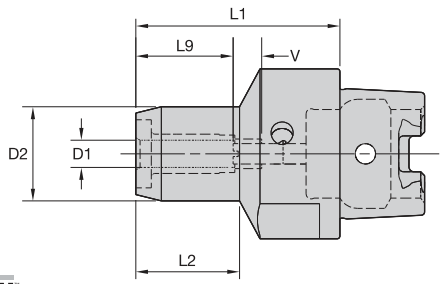




order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	kg
1245412	**HSK32CHC06060M**	6	25,7	60	33	26	10	**170.254**	4mm	**170.002**	2,5mm	2,77
1245413	**HSK32CHC08060M**	8	27,7	60	33	26	10	**170.254**	4mm	**170.002**	2,5mm	2,92
1245414	**HSK32CHC10065M**	10	29,7	65	38	31	10	**170.254**	4mm	**170.002**	2,5mm	3,30
1245415	**HSK32CHC12070M**	12	31,6	70	43	36	10	**170.254**	4mm	**170.002**	2,5mm	3,67

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J6.



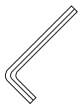




ERICKSON

HC Trend MM-HSK Form C



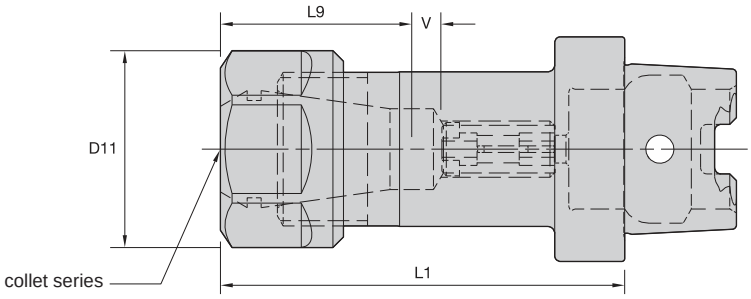


order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	kg
1809981	**HSK32CHCT06060M**	6	25,7	60	33	26	10	**170.254**	4mm	**170.003**	3mm	0,30
1809982	**HSK32CHCT08060M**	8	27,7	60	33	26	10	**170.254**	4mm	**170.003**	3mm	0,30
1809983	**HSK32CHCT10065M**	10	29,7	65	38	31	10	**170.254**	4mm	**170.003**	3mm	0,40
1809984	**HSK32CHCT12070M**	12	31,6	70	43	36	10	**170.254**	4mm	**170.003**	3mm	0,40

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J6.

• Grip (2:1 advantage).







Collet Capacity

ER collet series	mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41

ERICKSON

ER Hex-HSK Form C



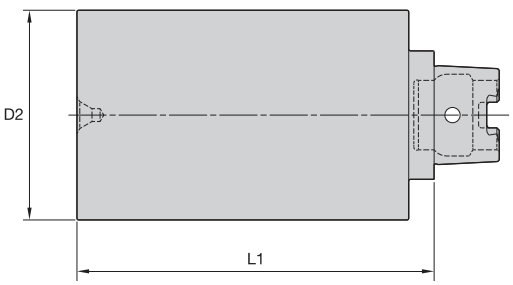


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw	kg
1139068	**HSK32CER16060M**	ER16	28	60	32	2	**LNHER16M**	**OEW25M**	40	56	**571.068**	4mm	0,19

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.

• Machinable front 32–38 RW C.



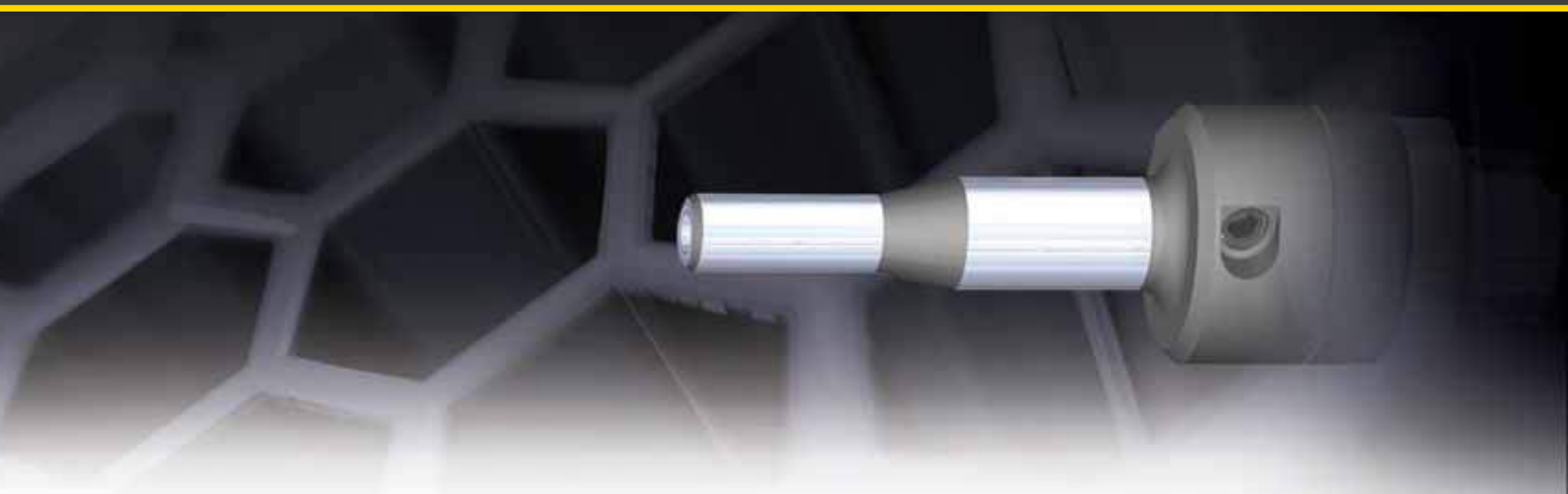




ERICKSON

BB-HSK Form C

order number	catalog number	D2	L1	kg
1519723	**HSK32CBB034100M**	34,8	100,0	0,73
1519724	**HSK32CBB034200M**	34,8	200,0	1,48
1519725	**HSK32CBB053150M**	53,8	150,0	2,54



ERICKSON™ HSK Shank Tooling System • HSK40C Series

Primary Application

ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form C versions are generally used in transfer lines, multispindles, and special machines without automatic tool changers.

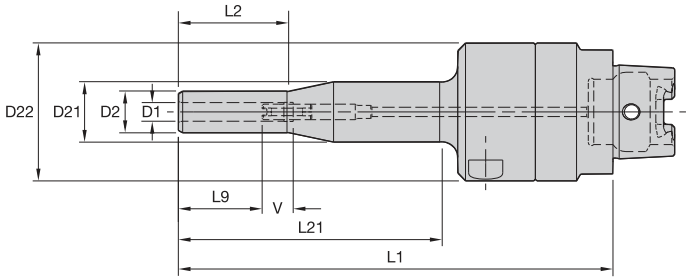




Features and Benefits

- ISO 12164-1/DIN 69893-1 Form C 1:10 short taper.
- High axial and radial repeatability.
- Maximum 100 bar (1,500 psi) coolant pressure.







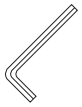
ERICKSON

HC Slim-T MM-HSK Form C

order number	catalog number	D1	D2	D21	D22	L1	L2	L9	L21	V	kg
3061272	**HSK40CHCSLT06140M**	6	13,5	19,5	44,5	140	35	27	85	10	0,72
3061273	**HSK40CHCSLT08140M**	8	15,5	19,5	44,5	140	35	27	85	10	0,73

Spare Parts

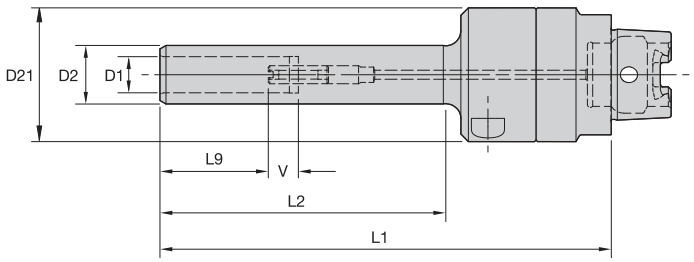




catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
HSK40CHCSLT06140M	**170.135**	5mm	**170.002**	2,5mm
HSK40CHCSLT08140M	**170.135**	5mm	**170.002**	2,5mm

(continued)

(HC Slim HSK Form C continued)



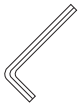


HC Slim MM-HSK Form C

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
3061275	**HSK40CHCSLT12150M**	12	19,5	44,5	150,0	95	36	10	0,76
3061276	**HSK40CHCSLT14150M**	14	21,5	52,5	150,0	95	36	10	0,96
3061277	**HSK40CHCSLT16150M**	16	23,5	52,5	150,0	95	39	10	0,98
3061278	**HSK40CHCSLT18150M**	18	25,5	52,5	150,0	95	39	10	1,02
3061279	**HSK40CHCSLT20150M**	20	27,5	52,5	150,0	95	41	10	1,06

Spare Parts

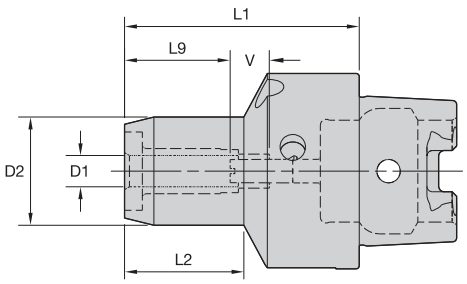




catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
HSK40CHCSLT12150M	**170.135**	5mm	**170.003**	3mm
HSK40CHCSLT14150M	**170.135**	5mm	**170.003**	3mm
HSK40CHCSLT16150M	**170.135**	5mm	**170.005**	5mm
HSK40CHCSLT18150M	**170.135**	5mm	**170.005**	5mm
HSK40CHCSLT20150M	**170.135**	5mm	**170.005**	5mm

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrenches must be ordered separately.
Unable to use SEFAS™ chamfering rings on this design.
Reduction sleeves are available and must be ordered separately; see page J2.







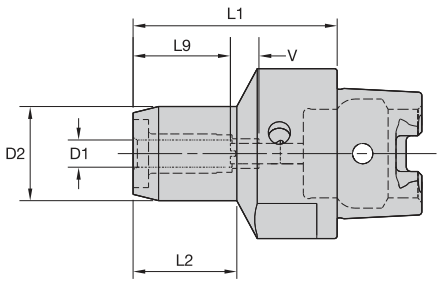
ERICKSON

HC MM-HSK Form C

order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	kg
1245493	**HSK40CHC06060M**	6	25,7	60	33	26	10	**170.135**	5mm	**170.002**	2,5mm	0,30
1245494	**HSK40CHC08060M**	8	27,7	60	33	26	10	**170.135**	5mm	**170.002**	2,5mm	0,30
1245495	**HSK40CHC10065M**	10	29,7	65	39	30	10	**170.135**	5mm	**170.002**	2,5mm	0,50
1245496	**HSK40CHC12070M**	12	31,6	70	44	36	10	**170.135**	5mm	**170.002**	2,5mm	0,60

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.







ERICKSON

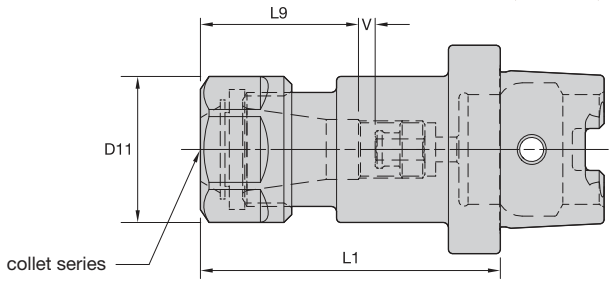
HC Trend MM-HSK Form C

order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	wrench size stop screw	kg
1809985	**HSK40CHCT06060M**	6	25,7	60	33	26	10	**170.135**	5mm	3mm	0,30
1809986	**HSK40CHCT08060M**	8	27,7	60	33	26	10	**170.135**	5mm	3mm	0,30
1809987	**HSK40CHCT10065M**	10	29,7	65	39	30	10	**170.135**	5mm	3mm	0,50
1809988	**HSK40CHCT12070M**	12	31,6	70	44	36	10	**170.135**	5mm	3mm	0,60

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Grip (2:1 advantage).







ERICKSON

ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81

ER Hex-HSK Form C

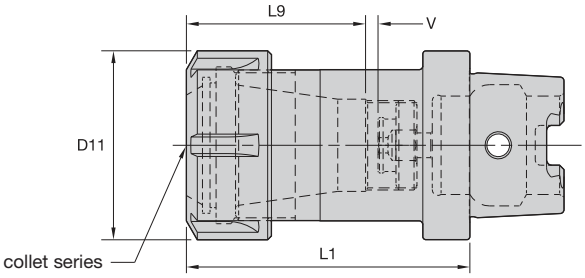
order number	catalog number	collet series	D11	L1	L9	V	kg
1253864	HSK40CER16060M	ER16	28	60	32	5,00	0,27

Spare Parts





catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
HSK40CER16060M	LNHSER16M	OEW25M	40	56	SS044038G	4mm & 5/32





ER Round-HSK Form C

order number	catalog number	collet series	D11	L1	L9	V	kg
1253866	HSK40CER25070M	ER25	42	70	40	5	0,41
1125645	HSK40CER32075M	ER32	50	75	45	5	0,57

Spare Parts

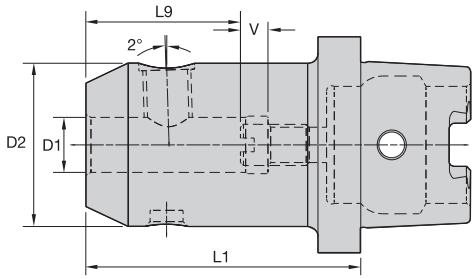




catalog number	round locknut	wrench	Nm	stop screw	wrench size stop screw
HSK40CER25070M	LNSER25M	ER25WM	104	SS075041G	4mm & 5/32
HSK40CER32075M	LNSER32M	ER32WM	136	SS094041G	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.







ERICKSON

WN MM-HSK Form C

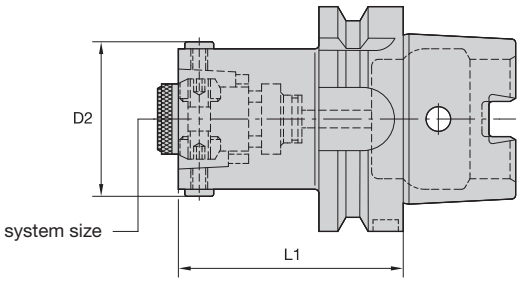




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1123137	**HSK40CWN16075M**	16	48	75	40	8	—	6mm	24	**571.075**	6mm	0,86

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw or stop screw wrenches are not included.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







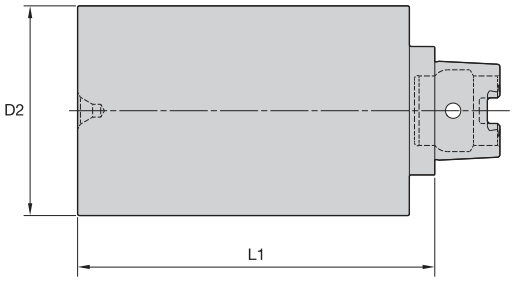
ERICKSON

HSK-HSK Form C

order number	catalog number	system size	D2	L1	wrench size actuation screw	Nm	kg
1520613	**HSK40CHSK32050M**	HSK32	37	50	3mm	6	0,40

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with actuation mechanism and sealing ring.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Machinable front 32–38 RW C.

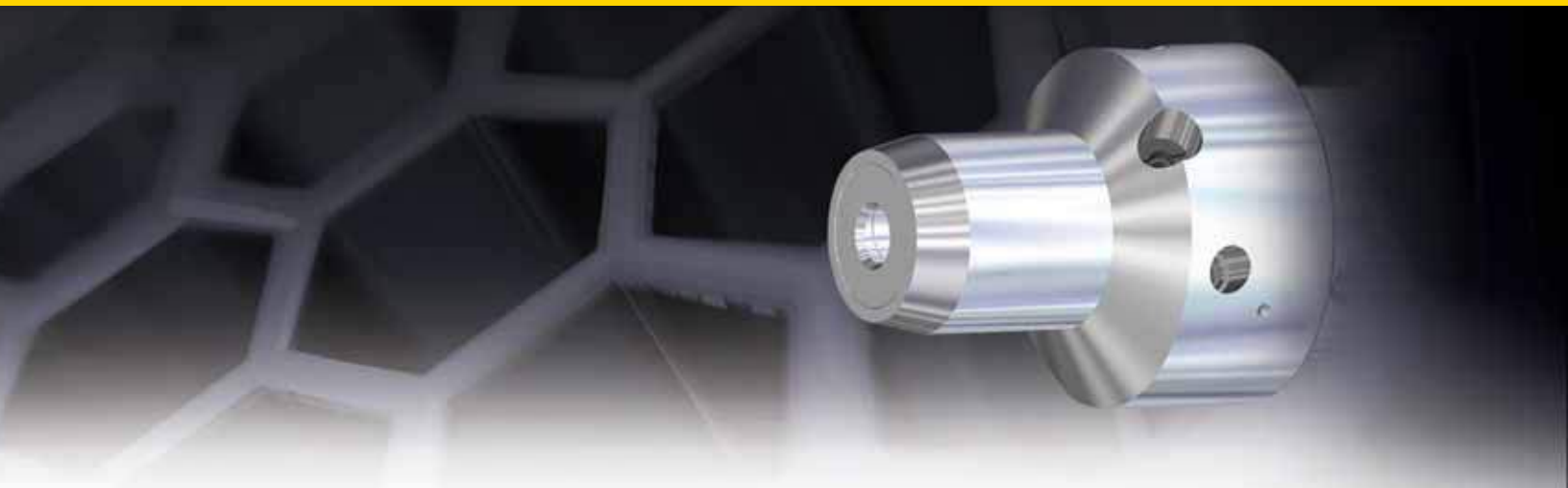




ERICKSON

■ BB-HSK Form C

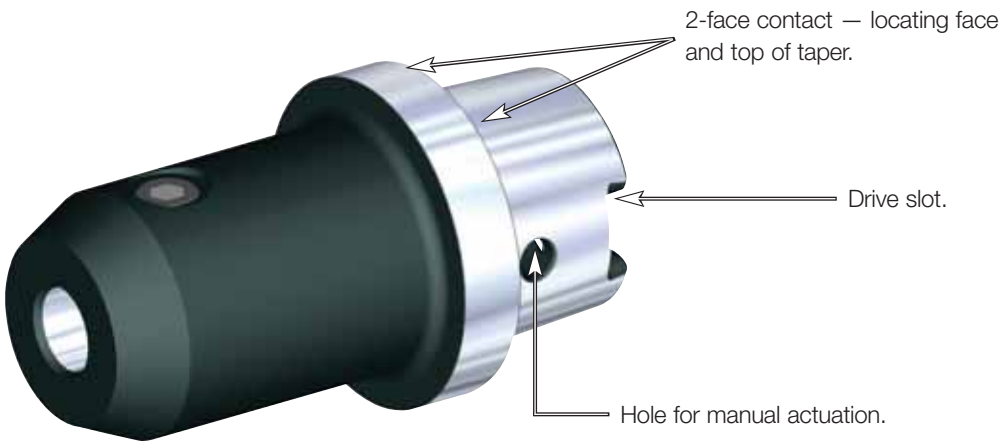
order number	catalog number	D2	L1	kg
1519726	HSK40CBB040100M	40,8	100	0,99
1519727	HSK40CBB040200M	40,8	200	2,02
1519729	HSK40CBB063150M	63,8	150	3,57



ERICKSON™ HSK Shank Tooling System • HSK50C Series

Primary Application

ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form C versions are generally used in transfer lines, multispindles, and special machines without automatic tool changers.

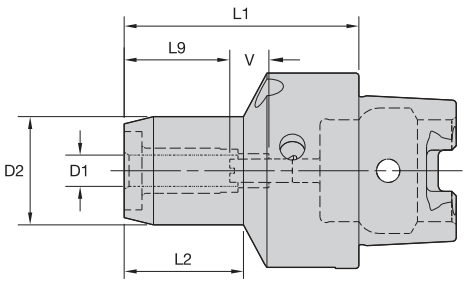




Features and Benefits

- ISO 12164-1/DIN 69893-1 Form C 1:10 short taper.
- High axial and radial repeatability.
- Maximum 100 bar (1,500 psi) coolant pressure.



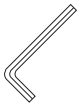




ERICKSON

HC MM-HSK Form C

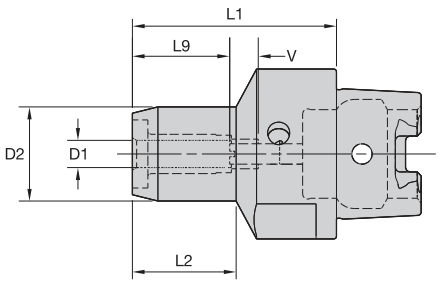




order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	kg
1245497	**HSK50CHC06060M**	6	25,7	60	31	27	10	**170.135**	5mm	**170.002**	2,5mm	0,53
1245498	**HSK50CHC08060M**	8	27,7	60	31	27	10	**170.135**	5mm	**170.002**	2,5mm	0,55
1245499	**HSK50CHC10065M**	10	29,7	65	36	30	10	**170.135**	5mm	**170.002**	2,5mm	0,60
1245500	**HSK50CHC12075M**	12	31,6	75	46	36	10	**170.135**	5mm	**170.002**	2,5mm	0,80
1245501	**HSK50CHC14075M**	14	33,6	75	47	36	10	**170.135**	5mm	**170.003**	3mm	0,90
1245502	**HSK50CHC16080M**	16	37,6	80	53	39	10	**170.135**	5mm	**170.003**	3mm	1,00
1245503	**HSK50CHC18080M**	18	39,6	80	54	39	10	**170.135**	5mm	**170.003**	3mm	1,00
1245504	**HSK50CHC20080M**	20	41,6	80	54	40	10	**170.135**	5mm	**170.003**	3mm	1,10

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page L44.







ERICKSON

HC Trend MM-HSK Form C



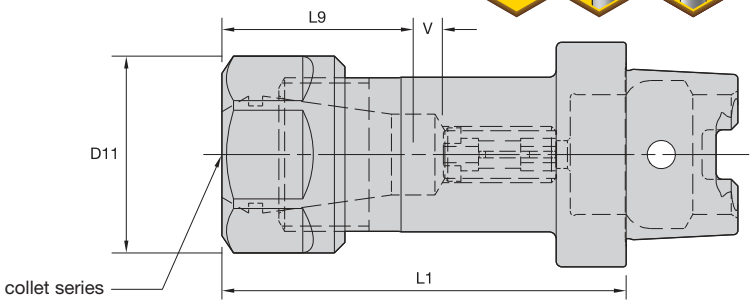


order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw	wrench size stop screw	kg
1809989	**HSK50CHCT06060M**	6	25,7	60	31	27	10	**170.135**	5mm	**571.071**	3mm	0,54
1809990	**HSK50CHCT08060M**	8	27,7	60	31	27	10	**170.135**	5mm	**571.071**	3mm	0,55
1809991	**HSK50CHCT10065M**	10	29,7	65	36	30	10	**170.135**	5mm	**571.071**	3mm	0,60
1809992	**HSK50CHCT12075M**	12	31,6	75	46	36	10	**170.135**	5mm	**571.071**	3mm	0,70
1810013	**HSK50CHCT14075M**	14	33,6	75	47	36	10	**170.135**	5mm	**571.063**	5mm	0,70
1810014	**HSK50CHCT16080M**	16	37,6	80	53	39	10	**170.135**	5mm	**571.063**	5mm	0,80
1810015	**HSK50CHCT18080M**	18	39,6	80	54	39	10	**170.135**	5mm	**571.063**	5mm	0,80
1810016	**HSK50CHCT20080M**	20	41,6	80	54	40	10	**170.135**	5mm	**571.063**	5mm	0,80

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Wrenches must be ordered separately.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.

• Grip (2:1 advantage).







Collet Capacity

ER collet series	mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81

ERICKSON

ER Hex-HSK Form C

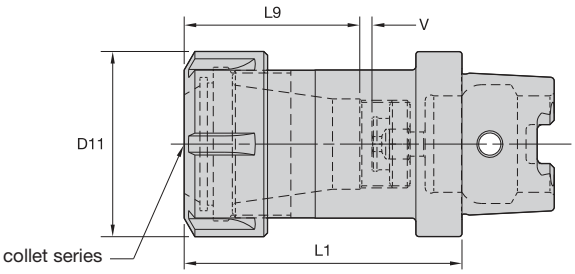
order number	catalog number	collet series	D11	L1	L9	V	kg
1139074	HSK50CER16060M	ER16	28	60	28	5	0,38

Spare Parts





catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
HSK50CER16060M	LNHSER16M	OEW25M	40	56	TTSS08014M	4mm





ER Round-HSK Form C

order number	catalog number	collet series	D11	L1	L9	V	kg
1120659	HSK50CER25070M	ER25	42	70	40	5	0,50
1126932	HSK50CER32075M	ER32	50	75	45	5	0,67

Spare Parts



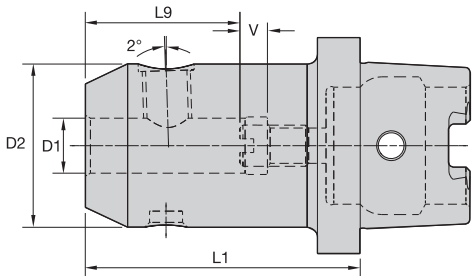




catalog number	round locknut	wrench	counterbore collet torque (Nm)	stop screw	wrench size stop screw
HSK50CER25070M	LNSER25M	ER25WM	104	SS075041G	4mm & 5/32
HSK50CER32075M	LNSER32M	ER32WM	136	SS094041G	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.







ERICKSON

WN MM-HSK Form C



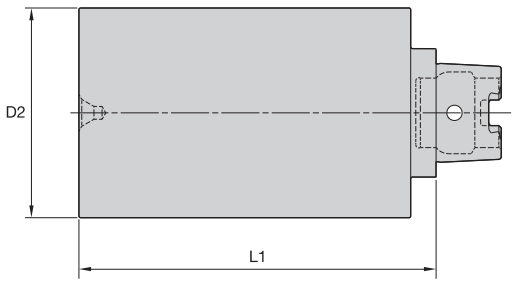


order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1519772	HSK50CWN06060M	6	25	60	28	6	SS03M012	3mm	7	571.060	2,5mm	0,38
1519774	HSK50CWN08060M	8	28	60	28	6	SS03M014	4mm	15	571.067	3mm	0,42
1131275	HSK50CWN10065M	10	35	65	30	6	SS03M018	5mm	25	571.068	5mm	0,56
1131266	HSK50CWN12075M	12	42	75	38	8	SS03M023	6mm	35	571.074	5mm	0,80
1519777	HSK50CWN14075M	14	44	75	38	8	SS03M023	6mm	35	571.074	5mm	0,85
1519638	HSK50CWN16080M	16	48	80	41	10	SS03M025	6mm	50	571.075	6mm	1,03
1519639	HSK50CWN18080M	18	50	80	41	10	SS03M025	6mm	50	571.075	6mm	1,10
1519791	HSK50CWN20080M	20	52	80	39	8	SS03M026	8mm	95	571.076	6mm	1,15

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw and stop screw.
Clamp screw or stop screw wrenches are not included.

• Machinable front 32–38 RW C.







ERICKSON

BB-HSK Form C

order number	catalog number	D2	L1	kg
1519733	HSK50CBB053100M	53,8	100	1,77
1519745	HSK50CBB053200M	53,8	200	3,55
1519750	HSK50CBB083175M	83,8	175	7,23

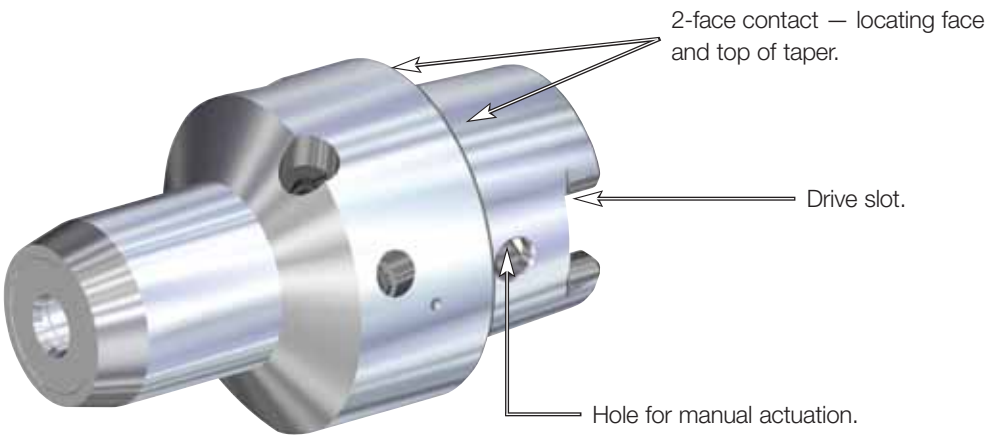
ERICKSON™ HSK Shank Tooling System • HSK63C Series

Primary Application

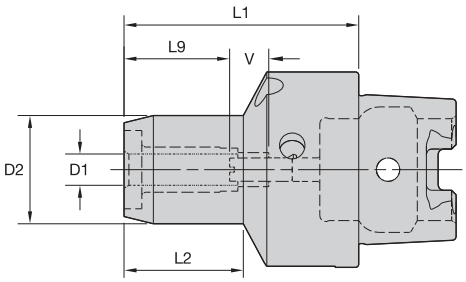
ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form C versions are generally used in transfer lines, multispindles, and special machines without automatic tool changers.

Features and Benefits

- ISO 12164-1/DIN 69893-1 Form C 1:10 short taper.
- High axial and radial repeatability.
- Maximum 100 bar (1,500 psi) coolant pressure.









ERICKSON

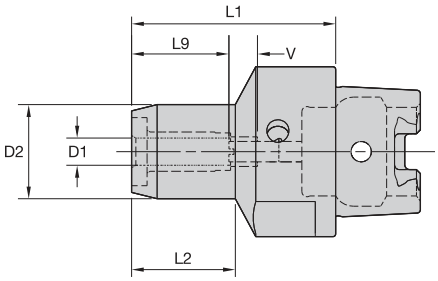
HC MM-HSK Form C



order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	wrench size stop screw	kg
1245505	**HSK63CHC06060M**	6	25,7	60	26	26	10	**170.135**	5mm	2,5mm	0,84
1245506	**HSK63CHC08060M**	8	27,7	60	26	26	10	**170.135**	5mm	2,5mm	0,86
1245507	**HSK63CHC10065M**	10	29,7	65	32	30	10	**170.135**	5mm	2,5mm	0,89
1245508	**HSK63CHC12075M**	12	31,6	75	43	36	10	**170.135**	5mm	2,5mm	0,96
1245509	**HSK63CHC14075M**	14	33,6	75	43	36	10	**170.135**	5mm	3mm	0,97
1245510	**HSK63CHC16080M**	16	37,6	80	49	39	10	**170.135**	5mm	3mm	1,07
1245511	**HSK63CHC18080M**	18	39,6	80	50	39	10	**170.135**	5mm	3mm	1,10
1245512	**HSK63CHC20080M**	20	41,6	80	51	40	10	**170.135**	5mm	3mm	1,11
1245513	**HSK63CHC25095M**	25	49,9	95	52	46	10	**170.136**	6mm	4mm	1,57
1191022	**HSK63CHC32100M**	32	59,9	100	60	50	10	**170.136**	6mm	4mm	1,89

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Wrenches must be ordered separately.
Supplied with stop screw.
Reduction sleeves are available and must be ordered separately; see page J2.







ERICKSON

HC Trend MM-HSK Form C

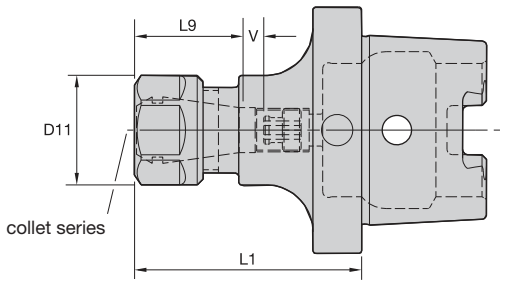


order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	wrench size stop screw	kg
1810017	**HSK63CHCT06060M**	6	25,7	60	26	26	10	**170.135**	5mm	3mm	0,90
1810018	**HSK63CHCT08060M**	8	27,7	60	26	26	10	**170.135**	5mm	3mm	0,90
1810019	**HSK63CHCT10065M**	10	29,7	65	32	30	10	**170.135**	5mm	3mm	0,90
1810020	**HSK63CHCT12075M**	12	31,6	75	43	36	10	**170.135**	5mm	3mm	1,00
1810021	**HSK63CHCT14075M**	14	33,6	75	43	36	10	**170.135**	5mm	5mm	1,00
1810022	**HSK63CHCT16080M**	16	37,6	80	49	39	10	**170.135**	5mm	5mm	1,10
1810023	**HSK63CHCT18080M**	18	39,6	80	50	39	10	**170.135**	5mm	5mm	1,10
1810024	**HSK63CHCT20080M**	20	41,6	80	51	40	10	**170.135**	5mm	5mm	1,10
1810025	**HSK63CHCT25095M**	25	49,9	95	52	46	10	**170.136**	6mm	5mm	1,60
1810026	**HSK63CHCT32100M**	32	59,9	100	60	50	10	**170.136**	6mm	5mm	1,90

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Wrenches must be ordered separately.
Supplied with stop screw.
Reduction sleeves are available and must be ordered separately, see page J2.

• Grip (2:1 advantage).







Collet Capacity

ER collet series	mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Hex-HSK Form C

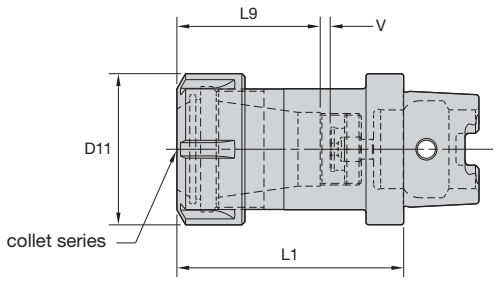
order number	catalog number	collet series	D11	L1	L9	V	kg
1253865	HSK63CER16060M	ER16	28	60	32	5	0,55

Spare Parts





catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
HSK63CER16060M	LNHSER16M	OEW25M	40	56	SS044038G	4mm & 5/32





ER Round-HSK Form C

order number	catalog number	collet series	D11	L1	L9	V	kg
1253908	HSK63CER25070M	ER25	42	70	40	5	0,78
1253910	HSK63CER32075M	ER32	50	75	45	5	0,97
1253911	HSK63CER40080M	ER40	63	80	54	3	1,14

Spare Parts

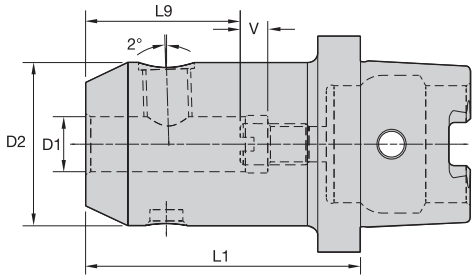




catalog number	round locknut	wrench	Nm	stop screw	wrench size stop screw
HSK63CER25070M	LNSER25M	ER25WM	104	SS075041G	4mm & 5/32
HSK63CER32075M	LNSER32M	ER32WM	136	SS094041G	4mm & 5/32
HSK63CER40080M	LNSER40M	ER40WM	176	SS112041G	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.







ERICKSON™

WN MM-HSK Form C

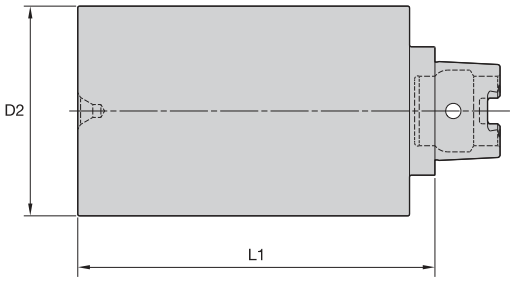




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size clamp screw	Nm	stop screw	wrench size stop screw	kg
1519797	**HSK63CWN12075M**	12	42	75	36	10	**SS03M023**	6mm	24	**571.074**	6mm	0,97
1519798	**HSK63CWN14075M**	14	44	75	36	10	**SS03M023**	6mm	24	**571.074**	6mm	1,02
1139503	**HSK63CWN16080M**	16	48	80	40	10	**SS03M025**	6mm	24	**571.075**	6mm	1,20
1519800	**HSK63CWN18080M**	18	50	80	40	10	**SS03M025**	6mm	24	**571.075**	6mm	1,25
1120623	**HSK63CWN20080M**	20	52	80	36	10	**SS03M026**	8mm	58	**571.076**	8mm	1,31
1124323	**HSK63CWN25095M**	25	65	95	50	10	**SS03M027**	10mm	92	**571.077**	10mm	2,17

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw or stop screw wrenches are not included.

• Machinable front 32–38 RW C.





ERICKSON

BB-HSK Form C

order number	catalog number	D2	L1	kg
1519755	HSK63CBB063100M	63,8	100	2,56
1519756	HSK63CBB063200M	63,8	200	5,06
1519757	HSK63CBB102175M	102,8	175	10,92

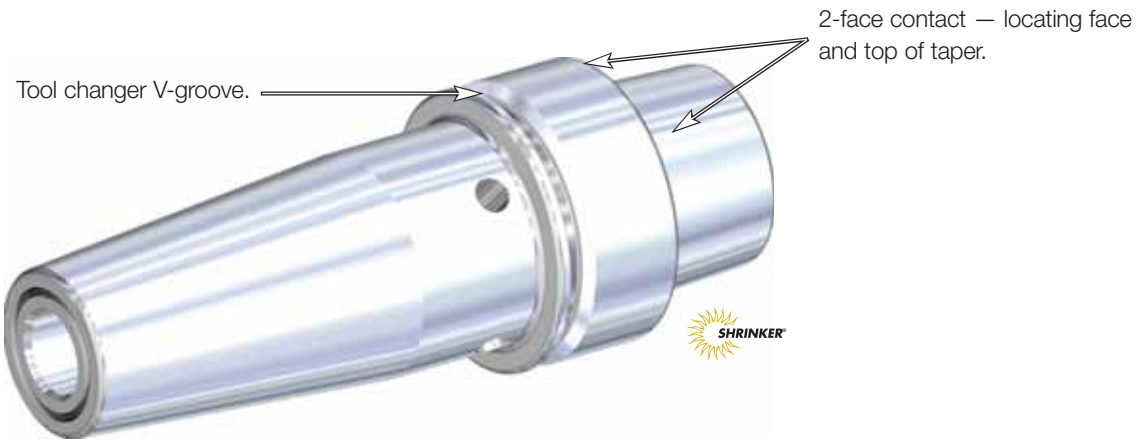
ERICKSON™ HSK Shank Tooling System • HSK40E Series

Primary Application

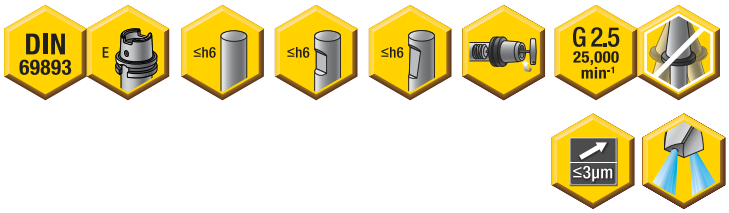
ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form E versions do not have drive slots or indexing features and are suited for high speeds in machining centers and milling machines with automatic tool changers. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.

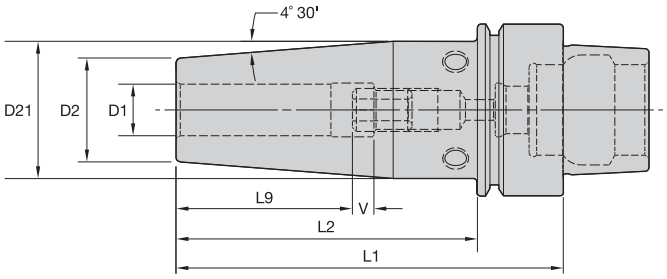
Features and Benefits

- ISO 12164-1/DIN 69893-1 Form E 1:10 short taper.
- High axial and radial repeatability.
- Maximum 100 bar (1,500 psi) coolant pressure.



- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
3	h4	0,000/-0,003
4	h4	0,000/-0,004
5	h5	0,000/-0,005
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20	h6	0,000/-0,013

ERICKSON

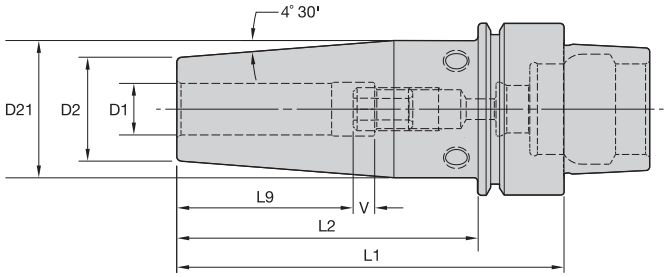
TT GP HPV MM-HSK Form E



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3867169	HSK40EHPVTT03060M	3	9	13	60	32	14	10	TTSS05014M	2,5mm	0,27
3867170	HSK40EHPVTT04060M	4	9	13	60	32	15	10	TTSS05014M	2,5mm	0,27
3867171	HSK40EHPVTT05060M	5	9	13	60	32	15	10	TTSS06014M	3mm	0,27
3867172	HSK40EHPVTT06080M	6	21	27	80	60	26	10	TTSS05014M	2,5mm	0,42
3867263	HSK40EHPVTT08080M	8	21	27	80	60	26	10	TTSS06014M	3mm	0,41
3867264	HSK40EHPVTT10080M	10	24	32	80	60	31	10	TTSS08014M	4mm	0,47
3867265	HSK40EHPVTT12090M	12	24	32	90	70	36	10	TTSS10014M	5mm	0,51
3867266	HSK40EHPVTT14090M	14	27	34	90	70	36	10	TTSS10014M	5mm	0,57
3867267	HSK40EHPVTT16090M	16	27	34	90	70	39	10	TTSS12014M	6mm	0,54
3867268	HSK40EHPVTT18095M	18	33	41	95	95	39	10	TTSS12014M	6mm	0,71
3867269	HSK40EHPVTT20095M	20	33	41	95	95	41	10	TTSS16014M	8mm	0,68

(continued)

(TT GP HPV HSK Form E continued)





Cutting Tool Shank Requirements
inch (industry standard)

cutting tool shank diameters	tolerance
1/4, 5/16, & 3/8	.0000/-.0004
7/16, 1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4	.0000/-.0005

TT GP HPV IN-HSK Form E

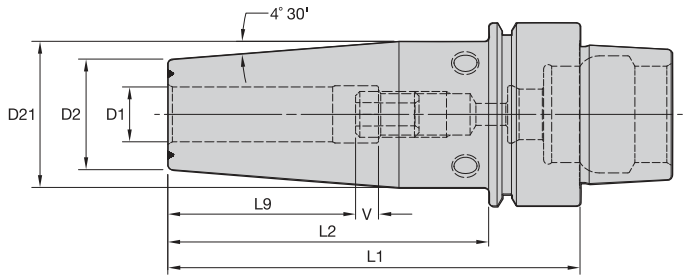


order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3863718	**HSK40EHPVTT025315**	1/4	.83	1.06	3.15	2.36	1.02	.39	**TTSS05014M**	2,5mm	.92
3863719	**HSK40EHPVTT031315**	5/16	.83	1.06	3.15	2.36	1.02	.39	**TTSS06014M**	3mm	.90
3863720	**HSK40EHPVTT038315**	3/8	.94	1.26	3.15	2.36	1.22	.39	**TTSS08014M**	4mm	1.04
3863721	**HSK40EHPVTT050354**	1/2	.94	1.26	3.54	2.76	1.42	.39	**TTSS10014M**	5mm	1.12
3863722	**HSK40EHPVTT056354**	9/16	1.06	1.33	3.54	2.76	1.42	.39	**TTSS10014M**	5mm	1.24
3863753	**HSK40EHPVTT062354**	5/8	1.06	1.33	3.54	2.76	1.54	.39	**TTSS12014M**	6mm	1.20
3863754	**HSK40EHPVTT075374**	3/4	1.30	1.65	3.74	3.74	1.61	.39	**TTSS16014M**	8mm	1.52

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20	h6	0,000/-0,013

ERICKSON

TT-HT-HPV-MM-HSK Form E



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3867229	HSK40EHPVTTHT12090M	12	24	32	90	70	36	10	TTSS10014M	5mm	0,51
3867230	HSK40EHPVTTHT14090M	14	27	34	90	70	36	10	TTSS10014M	5mm	0,57
3867231	HSK40EHPVTTHT16090M	16	27	34	90	70	39	10	TTSS12014M	6mm	0,54
3867232	HSK40EHPVTTHT18095M	18	33	41	95	95	39	10	TTSS12014M	6mm	0,71
3867233	HSK40EHPVTTHT20095M	20	33	41	95	95	41	10	TTSS16014M	8mm	0,68

Cutting Tool Shank Requirements
inch (industry standard)

cutting tool shank diameters	tolerance
1/2, 9/16, & 5/8	.0000/-.0004
3/4	.0000/-.0005

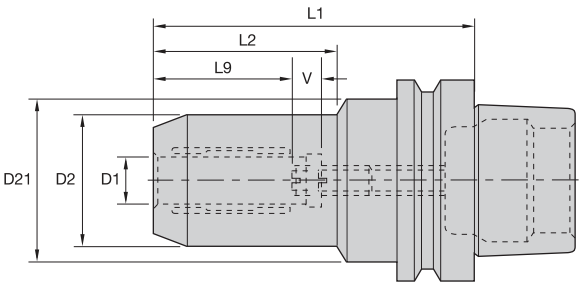
TT-HT-HPV-IN-HSK Form E



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3862413	HSK40EHPVTTHT050354	1/2	.94	1.26	3.54	2.76	1.42	.39	TTSS10014M	5mm	1.12
3862414	HSK40EHPVTTHT056354	9/16	1.06	1.33	3.54	2.76	1.42	.39	TTSS10014M	5mm	1.25
3862415	HSK40EHPVTTHT062354	5/8	1.06	1.33	3.54	2.76	1.54	.39	TTSS12014M	6mm	1.20
3862416	HSK40EHPVTTHT075374	3/4	1.30	1.61	3.74	3.74	1.61	.39	TTSS16014M	8mm	1.52

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.



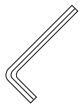




ERICKSON

HC Trend MM-HSK Form E





order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	kg
2288133	**HSK40EHCT06080M**	6	25,7	32	80	35	27	10	**170.135**	5mm	**170.003**	3mm	0,47
2288134	**HSK40EHCT08080M**	8	27,7	32	80	36	27	10	**170.135**	5mm	**170.003**	3mm	0,49
2288135	**HSK40EHCT10085M**	10	29,7	32	85	38	31	10	**170.135**	5mm	**170.003**	3mm	0,53
2288136	**HSK40EHCT12090M**	12	31,6	32	90	40	36	10	**170.135**	5mm	**170.003**	3mm	0,57
2387467	**HSK40EHCT14100M**	14	33,6	50	100	42	36	10	**170.135**	5mm	**170.005**	5mm	0,80
2387468	**HSK40EHCT16100M**	16	37,6	50	100	47	39	10	**170.135**	5mm	**170.005**	5mm	0,85
2387469	**HSK40EHCT18100M**	18	39,6	50	100	47	39	10	**170.135**	5mm	**170.005**	5mm	0,87
2387470	**HSK40EHCT20100M**	20	41,6	50	100	48	41	10	**170.135**	5mm	**170.005**	5mm	0,89

HC Trend IN-HSK Form E



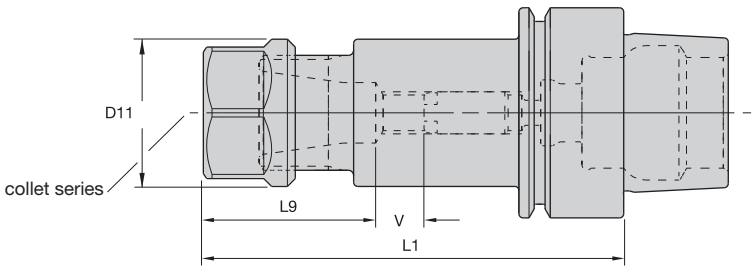


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	lbs
2260223	**HSK40EHCT025315**	1/4	1.01	1.25	3.15	1.38	1.06	.39	**170.135**	5mm	**170.003**	3mm	1.03
2260224	**HSK40EHCT038335**	3/8	1.17	1.25	3.55	1.58	1.22	.39	**170.135**	5mm	**170.003**	3mm	1.17
2260225	**HSK40EHCT050354**	1/2	1.24	1.25	3.54	1.69	1.42	.39	**170.135**	5mm	**170.003**	3mm	1.23
2387471	**HSK40EHCT062394**	5/8	1.48	1.96	3.94	1.83	1.54	.39	**170.135**	5mm	**170.005**	5mm	1.87
2387472	**HSK40EHCT075394**	3/4	1.64	1.96	3.94	1.89	1.61	.39	**170.135**	5mm	**170.005**	5mm	1.98

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Grip (2:1 advantage).







Collet Capacity

ER collet series	mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81

ERICKSON

ER Hex-HSK Form E

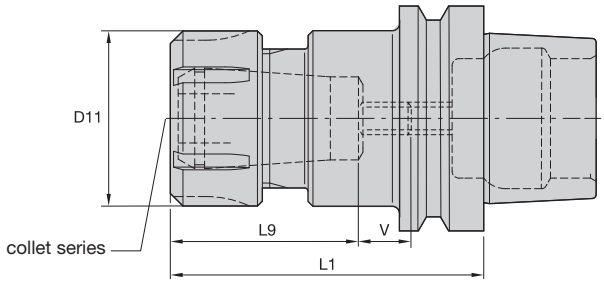
order number	catalog number	collet series	D11	L1	L9	V	kg
2260355	**HSK40EER16080M**	ER16	28	80	27	5	0,41

Spare Parts





catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
HSK40EER16080M	**LNHSER16M**	**OEW25M**	40	56	**571.068**	4mm & 5/32





ER Round-HSK Form E

order number	catalog number	collet series	D11	L1	L9	V	kg
1795995	**HSK40EER25080M**	ER25	42	80	31	5	0,51
2386949	**HSK40EER32100M**	ER32	50	100	40	5	0,71

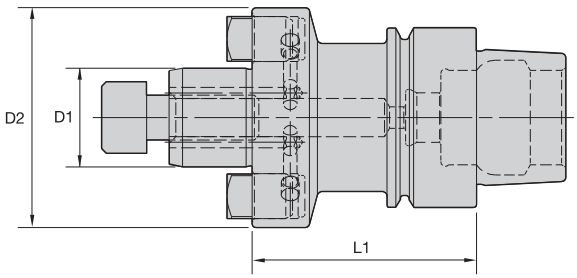
Spare Parts

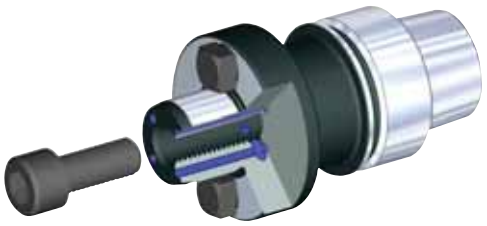




catalog number	round locknut	wrench	Nm	stop screw	wrench size stop screw
HSK40EER25080M	**LNSER25M**	**ER25WM**	104	**571.062**	4mm & 5/32
HSK40EER32100M	**LNSER32M**	**ER32WM**	136	**571.062**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M84.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.





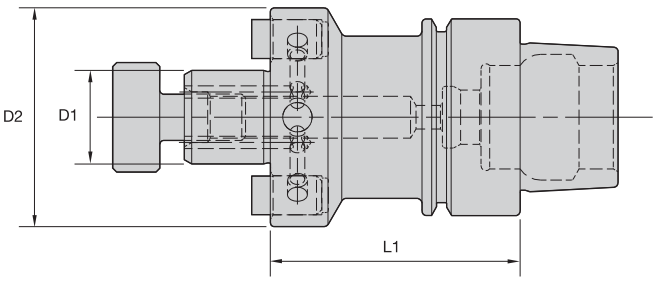
ERICKSON

SMC Cap MM-HSK Form E





order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3872675	HSK40ESM2C16050M	16	38	50	MS1294	KDK16M	6mm	0,46
3872677	HSK40ESM2C22050M	22	42	50	MS1234	—	8mm	0,52
3872674	HSK40ESMC16050M	16	44	50	MS1294	KDK16M	6mm	0,50
3872676	HSK40ESMC22050M	22	49	50	MS1234	KDK22M	8mm	0,57





SMC Lock IN-HSK Form E

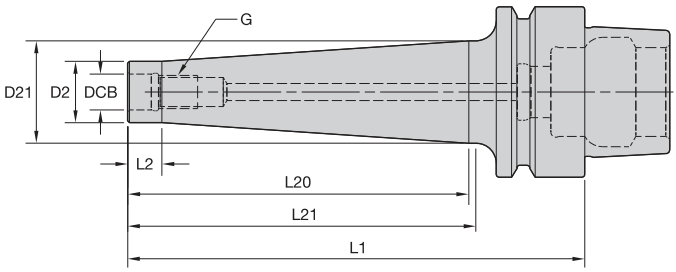




order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size retention screw	lbs
3762420	HSK40ESM2C050200	1/2	1.20	2.00	KLS05	KDK04	3/16	.88
3762422	HSK40ESM2C075200	3/4	1.46	2.00	KLS07	—	1/4	1.05
3762419	HSK40ESMC050200	1/2	1.44	2.00	KLS05	KDK04	3/16	.98
3762421	HSK40ESMC075200	3/4	1.75	2.00	KLS07	KDK05	1/4	1.16

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately, see page L38.
Lock screw wrench not included.
For HSK coolant unit and wrench; see page L44.







ERICKSON

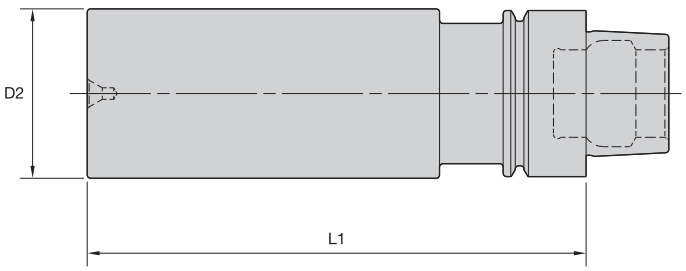
ST-HSK Form E

order number	catalog number	DCB	G	D2	D21	L1	L2	L20	L21	kg
4061429	HSK40EST06053M	6,5	M6	10	–	53	27	–	–	0,22
4061430	HSK40EST06078M	6,5	M6	10	20	78	10	50	52	0,28
4061431	HSK40EST06103M	6,5	M6	10	23	103	10	75	77	0,33
4061432	HSK40EST08053M	8,5	M8	13	15	53	10	25	27	0,23
4061433	HSK40EST08078M	8,5	M8	13	23	78	10	50	52	0,31
4061434	HSK40EST08103M	8,5	M8	13	23	103	10	75	77	0,35
4061435	HSK40EST08128M	8,5	M8	13	25	128	10	100	102	0,42
4061436	HSK40EST10053M	10,5	M10	18	20	53	10	25	27	0,26
4061437	HSK40EST10078M	10,5	M10	18	25	78	10	50	52	0,35
4061438	HSK40EST10103M	10,5	M10	18	28	103	10	75	77	0,44
4061439	HSK40EST10128M	10,5	M10	18	30	128	10	100	102	0,55

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Machinable front 32–38 RW C.







ERICKSON

BB-HSK Form E

order number	catalog number	D2	L1	kg
2260650	HSK40EBB040120M	40,8	120,0	1,17

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.

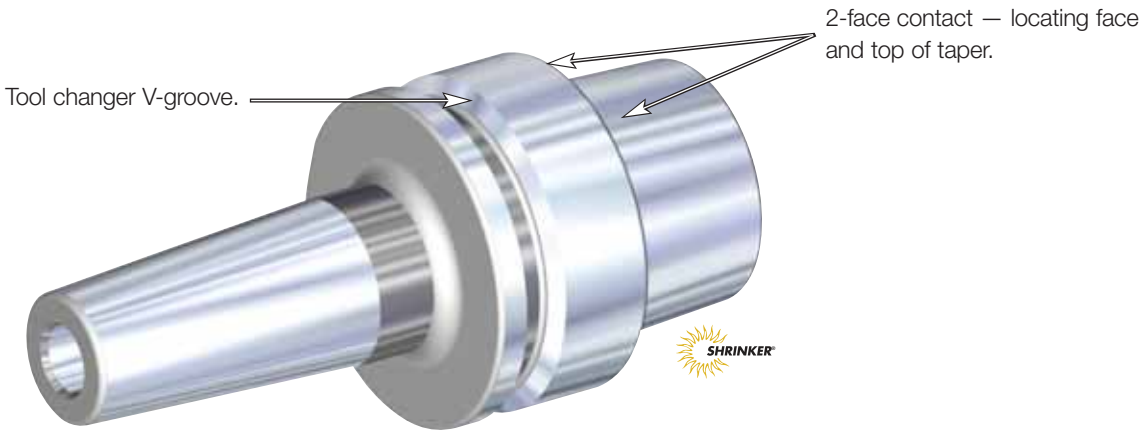
ERICKSON™ HSK Shank Tooling System • HSK50E Series

Primary Application

ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form E versions do not have drive slots or indexing features and are suited for high speeds in machining centers and milling machines with automatic tool changers. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.

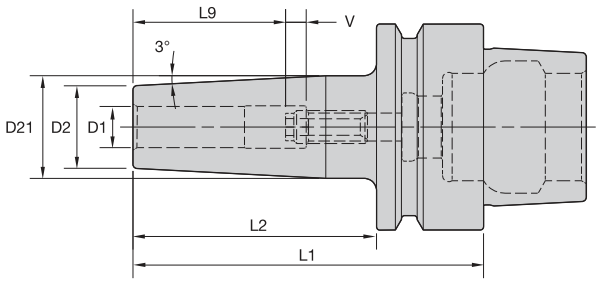
Features and Benefits

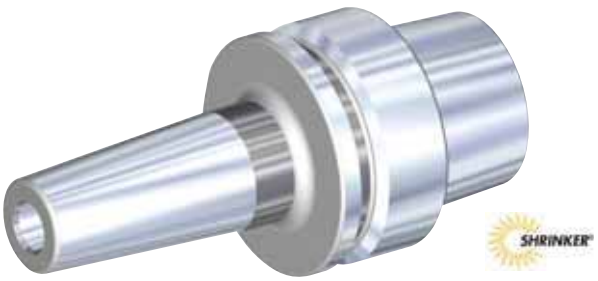
- ISO 12164-1/DIN 69893-1 Form E 1:10 short taper.
- High axial and radial repeatability.
- Maximum 100 bar (1,500 psi) coolant pressure.



- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
3	h4	0,000/-0,003
4	h4	0,000/-0,004
5	h5	0,000/-0,005
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20	h6	0,000/-0,013

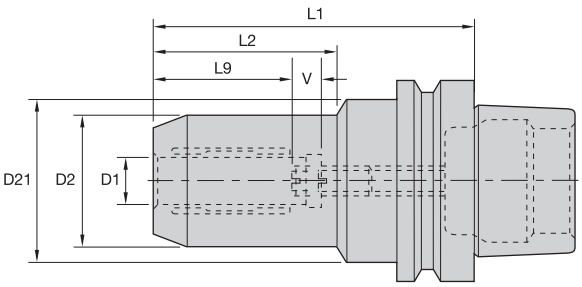
ERICKSON

TT MD MM-HSK Form E



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
2386938	**HSK50ETTMD03080M**	3	9	13	80	54	15	5	**TTSS05018M**	2,5mm	0,44
2386939	**HSK50ETTMD04080M**	4	9	13	80	54	15	5	**TTSS05018M**	2,5mm	0,44
2386940	**HSK50ETTMD05080M**	5	10	14	80	54	15	5	**TTSS06020M**	3mm	0,45
2386941	**HSK50ETTMD06080M**	6	12	16	80	54	26	10	**TTSS05018M**	2,5mm	0,47
2386942	**HSK50ETTMD08080M**	8	16	20	80	54	26	10	**TTSS06020M**	3mm	0,51
2386943	**HSK50ETTMD10085M**	10	20	25	85	59	32	10	**TTSS08020M**	4mm	0,57
2386944	**HSK50ETTMD12090M**	12	24	30	90	64	37	10	**TTSS08020M**	4mm	0,65
2386945	**HSK50ETTMD14090M**	14	26	31	90	64	37	10	**TTSS08020M**	4mm	0,68
2386946	**HSK50ETTMD16095M**	16	28	34	95	69	40	10	**TTSS12020M**	6mm	0,74
2386947	**HSK50ETTMD18095M**	18	30	36	95	69	40	10	**TTSS12020M**	6mm	0,77
2386948	**HSK50ETTMD20100M**	20	34	41	100	74	42	10	**TTSS16020M**	8mm	0,91

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.





ERICKSON

HC Trend MM-HSK Form E

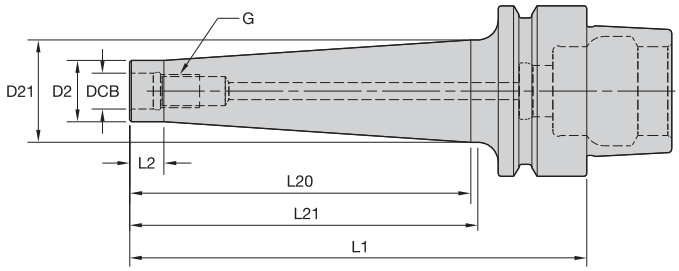




order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	adjusting screw	wrench size adjusting screw	kg
2288137	**HSK50EHCT06080M**	6	25,7	40	80	35	27	10	**170.135**	5mm	**571.061**	3mm	0,69
2288138	**HSK50EHCT08080M**	8	27,7	40	80	36	27	10	**170.135**	5mm	**571.061**	3mm	0,71
2288139	**HSK50EHCT10085M**	10	29,7	40	85	38	31	10	**170.135**	5mm	**571.061**	3mm	0,76
2288140	**HSK50EHCT12090M**	12	31,6	40	90	40	36	10	**170.135**	5mm	**571.061**	3mm	0,80
2288141	**HSK50EHCT14105M**	14	33,6	50	105	42	36	10	**170.135**	5mm	**571.063**	5mm	1,06
2288142	**HSK50EHCT16105M**	16	37,6	50	105	47	39	10	**170.135**	5mm	**571.063**	5mm	1,10
2288143	**HSK50EHCT18105M**	18	39,6	50	105	47	39	10	**170.135**	5mm	**571.063**	5mm	1,12
2288144	**HSK50EHCT20105M**	20	41,6	50	105	48	41	10	**170.135**	5mm	**571.063**	5mm	1,14

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Wrenches must be ordered separately.
Supplied with stop screw.
Reduction sleeves are available and must be ordered separately; see page J2.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







ERICKSON

ST-HSK Form E

order number	catalog number	DCB	G	D2	D21	L1	L2	L20	L21	kg
4062449	HSK50EST06059M	6,5	M6	10	–	59	27	–	–	0,42
4062450	HSK50EST06084M	6,5	M6	10	20	84	10	50	52	0,48
4062451	HSK50EST06109M	6,5	M6	10	23	109	10	75	77	0,54
4062452	HSK50EST08059M	8,5	M8	13	15	59	10	25	27	0,44
4062843	HSK50EST08084M	8,5	M8	13	23	84	10	50	52	0,51
4062844	HSK50EST08109M	8,5	M8	13	23	109	10	75	77	0,55
4062845	HSK50EST08134M	8,5	M8	13	25	134	10	100	102	0,63
4062846	HSK50EST10059M	10,5	M10	18	20	59	10	25	27	0,46
4062847	HSK50EST10084M	10,5	M10	18	25	84	10	50	52	0,55
4062848	HSK50EST10109M	10,5	M10	18	28	109	10	75	77	0,65
4062849	HSK50EST10134M	10,5	M10	18	30	134	10	100	102	0,75

NOTE: HSK coolant unit and wrench are available and must be ordered separately; see page L44.

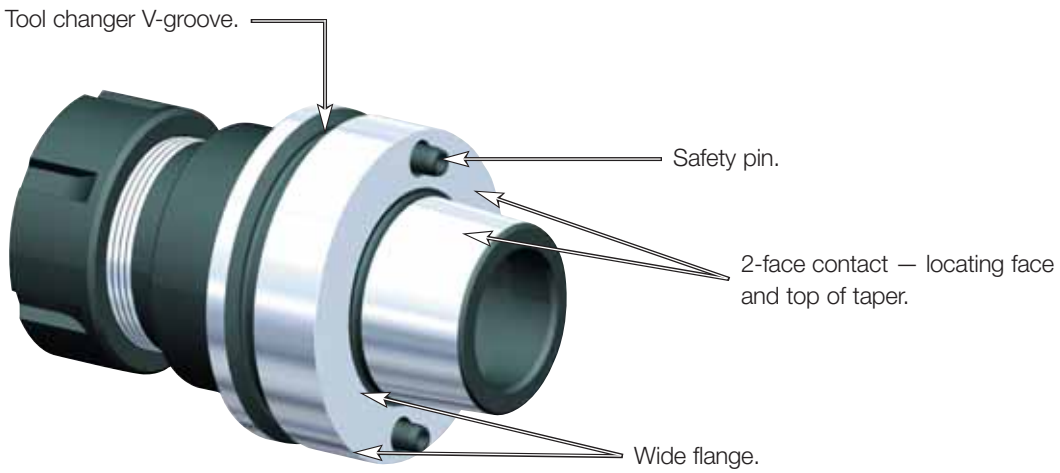
ERICKSON™ HSK Shank Tooling System • HSK63F (Pin) Series

Primary Application

ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form F versions with pin do not have drive slots or indexing features and with their greater flange surface area support, are suited for high speeds in machining centers and milling machines with automatic tool changers. Exact RPM limits can only be determined by considering machine and spindle configurations in conjuction with tooling design and safety limits factored as a complete system.

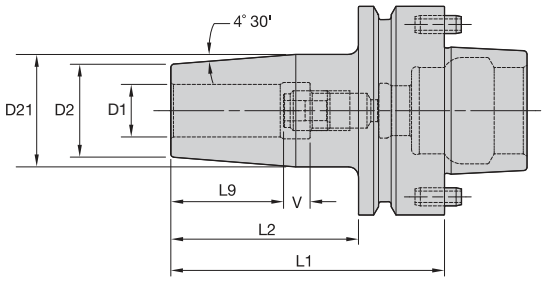
Features and Benefits

- ISO 12164-1/DIN 69893-1 Form F (with pin) 1:10 short taper.
- High axial and radial repeatability.
- Maximum 100 bar (1,500 psi) coolant pressure.



- 30–50% higher clamping torque compared to GP line.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements
inch (industry standard)

cutting tool shank diameters	tolerance
1/4 & 3/8	.0000/-.0004
1/2 & 5/8	.0000/-.0004
3/4 & 1	.0000/-.0005

ERICKSON

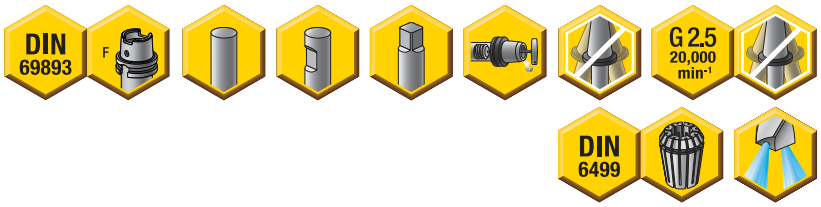
TT HT HPV IN-HSK Form F (Pin)

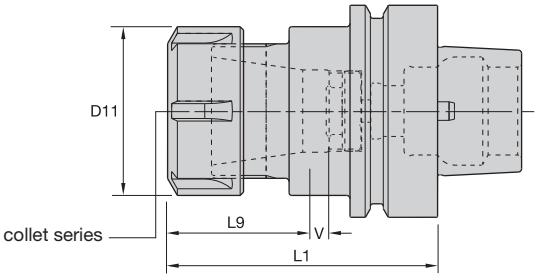


order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
2636755	**HSK63FPTTHT025300**	1/4	.87	1.06	3.00	1.98	1.02	.39	**TTSS05014M**	2,5mm	1.81
2636757	**HSK63FPTTHT038300**	3/8	1.02	1.26	3.00	1.86	1.22	.39	**TTSS08014M**	4mm	1.94
2636758	**HSK63FPTTHT050325**	1/2	.98	1.26	3.25	2.11	1.42	.39	**TTSS10014M**	5mm	1.94
2636759	**HSK63FPTTHT062325**	5/8	1.10	1.33	3.25	2.11	1.38	.27	**TTSS12014M**	6mm	2.02
2636761	**HSK63FPTTHT075325**	3/4	1.34	1.61	3.25	2.11	1.38	.20	**TTSS16014M**	8mm	2.29
2636762	**HSK63FPTTHT100325**	1	1.77	2.05	3.25	2.19	1.61	.20	**TTSS16014M**	8mm	2.83

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

• Grip (2:1 advantage).







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER32	2,0	20,0	.08	.81

ER Round-HSK Form F (Pin)

order number	catalog number	collet series	D11	L1	L9	V	kg
2657176	**HSK63FPER32080M**	ER32	50	80	43	4	1,10

Spare Parts





catalog number	locknut	wrench	Nm	stop screw	wrench size stop screw
HSK63FPER32080M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.



KM4X™

The Next Generation Spindle Interface for Heavy-Duty Machining!

KM4X is designed to take on your most aggressive machining jobs. This next generation KM™ spindle interface should be your first choice for heavy-duty machining applications. It's especially suited for large structural components, like titanium aerospace components.

We engineered these rotating and static tool adaptors to handle 3x more bending capacity than similar competitive models.

What does this mean for you?

- Enables full use of machine and cutting tools for the highest productivity.
- Higher metal removal rates.
- Can retrofit to existing machines to boost throughput without buying new equipment.
- Ideal for aerospace and transportation industry machining jobs.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

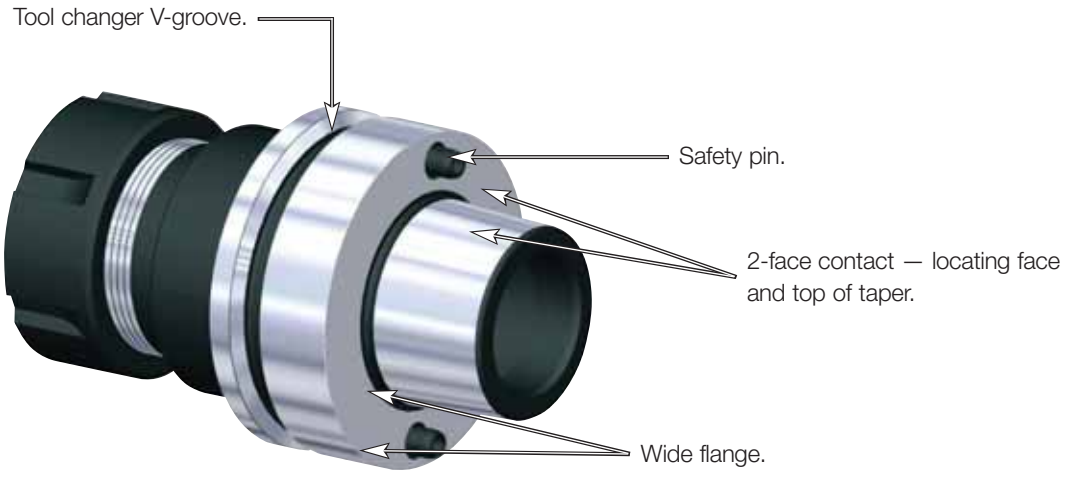
ERICKSON™ HSK Shank Tooling System • HSK80F (Pin) Series

Primary Application

ERICKSON HSK Face Contact Short Taper Tooling is manufactured from premium materials and to the latest DIN/ISO specification standards. Form F versions with pin do not have drive slots or indexing features and with their greater flange surface area support, are suited for high speeds in machining centers and milling machines with automatic tool changers. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.

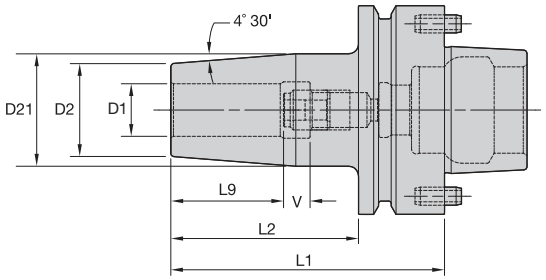
Features and Benefits

- ISO 12164-1/DIN 69893-1 Form F (with pin) 1:10 short taper.
- High axial and radial repeatability.
- Maximum 100 bar (1,500 psi) coolant pressure.



- 30–50% higher clamping torque compared to GP line.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements
inch (industry standard)

cutting tool shank diameter	tolerance
1/4 & 3/8	.0000/-.0004
1/2 & 5/8	.0000/-.0004
3/4, 1, & 1-1/4	.0000/-.0005

ERICKSON

TT HT HPV IN-HSK Form F (Pin)

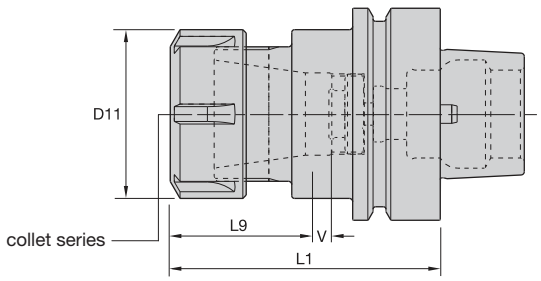


order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
2952218	**HSK80FPTTHT025325**	1/4	.83	1.06	3.25	2.11	1.02	.39	**TTSS05014M**	2,5mm	2.76
2952219	**HSK80FPTTHT038325**	3/8	.98	1.26	3.25	2.11	1.22	.39	**TTSS08014M**	4mm	2.91
2952220	**HSK80FPTTHT050325**	1/2	.98	1.26	3.25	2.11	1.42	.28	**TTSS10014M**	5mm	2.86
2952221	**HSK80FPTTHT062325**	5/8	1.10	1.33	3.25	2.11	1.38	.31	**TTSS12014M**	6mm	2.93
2952222	**HSK80FPTTHT075325**	3/4	1.36	1.65	3.25	2.11	1.38	.31	**TTSS16014M**	8mm	3.23
2952223	**HSK80FPTTHT100350**	1	1.77	2.08	3.50	2.36	1.73	.31	**TTSS16014M**	8mm	3.97
2952224	**HSK80FPTTHT125350**	1 1/4	1.77	2.08	3.50	2.36	1.73	.20	**TTSS16014M**	8mm	3.71

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Shrink Fit accessories, see pages L12–L13.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.

- Grip (2:1 advantage).







ERICKSON™

ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER32	2,0	20,0	.08	.81

ER Round-HSK Form F (Pin)

order number	catalog number	collet series	D11	L1	L9	V	kg
2952216	**HSK80FPER32085M**	ER32	50	85	43	4	1,59

Spare Parts

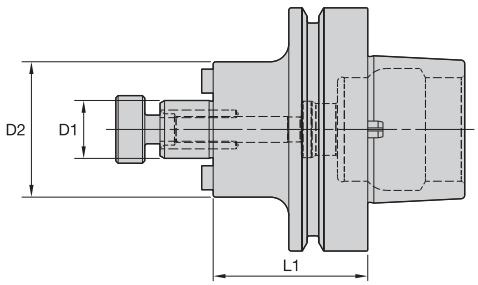


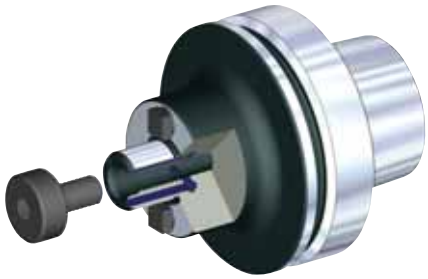


catalog number	locknut	wrench	Nm	stop screw	wrench size stop screw
HSK80FPER32085M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.







ERICKSON

SMC Lock IN-HSK Form F (Pin)





order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	lbs
3763070	**HSK80FPSM2C075200**	3/4	1.46	2.00	**KLS07**	**—**	1/4	2.89
3763069	**HSK80FPSMC075200**	3/4	1.75	2.00	**KLS07**	**KDK05**	1/4	3.10

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For HSK coolant unit and wrench, see page L44.



BTKV and CVKV Shank Tools

BTKV40 . . . . . D2–D19
BTKV50 . . . . . D20–D37
CVKV40 . . . . . D38–D51
CVKV50 . . . . . D52–D67



ERICKSON™ Taper Face Contact Shank Tooling System • BTKV40 Series

Primary Application

ERICKSON Taper Face BT Contact Taper Tooling is manufactured from premium materials and to the latest JIS B 6339 specification standard with an AT3 7/24 Taper per IS0-1974. Controlled, increased flange thickness to the rear of the flange gains face contact between spindle and holder. The BTKV40 tools are prebalanced to a high specification that will perform effectively up to 20,000 RPM. For any applications higher than 20,000 RPM, Kennametal recommends that the complete toolholder assembly (toolholder, retention knobs, collets, hardware, and cutting tools) be balanced as one identity.

Features and Benefits

- JIS B 6339 7/24 taper.
- Standard M16 metric drawbar thread.
- High axial repeatability due to face contact.
- High radial positioning due to controlled, tighter drive key widths.
- All tools set to form AD coolant specification. Many can be converted to form B style.
- Maximum 20,000 RPM.
- Maximum 100 bar (1,500 psi) coolant pressure.



How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



BTKV40BTG50100M

BTKV	40	B	TG	50	100	M
Shank Style	Shank Taper Size	Special Feature *(optional)*	Toolholder Style	Toolholder Size	Tool Length	Identification Value
JIS B6339 Face Contact	**40** = 40 **50** = 50	**B** = DIN form B coolant feature, tool shipped to AD specification (design allows conversion to form B style) **(blank)** = (no "B" or "Z") — tool built to form A/AD coolant style **HPV** = High performance and balanceable **TD** = Tunable			(Gage line on taper to front of tool) **inch** xxx = x.xx	**M** = Tool built to metric values and has metric retention thread

BB	=	Bar blank
EM	=	End mill adapter
ER	=	DIN 6499 single-angle collet chuck
KM	=	KM™ adapter
SM2C	=	Shell mill adapter with coolant and small diameter
SMC	=	Shell mill adapter with coolant
TG	=	Tremendous Grip single-angle collet chuck
TT	=	Shrink Fit thermo toolholder
TTHT	=	Shrink Fit thermo toolholder — high torque

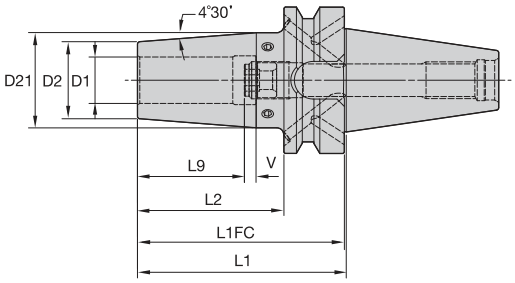
TG =
Collet series xx (50), xxx (100)

EM =
I.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

SM =
O.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).





L1FC = from flange face
L1 = from taper gage diameter



Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT GP HPV MM-BTKV Form B/AD



order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	kg
3854807	**BTKV40BHPVTT06090M**	6	21	27	90	89,0	63,0	26	10	**TTSS05014M**	2,5mm	1,17
3854808	**BTKV40BHPVTT08090M**	8	21	27	90	89,0	63,0	26	10	**TTSS06014M**	3mm	1,16
3854809	**BTKV40BHPVTT10090M**	10	24	32	90	89,0	63,0	31	10	**TTSS08014M**	4mm	1,22
3854810	**BTKV40BHPVTT12090M**	12	24	32	90	89,0	63,0	36	10	**TTSS10014M**	5mm	1,21
3854811	**BTKV40BHPVTT14090M**	14	27	34	90	89,0	63,0	36	10	**TTSS10014M**	5mm	1,26
3854812	**BTKV40BHPVTT16090M**	16	27	34	90	89,0	63,0	39	10	**TTSS12014M**	6mm	1,24
3854823	**BTKV40BHPVTT18090M**	18	33	41	90	89,0	63,0	39	10	**TTSS12014M**	6mm	1,38
3854824	**BTKV40BHPVTT20090M**	20	33	41	90	89,0	63,0	41	10	**TTSS16014M**	8mm	1,35
3854825	**BTKV40BHPVTT25100M**	25	44	52	100	99,0	73,0	47	10	**TTSS16014M**	8mm	1,76
3854826	**BTKV40BHPVTT32105M**	32	44	53	105	104,0	78,0	51	10	**TTSS16014M**	8mm	1,67

(continued)

(TT GP HPV BTKV Form B/AD continued)

Cutting Tool Shank Requirements inch (industry standard)

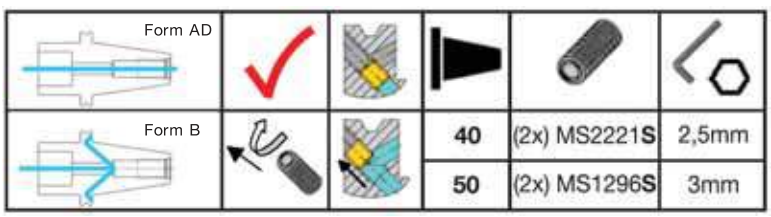
cutting tool shank diameters	tolerance
1/4, 5/16, & 3/8	.0000/-.0004
7/16, 1/2, & 5/8	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT HPV IN-BTKV Form B/AD



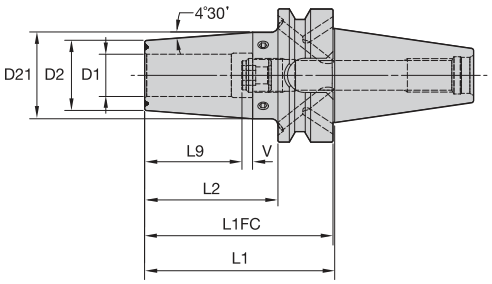
order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	lbs
3861327	**BTKV40BHPVTT025350**	1/4	.83	1.06	3.50	3.46	2.44	1.02	.39	**TTSS05014M**	2,5mm	2.56
3861328	**BTKV40BHPVTT031350**	5/16	.83	1.06	3.50	3.46	2.44	1.02	.39	**TTSS06014M**	3mm	2.55
3861329	**BTKV40BHPVTT038350**	3/8	.94	1.26	3.50	3.46	2.44	1.22	.39	**TTSS08014M**	4mm	2.68
3861330	**BTKV40BHPVTT044350**	7/16	.94	1.26	3.50	3.46	2.44	1.42	.39	**TTSS10014M**	5mm	2.66
3861331	**BTKV40BHPVTT050350**	1/2	.94	1.26	3.50	3.46	2.44	1.42	.39	**TTSS10014M**	5mm	2.64
3861332	**BTKV40BHPVTT062350**	5/8	1.06	1.33	3.50	3.46	2.44	1.54	.39	**TTSS12014M**	6mm	2.71
3861343	**BTKV40BHPVTT075400**	3/4	1.30	1.65	4.00	3.96	2.94	1.61	.39	**TTSS16014M**	8mm	3.26
3861344	**BTKV40BHPVTT088400**	7/8	1.30	1.65	4.00	3.96	2.94	1.61	.39	**TTSS16014M**	8mm	3.18
3861345	**BTKV40BHPVTT100400**	1	1.73	2.06	4.00	3.96	2.94	1.85	.39	**TTSS16014M**	8mm	3.91
3861346	**BTKV40BHPVTT125425**	1 1/4	1.73	2.08	4.25	4.21	3.19	2.01	.39	**TTSS16014M**	8mm	3.81

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.
For Shrink Fit machine and accessories, see pages L12–L13.



- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.





L1FC = from flange face
L1 = from taper gage diameter



Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT HT HPV MM-BTKV Form B/AD



order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	kg
3854827	**BTKV40BHPVTTHT12090M**	12	24	32	90,0	89,0	63	36	10	**TTSS10014M**	5mm	1,21
3854828	**BTKV40BHPVTTHT14090M**	14	27	34	90,0	89,0	63	36	10	**TTSS10014M**	5mm	1,26
3854829	**BTKV40BHPVTTHT16090M**	16	27	34	90,0	89,0	63	39	10	**TTSS12014M**	6mm	1,24
3854830	**BTKV40BHPVTTHT18090M**	18	33	41	90,0	89,0	63	39	10	**TTSS12014M**	6mm	1,38
3854831	**BTKV40BHPVTTHT20090M**	20	33	41	90,0	89,0	63	41	10	**TTSS16014M**	8mm	1,35
3854832	**BTKV40BHPVTTHT25100M**	25	44	52	100,0	99,0	73	47	10	**TTSS16014M**	8mm	1,76
3854833	**BTKV40BHPVTTHT32105M**	32	44	53	105,0	104,0	78	51	10	**TTSS16014M**	8mm	1,67

(continued)

(TT HT HPV BTKV Form B/AD continued)

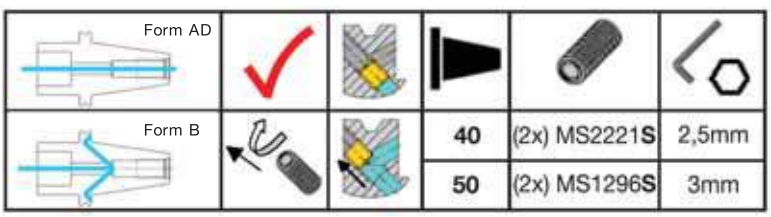
Cutting Tool Shank Requirements inch (industry standard)	
cutting tool shank diameters	**tolerance**
1/2 & 5/8	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT HT HPV IN-BTKV Form B/AD



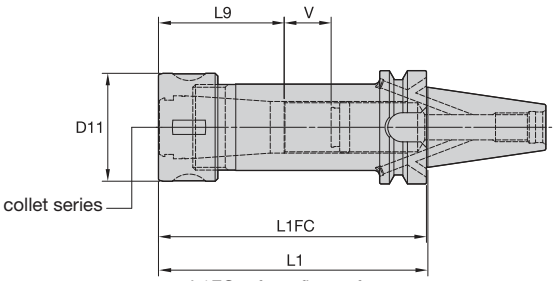
order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	lbs
3861347	**BTKV40BHPVTTHT050350**	1/2	.94	1.26	3.50	3.46	2.44	1.42	.39	**TTSS10014M**	5mm	2.64
3861348	**BTKV40BHPVTTHT062350**	5/8	1.06	1.33	3.50	3.46	2.44	1.54	.39	**TTSS12014M**	6mm	2.71
3861349	**BTKV40BHPVTTHT075400**	3/4	1.30	1.65	4.00	3.96	2.94	1.61	.39	**TTSS16014M**	8mm	3.26
3861350	**BTKV40BHPVTTHT088400**	7/8	1.30	1.65	4.00	3.96	2.94	1.61	.39	**TTSS16014M**	8mm	3.17
3861351	**BTKV40BHPVTTHT100400**	1	1.73	2.06	4.00	3.96	2.94	1.85	.39	**TTSS16014M**	8mm	3.91
3861352	**BTKV40BHPVTTHT125425**	1 1/4	1.73	2.08	4.25	4.21	3.19	2.01	.39	**TTSS16014M**	8mm	3.81

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.
For Shrink Fit machine and accessories, see pages L12–L13.



- Tremendous Grip (3:1 advantage).





L1FC = from flange face
L1 = from taper gage diameter



Collet Capacity

TG collet series	mm min	mm max	inch min	inch max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1
TG150	11,6	40,0	23/64	1 1/2

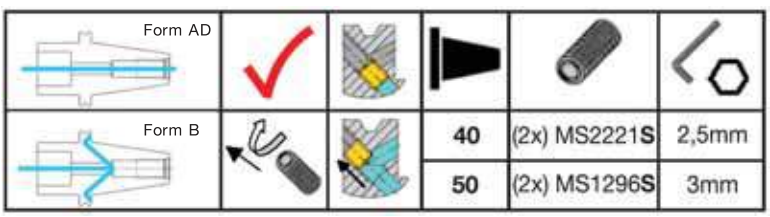
ERICKSON

TG Round-BTKV Form B/AD



order number	catalog number	collet series	D11	L1	L1FC	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	kg
3856650	**BTKV40BTG075070M**	TG75	50	70,0	69,0	50	10	**LNA075M**	**HSW45M**	136	**SS081041G**	4mm & 5/32	1,24
3856651	**BTKV40BTG100080M**	TG100	60	80,0	79,0	64	10	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	1,43
3856652	**BTKV40BTG100100M**	TG100	60	100,0	99,0	64	14	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	1,71
3856663	**BTKV40BTG100150M**	TG100	60	150,0	149,0	64	64	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	2,19
3856664	**BTKV40BTG150110M**	TG150	85	110,0	109,0	78	15	**LNA150M**	**HSW80M**	271	**SS112041G**	4mm & 5/32	2,40

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see page L19.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.





ERICKSON™ & KM™
Names You Can Trust

For hydraulic chucks — ERICKSON and KM — the industry names you can trust.

- Most accurate chuck, ≤3µm (.0001"), achieves maximum performance from your cutting edge.
- Inherent dampening design extends tool life and improves surface finish.
- Pre-balanced to high specifications.
- Versatile as a collet chuck with the use of reduction sleeves.

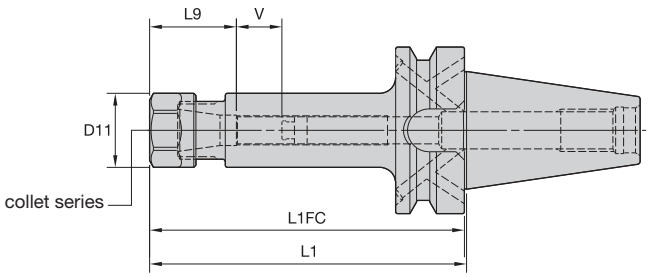
Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

• Grip (2:1 advantage).





L1FC = from flange face
L1 = from taper gage diameter



	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Hex-BTKV Form B/AD

order number	catalog number	collet series	D11	L1	L1FC	L9	V	kg
3857088	**BTKV40BER16060M**	ER16	28	60,0	59,0	32	32	1,04
3857089	**BTKV40BER16120M**	ER16	28	120,0	119,0	32	48	1,29
3857090	**BTKV40BER20060M**	ER20	34	60,0	59,0	36	27	1,04
3857091	**BTKV40BER20120M**	ER20	34	120,0	119,0	36	64	1,42

Spare Parts

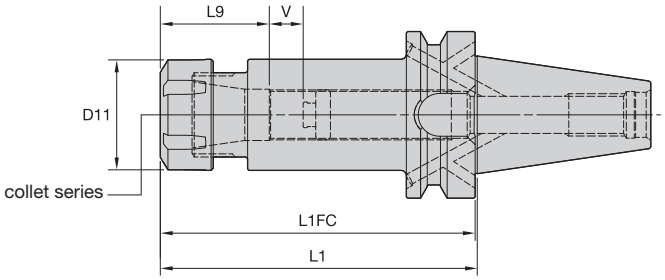




catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
BTKV40BER16060M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
BTKV40BER16120M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
BTKV40BER20060M	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32
BTKV40BER20120M	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32

(continued)

(ER BTKV Form B/AD continued)



L1FC = from flange face
L1 = from taper gage diameter



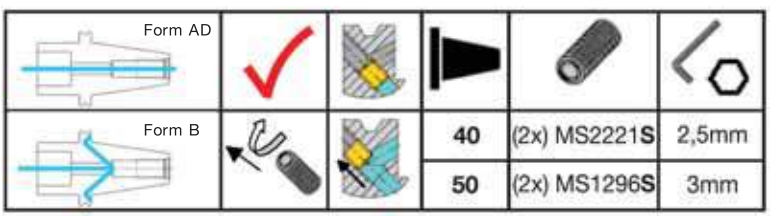
ER Round-BTKV Form B/AD

order number	catalog number	collet series	D11	L1	L1FC	L9	V	kg
3857092	**BTKV40BER25070M**	ER25	42	70,0	69,0	40	22	1,16
3857123	**BTKV40BER25120M**	ER25	42	120,0	119,0	40	60	1,61
3857124	**BTKV40BER32070M**	ER32	50	70,0	69,0	46	12	1,22
3857125	**BTKV40BER32120M**	ER32	50	120,0	119,0	46	54	1,85
3857126	**BTKV40BER40080M**	ER40	63	80,0	79,0	52	9	1,38
3857127	**BTKV40BER40120M**	ER40	63	120,0	119,0	52	41	2,26

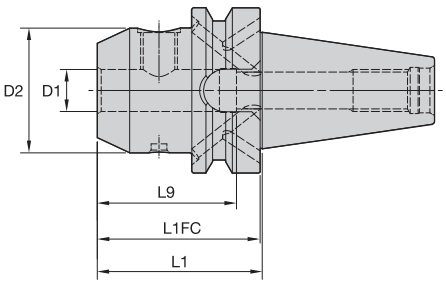
Spare Parts

catalog number	 locknut	 wrench	Nm	 stop screw	wrench size stop screw
BTKV40BER25070M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
BTKV40BER25120M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
BTKV40BER32070M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
BTKV40BER32120M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
BTKV40BER40080M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32
BTKV40BER40120M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.







L1FC = from flange face
L1 = from taper gage diameter



ERICKSON

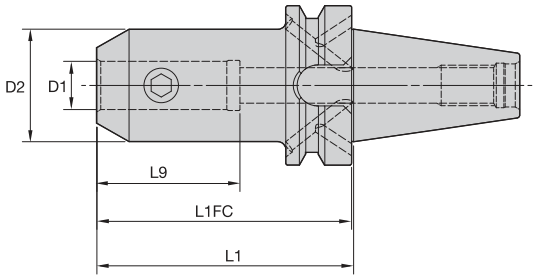
EM MM-BTKV Form B/AD



order number	catalog number	D1	D2	L1	L1FC	L9	lock screw	wrench size lock screw	Nm	kg
3856578	BTKV40BEM06050M	6	25	50,0	49,0	84	SS03M012	3mm	7	1,01
3856579	BTKV40BEM08050M	8	28	50,0	49,0	84	SS03M014	4mm	15	1,03
3856580	BTKV40BEM10063M	10	35	63,0	62,0	97	SS03M018	5mm	25	1,16
3856581	BTKV40BEM12063M	12	42	63,0	62,0	97	SS03M023	6mm	35	1,25
3856582	BTKV40BEM14063M	14	44	63,0	62,0	97	SS03M023	6mm	35	1,28
3856583	BTKV40BEM16063M	16	48	63,0	62,0	53	SS03M025	6mm	50	1,33
3856584	BTKV40BEM18063M	18	50	63,0	62,0	53	SS03M025	6mm	50	1,35
3856585	BTKV40BEM20063M	20	52	63,0	62,0	55	SS03M026	8mm	95	1,36
3856586	BTKV40BEM25090M	25	63	90,0	89,0	60	SS03M027	10mm	135	2,16

(continued)

(EM BTKV Form B/AD continued)



L1FC = from flange face
L1 = from taper gage diameter

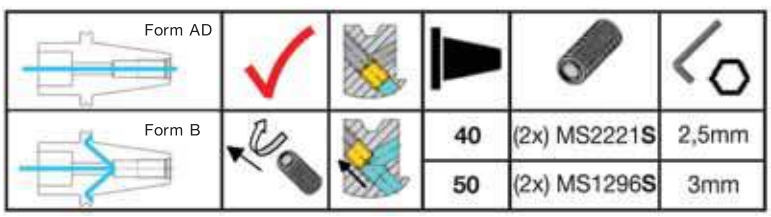


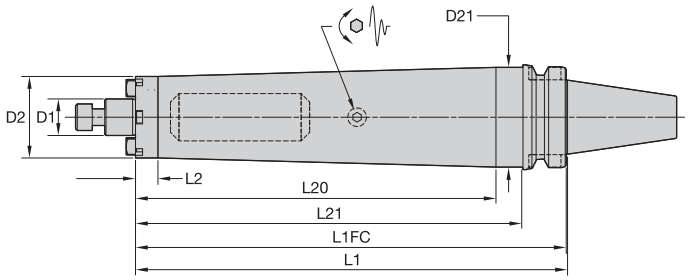
EM IN-BTKV Form B/AD



order number	catalog number	D1	D2	L1	L1FC	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
3856587	**BTKV40BEM025250**	1/4	1.00	2.50	2.46	3.85	**ELS025025PKG**	1/8	5	2.35
3856588	**BTKV40BEM031250**	5/16	1.00	2.50	2.46	3.85	**ELS031031PKG**	5/32	11	2.31
3856589	**BTKV40BEM038250**	3/8	1.00	2.50	2.46	3.85	**ELS038031PKG**	3/16	15	2.32
3856590	**BTKV40BEM050300**	1/2	1.38	3.00	2.96	4.35	**ELS044038PKG**	7/32	20	2.69
3856591	**BTKV40BEM062300**	5/8	1.63	3.00	2.96	2.09	**ELS056050PKG**	1/4	40	2.93
3856592	**BTKV40BEM075400**	3/4	1.75	4.00	3.96	2.22	**ELS062050PKG**	5/16	70	3.62
3856593	**BTKV40BEM088400**	7/8	2.00	4.00	3.96	2.22	**ELS062050PKG**	5/16	70	4.11
3856594	**BTKV40BEM100400**	1	2.00	4.00	3.96	2.56	**ELS075056PKG**	3/8	110	3.95
3856595	**BTKV40BEM125400**	1 1/4	2.50	4.00	3.96	2.51	**ELS075062PKG**	3/8	110	4.81

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.
For retention knobs, see page L45.





L1FC = from flange face
L1 = from taper gage diameter



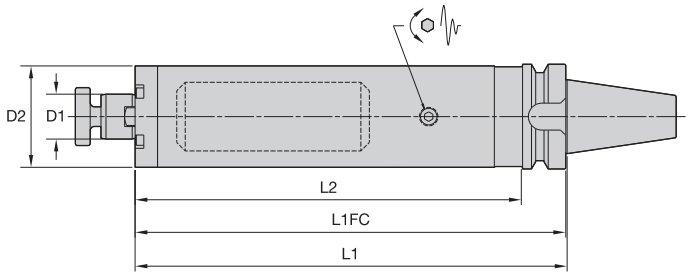
ERICKSON

SMC TD Cap MM-BTKV Form B/AD





order number	catalog number	D1	D2	D21	L1	L1FC	L2	L20	L21	lock screw	drive key	wrench size lock screw	kg
4136287	**BTKV40BTDSMC22260M**	22	49	60	260	259	13,5	216,8	233	**MS1234**	**KDK22M**	8mm	5,07



L1FC = from flange face
L1 = from taper gage diameter



SMC TD Lock MM-BTKV Form B/AD

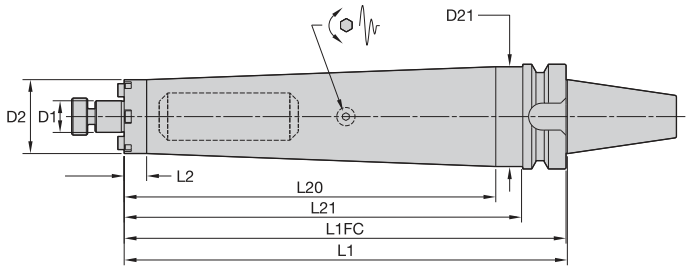




order number	catalog number	D1	D2	L1	L1FC	L2	lock screw	drive key	wrench size lock screw	kg
4136288	**BTKV40BTDSMC27260M**	27	61	260,0	259,0	233	**KLSS27M**	**—**	10mm	5,98

(continued)

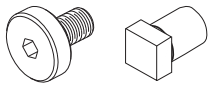
(SMC TD BTKV Form B/AD continued)





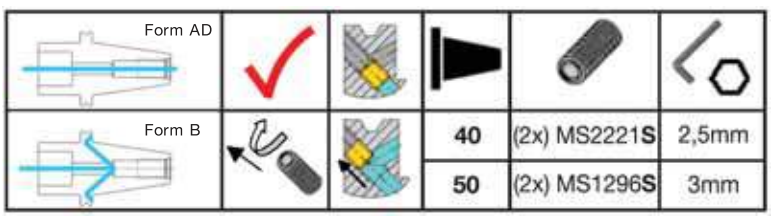
L1FC = from flange face
L1 = from taper gage diameter

SMC TD Lock IN-BTKV Form B/AD

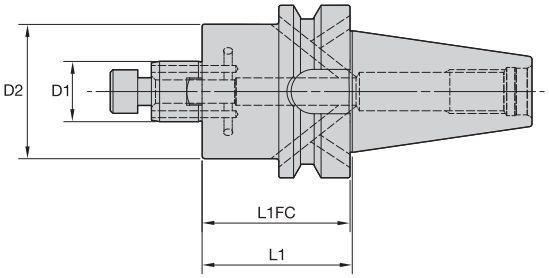


order number	catalog number	D1	D2	D21	L1	L1FC	L2	L20	L21	lock screw	drive key	wrench size lock screw	lbs
4136289	**BTKV40BTDSMC0751050**	3/4	1.750	2.362	10.500	10.460	.53	8.797	9.437	**KLS07**	**KDK05**	1/4	10.69
4136290	**BTKV40BTDSMC1001050**	1	2.189	—	10.500	10.460	9.44	—	—	**KLS10**	**KDK06**	5/16	11.84

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knob, see page L45.







L1FC = from flange face
L1 = from taper gage diameter



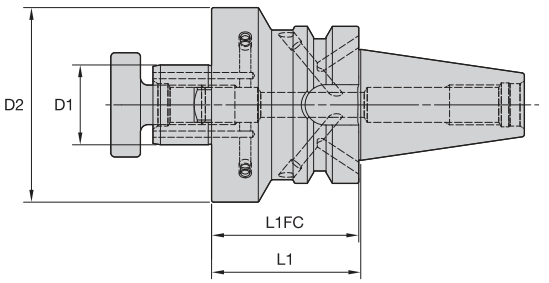
ERICKSON

SMC Cap MM-BTKV Form B/AD





order number	catalog number	D1	D2	L1	L1FC	lock screw	drive key	wrench size lock screw	kg
3857109	**BTKV40BSM2C16050M**	16	38	50,0	49,0	**MS1294**	**KDK16M**	6mm	1,17
3857108	**BTKV40BSMC16050M**	16	44	50,0	49,0	**MS1294**	**KDK16M**	6mm	1,24
3857111	**BTKV40BSM2C22055M**	22	42	55,0	54,0	**MS1234**	**–**	8mm	1,31
3857110	**BTKV40BSMC22055M**	22	49	55,0	54,0	**MS1234**	**KDK22M**	8mm	1,42



L1FC = from flange face
L1 = from taper gage diameter



SMC Lock MM-BTKV Form B/AD

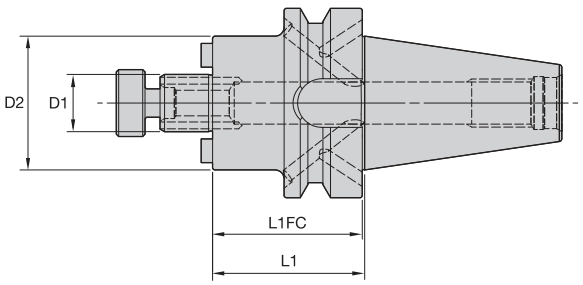




order number	catalog number	D1	D2	L1	L1FC	lock screw	drive key	wrench size lock screw	kg
3857112	**BTKV40BSMC27055M**	27	60	55,0	54,0	**KLSS27M**	**KDK27M**	10mm	1,68
3857163	**BTKV40BSMC32060M**	32	78	60,0	59,0	**KLSS32M**	**KDK32M**	14mm	2,23

(continued)

(SMC BTKV Form B/AD continued)



L1FC = from flange face
L1 = from taper gage diameter

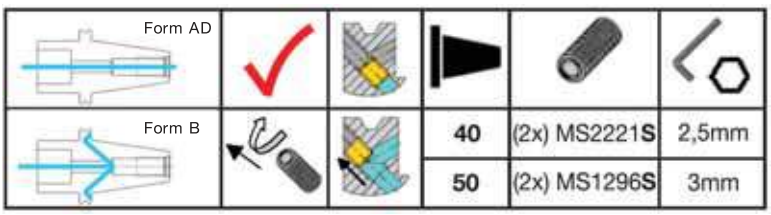


SMC TD Lock IN-BTKV Form B/AD



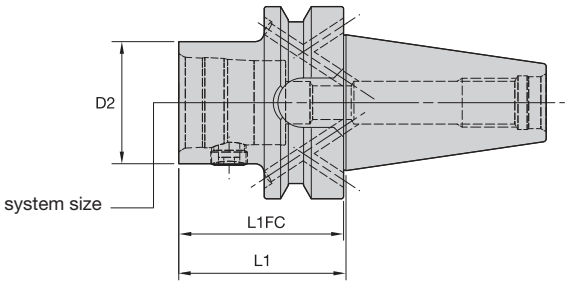

order number	catalog number	D1	D2	L1	L1FC	lock screw	drive key	wrench size lock screw	lbs
3857166	**BTKV40BSM2C050175**	1/2	1.20	1.75	1.71	**KLS05**	**KDK04**	3/16	2.37
3857165	**BTKV40BSMC050175**	1/2	1.44	1.75	1.71	**KLS05**	**KDK04**	3/16	2.42
3857168	**BTKV40BSM2C075200**	3/4	1.46	2.00	1.96	**KLS07**	**—**	1/4	2.59
3857167	**BTKV40BSMC075200**	3/4	1.75	2.00	1.96	**KLS07**	**KDK05**	1/4	2.79
3857170	**BTKV40BSM2C100200**	1	2.19	2.00	1.96	**KLS10**	**KDK06**	5/16	3.25
3857169	**BTKV40BSMC100200**	1	2.75	2.00	1.96	**KLS10**	**KDK06**	5/16	3.71
3857171	**BTKV40BSMC125200**	1 1/4	2.88	2.00	1.96	**KLS12**	**KDK08**	5/16	4.05
3857172	**BTKV40BSMC150200**	1 1/2	3.81	2.00	1.96	**KLS15**	**KDK10**	3/8	5.39

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knobs, see page L45.









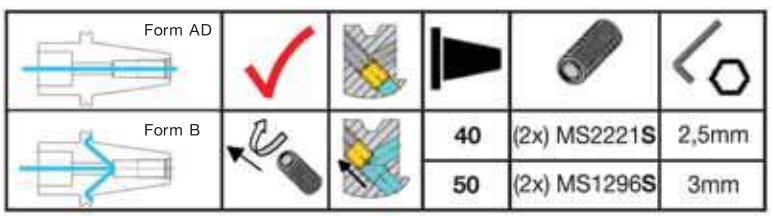
L1FC = from flange face
L1 = from taper gage diameter

KM QUICK CHANGE ERICKSON

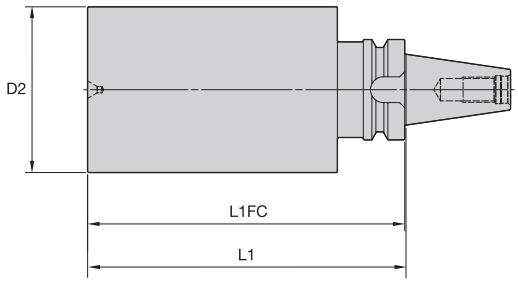
KM-BTKV Form B/AD

order number	catalog number	system size	D2	L1	L1FC	KM spare parts package	wrench size actuation screw	Nm	kg
3822963	**BTKV40BKM32050M**	KM32	32	50,0	49,0	**KM32PKG3S**	5mm	8-11	1,06
3822964	**BTKV40BKM32090M**	KM32	32	90,0	89,0	**KM32PKG3S**	5mm	8-11	1,28
3822965	**BTKV40BKM40055M**	KM40	40	55,0	54,0	**KM40PKG3S**	6mm	12-16	1,15
3822966	**BTKV40BKM40100M**	KM40	40	100,0	99,0	**KM40PKG3S**	6mm	12-16	1,54
3822967	**BTKV40BKM50065M**	KM50	50	65,0	64,0	**KM50PKG3S**	10mm	27-34	1,34
3822968	**BTKV40BKM50120M**	KM50	50	120,0	119,0	**KM50PKG3S**	10mm	27-34	2,13

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.
For retention knobs, see page L45.



• Machinable front 20–30 RW C.



L1FC = from flange face
L1 = from taper gage diameter



ERICKSON

BB-BTKV Form A

order number	catalog number	D2	L1	L1FC	kg
3815352	**BTKV40BB063280M**	63,0	280,0	279,0	7,13
3815363	**BTKV40BB104200M**	104,0	200,0	199,0	11,78

NOTE: For retention knobs, see page L45.



ERICKSON™ Taper Face Contact Shank Tooling System • BTKV50 Series

Primary Application

ERICKSON Taper Face BT Contact Taper Tooling is manufactured from premium materials and to the latest JIS B 6339 specification standard. Controlled, increased flange thickness to the rear of the flange gains face contact between spindle and holder.The BTKV50 tools are prebalanced to a high specification that will perform effectively up to 20,000 RPM. For any applications higher than 20,000 RPM, Kennametal recommends that the complete toolholder assembly (toolholder, retention knobs, collets, hardware, and cutting tools) be balanced as one identity.



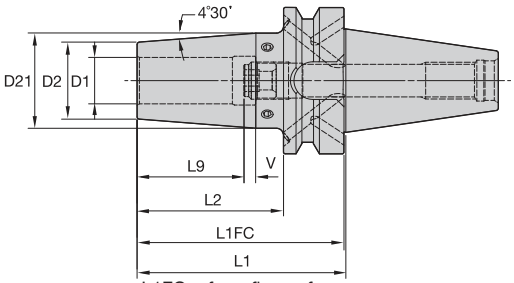


Features and Benefits

- JIS B 6339 7/24 taper.
- Standard M24 metric drawbar thread.
- High axial repeatability due to face contact.
- High radial positioning due to controlled, tighter drive key widths.
- All tools set to form AD coolant specification. Many can be converted to form B style.
- Maximum 20,000 RPM.
- Maximum 100 bar (1,500 psi) coolant pressure.

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).





L1FC = from flange face
L1 = from taper gage diameter



Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT GP HPV MM-BTKV Form B/AD



order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	kg
3856633	**BTKV50BHPVTT06100M**	6	21	27	100	98,5	62,0	26	10	**TTSS05014M**	2,5mm	3,72
3856634	**BTKV50BHPVTT08100M**	8	21	27	100	98,5	62,0	26	10	**TTSS06014M**	3mm	3,72
3856635	**BTKV50BHPVTT10100M**	10	24	32	100	98,5	62,0	31	10	**TTSS08014M**	4mm	3,78
3856636	**BTKV50BHPVTT12100M**	12	24	32	100	98,5	62,0	36	10	**TTSS10014M**	5mm	3,76
3856637	**BTKV50BHPVTT14100M**	14	27	34	100	98,5	62,0	36	10	**TTSS10014M**	5mm	3,81
3856638	**BTKV50BHPVTT16100M**	16	27	34	100	98,5	62,0	39	10	**TTSS12014M**	6mm	3,79
3856639	**BTKV50BHPVTT18100M**	18	33	41	100	98,5	62,0	39	10	**TTSS12014M**	6mm	3,93
3856640	**BTKV50BHPVTT20100M**	20	33	41	100	98,5	62,0	41	10	**TTSS16014M**	8mm	3,90
3856641	**BTKV50BHPVTT25100M**	25	44	52	100	98,5	62,0	47	10	**TTSS16014M**	8mm	4,19
3856642	**BTKV50BHPVTT32100M**	32	44	52	100	98,5	62,0	51	10	**TTSS16014M**	8mm	4,03

(continued)

(TT GP HPV BTKV Form B/AD continued)

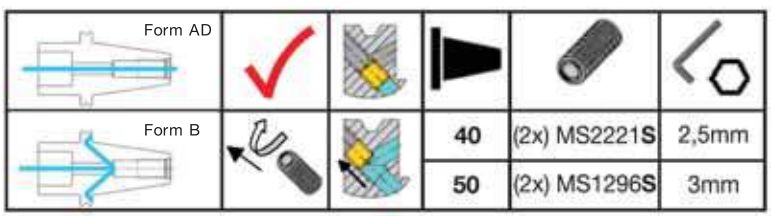
Cutting Tool Shank Requirements inch (industry standard)	
cutting tool shank diameters	tolerance
1/4, 5/16, & 3/8	.0000/-.0004
7/16, 1/2, & 5/8	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT GP HPV In-BTKV Form B/AD



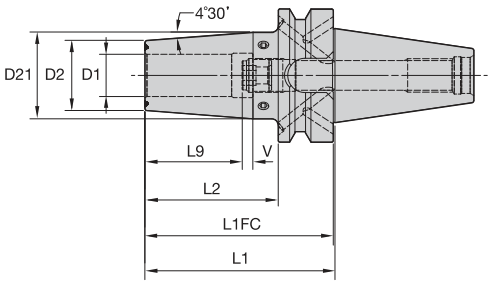
order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	lbs
3859981	**BTKV50BHPVTT025400**	1/4	.83	1.06	4.00	3.94	2.50	1.02	.39	**TTSS05014M**	2,5mm	8.23
3859982	**BTKV50BHPVTT031400**	5/16	.83	1.06	4.00	3.94	2.50	1.02	.39	**TTSS06014M**	3mm	8.21
3860033	**BTKV50BHPVTT038400**	3/8	.94	1.26	4.00	3.94	2.50	1.22	.39	**TTSS08014M**	4mm	8.36
3860034	**BTKV50BHPVTT044400**	7/16	.94	1.26	4.00	3.94	2.50	1.42	.39	**TTSS10014M**	5mm	8.33
3860035	**BTKV50BHPVTT050400**	1/2	.94	1.26	4.00	3.94	2.50	1.42	.39	**TTSS10014M**	5mm	8.31
3860036	**BTKV50BHPVTT062400**	5/8	1.06	1.33	4.00	3.94	2.50	1.54	.39	**TTSS12014M**	6mm	8.38
3860037	**BTKV50BHPVTT075400**	3/4	1.30	1.61	4.00	3.94	2.50	1.61	.39	**TTSS16014M**	8mm	8.66
3860038	**BTKV50BHPVTT088400**	7/8	1.30	1.61	4.00	3.94	2.50	1.61	.39	**TTSS16014M**	8mm	8.60
3860039	**BTKV50BHPVTT100400**	1	1.73	2.05	4.00	3.94	2.50	1.85	.39	**TTSS16014M**	8mm	9.27
3860040	**BTKV50BHPVTT125400**	1 1/4	1.73	2.05	4.00	3.94	2.50	2.01	.39	**TTSS16014M**	8mm	8.95

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.
For Shrink Fit machine and accessories, see page L12–L13.



- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.





L1FC = from flange face
L1 = from taper gage diameter



Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT HT HPV MM-BTKV Form B/AD



order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	kg
3856643	BTKV50BHPVTTHT12100M	12	24	32	100	98,5	62,0	36	10	TTSS10014M	5mm	3,76
3856644	BTKV50BHPVTTHT14100M	14	27	34	100	98,5	62,0	36	10	TTSS10014M	5mm	3,81
3856645	BTKV50BHPVTTHT16100M	16	27	34	100	98,5	62,0	39	10	TTSS12014M	6mm	3,79
3856646	BTKV50BHPVTTHT18100M	18	33	41	100	98,5	62,0	39	10	TTSS12014M	6mm	3,93
3856647	BTKV50BHPVTTHT20100M	20	33	41	100	98,5	62,0	41	10	TTSS16014M	8mm	3,90
3856648	BTKV50BHPVTTHT25100M	25	44	52	100	98,5	62,0	47	10	TTSS16014M	8mm	4,90
3856649	BTKV50BHPVTTHT32100M	32	44	52	100	98,5	62,0	51	10	TTSS16014M	8mm	4,03

(continued)

(TT HT HPV BTKV Form B/AD continued)

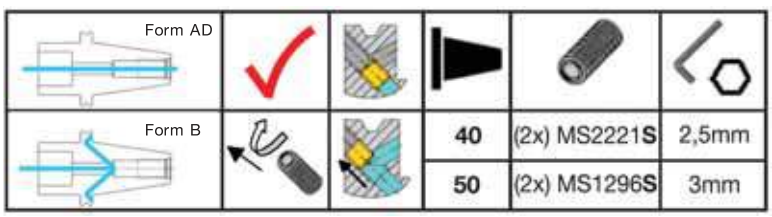
Cutting Tool Shank Requirements inch (industry standard)	
cutting tool shank diameters	tolerance
1/2 & 5/8	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT HT HPV In-BTKV Form B/AD

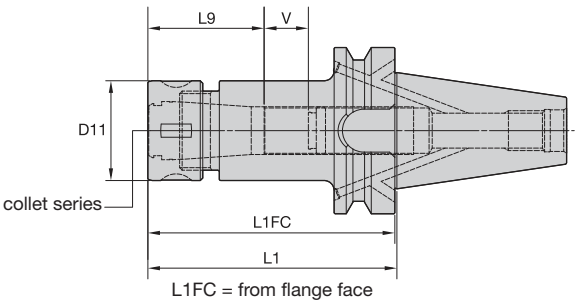


order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	lbs
3860041	**BTKV50BHPVTTHT050400**	1/2	.94	1.26	4.00	3.94	2.504	1.42	.39	**TTSS10014M**	5mm	8.31
3860042	**BTKV50BHPVTTHT062400**	5/8	1.06	1.33	4.00	3.94	2.504	1.54	.39	**TTSS12014M**	6mm	8.38
3860043	**BTKV50BHPVTTHT075400**	3/4	1.30	1.61	4.00	3.94	2.504	1.61	.39	**TTSS16014M**	8mm	8.66
3860044	**BTKV50BHPVTTHT088400**	7/8	1.30	1.61	4.00	3.94	2.504	1.61	.39	**TTSS16014M**	8mm	8.60
3860045	**BTKV50BHPVTTHT100400**	1	1.73	2.05	4.00	3.94	2.504	1.85	.39	**TTSS16014M**	8mm	9.27
3860046	**BTKV50BHPVTTHT125400**	1 1/4	1.73	2.05	4.00	3.94	2.504	2.01	.39	**TTSS16014M**	8mm	8.95

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.
For Shrink Fit machine and accessories, see pages L12–L13.







L1FC = from flange face
L1 = from taper gage diameter



Collet Capacity

	mm		inch	
TG collet series	**min**	**max**	**min**	**max**
TG100	2,6	25,5	5/64	1
TG150	11,6	40,0	23/64	1-1/2

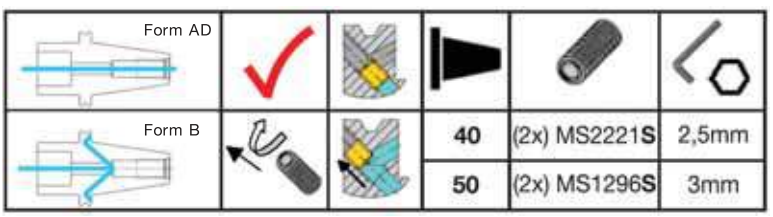
ERICKSON

TG Round-BTKV Form B/AD



order number	catalog number	collet series	D11	L1	L1FC	L9	V	locknut	wrench	stop screw	wrench size stop screw	Nm	kg
3856665	**BTKV50BTG100090M**	TG100	60	90,0	88,5	64	36	**LNA100M**	**HSW58M**	**SS112041G**	4mm & 5/32	203	3,97
3856666	**BTKV50BTG100150M**	TG100	60	150,0	148,5	64	89	**LNA100M**	**HSW58M**	**SS112041G**	4mm & 5/32	203	5,15
3856667	**BTKV50BTG150100M**	TG150	85	100,0	98,5	78	13	**LNA150M**	**HSW80M**	**SS162062G**	4mm & 5/32	271	4,43
3856668	**BTKV50BTG150150M**	TG150	85	150,0	148,5	78	49	**LNA150M**	**HSW80M**	**SS162062G**	4mm & 5/32	271	6,08

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.





B/K284 Solid Carbide Drills

B/K284 Series Solid Carbide Drills offer a material-specific design and grade for machining high-temperature-resistant alloys, like titanium and nickel-based alloys, in aerospace applications. This drill minimizes subsurface deformation.

- HP drill point — prevents workpiece flexing.
- Straight cut edge — rigid corner wedge withstands high thermal and mechanical stress.
- Unique flute design — improves chip evacuation.
- K715™ grade — specified, uncoated 9% Co fine-grain carbide.
- Customization — intermediate diameters, length variations, and step drills available as customized solutions.
- For the latest product catalog, please refer to the e-catalog at www.kennametal.com.

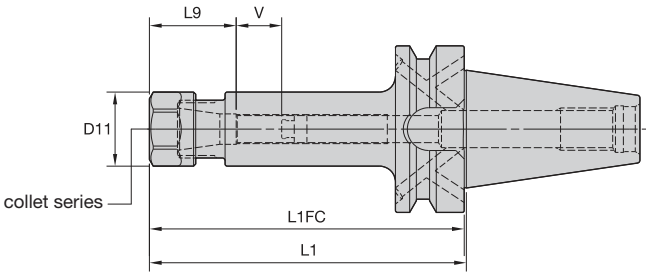
Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

• Grip (2:1 advantage).





L1FC = from flange face
L1 = from taper gage diameter



ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Hex-BTKV Form B/AD

order number	catalog number	collet series	D11	L1	L1FC	L9	V	kg
3857128	**BTKV50BER16100M**	ER16	28	100	98,5	32	48	3,78
3857129	**BTKV50BER16150M**	ER16	28	150	148,5	32	48	3,97
3857130	**BTKV50BER20070M**	ER20	34	70	68,5	36	24	3,65
3857131	**BTKV50BER20150M**	ER20	34	150	148,5	36	64	4,12

Spare Parts

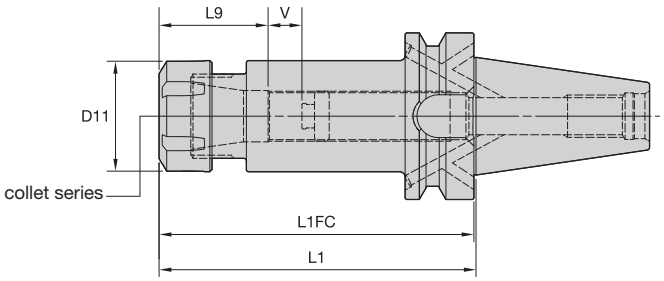




catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
BTKV50BER16100M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
BTKV50BER16150M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
BTKV50BER20070M	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32
BTKV50BER20150M	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32

(continued)

(ER BTKV Form B/AD continued)



L1FC = from flange face
L1 = from taper gage diameter



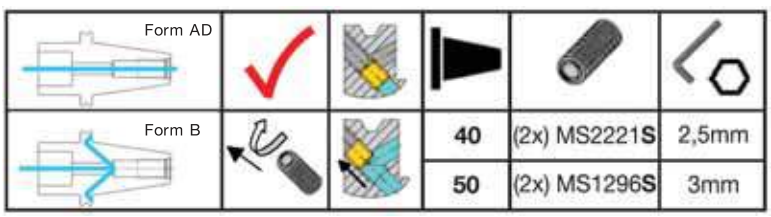
ER Round-BTKV Form B/AD

order number	catalog number	collet series	D11	L1	L1FC	L9	V	kg
3857132	**BTKV50BER25070M**	ER25	42	70,0	68,5	40	40	3,69
3857133	**BTKV50BER25150M**	ER25	42	150,0	148,5	40	60	4,38
3857134	**BTKV50BER32070M**	ER32	50	70,0	68,5	46	38	3,67
3857135	**BTKV50BER32150M**	ER32	50	150,0	148,5	46	54	4,67
3857136	**BTKV50BER40080M**	ER40	63	80,0	78,5	52	38	3,83
3857137	**BTKV50BER40150M**	ER40	63	150,0	148,5	52	48	5,33

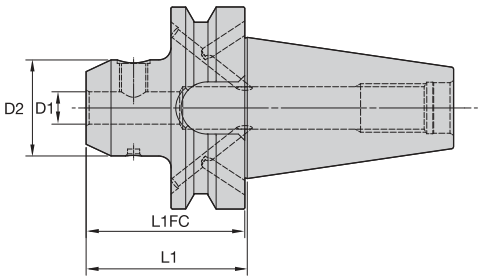
Spare Parts

catalog number	locknut	wrench	Nm	stop screw	wrench size stop screw
BTKV50BER25070M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
BTKV50BER25150M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
BTKV50BER32070M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
BTKV50BER32150M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
BTKV50BER40080M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32
BTKV50BER40150M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.







L1FC = from flange face
L1 = from taper gage diameter



ERICKSON

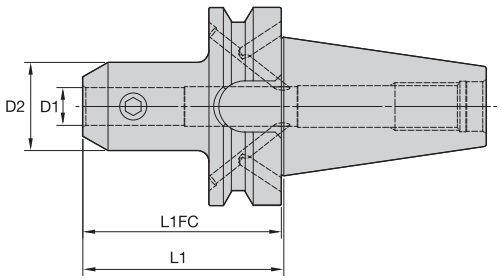
EM MM-BTKV Form B/AD



order number	catalog number	D1	D2	L1	L1FC	lock screw	wrench size lock screw	Nm	kg
3856539	**BTKV50BEM06063M**	6	24,5	63,0	61,5	**SS03M012**	3mm	7	3,58
3856541	**BTKV50BEM08063M**	8	27,5	63,0	61,5	**SS03M014**	4mm	15	3,60
3856542	**BTKV50BEM10080M**	10	34,5	80,0	78,5	**SS03M018**	5mm	25	3,79
3856563	**BTKV50BEM12080M**	12	41,5	80,0	78,5	**SS03M023**	6mm	35	3,86
3856564	**BTKV50BEM14080M**	14	43,5	80,0	78,5	**SS03M023**	6mm	35	3,90
3856565	**BTKV50BEM16080M**	16	47,5	80,0	78,5	**SS03M025**	6mm	50	3,97
3856566	**BTKV50BEM18080M**	18	49,5	80,0	78,5	**SS03M025**	6mm	50	4,00
3856567	**BTKV50BEM20080M**	20	51,5	80,0	78,5	**SS03M026**	8mm	95	4,02
3856568	**BTKV50BEM25105M**	25	64,5	105,0	103,5	**SS03M027**	10mm	135	4,80
3856569	**BTKV50BEM32105M**	32	71,5	105,0	103,5	**SS03M029**	10mm	160	5,04
3856570	**BTKV50BEM40120M**	40	89,5	120,0	118,5	**SS03M029**	10mm	160	6,56
3856571	**BTKV50BEM50130M**	50	99,5	130,0	128,5	**—**	12mm	200	7,50

(continued)

(EM BTKV Form B/AD continued)



L1FC = from flange face
L1 = from taper gage diameter

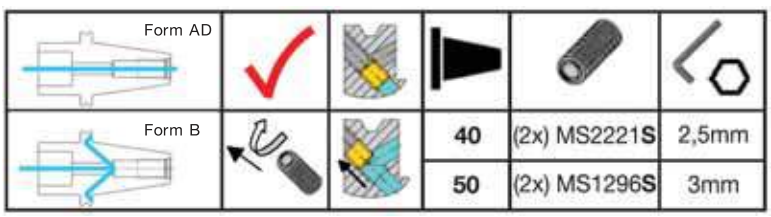


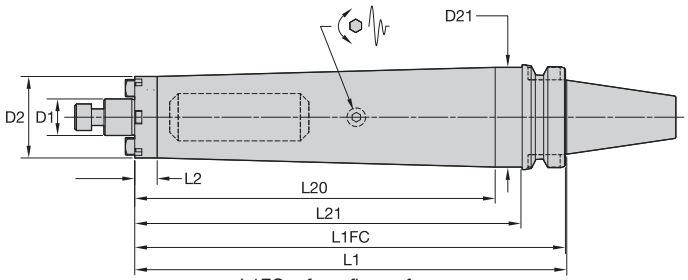
EM IN-BTKV Form B/AD



order number	catalog number	D1	D2	L1	L1FC	lock screw	wrench size lock screw	ft. lbs.	lbs
3856572	**BTKV50BEM050300**	1/2	1.37	3.00	2.94	**ELS044038PKG**	7/32	20	8.18
3856573	**BTKV50BEM075400**	3/4	1.75	4.00	3.94	**ELS062050PKG**	5/16	70	8.99
3856574	**BTKV50BEM100400**	1	2.00	4.00	3.94	**ELS075056PKG**	3/8	110	8.95
3856575	**BTKV50BEM125400**	1 1/4	2.50	4.00	3.94	**ELS075062PKG**	3/8	110	10.08
3856576	**BTKV50BEM150450**	1 1/2	2.75	4.50	4.44	**ELS075069PKG**	3/8	110	11.05
3856577	**BTKV50BEM200550**	2	3.75	5.50	5.44	**ELS100088PKG**	1/2	148	16.28

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.
For retention knobs, see page L45.





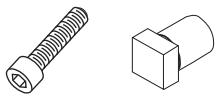
L1FC = from flange face
L1 = from taper gage diameter



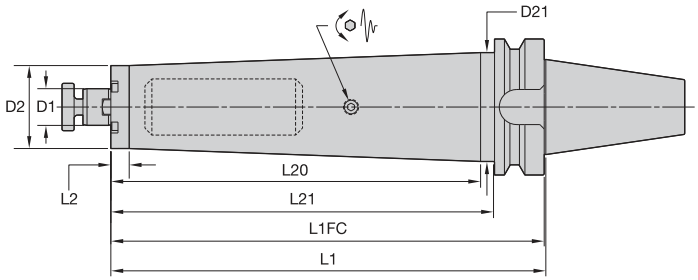


ERICKSON

SMC TD Cap MM-BTKV Form B/AD



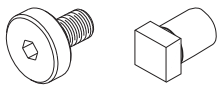
order number	catalog number	D1	D2	D21	L1	L1FC	L2	L20	L21	lock screw	drive key	wrench size lock screw	kg
4136291	**BTKV50BTDSMC22260M**	22	49	70	260,0	258,5	13,5	211,8	222	**MS1234**	**KDK22M**	8mm	8,27



L1FC = from flange face
L1 = from taper gage diameter



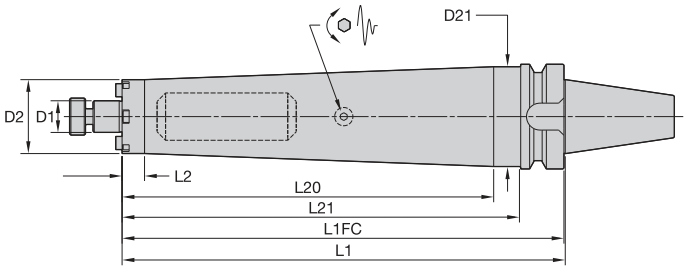
SMC TD Lock MM-BTKV Form B/AD



order number	catalog number	D1	D2	D21	L1	L1FC	L2	L20	L21	lock screw	drive key	wrench size lock screw	kg
4136292	**BTKV50BTDSMC27320M**	27	61	80	320	318,5	13,5	271,8	282	**KLSS27M**	**—**	10mm	11,89
4136303	**BTKV50BTDSMC32330M**	32	78	—	330	328,5	292,0	—	—	**KLSS32M**	**KDK32M**	14mm	16,22

(continued)

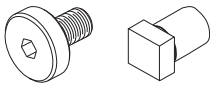
(SMC continued)



L1FC = from flange face
L1 = from taper gage diameter

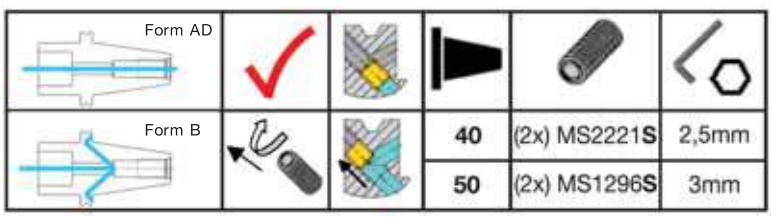


SMC TD Lock IN-BTKV Form B/AD

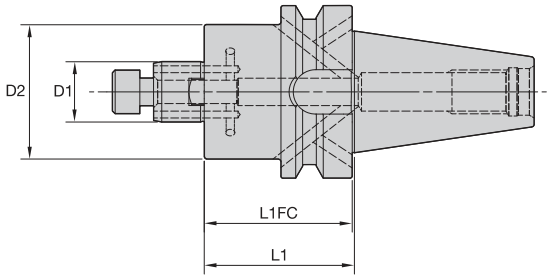


order number	catalog number	D1	D2	D21	L1	L1FC	L2	L20	L21	lock screw	drive key	wrench size lock screw	lbs
4136304	**BTKV50BTDSMC0751050**	3/4	1.75	2.56	10.50	10.44	.53	8.60	9.00	**KLS07**	**KDK05**	1/4	16.86
4136305	**BTKV50BTDSMC1001250**	1	2.75	—	12.50	12.44	11.00	—	—	**KLS10**	**KDK06**	5/16	25.60
4136306	**BTKV50BTDSMC1251300**	1 1/4	2.88	—	13.00	12.94	11.50	—	—	**KLS12**	**KDK08**	5/16	32.85

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knobs, see page L45.







L1FC = from flange face
L1 = from taper gage diameter



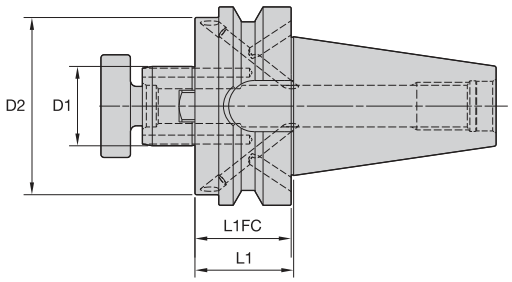
ERICKSON

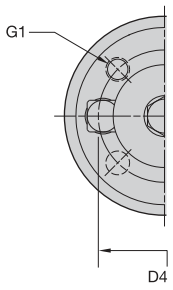
SMC Cap MM-BTKV Form B/AD





order number	catalog number	D1	D2	L1	L1FC	lock screw	drive key	wrench size lock screw	kg
3857069	**BTKV50BSM2C16045M**	16	38	45,0	43,5	**MS1294**	**KDK16M**	6mm	3,66
3857068	**BTKV50BSMC16045M**	16	44	45,0	43,5	**MS1294**	**KDK16M**	6mm	3,67
3857071	**BTKV50BSM2C22045M**	22	42	45,0	43,5	**MS1234**	**—**	8mm	3,66
3857070	**BTKV50BSMC22045M**	22	49	45,0	43,5	**MS1234**	**KDK22M**	8mm	3,69





L1FC = from flange face
L1 = from taper gage diameter



SMC Lock MM-BTKV Form B/AD

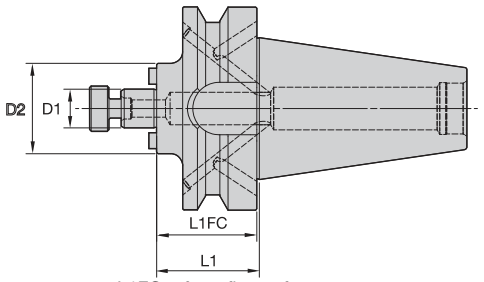




order number	catalog number	D1	D2	D4	G1	L1	L1FC	lock screw	drive key	wrench size lock screw	kg
3857072	**BTKV50BSMC27045M**	27	60	—	—	45,0	43,5	**KLSS27M**	**KDK27M**	10mm	3,80
3857093	**BTKV50BSMC32045M**	32	78	—	—	45,0	43,5	**KLSS32M**	**KDK32M**	14mm	4,01
3857094	**BTKV50BSMC40050M**	40	89	66,7	M12X1.75	50,0	48,5	**KLSS40M**	**KDK40M**	17mm	4,46
3857095	**BTKV50BSMC60090M**	60	129	101,6	M16X2.0	90,0	88,5	**—**	**KDK60M**	—	8,55

(continued)

(SMC Lock BTKV Form B/AD continued)



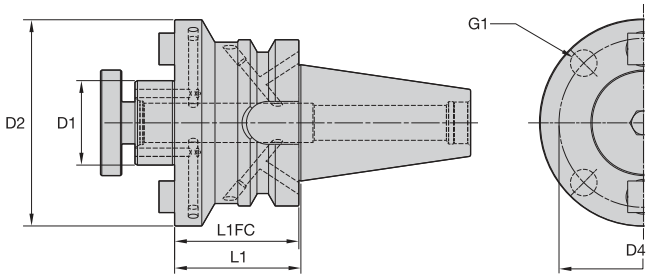
L1FC = from flange face
L1 = from taper gage diameter



SMC Lock MM-BTKV Form B/AD




order number	catalog number	D1	D2	L1	L1FC	lock screw	drive key	wrench size lock screw	lbs
3857097	**BTKV50BSM2C075200**	3/4	1.46	2.00	1.941	**KLS07**	**—**	1/4	8.14
3857096	**BTKV50BSMC075200**	3/4	1.75	2.00	1.941	**KLS07**	**KDK05**	1/4	8.25
3857099	**BTKV50BSM2C100200**	1	2.19	2.00	1.941	**KLS10**	**KDK06**	5/16	8.45
3857098	**BTKV50BSMC100200**	1	2.75	2.00	1.941	**KLS10**	**KDK06**	5/16	8.75
3857100	**BTKV50BSMC125200**	1 1/4	2.88	2.00	1.941	**KLS12**	**KDK08**	5/16	9.05
3857101	**BTKV50BSMC150200**	1 1/2	3.81	2.00	1.941	**KLS15**	**KDK10**	3/8	10.07



L1FC = from flange face
L1 = from taper gage diameter

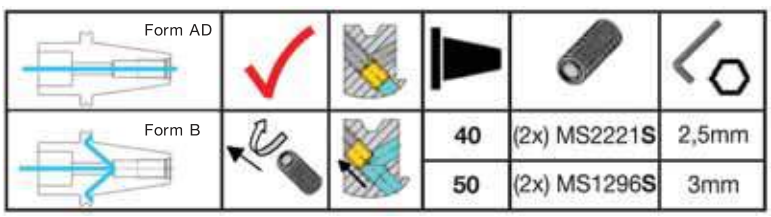


SMC Lock IN-BTKV Form B/AD



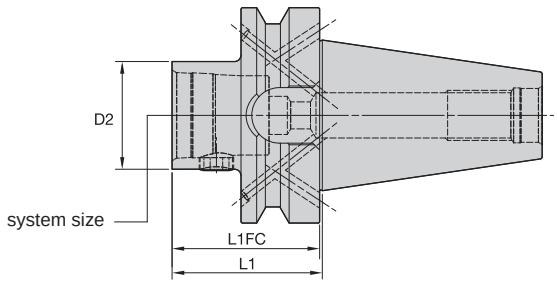

order number	catalog number	D1	D2	D4	G1	L1	L1FC	lock screw	drive key	wrench size lock screw	lbs
3857102	**BTKV50BSMC200300**	2	4.88	4.00	5/8-11 UNC	3.00	2.94	**KLS20**	**KDK12**	9/16	15.08
3857103	**BTKV50BSMC250300**	2 1/2	4.88	4.00	5/8-11 UNC	3.00	2.94	**KLS25**	**KDK16**	9/16	16.33

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knob, see page L45.









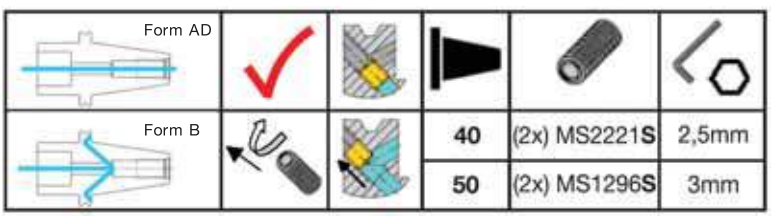
L1FC = from flange face
L1 = from taper gage diameter

KM QUICK CHANGE ERICKSON

KM-BTKV Form B/AD

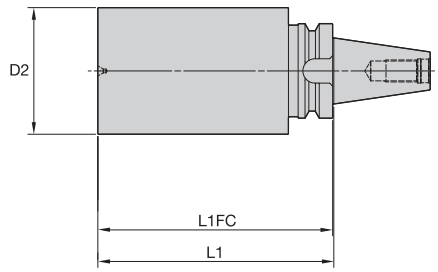
order number	catalog number	system size	D2	L1	L1FC	KM spare parts package	wrench size actuation screw	Nm	kg
3815301	**BTKV50BKM32060M**	KM32	32	60	58,5	**KM32PKG3S**	5mm	8-11	3,63
3815302.	**BTKV50BKM32090M**	KM32	32	90	88,5	**KM32PKG3S**	5mm	8-11	3,78
3815333	**BTKV50BKM40065M**	KM40	40	65	63,5	**KM40PKG3S**	6mm	12-16	3,72
3815334	**BTKV50BKM40100M**	KM40	40	100	98,5	**KM40PKG3S**	6mm	12-16	4,01
3815335	**BTKV50BKM50070M**	KM50	50	70	68,5	**KM50PKG3S**	10mm	27-34	3,86
3815336	**BTKV50BKM50120M**	KM50	50	120	118,5	**KM50PKG3S**	10mm	27-34	4,54
3815337	**BTKV50BKM63080M**	KM63	63	80	78,5	**KM63PKG3S**	12mm	47-54	4,22
3815338	**BTKV50BKM63140M**	KM63	63	140	138,5	**KM63PKG3S**	12mm	47-54	5,55
3815339	**BTKV50BKM80090M**	KM80	80	90	88,5	**KM80PKG3S**	14mm	79-85	5,00

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.
For retention knobs, see page L45.
These products are only available in the U.S., Canada, and Japan.



• Machinable front 20–30 RW C.





L1FC = from flange face
L1 = from taper gage diameter



ERICKSON

BB-BTKV Form B/AD

order number	catalog number	D2	L1	L1FC	kg
3830226	**BTKV50BB104350M**	104	350	348,5	24,37
3830227	**BTKV50BB134250M**	134	250	248,5	26,58

NOTE: For retention knobs, see page L45.

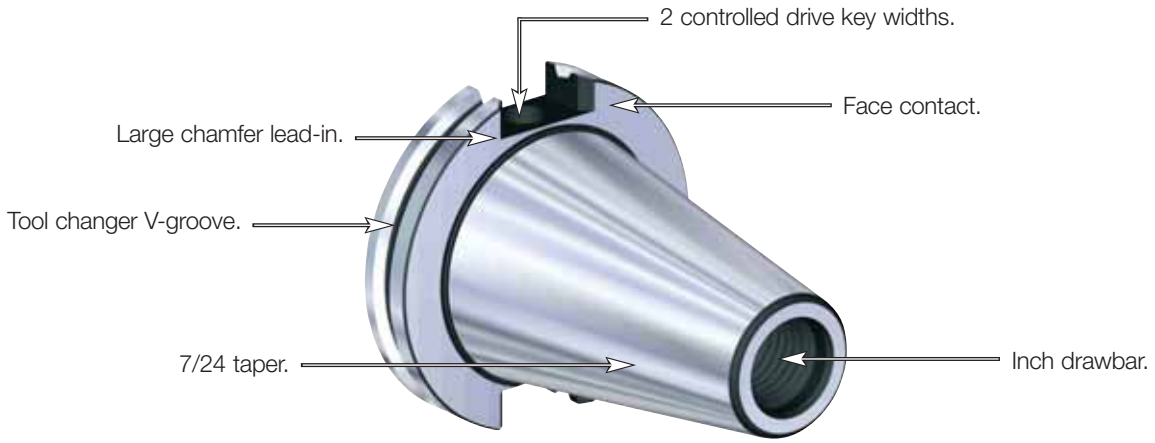
ERICKSON™ Taper Face Contact Shank Tooling System • CVKV40 Series

Primary Application

ERICKSON Taper Face CV Contact Taper Tooling is manufactured from premium materials and to the latest ANSI B5.50 specification standard. Controlled, increased flange thickness to the rear of the flange gains face contact between spindle and holder. The CVKV40 tools are prebalanced to a high specification that will perform effectively up to 20,000 RPM. For any applications higher than 20,000 RPM, Kennametal recommends that the complete toolholder assembly (toolholder, retention knobs, collets, hardware, and cutting tools) be balanced as one identity.

Features and Benefits

- ANSI B5.50 7/24 taper.
- Standard 5/8-11 drawbar thread.
- High axial repeatability due to face contact.
- High radial positioning due to controlled, tighter drive key widths.
- All tools set to form AD coolant specification. Many can be converted to form B style.
- Maximum 20,000 RPM.
- Maximum 100 bar (1,500 psi) coolant pressure.



Drive key slots are unequal depths. Detent hole identifies shallow drive key slot.

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



CVKV40BTG50100M

CVKV	40	B	TG	50	100	M
Shank Style	Shank Taper Size	Special Feature *(optional)*	Toolholder Style	Toolholder Size	Tool Length	Identification Value
ANSI B5.50 Face Contact	**40** = 40 **50** = 50	**B** = DIN form B coolant feature, tool shipped to AD specification (design allows conversion to form B style) **(blank)** = (no "B" or "Z") — tool built to form A/AD coolant style **HPV** = High performance and balanceable **TD** = Tunable			(Gage line on taper to front of tool) **inch** xxx = x.xx	**M** = Tool built to metric values and has metric retention thread

BB = Bar blank
EM = End mill adapter
ER = DIN 6499 single-angle collet chuck
KM = KM™ adapter
SM2C = Shell mill adapter with coolant and small diameter
SMC = Shell mill adapter with coolant
TG = Tremendous Grip single-angle collet chuck
TT = Shrink Fit thermo toolholder
TTHT = Shrink Fit thermo toolholder — high torque

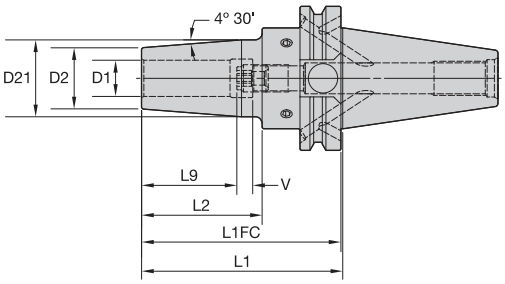
TG =
Collet series xx (50), xxx (100)

EM =
I.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

SM =
O.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).





L1FC = from flange face
L1 = from taper gage diameter



Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT GP HPV MM-CVKV Form B/AD



order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	kg
3860164	**CVKV40BHPVTT06M350**	6	21	26,90	88,90	87,90	53,15	26	10	**TTSS05014M**	2,5mm	1,18
3860165	**CVKV40BHPVTT08M350**	8	21	26,90	88,90	87,90	53,15	26	10	**TTSS06014M**	3mm	1,18
3860166	**CVKV40BHPVTT10M350**	10	24	31,00	88,90	87,90	53,15	31	10	**TTSS08014M**	4mm	1,22
3860167	**CVKV40BHPVTT12M350**	12	24	31,00	88,90	87,90	53,15	36	10	**TTSS10014M**	5mm	1,21
3860168	**CVKV40BHPVTT14M350**	14	27	33,90	88,90	87,90	53,15	36	10	**TTSS10014M**	5mm	1,25
3860169	**CVKV40BHPVTT16M350**	16	27	33,90	88,90	87,90	53,15	39	10	**TTSS12014M**	6mm	1,22
3860170	**CVKV40BHPVTT18M400**	18	33	44,45	101,60	100,60	82,55	39	10	**TTSS12014M**	6mm	1,47
3860171	**CVKV40BHPVTT20M400**	20	33	44,45	101,60	100,60	82,55	41	10	**TTSS16014M**	8mm	1,43
3860172	**CVKV40BHPVTT25M400**	25	44	52,90	101,60	100,60	82,55	47	10	**TTSS16014M**	8mm	1,73
3860173	**CVKV40BHPVTT32M400**	32	44	52,90	101,60	100,60	82,55	51	10	**TTSS16014M**	8mm	1,56

(continued)

(TT GP HPV CVKV Form B/AD continued)

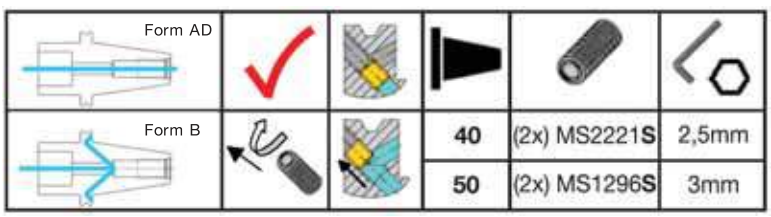
Cutting Tool Shank Requirements inch (industry standard)	
cutting tool shank diameters	**tolerance**
1/4, 5/16, & 3/8	.0000/-.0004
7/16, 1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT GP HPV IN-CVKV Form B/AD



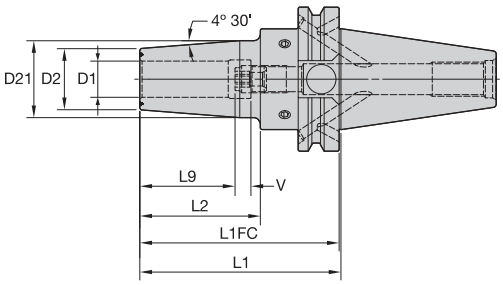
order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	lbs
3860008	**CVKV40BHPVTT025350**	1/4	.83	1.06	3.50	3.46	2.09	1.02	.39	**TTSS05014M**	2,5mm	2.61
3860009	**CVKV40BHPVTT031350**	5/16	.83	1.06	3.50	3.46	2.09	1.02	.39	**TTSS06014M**	3mm	2.59
3860010	**CVKV40BHPVTT038375**	3/8	.94	1.26	3.75	3.71	2.34	1.22	.39	**TTSS08014M**	4mm	2.78
3860011	**CVKV40BHPVTT044375**	7/16	.94	1.26	3.75	3.71	2.34	1.42	.39	**TTSS10014M**	5mm	2.75
3860012	**CVKV40BHPVTT050375**	1/2	.94	1.26	3.75	3.71	2.34	1.42	.39	**TTSS10014M**	5mm	2.73
3860013	**CVKV40BHPVTT056375**	9/16	1.06	1.33	3.75	3.71	2.34	1.42	.39	**TTSS10014M**	5mm	2.84
3860014	**CVKV40BHPVTT062375**	5/8	1.06	1.33	3.75	3.71	2.34	1.54	.39	**TTSS12014M**	6mm	2.79
3860015	**CVKV40BHPVTT068400**	11/16	1.30	1.75	4.00	3.96	3.25	1.54	.39	**TTSS12014M**	6mm	3.25
3860016	**CVKV40BHPVTT075400**	3/4	1.30	1.75	4.00	3.96	3.25	1.61	.39	**TTSS12014M**	8mm	3.17
3860017	**CVKV40BHPVTT088400**	7/8	1.30	1.75	4.00	3.96	3.25	1.61	.39	**TTSS16014M**	8mm	3.09
3860018	**CVKV40BHPVTT100400**	1	1.73	2.08	4.00	3.96	3.25	1.85	.39	**TTSS16014M**	8mm	3.79
3860019	**CVKV40BHPVTT125400**	1 1/4	1.73	2.08	4.00	3.96	3.25	2.01	.39	**TTSS16014M**	8mm	3.46

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.
For Shrink Fit machine and accessories, see pages L12–L13.



- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.





L1FC = from flange face
L1 = from taper gage diameter



Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 16	h6	0,000/-0,011
20, 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT HT HPV MM-CVKV Form B/AD



order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	kg
3860174	**CVKV40BHPVTTHT12M350**	12	24	31,00	88,90	87,90	53,15	36	10	**TTSS10014M**	5mm	1,21
3860175	**CVKV40BHPVTTHT14M350**	14	27	33,90	88,90	87,90	53,15	36	10	**TTSS10014M**	5mm	1,26
3860176	**CVKV40BHPVTTHT16M350**	16	27	33,90	88,90	87,90	53,15	39	10	**TTSS12014M**	6mm	1,22
3860177	**CVKV40BHPVTTHT18M400**	18	33	44,45	101,60	100,60	82,55	39	10	**TTSS12014M**	6mm	1,47
3860178	**CVKV40BHPVTTHT20M400**	20	33	44,45	101,60	100,60	82,55	41	10	**TTSS16014M**	8mm	1,43
3860179	**CVKV40BHPVTTHT25M400**	25	44	52,90	101,60	100,60	82,55	47	10	**TTSS16014M**	8mm	1,73
3860180	**CVKV40BHPVTTHT32M400**	32	44	52,90	101,60	100,60	82,55	51	10	**TTSS16014M**	8mm	1,56

(continued)

(TT HT HPV CVKV Form B/AD continued)

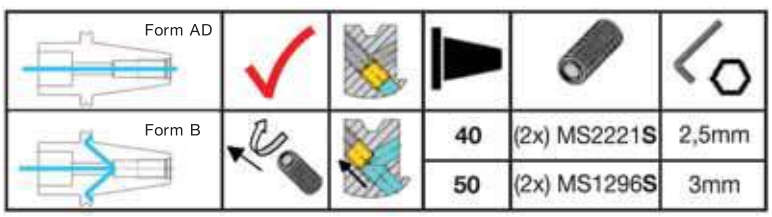
Cutting Tool Shank Requirements inch (industry standard)	
cutting tool shank diameters	**tolerance**
1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT HT HPV IN-CVKV Form B/AD



order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	lbs
3860020	**CVKV40BHPVTTHT050375**	1/2	.94	1.26	3.75	3.71	2.34	1.42	.39	**TTSS10014M**	5mm	2.76
3860021	**CVKV40BHPVTTHT056375**	9/16	1.06	1.33	3.75	3.71	2.34	1.42	.39	**TTSS10014M**	5mm	2.84
3860022	**CVKV40BHPVTTHT062375**	5/8	1.06	1.33	3.75	3.71	2.34	1.54	.39	**TTSS12014M**	6mm	2.79
3860023	**CVKV40BHPVTTHT068400**	11/16	1.30	1.75	4.00	3.96	3.25	1.54	.39	**TTSS12014M**	6mm	3.25
3860024	**CVKV40BHPVTTHT075400**	3/4	1.30	1.75	4.00	3.96	3.25	1.61	.39	**TTSS16014M**	8mm	3.18
3860025	**CVKV40BHPVTTHT088400**	7/8	1.30	1.75	4.00	3.96	3.25	1.61	.39	**TTSS16014M**	8mm	3.09
3860026	**CVKV40BHPVTTHT100400**	1	1.73	2.08	4.00	3.96	3.25	1.85	.39	**TTSS16014M**	8mm	3.79
3860027	**CVKV40BHPVTTHT125400**	1 1/4	1.73	2.08	4.00	3.96	3.25	2.01	.39	**TTSS16014M**	8mm	3.46

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.
For Shrink Fit machine and accessories, see pages L12–L13.





The Kennametal Solution

Kennametal Global Engineered Solutions. Coordinated global resources with world-class manufacturing, process development, and implementation capabilities.

No matter how small or large your project.

- Whether it's a single tailored tool or the development of a comprehensive manufacturing process, Kennametal's team can manage the development, personnel training, and successful implementation of the complete solution.

Regardless of where you're located, Kennametal is everywhere you are.

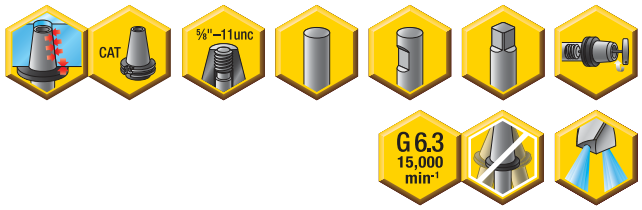
- With Kennametal's team, you receive globally coordinated manufacturing, process development, implementation, and optimization support and key alliances with machine tool builders and other leading technology manufacturers that ensure a complete solution.

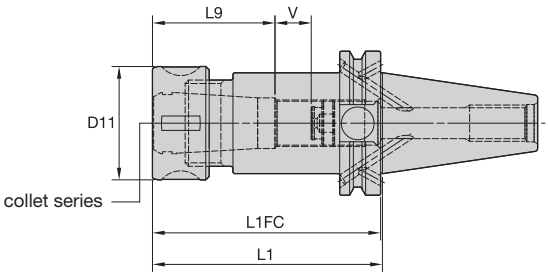
Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

• Tremendous Grip (3:1 advantage).





L1FC = from flange face
L1 = from taper gage diameter



	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

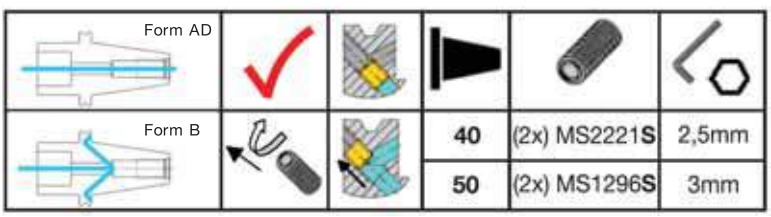
ERICKSON

TG Round-CVKV Form B/AD

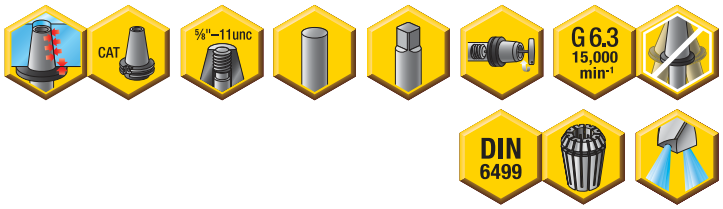


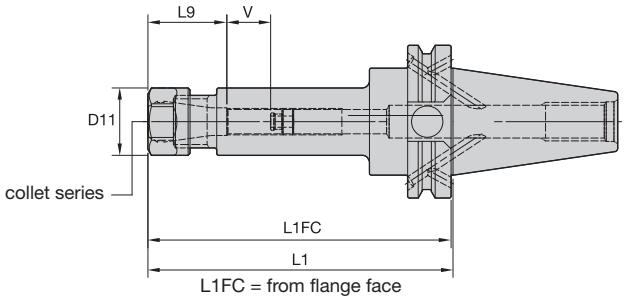
order number	catalog number	collet series	D11	L1	L1FC	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	kg
3860134	**CVKV40BTG075250G**	TG75	50	63,50	62,50	50	13	**LNA075M**	**HSW45M**	136	**SS081041G**	4mm & 5/32	1,15
3860135	**CVKV40BTG075400G**	TG75	50	101,60	100,60	50	33	**LNA075M**	**HSW45M**	136	**SS081041G**	4mm & 5/32	1,55
3860136	**CVKV40BTG075600G**	TG75	50	152,40	151,40	50	93	**LNA075M**	**HSW45M**	136	**SS081041G**	4mm & 5/32	2,04
3860137	**CVKV40BTG100275G**	TG100	60	69,85	68,85	64	8	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	1,27
3860138	**CVKV40BTG100400G**	TG100	60	101,60	100,60	64	24	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	1,59
3860139	**CVKV40BTG100600G**	TG100	60	152,40	151,40	64	72	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	2,69

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.



• Grip (2:1 advantage).





L1FC = from flange face
L1 = from taper gage diameter



Collet Capacity

ER collet series	mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Hex-CVKV Form B/AD

order number	catalog number	collet series	D11	L1	L1FC	L9	V	kg
3860218	**CVKV40BER16250**	ER16	28	63,5	62,5	32	33	1,07
3860220	**CVKV40BER16500**	ER16	28	127,0	126,0	32	38	1,31
3860221	**CVKV40BER20250**	ER20	34	63,5	62,5	36	26	1,07
3860222	**CVKV40BER20600**	ER20	34	152,4	151,4	36	44	1,60

Spare Parts



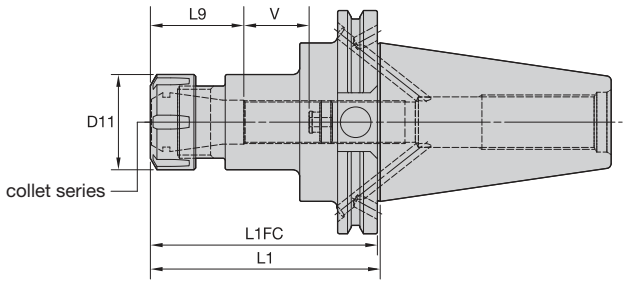




catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
CVKV40BER16250	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
CVKV40BER16500	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
CVKV40BER20250	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32
CVKV40BER20600	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32

(continued)

(ER CVKV Form B/AD continued)



L1FC = from flange face
L1 = from taper gage diameter



ER Round-CVKV Form B/AD

order number	catalog number	collet series	D11	L1	L1FC	L9	V	kg
3860223	**CVKV40BER25250**	ER25	42	63,5	62,5	40	16	1,09
3860224	**CVKV40BER25600**	ER25	42	152,4	151,4	40	60	1,89
3860225	**CVKV40BER32275**	ER32	50	69,9	68,9	46	11	1,13
3860226	**CVKV40BER32600**	ER32	50	152,4	151,4	46	54	1,95
3860227	**CVKV40BER40300**	ER40	63	76,2	75,2	52	7	1,27
3860228	**CVKV40BER40600**	ER40	63	152,4	151,4	52	48	2,03

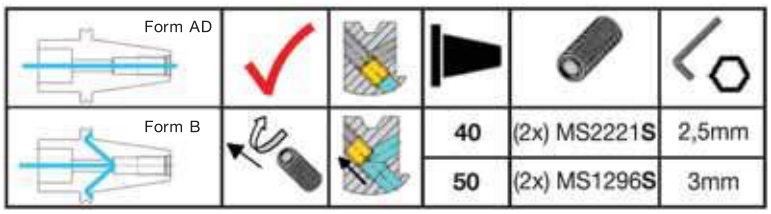
Spare Parts



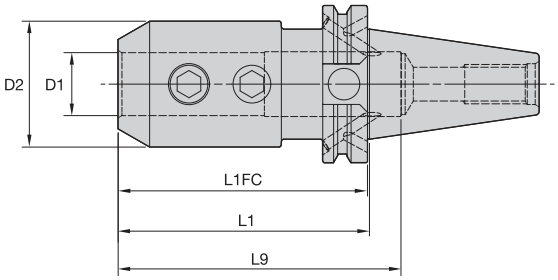


catalog number	locknut	wrench	Nm	stop screw	wrench size stop screw
CVKV40BER25250	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
CVKV40BER25600	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
CVKV40BER32275	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
CVKV40BER32600	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
CVKV40BER40300	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32
CVKV40BER40600	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.







L1FC = from flange face
L1 = from taper gage diameter



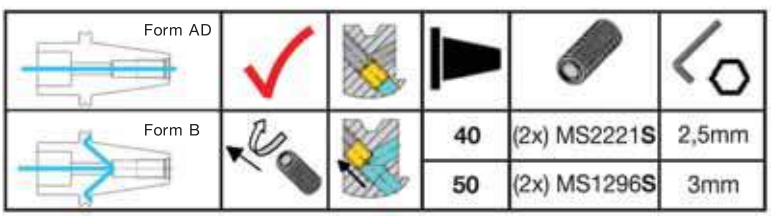
ERICKSON

EM IN-CVKV Form B/AD

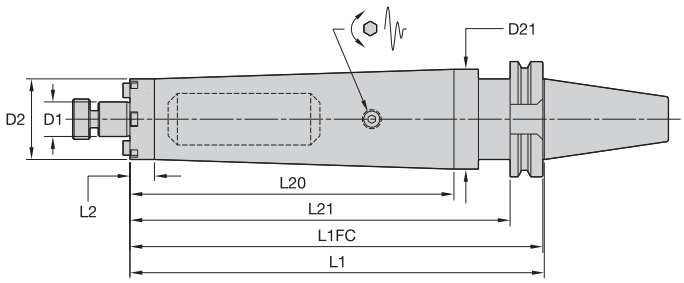


order number	catalog number	D1	D2	L1	L1FC	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
3860087	CVKV40BEM012250	1/8	.69	2.50	2.46	4.01	S1045PKG	3/32	3	2.28
3860088	CVKV40BEM018250	3/16	.69	2.50	2.46	4.01	S1045PKG	3/32	3	2.28
3860089	CVKV40BEM025250	1/4	.78	2.50	2.46	4.01	ELS025025PKG	1/8	5	2.31
3860090	CVKV40BEM031250	5/16	1.00	2.50	2.46	4.01	ELS031031PKG	5/32	11	2.36
3860091	CVKV40BEM038250	3/8	1.00	2.50	2.46	4.01	ELS038031PKG	3/16	15	2.36
3860092	CVKV40BEM044250	7/16	1.25	2.50	2.46	4.01	ELS044038PKG	7/32	20	2.47
3860123	CVKV40BEM050300	1/2	1.38	3.00	2.96	4.51	ELS044038PKG	7/32	20	2.66
3860124	CVKV40BEM050450	1/2	1.38	4.50	4.46	6.01	ELS044038PKG	7/32	20	3.20
3860125	CVKV40BEM062300	5/8	1.63	3.00	2.96	3.56	ELS056050PKG	1/4	40	2.81
3860126	CVKV40BEM062450	5/8	1.63	4.50	4.46	3.56	ELS056050PKG	1/4	40	3.59
3860127	CVKV40BEM075300	3/4	1.75	3.00	2.96	3.94	ELS062050PKG	5/16	70	2.77
3860128	CVKV40BEM075450	3/4	1.75	4.50	4.46	3.94	ELS062050PKG	5/16	70	3.70
3860129	CVKV40BEM088400	7/8	2.00	4.00	3.96	4.19	ELS062050PKG	5/16	70	3.47
3860130	CVKV40BEM100400	1	2.00	4.00	3.96	4.49	ELS075056PKG	3/8	110	3.43
3860131	CVKV40BEM125450	1 1/4	2.50	4.50	4.46	2.39	ELS075062PKG	3/8	110	5.09
3860132	CVKV40BEM150500	1 1/2	2.75	5.00	4.96	2.82	ELS075069PKG	3/8	110	6.08

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L46.







L1FC = from flange face
L1 = from taper gage diameter



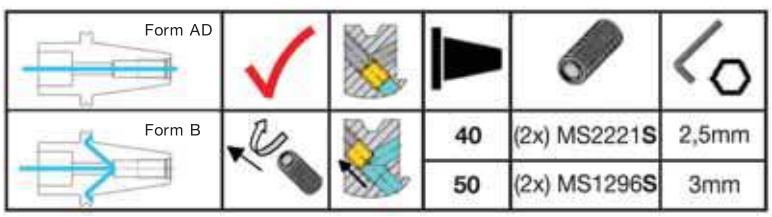
ERICKSON

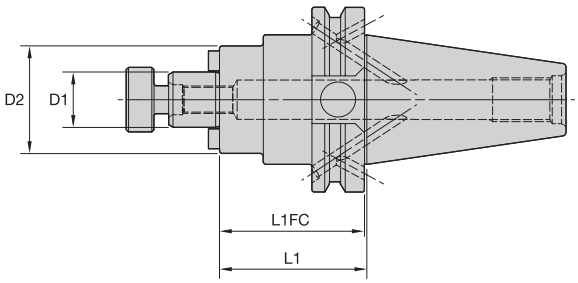
SMC TD Lock IN-CVKV Form B/AD




order number	catalog number	D1	D2	D21	L1	L1FC	L2	L20	L21	lock screw	drive key	wrench size lock screw	lbs
4135497	**CVKV40BTDSMC0750900**	3/4	1.75	2.17	9.00	8.96	.53	7.03	8.25	**KLS07**	**KDK05**	1/4	8.39
4135498	**CVKV40BTDSMC1000900**	1	2.19	—	9.00	8.96	8.25	—	—	**KLS10**	**KDK06**	5/16	10.03

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knob, see page L46.





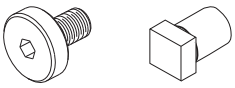
L1FC = from flange face
L1 = from taper gage diameter





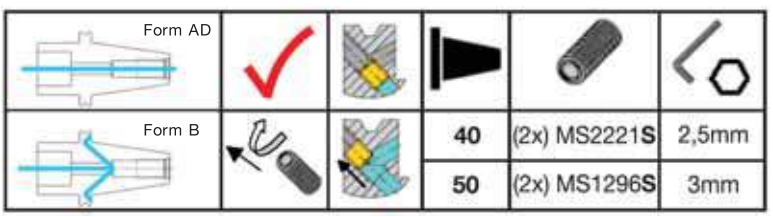
ERICKSON

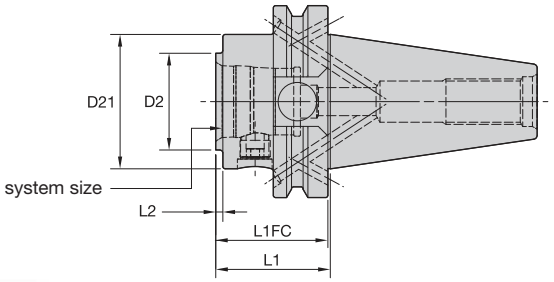
SMC TD Lock IN-CVKV Form B/AD



order number	catalog number	D1	D2	L1	L1FC	lock screw	drive key	wrench size retention screw	lbs
3870017	CVKV40BSM2C050200	1/2	1.20	2.000	1.961	KLS05	KDK04	3/16	2.46
3870019	CVKV40BSM2C050400	1/2	1.20	4.000	3.961	KLS05	KDK04	3/16	2.99
3870016	CVKV40BSMC050200	1/2	1.44	2.000	1.961	KLS05	KDK04	3/16	2.51
3870018	CVKV40BSMC050400	1/2	1.44	4.000	3.961	KLS05	KDK04	3/16	3.30
3870021	CVKV40BSM2C075200	3/4	1.46	2.000	1.961	KLS07	—	1/4	2.55
3870023	CVKV40BSM2C075400	3/4	1.46	4.000	3.961	KLS07	—	1/4	3.37
3870025	CVKV40BSM2C075600	3/4	1.46	6.000	5.961	KLS07	—	1/4	4.19
3870020	CVKV40BSMC075200	3/4	1.75	2.000	1.961	KLS07	KDK05	1/4	2.68
3870022	CVKV40BSMC075400	3/4	1.75	4.000	3.961	KLS07	KDK05	1/4	3.91
3870024	CVKV40BSMC075600	3/4	1.75	6.000	5.961	KLS07	KDK05	1/4	5.15
3870027	CVKV40BSM2C100200	1	2.19	2.000	1.961	KLS10	KDK06	5/16	3.00
3870029	CVKV40BSM2C100400	1	2.19	4.000	3.961	KLS10	KDK06	5/16	4.33
3870031	CVKV40BSM2C100600	1	2.19	6.000	5.961	KLS10	KDK06	5/16	5.62
3870026	CVKV40BSMC100200	1	2.75	2.000	1.961	KLS10	KDK06	5/16	3.31
3870028	CVKV40BSMC100400	1	2.75	4.000	3.961	KLS10	KDK06	5/16	4.78
3870030	CVKV40BSMC100600	1	2.75	6.000	5.961	KLS10	KDK06	5/16	6.07
3870032	CVKV40BSMC125200	1 1/4	2.88	2.000	1.961	KLS12	KDK08	5/16	3.98
3870033	CVKV40BSMC125400	1 1/4	2.88	4.000	3.961	KLS12	KDK08	5/16	5.22
3870034	CVKV40BSMC150250	1 1/2	3.81	2.500	2.461	KLS15	KDK10	3/8	5.60
3870035	CVKV40BSMC150400	1 1/2	3.81	4.000	3.961	KLS15	KDK10	3/8	6.86

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knobs, see page L45.





L1FC = from flange face
L1 = from taper gage diameter



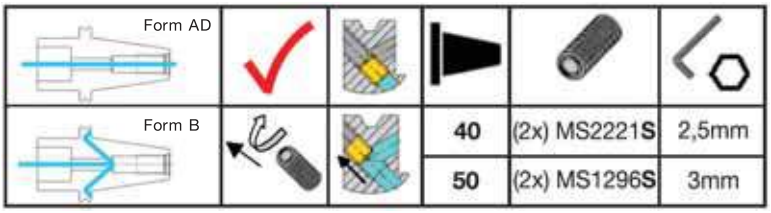


KM QUICK CHANGE ERICKSON

KM-CVKV Form B/AD

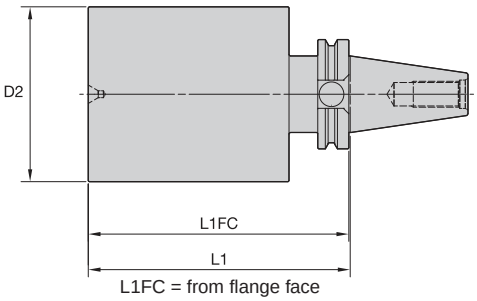
order number	catalog number	system size	D2	D21	L1	L1FC	L2	KM spare parts package	wrench size actuation screw	Nm	kg
3815241	**CVKV40BKM32150**	KM32	32	44,5	38,1	37,1	2,4	**KM32PKG3L**	5mm	8-11	1,00
3815242	**CVKV40BKM32350**	KM32	32	44,5	88,9	87,9	53,2	**KM32PKG3S**	5mm	8-11	1,27
3815313	**CVKV40BKM40175**	KM40	40	44,5	44,5	43,5	7,7	**KM40PKG3S**	6mm	12-16	1,03
3815314	**CVKV40BKM40400**	KM40	40	44,5	101,6	100,6	65,9	**KM40PKG3S**	6mm	12-16	1,53
3815315	**CVKV40BKM50350**	KM50	50	44,5	88,9	87,9	69,9	**KM50PKG3S**	10mm	27-34	1,60
3815316	**CVKV40BKM50475**	KM50	50	44,5	120,7	119,7	101,6	**KM50PKG3S**	10mm	27-34	1,95

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.
For retention knobs, see page L45.



• Machinable front 20–30 RW C.





L1FC = from flange face
L1 = from taper gage diameter

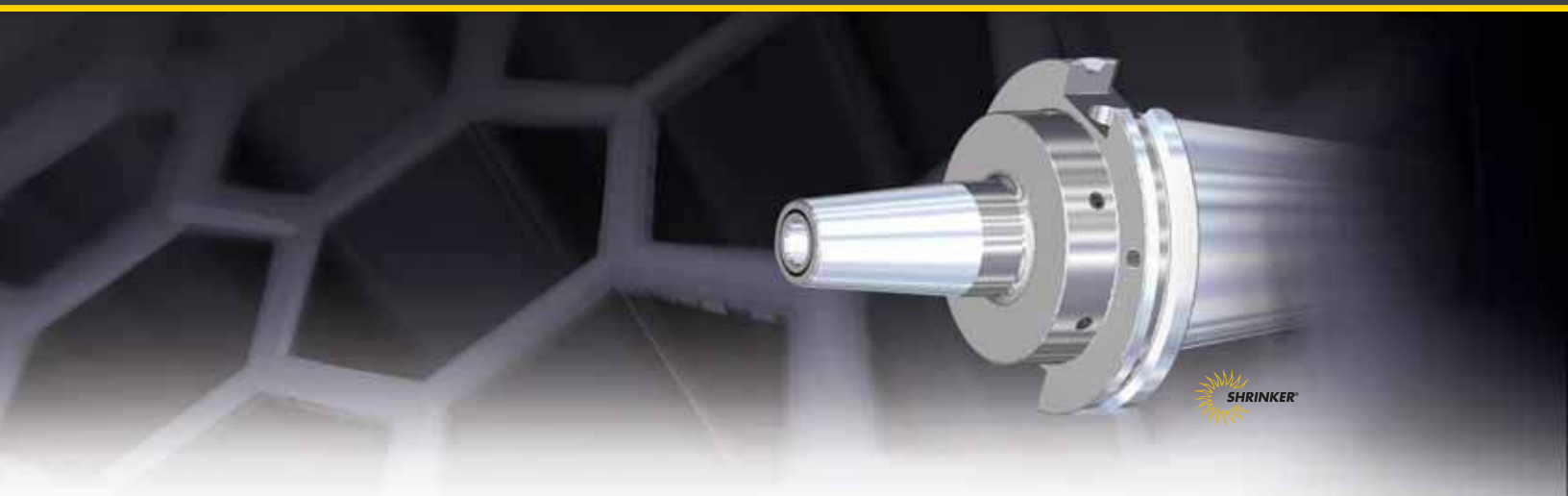


ERICKSON

BB-CVKV Form A

order number	catalog number	D2	L1	L1FC	kg
3815310	**CVKV40BB400600**	101,6	152,4	151,4	8,46
3815311	**CVKV40BB400120**	101,6	304,8	303,8	18,14

NOTE: For retention knobs, see page L45.



ERICKSON™ Taper Face Contact Shank Tooling System • CVKV50 Series

Primary Application

ERICKSON Taper Face CV Contact Taper Tooling is manufactured from premium materials and to the latest ANSI B5.50 specification standard. Controlled, increased flange thickness to the rear of the flange gains face contact between spindle and holder. The CVKV50 tools are prebalanced to a high specification that will perform effectively up to 20,000 RPM. For any applications higher than 20,000 RPM, Kennametal recommends that the complete toolholder assembly (toolholder, retention knobs, collets, hardware, and cutting tools) be balanced as one identity.



Drive key slots are unequal depths. Detent hole identifies shallow drive key slot.

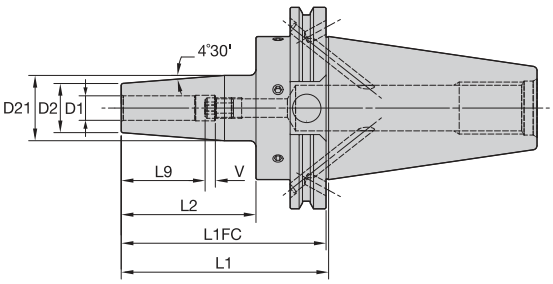


Features and Benefits

- ANSI B5.50 7/24 taper.
- Standard 1-8 drawbar thread.
- High axial repeatability due to face contact.
- High radial positioning due to controlled, tighter drive key widths.
- All tools set to form AD coolant specification. Many can be converted to form B style.
- Maximum 20,000 RPM.
- Maximum 100 bar (1,500 psi) coolant pressure.

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).





L1FC = from flange face
L1 = from taper gage diameter



Cutting Tool Shank Requirements
metric (ISO standard)

1cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT GP HPV MM-CVKV Form B/AD



order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	kg
3860147	**CVKV50BHPVTT06M350**	6	21	27	88,90	87,40	53,15	26	10	**TTSS05014M**	2,5mm	3,17
3860148	**CVKV50BHPVTT08M350**	8	21	27	88,90	87,40	53,15	26	10	**TTSS06014M**	3mm	3,17
3860149	**CVKV50BHPVTT10M375**	10	24	32	95,25	93,75	59,50	31	10	**TTSS08014M**	4mm	3,25
3860150	**CVKV50BHPVTT12M400**	12	24	32	101,60	100,10	65,85	36	10	**TTSS10014M**	5mm	3,27
3860151	**CVKV50BHPVTT14M400**	14	27	34	101,60	100,10	65,85	36	10	**TTSS10014M**	5mm	3,32
3860152	**CVKV50BHPVTT16M400**	16	27	34	101,60	100,10	65,85	39	10	**TTSS12014M**	6mm	3,29
3860153	**CVKV50BHPVTT18M400**	18	33	42	101,60	100,10	65,85	39	10	**TTSS12014M**	6mm	3,46
3860154	**CVKV50BHPVTT20M400**	20	33	42	101,60	100,10	65,85	41	10	**TTSS16014M**	8mm	3,42
3860155	**CVKV50BHPVTT25M400**	25	44	53	101,60	100,10	65,85	47	10	**TTSS16014M**	8mm	3,72
3860156	**CVKV50BHPVTT32M400**	32	44	53	101,60	100,10	65,85	51	10	**TTSS16014M**	8mm	3,56

(continued)

(TT GP HPV CVKV Form B/AD continued)

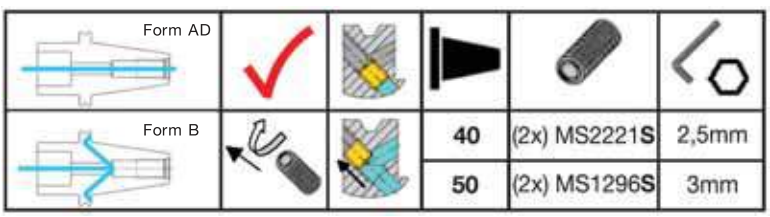
Cutting Tool Shank Requirements inch (industry standard)	
cutting tool shank diameters	tolerance
1/4, 5/16, & 3/8	.0000/-.0004
7/16, 1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, 1-1/4, 1-1/2, & 2	.0000/-.0005

TT GP HPV IN-CVKV Form B/AD



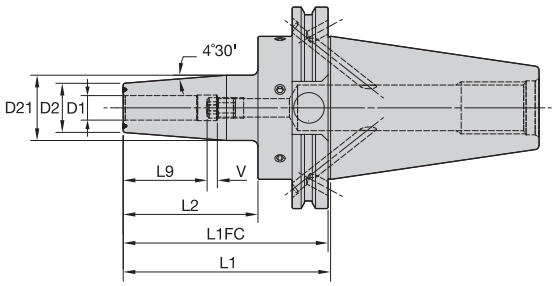
order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	lbs
3860047	**CVKV50BHPVTT025350**	1/4	.83	1.06	3.500	3.441	2.093	1.02	.39	**TTSS05014M**	2,5mm	6.99
3860048	**CVKV50BHPVTT031350**	5/16	.83	1.06	3.500	3.441	2.093	1.02	.39	**TTSS06014M**	3mm	6.98
3860049	**CVKV50BHPVTT038375**	3/8	.94	1.26	3.750	3.691	2.343	1.22	.39	**TTSS08014M**	4mm	7.17
3860050	**CVKV50BHPVTT044375**	7/16	.94	1.26	3.750	3.691	2.343	1.42	.39	**TTSS10014M**	5mm	7.14
3860051	**CVKV50BHPVTT050400**	1/2	.94	1.26	4.000	3.941	2.593	1.42	.39	**TTSS10014M**	5mm	7.20
3860052	**CVKV50BHPVTT056400**	9/16	1.06	1.33	4.000	3.941	2.593	1.42	.39	**TTSS10014M**	5mm	7.31
3860093	**CVKV50BHPVTT062400**	5/8	1.06	1.33	4.000	3.941	2.593	1.54	.39	**TTSS12014M**	6mm	7.26
3860094	**CVKV50BHPVTT068400**	11/16	1.30	1.65	4.000	3.941	2.593	1.54	.39	**TTSS12014M**	6mm	7.63
3860095	**CVKV50BHPVTT075400**	3/4	1.30	1.65	4.000	3.941	2.593	1.61	.39	**TTSS16014M**	8mm	7.56
3860096	**CVKV50BHPVTT088400**	7/8	1.30	1.65	4.000	3.941	2.593	1.61	.39	**TTSS16014M**	8mm	7.47
3860097	**CVKV50BHPVTT100400**	1	1.73	2.08	4.000	3.941	2.593	1.85	.39	**TTSS16014M**	8mm	8.18
3860098	**CVKV50BHPVTT125400**	1 1/4	1.73	2.08	4.000	3.941	2.593	2.01	.39	**TTSS16014M**	8mm	7.86
3860099	**CVKV50BHPVTT150450**	1 1/2	2.36	2.75	4.500	4.441	3.750	2.01	.39	**TTSS20014M**	10mm	9.88
3860100	**CVKV50BHPVTT200450**	2	2.72	3.11	4.500	4.441	3.750	2.20	.39	**TTSS20014M**	10mm	10.15

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.
For Shrink Fit machine and accessories, see pages L12–L13.



- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.





L1FC = from flange face
L1 = from taper gage diameter



Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON™

TT HT HPV MM-CVKV Form B/AD



order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	kg
3860157	**CVKV50BHPVTTHT12M400**	12	24	31,90	101,60	100,10	65,85	36	10	**TTSS10014M**	5mm	3,27
3860158	**CVKV50BHPVTTHT14M400**	14	27	33,90	101,60	100,10	65,85	36	10	**TTSS10014M**	5mm	3,32
3860159	**CVKV50BHPVTTHT16M400**	16	27	33,90	101,60	100,10	65,85	39	10	**TTSS12014M**	6mm	3,29
3860160	**CVKV50BHPVTTHT18M400**	18	33	41,90	101,60	100,10	65,85	39	10	**TTSS12014M**	6mm	3,46
3860161	**CVKV50BHPVTTHT20M400**	20	33	41,90	101,60	100,10	65,85	41	10	**TTSS16014M**	8mm	3,42
3860162	**CVKV50BHPVTTHT25M400**	25	44	52,90	101,60	100,10	65,85	47	10	**TTSS16014M**	8mm	3,72
3860163	**CVKV50BHPVTTHT32M400**	32	44	52,90	101,60	100,10	65,85	51	10	**TTSS16014M**	8mm	3,56

(continued)

(TT HT HPV CVKV Form B/AD continued)

Cutting Tool Shank Requirements
inch (industry standard)

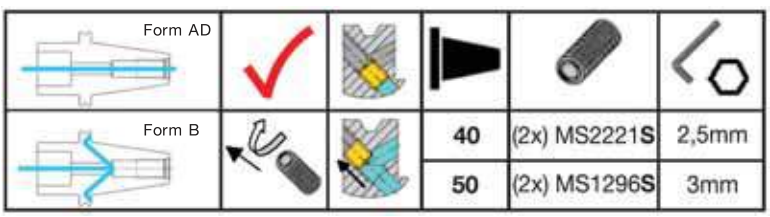
cutting tool shank diameters	tolerance
1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, 1-1/4, 1-1/2, & 2	.0000/-.0005

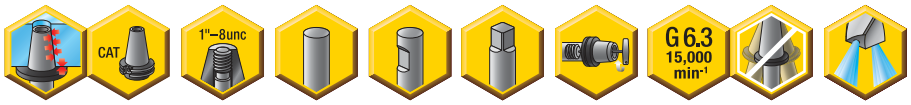
TT HT HPV IN-CVKV Form B/AD

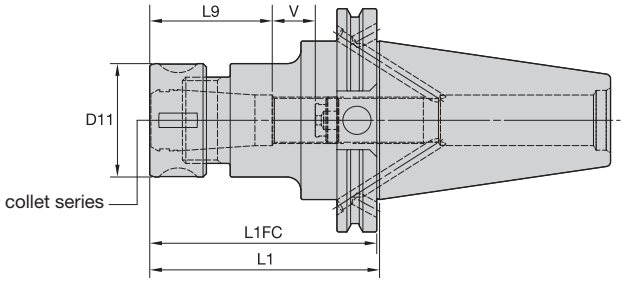


order number	catalog number	D1	D2	D21	L1	L1FC	L2	L9	V	stop screw	wrench size stop screw	lbs
3860101	**CVKV50BHPVTTHT050400**	1/2	.94	1.256	4.000	3.941	2.593	1.42	.39	**TTSS10014M**	5mm	7.20
3860102	**CVKV50BHPVTTHT056400**	9/16	1.06	1.335	4.000	3.941	2.593	1.42	.39	**TTSS10014M**	5mm	7.31
3860103	**CVKV50BHPVTTHT062400**	5/8	1.06	1.335	4.000	3.941	2.593	1.54	.39	**TTSS12014M**	6mm	7.26
3860104	**CVKV50BHPVTTHT068400**	11/16	1.30	1.650	4.000	3.941	2.593	1.54	.39	**TTSS12014M**	6mm	7.63
3860105	**CVKV50BHPVTTHT075400**	3/4	1.30	1.650	4.000	3.941	2.593	1.61	.39	**TTSS16014M**	8mm	7.56
3860106	**CVKV50BHPVTTHT088400**	7/8	1.30	1.650	4.000	3.941	2.593	1.61	.39	**TTSS16014M**	8mm	7.47
3860107	**CVKV50BHPVTTHT100400**	1	1.73	2.083	4.000	3.941	2.593	1.85	.39	**TTSS16014M**	8mm	8.18
3860108	**CVKV50BHPVTTHT125400**	1 1/4	1.73	2.083	4.000	3.941	2.593	2.01	.39	**TTSS16014M**	8mm	7.86

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.
For Shrink Fit machine and accessories, see pages L12–L13.







L1FC = from flange face
L1 = from taper gage diameter



	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

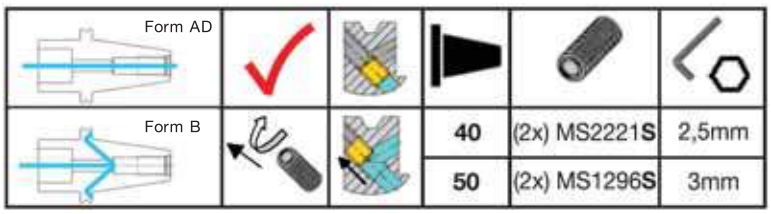
ERICKSON

TG Round-CVKV Form B/AD



order number	catalog number	collet series	D11	L1	L1FC	L9	V	locknut	wrench	stop screw	wrench size stop screw	Nm	kg
3860140	**CVKV50BTG075275G**	TG75	50	69,85	68,35	50	24	**LNA075M**	**HSW45M**	**SS081041G**	4mm & 5/32	136	3,26
3860141	**CVKV50BTG075400G**	TG75	50	101,60	100,10	50	59	**LNA075M**	**HSW45M**	**SS081041G**	4mm & 5/32	136	3,70
3860142	**CVKV50BTG075600G**	TG75	50	152,40	150,90	50	104	**LNA075M**	**HSW45M**	**SS081041G**	4mm & 5/32	136	4,46
3860143	**CVKV50BTG100275G**	TG100	60	69,85	68,35	64	12	**LNA100M**	**HSW58M**	**SS112041G**	4mm & 5/32	203	3,26
3860144	**CVKV50BTG100400G**	TG100	60	101,60	100,10	64	38	**LNA100M**	**HSW58M**	**SS112041G**	4mm & 5/32	203	3,81
3860145	**CVKV50BTG100600G**	TG100	60	152,40	150,90	64	90	**LNA100M**	**HSW58M**	**SS112041G**	4mm & 5/32	203	4,71

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.





Solid Carbide Taps

The Kennametal Solid Carbide Taps deliver the accuracy you demand at up to four times the speed of HSS taps. Longer tool life, exceptional thread quality, and an array of sizes for ferrous and non-ferrous materials make our taps the most trusted and productive tools in the industry.

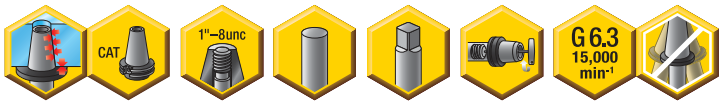
- Reduce your operating costs by up to 65%.
- Workpiece-specific grades: KC7542™ for steels and cast irons, KC7512™ for aluminum.
- Go 4x faster with 4x the service life of conventional HSS offerings.
- Wide array of styles and sizes for through or blind hole applications.

Tap into something great at your Authorized Kennametal Distributor or at **www.kennametal.com**.

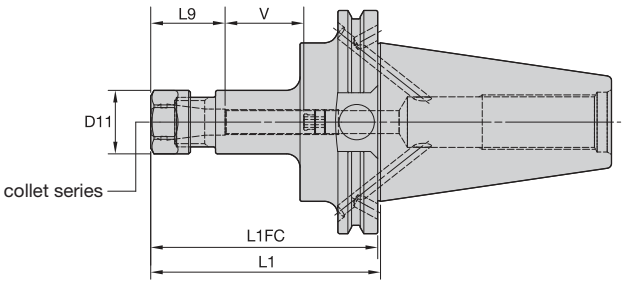
www.kennametal.com

KENNAMETAL®

• Grip (2:1 advantage).







L1FC = from flange face
L1 = from taper gage diameter



Collet Capacity

	mm		inch	
ER collet series	**min**	**max**	**min**	**max**
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Hex-CVKV Form B/AD

order number	catalog number	collet series	D11	L1	L1FC	L9	V	kg
3860229	**CVKV50BER16250**	ER16	28	63,50	62,00	32	43	3,14
3860230	**CVKV50BER16400**	ER16	28	101,60	100,10	32	38	3,22
3860231	**CVKV50BER20250**	ER20	34	63,50	62,00	36	42	3,15
3860232	**CVKV50BER20400**	ER20	34	101,60	100,10	36	54	3,35

Spare Parts



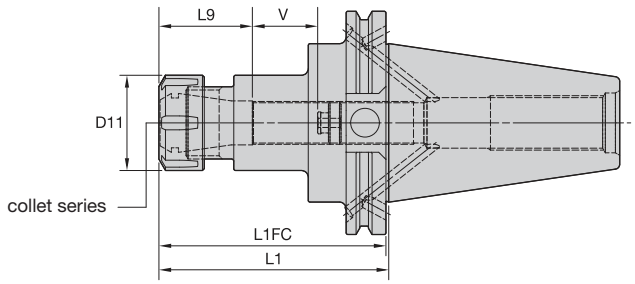




catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
CVKV50BER16250	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
CVKV50BER16400	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
CVKV50BER20250	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32
CVKV50BER20400	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32

(continued)

(ER CVKV Form B/AD continued)



L1FC = from flange face
L1 = from taper gage diameter



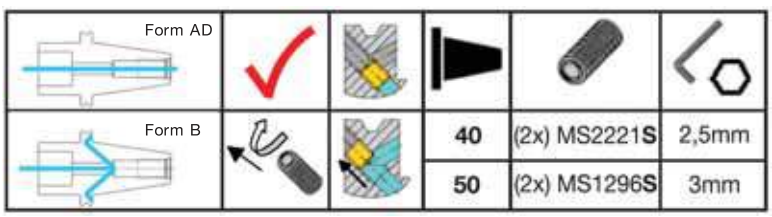
ER Round-CVKV Form B/AD

order number	catalog number	collet series	D11	L1	L1FC	L9	V	kg
3860233	**CVKV50BER25250**	ER25	42	63,50	62,00	40	35	3,14
3860234	**CVKV50BER25400**	ER25	42	101,60	100,10	40	60	3,47
3860235	**CVKV50BER32275**	ER32	50	69,85	68,35	46	31	3,17
3860236	**CVKV50BER32400**	ER32	50	101,60	100,10	46	54	3,57
3860237	**CVKV50BER40300**	ER40	63	76,20	74,70	52	28	3,32
3860238	**CVKV50BER40600**	ER40	63	152,40	150,90	52	98	4,85

Spare Parts

catalog number	locknut	wrench	Nm	stop screw	wrench size stop screw
CVKV50BER25250	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
CVKV50BER25400	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
CVKV50BER32275	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
CVKV50BER32400	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
CVKV50BER40300	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32
CVKV50BER40600	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.





More than just the right tool • the ultimate solution.

That's **Beyond BLAST.**™

That's **Different Thinking.**

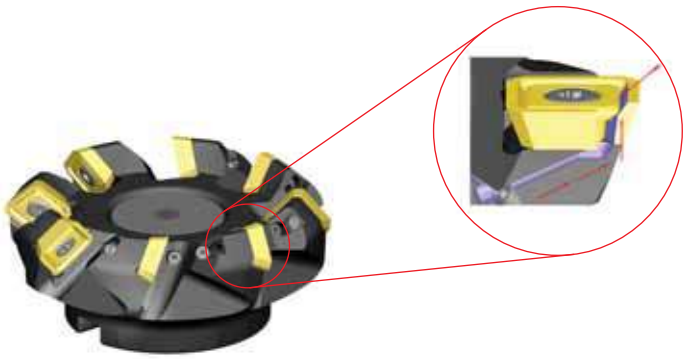
At Kennametal, innovation follows vision. Our revolutionary products and services are inspired by asking "what if?" The solutions that follow — like our Beyond BLAST through-coolant inserts — deliver remarkable results in the world's most demanding machining environments.

A cutting-edge insert that delivers coolant precisely at the cutting edge. Now that's Different Thinking. That's Kennametal.

To learn more about your productivity gains using Beyond BLAST technology, visit www.kennametal.com.

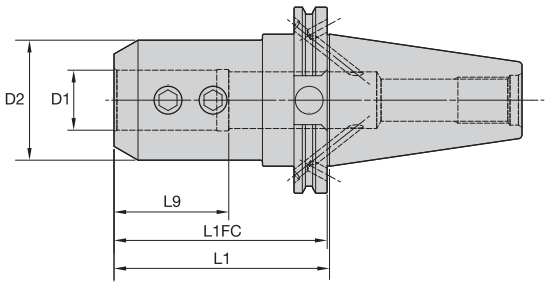
Milling

- Beyond BLAST technology uses low-pressure conditions to offer many of the high-pressure performance benefits.
- Delivers superior performance on titanium, using either high- or low-pressure coolant systems.
- Effective thermal management results in reduced cutting temperatures, improved lubricity, superior chip control, and longer tool life.
- Beyond BLAST for milling increases tool life by up to 300% compared with conventional coolant delivery systems.



beyond™ BLAST™





L1FC = from flange face
L1 = from taper gage diameter



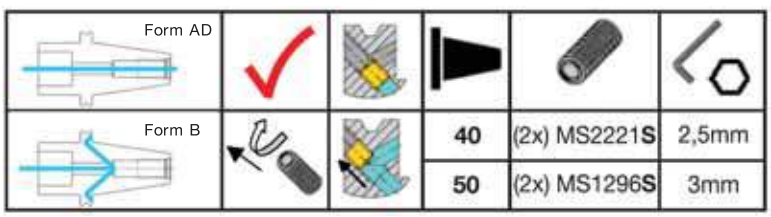
ERICKSON

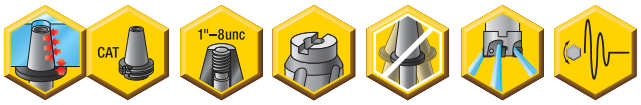
EM IN-CVKV Form B/AD

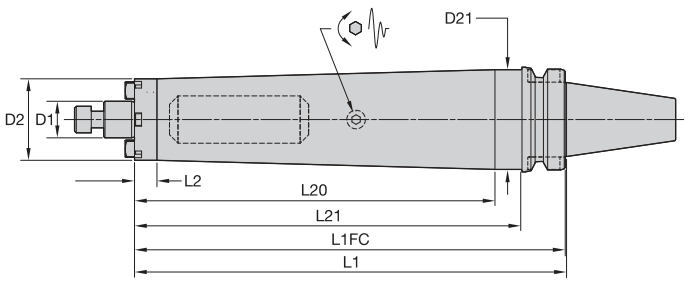


order number	catalog number	D1	D2	L1	L1FC	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
3860109	**CVKV50BEM018250**	3/16	.688	2.500	2.441	4.689	**S1045PKG**	3/32	3	6.66
3860110	**CVKV50BEM025250**	1/4	.780	2.500	2.441	4.689	**ELS025025PKG**	1/8	5	6.69
3860111	**CVKV50BEM031250**	5/16	1.000	2.500	2.441	4.689	**ELS031031PKG**	5/32	11	6.72
3860112	**CVKV50BEM038250**	3/8	1.000	2.500	2.441	4.689	**ELS038031PKG**	3/16	15	6.75
3860183	**CVKV50BEM044250**	7/16	1.250	2.500	2.441	4.689	**ELS044038PKG**	7/32	20	6.88
3860184	**CVKV50BEM050300**	1/2	1.375	3.000	2.941	5.189	**ELS044038PKG**	7/32	20	7.03
3860185	**CVKV50BEM050450**	1/2	1.375	4.500	4.441	6.689	**ELS044038PKG**	7/32	20	7.59
3860186	**CVKV50BEM062300**	5/8	1.625	3.000	2.941	5.189	**ELS056050PKG**	1/4	40	7.25
3860187	**CVKV50BEM062450**	5/8	1.625	4.500	4.441	6.689	**ELS056050PKG**	1/4	40	7.95
3860188	**CVKV50BEM075300**	3/4	1.750	3.000	2.941	5.189	**ELS062050PKG**	5/16	70	7.32
3860189	**CVKV50BEM075450**	3/4	1.750	4.500	4.441	6.689	**ELS062050PKG**	5/16	70	8.12
3860190	**CVKV50BEM088400**	7/8	2.000	4.000	3.941	4.190	**ELS062050PKG**	5/16	70	8.23
3860191	**CVKV50BEM100450**	1	2.000	4.500	4.441	4.493	**ELS075056PKG**	3/8	110	8.32
3860192	**CVKV50BEM125450**	1 1/4	2.500	4.500	4.441	2.390	**ELS075062PKG**	3/8	110	9.23
3860193	**CVKV50BEM150450**	1 1/2	2.750	4.500	4.441	2.820	**ELS075069PKG**	3/8	110	9.35
3860194	**CVKV50BEM200600**	2	3.750	6.000	5.941	3.375	**ELS100088PKG**	1/2	150	15.96

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.





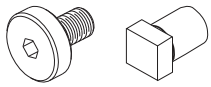


L1FC = from flange face
L1 = from taper gage diameter



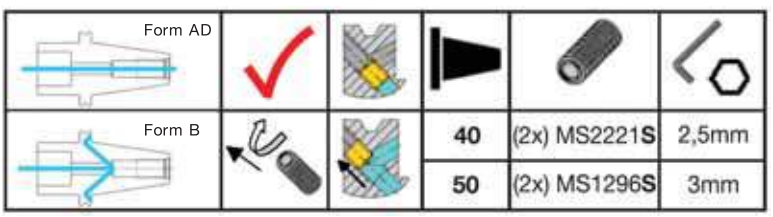
ERICKSON

SMC TD Lock IN-CVKV Form B/AD

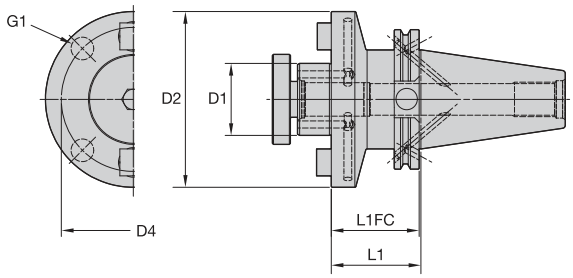


order number	catalog number	D1	D2	D21	L1	L1FC	L2	L20	L21	lock screw	drive key	wrench size lock screw	lbs
4135499	**CVKV50BTDSMC0751050**	3/4	1.75	2.75	10.500	10.441	.53	9.09	9.750	**KLS07**	**KDK05**	1/4	16.60
4135500	**CVKV50BTDSMC1001250**	1	2.75	—	12.500	12.441	11.75	—	—	**KLS10**	**KDK06**	5/16	24.68
4135501	**CVKV50BTDSMC1251300**	1 1/4	2.88	—	13.000	12.941	12.25	—	—	**KLS12**	**KDK08**	5/16	31.97

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knobs, see page L45.





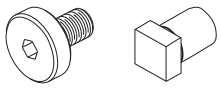


L1FC = from flange face
L1 = from taper gage diameter



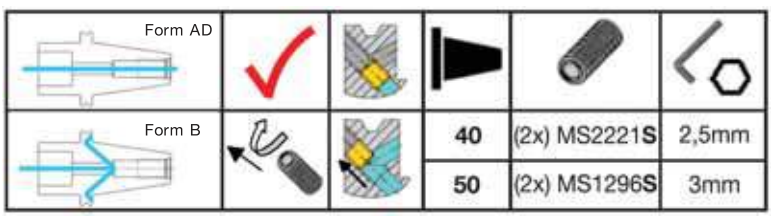
ERICKSON

SMC Lock IN-CVKV Form B/AD



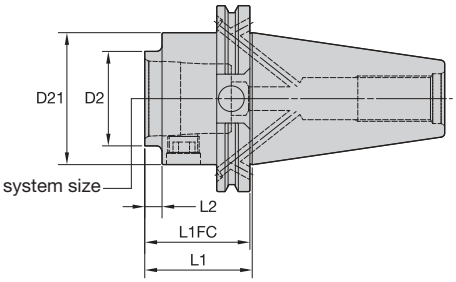
order number	catalog number	D1	D2	D4	G1	L1	L1FC	lock screw	drive key	wrench size retention screw	lbs
3861304	CVKV50BSM2C075200	3/4	1.46	—	—	2.000	1.941	KLS07	—	1/4	7.10
3861306	CVKV50BSM2C075400	3/4	1.46	—	—	4.000	3.941	KLS07	—	1/4	7.69
3861308	CVKV50BSM2C075600	3/4	1.46	—	—	6.000	5.941	KLS07	—	1/4	8.45
3861303	CVKV50BSMC075200	3/4	1.75	—	—	2.000	1.941	KLS07	KDK05	1/4	7.16
3861305	CVKV50BSMC075400	3/4	1.75	—	—	4.000	3.941	KLS07	KDK05	1/4	8.17
3861307	CVKV50BSMC075600	3/4	1.75	—	—	6.000	5.941	KLS07	KDK05	1/4	9.31
3861310	CVKV50BSM2C100200	1	2.19	—	—	2.000	1.941	KLS10	KDK06	5/16	7.35
3861312	CVKV50BSM2C100400	1	2.19	—	—	4.000	3.941	KLS10	KDK06	5/16	9.21
3861314	CVKV50BSM2C100600	1	2.19	—	—	6.000	5.941	KLS10	KDK06	5/16	11.06
3861309	CVKV50BSMC100200	1	2.75	—	—	2.000	1.941	KLS10	KDK06	5/16	7.71
3861311	CVKV50BSMC100400	1	2.75	—	—	4.000	3.941	KLS10	KDK06	5/16	10.80
3861313	CVKV50BSMC100600	1	2.75	—	—	6.000	5.941	KLS10	KDK06	5/16	13.89
3861315	CVKV50BSMC125200	1 1/4	2.88	—	—	2.000	1.941	KLS12	KDK08	5/16	8.02
3861316	CVKV50BSMC125400	1 1/4	2.88	—	—	4.000	3.941	KLS12	KDK08	5/16	11.06
3861317	CVKV50BSMC125600	1 1/4	2.88	—	—	6.000	5.941	KLS12	KDK08	5/16	14.09
3861318	CVKV50BSMC150250	1 1/2	3.81	—	—	2.500	2.441	KLS15	KDK10	3/8	10.31
3861319	CVKV50BSMC150400	1 1/2	3.81	—	—	4.000	3.941	KLS15	KDK10	3/8	12.60
3861320	CVKV50BSMC150600	1 1/2	3.81	—	—	6.000	5.941	KLS15	KDK10	3/8	15.68
3861321	CVKV50BSMC200250	2	4.88	4.00	0.625-11	2.500	2.441	KLS20	KDK12	9/16	12.38
3861322	CVKV50BSMC200400	2	4.88	4.00	0.625-11	4.000	3.941	KLS20	KDK12	9/16	15.02
3861323	CVKV50BSMC200600	2	4.88	4.00	0.625-11	6.000	5.941	KLS20	KDK12	9/16	18.20
3861324	CVKV50BSMC250250	2 1/2	4.88	4.00	0.625-11	2.500	2.441	—	KDK16	—	13.60
3861325	CVKV50BSMC250400	2 1/2	4.88	4.00	0.625-11	4.000	3.941	—	KDK16	—	15.88

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knobs, see page L45.









L1FC = from flange face
L1 = from taper gage diameter

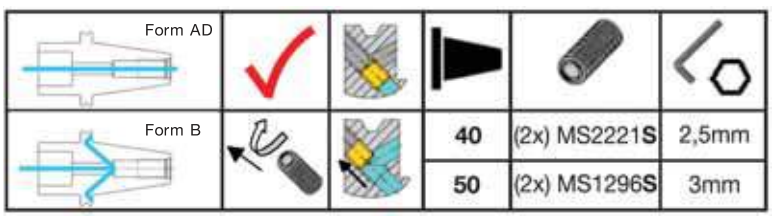
KM QUICK CHANGE

ERICKSON

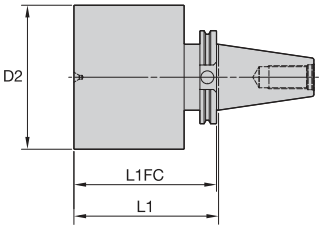
KM-CVKV Form B/AD

order number	catalog number	system size	D2	D21	L1	L1FC	L2	KM spare parts package	wrench size actuation screw	Nm	kg
3815265	**CVKV50BKM32150**	KM32	32	69,85	38,10	36,60	2,4	**KM32PKG3L**	5mm	8-11	3,08
3815266	**CVKV50BKM32350**	KM32	32	69,85	88,90	87,40	53,2	**KM32PKG3L**	5mm	8-11	3,26
3815267	**CVKV50BKM40175**	KM40	40	69,85	44,45	42,95	6,5	**KM40PKG3L**	6mm	12-16	3,15
3815268	**CVKV50BKM40400**	KM40	40	69,85	101,60	100,10	65,9	**KM40PKG3S**	6mm	12-16	3,51
3815269	**CVKV50BKM50225**	KM50	50	69,85	57,15	55,65	9,2	**KM50PKG3L**	10mm	27-34	3,42
3815270	**CVKV50BKM50475**	KM50	50	69,85	120,65	119,15	84,9	**KM50PKG3S**	10mm	27-34	4,05
3815271	**CVKV50BKM63225**	KM63	63	69,85	57,15	55,65	13,2	**KM63PKG3L**	12mm	47-54	3,31
3815272	**CVKV50BKM63550**	KM63	63	69,85	139,70	138,20	104,0	**KM63PKG3S**	12mm	47-54	5,07
3815303	**CVKV50BKM80325**	KM80	80	69,85	82,55	81,05	63,5	**KM80PKG3S**	14mm	79-85	4,29

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.
For retention knobs, see page L45.
These products are only available in the U.S., Canada, and Japan.



• Machinable front 20–30 RW C.



L1FC = from flange face
L1 = from taper gage diameter





ERICKSON

BB-CVKV Form A

order number	catalog number	D2	L1	L1FC	kg
3815346	**CVKV50BB400120**	101,6	304,8	303,3	20,28
3815343	**CVKV50BB400600**	101,6	152,4	150,9	10,61
3815345	**CVKV50BB600120**	152,4	304,8	303,3	41,63
3815344	**CVKV50BB600600**	152,4	152,4	150,9	19,86

NOTE: For retention knobs, see page L45.



BT Shank Tools

BT30 . . . . . E2–E18
BT40 . . . . . E20–E60
BT50 . . . . . E62–E95





ERICKSON™ BT V-Flange Shank Tooling System • BT30 Series

Primary Application

ERICKSON V-Flange BT Taper Tooling is manufactured from premium materials and meets or exceeds the latest JIS B 6339 specification and ISO-1947 taper accuracy of AT3 specification standards. The BT30 tools are either pre-balanced to a high specification or balanced-by-design. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, retention knobs, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjuction with tooling design and safety limits factored as a complete system.

Features and Benefits

- JIS B 6339 7/24 taper.
- Standard M12 metric drawbar thread.
- Taper accuracy of AT3 specification or better.
- Maximum 100 bar (1,500 psi) coolant pressure.



BT — JIS B6339 Shank

NOTE: Inherent balance conditions — all features are symmetrical.

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



BT40BER40120M

BT — Shank Style

JIS 6339

40 — Shank Taper Size

30 = 30

40 = 40

50 = 50

B — Special Feature *(optional)*

B =
DIN form B coolant feature, tool shipped to AD specifications (design allows conversion to form B style)

(blank) =
(no "B" or "Z") — tool built to form A/AD coolant style

CH =
Coolant form AD — high pressure

HPV =
High performance and balanceable

TD =
Tunable

ER — Toolholder Style

BB	=	Bar blank
DA	=	Double-angle collet chuck
DC	=	Drill chuck
EM	=	End mill adapter
ER	=	DIN 6499 single-angle collet chuck
HC	=	Hydraulic chuck — Standard Line
HCB	=	Hydraulic chuck — Basic Line
HCSL	=	Hydraulic chuck — Slim Line
HCSLT	=	Hydraulic chuck — Slim Line — Trend
HCT	=	Hydraulic chuck — Trend Line
HPMC	=	Bearing milling chuck — high performance
HSK	=	HSK adapter
JT	=	Jacobs taper adapter
KM	=	KM™ adapter
KR	=	Romicron boring adapters
MT	=	Morse taper adapter
RC	=	Rapid Change — T&C tapping adapter chuck
SA	=	Slotting cutter adapter
SER	=	DIN 6499 single-angle collet chuck — short with internal locknut
SFTT	=	**SAFE-LOCK**™ Shrink Fit thermo toolholder
SM2C	=	Shell mill adapter with coolant and small diameter
SMC	=	Shell mill adapter with coolant
SS	=	Adapter for straight shanks (drills)
SSF	=	Adapter for straight shanks with flat (drills)
ST	=	Screw-on adapters
STRC	=	Rapid Change — solid tapping adapter chuck
SWN	=	Whistle Notch™ 2° — short — (not to DIN standard)
TA	=	Tap chuck adapter
TCRC	=	Rapid Change — T&C tapping adapter chuck
TG	=	Tremendous Grip single-angle collet chuck
TGF	=	Tremendous Grip single-angle collet chuck — flush face
TT	=	Shrink Fit thermo toolholder
TTHT	=	Shrink Fit thermo toolholder — high torque
WD	=	Whistle Notch with drive
WN	=	Whistle Notch (2° metric; 5° inch)

40 — Toolholder Size

TG =
Collet series xx (50), xxx (100)

EM =
I.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

SM =
O.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

120 — Tool Length

(Taper gage line to front of tool)

metric
xxx = xxx

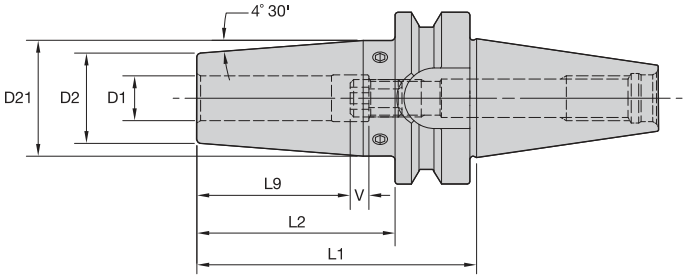
inch
xxx = x.xx

M — Identification Value

M =
Tool built to metric values and has metric retention thread

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20	h6	0,000/-0,013

ERICKSON

TT GP HPV MM-BT Form B/AD



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3782116	**BT30HPVTT06075M**	6	21	27	75	53	26	10	**TTSS05014M**	2,5mm	0,56
3782117	**BT30HPVTT08075M**	8	21	27	75	53	26	10	**TTSS06014M**	3mm	0,55
3782118	**BT30HPVTT10075M**	10	24	31	75	53	31	10	**TTSS08014M**	4mm	0,60
3615348	**BT30HPVTT12075M**	12	24	31	75	53	36	10	**TTSS10014M**	5mm	0,58
3615349	**BT30HPVTT14075M**	14	27	34	75	53	36	10	**TTSS10014M**	5mm	0,63
3615350	**BT30HPVTT16075M**	16	27	34	75	53	39	10	**TTSS12014M**	6mm	0,60
3615351	**BT30HPVTT18090M**	18	33	41	90	68	39	10	**TTSS12014M**	6mm	0,84
3615352	**BT30HPVTT20090M**	20	33	41	90	68	41	10	**TTSS16014M**	8mm	0,81

(continued)

(TT HPV Form B/AD continued)

Cutting Tool Shank Requirements
inch (industry standard)

cutting tool shank diameters	tolerance
1/4, 5/16, & 3/8	.0000/-.0004
7/16, 1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4	.0000/-.0005

TT HPV IN-BT Form B/AD



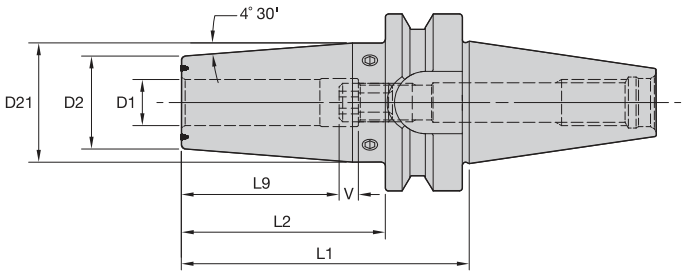
order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3782119	**BT30HPVTT025295**	1/4	.83	1.06	2.95	2.09	1.02	.39	**TTSS05014M**	2,5mm	1.23
3782120	**BT30HPVTT031295**	5/16	.83	1.06	2.95	2.09	1.02	.39	**TTSS06014M**	3mm	1.22
3782121	**BT30HPVTT038295**	3/8	.95	1.22	2.95	2.09	1.22	.39	**TTSS08014M**	4mm	1.32
3782122	**BT30HPVTT044295**	7/16	.95	1.22	2.95	2.09	1.42	.39	**TTSS10014M**	5mm	1.30
3615343	**BT30HPVTT050295**	1/2	.95	1.22	2.95	2.09	1.42	.39	**TTSS10014M**	5mm	1.27
3615344	**BT30HPVTT056295**	9/16	1.06	1.34	2.95	2.09	1.42	.39	**TTSS10014M**	5mm	1.37
3615345	**BT30HPVTT062295**	5/8	1.06	1.34	2.95	2.09	1.54	.39	**TTSS12014M**	6mm	1.33
3615346	**BT30HPVTT068354**	11/16	1.30	1.61	3.54	2.68	1.54	.39	**TTSS12014M**	6mm	1.87
3615347	**BT30HPVTT075354**	3/4	1.30	1.61	3.54	2.68	1.61	.39	**TTSS16014M**	8mm	1.81

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.

- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20	h6	0,000/-0,013

ERICKSON

TT HT HPV MM-BT Form B/AD



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	kg
3615439	**BT30HPVTTHT12075M**	12	24	31	75	53	36	10	**TTSS10014M**	5mm	0,58
3615440	**BT30HPVTTHT14075M**	14	27	34	75	53	36	10	**TTSS10014M**	5mm	0,63
3615441	**BT30HPVTTHT16075M**	16	27	34	75	53	39	10	**TTSS12014M**	6mm	0,60
3615442	**BT30HPVTTHT18090M**	18	33	41	90	68	39	10	**TTSS12014M**	6mm	0,84
3615443	**BT30HPVTTHT20090M**	20	33	41	90	68	41	10	**TTSS16014M**	8mm	0,81

Cutting Tool Shank Requirements
inch (industry standard)

cutting tool shank diameters	tolerance
1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4	.0000/-.0005

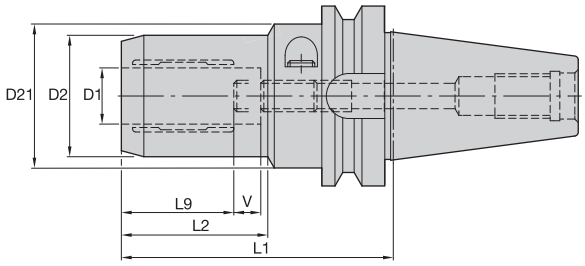
TT HT HPV IN-BT Form B/AD



order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3615434	**BT30HPVTTHT050295**	1/2	.95	1.22	2.95	2.09	1.42	.39	**TTSS10014M**	5mm	1.27
3615435	**BT30HPVTTHT056295**	9/16	1.06	1.34	2.95	2.09	1.42	.39	**TTSS10014M**	5mm	1.37
3615436	**BT30HPVTTHT062295**	5/8	1.06	1.34	2.95	2.09	1.54	.39	**TTSS12014M**	6mm	1.33
3615437	**BT30HPVTTHT068354**	11/16	1.30	1.61	3.54	2.68	1.54	.39	**TTSS12014M**	6mm	1.87
3615438	**BT30HPVTTHT075354**	3/4	1.30	1.61	3.54	2.68	1.61	.39	**TTSS16014M**	8mm	1.82

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.



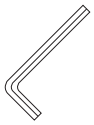




ERICKSON

HC Trend MM-BT Form AD

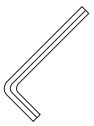




order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw	stop screw wrench	wrench size stop screw	kg
2255463	**BT30HCT06075M**	6	25,7	32	75	35	27	10	**170.135**	5mm	**571.061**	**170.003**	3mm	0,59
2255464	**BT30HCT08075M**	8	27,7	32	75	35	27	10	**170.135**	5mm	**571.061**	**170.003**	3mm	0,61
2255465	**BT30HCT10080M**	10	29,7	32	80	38	31	10	**170.135**	5mm	**571.061**	**170.003**	3mm	0,63
2255466	**BT30HCT12085M**	12	31,6	32	85	40	36	10	**170.135**	5mm	**571.061**	**170.003**	3mm	0,69
2255467	**BT30HCT14100M**	14	33,6	50	100	46	36	10	**170.135**	5mm	**571.063**	**170.005**	5mm	1,00
2255468	**BT30HCT16100M**	16	37,6	50	100	47	39	10	**170.135**	5mm	**571.063**	**170.005**	5mm	1,06
2255469	**BT30HCT18100M**	18	39,6	50	100	47	39	10	**170.135**	5mm	**571.063**	**170.005**	5mm	1,09
2255470	**BT30HCT20100M**	20	41,6	50	100	48	41	10	**170.135**	5mm	**571.063**	**170.005**	5mm	1,11

HC Trend IN-BT Form AD

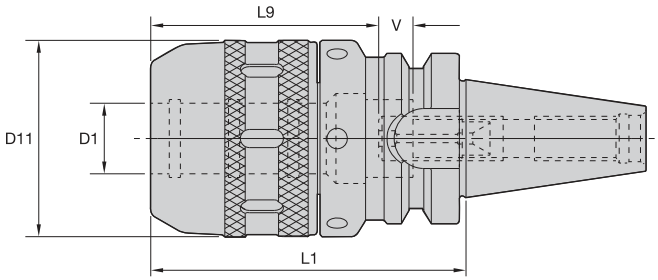




order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size stop screw	stop screw	stop screw wrench	wrench size stop screw	lbs
2259953	**BT30HCT025295**	1/4	1.01	1.25	2.95	1.38	1.06	.39	**170.135**	5mm	**571.061**	**170.003**	5mm	1.30
2259954	**BT30HCT038315**	3/8	1.17	1.25	3.15	1.57	1.22	.39	**170.135**	5mm	**571.061**	**170.003**	5mm	1.44
2259955	**BT30HCT050335**	1/2	1.24	1.25	3.35	1.69	1.42	.39	**170.135**	5mm	**571.061**	**170.003**	5mm	1.51
2259956	**BT30HCT062394**	5/8	1.48	1.96	3.94	1.83	1.54	.39	**170.135**	5mm	**571.063**	**170.005**	5mm	2.36
2259957	**BT30HCT075413**	3/4	1.64	1.96	4.13	1.89	1.61	.39	**170.135**	5mm	**571.063**	**170.005**	5mm	2.64

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.







ERICKSON

HPMC MM-BT Form AD




order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	kg
3578486	**BT30HPMC20085M**	20	53	85	55	20	**PSW52M**	**MCSS12030M**	2,5mm & 5mm	1,00

HPMC IN-BT Form AD

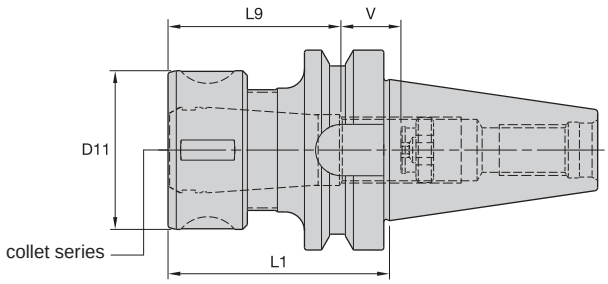



order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	lbs
3100411	**BT30HPMC075335**	3/4	2.09	3.35	2.17	.59	**PSW52M**	**MCSS12030M**	2,5mm & 5mm	2.50

NOTE: Milling chuck technical section, see page M88.
Supplied with locknut and stop screw.
Locknut wrench not included.
Optional M6~1,0P fine-balancing screw set is available (order number HPMCBALSCREWSET) and must be ordered separately; see page L14.
Reduction sleeves are available and must be ordered separately; see page J6.
For retention knobs, see page L45.

• Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG75	2,6	20,0	3/64	3/4

ERICKSON

TG Round-BT Form AD

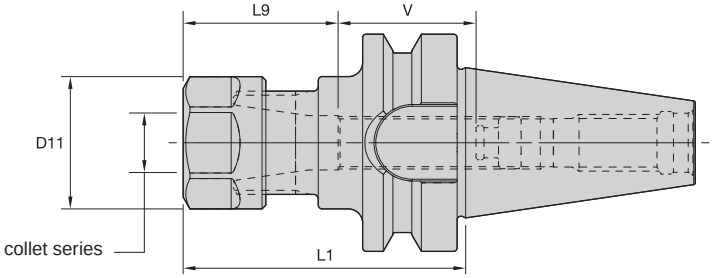


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	kg
1156351	**BT30TG075075M**	TG75	50	75	55	17	**LNA075M**	**HSW45M**	136	**SS081041G**	4mm & 5/32	0,60

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.

• Grip (2:1 advantage).







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Hex-BT Form AD

order number	catalog number	collet series	D11	L1	L9	V	kg
1258023	**BT30ER16060M**	ER16	28	60	32	33	0,48
1826220	**BT30ER16100M**	ER16	28	100	32	48	0,64
3847457	**BT30ER16150M**	ER16	28	150	32	48	0,85
1021296	**BT30ER20060M**	ER20	34	60	36	31	0,49
3847458	**BT30ER20100M**	ER20	34	100	36	44	0,74

Spare Parts

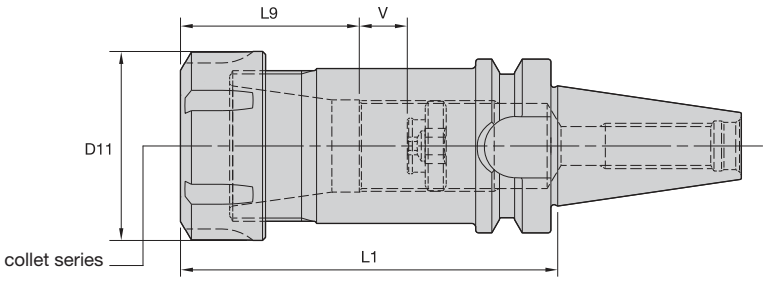




catalog number	locknut	wrench	Nm	stop screw	wrench size stop screw
BT30ER16060M	**LNHSER16M**	**OEW25M**	40	**SS044038G**	4mm & 5/32
BT30ER16100M	**LNHSER16M**	**OEW25M**	40	**SS044038G**	4mm & 5/32
BT30ER16150M	**LNHSER16M**	**OEW25M**	40	**SS044038G**	4mm & 5/32
BT30ER20060M	**LNHSER20M**	**OEW30M**	32	**SS056041G**	4mm & 5/32
BT30ER20100M	**LNHSER20M**	**OEW30M**	32	**SS056041G**	4mm & 5/32

(continued)

(ER BT Form AD continued)





ER Round-BT Form AD

order number	catalog number	collet series	D11	L1	L9	V	kg
1258025	**BT30ER25060M**	ER25	42	60	40	16	0,52
1826221	**BT30ER25100M**	ER25	42	100	40	40	0,73
1156350	**BT30ER32070M**	ER32	50	70	46	10	0,65
3847459	**BT30ER32100M**	ER32	50	100	46	34	0,88
3847460	**BT30ER40100M**	ER40	63	100	52	10	1,15

Spare Parts



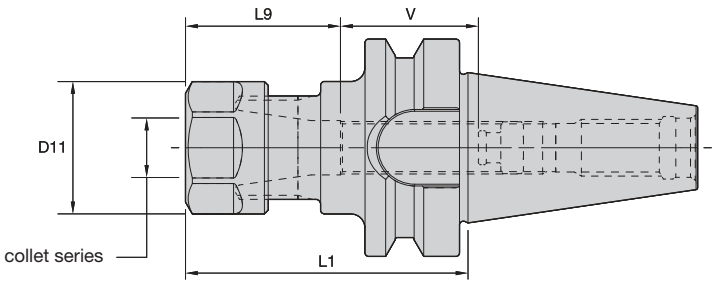


catalog number	locknut	wrench	Nm	stop screw	wrench size stop screw
BT30ER25060M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
BT30ER25100M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
BT30ER32070M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
BT30ER32100M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
BT30ER40100M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.

• Grip 1:1.







	Collet Capacity			
	mm		inch	
DA collet series	min	max	min	max
DA200	0,2	10	1/64	25/64
DA180	2,2	20	1/64	3/4

ERICKSON™

DA Hex-BT Form AD

order number	catalog number	collet series	D11	L1	L9	V	lbs
1258011	**BT30DA208060M**	DA200	1.08	2.36	1.50	1.17	1.10

Spare Parts

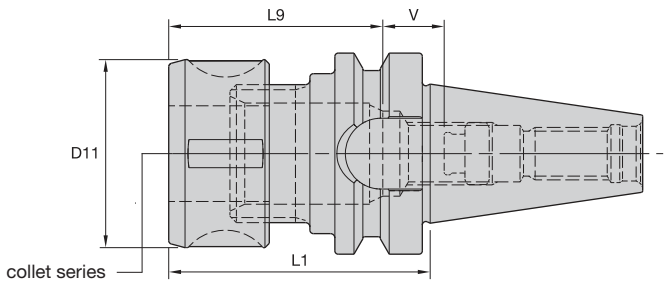




catalog number	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
BT30DA208060M	**LNA208M**	**OEW24M**	45	**SS038031G**	2mm & 5/64

(continued)

(DA BT Form AD continued)





DA Round-BT Form AD

order number	catalog number	collet series	D11	L1	L9	V	lbs
1191712	**BT30DA188060M**	DA180	1.69	2.36	2.13	.35	1.54

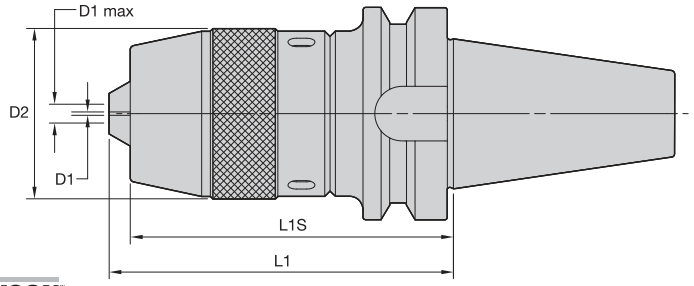
Spare Parts





catalog number	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
BT30DA188060M	**LNA188M**	**HSW45M**	100	**SS056041G**	4 mm & 5/32

NOTE: Tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see pages J65–J68.
DA non-pullout collets, see pages J65–J68.
For retention knobs, see page L45.



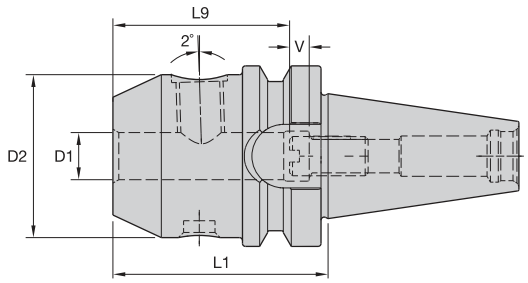


ERICKSON

DC-BT Form AD

order number	catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D2	L1	L1S	Nm	lbs
3582592	**BT30DC08092M**	0,5	.020	8,0	.315	38	100	92	25	2.89

NOTE: Tighten to the recommended tightening torque.
Locknut wrench supplied.
For retention knobs, see page L45.





ERICKSON

WN MM-BT Form AD

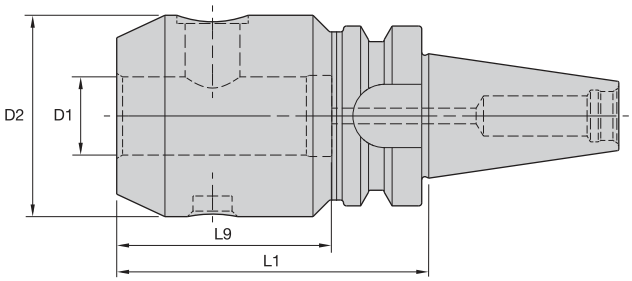




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1861102	**BT30WN06050M**	6	25	50	30	10	**SS03M012**	3mm	7	**571.060**	2,5mm	0,47
1861123	**BT30WN08050M**	8	28	50	30	10	**SS03M014**	4mm	15	**571.067**	3mm	0,49
2255556	**BT30WN10055M**	10	35	55	35	10	**SS03M018**	5mm	25	**571.062**	4mm	0,58
2255557	**BT30WN12055M**	12	42	55	40	10	**SS03M023**	6mm	35	**571.063**	5mm	0,67
2255558	**BT30WN14055M**	14	44	55	40	10	**SS03M023**	6mm	35	**571.063**	5mm	0,68
2255559	**BT30WN16055M**	16	46	55	43	10	**SS03M025**	6mm	50	**571.069**	6mm	0,71

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw and stop screw wrenches not included.
For retention knobs, see page L45.







ERICKSON

EM MM-BT Form AD



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1258015	BT30EM06050M	6	25	50	74	SS03M012	3mm	7	0,46
1258018	BT30EM08060M	8	28	60	84	SS03M014	4mm	15	0,52
1258019	BT30EM10060M	10	35	60	84	SS03M018	5mm	25	0,60
1155346	BT30EM12060M	12	42	60	50	SS03M023	6mm	35	0,70
1258020	BT30EM16060M	16	48	60	53	SS03M025	6mm	50	0,77
1258021	BT30EM20080M	20	52	80	55	SS03M026	8mm	95	1,03

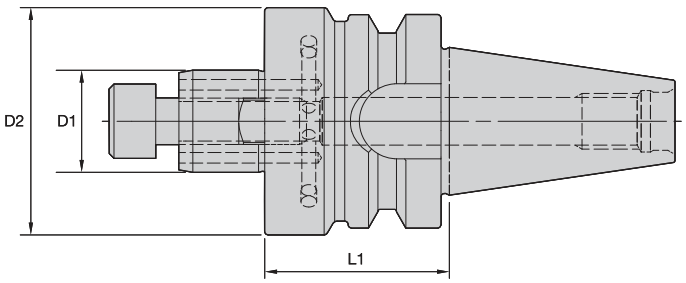
EM IN-BT Form AD



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
2249689	BT30EM012236	1/8	.69	2.36	3.30	S1045PKG	3/32	3	.95
2249690	BT30EM018236	3/16	.69	2.36	3.30	S1045PKG	3/32	3	.94
1258012	BT30EM025236	1/4	1.00	2.36	3.30	ELS025025PKG	1/8	5	1.10
2249691	BT30EM031236	5/16	1.00	2.36	3.30	ELS031031PKG	5/32	11	1.08
1258013	BT30EM038236	3/8	1.00	2.36	3.30	ELS038031PKG	3/16	15	1.08
1258014	BT30EM050236	1/2	1.38	2.36	1.97	ELS044038PKG	7/32	20	1.26
1258016	BT30EM062236	5/8	1.63	2.36	2.09	ELS056050PKG	1/4	40	1.43
1258017	BT30EM075236	3/4	1.75	2.36	2.22	ELS062050PKG	5/16	70	1.46

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.







ERICKSON

SMC Cap MM-BT Form B/AD

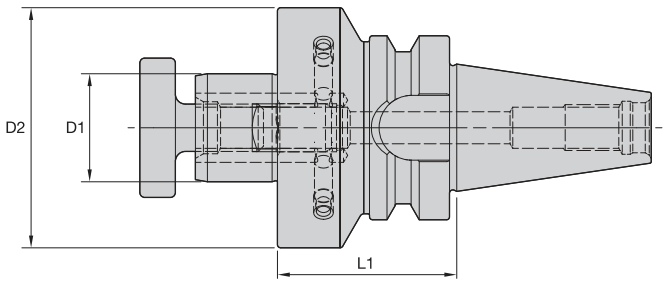


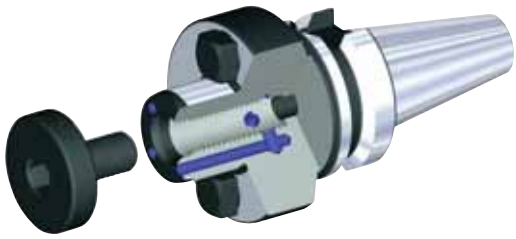


order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3752223	**BT30SM2C16035M**	16	38	35	**MS1294**	**KDK16M**	6mm	0,51
3752222	**BT30SMC16035M**	16	44	35	**MS1294**	**KDK16M**	6mm	0,55
3752225	**BT30SM2C16050M**	16	38	50	**MS1294**	**KDK16M**	6mm	0,64
3752224	**BT30SMC16050M**	16	44	50	**MS1294**	**KDK16M**	6mm	0,73
3752227	**BT30SM2C22040M**	22	42	40	**MS1234**	**–**	8mm	0,62
3752226	**BT30SMC22040M**	22	49	40	**MS1234**	**KDK22M**	8mm	0,68
3752229	**BT30SM2C22050M**	22	42	50	**MS1234**	**–**	8mm	0,73
3752228	**BT30SMC22050M**	22	49	50	**MS1234**	**KDK22M**	8mm	0,79

(continued)

(SMC BT Form B/AD continued)



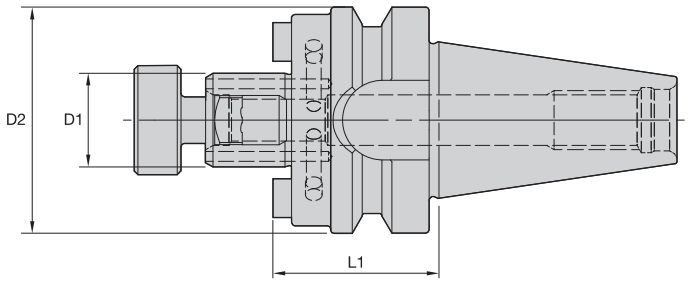


SMC Lock MM-BT Form B/AD





order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3752230	**BT30SMC27045M**	27	60	45	**KLSS27M**	**KDK22M**	10mm	0,97





SMC Lock IN-BT Form B/AD

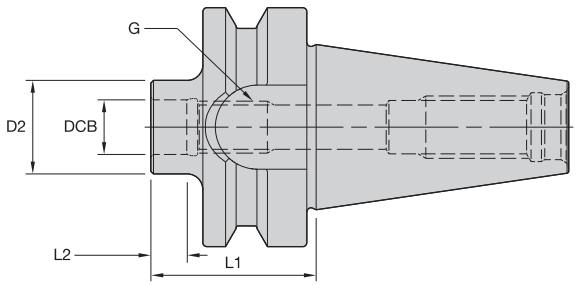




order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	lbs
3648599	**BT30SM2C050118**	1/2	1.20	1.18	**KLS05**	**KDK04**	3/16	.97
3648598	**BT30SMC050118**	1/2	1.44	1.18	**KLS05**	**KDK04**	3/16	1.01
3648601	**BT30SM2C075118**	3/4	1.46	1.18	**KLS07**	**—**	1/4	1.08
3648600	**BT30SMC075118**	3/4	1.69	1.18	**KLS07**	**KDK05**	1/4	1.13
3648653	**BT30SM2C100177**	1	2.19	1.77	**KLS10**	**KDK06**	5/16	1.83
3648602	**BT30SMC100177**	1	2.75	1.77	**KLS10**	**KDK06**	5/16	2.16

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knobs, see page L45.







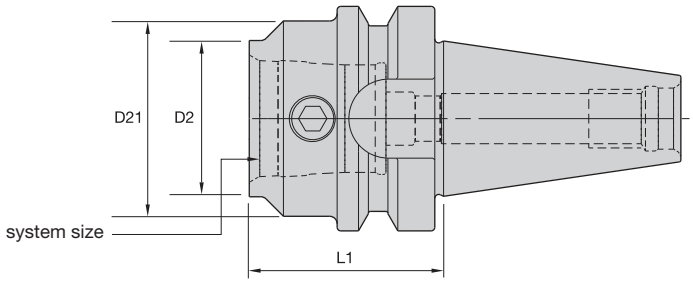
ERICKSON

ST-BT Form AD

order number	catalog number	DCB	G	D2	L1	L2	kg
4070054	**BT30ST06032M**	6,5	M6	10	32	9	0,39
4070055	**BT30ST08032M**	8,5	M8	13	32	9	0,39
4070056	**BT30ST10032M**	10,5	M10	18	32	9	0,39
4070057	**BT30ST12032M**	12,5	M12	21	32	9	0,38

NOTE: For retention knobs, see page L45.







KM QUICK CHANGE ERICKSON

KM-BT Form AD

order number	catalog number	system size	D2	D21	L1	KM spare parts package	wrench size actuation screw	Nm	kg
1013658	**BT30KM3240**	KM32	32	40	40	**KM32PKG3L**	5mm	8-11	0,49

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.
For retention knobs, see page L45.



The Tunable Tooling

Internal dampening package eliminates chatter, vibration, and harmonics in all your deep-hole boring applications!

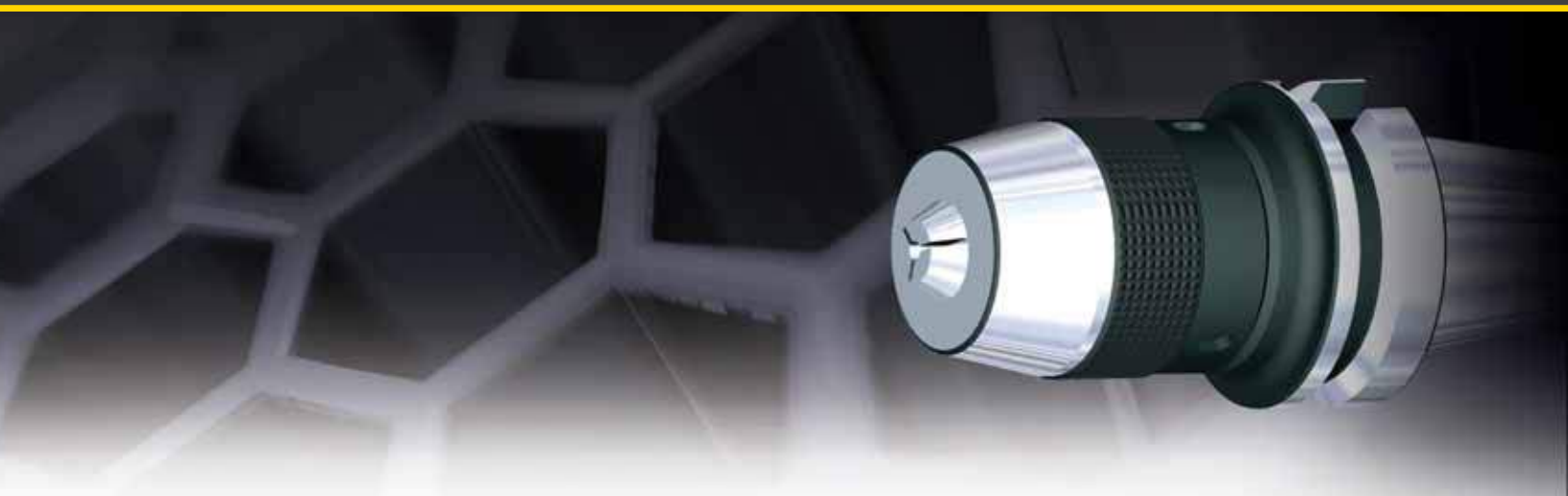
- Proprietary features provide superior surface finish and increased productivity.
- Wide product offering — from boring bars, extensions, and holders to rotating adapters and modular sections.
- Reduce setup time with KM™ Quick Change Tooling — now an ISO Standard!
- Customize Kennametal's pre-tuned boring bars — after they're on the machine — to optimize performance in your specific machining operations.

For tighter tolerances, reduced scrap rates, and improved tool life, you can rely on Kennametal Tunable Tooling!

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®



ERICKSON™ BT V-Flange Shank Tooling System • BT40 Series

Primary Application

ERICKSON V-Flange BT Taper Tooling is manufactured from premium materials and meets or exceeds the latest JIS B 6339 specification and ISO-1947 taper accuracy of AT3 specification standards. The BT40 tools are either pre-balanced to a high specification or balanced-by-design. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, retention knobs, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.



BT — JIS B6339 Shank

NOTE: Inherent balance conditions — all features are symmetrical.



Features and Benefits

- JIS B 6339 7/24 taper.
- Standard M16 metric drawbar thread.
- Taper accuracy of AT3 specification or better.
- All tools set to form AD coolant specification. Many can be converted to form B style.
- Maximum 100 bar (1,500 psi) coolant pressure.

Order Information

Kennametal high-performance end mills with a shank diameter of 12mm (1/2") and larger are available with **SAFE-LOCK™** technology, as a special tool, upon request. Please contact your local customer service location to receive a quote.

Features

- Form-closed clamping.
- High accuracy clamping.
- Helical grooves.

Functions

- No pull out.
- Excellent runout.
- Adjustable clamping length.

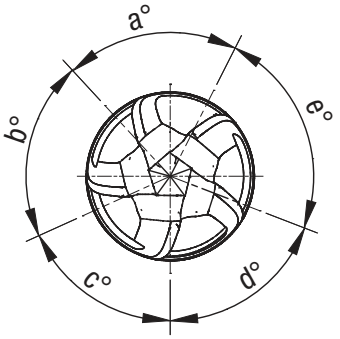
Benefits

- Reduce scrap rate.
- Higher tool life.
- No need to change NC program after regrinding.



Customized-Solution Example for Highest Metal Removal Rates





The HARVI II UDDE proprietary design with **unequal flute spacing** and unique core geometry for chatter-free machining enables slotting operations in titanium up to 1 x D.



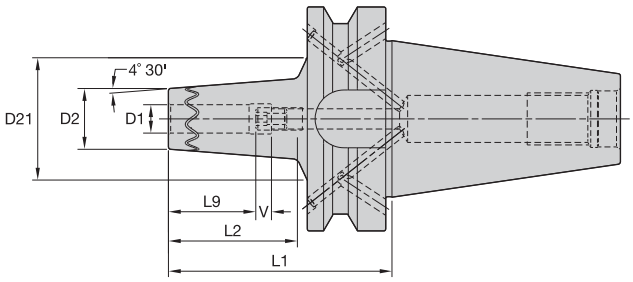
SAFE-λOCK™
by HAIMER

The safety belt for high-performance solid carbide end mills provides a form-closed clamping with high accuracy and helical grooves for length adjustment.

*To learn more, **scan here**.*
For instructions on how to scan, please see page xxxiii.

- **SAFE-LOCK™**, innovative and unique non-slip system.
- Suitable for carbide and HSS cutting tools.
- Need ≥ 10 kW shrink unit.







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT SF MM-BT FORM B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
5090264	BT40BSFTT12070M	12	27	33	70	43	37	10	1,14
5090265	BT40BSFTT14075M	14	30	37	75	48	37	10	1,21
5090266	BT40BSFTT16075M	16	30	37	75	48	40	10	1,18
5090267	BT40BSFTT18075M	18	36	43	75	48	40	10	1,29
5090268	BT40BSFTT20075M	20	36	43	75	48	42	10	1,24
5090269	BT40BSFTT25085M	25	46	55	85	58	48	10	1,59
5090270	BT40BSFTT32085M	32	46	55	85	58	48	10	1,43

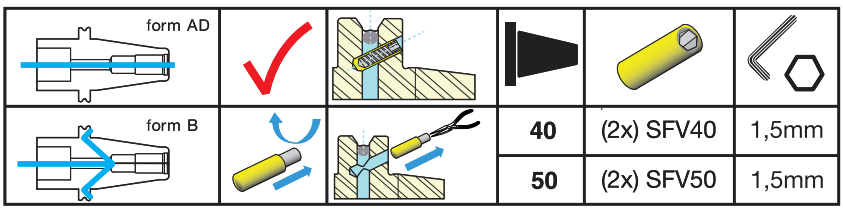
Cutting Tool Shank Requirements
inch (industry standard)

cutting tool shank diameters	tolerance
1/2 & 5/8	.0000/-.0004
3/4, 1	.0000/-.0005

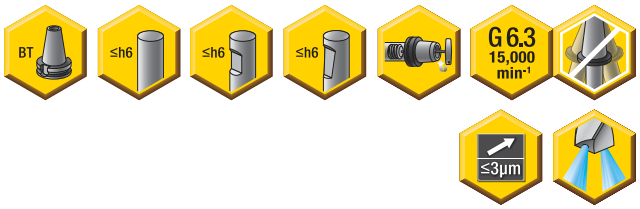
TT SF IN-BT FORM B/AD

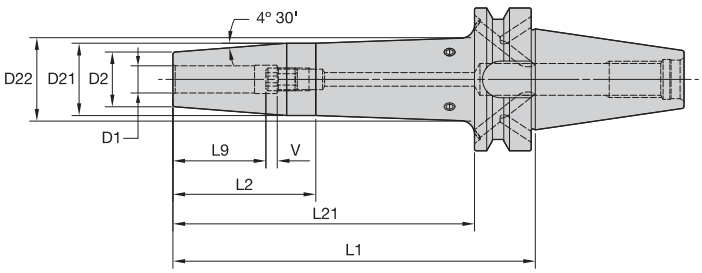
order number	catalog number	D1	D2	D21	L1	L2	L9	V	lbs
5129960	BT40BSFTT050276	1/2	1.04	1.31	2.76	1.69	1.46	.39	2.50
5129962	BT40BSFTT062295	5/8	1.16	1.46	2.95	1.89	1.58	.39	2.61
5129963	BT40BSFTT075295	3/4	1.40	1.70	2.95	1.89	1.65	.39	2.77
5129964	BT40BSFTT100335	1	1.79	2.15	3.35	2.28	1.89	.39	3.48

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Shrink Fit accessories, see pages L12–L13.
For retention knobs, see page L45.



- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT GP HPV MM-BT Form B/AD



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3782133	BT40BHPVTT06090M	6	21	27	—	90	63	—	26	10	TTSS05014M	2,5mm	1,16
3782134	BT40BHPVTT06120M	6	21	27	—	120	93	—	26	10	TTSS05014M	2,5mm	1,29
3782135	BT40BHPVTT06160M	6	21	27	33	160	50	133	26	10	TTSS05014M	2,5mm	1,54
3782136	BT40BHPVTT08090M	8	21	27	—	90	63	—	26	10	TTSS06014M	3mm	1,15
3782137	BT40BHPVTT08120M	8	21	27	—	120	93	—	26	10	TTSS06014M	3mm	1,28
3782138	BT40BHPVTT08160M	8	21	27	33	160	50	133	26	10	TTSS06014M	3mm	1,54
3782139	BT40BHPVTT10090M	10	24	32	—	90	63	—	31	10	TTSS08014M	4mm	1,22
3782140	BT40BHPVTT10120M	10	24	32	—	120	93	—	31	10	TTSS08014M	4mm	1,40
3782141	BT40BHPVTT10160M	10	24	32	37	160	63	133	31	10	TTSS08014M	4mm	1,71
3615365	BT40BHPVTT12090M	12	24	32	—	90	63	—	36	10	TTSS10014M	5mm	1,20
3615366	BT40BHPVTT12120M	12	24	32	—	120	93	—	36	10	TTSS10014M	5mm	1,38
3615367	BT40BHPVTT12160M	12	24	32	37	160	63	133	36	10	TTSS10014M	5mm	1,70
3615368	BT40BHPVTT14090M	14	27	34	—	90	63	—	36	10	TTSS10014M	5mm	1,25
3615369	BT40BHPVTT14120M	14	27	34	—	120	93	—	36	10	TTSS10014M	5mm	1,45
3615370	BT40BHPVTT14160M	14	27	34	39	160	63	133	36	10	TTSS10014M	5mm	1,81
3615371	BT40BHPVTT16090M	16	27	34	—	90	63	—	39	10	TTSS12014M	6mm	1,23
3615372	BT40BHPVTT16120M	16	27	34	—	120	93	—	39	10	TTSS12014M	6mm	1,43
3615373	BT40BHPVTT16160M	16	27	34	39	160	63	133	39	10	TTSS12014M	6mm	1,77
3615374	BT40BHPVTT18090M	18	33	41	—	90	63	—	39	10	TTSS12014M	6mm	1,38
3615375	BT40BHPVTT18120M	18	33	42	—	120	93	—	39	10	TTSS12014M	6mm	1,69
3615376	BT40BHPVTT18160M	18	33	42	—	160	133	—	39	10	TTSS12014M	6mm	2,10
3615377	BT40BHPVTT20090M	20	33	41	—	90	63	—	41	10	TTSS16014M	8mm	1,35
3615378	BT40BHPVTT20120M	20	33	42	—	120	93	—	41	10	TTSS16014M	8mm	1,65
3615379	BT40BHPVTT20160M	20	33	42	—	160	133	—	41	10	TTSS16014M	8mm	2,05
3615380	BT40BHPVTT25100M	25	44	52	—	100	73	—	47	10	TTSS16014M	8mm	1,75
3615381	BT40BHPVTT32105M	32	44	53	—	105	78	—	51	10	TTSS16014M	8mm	1,67

(continued)

(TT GP HPV BT Form B/AD continued)

Cutting Tool Shank Requirements
inch (industry standard)

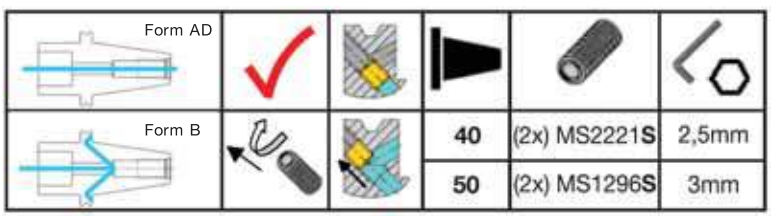
cutting tool shank diameters	tolerance
1/4, 5/16, & 3/8	.0000/-.0004
7/16, 1/2, & 5/8	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT GP HPV IN-BT Form B/AD

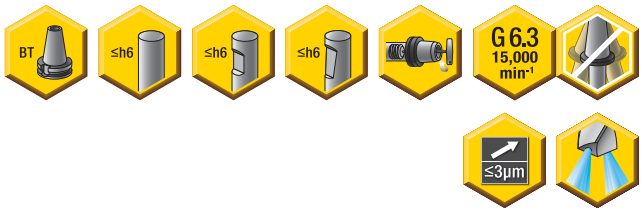


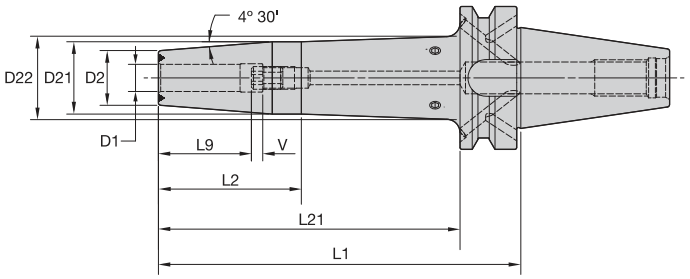
order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3782142	**BT40BHPVTT025354**	1/4	.83	1.06	3.54	2.48	1.02	.39	**TTSS05014M**	2,5mm	2.55
3782143	**BT40BHPVTT025630**	1/4	.83	1.06	6.30	1.97	1.02	.39	**TTSS05014M**	2,5mm	3.39
3782144	**BT40BHPVTT031354**	5/16	.83	1.06	3.54	2.48	1.02	.39	**TTSS06014M**	3mm	2.53
3782145	**BT40BHPVTT031630**	5/16	.83	1.06	6.30	1.97	1.02	.39	**TTSS06014M**	3mm	3.39
3782146	**BT40BHPVTT038354**	3/8	.95	1.26	3.54	2.48	1.22	.39	**TTSS08014M**	4mm	2.69
3782147	**BT40BHPVTT038630**	3/8	.95	1.26	6.30	2.48	1.22	.39	**TTSS08014M**	4mm	3.78
3782148	**BT40BHPVTT044354**	7/16	.95	1.26	3.54	2.48	1.42	.39	**TTSS10014M**	5mm	2.66
3615353	**BT40BHPVTT050354**	1/2	.95	1.26	3.54	2.48	1.42	.39	**TTSS10014M**	5mm	2.64
3615354	**BT40BHPVTT050630**	1/2	.95	1.26	6.30	2.48	1.42	.39	**TTSS10014M**	5mm	3.73
3615355	**BT40BHPVTT062354**	5/8	1.06	1.34	3.54	2.48	1.54	.39	**TTSS12014M**	6mm	2.71
3615356	**BT40BHPVTT062630**	5/8	1.06	1.34	6.30	2.48	1.54	.39	**TTSS12014M**	6mm	3.91
3615357	**BT40BHPVTT075354**	3/4	1.30	1.61	3.54	2.48	1.61	.39	**TTSS16014M**	8mm	2.99
3615358	**BT40BHPVTT075630**	3/4	1.30	1.65	6.30	5.24	1.61	.39	**TTSS16014M**	8mm	4.56
3615359	**BT40BHPVTT088354**	7/8	1.30	1.61	3.54	2.48	1.61	.39	**TTSS16014M**	8mm	2.90
3615360	**BT40BHPVTT088630**	7/8	1.30	1.65	6.30	5.24	1.61	.39	**TTSS16014M**	8mm	4.47
3615361	**BT40BHPVTT100394**	1	1.73	2.06	3.94	2.87	1.85	.39	**TTSS16014M**	8mm	3.84
3615362	**BT40BHPVTT100630**	1	1.73	2.08	6.30	5.24	1.85	.39	**TTSS16014M**	8mm	6.03
3615363	**BT40BHPVTT125413**	1 1/4	1.73	2.08	4.13	3.07	2.01	.39	**TTSS16014M**	8mm	3.69
3615364	**BT40BHPVTT125630**	1 1/4	1.73	2.08	6.30	5.24	2.01	.39	**TTSS16014M**	8mm	5.69

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.



- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT HT HPV MM-BT Form B/AD



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3615457	BT40BHPVTTHT12090M	12	24	32	—	90	63	—	36	10	TTSS10014M	5mm	1,20
3615458	BT40BHPVTTHT12120M	12	24	32	—	120	93	—	36	10	TTSS10014M	5mm	1,38
3615459	BT40BHPVTTHT12160M	12	24	32	37	160	63	133	36	10	TTSS10014M	5mm	1,70
3615460	BT40BHPVTTHT14090M	14	27	34	—	90	63	—	36	10	TTSS10014M	5mm	1,25
3615461	BT40BHPVTTHT14120M	14	27	34	—	120	93	—	36	10	TTSS10014M	5mm	1,45
3615462	BT40BHPVTTHT14160M	14	27	34	39	160	63	133	36	10	TTSS10014M	5mm	1,81
3615463	BT40BHPVTTHT16090M	16	27	34	—	90	63	—	39	10	TTSS12014M	6mm	1,23
3615464	BT40BHPVTTHT16120M	16	27	34	—	120	93	—	39	10	TTSS12014M	6mm	1,43
3615465	BT40BHPVTTHT16160M	16	27	34	39	160	63	133	39	10	TTSS12014M	6mm	1,77
3615466	BT40BHPVTTHT18090M	18	33	41	—	90	63	—	39	10	TTSS12014M	6mm	1,38
3615467	BT40BHPVTTHT18120M	18	33	42	—	120	93	—	39	10	TTSS12014M	6mm	1,69
3615468	BT40BHPVTTHT18160M	18	33	42	—	160	133	—	39	10	TTSS12014M	6mm	2,10
3615469	BT40BHPVTTHT20090M	20	33	41	—	90	63	—	41	10	TTSS16014M	8mm	1,35
3615470	BT40BHPVTTHT20120M	20	33	42	—	120	93	—	41	10	TTSS16014M	8mm	1,65
3615471	BT40BHPVTTHT20160M	20	33	42	—	160	133	—	41	10	TTSS16014M	8mm	2,06
3615472	BT40BHPVTTHT25100M	25	44	52	50	100	73	—	47	10	TTSS16014M	8mm	1,75
3615473	BT40BHPVTTHT32105M	32	44	53	50	105	78	—	51	10	TTSS16014M	8mm	1,66

(continued)

(TT HT HPV BT Form B/AD continued)

Cutting Tool Shank Requirements
inch (industry standard)

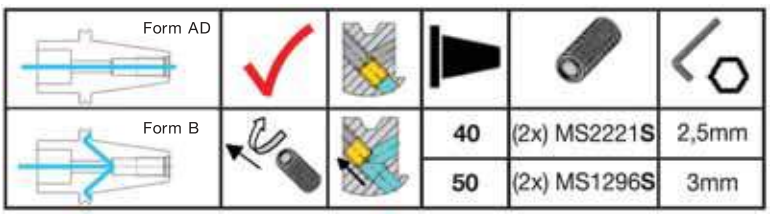
cutting tool shank diameters	tolerance
1/2 & 5/8	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT HT HPV IN-BT Form B/AD

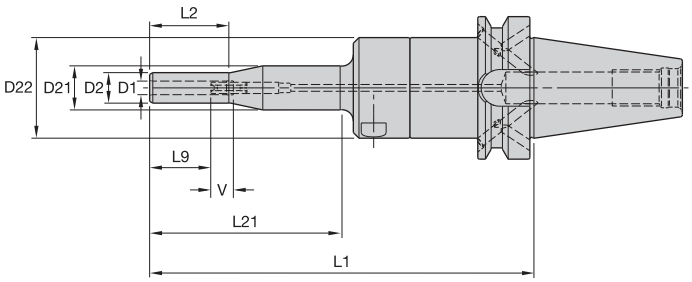


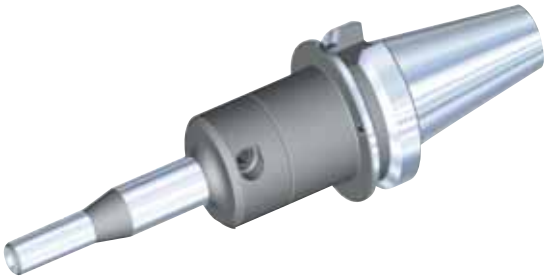
order number	catalog number	D1	D2	D21	L1	L2	L9	V	stop screw	wrench size stop screw	lbs
3615444	**BT40BHPVTTHT050354**	1/2	.95	1.26	3.54	2.48	1.42	.39	**TTSS10014M**	5mm	2.63
3615445	**BT40BHPVTTHT050630**	1/2	.95	1.26	6.30	2.48	1.42	.39	**TTSS10014M**	5mm	3.73
3615446	**BT40BHPVTTHT062354**	5/8	1.06	1.34	3.54	2.48	1.54	.39	**TTSS12014M**	6mm	2.71
3615447	**BT40BHPVTTHT062630**	5/8	1.06	1.34	6.30	2.48	1.54	.39	**TTSS12014M**	6mm	3.91
3615448	**BT40BHPVTTHT075354**	3/4	1.30	1.61	3.54	2.48	1.61	.39	**TTSS16014M**	8mm	2.99
3615450	**BT40BHPVTTHT075630**	3/4	1.30	1.65	6.30	5.24	1.61	.39	**TTSS16014M**	8mm	4.56
3615451	**BT40BHPVTTHT088354**	7/8	1.30	1.61	3.54	2.48	1.61	.39	**TTSS16014M**	8mm	2.90
3615452	**BT40BHPVTTHT088630**	7/8	1.30	1.65	6.30	5.24	1.61	.39	**TTSS16014M**	8mm	4.47
3615453	**BT40BHPVTTHT100394**	1	1.73	2.06	3.94	2.87	1.85	.39	**TTSS16014M**	8mm	3.84
3615454	**BT40BHPVTTHT100630**	1	1.73	2.08	6.30	5.24	1.85	.39	**TTSS16014M**	8mm	6.03
3615455	**BT40BHPVTTHT125413**	1 1/4	1.73	2.08	4.13	3.07	2.01	.39	**TTSS16014M**	8mm	3.68
3615456	**BT40BHPVTTHT125630**	1 1/4	1.73	2.08	6.30	5.24	2.01	.39	**TTSS16014M**	8mm	5.69

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.









ERICKSON

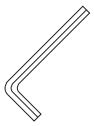
HC Slim-T MM-BT Form B/AD

order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	kg
3019236	**BT40BHCSLT06170M**	6	13,5	19,5	44	170	35	85	27	10	1,68
3019237	**BT40BHCSLT08170M**	8	15,5	19,5	44	170	35	85	27	10	1,69
3019238	**BT40BHCSLT10170M**	10	17,5	44,5	–	170	85	145	31	10	1,68

Spare Parts



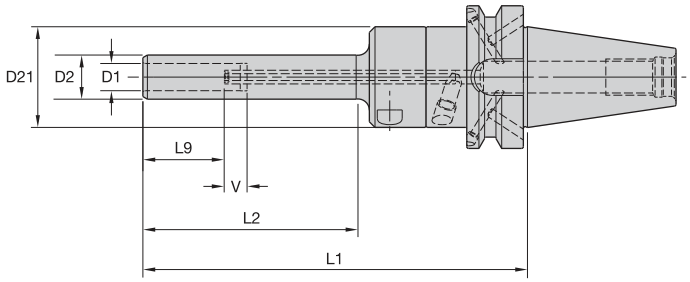


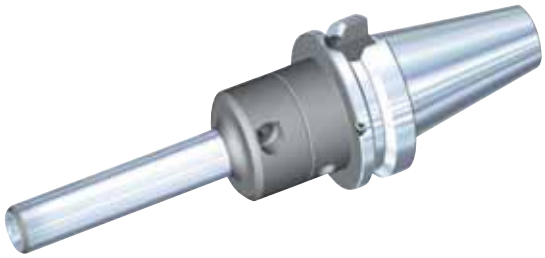


catalog number	actuation wrench	wrench size actuation screw	stop screw	stop screw wrench	wrench size stop screw
BT40BHCSLT06170M	**170.135**	5mm	**571.060**	**170.002**	2,5mm
BT40BHCSLT08170M	**170.135**	5mm	**571.060**	**170.002**	2,5mm
BT40BHCSLT10170M	**170.135**	5mm	**571.061**	**170.003**	3mm

(continued)

(HC Slim MM-BT Form B/AD continued)



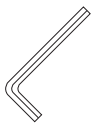


HC Slim MM-BT Form B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
2634575	**BT40BHCSL12170M**	12	19,5	44,5	170	95	36	10	1,61
2634576	**BT40BHCSL14170M**	14	21,5	52,5	170	95	36	10	1,84
2634577	**BT40BHCSL16170M**	16	23,5	52,5	170	95	39	10	1,87
2634578	**BT40BHCSL18170M**	18	25,5	52,5	170	95	39	10	1,91
2634579	**BT40BHCSL20170M**	20	27,5	52,5	170	95	41	10	1,95

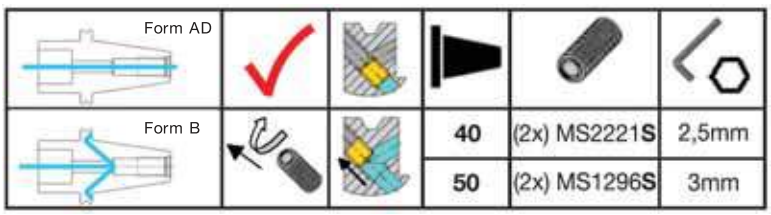
Spare Parts



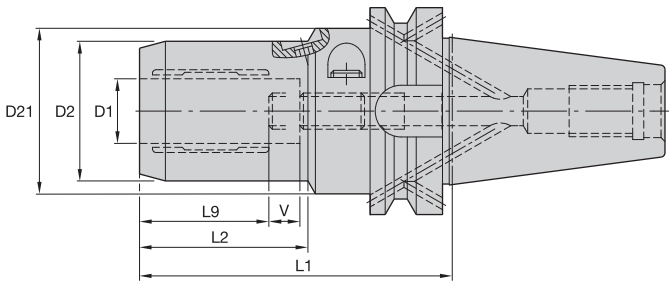


catalog number	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw
BT40BHCSL12170M	**170.135**	5mm	**170.002**	2,5mm
BT40BHCSL14170M	**170.135**	5mm	**170.002**	2,5mm
BT40BHCSL16170M	**170.135**	5mm	**170.002**	2,5mm
BT40BHCSL18170M	**170.135**	5mm	**170.002**	2,5mm
BT40BHCSL20170M	**170.135**	5mm	**170.002**	2,5mm

NOTE: Do not overtorque actuation screw. Use supplied wrench and tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw and actuation wrench.
Unable to use SEFAS™ chamfering rings on this design.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.





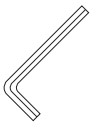




ERICKSON

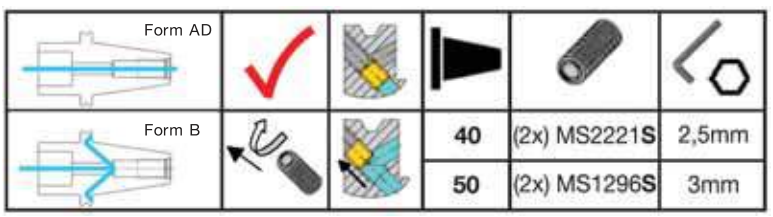
HC MM-BT Form B/AD



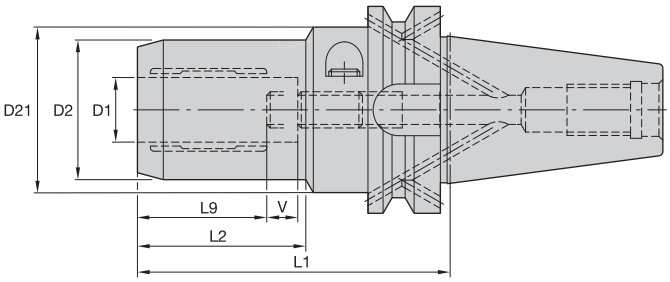


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	kg
1315341	**BT40BHC06080M**	6	25,7	50	80	33	27	10	**170.135**	5mm	**170.002**	2,5mm	1,28
1315342	**BT40BHC08080M**	8	27,7	50	80	34	27	10	**170.135**	5mm	**170.002**	2,5mm	1,30
1315343	**BT40BHC10085M**	10	29,7	50	85	35	31	10	**170.135**	5mm	**170.002**	2,5mm	1,35
1315344	**BT40BHC12090M**	12	31,6	50	90	40	36	10	**170.135**	5mm	**170.002**	2,5mm	1,39
1315345	**BT40BHC14090M**	14	33,6	50	90	42	36	10	**170.135**	5mm	**170.003**	3mm	1,40
1315347	**BT40BHC16090M**	16	37,6	50	90	47	39	10	**170.135**	5mm	**170.003**	3mm	1,44
1315348	**BT40BHC18090M**	18	39,6	50	90	47	39	10	**170.135**	5mm	**170.003**	3mm	1,47
1315349	**BT40BHC20095M**	20	41,6	50	95	48	41	10	**170.135**	5mm	**170.003**	3mm	1,54
1315350	**BT40BHC25115M**	25	49,8	63	115	51	46	10	**170.136**	6mm	**170.004**	4mm	2,18
1315351	**BT40BHC32120M**	32	59,8	63	120	59	50	10	**170.136**	6mm	**170.004**	4mm	2,46

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.





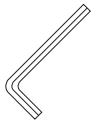




ERICKSON

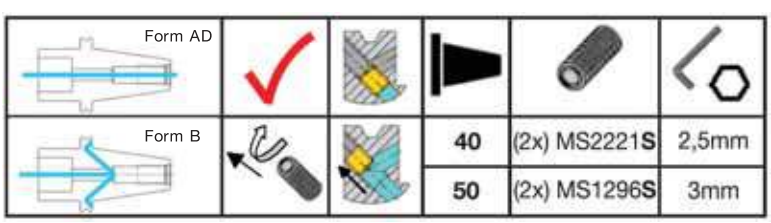
HC Trend IN-BT Form B/AD



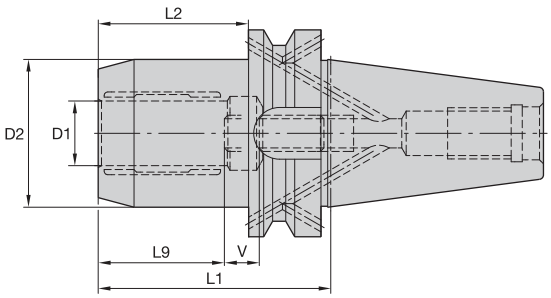


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw	stop screw wrench	wrench size stop screw	lbs
2263075	**BT40BHCT025315**	1/4	1.011	1.963	3.150	1.378	1.063	.394	**170.135**	5mm	**571.061**	**170.003**	3mm	2.85
2263076	**BT40BHCT038335**	3/8	1.168	1.963	3.346	1.496	1.220	.394	**170.135**	5mm	**571.061**	**170.003**	3mm	3.02
2263077	**BT40BHCT050354**	1/2	1.243	1.963	3.543	1.575	1.417	.394	**170.135**	5mm	**571.061**	**170.003**	3mm	3.16
2263078	**BT40BHCT062354**	5/8	1.479	1.963	3.543	1.831	1.535	.394	**170.135**	5mm	**571.063**	**–**	5mm	3.23
2263079	**BT40BHCT075374**	3/4	1.636	1.963	3.740	1.890	1.614	.394	**170.135**	5mm	**571.063**	**–**	5mm	3.49
2263080	**BT40BHCT100453**	1	1.959	2.474	4.528	2.008	1.850	.394	**170.136**	6mm	**571.063**	**170.005**	5mm	4.80
2263081	**BT40BHCT125472**	1 1/4	2.352	2.474	4.724	2.323	2.008	.394	**170.136**	6mm	**571.063**	**170.005**	5mm	5.43

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.









ERICKSON

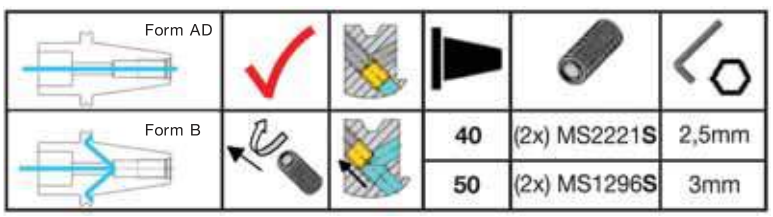
HC Basic MM-BT Form B/AD

order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw	wrench size stop screw	kg
1599687	**BT40BHCB20095M**	20	49,9	95	68	41	10	**170.135**	5mm	**280.034**	5mm	1,79

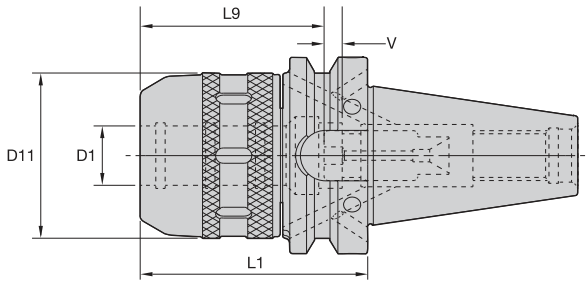
HC Basic IN-BT Form B/AD

order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw	wrench size stop screw	lbs
2263074	**BT40BHCB075374**	3/4	1.96	3.74	2.68	1.61	–	**170.135**	5mm	**280.034**	5mm	3.98

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.









ERICKSON

HPMC MM-BT Form B/AD



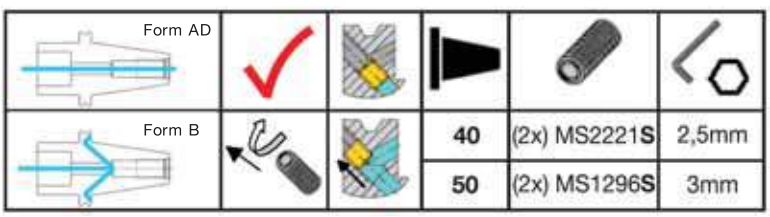

order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	kg
3578487	BT40BHPMC20075M	20	53	75	47	20	PSW52M	MCSS16040M	2,5mm & 5mm	1,50
3578488	BT40BHPMC20120M	20	53	120	50	20	PSW52M	MCSS16040M	2,5mm & 5mm	2,20
3578489	BT40BHPMC25085M	25	61	85	55	20	PSW58M	MCSS16040M	2,5mm & 5mm	1,80
3578490	BT40BHPMC25120M	25	61	120	55	20	PSW58M	MCSS16040M	2,5mm & 5mm	2,50
3578491	BT40BHPMC32090M	32	70	90	58	20	PSW68M	MCSS16040M	2,5mm & 5mm	2,10
3578492	BT40BHPMC32120M	32	70	120	58	20	PSW68M	MCSS16040M	2,5mm & 5mm	2,70

HPMC IN-BT Form B/AD



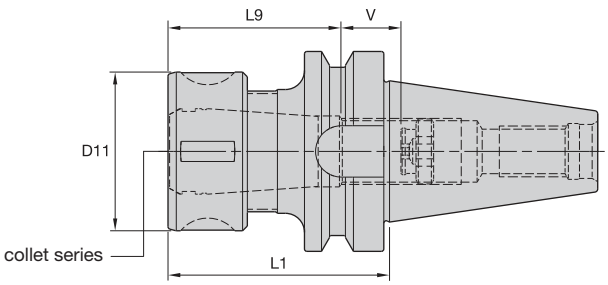

order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	lbs
3100412	BT40BHPMC075295	3/4	2.09	2.95	1.85	.79	PSW52M	MCSS16040M	2,5mm & 5mm	3.30
3100413	BT40BHPMC075472	3/4	2.09	4.72	1.97	.79	PSW52M	MCSS16040M	2,5mm & 5mm	4.90
3100414	BT40BHPMC100335	1	2.40	3.35	2.17	.79	PSW58M	MCSS16040M	2,5mm & 5mm	4.10
3100415	BT40BHPMC100472	1	2.40	4.72	2.17	.79	PSW58M	MCSS16040M	2,5mm & 5mm	5.70
3100416	BT40BHPMC125354	1 1/4	2.76	3.54	2.28	.79	PSW68M	MCSS16040M	2,5mm & 5mm	4.50
3100417	BT40BHPMC125472	1 1/4	2.76	4.72	2.28	.79	PSW68M	MCSS16040M	2,5mm & 5mm	6.10

NOTE: Milling chuck technical section, see page M88.
Supplied with locknut and stop screw.
Locknut wrench not included.
Optional M6~1,0P fine-balancing screw set is available (order number HPMCBALSCREWSET) and must be ordered separately; see page L14.
Reduction sleeves are available and must be ordered separately; see page J6.
For retention knobs, see page L45.



- Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1
TG150	11,6	40,0	23/64	1 1/2

ERICKSON

TG Round-BT Form AD

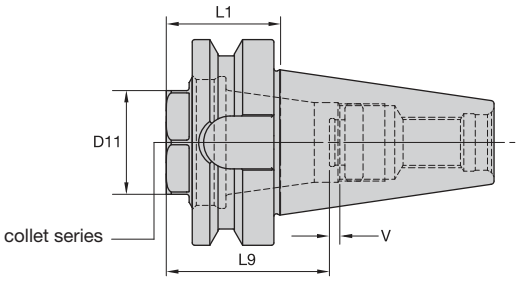


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	kg
1156366	**BT40TG075070M**	TG75	50	70	54	27	**LNA075M**	**HSW45M**	136	**SS081041G**	4mm & 5/32	1,24
1156367	**BT40TG100080M**	TG100	60	80	70	13	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	1,44
1191754	**BT40TG100100M**	TG100	60	100	70	33	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	1,63
1191755	**BT40TG100150M**	TG100	60	150	70	83	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	2,11
1191756	**BT40TG150110M**	TG150	85	110	86	20	**LNA150M**	**HSW80M**	271	**SS112041G**	4mm & 5/32	2,46

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.

• Grip (2:1 advantage).







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER32	2,0	20,0	.08	.81

ERICKSON

ER Short-BT Form AD



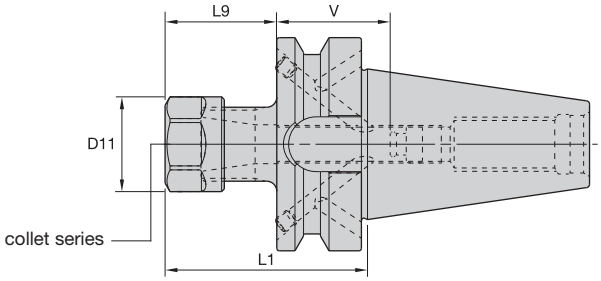


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	kg
2978765	**BT40SER32035M**	ER32	36	35	50	6	**LNECSER32M**	**OEW32M**	136	**SS094041G**	4mm & 5/32	0,75

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
ER standard straight-bore collets, see pages J58–J59.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.

• Grip (2:1 advantage).







ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Hex-BT Form B/AD

order number	catalog number	collet series	D11	L1	L9	V	kg
1315660	**BT40BER16060M**	ER16	28	60	32	39	1,03
1623345	**BT40BER16120M**	ER16	28	120	32	48	1,27
3847461	**BT40BER16150M**	ER16	28	150	32	48	1,39
3847462	**BT40BER20060M**	ER20	34	60	37	38	1,04
3847513	**BT40BER20120M**	ER20	34	120	37	63	1,41
3847514	**BT40BER20150M**	ER20	34	150	37	63	1,59

Spare Parts

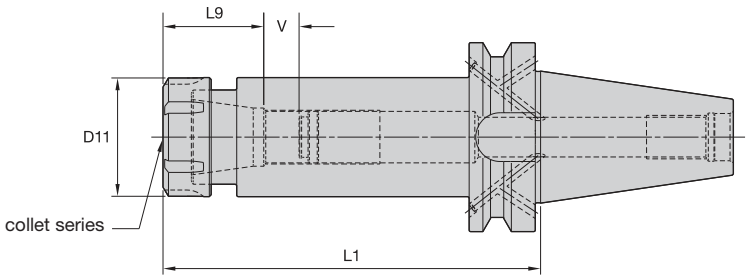




catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
BT40BER16060M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
BT40BER16120M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
BT40BER16150M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
BT40BER20060M	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32
BT40BER20120M	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32
BT40BER20150M	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32

(continued)

(continued ER BT Form B/AD)





ER Round-BT Form B/AD

order number	catalog number	collet series	D11	L1	L9	V	kg
1718315	**BT40BER25070M**	ER25	42	70	40	38	1,15
1610709	**BT40BER25120M**	ER25	42	120	40	60	1,61
3798342	**BT40BER25150M**	ER25	42	150	40	60	1,90
1538985	**BT40BER32070M**	ER32	50	70	46	40	1,15
1538986	**BT40BER32120M**	ER32	50	120	46	54	1,82
3798343	**BT40BER32150M**	ER32	50	150	46	54	2,26
1871535	**BT40BER40080M**	ER40	63	80	52	28	1,37
1871538	**BT40BER40120M**	ER40	63	120	52	33	2,29

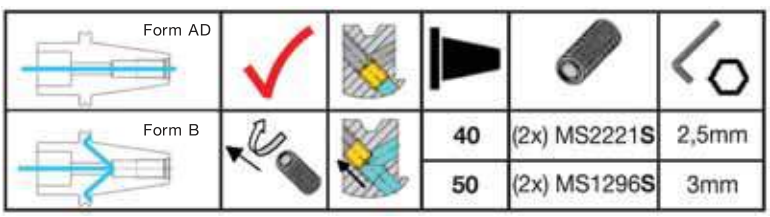
Spare Parts





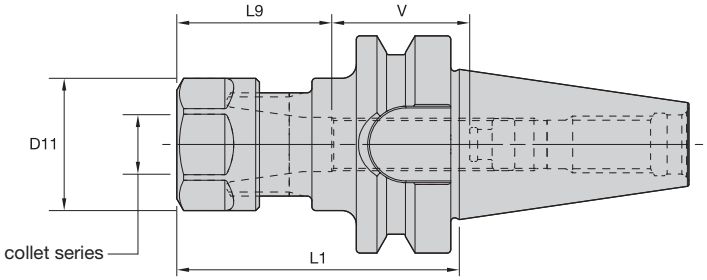
catalog number	locknut	wrench	counterbore collet torque (Nm)	stop screw	wrench size stop screw
BT40BER25070M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
BT40BER25120M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
BT40BER25150M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
BT40BER32070M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
BT40BER32120M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
BT40BER32150M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
BT40BER40080M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32
BT40BER40120M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.



• Grip 1:1.







ERICKSON

DA Hex-BT form AD

DA collet series	Collet Capacity mm min	mm max	inch min	inch max
DA200	0,2	10	1/64	25/64
DA100	1,8	14	1/64	9/16

order number	catalog number	collet series	D11	L1	L9	V	lbs
1191725	**BT40DA208070M**	DA200	1.08	2.76	1.50	1.26	2.20
1191722	**BT40DA108070M**	DA100	1.44	2.76	1.77	1.10	2.20

Spare Parts

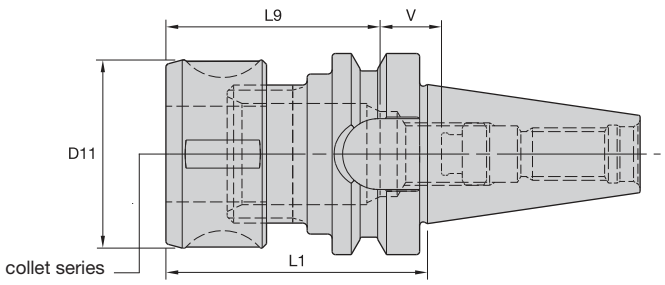




catalog number	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
BT40DA108070M	**LNA108M**	**OEW32M**	55	**SS056041G**	4mm & 5/32
BT40DA208070M	**LNA208M**	**OEW24M**	44	**SS038031G**	2mm & 5/64

(continued)

(DA BT Form AD continued))





DA Round-BT form AD

order number	catalog number	collet series	D11	L1	L9	V	lbs
1191723	**BT40DA188070M**	DA180	1.69	2.76	1.89	1.30	2.65
1258159	**BT40DA188100M**	DA180	1.69	3.94	1.89	2.05	3.09
1191724	**BT40DA188150M**	DA180	1.69	5.91	1.97	1.77	3.75

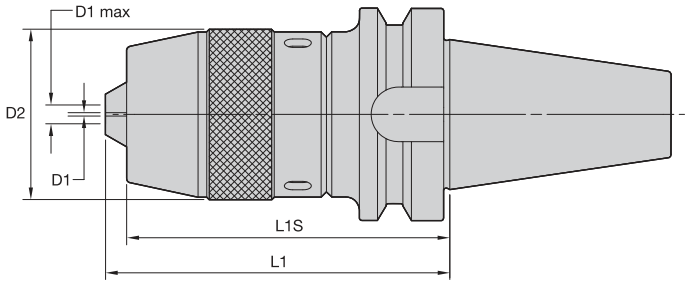
Spare Parts





catalog number	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
BT40DA188070M	**LNA188M**	**HSW45M**	100	**SS081041G**	4mm & 5/32
BT40DA188100M	**LNA188M**	**HSW45M**	100	**SS081041G**	4mm & 5/32
BT40DA188150M	**LNA188M**	**HSW45M**	100	**SS081041G**	4mm & 5/32

NOTE: For retention tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.





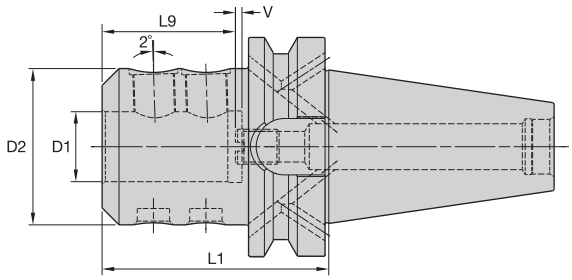
DC-BT Form A



order number	catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D2	L1	L1S	locknut wrench	Nm	kg
3583293	**BT40DC13096M**	1,0	.039	13,0	.512	51	108	96	**PSW45M**	55	1,74

NOTE: Tighten to the recommended tightening torque.
Locknut wrench not supplied.
For retention knobs, see page L45.







ERICKSON

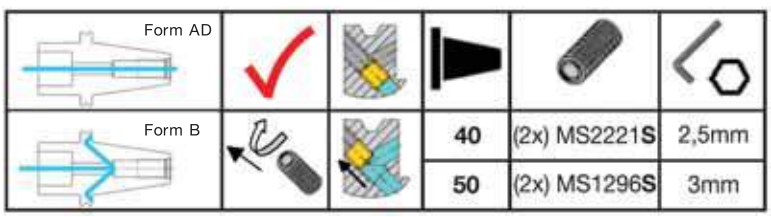
WN MM-BT Form B/AD



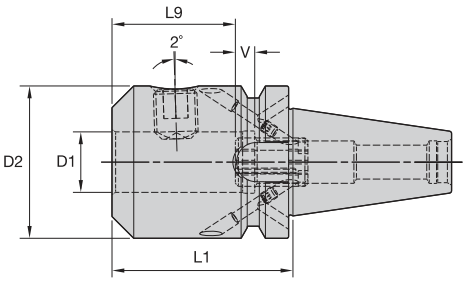


order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1126481	**BT40BWN06050M**	6	25	50	30	10	**SS03M012**	3mm	7	**571.060**	2,5mm	1,03
1126482	**BT40BWN08050M**	8	28	50	30	10	**SS03M014**	4mm	15	**571.067**	3mm	1,04
1126850	**BT40BWN10063M**	10	35	63	35	10	**SS03M018**	5mm	25	**571.068**	4mm	1,18
1126483	**BT40BWN12063M**	12	42	63	40	10	**SS03M023**	6mm	35	**571.074**	5mm	1,26
1126844	**BT40BWN14063M**	14	44	63	40	10	**SS03M023**	6mm	35	**571.074**	5mm	1,28
1126845	**BT40BWN16063M**	16	48	63	43	10	**SS03M025**	6mm	50	**571.075**	6mm	1,34
1126846	**BT40BWN18063M**	18	50	63	43	10	**SS03M025**	6mm	50	**571.075**	6mm	1,36
1126847	**BT40BWN20063M**	20	52	63	45	10	**SS03M026**	8mm	95	**571.076**	6mm	1,37
1126848	**BT40BWN25090M**	25	65	90	55	10	**SS03M027**	10mm	135	**571.077**	6mm	2,21
1126849	**BT40BWN32100M**	32	72	100	54	10	**SS03M029**	10mm	160	**571.077**	6mm	2,63

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw or stop screw wrenches not included.
For retention knobs, see page L45.









ERICKSON

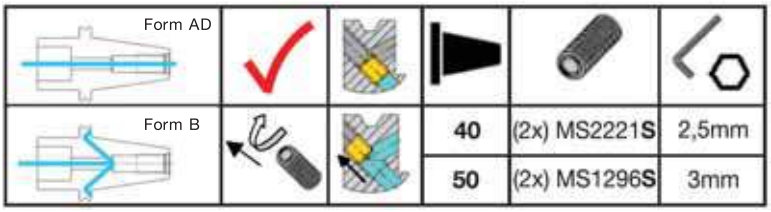
SWN MM-BT Form B/AD



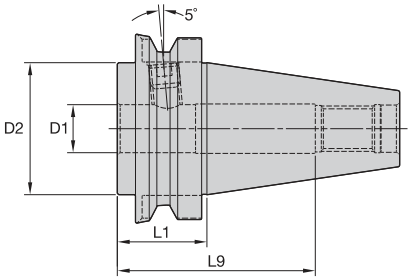


order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	stop screw	wrench size stop screw	Nm	kg
1126479	**BT40BSWN25075M**	25	65	75	44	15	**SS03M027**	10mm	**571.066**	10mm	135	1,90
1126480	**BT40BSWN32075M**	32	72	75	46	17	**SS03M029**	10mm	**571.066**	10mm	160	1,98

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrenches not included.
For retention knobs, see page L45.









ERICKSON

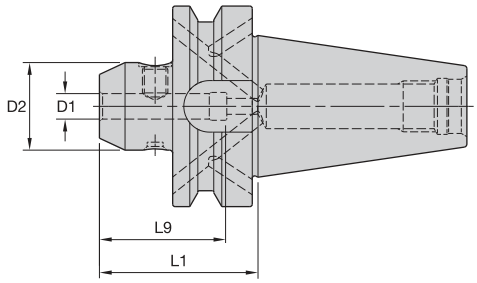
SWN IN-BT Form AD (Tap Chuck Adapter)



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1017937	**BT40TA1106**	1	2.48	1.06	2.50	ELS038031PKG	3/16	15	1.79

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.







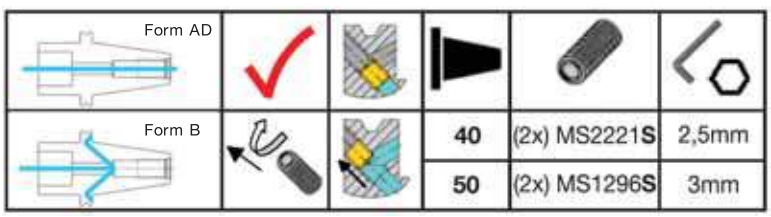
ERICKSON

EM MM-BT Form B/AD

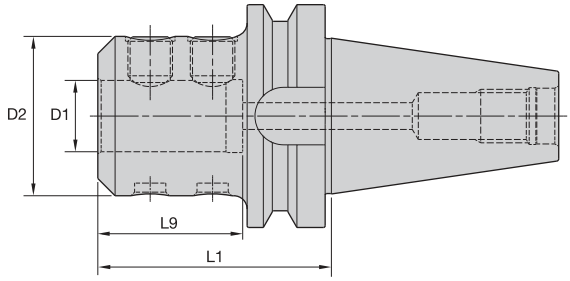


order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1126851	**BT40BEM06050M**	6	25	50	40	**SS03M012**	3mm	7	1,02
1126852	**BT40BEM08050M**	8	28	50	40	**SS03M014**	4mm	15	1,03
1126853	**BT40BEM10063M**	10	35	63	45	**SS03M018**	5mm	25	1,17
1127275	**BT40BEM12063M**	12	42	63	50	**SS03M023**	6mm	35	1,26
1126914	**BT40BEM14063M**	14	44	63	50	**SS03M023**	6mm	35	1,28
1126915	**BT40BEM16063M**	16	48	63	53	**SS03M025**	6mm	50	1,33
1126916	**BT40BEM18063M**	18	50	63	53	**SS03M025**	6mm	50	1,35
1126917	**BT40BEM20063M**	20	52	63	55	**SS03M026**	8mm	95	1,36
1126478	**BT40BEM25090M**	25	65	90	60	**SS03M027**	10mm	135	2,24

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.









ERICKSON™

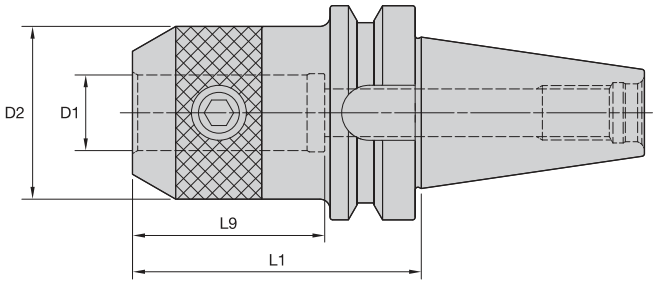
EM MM-BT Form AD



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1156359	**BT40EM32110M**	32	72	110	65	**SS03M029**	10mm	160	2,91

(continued)

(EM BT Form AD continued)



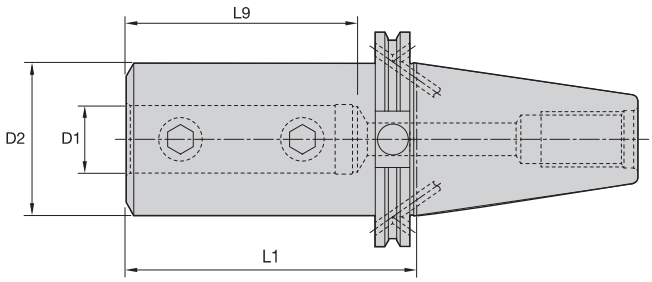


EM IN-BT Form AD



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1258164	**BT40EM025255**	1/4	1.00	2.55	3.93	**ELS025025PKG**	1/8	5	2.35
1258165	**BT40EM031255**	5/16	1.00	2.55	3.93	**ELS031031PKG**	5/32	11	2.35
1258166	**BT40EM038255**	3/8	1.00	2.55	3.93	**ELS038031PKG**	3/16	15	2.32
1026620	**BT40EM050255**	1/2	1.38	2.55	3.93	**ELS044038PKG**	7/32	20	2.52
1064863	**BT40EM050400**	1/2	1.38	4.00	5.38	**ELS044038PKG**	7/32	20	3.03
1258176	**BT40EM062255**	5/8	1.63	2.55	2.09	**ELS056050PKG**	1/4	40	2.69
1084589	**BT40EM075150**	3/4	1.68	1.50	2.22	**ELS062050PKG**	5/16	70	2.08
1258177	**BT40EM075255**	3/4	1.75	2.55	2.22	**ELS062050PKG**	5/16	70	2.73
1258184	**BT40EM088335**	7/8	2.00	3.35	2.22	**ELS062050PKG**	5/16	70	3.58
1084590	**BT40EM100162**	1	2.04	1.63	2.46	**DWG ELS075044**	3/8	110	2.00
1150875	**BT40EM100374**	1	2.00	3.74	2.56	**ELS075056PKG**	3/8	110	3.73
1064864	**BT40EM100500**	1	2.00	5.00	4.49	**ELS075056PKG**	3/8	110	4.42
1084591	**BT40EM125250**	1 1/4	2.46	2.50	2.51	**ELS075062PKG**	3/8	110	3.05
1258194	**BT40EM125335**	1 1/4	2.40	3.35	2.51	**ELS075056PKG**	3/8	110	3.95

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.





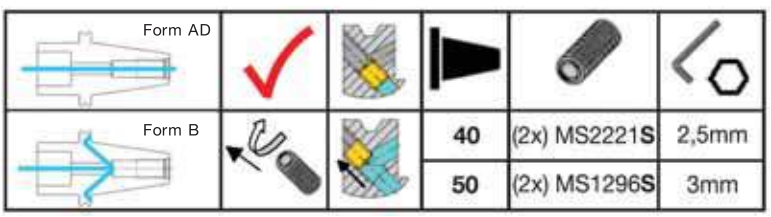
ERICKSON

SSF IN-BT Form B/AD



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1749289	**BT40BSSF075325**	3/4	1.75	3.25	2.25	**ELS062050PKG**	5/16	70	3.22
1749290	**BT40BSSF100425**	1	1.97	4.25	3.25	**DWG ELS075050**	3/8	110	4.01
1749292	**BT40BSSF125500**	1 1/4	2.50	5.00	3.50	**ELS075056PKG**	3/8	110	5.83

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.





KM Micro™ Quick Change Tooling System

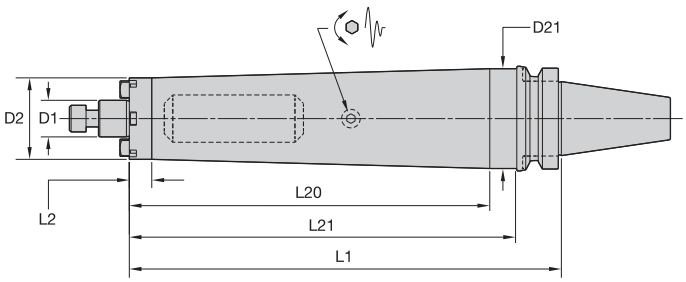
A smaller, more compact version of the internationally renowned KM™ system.

- Quick-change cutter heads reduce indexing and set-up times by 66%.
- Specially designed for use with automatic and smaller universal lathes.
- Unique flange attachment system increases machine tool capacity.
- KM Micro square shank adapters can be installed quickly and easily in existing tool block adapters.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®



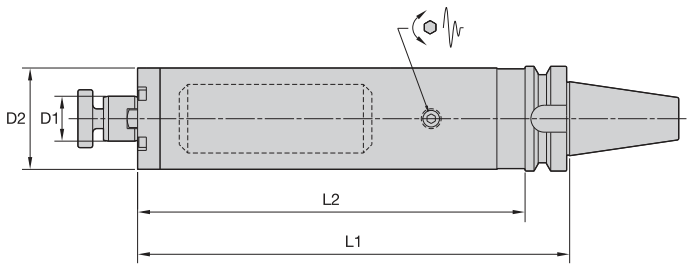


ERICKSON

SMC TD Cap MM-BT Form B/AD




order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	drive key	wrench size lock screw	kg
4135487	**BT40BTDSMC22260M**	22	49	60	260	14	217	233	**MS1234**	**KDK22M**	8mm	5,06





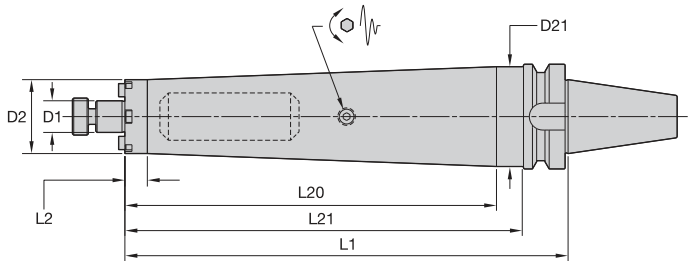
SMC TD Lock MM-BT Form B/AD




order number	catalog number	D1	D2	L1	L2	socket-head cap screw	drive key	wrench size retention screw	Nm	kg
4135488	**BT40BTDSMC27260M**	27	61	260	233	**KLSS27M**	**—**	10mm	—	5,96

(continued)

(SMC TD BT Form B/AD continued)





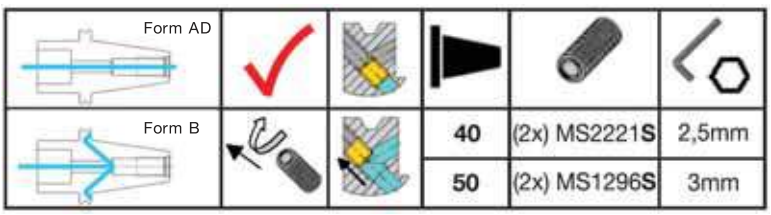
SMC TD Lock IN-BT Form B/AD



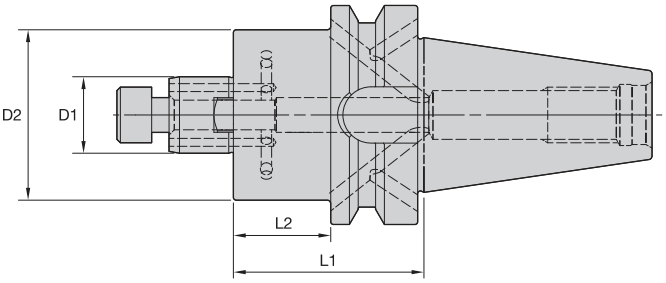


order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	drive key	wrench size lock screw	lbs
4135489	**BT40BTDSMC0751050**	3/4	1.75	2.36	10.50	.53	8.80	9.44	**KLS07**	**KDK05**	1/4	10.67
4135490	**BT40BTDSMC1001050**	1	2.75	—	10.50	10.50	—	—	**KLS10**	**KDK06**	5/16	16.86

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knobs, see page L45.









ERICKSON

SMC Cap MM-BT Form B/AD

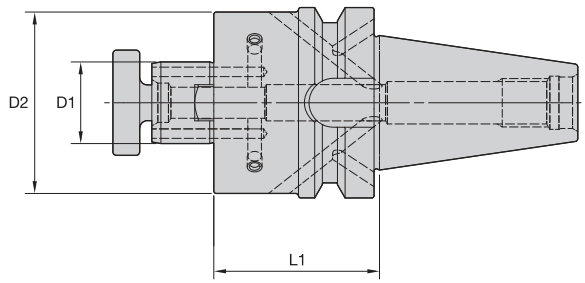




order number	catalog number	D1	D2	L1	L2	lock screw	drive key	wrench size lock screw	kg
3752232	**BT40BSM2C16050M**	16	38	50	23	**MS1294**	**KDK16M**	6mm	1,16
3752234	**BT40BSM2C16075M**	16	38	75	48	**MS1294**	**KDK16M**	6mm	1,35
3752236	**BT40BSM2C16100M**	16	38	100	73	**MS1294**	**KDK16M**	6mm	1,55
3752231	**BT40BSMC16050M**	16	44	50	23	**MS1294**	**KDK16M**	6mm	1,23
3752233	**BT40BSMC16075M**	16	44	75	48	**MS1294**	**KDK16M**	6mm	1,50
3752235	**BT40BSMC16100M**	16	44	100	73	**MS1294**	**KDK16M**	6mm	1,77
3752238	**BT40BSM2C22055M**	22	42	55	28	**MS1234**	**—**	8mm	1,30
3752241	**BT40BSM2C22100M**	22	42	100	73	**MS1234**	**—**	8mm	1,75
3752243	**BT40BSM2C22150M**	22	42	150	123	**MS1234**	**—**	8mm	2,26
3752237	**BT40BSMC22055M**	22	49	55	28	**MS1234**	**KDK22M**	8mm	1,41
3752239	**BT40BSMC22100M**	22	49	100	73	**MS1234**	**KDK22M**	8mm	2,03
3752242	**BT40BSMC22150M**	22	49	150	123	**MS1234**	**KDK22M**	8mm	2,74

(continued)

(SMC BT Form B/AD continued)

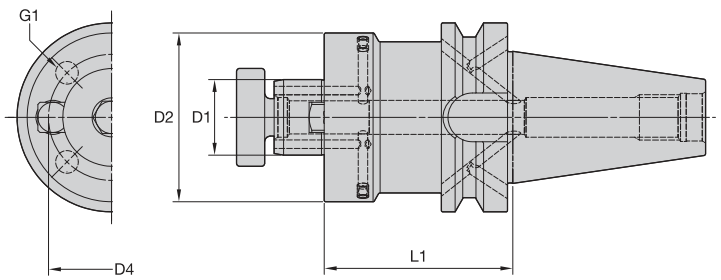




SMC Lock MM-BT Form B/AD




order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3752244	**BT40BSMC27055M**	27	60	55	**KLSS27M**	**KDK22M**	10mm	2
3752245	**BT40BSMC27100M**	27	60	100	**KLSS27M**	**KDK22M**	10mm	3
3752246	**BT40BSMC27150M**	27	60	150	**KLSS27M**	**KDK22M**	10mm	4
3752247	**BT40BSMC32060M**	32	78	60	**KLSS32M**	**KDK32M**	14mm	2
3752248	**BT40BSMC32100M**	32	78	100	**KLSS32M**	**KDK32M**	14mm	3



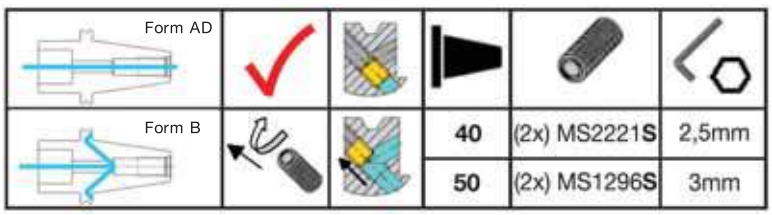


SMC DIR MM-BT Form B/AD

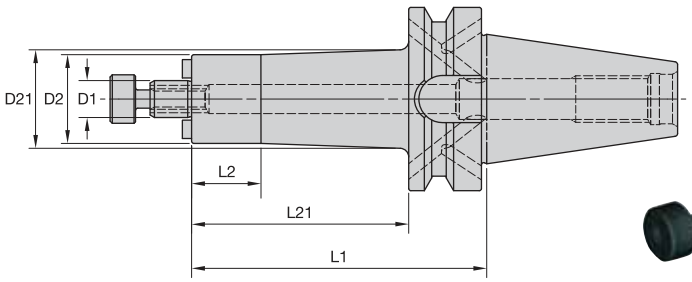



order number	catalog number	D1	D2	L1	G1	D4	lock screw	drive key	wrench size lock screw	kg
3752249	**BT40BSMC40060M**	40	89	60	M12 X 1.75	66,7	**KLSS40M**	**KDK40M**	17mm	3
3752250	**BT40BSMC40100M**	40	89	100	M12 X 1.75	66,7	**KLSS40M**	**KDK40M**	17mm	4

(continued)



(SMC BT Form B/AD continued)



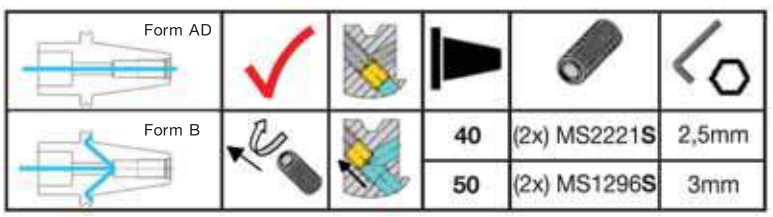


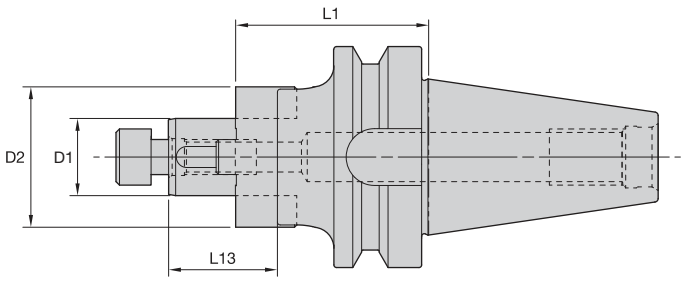
SMC Lock IN-BT Form B/AD




order number	catalog number	D1	D2	D21	L1	L2	L21	lock screw	drive key	wrench size lock screw	lbs
3648655	**BT40BSM2C050177**	1/2	1.20	—	1.77	.71	—	**KLS05**	**KDK04**	3/16	2.36
3648657	**BT40BSM2C050400**	1/2	1.20	1.34	4.00	.94	2.94	**KLS05**	**KDK04**	3/16	3.05
3648654	**BT40BSMC050177**	1/2	1.44	—	1.77	.71	—	**KLS05**	**KDK04**	3/16	2.41
3648656	**BT40BSMC050400**	1/2	1.44	1.58	4.00	.94	2.94	**KLS05**	**KDK04**	3/16	3.42
3648659	**BT40BSM2C075177**	3/4	1.46	—	1.77	.71	—	**KLS07**	**—**	1/4	2.47
3648662	**BT40BSM2C075400**	3/4	1.46	—	4.00	2.94	—	**KLS07**	**—**	1/4	3.39
3648658	**BT40BSMC075177**	3/4	1.75	—	1.77	.71	—	**KLS07**	**KDK05**	1/4	2.62
3648661	**BT40BSMC075400**	3/4	1.75	—	4.00	2.94	—	**KLS07**	**KDK05**	1/4	3.99
3648663	**BT40BSMC075600**	3/4	1.75	—	6.00	4.94	—	**KLS07**	**KDK05**	1/4	5.22
3648665	**BT40BSM2C100177**	1	2.19	—	1.77	.71	—	**KLS10**	**KDK06**	5/16	3.00
3648667	**BT40BSM2C100400**	1	2.19	—	4.00	2.94	—	**KLS10**	**KDK06**	5/16	5.30
3648664	**BT40BSMC100177**	1	2.75	—	1.77	1.77	—	**KLS10**	**KDK06**	5/16	3.31
3648666	**BT40BSMC100400**	1	2.75	—	4.00	4.00	—	**KLS10**	**KDK06**	5/16	6.09
3648668	**BT40BSMC100600**	1	2.75	—	6.00	6.00	—	**KLS10**	**KDK06**	5/16	8.50
3648669	**BT40BSMC125236**	1 1/4	2.88	—	2.36	2.36	—	**KLS12**	**KDK08**	5/16	4.41
3648670	**BT40BSMC125500**	1 1/4	2.88	—	5.00	5.00	—	**KLS12**	**KDK08**	5/16	7.65
3648671	**BT40BSMC150236**	1 1/2	3.63	—	2.36	2.36	—	**KLS15**	**KDK10**	3/8	5.59
3648672	**BT40BSMC150500**	1 1/2	3.81	—	5.00	5.00	—	**KLS15**	**KDK10**	3/8	9.11

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knobs, see page L45.







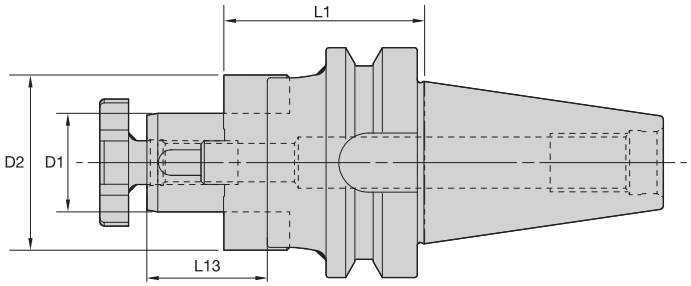
ERICKSON

CS MM-BT Form AD





order number	catalog number	D1	D2	L1	L13	lock screw	wrench size lock screw	combi driver ring	combi drive key	kg
1191713	**BT40CS16055M**	16	32	55	27	**MS1294**	6mm	**CDR16M**	**CDK16M**	1,15
1191714	**BT40CS16100M**	16	32	100	27	**MS1294**	6mm	**CDR16M**	**CDK16M**	1,41
1191715	**BT40CS22055M**	22	40	55	31	**MS1234**	8mm	**CDR22M**	**CDK22M**	1,28
1191716	**BT40CS22150M**	22	40	150	31	**MS1234**	8mm	**CDR22M**	**CDK22M**	2,16





CS Lock MM-BT Form AD

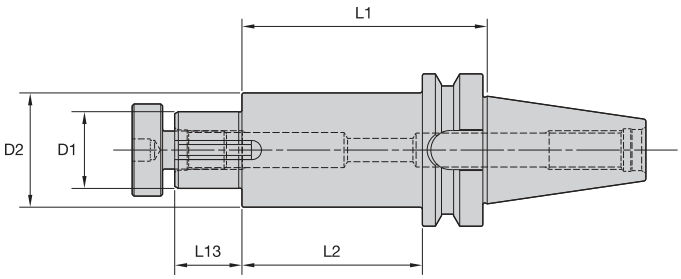





order number	catalog number	D1	D2	L1	L13	lock screw	lock screw wrench	combi driver ring	combi drive key	kg
1191717	**BT40CS27055M**	27	48	55	33	**KLS27MPKG**	**SMW27M**	**CDR27M**	**CDK27M**	1,47
1191718	**BT40CS27150M**	27	48	150	33	**KLS27MPKG**	**SMW27M**	**CDR27M**	**CDK27M**	2,73
1191719	**BT40CS32060M**	32	58	60	38	**KLS32M**	**SMW32M**	**CDR32M**	**CDK32M**	1,80
1191720	**BT40CS32150M**	32	58	150	38	**KLS32M**	**SMW32M**	**CDR32M**	**CDK32M**	3,62
1191721	**BT40CS40080M**	40	70	80	41	**KLS40M**	**SMW40M**	**CDR40M**	**CDK40M**	2,75

NOTE: Do not overtighten lock screw.
Supplied with lock screw, combi drive ring, and drive keys.
Lock screw wrench not included.
For retention knobs, see page L45.







ERICKSON

SA IN-BT Form AD

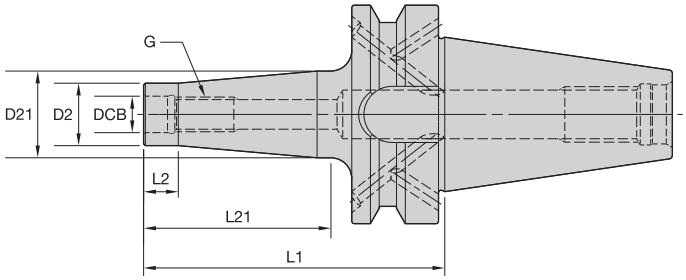




order number	catalog number	D1	D2	L1	L13	L2	lock screw	wrench size lock screw	drive key	lbs
1026219	**BT40SA100400**	1	1.61	4.00	.94	2.94	**KLS10**	5/16	**DWG SDK100106**	3.99
1026220	**BT40SA125400**	1 1/4	1.86	4.00	1.09	2.94	**KLS12**	5/16	**DWG SDK125119**	4.86

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive key.
Lock screw wrench not included.
For retention knobs, see page L45.
Interchangeable coolant style lock screws are available and must be ordered separately; see page L38.





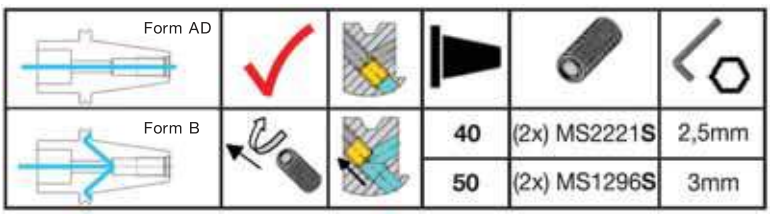


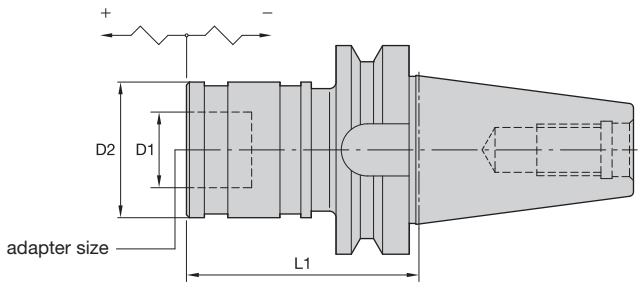
ERICKSON

ST-BT Form B/AD

order number	catalog number	DCB	G	D2	D21	L1	L2	L21	kg
4066159	BT40BST06047M	6,5	M6	10	–	47	14	–	0,94
4066160	BT40BST06067M	6,5	M6	10	13	67	10	34	0,96
4066161	BT40BST06087M	6,5	M6	10	20	87	10	54	1,01
4066162	BT40BST06107M	6,5	M6	10	23	107	10	74	1,06
4066303	BT40BST08047M	8,5	M8	13	–	47	14	–	0,95
4066304	BT40BST08067M	8,5	M8	13	15	67	10	34	0,99
4066305	BT40BST08087M	8,5	M8	13	23	87	10	54	1,04
4066306	BT40BST08107M	8,5	M8	13	23	107	10	74	1,07
4066307	BT40BST10047M	10,5	M10	18	–	47	14	–	0,98
4066308	BT40BST10067M	10,5	M10	18	20	67	10	34	1,02
4066309	BT40BST10087M	10,5	M10	18	25	87	10	54	1,07
4066310	BT40BST10107M	10,5	M10	18	28	107	10	74	1,20
4066311	BT40BST12047M	12,5	M12	21	–	47	14	–	0,98
4066312	BT40BST12067M	12,5	M12	21	24	67	10	34	1,04
4066313	BT40BST12087M	12,5	M12	21	24	87	10	54	1,10
4066314	BT40BST12107M	12,5	M12	21	31	107	10	74	1,25
4066315	BT40BST12127M	12,5	M12	21	31	127	10	94	1,32
4066316	BT40BST16047M	17,0	M16	29	–	47	14	–	1,01
4066317	BT40BST16067M	17,0	M16	29	–	67	34	–	1,10
4066318	BT40BST16087M	17,0	M16	29	34	87	10	54	1,25
4066319	BT40BST16107M	17,0	M16	29	34	107	10	74	1,36
4066320	BT40BST16127M	17,0	M16	29	39	127	10	94	1,58

NOTE: For retention knobs, see page L45.





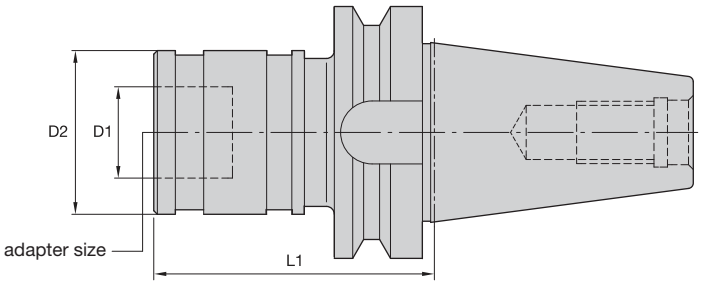


ERICKSON

RC-BT Form A

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	tension	compression	kg
1125829	**BT40RC1067M**	1	M1 - M14	#0 - 9/16	19	36	67	7,5	7,5	2,00
1125812	**BT40RC2094M**	2	M5 - M24	5/16 - 7/8	31	53	94	12,5	12,5	2,20

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
For retention knobs, see page L45.





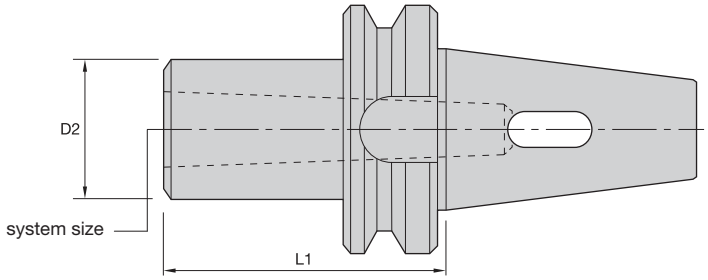
ERICKSON

STRC-BT Form A

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	kg
1778911	**BT40STRC1074M**	1	M1 - M14	#0 - 9/16	19	36	74	1,40
1778973	**BT40STRC2089M**	2	M5 - M24	5/16 - 7/8	31	53	89	1,70

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
For retention knobs, see page L45.







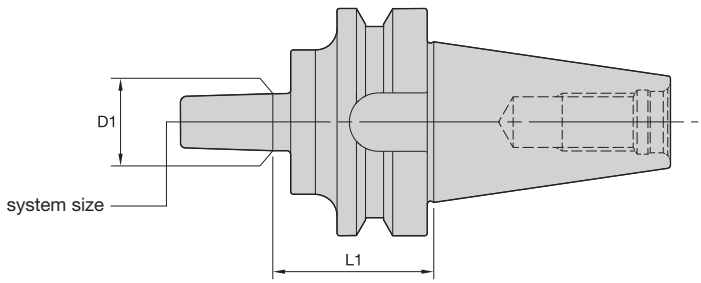
ERICKSON

MT-BT Form A

order number	catalog number	system size	D2	L1	kg
1156364	**BT40MT1050M**	1	25	50	1,01
1191735	**BT40MT2050M**	2	32	50	1,06
1191736	**BT40MT3070M**	3	40	70	1,13
1191737	**BT40MT4095M**	4	48	95	1,33

NOTE: For retention knobs; see page L45.







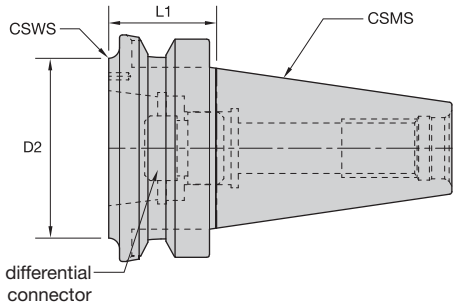
ERICKSON

JT-BT Form A

order number	catalog number	system size	D1	L1	kg
1156363	**BT40JT33045M**	33	15,85	45	1,12

NOTE: For retention knobs, see page L45.

• Differential connector included.





ERICKSON™

BT to KR JIS B6339 Adapters AD/B • Metric

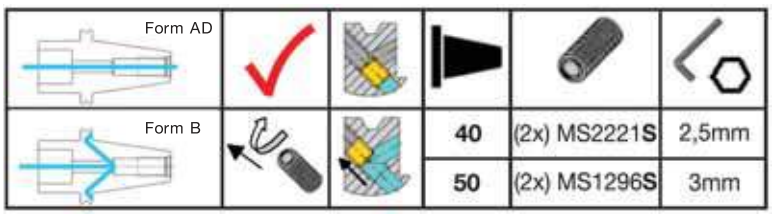


order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	kg	reference head
3554372	**BT40BKR32030M**	BT40	KR32	50	30	KRDCKR32M	1,20	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554373	**BT40BKR50050M**	BT40	KR50	63	50	KRDCKR50M	1,26	SVS4B,5B,SVU65,SVUBB2

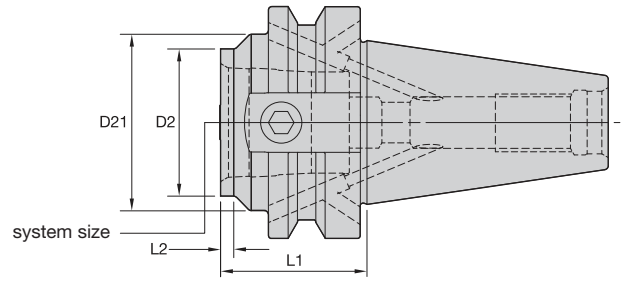
BT to KR JIS B6339 Adapters AD/B • Inch



order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	lbs	reference head
3554372	**BT40BKR32030M**	BT40	KR32	1.97	1.180	KRDCKR32M	2.63	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554373	**BT40BKR50050M**	BT40	KR50	2.48	1.970	KRDCKR50M	2.80	SVS4B,5B,SVU65,SVUBB2







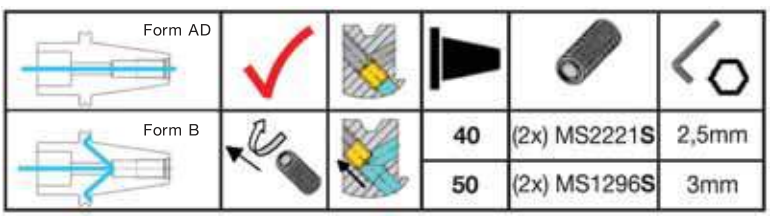


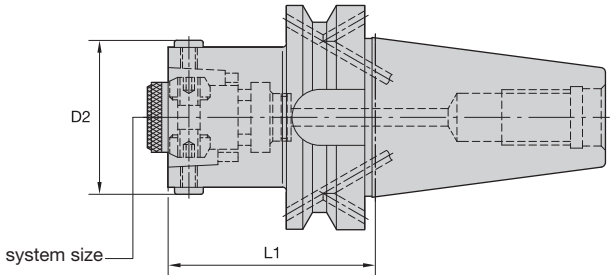
KM QUICK CHANGE ERICKSON™

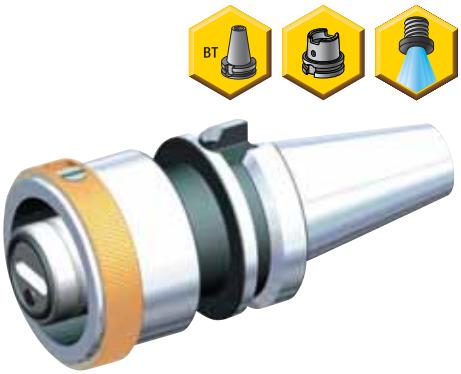
KM-BT Form B/AD

order number	catalog number	system size	D2	D21	L1	L2	KM spare parts package	wrench size actuation screw	Nm	kg
3783935	**BT40BKM32040M**	KM32	32	40	40	3	**KM32PKG3L**	5mm	8-11	1,01
3783945	**BT40BKM32090M**	KM32	32	—	90	63	**KM32PKG3S**	5mm	8-11	1,25
3783946	**BT40BKM40040M**	KM40	40	48	40	4	**KM40PKG3L**	6mm	12-16	1,03
3783947	**BT40BKM40100M**	KM40	40	—	100	73	**KM40PKG3S**	6mm	12-16	1,52
3783948	**BT40BKM50060M**	KM50	50	—	60	33	**KM50PKG3S**	10mm	27-34	1,26
3783949	**BT40BKM50120M**	KM50	50	—	120	93	**KM50PKG3S**	10mm	27-34	2,11

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.
For retention knobs, see page L45.





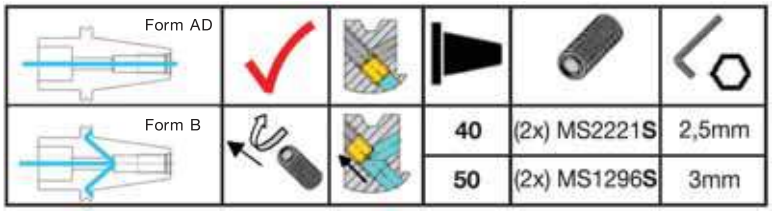


ERICKSON

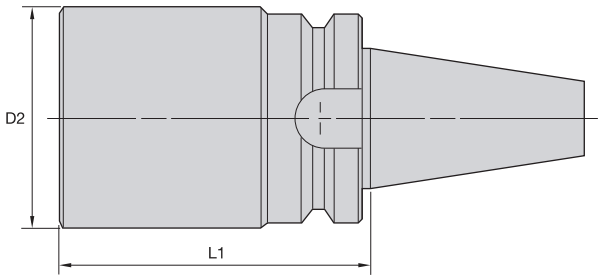
HSK-BT Form B/AD

order number	catalog number	system size	D2	L1	wrench size actuation screw	Nm	kg
1519684	**BT40BHSK32050M**	HSK32	37	50	3mm	6	1,00
1519685	**BT40BHSK40060M**	HSK40	45	60	3mm	8	1,10
1499750	**BT40BHSK50070M**	HSK50	55	70	4mm	15	1,10
1519688	**BT40BHSK63075M**	HSK63	70	75	5mm	20	1,40

NOTE: Do not overtorque actuation screw; use torque recommedations above.
Supplied with actuation mechanism and sealing ring.
For retention knobs, see page L45.



• Machinable front 20–30 RW C.





ERICKSON

BB-BT Form A

order number	catalog number	D2	L1	kg
1258120	**BT40BB063280M**	63	280	7,12
1258122	**BT40BB104200M**	104	200	11,77

NOTE: For retention knobs, see page L45.



KM™ QUICK CHANGE The ISO 26622 Standard

KM™ Quick-Change Tooling — the ISO 26622 Standard.

- Our unique three-surface taper contact design makes this the most rigid and accurate modular quick-change tooling system available.
- It's highly versatile, too: can be fully and easily employed on your lathe, machining center, multi-spindle, or mill-turn machine — significantly reducing your tool-change and part setup downtime!

www.kennametal.com

KENNAMETAL®



ERICKSON™ BT V-Flange Shank Tooling System • BT50 Series

Primary Application

ERICKSON V-Flange BT Taper Tooling is manufactured from premium materials and meets or exceeds the latest JIS B 6339 specification and ISO-1947 taper accuracy of AT3 specification standards. The BT50 tools are either pre-balanced to a high specification or balanced-by-design. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, retention knobs, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.



BT — JIS B6339 Shank

NOTE: Inherent balance conditions — all features are symmetrical.

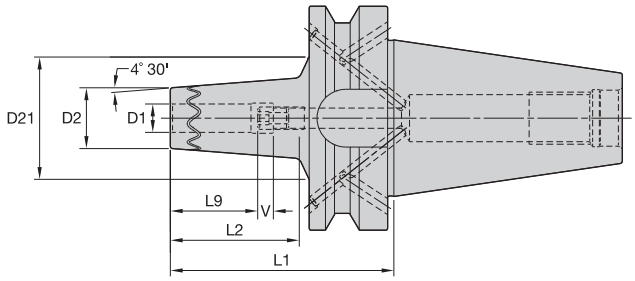


Features and Benefits

- JIS B 6339 7/24 taper.
- Standard M24 metric drawbar thread.
- Taper accuracy of AT3 specification or better.
- All tools set to form AD coolant specification. Many can be converted to form B style.
- Maximum 100 bar (1,500 psi) coolant pressure.

- **SAFE-LOCK**™, innovative and unique non-slip system.
- Suitable for carbide and HSS cutting tools.
- Need ≥ 10 kW shrink unit.







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013

ERICKSON™

TT SF HPV MM-BT FORM B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
5090277	BT50BSFTT12100M	12	27	55	100	62	37	10	3,98
5090278	BT50BSFTT14100M	14	33	43	100	62	37	10	4,11
5090279	BT50BSFTT16100M	16	33	43	100	62	40	10	4,08
5090280	BT50BSFTT18100M	18	45	54	100	62	40	10	4,44
5090281	BT50BSFTT20100M	20	45	54	100	62	42	10	4,39
5090282	BT50BSFTT25100M	25	45	54	100	62	48	10	4,29

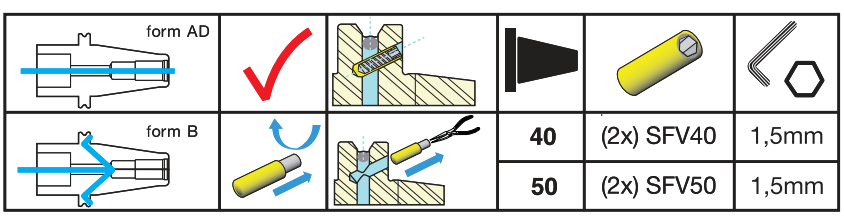
Cutting Tool Shank Requirements inch (industry standard)

cutting tool shank diameters	tolerance
1/2 & 5/8	.0000/-.0004
3/4, 1	.0000/-.0005

TT SF HPV IN-BT FORM B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	lbs
5129965	BT50BSFTT050394	1/2	1.06	2.17	3.94	2.44	1.46	.39	8.76
5129966	BT50BSFTT062394	5/8	1.31	1.70	3.94	2.44	1.58	.39	8.99
5129967	BT50BSFTT075394	3/4	1.76	2.14	3.94	2.44	1.65	.39	9.71
5129968	BT50BSFTT100394	1	1.76	2.14	3.94	2.44	1.89	.39	9.45

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Shrink Fit accessories, see pages L12–L13.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.



Order Information

Kennametal high-performance end mills with a shank diameter of 12mm (1/2") and larger are available with **SAFE-LOCK™** technology, as a special tool, upon request. Please contact your local customer service location to receive a quote.

Features

- Form-closed clamping.
- High accuracy clamping.
- Helical grooves.

Functions

- No pull out.
- Excellent runout.
- Adjustable clamping length.

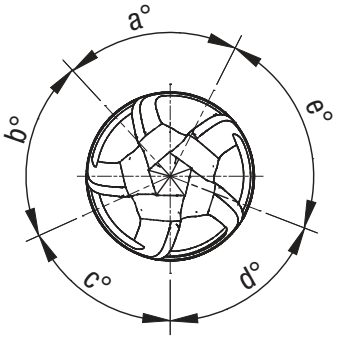
Benefits

- Reduce scrap rate.
- Higher tool life.
- No need to change NC program after regrinding.



Customized-Solution Example for Highest Metal Removal Rates





The HARVI II UDDE proprietary design with **unequal flute spacing** and unique core geometry for chatter-free machining enables slotting operations in titanium up to 1 x D.

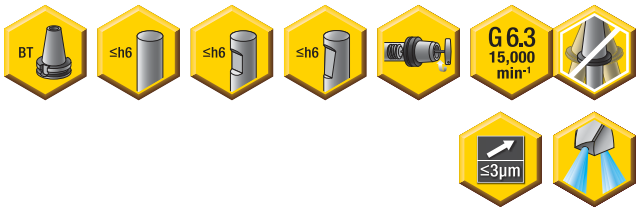


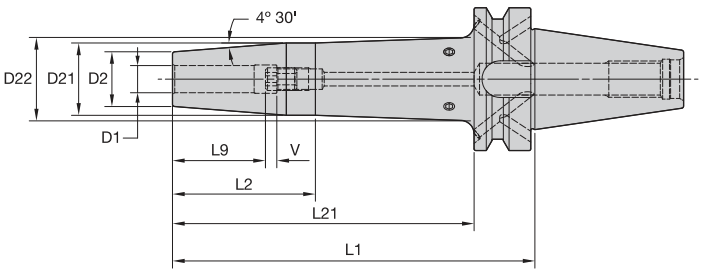
SAFE-λOCK™
by HAIMER

The safety belt for high-performance solid carbide end mills provides a form-closed clamping with high accuracy and helical grooves for length adjustment.

*To learn more, **scan here**.*
For instructions on how to scan, please see page xxxiii.

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT GP HPV MM-BT Form B/AD



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3782149	**BT50BHPVTT06100M**	6	21	27	—	100	62	—	26	10	**TTSS05014M**	2,5mm	3,69
3782150	**BT50BHPVTT06160M**	6	21	27	32	160	50	122	26	10	**TTSS05014M**	2,5mm	4,01
3782151	**BT50BHPVTT08100M**	8	21	27	—	100	62	—	26	10	**TTSS06014M**	3mm	3,68
3782152	**BT50BHPVTT08160M**	8	21	27	32	160	50	122	26	10	**TTSS06014M**	3mm	4,00
3782153	**BT50BHPVTT10100M**	10	24	32	—	100	62	—	31	10	**TTSS08014M**	4mm	3,75
3782154	**BT50BHPVTT10160M**	10	24	32	36	160	63	122	31	10	**TTSS08014M**	4mm	4,16
3615394	**BT50BHPVTT12100M**	12	24	32	—	100	63	—	36	10	**TTSS10014M**	5mm	3,73
3615395	**BT50BHPVTT12160M**	12	24	32	36	160	63	122	36	10	**TTSS10014M**	5mm	4,14
3615396	**BT50BHPVTT14100M**	14	27	34	—	100	62	—	36	10	**TTSS10014M**	5mm	3,78
3615397	**BT50BHPVTT14160M**	14	27	34	38	160	57	122	36	10	**TTSS10014M**	5mm	4,26
3615398	**BT50BHPVTT16100M**	16	27	34	—	100	62	—	39	10	**TTSS12014M**	6mm	3,75
3615399	**BT50BHPVTT16160M**	16	27	34	39	160	56	122	39	10	**TTSS12014M**	6mm	4,22
3615400	**BT50BHPVTT18100M**	18	33	41	—	100	62	—	39	10	**TTSS12014M**	6mm	3,90
3615401	**BT50BHPVTT18160M**	18	33	42	46	160	69	122	39	10	**TTSS12014M**	6mm	4,58
3615402	**BT50BHPVTT20100M**	20	33	41	—	100	62	—	41	10	**TTSS16014M**	8mm	3,87
3615403	**BT50BHPVTT20160M**	20	33	42	46	160	69	122	41	10	**TTSS16014M**	8mm	4,53
3615404	**BT50BHPVTT25100M**	25	44	52	—	100	62	—	47	10	**TTSS16014M**	8mm	4,15
3615405	**BT50BHPVTT32100M**	32	44	52	—	100	62	—	51	10	**TTSS16014M**	8mm	4,00

(continued)

(TT GP HPV BT Form B/AD continued)

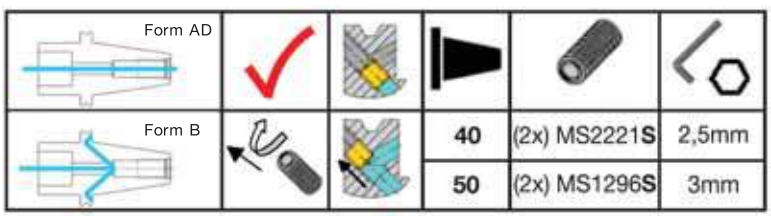
Cutting Tool Shank Requirements inch (industry standard)	
cutting tool shank diameters	tolerance
1/4, 5/16, & 3/8	.0000/-.0004
7/16, 1/2, & 5/8	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT GP HPV IN-BT Form B/AD

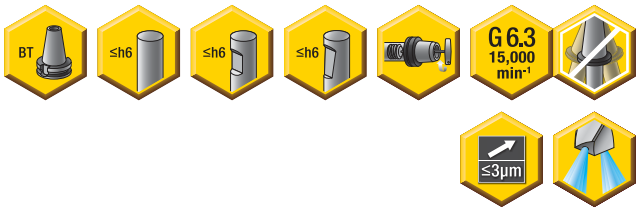


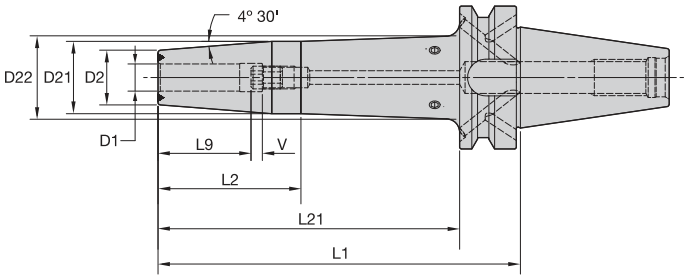
order number	catalog number	D1	D2	D21	L1	L2	L21	L9	V	stop screw	wrench size stop screw	lbs
3782155	**BT50BHPVTT025394**	1/4	.83	1.06	3.94	2.44	—	1.02	.39	**TTSS05014M**	2,5mm	8.14
3782156	**BT50BHPVTT025787**	1/4	.83	1.06	7.87	1.97	6.38	1.02	.39	**TTSS05014M**	2,5mm	9.42
3782157	**BT50BHPVTT031394**	5/16	.83	1.06	3.94	2.44	—	1.02	.39	**TTSS06014M**	3mm	8.12
3782158	**BT50BHPVTT031787**	5/16	.83	1.06	7.87	1.97	6.38	1.02	.39	**TTSS06014M**	3mm	9.41
3782159	**BT50BHPVTT038394**	3/8	.95	1.26	3.94	2.44	—	1.22	.39	**TTSS08014M**	4mm	8.26
3782160	**BT50BHPVTT038787**	3/8	.95	1.26	7.87	2.48	6.38	1.22	.39	**TTSS08014M**	4mm	9.92
3782161	**BT50BHPVTT044394**	7/16	.95	1.26	3.94	2.44	—	1.42	.39	**TTSS10014M**	5mm	8.24
3615382	**BT50BHPVTT050394**	1/2	.95	1.26	3.94	2.44	—	1.42	.39	**TTSS10014M**	5mm	8.21
3615383	**BT50BHPVTT050787**	1/2	.95	1.26	7.87	2.48	6.38	1.42	.39	**TTSS10014M**	5mm	9.87
3615384	**BT50BHPVTT062394**	5/8	1.06	1.34	3.94	2.44	—	1.54	.39	**TTSS12014M**	6mm	8.28
3615385	**BT50BHPVTT062787**	5/8	1.06	1.34	7.87	2.20	6.38	1.54	.39	**TTSS12014M**	6mm	10.14
3615386	**BT50BHPVTT075394**	3/4	1.30	1.61	3.94	2.44	—	1.61	.39	**TTSS16014M**	8mm	8.55
3615387	**BT50BHPVTT075787**	3/4	1.30	1.65	7.87	2.72	6.38	1.61	.39	**TTSS16014M**	8mm	11.17
3615388	**BT50BHPVTT088394**	7/8	1.30	1.61	3.94	2.44	—	1.61	.39	**TTSS16014M**	8mm	8.46
3615389	**BT50BHPVTT088787**	7/8	1.30	1.65	7.87	2.72	6.38	1.61	.39	**TTSS16014M**	8mm	11.08
3615390	**BT50BHPVTT100394**	1	1.73	2.05	3.94	2.44	—	1.85	.39	**TTSS16014M**	8mm	9.14
3615391	**BT50BHPVTT100787**	1	1.73	2.08	7.87	2.72	6.38	1.85	.39	**TTSS16014M**	8mm	13.21
3615392	**BT50BHPVTT125394**	1 1/4	1.73	2.05	3.94	2.44	—	2.01	.39	**TTSS16014M**	8mm	8.82
3615393	**BT50BHPVTT125787**	1 1/4	1.73	2.08	7.87	2.72	6.38	2.01	.39	**TTSS16014M**	8mm	12.88

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.



- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT HT HPV MM-BT Form B/AD



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3615487	**BT50BHPVTTHT12100M**	12	24	32	—	100	62	—	36	10	**TTSS10014M**	5mm	3,73
3615488	**BT50BHPVTTHT12160M**	12	24	32	36	160	63	122	36	10	**TTSS10014M**	5mm	4,15
3615489	**BT50BHPVTTHT14100M**	14	27	34	—	100	62	—	36	10	**TTSS10014M**	5mm	3,78
3615490	**BT50BHPVTTHT14160M**	14	27	34	38	160	57	122	36	10	**TTSS10014M**	5mm	4,26
3615491	**BT50BHPVTTHT16100M**	16	27	34	—	100	62	—	39	10	**TTSS12014M**	6mm	3,76
3615492	**BT50BHPVTTHT16160M**	16	27	34	39	160	56	122	39	10	**TTSS12014M**	6mm	4,23
3615493	**BT50BHPVTTHT18100M**	18	33	41	—	100	62	—	39	10	**TTSS12014M**	6mm	3,90
3615494	**BT50BHPVTTHT18160M**	18	33	42	46	160	69	122	39	10	**TTSS12014M**	6mm	4,58
3615495	**BT50BHPVTTHT20100M**	20	33	41	—	100	62	—	41	10	**TTSS16014M**	8mm	3,87
3615496	**BT50BHPVTTHT20160M**	20	33	42	46	160	69	122	41	10	**TTSS16014M**	8mm	4,54
3615497	**BT50BHPVTTHT25100M**	25	44	52	—	100	62	—	47	10	**TTSS16014M**	8mm	4,16
3615498	**BT50BHPVTTHT32100M**	32	44	52	—	100	62	—	51	10	**TTSS16014M**	8mm	4,00

(continued)

(TT HT HPV BT Form B/AD continued)

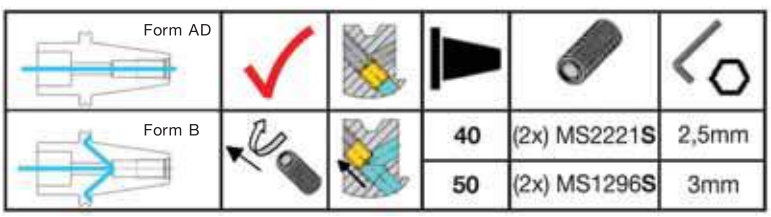
Cutting Tool Shank Requirements inch (industry standard)	
cutting tool shank diameters	**tolerance**
1/2 & 5/8	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT HT HPV IN-BT Form B/AD

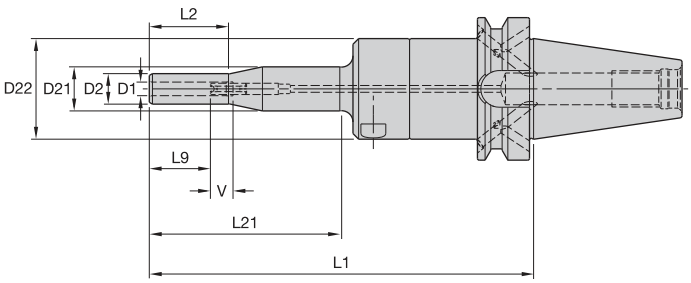


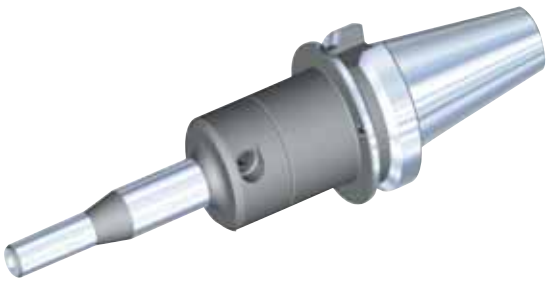
order number	catalog number	D1	D2	D21	L1	L2	L21	L9	V	stop screw	wrench size stop screw	lbs
3615474	**BT50BHPVTTHT050394**	1/2	.95	1.26	3.94	2.44	—	1.42	.39	**TTSS10014M**	5mm	8.21
3615475	**BT50BHPVTTHT050787**	1/2	.95	1.26	7.87	2.48	6.38	1.42	.39	**TTSS10014M**	5mm	9.87
3615476	**BT50BHPVTTHT062394**	5/8	1.06	1.34	3.94	2.44	—	1.54	.39	**TTSS12014M**	6mm	8.28
3615477	**BT50BHPVTTHT062787**	5/8	1.06	1.34	7.87	2.20	6.38	1.54	.39	**TTSS12014M**	6mm	10.14
3615479	**BT50BHPVTTHT075394**	3/4	1.30	1.61	3.94	2.44	—	1.61	.39	**TTSS16014M**	8mm	8.55
3615480	**BT50BHPVTTHT075787**	3/4	1.30	1.65	7.87	2.72	6.38	1.61	.39	**TTSS16014M**	8mm	11.17
3615481	**BT50BHPVTTHT088394**	7/8	1.30	1.61	3.94	2.44	—	1.61	.39	**TTSS16014M**	8mm	8.46
3615482	**BT50BHPVTTHT088787**	7/8	1.30	1.65	7.87	2.72	6.38	1.61	.39	**TTSS16014M**	8mm	11.08
3615483	**BT50BHPVTTHT100394**	1	1.73	2.05	3.94	2.44	—	1.85	.39	**TTSS16014M**	8mm	9.14
3615484	**BT50BHPVTTHT100787**	1	1.73	2.08	7.87	2.72	6.38	1.85	.39	**TTSS16014M**	8mm	13.21
3615485	**BT50BHPVTTHT125394**	1 1/4	1.73	2.05	3.94	2.44	—	2.01	.39	**TTSS16014M**	8mm	8.82
3615486	**BT50BHPVTTHT125787**	1 1/4	1.73	2.08	7.87	2.72	6.38	2.01	.39	**TTSS16014M**	8mm	12.88

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.









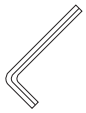
ERICKSON

HC Slim-T MM-BT Form B/AD

order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	kg
3019242	**BT50BHCSLT06200M**	6	13,5	19,5	44	200	35	85	27	10	4,55
3019243	**BT50BHCSLT08200M**	8	15,5	19,5	44	200	35	85	27	10	4,56
3019244	**BT50BHCSLT10200M**	10	17,5	44,5	–	200	85	162	31	10	4,55

Spare Parts

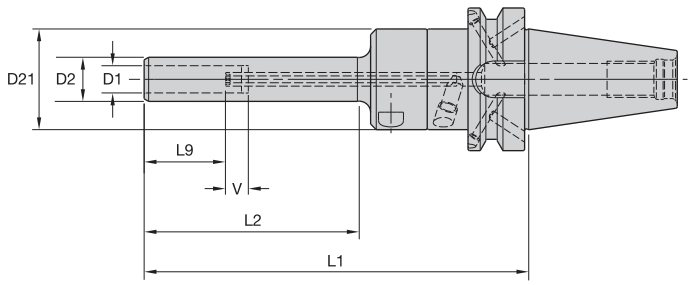


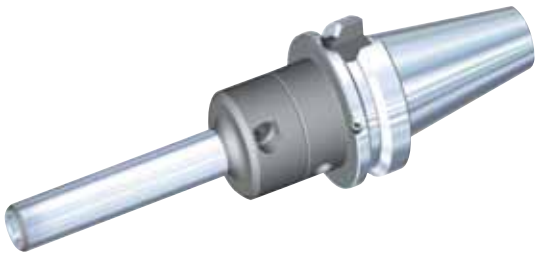


catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size adjusting screw
BT50BHCSLT06200M	**170.135**	5mm	**170.002**	2,5mm
BT50BHCSLT08200M	**170.135**	5mm	**170.002**	2,5mm
BT50BHCSLT10200M	**170.135**	5mm	**170.003**	3mm

(continued)

(HC Slim BT continued)



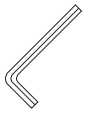


HC Slim MM-BT Form B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
2634540	**BT50BHCSL12200M**	12	19,5	44,5	200	95	36	10	4,34
2634541	**BT50BHCSL14200M**	14	21,5	52,5	200	95	36	10	4,66
2634542	**BT50BHCSL16200M**	16	23,5	52,5	200	95	39	10	4,68
2634573	**BT50BHCSL18200M**	18	25,5	52,5	200	95	39	10	4,73
2634574	**BT50BHCSL20200M**	20	27,5	52,5	200	95	41	10	4,77

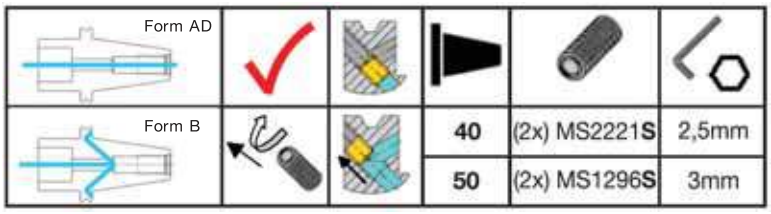
Spare Parts



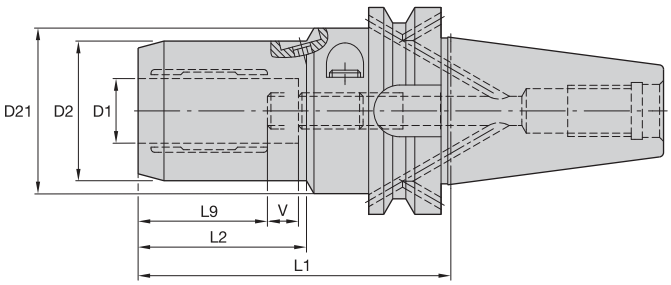


catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
BT50BHCSL12200M	**170.135**	5mm	**170.002**	2,5mm
BT50BHCSL14200M	**170.135**	5mm	**170.002**	2,5mm
BT50BHCSL16200M	**170.135**	5mm	**170.002**	2,5mm
BT50BHCSL18200M	**170.135**	5mm	**170.002**	2,5mm
BT50BHCSL20200M	**170.135**	5mm	**170.002**	2,5mm

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrenches must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.





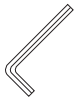




ERICKSON

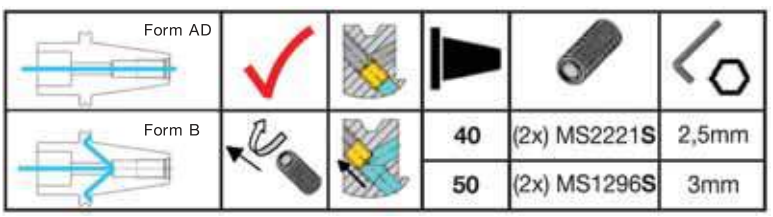
HC MM-BT Form B/AD



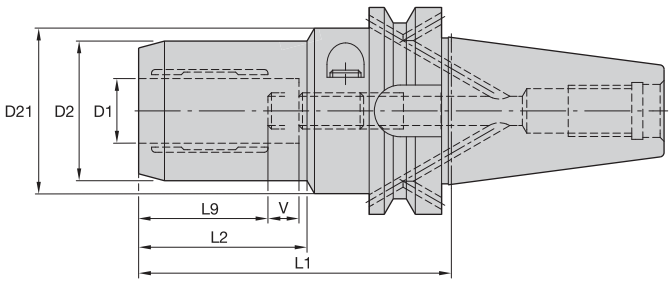


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size adjusting screw	kg
1315352	**BT50BHC06090M**	6	25,7	50	90	33	27	10	**170.135**	5mm	**170.002**	2,5mm	2,50
1315353	**BT50BHC08090M**	8	27,7	50	90	34	27	10	**170.135**	5mm	**170.002**	2,5mm	2,50
1315354	**BT50BHC10095M**	10	29,7	50	95	39	31	10	**170.135**	5mm	**170.002**	2,5mm	2,50
1315355	**BT50BHC12100M**	12	31,6	50	100	45	36	10	**170.135**	5mm	**170.002**	2,5mm	2,50
1315356	**BT50BHC14100M**	14	33,6	50	100	42	36	10	**170.135**	5mm	**170.003**	3mm	3,00
1315357	**BT50BHC16100M**	16	37,6	50	100	47	39	10	**170.135**	5mm	**170.003**	3mm	3,00
1315358	**BT50BHC18100M**	18	39,6	50	100	47	39	10	**170.135**	5mm	**170.003**	3mm	3,00
1315359	**BT50BHC20105M**	20	41,6	50	105	48	41	10	**170.135**	5mm	**170.003**	3mm	3,00
1315360	**BT50BHC25115M**	25	49,6	63	115	51	46	10	**170.136**	6mm	**170.004**	4mm	4,00
1315778	**BT50BHC32120M**	32	59,9	63	120	59	50	10	**170.136**	6mm	**170.004**	4mm	4,00

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.





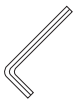




ERICKSON

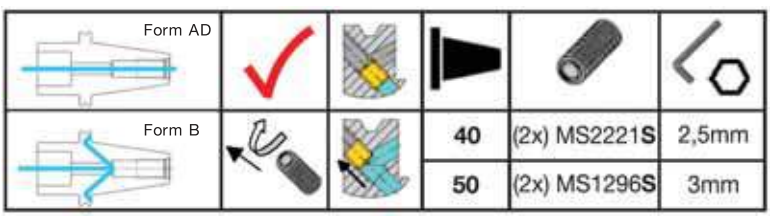
HC Trend IN-HSK Form B/AD



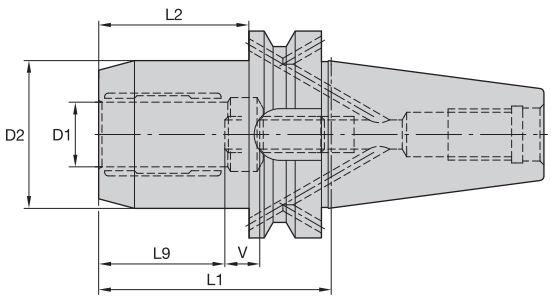


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size adjusting screw	lbs
2263123	**BT50BHCT025354**	1/4	1.01	1.96	3.54	1.38	1.06	.39	**170.135**	5mm	**170.003**	3mm	8.39
2263124	**BT50BHCT038374**	3/8	1.17	1.96	3.74	1.50	1.22	.39	**170.135**	5mm	**170.003**	3mm	8.57
2263125	**BT50BHCT050394**	1/2	1.24	1.96	3.94	1.57	1.42	.39	**170.135**	5mm	**170.003**	3mm	8.70
2263126	**BT50BHCT062394**	5/8	1.48	1.96	3.94	1.83	1.54	.39	**170.135**	5mm	**170.003**	3mm	8.78
2263127	**BT50BHCT075413**	3/4	1.64	1.96	4.13	1.89	1.61	.39	**170.135**	5mm	**170.005**	5mm	9.03
2263128	**BT50BHCT100453**	1	1.96	2.47	4.53	2.01	1.85	.39	**170.136**	6mm	**170.005**	5mm	10.01
2263129	**BT50BHCT125472**	1 1/4	2.35	2.47	4.72	2.32	2.01	.39	**170.136**	6mm	**170.005**	5mm	10.66

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.





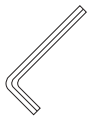




ERICKSON

HC Basic MM-BT Form B/AD

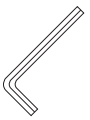




order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size adjusting screw	kg
1599688	**BT50BHCB20105M**	20	49,9	105	67	41	10	**170.135**	5mm	**170.005**	5mm	4,30

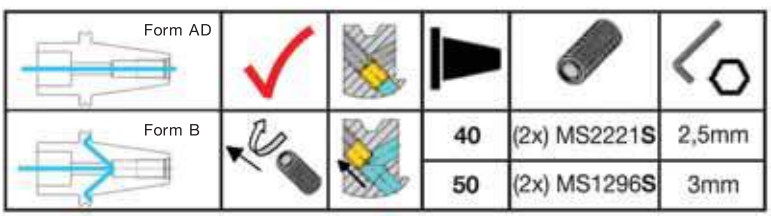
HC Basic IN-BT Form B/AD



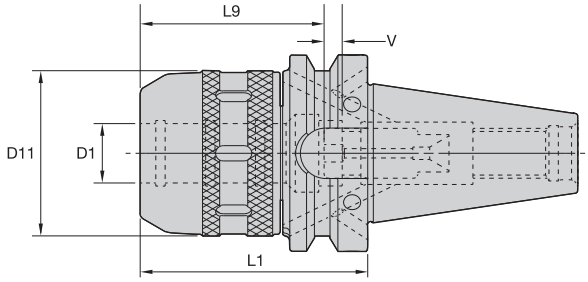


order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size adjusting screw	lbs
2263082	**BT50BHCB075413**	3/4	1.96	4.13	2.64	1.61	.39	**170.135**	5mm	**170.005**	5mm	9.52

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.









ERICKSON

HPMC MM-BT Form B/AD



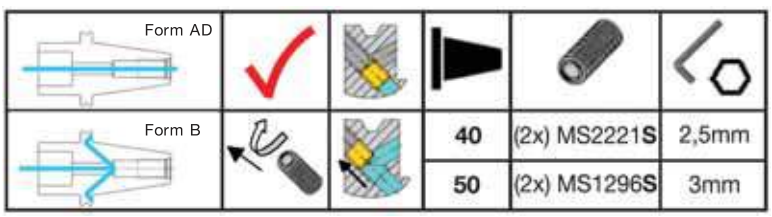

order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	kg
3578563	BT50BHPMC20105M	20	53	105	50	20	PSW52M	MCSS16040M	2,5mm & 5mm	4,40
3578564	BT50BHPMC20165M	20	53	165	50	20	PSW52M	MCSS16040M	2,5mm & 5mm	5,30
3578565	BT50BHPMC25105M	25	61	105	55	20	PSW58M	MCSS16040M	2,5mm & 5mm	4,60
3578566	BT50BHPMC25165M	25	61	165	55	20	PSW58M	MCSS16040M	2,5mm & 5mm	5,80
3578567	BT50BHPMC32105M	32	74	105	75	20	PSW68M	MCSS16040M	2,5mm & 5mm	4,90
3578568	BT50BHPMC32165M	32	74	165	75	20	PSW68M	MCSS16040M	2,5mm & 5mm	6,50

HPMC IN-BT Form B/AD



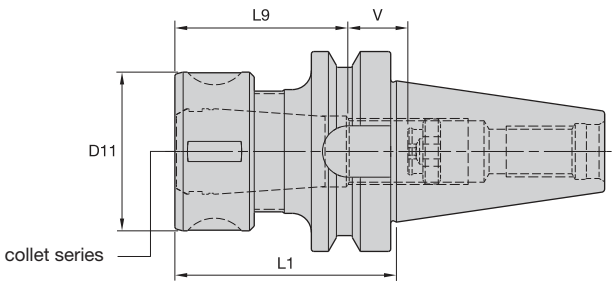

order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	lbs
3100418	BT50BHPMC075413	3/4	2.09	4.13	1.93	.79	PSW52M	MCSS16040M	2,5mm & 5mm	9.70
3100419	BT50BHPMC100413	1	2.40	4.13	2.17	.79	PSW58M	MCSS16040M	2,5mm & 5mm	10.20
3100420	BT50BHPMC125413	1 1/4	2.91	4.13	2.95	.79	PSW68M	MCSS16040M	2,5mm & 5mm	11.80

NOTE: Milling chuck technical section, see page M88.
Supplied with locknut and stop screw.
Locknut wrench not included.
Optional M6~1,0P fine-balancing screw set is available (order number HPMCBALSCREWSET) and must be ordered separately; see page L14.
Reduction sleeves are available and must be ordered separately; see page J6.
For retention knobs, see page L45.



• Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG100	2,6	25,5	5/64	1
TG150	11,6	40,0	23/64	1-1/2

ERICKSON

TG Round-BT Form AD

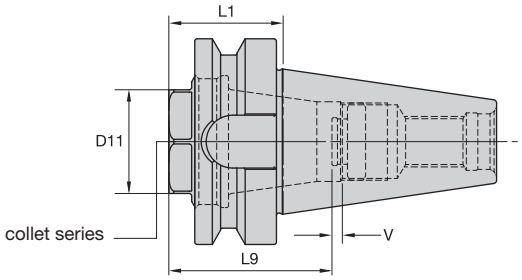


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	kg
1156372	**BT50TG100090M**	TG100	60	90	70	53	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	3,96
1188173	**BT50TG100150M**	TG100	60	150	70	88	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	5,11
1188172	**BT50TG100200M**	TG100	60	200	70	88	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	6,08
1191801	**BT50TG150100M**	TG150	85	100	83	39	**LNA150M**	**HSW80M**	271	**SS162062G**	4mm & 5/32	4,42
1258570	**BT50TG150150M**	TG150	85	150	83	69	**LNA150M**	**HSW80M**	271	**SS162062G**	4mm & 5/32	6,42

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.

• Grip (2:1 advantage).







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Short-BT Form AD



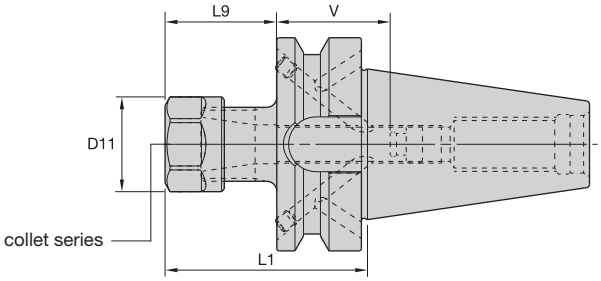


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	kg
2978766	**BT50SER32046M**	ER32	36	46	50	28	**LNECSER32M**	**OEW32M**	136	**SS094041G**	4mm & 5/32	3,37
2978767	**BT50SER40046M**	ER40	46	46	57	21	**LNECSER40M**	**OEW168**	176	**SS112041G**	4mm & 5/32	3,19

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.

• Grip (2:1 advantage).







ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Hex-BT Form B/AD

order number	catalog number	collet series	D11	L1	L9	V	kg
1586520	**BT50BER16100M**	ER16	28	100	32	48	3,76
1871539	**BT50BER16150M**	ER16	28	150	32	48	3,93
3847515	**BT50BER20100M**	ER20	34	100	37	43	3,81
3847516	**BT50BER20150M**	ER20	34	150	37	63	4,07

Spare Parts

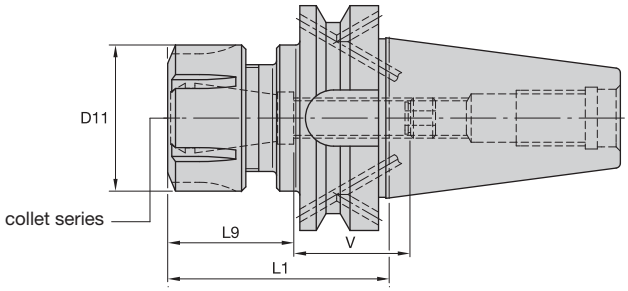




catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
BT50BER16100M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
BT50BER16150M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
BT50BER20100M	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32
BT50BER20150M	**LNHSER20M**	**OEW30M**	32	80	**SS056041G**	4mm & 5/32

(continued)

(ER BT Form B/AD continued)





ER Round-BT Form B/AD

order number	catalog number	collet series	D11	L1	L9	V	kg
1871540	**BT50BER25070M**	ER25	42	70	40	60	3,67
1871541	**BT50BER25150M**	ER25	42	150	40	60	4,36
1587031	**BT50BER32070M**	ER32	50	70	46	38	3,65
1729881	**BT50BER32150M**	ER32	50	150	46	54	4,64
1556433	**BT50BER40080M**	ER40	63	80	52	48	3,79
1187371	**BT50BER40150M**	ER40	63	150	52	48	5,32
3847517	**BT50BER40200M**	ER40	63	200	52	48	6,33

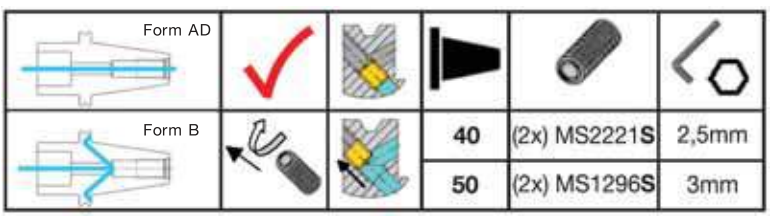
Spare Parts





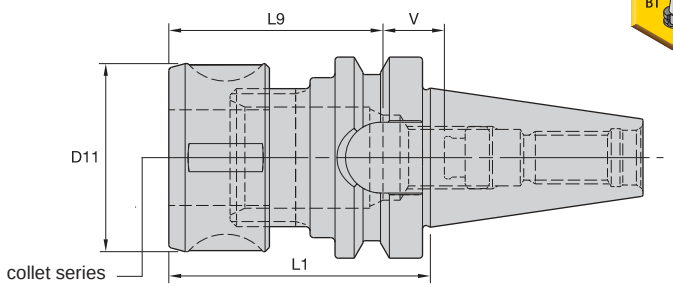
catalog number	locknut	wrench	stop screw	wrench size stop screw
BT50BER25070M	**LNSER25M**	**ER25WM**	**SS075041G**	4mm & 5/32
BT50BER25150M	**LNSER25M**	**ER25WM**	**SS075041G**	4mm & 5/32
BT50BER32070M	**LNSER32M**	**ER32WM**	**SS094041G**	4mm & 5/32
BT50BER32150M	**LNSER32M**	**ER32WM**	**SS094041G**	4mm & 5/32
BT50BER40080M	**LNSER40M**	**ER40WM**	**SS112041G**	4mm & 5/32
BT50BER40150M	**LNSER40M**	**ER40WM**	**SS112041G**	4mm & 5/32
BT50BER40200M	**LNSER40M**	**ER40WM**	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.



• Grip 1:1.







ERICKSON

DA Round-BT Form AD

DA collet series	Collet Capacity mm min	mm max	inch min	inch max
DA180	2,2	20	1/64	3/4

order number	catalog number	collet series	D11	L1	L9	V	kg
1258441	**BT50DA188200M**	DA180	1.69	7.87	1.97	1.81	5,00
1197722	**BT50DA188150M**	DA180	1.69	5.91	1.97	1.81	4,50
1191767	**BT50DA188070M**	DA180	1.69	2.76	1.97	1.85	3,70

Spare Parts

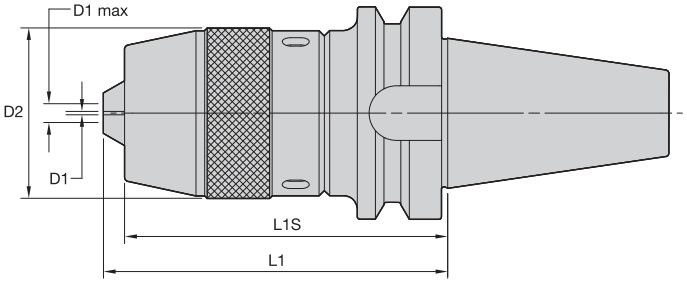






catalog number	locknut	locknut wrench	Nm	stop screw	wrench size stop screw
BT50DA188200M	**LNA188M**	**HSW45M**	136	**SS081041G**	4mm & 5/32
BT50DA188150M	**LNA188M**	**HSW45M**	136	**SS081041G**	4mm & 5/32
BT50DA188070M	**LNA188M**	**HSW45M**	136	**SS081041G**	4mm & 5/32

NOTE: Tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.
For retention knobs, see page L45.







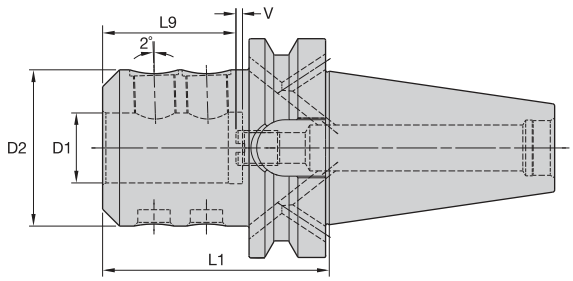
ERICKSON

DC-BT Form A



order number	catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D2	L1	L1S	wrench	Nm	kg
3583294	**BT50DC13110M**	1,0	.039	13,0	.512	51	122	110	**PSW45M**	55	4,44

NOTE: Tighten to the recommended tightening torque.
Locking wrench not supplied.
For retention knobs, see page L45.





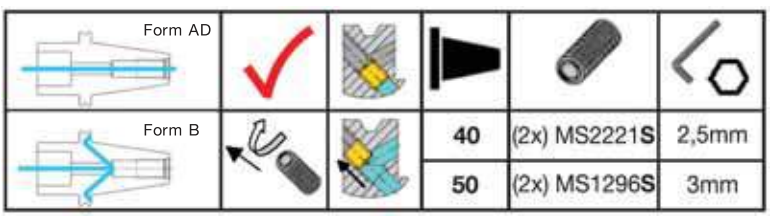
ERICKSON™

WN MM-BT Form B/AD

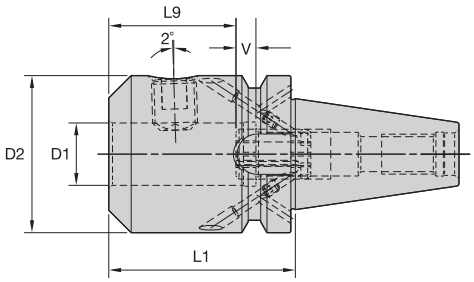



order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1175468	**BT50BWN06063M**	6	25	63	30	10	**SS03M012**	3mm	7	**571.060**	2,5mm	3,63
1300426	**BT50BWN08063M**	8	28	63	30	10	**SS03M014**	4mm	15	**571.067**	3mm	3,64
1137510	**BT50BWN10063M**	10	35	63	35	10	**SS03M018**	5mm	25	**571.068**	4mm	3,69
1137518	**BT50BWN12080M**	12	42	80	40	10	**SS03M023**	6mm	35	**571.074**	5mm	3,92
1137526	**BT50BWN14080M**	14	44	80	40	10	**SS03M023**	6mm	35	**571.074**	5mm	3,95
1137535	**BT50BWN16080M**	16	48	80	43	10	**SS03M025**	6mm	50	**571.075**	6mm	4,02
1137543	**BT50BWN18080M**	18	50	80	43	10	**SS03M025**	6mm	50	**571.075**	6mm	4,05
1137550	**BT50BWN20080M**	20	52	80	45	10	**SS03M026**	8mm	95	**571.076**	6mm	4,06
1137558	**BT50BWN25100M**	25	65	100	50	10	**SS03M027**	10mm	135	**571.076**	6mm	4,80
1137576	**BT50BWN32105M**	32	72	105	54	10	**SS03M029**	10mm	160	**571.076**	6mm	5,15

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw or stop screw wrenches not included.
For retention knobs, see page L45.









ERICKSON

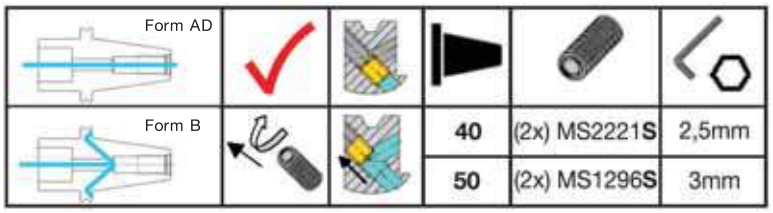
SWN MM-BT Form B/AD

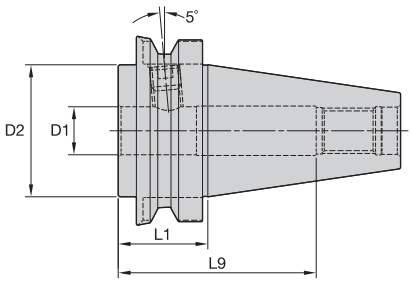




order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1134607	**BT50BSWN25075M**	25	65	75	44	15	**SS03M027**	10mm	135	**571.066**	10mm	4,23
1134608	**BT50BSWN32075M**	32	72	75	46	17	**SS03M029**	10mm	160	**571.066**	10mm	4,31

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrenches not included.
For retention knobs, see page L45.









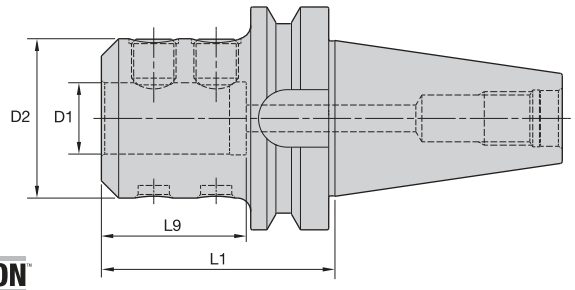
ERICKSON

Tap Chuck Adapter



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size clamp screw	lbs
1017939	**BT50TA1187**	1	2.75	1.88	4.13	**ELS062050PKG**	5/16	8.09

NOTE: Do not overtighten drawbar screw.
Supplied with drawbar screw.
Draw bar screw wrench not included.
For retention knobs, see page L45.



ERICKSON

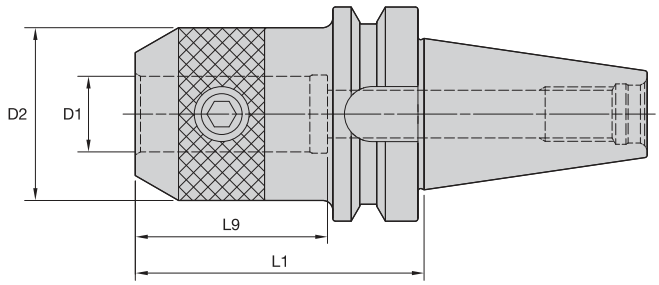




EM MM-BT Form AD



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1191769	BT50EM06063M	6	25	63	119	SS03M012	3mm	7	3,57
1258446	BT50EM06150M	6	25	150	206	SS03M012	3mm	7	3,87
1191770	BT50EM08063M	8	28	63	119	SS03M014	4mm	15	3,59
1191771	BT50EM10080M	10	35	80	136	SS03M018	5mm	25	3,82
1258453	BT50EM10100M	10	35	100	156	SS03M018	5mm	25	3,88
1191772	BT50EM12080M	12	42	80	136	SS03M023	6mm	35	3,85
1191773	BT50EM16080M	16	48	80	136	SS03M025	6mm	50	3,96
1191774	BT50EM20080M	20	52	80	136	SS03M026	8mm	95	4,01
1191776	BT50EM25105M	25	65	105	60	SS03M027	10mm	135	4,88
1156369	BT50EM32105M	32	72	105	65	SS03M029	10mm	160	5,11
1191777	BT50EM40120M	40	90	120	75	SS03M029	10mm	160	6,66
1258473	BT50EM50130M	50	100	130	85	–	12mm	200	7,60



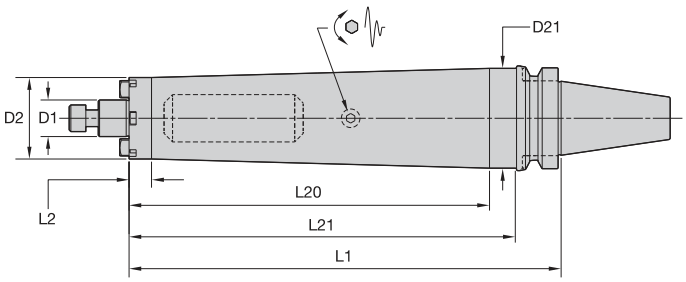


EM IN-BT Form AD



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1258444	BT50EM050295	1/2	1.38	2.95	5.16	ELS044038PKG	7/32	20	8.14
1258447	BT50EM075295	3/4	1.75	2.95	5.16	ELS062050PKG	5/16	70	8.36
1258450	BT50EM100413	1	2.00	4.13	4.49	ELS075056PKG	3/8	110	9.11
1258451	BT50EM100600	1	2.00	6.00	4.49	ELS075056PKG	3/8	110	10.51
1258456	BT50EM125413	1 1/4	2.50	4.13	2.51	ELS075062PKG	3/8	110	10.23
1258457	BT50EM125600	1 1/4	2.50	6.00	2.51	ELS075062PKG	3/8	110	12.54
1258459	BT50EM150413	1 1/2	2.75	4.13	2.93	ELS075062PKG	3/8	110	10.41
1232393	BT50EM200531	2	3.75	5.31	3.53	ELS100088PKG	1/2	150	16.00

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.





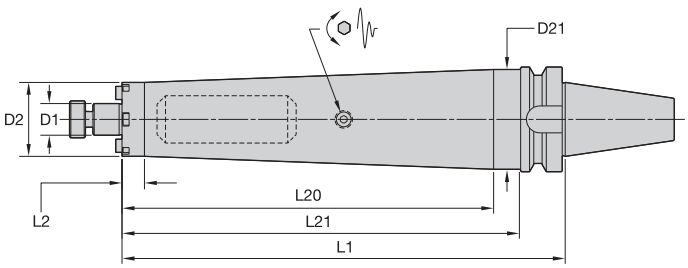
ERICKSON

SMC TD Cap MM-BT Form B/AD





order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	drive key	wrench size lock screw	kg
4135491	**BT50BTDSMC22260M**	22	49	70	260	13,5	211,8	222	**MS1234**	**KDK22M**	8mm	8,21





SMC TD Lock MM-BT Form B/AD

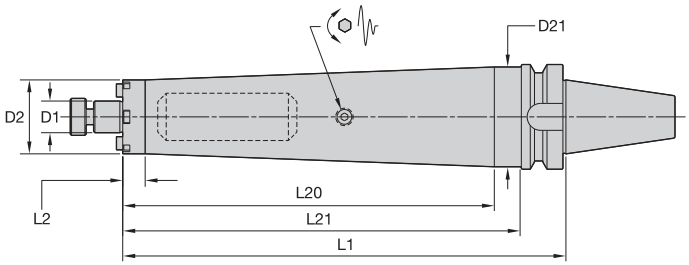




order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	drive key	wrench size lock screw	kg
4135492	**BT50BTDSMC27320M**	27	61	80	320	285	271,8	282	**KLSS27M**	**–**	10mm	11,83
4135493	**BT50BTDSMC32330M**	32	78	–	330	292	–	–	**KLSS32M**	**KDK32M**	14mm	16,16

(continued)

(SMC BT Form B/AD continued)





SMC TD Lock IN-BT Form B/AD

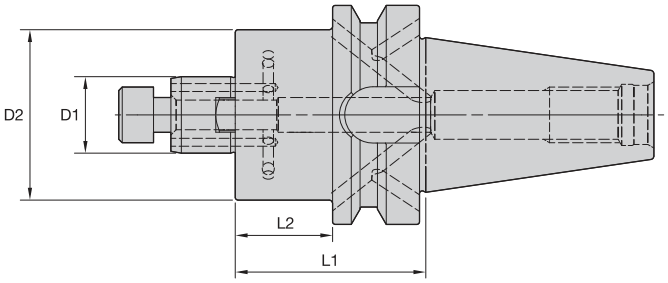



order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	drive key	wrench size lock screw	lbs
4135494	**BT50BTDSMC0751050**	3/4	1.75	2.56	10.5	.53	8.6	9	**KLS07**	**KDK05**	1/4	16.73
4135495	**BT50BTDSMC1001250**	1	2.75	—	12.5	11.00	—	—	**KLS10**	**KDK06**	5/16	25.46
4135496	**BT50BTDSMC1251300**	1 1/4	2.88	—	13.0	11.50	—	—	**KLS12**	**KDK08**	5/16	32.71

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knobs, see page L45.

Form AD	✓				
Form B			40	(2x) MS2221S	2,5mm
			50	(2x) MS1296S	3mm







ERICKSON

SMC Cap MM-BT Form B/AD

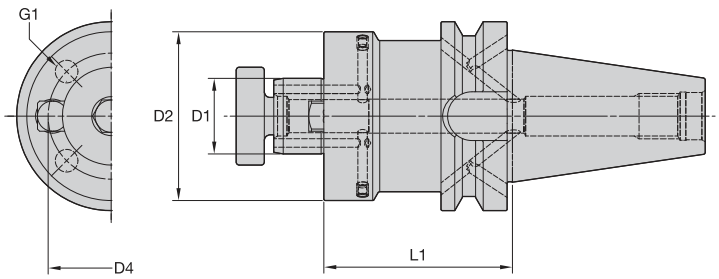




order number	catalog number	D1	D2	L1	L2	lock screw	wrench size lock screw	drive key	kg
3750032	BT50BSM2C16045M	16	38	45	7	MS1294	6mm	KDK16M	3,62
3750034	BT50BSM2C16100M	16	38	100	62	MS1294	6mm	KDK16M	4,01
3750036	BT50BSM2C16150M	16	38	150	112	MS1294	6mm	KDK16M	4,41
3750031	BT50BSMC16045M	16	44	45	7	MS1294	6mm	KDK16M	3,63
3750033	BT50BSMC16100M	16	44	100	62	MS1294	6mm	KDK16M	4,18
3750035	BT50BSMC16150M	16	44	150	112	MS1294	6mm	KDK16M	4,71
3750038	BT50BSM2C22045M	22	42	45	7	MS1234	8mm	–	3,63
3750040	BT50BSM2C22100M	22	42	100	62	MS1234	8mm	–	4,12
3750042	BT50BSM2C22150M	22	42	150	112	MS1234	8mm	–	4,56
3750037	BT50BSMC22045M	22	49	45	7	MS1234	8mm	KDK22M	3,66
3750039	BT50BSMC22100M	22	49	100	62	MS1234	8mm	KDK22M	4,37
3750041	BT50BSMC22150M	22	49	150	112	MS1234	8mm	KDK22M	5,00

(continued)

(SMC BT Form B/AD continued)



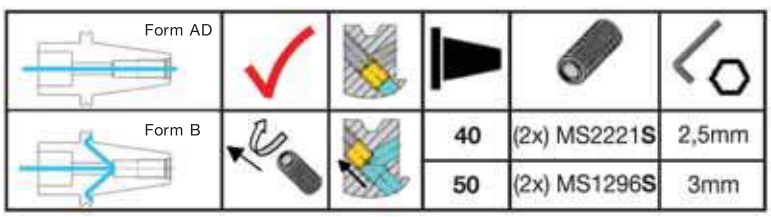


SMC Lock MM-BT Form B/AD

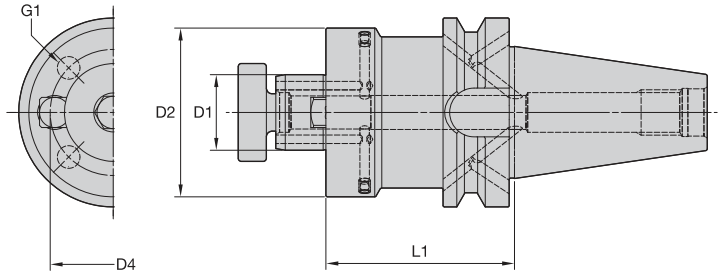



order number	catalog number	D1	D2	D4	G1	L1	lock screw	drive key	kg
3750043	**BT50BSMC27045M**	27	60	–	–	45	**KLSS27M**	**KDK27M**	3,76
3750044	**BT50BSMC27100M**	27	60	–	–	100	**KLSS27M**	**KDK27M**	4,86
3750045	**BT50BSMC27150M**	27	60	–	–	150	**KLSS27M**	**KDK27M**	5,85
3750046	**BT50BSMC32045M**	32	78	–	–	45	**KLSS32M**	**KDK32M**	3,94
3750047	**BT50BSMC32100M**	32	78	–	–	100	**KLSS32M**	**KDK32M**	5,87
3750048	**BT50BSMC32150M**	32	78	–	–	150	**KLSS32M**	**KDK32M**	7,62
3750049	**BT50BSMC40050M**	40	89	66,7	M12 X 1.75	50	**KLSS40M**	**KDK40M**	4,36
3750050	**BT50BSMC40100M**	40	89	66,7	M12 X 1.75	100	**KLSS40M**	**KDK40M**	6,40
3750051	**BT50BSMC40150M**	40	89	66,7	M12 X 1.75	150	**KLSS40M**	**KDK40M**	8,26
3750052	**BT50BSMC60090M**	60	129	101,6	M16 X 2.0	90	**–**	**KDK60M**	8,53

(continued)



(SMC BT Form B/AD continued)



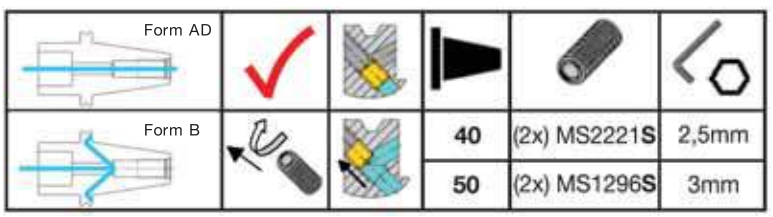


SMC Lock IN-BT Form B/AD

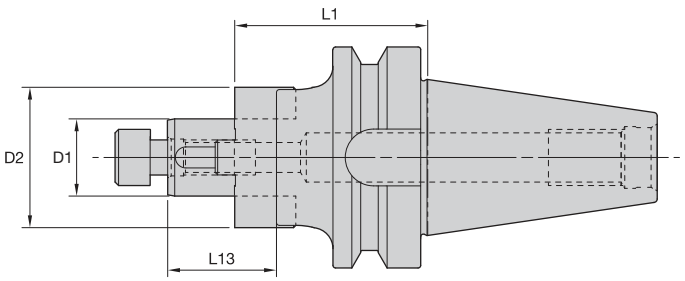



order number	catalog number	D1	D2	D4	G1	L1	lock screw	drive key	wrench size lock screw	lbs
3653805	**BT50BSM2C050400**	1/2	1.20	—	—	4.00	**KLS05**	**KDK04**	3/16	8.50
3653772	**BT50BSMC050177**	1/2	1.44	—	—	1.77	**KLS05**	**KDK04**	3/16	7.87
3653804	**BT50BSMC050400**	1/2	1.44	—	—	4.00	**KLS05**	**KDK04**	3/16	8.81
3653809	**BT50BSM2C075400**	3/4	1.46	—	—	4.00	**KLS07**	**—**	1/4	8.80
3653806	**BT50BSMC075177**	3/4	1.75	—	—	1.77	**KLS07**	**KDK05**	1/4	7.98
3653808	**BT50BSMC075400**	3/4	1.75	—	—	4.00	**KLS07**	**KDK05**	1/4	9.34
3653813	**BT50BSM2C100400**	1	2.19	—	—	4.00	**KLS10**	**KDK06**	5/16	10.22
3653810	**BT50BSMC100177**	1	2.75	—	—	1.77	**KLS10**	**KDK06**	5/16	8.32
3653812	**BT50BSMC100400**	1	2.75	—	—	4.00	**KLS10**	**KDK06**	5/16	11.77
3653814	**BT50BSMC100600**	1	2.75	—	—	6.00	**KLS10**	**KDK06**	5/16	14.86
3653815	**BT50BSMC125177**	1 1/4	2.88	—	—	1.77	**KLS12**	**KDK08**	5/16	8.60
3653816	**BT50BSMC125400**	1 1/4	2.88	—	—	4.00	**KLS12**	**KDK08**	5/16	12.46
3653817	**BT50BSMC125600**	1 1/4	2.88	—	—	6.00	**KLS12**	**KDK08**	5/16	15.92
3653818	**BT50BSMC150177**	1 1/2	3.63	—	—	1.77	**KLS15**	**KDK10**	3/8	9.21
3653819	**BT50BSMC150400**	1 1/2	3.81	—	—	4.00	**KLS15**	**KDK10**	3/8	16.36
3653820	**BT50BSMC150600**	1 1/2	3.81	—	—	6.00	**KLS15**	**KDK10**	3/8	22.68
3653823	**BT50BSMC250236**	2 1/2	4.88	4.00	.625-11 UNC	2.36	**KLS25**	**KDK16**	9/16	14.02
3653821	**BT50BSMC200236**	2	4.88	—	—	2.36	**KLS20**	**KDK12**	9/16	13.20
3653824	**BT50BSMC250400**	2 1/2	4.88	4.00	.625-11 UNC	4.00	**KLS25**	**KDK16**	9/16	19.92
3653822	**BT50BSMC200400**	2	4.88	4.00	.625-11 UNC	4.00	**KLS20**	**KDK12**	9/16	19.01

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knob, see page L45.









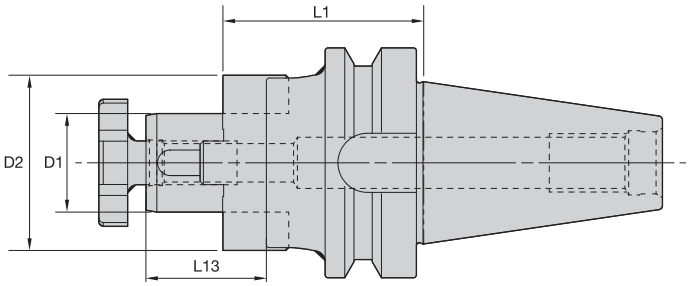
ERICKSON

CS Cap MM-BT Form AD



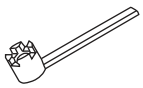


order number	catalog number	D1	D2	L1	L13	lock screw	wrench size lock screw	combi driver ring	combi drive key	kg
1258428	BT50CS16070M	16	32	70	27	MS1294	6mm	CDR16M	CDK16M	3,72
1258431	BT50CS16150M	16	32	150	27	MS1294	6mm	CDR16M	CDK16M	4,19
1191760	BT50CS22070M	22	40	70	31	MS1234	8mm	CDR22M	CDK22M	3,87
1258433	BT50CS22150M	22	40	150	31	MS1234	8mm	CDR22M	CDK22M	4,58
1191761	BT50CS22200M	22	40	200	31	MS1234	8mm	CDR22M	CDK22M	5,05





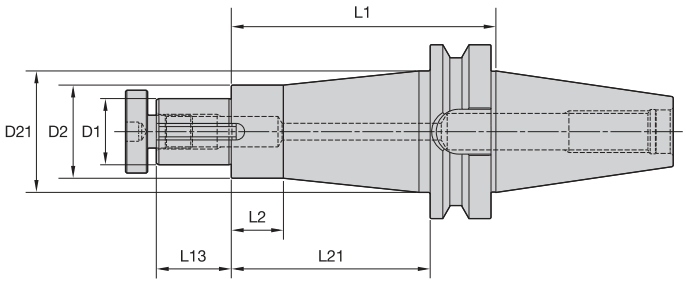
CS Lock MM-BT Form AD



order number	catalog number	D1	D2	L1	L13	lock screw	locknut wrench	combi driver ring	combi drive key	kg
1191763	BT50CS32070M	32	58	70	38	KLS32M	SMW32M	CDR32M	CDK32M	4,33
1258437	BT50CS32150M	32	58	150	38	KLS32M	SMW32M	CDR32M	CDK32M	5,86
1191764	BT50CS40070M	40	70	70	41	KLS40M	SMW40M	CDR40M	CDK40M	4,78
1191765	BT50CS40150M	40	70	150	41	KLS40M	SMW40M	CDR40M	CDK40M	7,17
1258438	BT50CS40200M	40	70	200	41	KLS40M	SMW40M	CDR40M	CDK40M	8,90
1258439	BT50CS50075M	50	90	75	46	KLS50M	SMW50M	CDR50M	CDK50M	7,90
1191766	BT50CS50150M	50	90	150	46	KLS50M	SMW50M	CDR50M	CDK50M	9,20

NOTE: Do not overtighten lock screw.
Supplied with lock screw, drive ring, and drive keys.
Lock screw wrench not included.
For retention knobs, see page L45.





ERICKSON

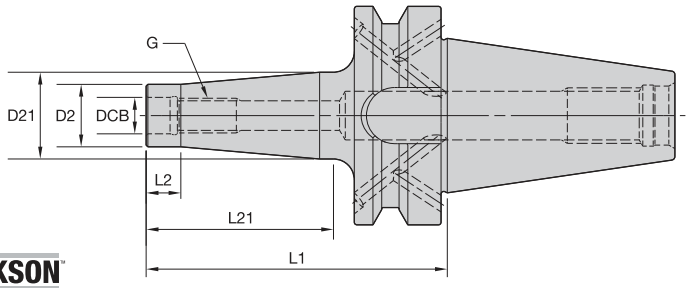
SA IN-BT Form A





order number	catalog number	D1	D2	D21	L1	L2	L13	L21	lock screw	wrench size lock screw	drive key	lbs
1026221	**BT50SA125600**	1 1/4	1.86	2.75	6.00	1.10	1.09	4.50	**KLS12**	5/16	**DWG SDK125119**	13.22
1026340	**BT50SA150600**	1 1/2	2.11	2.75	6.00	1.18	1.70	4.50	**KLS15**	3/8	**DWG SDK150175**	14.27

NOTE: Do not overtighten lock screw.
Supplied with lock screw, drive key, and spacer.
Lock screw wrench not included.
For retention knobs, see page L45.





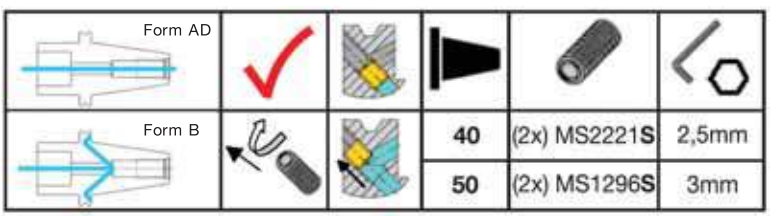


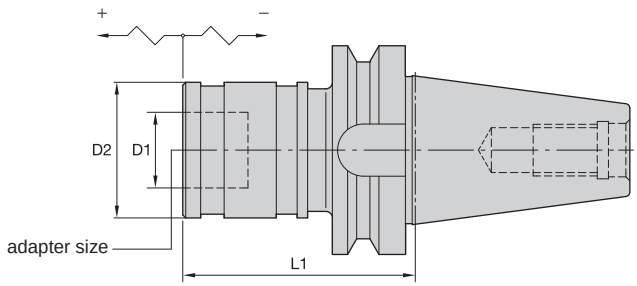
ERICKSON

ST-BT Form B/AD

order number	catalog number	DCB	G	D2	D21	L1	L2	L21	kg
4067906	**BT50BST12087M**	12,5	M12	21	24	87	10	43	3,67
4067907	**BT50BST12137M**	12,5	M12	21	31	137	10	93	3,97
4067908	**BT50BST12187M**	12,5	M12	21	39	187	10	143	4,34
4067909	**BT50BST16087M**	17,0	M16	21	34	87	10	43	3,79
4067910	**BT50BST16137M**	17,0	M16	29	39	137	10	93	4,11
4067911	**BT50BST16187M**	17,0	M16	29	39	187	10	143	4,53
4067912	**BT50BST16237M**	17,0	M16	29	49	237	10	193	5,40

NOTE: For retention knobs, see page L45.







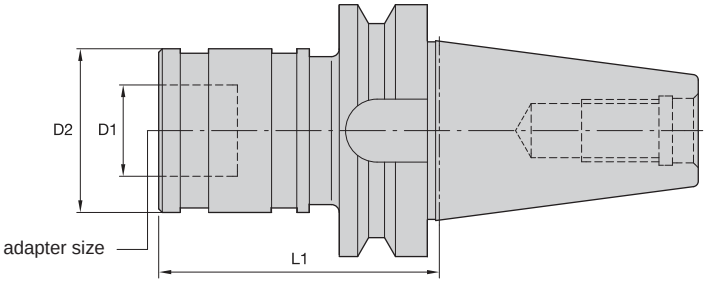


ERICKSON

RC-BT Form A

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	tension	compression	kg
1778908	**BT50RC1075M**	1	M1 - M14	#0 - 9/16	19	36	73	7,5	7,5	3,10
1127889	**BT50RC2102M**	2	M5 - M24	5/16 - 7/8	31	53	102	12,5	12,5	3,90
1135816	**BT50RC3141M**	3	M14 - M27	13/16 - 1 3/8	48	78	141	20,0	20,0	4,70

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
For retention knobs, see page L45.







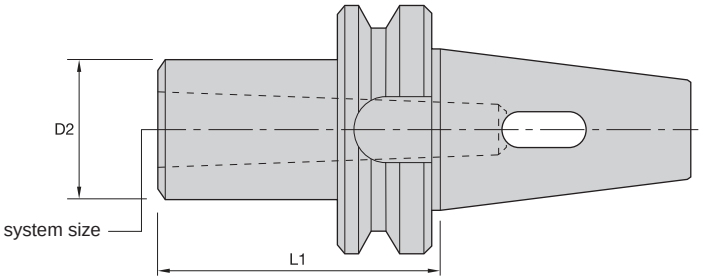
ERICKSON

STRC-BT Form A

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	kg
1778974	**BT50STRC1074M**	1	M1 - M14	#0 - 9/16	19	36	74	3,80
1778975	**BT50STRC2089M**	2	M5 - M24	5/16 - 7/8	31	53	89	4,00

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
For retention knobs, see page L45.







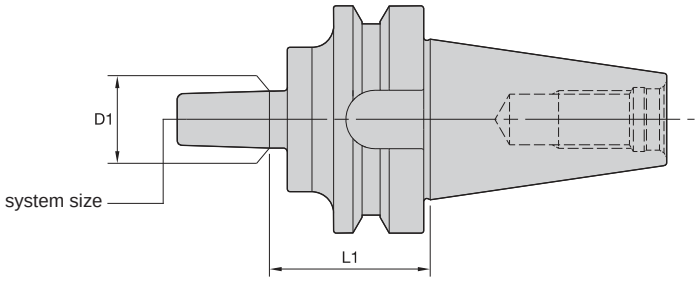
ERICKSON

MT-BT Form A

order number	catalog number	system size	D2	L1	kg
1191785	**BT50MT5105M**	5	70	105	4,28

NOTE: For retention knobs, see page L45.







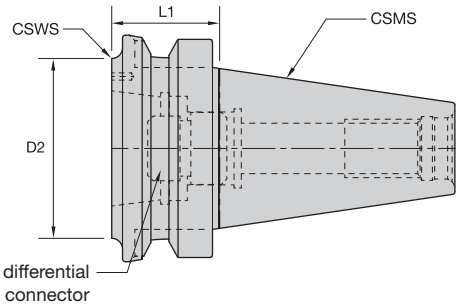
ERICKSON

JT-BT Form A

order number	catalog number	system size	D1	L1	kg
1258492	**BT50JT33041M**	33	15,85	41	3,70

NOTE: For retention knobs, see page L45.







ERICKSON™

BT to KR JIS B6339 Adapters AD/B • Metric

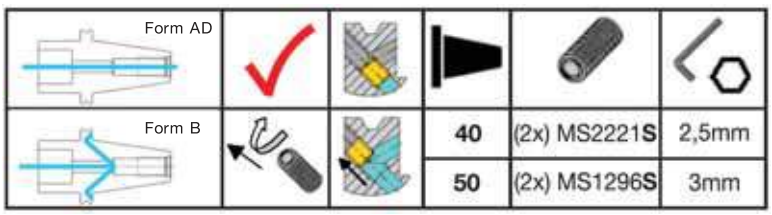


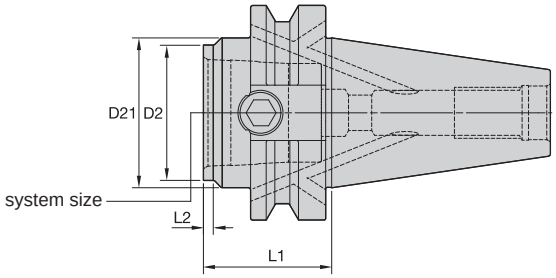
order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	kg	reference head
3554374	BT50BKR32040M	BT50	KR32	50	40	KRDCKR32M	3,90	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554375	BT50BKR50040M	BT50	KR50	65	40	KRDCKR50M	3,17	SVS4B,5B,SVU65,SVUBB2
3554376	BT50BKR63060M	BT50	KR63	85	60	KRDCKR63M	4,31	SVS6B,7B,8B
3554377	BT50BKR80060M	BT50	KR80	95	60	KRDCKR80M	4,53	SVU92,120

BT to KR JIS B6339 Adapters AD/B • Inch



order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	lbs	reference head
3554374	BT50BKR32040M	BT50	KR32	1.97	1.570	KRDCKR32M	8.60	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554375	BT50BKR50040M	BT50	KR50	2.56	1.570	KRDCKR50M	7.00	SVS4B,5B,SVU65,SVUBB2
3554376	BT50BKR63060M	BT50	KR63	3.35	2.360	KRDCKR63M	9.50	SVS6B,7B,8B
3554377	BT50BKR80060M	BT50	KR80	3.74	2.360	KRDCKR80M	9.98	SVU92,120







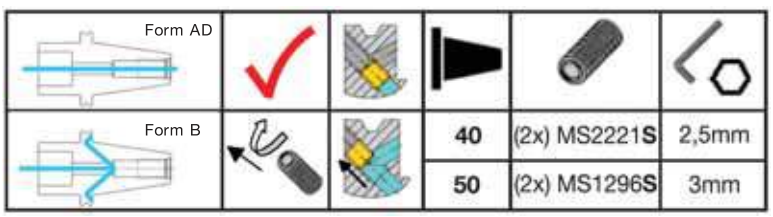
KM QUICK CHANGE

ERICKSON

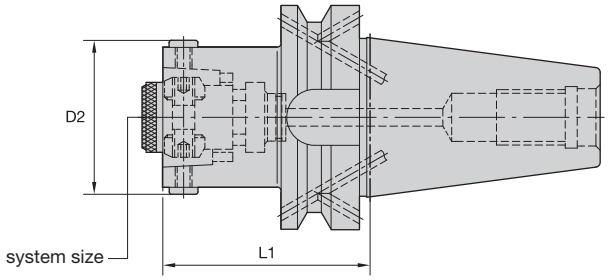
KM-BT Form B/AD

order number	catalog number	system size	D2	D21	L1	L2	KM spare parts package	wrench size actuation screw	Nm	kg
3783950	**BT50BKM32040M**	KM32	32	—	40	2	**KM32PKG3L**	5mm	8-11	3,50
3783951	**BT50BKM32090M**	KM32	32	—	90	52	**KM32PKG3S**	5mm	8-11	3,74
3783952	**BT50BKM40060M**	KM40	40	48	60	4	**KM40PKG3L**	6mm	12-16	3,72
3783953	**BT50BKM40100M**	KM40	40	—	100	62	**KM40PKG3S**	6mm	12-16	3,98
3783954	**BT50BKM50060M**	KM50	50	63	60	4	**KM50PKG3L**	10mm	27-34	3,80
3783955	**BT50BKM50120M**	KM50	50	—	120	82	**KM50PKG3S**	10mm	27-34	4,51
3783956	**BT50BKM63060M**	KM63	63	70	60	5	**KM63PKG3L**	12mm	47-54	3,78
3783957	**BT50BKM63140M**	KM63	63	—	140	102	**KM63PKG3S**	12mm	47-54	5,50
3783958	**BT50BKM80080M**	KM80	80	—	80	42	**KM80PKG3S**	14mm	79-85	4,50

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.
For retention knobs, see page L45.
These products only available in the U.S., Canada, and Japan.







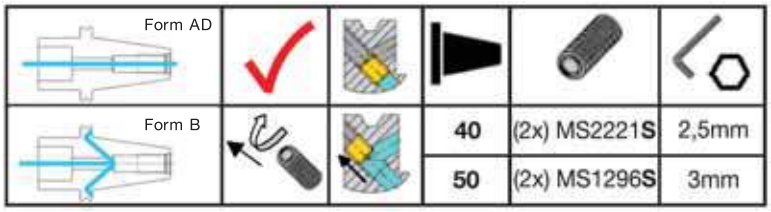


ERICKSON

HSK-BT Form B/AD

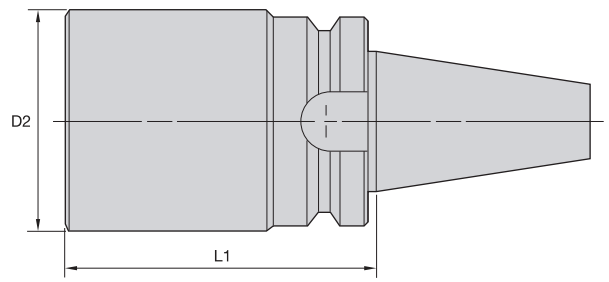
order number	catalog number	system size	D2	L1	wrench size actuation screw	Nm	kg
1519708	**BT50BHSK40060M**	HSK40	45	60	3mm	8	3,70
1519709	**BT50BHSK50065M**	HSK50	55	65	4mm	15	3,80
1510763	**BT50BHSK63075M**	HSK63	70	75	5mm	20	4,00

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with actuation mechanism and sealing ring.
For retention knobs, see page L45.



• Machinable front 20–30 RW C.







ERICKSON

BB-BT

order number	catalog number	D2	L1	kg
1258384	**BT50BB104350M**	104	350	24,3
1258386	**BT50BB134250M**	134	250	26,5

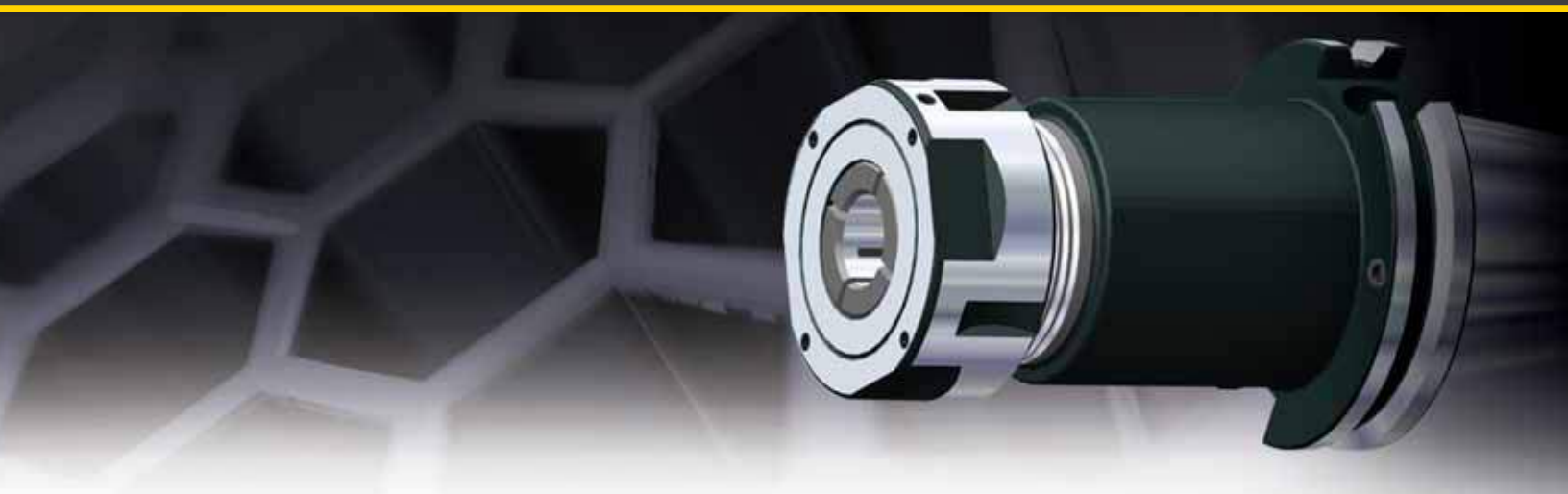
NOTE: For retention knobs, see page L45.



CV Shank Tools

CAT40(CV) F2–F39
CAT50(CV) F40–F83





ERICKSON™ CAT V-Flange Shank Tooling System • CV40 Series

Primary Application

ERICKSON V-Flange CAT Taper Tooling is manufactured from premium materials and meets or exceeds the latest ANSI B5.50 and ISO-1947 taper accuracy of AT3 specification standards. The CV40 tools are either pre-balanced to a high specification or balanced-by-design. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, retention knobs, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.





Features and Benefits

- ANSI B5.50 7/24 taper.
- Standard 5/8-11 drawbar thread.
- Taper accuracy of AT3 specification or better.
- All tools set to form AD coolant specification. Many can be converted to form B style.
- Maximum 100 bar (1,500 psi) coolant pressure.

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



CV40BTG50M100

CV — CAT Shank Style

ANSI B5.50

40 — Shank Taper Size

40 = 40

50 = 50

B — Special Feature *(optional)*

B =
DIN form B coolant feature, tool shipped to AD specifications (design allows conversion to form B style)

Z =
Deviates from ANSI — B5.50 standard — no hub in front of V flange

(blank) =
(no "B" or "Z") — tool built to DIN form A/AD coolant style

CH =
Coolant form AD — high pressure

HPV =
High performance and balanceable

TD =
Tunable

TG — Toolholder Style

50 — Toolholder Size

TG =
Collet series xx (50), xxx (100)

EM =
I.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

SM =
O.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

M — Special Feature

M =
Previous 2/3 numbers are metric values (this is an exception where there is a metric bore on an inch shank style)

100 — Tool Length

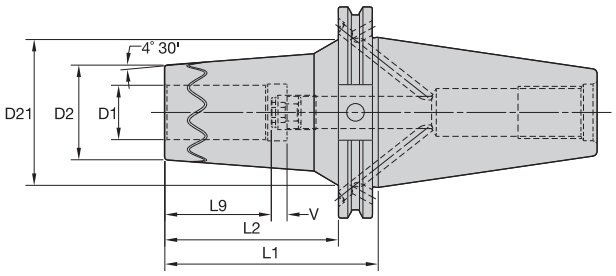
(Gage line on taper to front of tool)

inch
xxx = x.xx

BB = Bar blank
DA = Double-angle collet chuck
DC = Drill chuck
EM = End mill adapter
ER = DIN 6499 single-angle collet chuck
HC = Hydraulic chuck — Standard Line
HCB = Hydraulic chuck — Basic Line
HCSL = Hydraulic chuck — Slim Line
HCSLT = Hydraulic chuck — Slim Line — Trend
HCT = Hydraulic chuck — Trend Line
HPMC = Bearing milling chuck — high performance
HSK = HSK adapter
JT = Jacobs taper adapter
KM = KM™ adapter
MT = Morse taper adapter
RC = Rapid Change — T&C tapping adapter chuck
SA = Slotting cutter adapter
SER = DIN 6499 single-angle collet chuck — short with internal locknut
SFTT = **SAFE-LOCK**™ Shrink Fit Thermo Toolholder
SM2C = Shell mill adapter with coolant and small diameter
SMC = Shell mill adapter with coolant
SS = Adapter for straight shanks (drills)
SSF = Adapter for straight shanks with flat (drills)
ST = Screw-on adapters
STRC = Rapid Change — solid tapping adapter chuck
SWN = Whistle Notch™ 2° — short — (not to DIN standard)
TA = Tap chuck adapter
TCRC = Rapid Change — T&C tapping adapter chuck
TG = Tremendous Grip single-angle collet chuck
TGF = Tremendous Grip single-angle collet chuck — flush face
TT = Shrink Fit thermo toolholder
TTHT = Shrink Fit thermo toolholder — high torque
WD = Whistle Notch with drive
WNA = Whistle Notch — NAS 5° inch
WN = Whistle Notch (2° metric; 5° inch)

- **SAFE-LOCK™**, innovative and unique non-slip system.
- Suitable for carbide and HSS cutting tools.
- Need ≥ 10 kW shrink unit.







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 16	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013

ERICKSON™

TT SF MM-CV Z FORM B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
5089582	CV40ZBSFTT12M256	12	27	34	65	46	37	10	1,00
5089583	CV40ZBSFTT16M256	16	30	37	65	46	40	10	1,01
5089584	CV40ZBSFTT20M256	20	36	43	65	46	42	10	1,06
5089585	CV40ZBSFTT25M295	25	46	51	75	56	48	10	1,29

Cutting Tool Shank Requirements inch (industry standard)

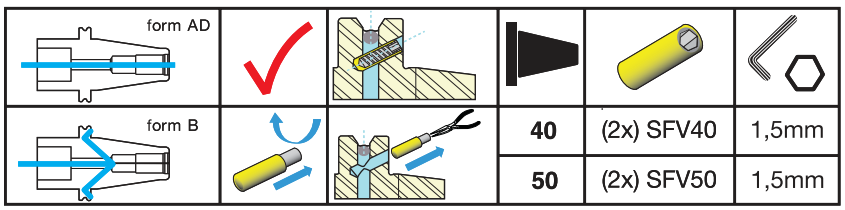
cutting tool shank diameters	tolerance
1/2 & 5/8	.0000/-.0004
3/4, 1	.0000/-.0005

TT SF IN-CV Z Form B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	lbs
5089586	CV40ZBSFTT050256	1/2	1.04	1.33	2.56	1.81	1.46	.39	2.20
5089587	CV40ZBSFTT062256	5/8	1.16	1.45	2.56	1.81	1.58	.39	2.22
5089588	CV40ZBSFTT075256	3/4	1.40	1.68	2.56	1.81	1.65	.39	2.37
5089589	CV40ZBSFTT100295	1	1.79	2.03	2.95	2.20	1.89	.39	2.82

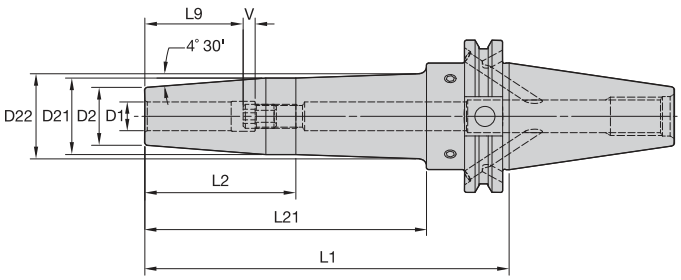
CV40Z toolholders deviate from ANSI-B5.50 standard. The 1.750" hub in front of the V-flange has been eliminated to achieve short gage lengths.

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Shrink Fit accessories, see pages L12–L13.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.



- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT GP HPV MM-CV Form B/AD



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3683482	CV40BHPVTT06M350	6	21	27	—	89	54	—	26	10	TTSS05014M	2,5mm	1,16
3683493	CV40BHPVTT06M600	6	21	27	32	152	50	117	26	10	TTSS05014M	2,5mm	1,48
3683494	CV40BHPVTT08M350	8	21	27	—	89	54	—	26	10	TTSS06014M	3mm	1,15
3683495	CV40BHPVTT08M600	8	21	27	32	152	50	117	26	10	TTSS06014M	3mm	1,48
3683496	CV40BHPVTT10M375	10	24	32	—	95	60	—	31	10	TTSS08014M	4mm	1,24
3683497	CV40BHPVTT10M600	10	24	32	36	152	63	117	31	10	TTSS08014M	4mm	1,63
3615213	CV40BHPVTT12M375	12	24	32	—	95	60	—	36	10	TTSS10014M	5mm	1,22
3615214	CV40BHPVTT12M600	12	24	32	36	152	63	117	36	10	TTSS10014M	5mm	1,57
3615215	CV40BHPVTT14M375	14	27	34	—	95	60	—	36	10	TTSS10014M	5mm	1,27
3615216	CV40BHPVTT14M600	14	27	34	38	152	63	117	36	10	TTSS10014M	5mm	1,66
3615217	CV40BHPVTT16M375	16	27	34	—	95	60	—	39	10	TTSS12014M	6mm	1,24
3615218	CV40BHPVTT16M600	16	27	34	38	152	63	117	39	10	TTSS12014M	6mm	1,64
3615219	CV40BHPVTT18M400	18	34	44	—	102	83	—	39	10	TTSS12014M	6mm	1,48
3615220	CV40BHPVTT18M600	18	33	42	—	152	117	—	39	10	TTSS12014M	6mm	1,95
3615221	CV40BHPVTT20M400	20	34	44	—	102	83	—	41	10	TTSS16014M	8mm	1,44
3615222	CV40BHPVTT20M600	20	33	42	—	152	117	—	41	10	TTSS16014M	8mm	1,89
3615223	CV40BHPVTT25M400	25	44	53	—	102	83	—	47	10	TTSS16014M	8mm	1,71
3615224	CV40BHPVTT25M600	25	44	53	—	152	133	—	47	10	TTSS16014M	8mm	2,52
3615225	CV40BHPVTT32M400	32	44	53	—	102	83	—	51	10	TTSS16014M	8mm	1,55
3615226	CV40BHPVTT32M600	32	44	53	—	152	133	—	51	10	TTSS16014M	8mm	2,36

(continued)

(TT GP HPV continued)

Cutting Tool Shank Requirements inch (industry standard)

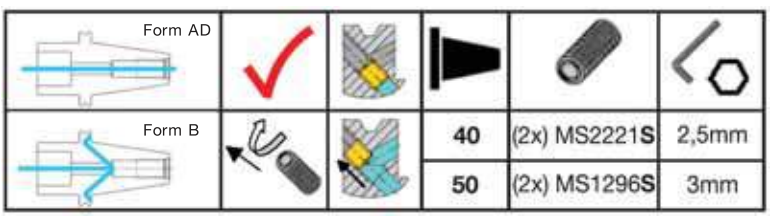
cutting tool shank diameters	tolerance
1/4, 5/16 & 3/8	.0000/-.0004
7/16, 1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT GP HPV IN-CV Form B/AD



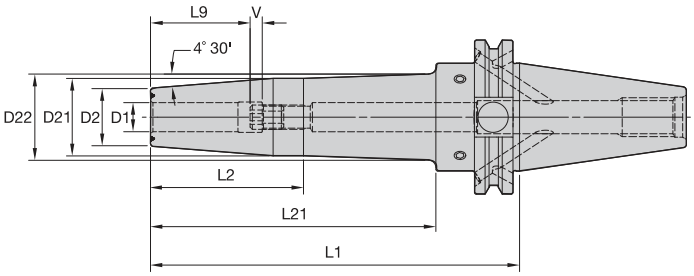
order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	lbs
3683474	**CV40BHPVTT025350**	1/4	.83	1.06	—	3.50	2.13	—	1.02	.39	**TTSS05014M**	2,5mm	2.55
3683476	**CV40BHPVTT025600**	1/4	.83	1.06	1.24	6.00	1.97	4.63	1.02	.39	**TTSS05014M**	2,5mm	3.27
3683477	**CV40BHPVTT031350**	5/16	.83	1.06	—	3.50	2.13	—	1.02	.39	**TTSS06014M**	3mm	2.54
3683478	**CV40BHPVTT031600**	5/16	.83	1.06	1.24	6.00	1.97	4.63	1.02	.39	**TTSS06014M**	3mm	3.25
3683479	**CV40BHPVTT038375**	3/8	.95	1.26	—	3.75	2.38	—	1.22	.39	**TTSS08014M**	4mm	2.73
3683480	**CV40BHPVTT038600**	3/8	.95	1.26	1.41	6.00	2.48	4.63	1.22	.39	**TTSS08014M**	4mm	3.59
3683481	**CV40BHPVTT044375**	7/16	.95	1.26	—	3.75	2.38	—	1.42	.39	**TTSS10014M**	5mm	2.70
3615175	**CV40BHPVTT050375**	1/2	.95	1.26	—	3.75	2.38	—	1.42	.39	**TTSS10014M**	5mm	2.68
3615176	**CV40BHPVTT050600**	1/2	.95	1.26	1.41	6.00	2.48	4.63	1.42	.39	**TTSS10014M**	5mm	3.44
3615177	**CV40BHPVTT056375**	9/16	1.06	1.34	—	3.75	2.38	—	1.42	.39	**TTSS10014M**	5mm	2.79
3615178	**CV40BHPVTT062375**	5/8	1.06	1.34	—	3.75	2.38	—	1.54	.39	**TTSS12014M**	6mm	2.74
3615179	**CV40BHPVTT062600**	5/8	1.06	1.34	1.48	6.00	2.48	4.63	1.54	.39	**TTSS12014M**	6mm	3.61
3615180	**CV40BHPVTT068400**	11/16	1.34	1.75	—	4.00	3.25	—	1.54	.39	**TTSS12014M**	6mm	3.28
3615182	**CV40BHPVTT075600**	3/4	1.30	1.65	—	6.00	4.63	—	1.61	.39	**TTSS16014M**	8mm	4.24
3615181	**CV40BHPVTT075400**	3/4	1.34	1.75	—	4.00	3.25	—	1.61	.39	**TTSS16014M**	8mm	3.22
3615184	**CV40BHPVTT088600**	7/8	1.30	1.65	—	6.00	4.63	—	1.61	.39	**TTSS16014M**	8mm	4.15
3615183	**CV40BHPVTT088400**	7/8	1.34	1.75	—	4.00	3.25	—	1.61	.39	**TTSS16014M**	8mm	3.14
3615185	**CV40BHPVTT100400**	1	1.73	2.08	—	4.00	3.25	—	1.85	.39	**TTSS16014M**	8mm	3.76
3615186	**CV40BHPVTT100600**	1	1.73	2.08	—	6.00	5.25	—	1.85	.39	**TTSS16014M**	8mm	5.06
3615187	**CV40BHPVTT125400**	1 1/4	1.73	2.08	—	4.00	3.25	—	2.01	.39	**TTSS16014M**	8mm	3.43
3615188	**CV40BHPVTT125600**	1 1/4	1.73	2.08	—	6.00	5.25	—	2.01	.39	**TTSS16014M**	8mm	4.74

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.



- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT HT HPV MM-CV Form B/AD



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3618030	CV40BHPVTTHT12M375	12	24	32	—	95	60	—	36	10	TTSS10014M	5mm	1,22
3618031	CV40BHPVTTHT12M600	12	24	32	36	152	63	117	36	10	TTSS10014M	5mm	1,57
3618032	CV40BHPVTTHT14M375	14	27	34	—	95	60	—	36	10	TTSS10014M	5mm	1,27
3618033	CV40BHPVTTHT14M600	14	27	34	38	152	63	117	36	10	TTSS10014M	5mm	1,66
3618034	CV40BHPVTTHT16M375	16	27	34	—	95	60	—	39	10	TTSS12014M	6mm	1,24
3618035	CV40BHPVTTHT16M600	16	27	34	38	152	63	117	39	10	TTSS12014M	6mm	1,64
3618036	CV40BHPVTTHT18M400	18	34	44	—	102	83	—	39	10	TTSS12014M	6mm	1,48
3618037	CV40BHPVTTHT18M600	18	33	42	—	152	117	—	39	10	TTSS12014M	6mm	1,95
3618038	CV40BHPVTTHT20M400	20	34	44	—	102	83	—	41	10	TTSS16014M	8mm	1,44
3618039	CV40BHPVTTHT20M600	20	33	42	—	152	117	—	41	10	TTSS16014M	8mm	1,89
3618040	CV40BHPVTTHT25M400	25	44	53	—	102	83	—	47	10	TTSS16014M	8mm	1,71
3618041	CV40BHPVTTHT25M600	25	44	53	—	152	133	—	47	10	TTSS16014M	8mm	2,52
3618042	CV40BHPVTTHT32M400	32	44	53	—	102	83	—	51	10	TTSS16014M	8mm	1,55
3618043	CV40BHPVTTHT32M600	32	44	53	—	152	133	—	51	10	TTSS16014M	8mm	2,36

(continued)

(TT HT HPV continued)

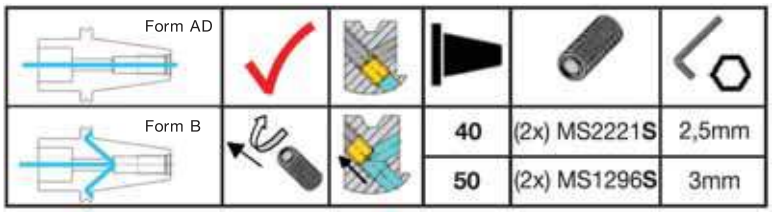
Cutting Tool Shank Requirements inch (industry standard)

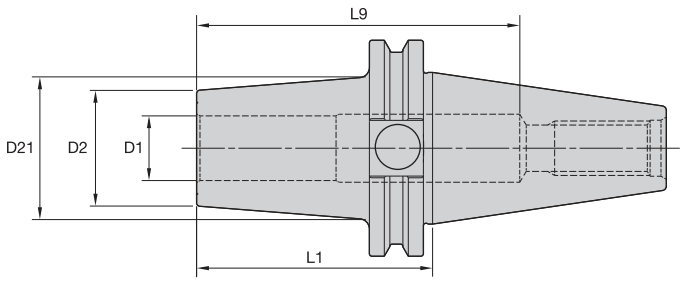
cutting tool shank diameters	tolerance
1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, & 1-1/4	.0000/-.0005

TT HT HPV IN-CV Form B/AD



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	lbs
3617952	**CV40BHPVTTHT050375**	1/2	.95	1.26	—	3.75	2.38	—	1.42	.39	**TTSS10014M**	5mm	2.68
3618003	**CV40BHPVTTHT050600**	1/2	.95	1.26	1.41	6.00	2.48	4.63	1.42	.39	**TTSS10014M**	5mm	3.44
3618004	**CV40BHPVTTHT056375**	9/16	1.06	1.34	—	3.75	2.38	—	1.42	.39	**TTSS10014M**	5mm	2.79
3618005	**CV40BHPVTTHT062375**	5/8	1.06	1.34	—	3.75	2.38	—	1.54	.39	**TTSS12014M**	6mm	2.74
3618006	**CV40BHPVTTHT062600**	5/8	1.06	1.34	1.48	6.00	2.48	4.63	1.54	.39	**TTSS12014M**	6mm	3.61
3618007	**CV40BHPVTTHT068400**	11/16	1.34	1.75	—	4.00	3.25	—	1.54	.39	**TTSS12014M**	6mm	3.28
3618009	**CV40BHPVTTHT075600**	3/4	1.30	1.65	—	6.00	4.63	—	1.61	.39	**TTSS16014M**	8mm	4.24
3618008	**CV40BHPVTTHT075400**	3/4	1.34	1.75	—	4.00	3.25	—	1.61	.39	**TTSS16014M**	8mm	3.22
3618011	**CV40BHPVTTHT088600**	7/8	1.30	1.65	—	6.00	4.63	—	1.61	.39	**TTSS16014M**	8mm	4.15
3618010	**CV40BHPVTTHT088400**	7/8	1.34	1.75	—	4.00	3.25	—	1.61	.39	**TTSS16014M**	8mm	3.13
3618012	**CV40BHPVTTHT100400**	1	1.73	2.08	—	4.00	3.25	—	1.85	.39	**TTSS16014M**	8mm	3.76
3618013	**CV40BHPVTTHT100600**	1	1.73	2.08	—	6.00	5.25	—	1.85	.39	**TTSS16014M**	8mm	5.06
3618014	**CV40BHPVTTHT125400**	1 1/4	1.73	2.08	—	4.00	3.25	—	2.01	.39	**TTSS16014M**	8mm	3.43
3618015	**CV40BHPVTTHT125600**	1 1/4	1.73	2.08	—	6.00	5.25	—	2.01	.39	**TTSS16014M**	8mm	4.74







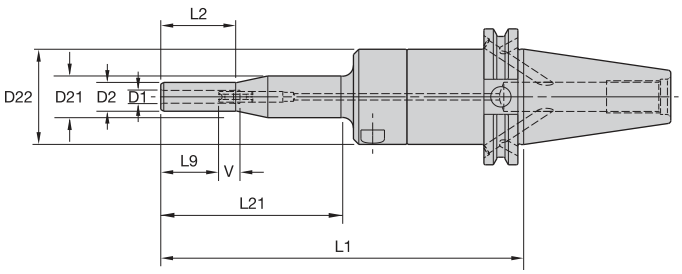
TT HT HPV IN-CV Z Form AD

order number	catalog number	D1	D2	D21	L1	L9	lbs
3683514	**CV40ZTTHT050275**	1/2	.95	1.26	2.75	4.26	2.16
3683516	**CV40ZTTHT075275**	3/4	1.34	1.65	2.75	3.74	2.34

CV40Z toolholders deviate from ANSI-B5-50 standard. The 1.750" diameter in front of the V-flange has been eliminated to achieve short gage lengths.

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.







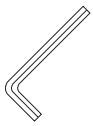
ERICKSON

HC Slim T MM-CV Form B/AD

order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	kg
3019245	CV40BHCSLT06M669	6	13,5	19,5	44,5	170	35	85	27	10	1,64
3019246	CV40BHCSLT08M669	8	15,5	19,5	44,5	170	35	85	27	10	1,65
3019247	CV40BHCSLT10M669	10	17,5	44,5	–	170	85	151	31	10	1,65

Spare Parts





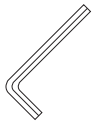
catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
CV40BHCSLT06M669	170.135	5mm	170.002	2,5mm
CV40BHCSLT08M669	170.135	5mm	170.002	2,5mm
CV40BHCSLT10M669	170.135	5mm	170.003	3mm

HC Slim T IN-CV Form B/AD

order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	lbs
3019257	CV40BHCSLT025669	.25	.54	.77	44,45	6.69	1.38	85,00	1.06	.39	3.64
3019258	CV40BHCSLT038669	.38	.69	1.75	–	6.69	3.35	150,95	1.22	.39	3.64

Spare Parts

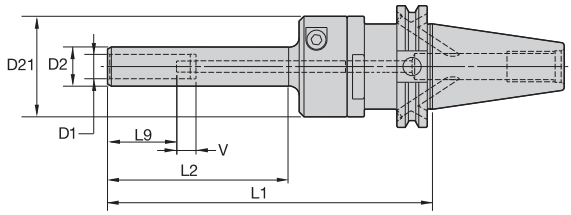


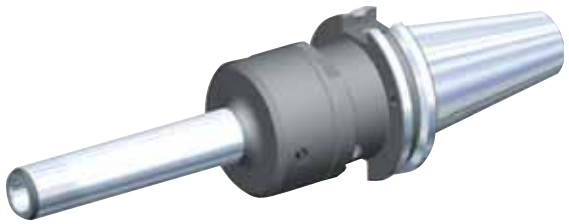


catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
CV40BHCSLT025669	170.135	5mm	170.002	2,5mm
CV40BHCSLT038669	170.135	5mm	170.003	3mm

(continued)

(HC Slim Form B/AD continued)



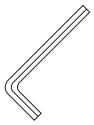


HC Slim MM-CV Form B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
2495136	**CV40BHCSL12M669**	12	19,5	44,5	170	95	36	10	1,56
3019248	**CV40BHCSL14M669**	14	21,5	52,5	170	95	36	10	1,75
3019249	**CV40BHCSL16M669**	16	23,5	52,5	170	95	39	10	1,78
3019250	**CV40BHCSL18M669**	18	25,5	52,5	170	95	39	10	1,82
2495141	**CV40BHCSL20M669**	20	27,5	52,5	170	95	41	10	1,83

Spare Parts





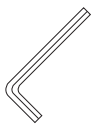
catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
CV40BHCSL12M669	**170.135**	5mm	**170.002**	2,5mm
CV40BHCSL14M669	**170.135**	5mm	**170.002**	2,5mm
CV40BHCSL16M669	**170.135**	5mm	**170.002**	2,5mm
CV40BHCSL18M669	**170.135**	5mm	**170.002**	2,5mm
CV40BHCSL20M669	**170.135**	5mm	**170.002**	2,5mm

HC Slim IN-CV Form B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	lbs
2508153	**CV40BHCSL050669**	.50	.81	2.07	6.69	3.74	1.42	.39	3.84
3019259	**CV40BHCSL062669**	.63	.93	2.07	6.69	3.74	1.54	.39	3.92
2508154	**CV40BHCSL075669**	.75	1.06	2.07	6.69	3.74	1.61	.39	4.08

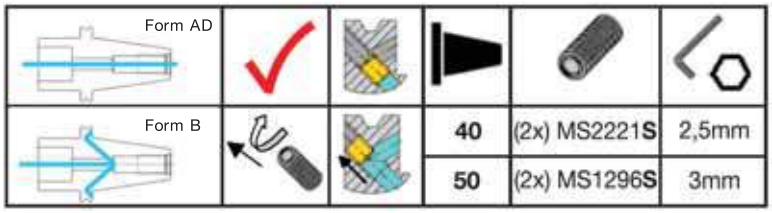
Spare Parts



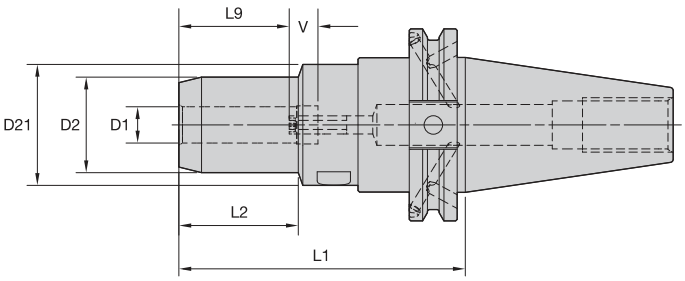


catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
CV40BHCSL050669	**170.135**	5mm	**170.002**	2,5mm
CV40BHCSL062669	**170.135**	5mm	**170.002**	2,5mm
CV40BHCSL075669	**170.135**	5mm	**170.002**	2,5mm

NOTE: Do not overtorque actuation screw. Use supplied wrench and tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw and actuation wrench.
Unable to use SEFAS™ chamfering rings on this design.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.





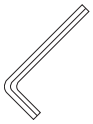




ERICKSON

HC MM -CV Form B/AD



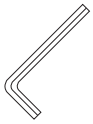


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	kg
1605145	**CV40BHC06M350**	6	25,7	40	88,9	33	27	10	**170.135**	5mm	**170.002**	2,5mm	1,24
1605149	**CV40BHC08M350**	8	27,7	40	88,9	33	27	10	**170.135**	5mm	**170.002**	2,5mm	1,25
1605150	**CV40BHC10M375**	10	29,7	40	95,3	39	31	10	**170.135**	5mm	**170.002**	2,5mm	1,30
2079279	**CV40BHC12M375**	12	31,6	40	95,3	40	36	10	**170.135**	5mm	**170.002**	2,5mm	1,32
2079280	**CV40BHC14M400**	14	33,6	50	101,6	46	41	10	**170.135**	5mm	**170.003**	3mm	1,45
2079281	**CV40BHC16M400**	16	37,6	50	101,6	47	41	10	**170.135**	5mm	**170.003**	3mm	1,52
2079282	**CV40BHC18M400**	18	39,6	50	101,6	47	41	10	**170.135**	5mm	**170.003**	3mm	1,54
2079523	**CV40BHC20M400**	20	41,6	50	101,6	48	41	10	**170.135**	5mm	**170.003**	3mm	1,56
1605216	**CV40BHC25M462**	25	49,9	63	117,5	51	51	10	**170.136**	6mm	**170.004**	4mm	2,13
1605217	**CV40BHC32M462**	32	59,9	63	117,5	59	51	10	**170.136**	6mm	**170.004**	4mm	2,31

(continued)

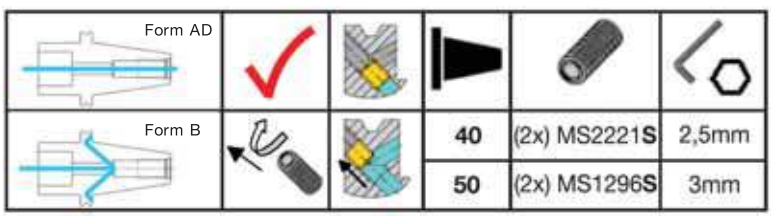
(HC CV Form B/AD continued)

HC IN -CV Form B/AD

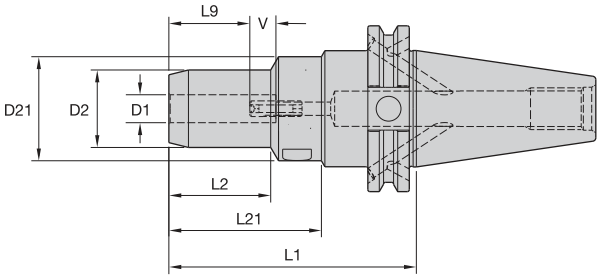



order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	lbs
1605101	**CV40BHC025350**	1/4	1.01	1.57	3.50	1.30	1.06	.39	**170.135**	5mm	**170.002**	2,5mm	2.7
1605102	**CV40BHC038375**	3/8	1.17	1.57	3.75	1.54	1.22	.39	**170.135**	5mm	**170.002**	2,5mm	2.9
1605103	**CV40BHC050375**	1/2	1.24	1.57	3.75	1.57	1.42	.39	**170.135**	5mm	**170.002**	2,5mm	2.9
1605104	**CV40BHC062400**	5/8	1.48	1.97	4.00	1.83	1.54	.39	**170.135**	5mm	**170.003**	3mm	3.2
1605105	**CV40BHC075400**	3/4	1.64	1.97	4.00	1.89	1.61	.39	**170.135**	5mm	**170.003**	3mm	3.4
1605106	**CV40BHC100462**	1	1.96	2.48	4.63	2.01	1.81	.39	**170.136**	6mm	**170.004**	4mm	4.7
1605107	**CV40BHC125462**	1 1/4	2.36	2.48	4.63	2.32	1.97	.39	**170.136**	6mm	**170.004**	4mm	5.1

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.





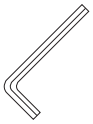




ERICKSON

HC Trend MM-CV Form B/AD



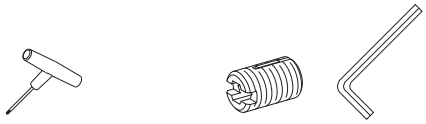


order number	catalog number	D1	D2	D21	L1	L2	L21	L9	V	actuation wrench	wrench size actuation screw	stop screw	stop screw wrench	wrench size stop screw	kg
2979257	**CV40BHCT06M350**	6	26	40	89	33	53	27	10	**170.135**	5mm	**571.061**	**170.003**	3mm	1,25
2982160	**CV40BHCT06M600**	6	26	40	152	100	117	27	10	**170.135**	5mm	**571.061**	**170.003**	3mm	1,49
2979258	**CV40BHCT08M350**	8	28	40	89	33	53	27	10	**170.135**	5mm	**571.061**	**170.003**	3mm	1,27
2982161	**CV40BHCT08M600**	8	28	40	152	100	117	27	10	**170.135**	5mm	**571.061**	**170.003**	3mm	1,55
2979259	**CV40BHCT10M375**	10	30	40	95	39	58	31	10	**170.135**	5mm	**571.061**	**170.003**	3mm	1,32
2982162	**CV40BHCT10M600**	10	30	40	152	100	117	31	10	**170.135**	5mm	**571.061**	**170.003**	3mm	1,62
2979260	**CV40BHCT12M375**	12	32	40	95	40	60	36	10	**170.135**	5mm	**571.061**	**170.003**	3mm	1,32
2982163	**CV40BHCT12M600**	12	32	40	152	100	117	36	10	**170.135**	5mm	**571.061**	**170.003**	3mm	1,67
2979261	**CV40BHCT14M400**	14	34	50	102	46	65	41	10	**170.135**	5mm	**571.063**	**170.005**	5mm	1,47
2982164	**CV40BHCT14M600**	14	34	50	152	100	116	36	10	**170.135**	5mm	**–**	**170.005**	5mm	1,79
2979262	**CV40BHCT16M400**	16	38	50	102	47	65	41	10	**170.135**	5mm	**571.063**	**170.005**	5mm	1,54
2982165	**CV40BHCT16M600**	16	38	50	152	100	116	39	10	**170.135**	5mm	**571.063**	**170.005**	5mm	1,95
2979263	**CV40BHCT18M400**	18	40	50	102	47	65	41	10	**170.135**	5mm	**571.063**	**170.005**	5mm	1,56
2982166	**CV40BHCT18M600**	18	40	50	152	100	116	39	10	**170.135**	5mm	**571.063**	**170.005**	5mm	2,02
2979264	**CV40BHCT20M400**	20	42	50	102	48	65	41	10	**170.135**	5mm	**571.063**	**170.005**	5mm	1,58
2982167	**CV40BHCT20M600**	20	42	50	152	100	116	41	10	**170.135**	5mm	**571.063**	**170.005**	5mm	2,10
2979265	**CV40BHCT25M462**	25	50	63	117	51	81	51	10	**170.136**	6mm	**571.063**	**170.005**	5mm	2,15
2979266	**CV40BHCT32M462**	32	60	63	117	59	81	51	10	**170.136**	6mm	**–**	**170.005**	5mm	2,33

(continued)

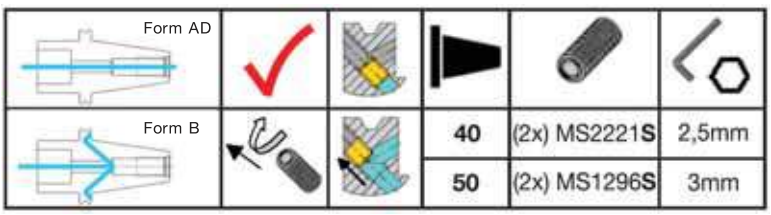
(HC Trend CV Form B/AD continued)

HC Trend IN-CV Form B/AD

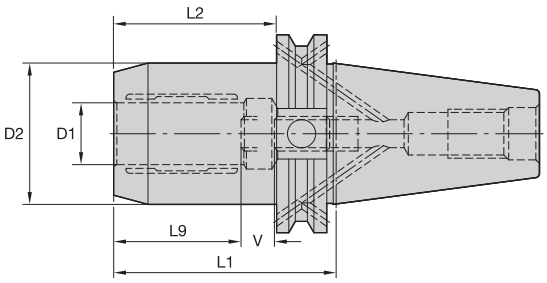


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw	stop screw wrench	wrench size stop screw	lbs
2979230	**CV40BHCT025350**	1/4	1.012	1.569	3.500	1.299	1.063	.39	**170.135**	5mm	**571.061**	**170.003**	3mm	2.76
2982155	**CV40BHCT025600**	1/4	1.012	1.569	6.000	3.937	1.063	.39	**170.135**	5mm	**571.061**	**170.003**	3mm	3.28
2979231	**CV40BHCT038375**	3/8	1.169	1.569	3.750	1.535	1.221	.39	**170.135**	5mm	**571.061**	**170.003**	3mm	2.91
2982156	**CV40BHCT038600**	3/8	1.169	1.569	6.000	3.937	1.221	.39	**170.135**	5mm	**571.061**	**170.003**	3mm	3.57
2979232	**CV40BHCT050375**	1/2	1.244	1.569	3.750	1.575	1.417	.39	**170.135**	5mm	**571.061**	**170.003**	3mm	2.91
2982157	**CV40BHCT050600**	1/2	1.244	1.569	6.000	3.937	1.417	.39	**170.135**	5mm	**571.061**	**170.003**	3mm	3.68
2979253	**CV40BHCT062400**	5/8	1.480	1.963	4.000	1.831	1.535	.39	**170.135**	5mm	**571.063**	**170.005**	5mm	3.40
2982158	**CV40BHCT062600**	5/8	1.479	1.963	6.000	3.937	1.535	.39	**170.135**	5mm	**571.063**	**170.005**	5mm	4.30
2979254	**CV40BHCT075400**	3/4	1.638	1.963	4.000	1.890	1.614	.39	**170.135**	5mm	**571.063**	**170.005**	5mm	3.53
2982159	**CV40BHCT075600**	3/4	1.873	1.963	6.000	3.937	1.614	.39	**170.135**	5mm	**571.063**	**170.005**	5mm	4.65
2979255	**CV40BHCT100462**	1	1.961	2.474	4.625	2.008	1.811	.39	**170.136**	6mm	**571.063**	**170.005**	5mm	4.76
2979256	**CV40BHCT125462**	1 1/4	2.354	2.474	4.625	2.323	1.969	.39	**170.136**	6mm	**571.063**	**170.005**	5mm	5.18

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.



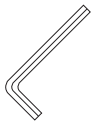






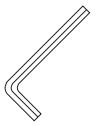
ERICKSON

HC Basic MM-CV Form B/AD

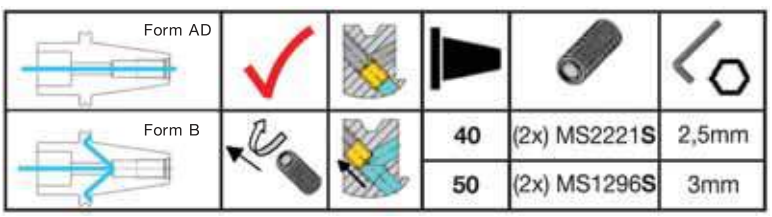
order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	kg
2001975	**CV40BHCB20M400**	20	49,9	102	83	41	10	**170.135**	5mm	**170.005**	5mm	1,81

HC Basic IN-CV Form B/AD

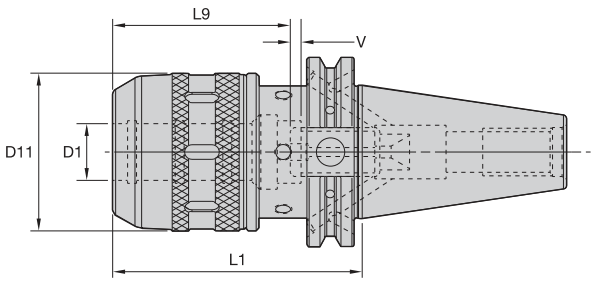



order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	lbs
2001976	**CV40BHCB075400**	3/4	1.96	4.00	3.25	1.61	.39	**170.135**	5mm	**170.005**	5mm	4.01

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.









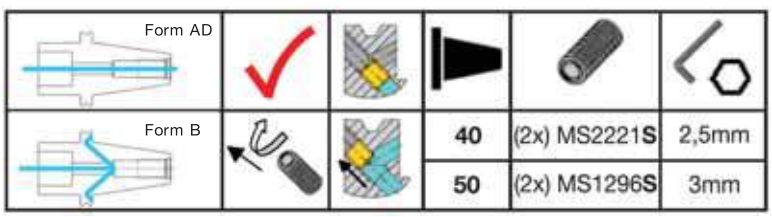
ERICKSON

HPMC IN-CV Form B/AD

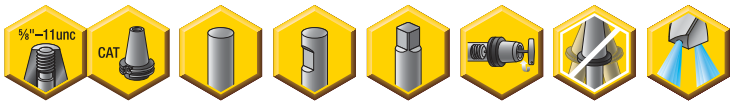


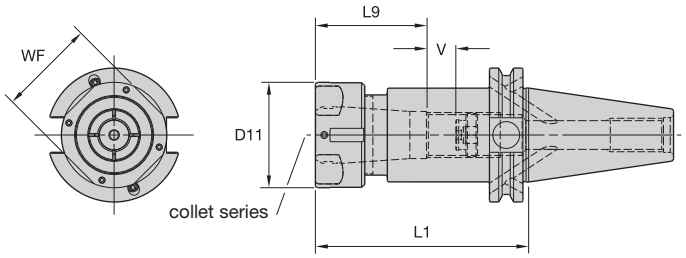

order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	lbs
3100356	**CV40BHPMC075335**	3/4	2.09	3.35	4.73	.79	**PSW52M**	**MCSS16040M**	2,5mm & 5mm	3.40
3100358	**CV40BHPMC075591**	3/4	2.09	5.91	1.93	.79	**PSW52M**	**MCSS16040M**	2,5mm & 5mm	5.70
3100359	**CV40BHPMC100374**	1	2.40	3.74	2.17	.79	**PSW58M**	**MCSS16040M**	2,5mm & 5mm	4.20
3100360	**CV40BHPMC100591**	1	2.40	5.91	2.17	.79	**PSW58M**	**MCSS16040M**	2,5mm & 5mm	6.45
3100362	**CV40BHPMC125472**	1 1/4	2.76	4.72	2.28	.79	**PSW68M**	**MCSS16040M**	2,5mm & 5mm	5.65
3100361	**CV40BHPMC125591**	1 1/4	2.76	5.91	2.28	.79	**PSW68M**	**MCSS16040M**	2,5mm & 5mm	7.20

NOTE: Milling chuck technical section, see page M88.
Supplied with locknut and stop screw.
Locknut wrench not included.
Optional M6~1,0P fine-balancing screw set is available (order number HPMCBALSCREWSET) and must be ordered separately; see page L14.
Reduction sleeves are available and must be ordered separately; see page J6.
For retention knobs, see page L45.



- Tremendous Grip (3:1 advantage).
- Totally flush face, locknut to collet.







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG50	1,1	13,5	1/32	17/32
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

ERICKSON

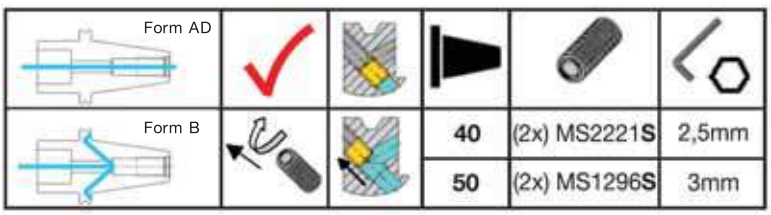
TG Flush Face-CV Form B/AD



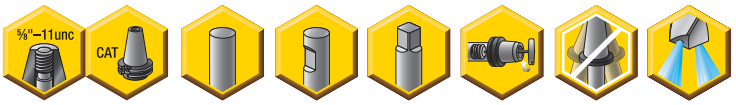


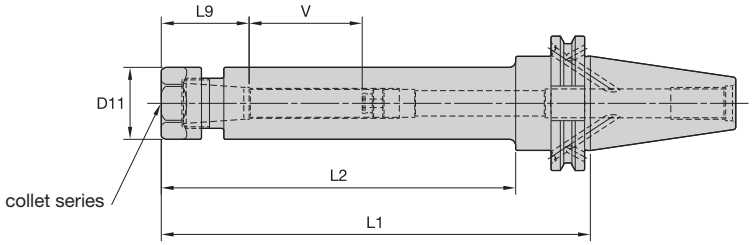
order number	catalog number	collet series	D11	L1	L9	V	locknut	WF	locknut wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
2987290	**CV40BTGF050250**	TG50	1.50	2.50	1.46	.70	**LNATGF050M**	34	**HSW34M**	50	**SS056041G**	4mm & 5/32	2.37
2987291	**CV40BTGF050400**	TG50	1.50	4.00	1.46	2.20	**LNATGF050M**	34	**HSW34M**	50	**SS056041G**	4mm & 5/32	2.76
2987292	**CV40BTGF050600**	TG50	1.50	6.00	1.46	2.48	**LNATGF050M**	34	**HSW34M**	50	**SS056041G**	4mm & 5/32	3.36
2987303	**CV40BTGF075250**	TG75	1.97	2.50	1.89	.95	**LNATGF075M**	46	**HSW45M**	100	**SS081041G**	4mm & 5/32	2.43
2987304	**CV40BTGF075400**	TG75	1.97	4.00	1.89	1.30	**LNATGF075M**	46	**HSW45M**	100	**SS081041G**	4mm & 5/32	3.31
2987305	**CV40BTGF075600**	TG75	1.97	6.00	1.89	3.31	**LNATGF075M**	46	**HSW45M**	100	**SS081041G**	4mm & 5/32	4.41
2987306	**CV40BTGF100275**	TG100	2.36	2.75	2.44	.55	**LNATGF100M**	55	**HSW58M**	150	**SS112041G**	4mm & 5/32	2.55
2987307	**CV40BTGF100400**	TG100	2.36	4.00	2.44	.71	**LNATGF100M**	55	**HSW58M**	150	**SS112041G**	4mm & 5/32	3.42
2987308	**CV40BTGF100600**	TG100	2.36	6.00	2.44	2.68	**LNATGF100M**	55	**HSW58M**	150	**SS112041G**	4mm & 5/32	4.50

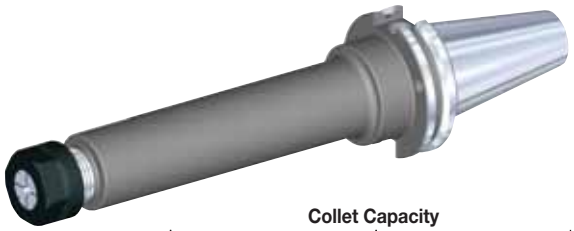
NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Locknut disk sealing cap is available and must be ordered separately; see pages L34–L35.
Coolant disks for sealing cap are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.



• Tremendous Grip (3:1 advantage).







Collet Capacity

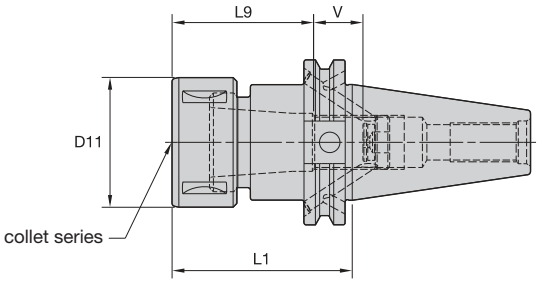
TG collet series	mm min	mm max	inch min	inch max
TG50	1,1	13,5	1/32	17/32
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

ERICKSON

TG Hex-CV Form B/AD



order number	catalog number	collet series	D11	L1	L2	L9	V	hex locknut	wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
4135683	**CV40BTG050300**	TG50	1.34	3.00	1.59	1.50	1	**LN050M**	**OEW30M**	50	**SS056041G**	4mm & 5/32	2.49
4135684	**CV40BTG050500**	TG50	1.34	5.00	3.59	1.50	2	**LN050M**	**OEW30M**	50	**SS056041G**	4mm & 5/32	3.16
4135685	**CV40BTG050800**	TG50	1.34	8.00	6.59	1.50	2	**LN050M**	**OEW30M**	50	**SS056041G**	4mm & 5/32	4.20
4135686	**CV40BTG0501000**	TG50	1.34	10.00	8.59	1.50	2	**LN050M**	**OEW30M**	50	**SS056041G**	4mm & 5/32	4.90



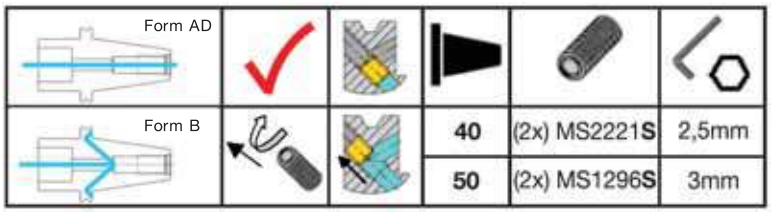


TG Round-CV Form B/AD

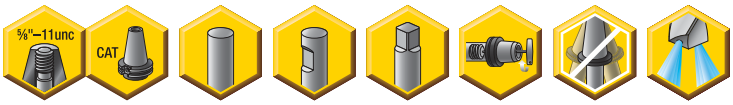


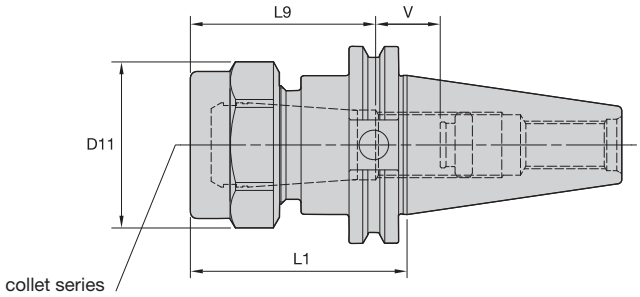
order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
1261621	**CV40BTG075275G**	TG75	1.97	2.75	1.93	.75	**LNA075M**	**HSW45M**	100	**SS081041G**	4mm & 5/32	2.63
1261622	**CV40BTG075600G**	TG75	1.97	6.00	1.93	4.01	**LNA075M**	**HSW45M**	100	**SS081041G**	4mm & 5/32	4.50
1261623	**CV40BTG100300G**	TG100	2.36	3.00	2.64	.67	**LNA100M**	**HSW58M**	150	**SS094041G**	4mm & 5/32	2.91
1261624	**CV40BTG100600G**	TG100	2.36	6.00	2.64	2.95	**LNA100M**	**HSW58M**	150	**SS094041G**	4mm & 5/32	4.82

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.



• Tremendous Grip (3:1 advantage).





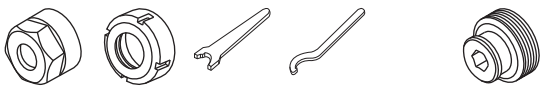


Collet Capacity

	mm		inch	
TG collet series	**min**	**max**	**min**	**max**
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1
TG150	11,6	40,0	23/64	1 1/2

ERICKSON

TG Hex-CV Form AD

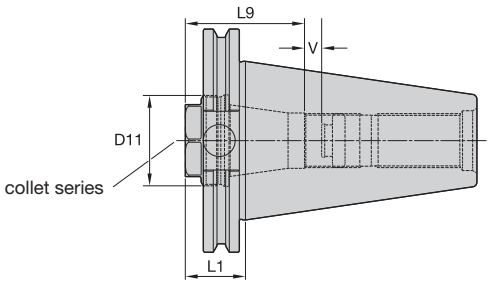


order number	catalog number	collet series	D11	L1	L9	V	locknut	locknut	locknut wrench	locknut wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
1025600	**CV40TG075600**	TG75	2.09	6.00	2.16	3.84	**NPA075**	**—**	**OEW188**	**—**	100	**SS081041G**	4mm & 5/32	4.40
1025799	**CV40TG075275**	TG75	2.09	2.75	2.28	1.18	**NPA075**	**—**	**OEW188**	**—**	100	**SS081041G**	4mm & 5/32	2.41
1025771	**CV40TG100300**	TG100	2.44	3.00	2.95	.51	**NPA100**	**—**	**OEW225**	**—**	150	**SS112041G**	4mm & 5/32	2.77
1025772	**CV40TG100600**	TG100	2.44	6.00	2.94	3.38	**NPA100**	**—**	**OEW225**	**—**	150	**SS112041G**	4mm & 5/32	5.40
1025773	**CV40TG100400**	TG100	2.44	4.00	2.95	1.54	**NPA100**	**—**	**OEW225**	**—**	150	**SS112041G**	4mm & 5/32	3.28
1013532	**CV40TG150488**	TG150	3.50	4.88	3.27	1.23	**—**	**NPA150**	**—**	**PSW350**	200	**SS125050G**	4mm & 5/32	5.72

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see page L14.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.

• Grip (2:1 advantage).





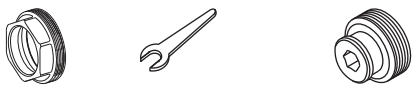


Collet Capacity

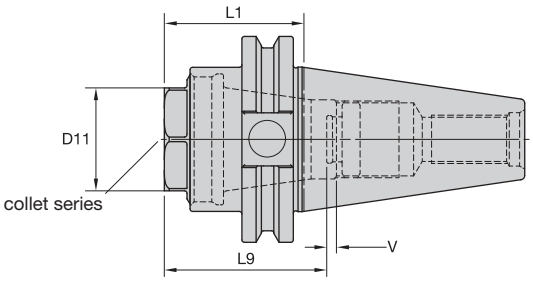
	mm		inch	
ER collet series	min	max	min	max
ER32	2,0	20,0	.08	.81

ERICKSON

ER Short-CV Z Form AD



order number	catalog number	collet series	D11	L1	L9	V	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
2978739	**CV40ZSER32106**	ER32	1.41	1.06	1.97	.20	**LNECSER32M**	**OEW32M**	100	**SS094041G**	4mm & 5/32	1.35





ER Short-CV Form AD



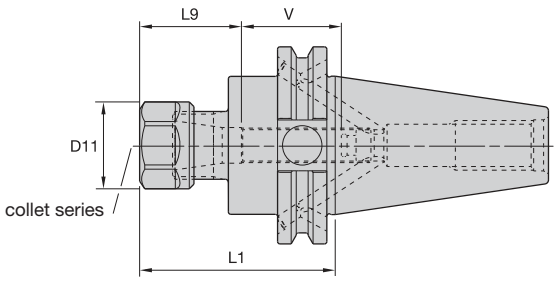
order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
2978740	**CV40SER32169**	ER32	1.41	1.69	1.97	.43	**LNECSER32M**	**OEW32M**	100	**SS094041G**	4mm & 5/32	1.70

CV40Z toolholders deviate from ANSI-B5-50 standard. The 1.750" diameter in front of the V-flange has been eliminated to achieve short gage lengths.

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.

• Grip (2:1 advantage).







Collet Capacity

ER collet series	mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Hex-CV Form B/AD

order number	catalog number	collet series	D11	L1	L9	V	lbs
1901019	**CV40BER16250**	ER16	1.10	2.50	1.26	1.30	2.30
1901046	**CV40BER16500**	ER16	1.10	5.00	1.26	1.58	2.85
1261618	**CV40BER20250**	ER20	1.34	2.50	1.42	1.73	2.32
2249531	**CV40BER20600**	ER20	1.34	6.00	1.42	1.73	3.47

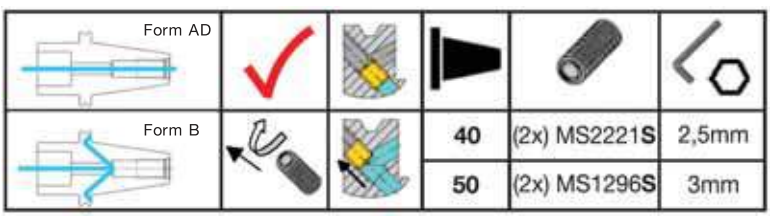
Spare Parts



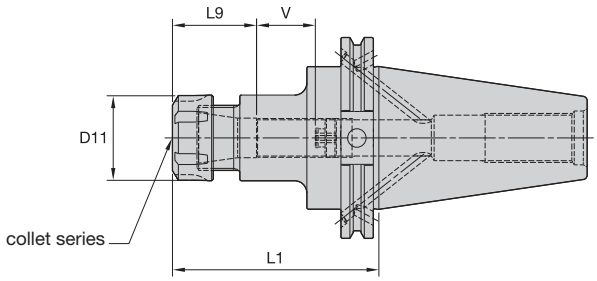


catalog number	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
CV40BER16250	**LNHSER16M**	**OEW25M**	30	**SS044038G**	4mm & 5/32
CV40BER16500	**LNHSER16M**	**OEW25M**	30	**SS044038G**	4mm & 5/32
CV40BER20250	**LNHSER20M**	**OEW30M**	24	**SS056041G**	4mm & 5/32
CV40BER20600	**LNHSER20M**	**OEW30M**	24	**SS056041G**	4mm & 5/32

(continued)



(ER continued)





ER Round-CV Form B/AD

order number	catalog number	collet series	D11	L1	L9	V	lbs
2249532	**CV40BER25250**	ER25	1.65	2.50	1.57	.75	2.35
2249703	**CV40BER25600**	ER25	1.65	6.00	1.57	2.37	4.13
1261619	**CV40BER32275**	ER32	1.97	2.75	1.81	1.65	2.34
1901045	**CV40BER32600**	ER32	1.97	6.00	1.81	2.13	4.26
2249704	**CV40BER40300**	ER40	2.48	3.00	2.05	.47	2.78
2249705	**CV40BER40600**	ER40	2.48	6.00	2.05	1.89	4.44

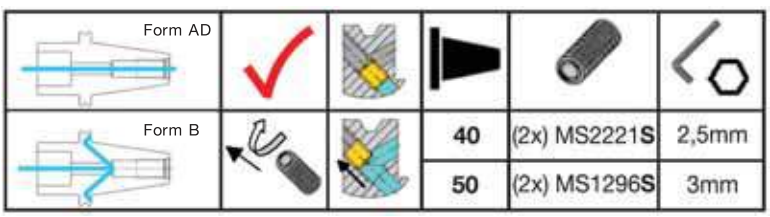
Spare Parts



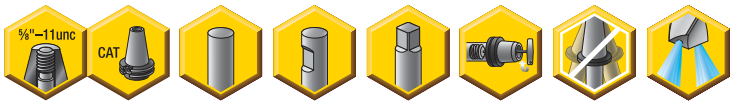


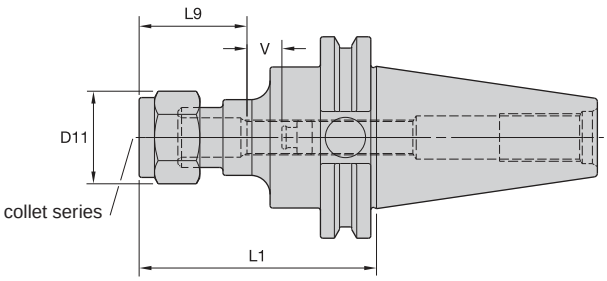
catalog number	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
CV40BER25250	**LNSER25M**	**ER25WM**	77	**SS075041G**	4mm & 5/32
CV40BER25600	**LNSER25M**	**ER25WM**	77	**SS075041G**	4mm & 5/32
CV40BER32275	**LNSER32M**	**ER32WM**	100	**SS094041G**	4mm & 5/32
CV40BER32600	**LNSER32M**	**ER32WM**	100	**SS094041G**	4mm & 5/32
CV40BER40300	**LNSER40M**	**ER40WM**	130	**SS112041G**	4mm & 5/32
CV40BER40600	**LNSER40M**	**ER40WM**	130	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.



• Grip 1:1.







	Collet Capacity			
	mm		inch	
DA collet series	min	max	min	max
DA200	0,2	10	1/64	25/64
DA180	2,2	20	1/64	3/4

ERICKSON™

DA Hex-CV Form AD

order number	catalog number	collet series	D11	L1	L9	V	lbs
1015515	**CV40DA208300**	DA200	1.15	3.00	1.62	1.38	2.41
1015305	**CV40DA208500**	DA200	1.15	5.00	1.62	3.38	3.05
1015304	**CV40DA188600**	DA180	1.73	6.00	1.94	3.94	3.60
1015596	**CV40DA188300**	DA180	1.73	3.00	1.94	.81	2.42

Spare Parts



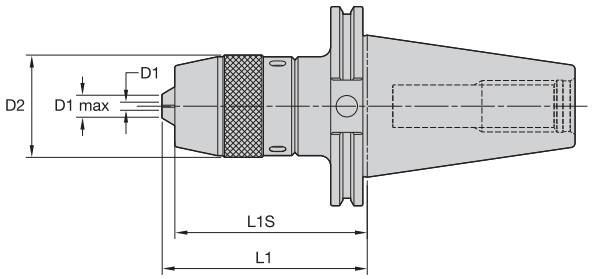




catalog number	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
CV40DA208500	**NPA208**	**OEW100**	40	**SS044038G**	4mm & 5/32
CV40DA208300	**NPA208**	**OEW100**	40	**SS044038G**	4mm & 5/32
CV40DA188600	**NPA188**	**OEW150**	75	**SS081041G**	4mm & 5/32
CV40DA188300	**NPA188**	**OEW150**	75	**SS081041G**	4mm & 5/32

NOTE: For retention tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.







ERICKSON

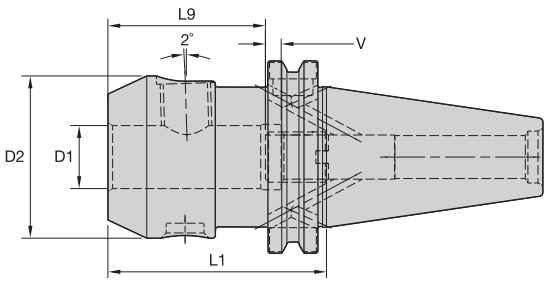
DC-CV Form A



order number	catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D2	L1	L1S	wrench	lbs
2262967	**CV40DC13M421**	1,0	.039	13,0	.512	1.969	4.210	3.726	**HSW45M**	3.84

NOTE: Tighten to the recommended tightening torque.
Locking wrench not supplied.
For retention knobs, see page L45.





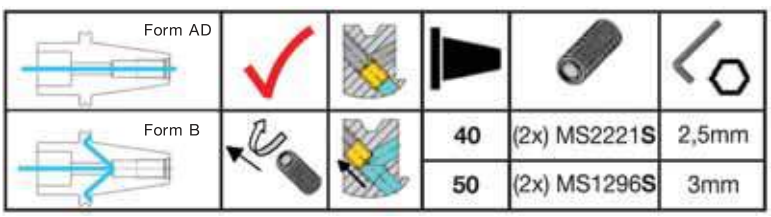


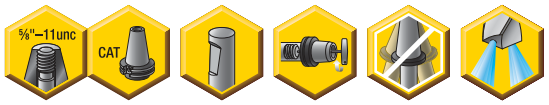
ERICKSON

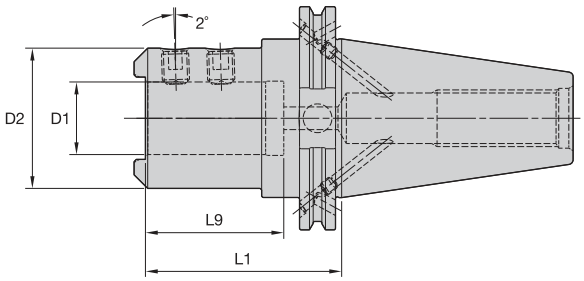
WN MM-CV Form B/AD

order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1549300	**CV40BWN06M244**	6	25	62	30	10	**SS03M012**	3mm	7	**571.060**	2,5mm	1,09
1549315	**CV40BWN08M244**	8	28	62	26	10	**SS03M014**	4mm	15	**571.067**	3mm	1,10
1549317	**CV40BWN10M244**	10	35	62	35	10	**SS03M018**	5mm	25	**571.068**	4mm	1,15
1549320	**CV40BWN12M260**	12	42	66	40	10	**SS03M023**	6mm	35	**571.074**	5mm	1,25
1549326	**CV40BWN14M260**	14	44	66	40	10	**SS03M023**	6mm	35	**571.074**	5mm	1,26
1549328	**CV40BWN16M275**	16	48	70	43	10	**SS03M025**	6mm	50	**571.075**	6mm	1,35
1549329	**CV40BWN18M275**	18	50	70	43	10	**SS03M025**	6mm	50	**571.075**	6mm	1,36
1549342	**CV40BWN20M275**	20	52	70	45	10	**SS03M026**	8mm	95	**571.076**	6mm	1,38
1549330	**CV40BWN25M375**	25	65	95	50	10	**SS03M027**	10mm	135	**571.077**	6mm	2,17
1549341	**CV40BWN32M388**	32	72	99	54	10	**SS03M029**	10mm	160	**571.076**	6mm	2,45

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw and stop screw wrenches not included.
For retention knobs, see page L45.









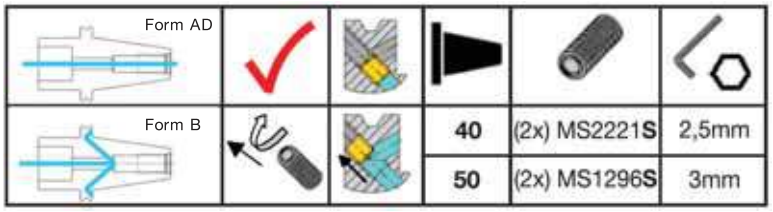
ERICKSON

WD MM-CV Form B/AD

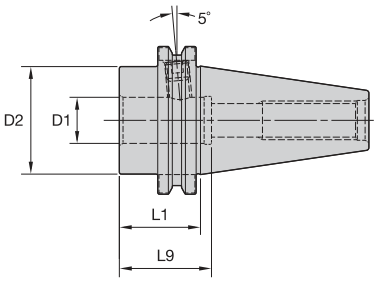


order number	catalog number	D1	D2	L1	L9	lock screw	wrench size clamp screw	Nm	kg
1749276	CV40BWD32M343	32	60	87	63	SS03M023	6 mm	35	1,74

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrenches not included.
For retention knobs, see page L45.









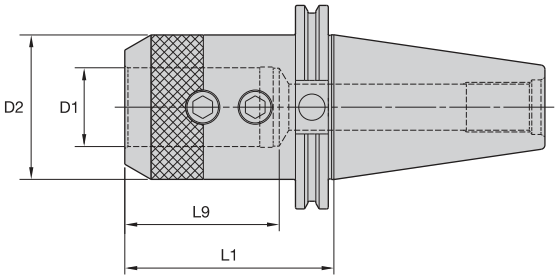
ERICKSON

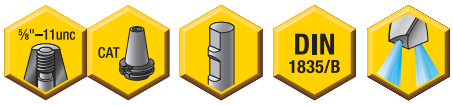
SWN IN-CV Form AD (Tap Chuck Adapter)



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1018054	CV40TA7137	.75	1.75	1.38	1.50	ELS038031PKG	3/16	15	2.20
1017938	CV40TA1137	1.00	1.75	1.38	2.81	ELS038031PKG	3/16	15	1.79

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.







ERICKSON

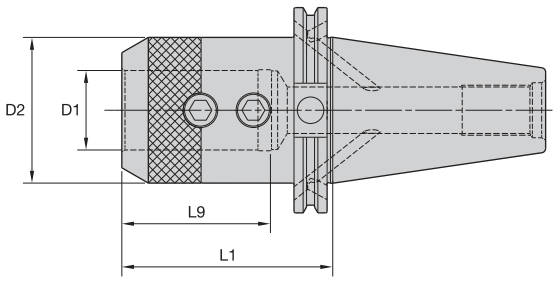
■ EM IN-CV Form AD



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1026404	CV40ZEM012138	1/8	.69	1.38	2.89	S1045PKG	3/32	3	1.79
1026405	CV40EM012450	1/8	.69	4.50	6.01	S1045PKG	3/32	3	2.41
1026406	CV40ZEM018138	3/16	.69	1.38	2.89	S1045PKG	3/32	3	1.79
1025921	CV40EM018250	3/16	.69	2.50	4.01	S1045PKG	3/32	3	2.22
1026407	CV40EM018450	3/16	.69	4.50	6.01	S1045PKG	3/32	3	2.41
1026408	CV40ZEM025138	1/4	.78	1.38	2.89	ELS025025PKG	1/8	5	1.82
1018427	CV40EM025250	1/4	1.00	2.50	4.01	ELS025025PKG	1/8	5	2.35
1026409	CV40EM025450	1/4	.78	4.50	6.01	ELS025025PKG	1/8	5	2.51
1026410	CV40ZEM031138	5/16	1.00	1.38	2.89	ELS031031PKG	5/32	11	1.85
1026411	CV40EM031450	5/16	1.00	4.50	6.01	ELS031031PKG	5/32	11	2.76
1026412	CV40ZEM038138	3/8	1.00	1.38	2.89	ELS038031PKG	3/16	15	1.85
1026338	CV40EM038250	3/8	1.00	2.50	4.01	ELS038031PKG	3/16	15	2.32
1013350	CV40EM038450	3/8	1.00	4.50	6.01	ELS038031PKG	3/16	15	2.69
1013351	CV40EM038650	3/8	1.00	6.50	8.01	ELS038031PKG	3/16	15	3.17
1013352	CV40ZEM044175	7/16	1.25	1.76	3.26	ELS044038PKG	7/32	20	2.00
1013353	CV40EM044450	7/16	1.25	4.50	6.01	ELS044038PKG	7/32	20	3.04
1026380	CV40ZEM050175	1/2	1.75	1.75	3.26	ELS044038PKG	7/32	20	2.27
1025922	CV40EM050262	1/2	1.38	2.62	4.13	ELS044038PKG	7/32	20	2.52
1013374	CV40EM050462	1/2	1.25	4.62	3.07	ELS044038PKG	7/32	20	3.06
1013375	CV40EM050662	1/2	1.25	6.62	8.13	ELS044038PKG	7/32	20	3.83
1026381	CV40ZEM062175	5/8	1.75	1.75	3.56	ELS056050PKG	1/4	40	2.19
1025923	CV40EM062375	5/8	1.50	3.75	3.56	DWG ELS056038	1/4	40	2.96
1013376	CV40EM062575	5/8	1.63	5.75	3.56	ELS056050PKG	1/4	40	4.21
1026382	CV40ZEM075175	3/4	1.75	1.75	2.40	ELS062050PKG	5/16	70	2.09
1025944	CV40EM075375	3/4	1.75	3.75	3.94	ELS062050PKG	5/16	70	3.21
1013377	CV40EM075575	3/4	1.75	5.75	3.94	ELS062050PKG	5/16	70	4.44
1013378	CV40ZEM088175	7/8	1.88	1.75	2.27	ELS062050PKG	5/16	70	2.13
1025945	CV40EM088400	7/8	2.00	4.00	4.19	ELS062050PKG	5/16	70	3.65
1013424	CV40EM088600	7/8	1.88	6.00	4.19	ELS062050PKG	5/16	70	4.86
1026383	CV40ZEM100175	1	1.75	1.75	2.64	DWG ELS075044	3/8	110	1.78
1025946	CV40EM100400	1	2.00	4.00	4.49	ELS075056PKG	3/8	110	3.39
1013425	CV40EM100600	1	2.00	6.00	4.49	ELS075056PKG	3/8	110	5.04
1013426	CV40ZEM125200	1 1/4	2.25	2.00	2.35	DWG ELS075050	3/8	110	2.25
1025947	CV40EM125425	1 1/4	2.50	4.25	2.39	ELS075062PKG	3/8	110	4.96
1013427	CV40EM125625	1 1/4	2.50	6.25	2.39	ELS075062PKG	3/8	110	7.47
1025986	CV40EM150462	1 1/2	2.75	4.63	2.82	ELS075069PKG	3/8	110	5.80
1013428	CV40EM150662	1 1/2	2.75	6.62	2.82	ELS075069PKG	3/8	110	8.76

CV40Z toolholders deviate from ANSI-B5-50 standard. The 1.750" diameter in front of the V-flange has been eliminated to achieve short gage lengths.

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.







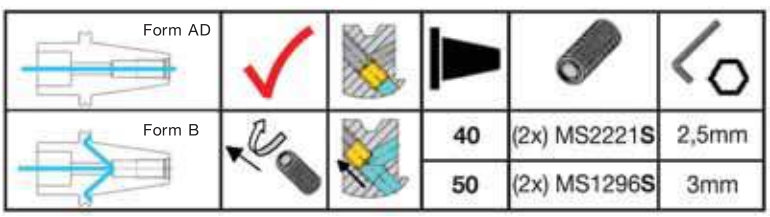


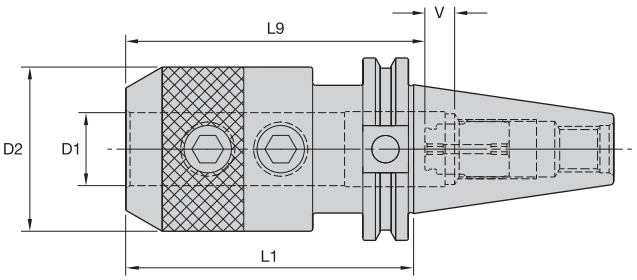
ERICKSON

EM IN-CV Form B/AD

order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1261613	**CV40BEM050262**	1/2	1.38	2.62	4.13	**ELS044038PKG**	7/32	20	2.48
1261614	**CV40BEM062375**	5/8	1.50	3.75	3.56	**ELS056050PKG**	1/4	40	2.95
1261615	**CV40BEM075375**	3/4	1.75	3.75	3.94	**ELS062050PKG**	5/16	70	3.18
1261616	**CV40BEM100400**	1	2.00	4.00	4.49	**ELS075056PKG**	3/8	110	3.37
1261617	**CV40BEM125425**	1 1/4	2.50	4.25	2.39	**ELS075062PKG**	3/8	110	4.97

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.









ERICKSON

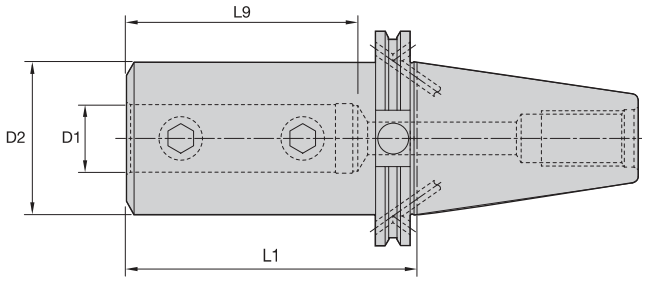
SS IN-CV Form AD





order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	ft. lbs.	stop screw	wrench size stop screw	lbs
1018426	CV40SS100400	1	2.25	4.00	3.75	.63	ELS075062PKG	3/8	110	CSS081125	1/8	4.06

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screws and stop screw.
Lock screw and stop screw wrench not included.
For retention knobs, see page L45.







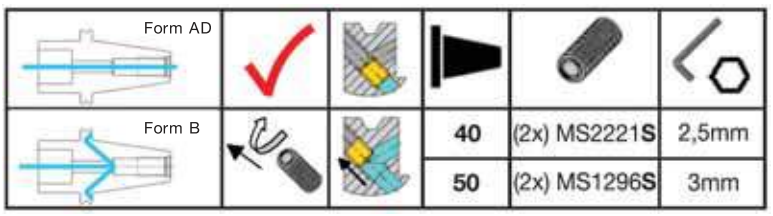
ERICKSON

SSF IN-CV Form B/AD

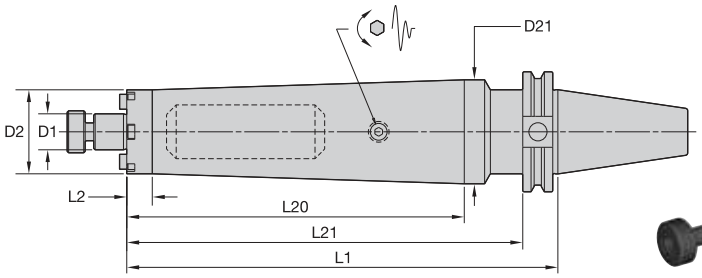


order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1749368	CV40BSSF075275	3/4	1.75	2.75	2.25	ELS062050PKG	5/16	70	2.78
1749369	CV40BSSF100450	1	2.00	4.50	3.25	DWG ELS075050	3/8	110	4.12
1749370	CV40BSSF125475	1 1/4	2.50	4.75	3.50	ELS075056PKG	3/8	110	5.44
1749471	CV40BSSF150575	1 1/2	2.75	5.75	4.00	ELS075056PKG	3/8	110	7.01

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.









ERICKSON

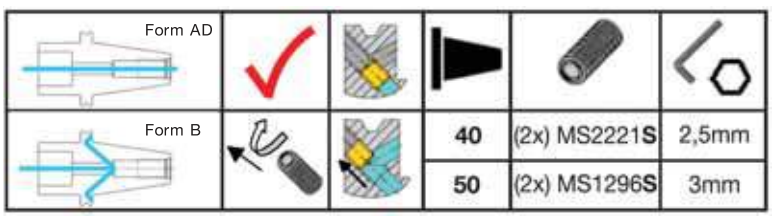
SMC TD Lock IN-CV Form B/AD



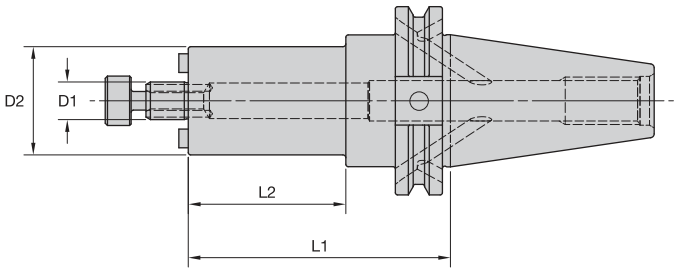


order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	drive key	wrench size lock screw	lbs
4136187	**CV40BTDSMC0750900**	3/4	1.75	2.17	9.00	.53	7.03	8.25	**KLS07**	**KDK05**	1/4	8.34
4136188	**CV40BTDSMC1000900**	1	2.19	—	9.00	8.25	—	—	**KLS10**	**KDK06**	5/16	9.99

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knobs, see page L45.









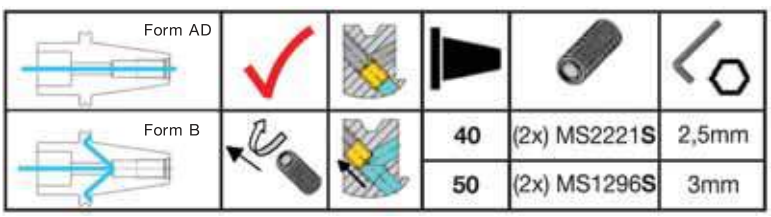
ERICKSON

SMC Lock IN-CV Form B/AD

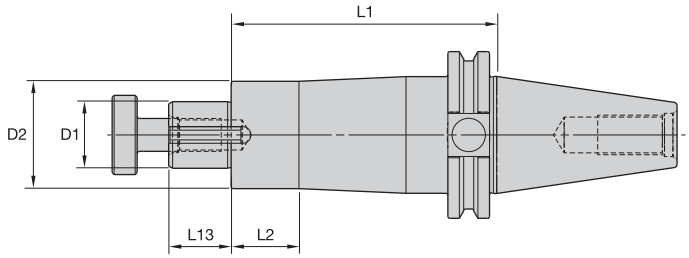



order number	catalog number	D1	D2	L1	L2	lock screw	drive key	wrench size lock screw	lbs
3641491	**CV40BSM2C050350**	1/2	1.20	3.50	2.09	**KLS05**	**KDK04**	3/16	2.80
3641490	**CV40BSMC050350**	1/2	1.44	3.50	2.09	**KLS05**	**KDK04**	3/16	3.05
3641514	**CV40BSM2C075350**	3/4	1.46	3.50	2.09	**KLS07**	**–**	1/4	3.12
3641516	**CV40BSM2C075600**	3/4	1.46	6.00	5.25	**KLS07**	**–**	1/4	4.14
3641489	**CV40BSMC050138**	1/2	1.75	1.38	.63	**KLS05**	**KDK04**	3/16	2.18
3641492	**CV40BSMC075138**	3/4	1.75	1.38	.63	**KLS07**	**KDK05**	1/4	2.25
3641513	**CV40BSMC075350**	3/4	1.75	3.50	2.09	**KLS07**	**KDK05**	1/4	3.56
3641515	**CV40BSMC075600**	3/4	1.75	6.00	5.25	**KLS07**	**KDK05**	1/4	5.10
3641518	**CV40ZBSM2C100100**	1	2.19	1.00	.25	**KLS10**	**KDK06**	5/16	2.21
3641520	**CV40BSM2C100206**	1	2.19	2.06	1.31	**KLS10**	**KDK06**	5/16	2.98
3641522	**CV40BSM2C100400**	1	2.19	4.00	3.25	**KLS10**	**KDK06**	5/16	4.30
3641524	**CV40BSM2C100600**	1	2.19	6.00	5.25	**KLS10**	**KDK06**	5/16	5.59
3641517	**CV40ZBSMC100100**	1	2.75	1.00	.25	**KLS10**	**KDK06**	5/16	2.33
3641519	**CV40BSMC100206**	1	2.75	2.06	1.31	**KLS10**	**KDK06**	5/16	3.28
3641521	**CV40BSMC100400**	1	2.75	4.00	3.25	**KLS10**	**KDK06**	5/16	4.70
3641523	**CV40BSMC100600**	1	2.75	6.00	5.25	**KLS10**	**KDK06**	5/16	5.99
3641525	**CV40BSMC125212**	1 1/4	2.88	2.12	1.37	**KLS12**	**KDK08**	5/16	3.79
3641526	**CV40BSMC125400**	1 1/4	2.88	4.00	3.25	**KLS12**	**KDK08**	5/16	5.08
3641527	**CV40BSMC150241**	1 1/2	3.81	2.41	1.66	**KLS15**	**KDK10**	3/8	5.36
3641528	**CV40BSMC150400**	1 1/2	3.81	4.00	3.25	**KLS15**	**KDK10**	3/8	6.85

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knobs, see page L45.









ERICKSON

SA IN-CV Form AD

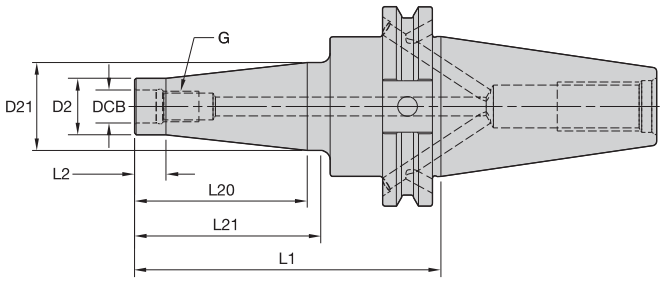




order number	catalog number	D1	D2	L1	L13	L2	lock screw	wrench size lock screw	drive key	lbs
1261699	**CV40SA062400**	5/8	1.25	4.00	.78	2.63	**KLS07**	1/4	**DWG SDK062088**	3.10
1026215	**CV40SA100400**	1	1.61	4.00	.94	1.00	**KLS10**	5/16	**DWG SDK100106**	3.97
1026216	**CV40SA125400**	1 1/4	1.86	4.00	1.09	3.25	**KLS12**	5/16	**DWG SDK125119**	4.97

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive key.
Lock screw wrench not included.
For retention knobs, see page L45.





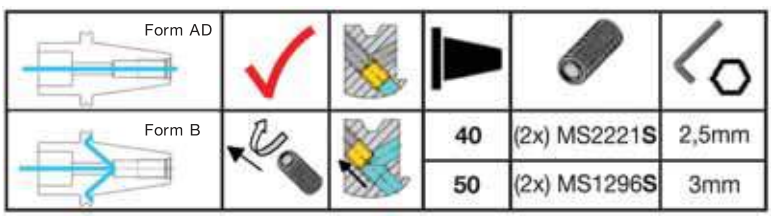


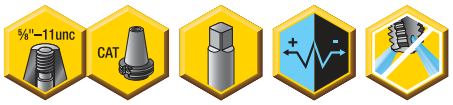
ERICKSON

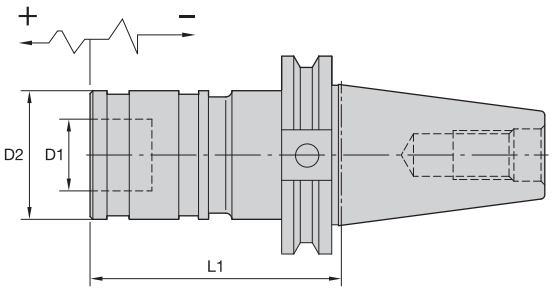
ST-CV Form B/AD

order number	catalog number	DCB	G	D2	D21	L1	L2	L20	L21	kg
4073528	**CV40BST06M228**	6,5	M6	10	13	58	10	18	19	1,00
4073529	**CV40BST06M386**	6,5	M6	10	23	98	10	55	59	1,07
4073530	**CV40BST08M228**	8,5	M8	13	15	58	10	18	19	1,00
4073531	**CV40BST08M386**	8,5	M8	13	23	98	10	55	59	1,07
4073532	**CV40BST10M228**	10,5	M10	18	20	58	10	18	19	1,04
4073643	**CV40BST10M386**	10,5	M10	18	28	98	10	55	59	1,19
4073644	**CV40BST12M228**	12,5	M12	21	24	58	10	18	19	1,05
4073645	**CV40BST12M386**	12,5	M12	21	31	98	10	55	59	1,22
4073646	**CV40BST16M228**	17,0	M16	29	–	58	19	–	–	1,07
4073647	**CV40BST16M386**	17,0	M16	29	34	98	10	55	59	1,32

NOTE: For retention knobs, see page L45.









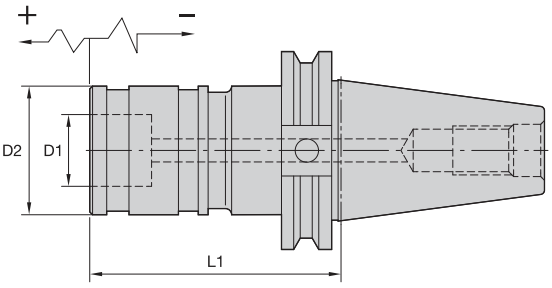
ERICKSON

RC-CV Form A

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	tension	compression	kg
1615978	**CV40TCRC1297**	1	M1 - M14	#0 - 9/16	19	36	75	15,0	15,0	1,21
1615979	**CV40TCRC2393**	2	M5 - M24	5/16 - 7/8	31	53	98	25,0	25,0	1,62

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
For retention knobs, see page L45.







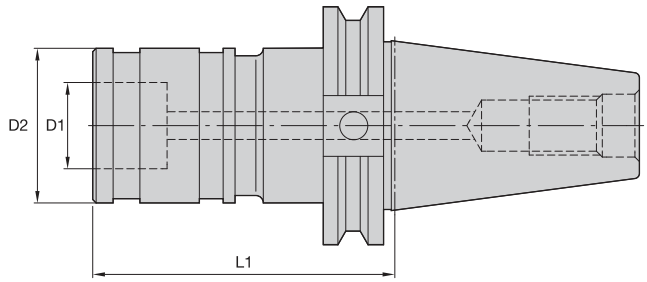
ERICKSON

RC Cool-CV Form AD

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	tension	compression	kg
1615986	**CV40CHTCRC1382**	1	M1 - M14	#0 - 9/16	19	36	97	15,0	15,0	1,41
1615987	**CV40CHTCRC2524**	2	M5 - M24	5/16 - 7/8	31	53	133	20,0	20,0	2,40

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
For retention knobs, see page L45.







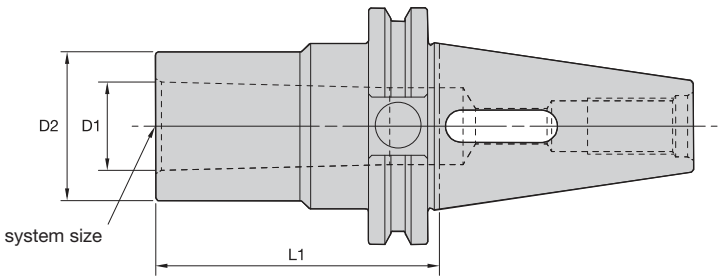
ERICKSON

STRC-CV Form AD

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	lbs
1615969	**CV40CSTRC1290**	1	M1 - M14	#0 - 9/16	.75	1.26	2.88	2.60
1615971	**CV40CSTRC2350**	2	M5 - M24	5/16 - 7/8	1.22	1.97	3.50	3.50

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
For retention knobs, see page L45.





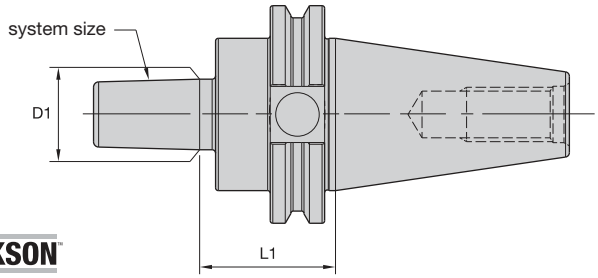


ERICKSON

MT-CV Form A

order number	catalog number	system size	D1	D2	L1	lbs
1025948	**CV40MT1175**	1	.48	.98	1.75	2.21
1025949	**CV40MT2244**	2	.70	1.26	2.44	2.30
1025950	**CV40MT3300**	3	.94	1.57	3.00	2.49
1025987	**CV40MT4388**	4	1.23	1.89	3.88	2.86

NOTE: For retention knobs, see page L45.







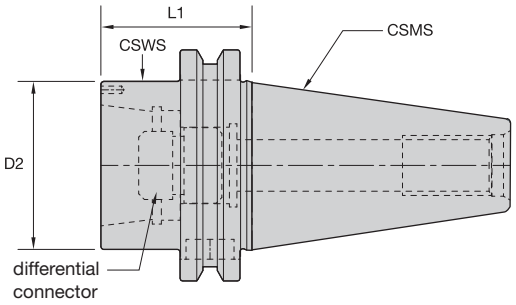
ERICKSON

JT-CV Form A

order number	catalog number	system size	D1	L1	lbs
1025951	**CV40JT2244**	2	.56	1.57	2.33
1025953	**CV40JT3278**	3	.81	1.56	2.45
1025952	**CV40JT33256**	33	.62	1.56	2.32

NOTE: For retention knobs, see page L45.

• Differential connector included.







CV to KR Adapters B/AD • Metric



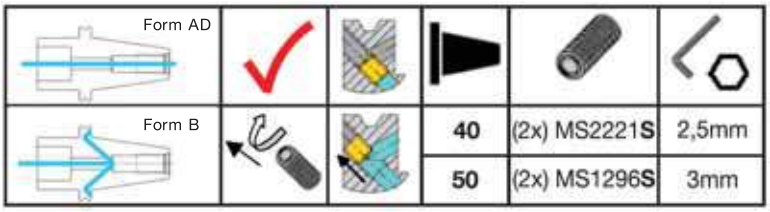
order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	kg	reference head
3554366	**CV40BKR32157**	CV40	KR32	47	40	**KRDCKR32M**	1,08	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554367	**CV40BKR50236**	CV40	KR50	65	60	**KRDCKR50M**	1,23	SVS4B,5B,SVU65,SVUBB2

CV to KR Adapters B/AD • Inch

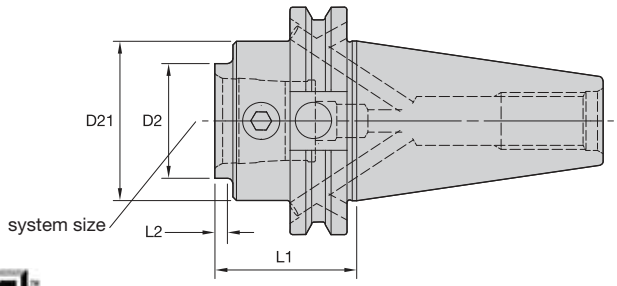


order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	lbs	reference head
3554366	**CV40BKR32157**	CV40	KR32	1.85	1.581	**KRDCKR32M**	2.40	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554367	**CV40BKR50236**	CV40	KR50	2.56	2.368	**KRDCKR50M**	2.70	SVS4B,5B,SVU65,SVUBB2

NOTE: For more information on Romicron boring systems, see the Kennametal Innovations Master Catalog Cutting Tools 2013.







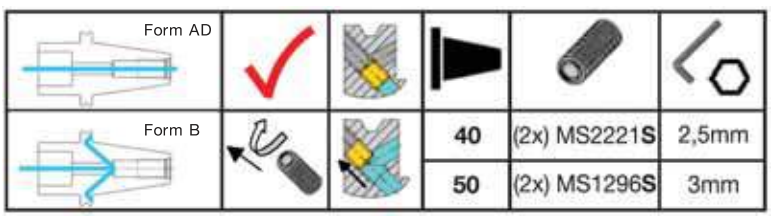


KM QUICK CHANGE ERICKSON

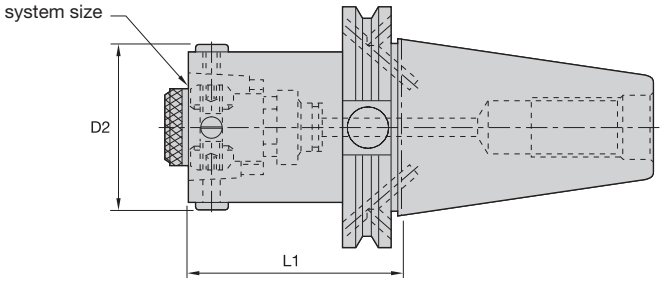
KM-CV Form B/AD

order number	catalog number	system size	D2	D21	L1	L2	KM spare parts package	wrench size actuation screw	ft. lbs.	lbs
2992433	**CV40BKM32157**	KM32	1.26	1.75	1.58	.37	**KM32PKG3L**	5mm	6	2.15
2992434	**CV40BKM32354**	KM32	1.26	1.75	3.54	2.14	**KM32PKG3S**	5mm	6	2.77
2992435	**CV40BKM40157**	KM40	1.58	1.75	1.58	.18	**KM40PKG3L**	6mm	9	2.12
2992436	**CV40BKM40394**	KM40	1.58	1.75	3.94	2.56	**KM40PKG3S**	6mm	9	3.29
2992437	**CV40BKM50354**	KM50	1.97	—	3.54	2.79	**KM50PKG3S**	10mm	20	3.51
2992438	**CV40BKM50472**	KM50	1.97	—	4.72	3.97	**KM50PKG3S**	10mm	20	4.23

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.
For retention knobs, see page L45.







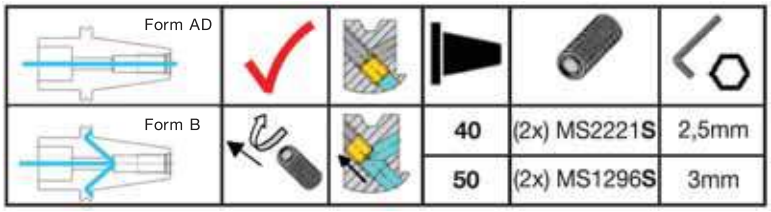


ERICKSON

HSK-CV Form B/AD

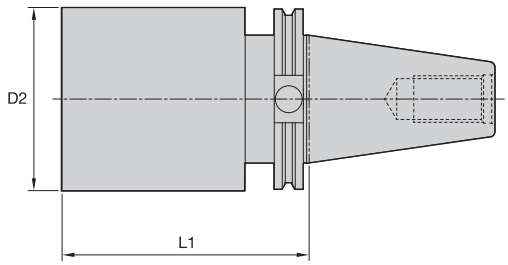
order number	catalog number	system size	D2	L1	wrench size actuation screw	ft. lbs.	lbs
1533057	**CV40BHSK63295**	HSK63	2.76	2.95	5mm	15	2.65

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with actuation mechanism and sealing ring.
For retention knobs, see page L45.



• Machinable front 20–30 HRC.







ERICKSON

BB-CV Form A

order number	catalog number	D2	L1	lbs
1020634	**CV40BB400120**	4.00	12.00	39.89
1020563	**CV40BB400600**	4.00	6.00	18.55

NOTE: For retention knob, see page L45.



ERICKSON™ CAT V-Flange Shank Tooling System • CV50 Series

Primary Application

ERICKSON V-Flange CAT Taper Tooling is manufactured from premium materials and meets or exceeds the latest ANSI B5.50 and ISO-1947 taper accuracy of AT3 specification standards. The CV50 tools are either pre-balanced to a high specification or balanced-by-design. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, retention knobs, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.





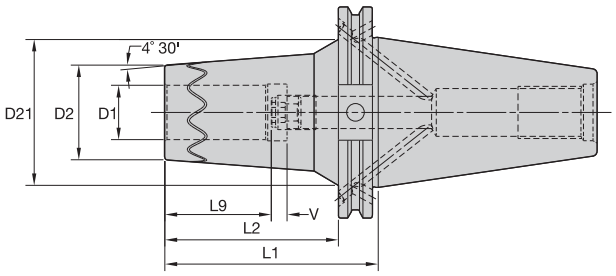
SAFE-λOCK™
by HAIMER

Features and Benefits

- ANSI B5.50 7/24 taper.
- Standard 1-8 drawbar thread.
- Taper accuracy of AT3 specification or better.
- All tools set to form AD coolant specification. Many can be converted to form B style.
- Maximum 100 bar (1,500 psi) coolant pressure.

- **SAFE-LOCK™**, innovative and unique non-slip system.
- Suitable for carbide and HSS cutting tools.
- Need ≥ 10 kW shrink unit.







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013

ERICKSON

TT SF MM-CV Z FORM B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
5089650	CV50ZBSFTT12M315	12	27	55	80	61	37	10	2,95
5089651	CV50ZBSFTT14M315	14	33	43	80	61	37	10	3,08
5089652	CV50ZBSFTT16M315	16	33	43	80	61	37	10	3,04
5089653	CV50ZBSFTT18M315	18	45	54	80	61	40	10	3,39
5089654	CV50ZBSFTT20M315	20	45	54	80	61	42	10	3,35
5089655	CV50ZBSFTT25M394	25	44	68	100	81	48	10	3,63

Cutting Tool Shank Requirements
inch (industry standard)

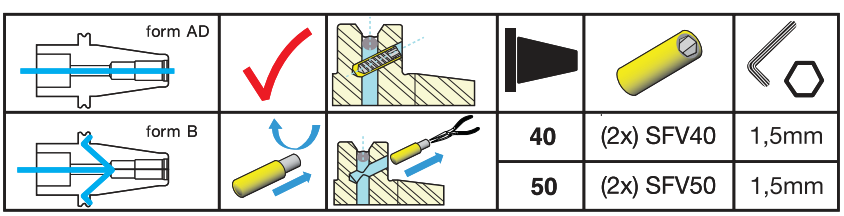
cutting tool shank diameters	tolerance
1/2 & 5/8	.0000/-.0004
3/4, 7/8, 1	.0000/-.0005

TT SF IN-CV Z FORM B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	lbs
5089656	CV50ZBSFTT050315	1/2	1.06	2.17	3.15	2.40	1.46	.39	6.49
5089657	CV50ZBSFTT062315	5/8	1.31	1.69	3.15	2.40	1.46	.39	6.71
5089658	CV50ZBSFTT075315	3/4	1.76	2.14	3.15	2.40	1.65	.39	7.41
5089659	CV50ZBSFTT100394	1	1.73	2.68	3.94	3.19	1.89	.39	7.33

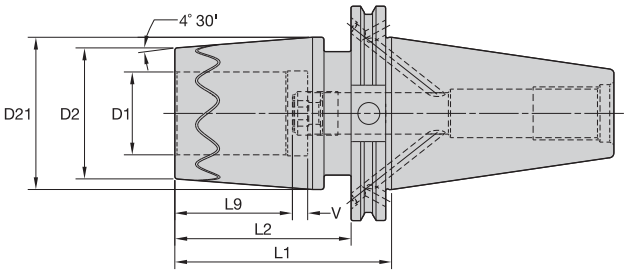
CV50Z toolholders deviate from ANSI-B5.50 standard. The 1.750" hub in front of the V-flange has been eliminated to achieve short gage lengths.

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder. Shrink Fit technical section, see page M78. Shrink Fit accessories, see pages L12–L13. HSK coolant unit and wrench are available and must be ordered separately; see page L44.



- **SAFE-LOCK™**, innovative and unique non-slip system.
- Ultra short and heavy-duty design.
- Suitable for carbide and HSS cutting tools.
- Need ≥ 20 kW shrink unit.







Cutting Tool Shank Requirements metric (ISO standard)

cutting tool shank diameter	tolerance	
25	h6	0,000/-0,013
32, 40, & 50	h6	0,000/-0,016

ERICKSON

TT SF HD MM-CV Z FORM B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
5089660	**CV50ZBSFHDTT25M354**	25	63	71	90	71	48	10	4,29
5089661	**CV50ZBSFHDTT32M354**	32	70	78	90	71	51	10	4,44
5089662	**CV50ZBSFHDTT40M394**	40	82	90	100	81	78	10	5,07
5089663	**CV50ZBSFHDTT50M551**	50	82	94	140	121	78	10	6,77

Cutting Tool Shank Requirements inch (industry standard)

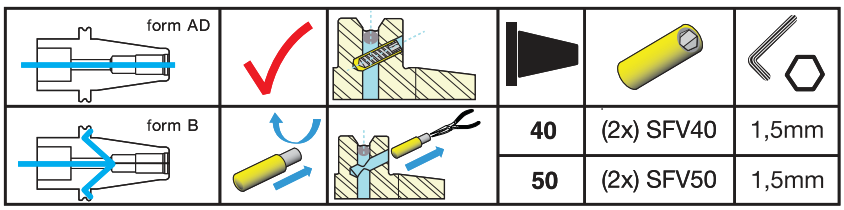
cutting tool shank diameters	tolerance
1, 1-1/4, 1-1/2, & 2	.0000/-.0005

TT SF HD IN-CV Z FORM B/AD

order number	catalog number	D1	D2	D21	L1	L9	V	lbs
5089664	**CV50ZBSFHDTT100354**	1	2.48	2.81	3.54	1.89	.39	9.44
5089665	**CV50ZBSFHDTT125354**	1 1/4	2.76	3.07	3.54	2.01	.39	9.81
5089666	**CV50ZBSFHDTT150394**	1 1/2	3.23	3.54	3.94	3.07	.39	11.35
5089667	**CV50ZBSFHDTT200551**	2	3.23	3.70	5.51	3.07	.39	14.84

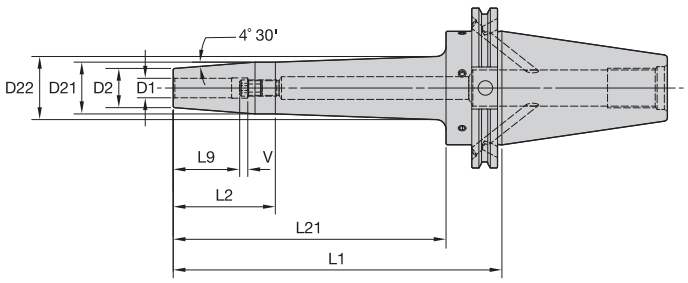
CV50Z toolholders deviate from ANSI-B5.50 standard. The 2.750" hub in front of the V-flange has been eliminated to achieve short gage lengths.

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Shrink Fit accessories, see pages L12–L13.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.



- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT GP HPV MM-CV Form B/AD



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3683508	CV50BHPVTT06M350	6	21	27	—	89	54	—	26	10	TTSS05014M	2,5mm	3,13
3683509	CV50BHPVTT06M800	6	21	27	35	203	50	168	26	10	TTSS05014M	2,5mm	3,74
3683510	CV50BHPVTT08M350	8	21	27	—	89	54	—	26	10	TTSS06014M	3mm	3,12
3683511	CV50BHPVTT08M800	8	21	27	35	203	50	168	26	10	TTSS06014M	3mm	3,73
3683512	CV50BHPVTT10M375	10	24	32	—	95	60	—	31	10	TTSS08014M	4mm	3,21
3683513	CV50BHPVTT10M800	10	24	32	39	203	63	168	31	10	TTSS08014M	4mm	3,98
3615227	CV50BHPVTT12M375	12	24	32	—	95	60	—	36	10	TTSS10014M	5mm	3,17
3615228	CV50BHPVTT12M800	12	24	32	39	203	63	168	36	10	TTSS10014M	5mm	3,88
3615229	CV50BHPVTT14M375	14	27	34	—	95	60	—	36	10	TTSS10014M	5mm	3,22
3615230	CV50BHPVTT14M800	14	27	34	41	203	63	168	36	10	TTSS10014M	5mm	3,98
3615231	CV50BHPVTT16M375	16	27	34	—	95	60	—	39	10	TTSS12014M	6mm	3,19
3615232	CV50BHPVTT16M800	16	27	34	41	203	63	168	39	10	TTSS12014M	6mm	3,96
3615233	CV50BHPVTT18M400	18	33	42	—	102	67	—	39	10	TTSS12014M	6mm	3,40
3615234	CV50BHPVTT18M800	18	33	42	49	203	70	168	39	10	TTSS12014M	6mm	4,52
3615235	CV50BHPVTT20M400	20	33	42	—	102	67	—	41	10	TTSS16014M	8mm	3,36
3615236	CV50BHPVTT20M800	20	33	42	49	203	70	168	41	10	TTSS16014M	8mm	4,44
3615237	CV50BHPVTT25M400	25	44	53	—	102	67	—	47	10	TTSS16014M	8mm	3,67
3615238	CV50BHPVTT25M800	25	44	53	60	203	70	168	47	10	TTSS16014M	8mm	5,44
3615239	CV50BHPVTT32M400	32	44	53	—	102	67	—	51	10	TTSS16014M	8mm	3,51
3615240	CV50BHPVTT32M800	32	44	53	60	203	70	168	51	10	TTSS16014M	8mm	5,28

(continued)

(TT GP HPV continued)

Cutting Tool Shank Requirements inch (industry standard)

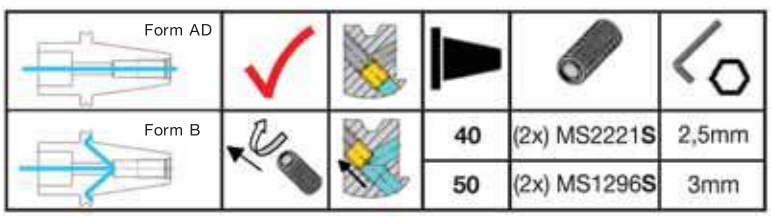
cutting tool shank diameters	tolerance
1/4, 5/16, & 3/8	.0000/-.0004
7/16, 1/2, 9/16, 5/8, & 11/16	.0000/-.0004
3/4, 7/8, 1, 1-1/4, 1-1/2, & 2	.0000/-.0005

TT GP HPV IN-CV Form B/AD



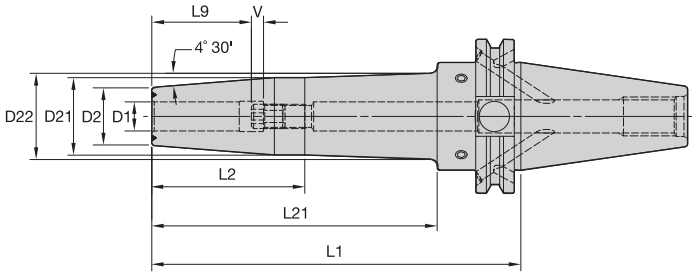
order number	catalog number	D1	D2	D21	L1	D22	L2	L9	L21	V	stop screw	wrench size stop screw	lbs
3683498	**CV50BHPVTT025350**	1/4	.83	1.06	3.50	—	2.13	1.02	—	.39	**TTSS05014M**	2,5mm	6.89
3683499	**CV50BHPVTT025800**	1/4	.83	1.06	8.00	1.38	1.97	1.02	6.63	.39	**TTSS05014M**	2,5mm	8.25
3683500	**CV50BHPVTT031350**	5/16	.83	1.06	3.50	—	2.13	1.02	—	.39	**TTSS06014M**	3mm	6.88
3683501	**CV50BHPVTT031800**	5/16	.83	1.06	8.00	1.38	1.97	1.02	6.63	.39	**TTSS06014M**	3mm	8.23
3683502	**CV50BHPVTT038375**	3/8	.95	1.26	3.75	—	2.38	1.22	—	.39	**TTSS08014M**	4mm	7.07
3683503	**CV50BHPVTT038800**	3/8	.95	1.26	8.00	1.55	2.48	1.22	6.63	.39	**TTSS08014M**	4mm	8.77
3683504	**CV50BHPVTT044375**	7/16	.95	1.26	3.75	—	2.38	1.42	—	.39	**TTSS10014M**	5mm	7.04
3683505	**CV50BHPVTT044800**	7/16	.95	1.26	8.00	1.55	2.48	1.42	6.63	.39	**TTSS10014M**	5mm	8.75
3615189	**CV50BHPVTT050375**	1/2	.95	1.26	3.75	—	2.38	1.42	—	.39	**TTSS10014M**	5mm	6.95
3615190	**CV50BHPVTT050800**	1/2	.95	1.26	8.00	1.55	2.48	1.42	6.63	.39	**TTSS10014M**	5mm	8.52
3615191	**CV50BHPVTT056375**	9/16	1.06	1.34	3.75	—	2.38	1.42	—	.39	**TTSS10014M**	5mm	7.06
3615192	**CV50BHPVTT062375**	5/8	1.06	1.34	3.75	—	2.38	1.54	—	.39	**TTSS12014M**	6mm	7.01
3615193	**CV50BHPVTT062800**	5/8	1.06	1.34	8.00	1.62	2.48	1.54	6.63	.39	**TTSS12014M**	6mm	8.72
3615194	**CV50BHPVTT068400**	11/16	1.30	1.65	4.00	—	2.63	1.54	—	.39	**TTSS12014M**	6mm	7.48
3615195	**CV50BHPVTT075400**	3/4	1.30	1.65	4.00	—	2.63	1.61	—	.39	**TTSS16014M**	8mm	7.41
3615196	**CV50BHPVTT075800**	3/4	1.30	1.65	8.00	1.92	2.76	1.61	6.63	.39	**TTSS16014M**	8mm	9.80
3615197	**CV50BHPVTT088400**	7/8	1.30	1.65	4.00	—	2.63	1.61	—	.39	**TTSS16014M**	8mm	7.32
3615198	**CV50BHPVTT088800**	7/8	1.30	1.65	8.00	1.92	2.76	1.61	6.63	.39	**TTSS16014M**	8mm	9.71
3615199	**CV50BHPVTT100400**	1	1.73	2.08	4.00	—	2.63	1.85	—	.39	**TTSS16014M**	8mm	8.05
3615200	**CV50BHPVTT100800**	1	1.73	2.08	8.00	2.35	2.76	1.85	6.63	.39	**TTSS16014M**	8mm	11.97
3615201	**CV50BHPVTT125400**	1 1/4	1.73	2.08	4.00	—	2.63	2.01	—	.39	**TTSS16014M**	8mm	7.74
3615202	**CV50BHPVTT125800**	1 1/4	1.73	2.08	8.00	2.35	2.76	2.01	6.63	.39	**TTSS16014M**	8mm	11.65
3683506	**CV50BHPVTT150450**	1 1/2	2.36	2.75	4.50	—	3.75	2.01	—	.39	**TTSS20014M**	10mm	9.81
3683507	**CV50BHPVTT200450**	2	2.72	3.11	4.50	—	3.75	2.20	—	.39	**TTSS20014M**	10mm	10.07

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.



- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16 & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT HT HPV MM-CV Form B/AD



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3618044	CV50BHPVTTHT12M375	12	24	32	—	95	60	—	36	10	TTSS10014M	5mm	3,17
3618045	CV50BHPVTTHT12M800	12	24	32	39	203	63	168	36	10	TTSS10014M	5mm	3,88
3618046	CV50BHPVTTHT14M375	14	27	34	—	95	60	—	36	10	TTSS10014M	5mm	3,21
3618047	CV50BHPVTTHT14M800	14	27	34	41	203	63	168	36	10	TTSS10014M	5mm	3,98
3618048	CV50BHPVTTHT16M375	16	27	34	—	95	60	—	39	10	TTSS12014M	6mm	3,19
3618049	CV50BHPVTTHT16M800	16	27	34	41	203	63	168	39	10	TTSS12014M	6mm	3,96
3618050	CV50BHPVTTHT18M400	18	33	42	—	102	67	—	39	10	TTSS12014M	6mm	3,40
3618051	CV50BHPVTTHT18M800	18	33	42	49	203	70	168	39	10	TTSS12014M	6mm	4,52
3618052	CV50BHPVTTHT20M400	20	33	42	—	102	67	—	41	10	TTSS16014M	8mm	3,36
3618053	CV50BHPVTTHT20M800	20	33	42	49	203	70	168	41	10	TTSS16014M	8mm	4,44
3618054	CV50BHPVTTHT25M400	25	44	53	—	102	67	—	47	10	TTSS16014M	8mm	3,67
3618055	CV50BHPVTTHT25M800	25	44	53	60	203	70	168	47	10	TTSS16014M	8mm	5,44
3618056	CV50BHPVTTHT32M400	32	44	53	—	102	67	—	51	10	TTSS16014M	8mm	3,51
3618057	CV50BHPVTTHT32M800	32	44	53	60	203	70	168	51	10	TTSS16014M	8mm	5,28

(continued)

(TT HT HPV continued)

Cutting Tool Shank Requirements
inch (industry standard)

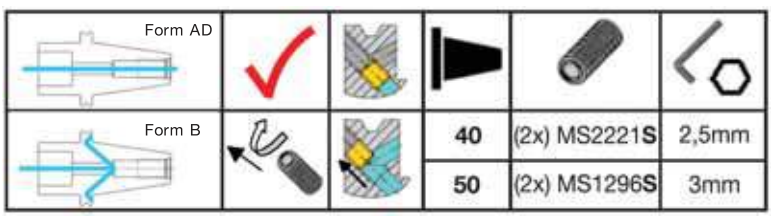
cutting tool shank diameters	tolerance
1/2, 9/16, 5/8 & 11/16	.0000/-.0004
3/4, 7/8, 1 & 1-1/4	.0000/-.0005

TT HT HPV IN-CV Form B/AD

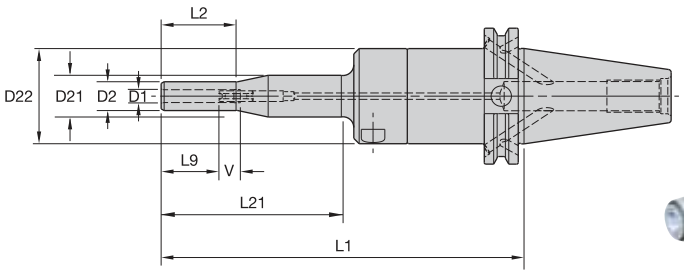


order number	catalog number	D1	D2	D21	D22	L1	L2	L9	L21	V	stop screw	wrench size stop screw	lbs
3618016	**CV50BHPVTTHT050375**	1/2	.95	1.26	—	3.75	2.38	1.42	—	.39	**TTSS10014M**	5mm	6.95
3618017	**CV50BHPVTTHT050800**	1/2	.95	1.26	1.55	8.00	2.48	1.42	6.63	.39	**TTSS10014M**	5mm	8.52
3618018	**CV50BHPVTTHT056375**	9/16	1.06	1.34	—	3.75	2.38	1.42	—	.39	**TTSS10014M**	5mm	7.06
3618019	**CV50BHPVTTHT062375**	5/8	1.06	1.34	—	3.75	2.38	1.54	—	.39	**TTSS12014M**	6mm	7.01
3618020	**CV50BHPVTTHT062800**	5/8	1.06	1.34	1.62	8.00	2.48	1.54	6.63	.39	**TTSS12014M**	6mm	8.72
3618021	**CV50BHPVTTHT068400**	11/16	1.30	1.65	—	4.00	2.63	1.54	—	.39	**TTSS12014M**	6mm	7.48
3618022	**CV50BHPVTTHT075400**	3/4	1.30	1.65	—	4.00	2.63	1.61	—	.39	**TTSS16014M**	8mm	7.41
3618023	**CV50BHPVTTHT075800**	3/4	1.30	1.65	1.92	8.00	2.76	1.61	6.63	.39	**TTSS16014M**	8mm	9.80
3618024	**CV50BHPVTTHT088400**	7/8	1.30	1.65	—	4.00	2.63	1.61	—	.39	**TTSS16014M**	8mm	7.32
3618025	**CV50BHPVTTHT088800**	7/8	1.30	1.65	1.92	8.00	2.76	1.61	6.63	.39	**TTSS16014M**	8mm	9.72
3618026	**CV50BHPVTTHT100400**	1	1.73	2.08	—	4.00	2.63	1.85	—	.39	**TTSS16014M**	8mm	8.05
3618027	**CV50BHPVTTHT100800**	1	1.73	2.08	2.35	8.00	2.76	1.85	6.63	.39	**TTSS16014M**	8mm	11.97
3618028	**CV50BHPVTTHT125400**	1 1/4	1.73	2.08	—	4.00	2.63	2.01	—	.39	**TTSS16014M**	8mm	7.74
3618029	**CV50BHPVTTHT125800**	1 1/4	1.73	2.08	2.35	8.00	2.76	2.01	6.63	.39	**TTSS16014M**	8mm	11.65

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.









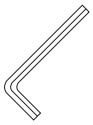
ERICKSON

HC Slim T MM-CV Form B/AD

order number	catalog number	D1	D2	D21	D22	L1	L2	L9	L21	V	kg
3019251	CV50BHCSLT06M787	6	13,5	19,5	44	200	35	27	85	10	4,17
3019252	CV50BHCSLT08M787	8	15,5	19,5	44	200	35	27	85	10	4,18
3019253	CV50BHCSLT10M787	10	17,5	44,5	70	200	85	31	141	10	4,17

Spare Parts





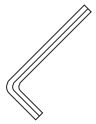
catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
CV50BHCSLT06M787	170.135	5mm	170.002	2,5mm
CV50BHCSLT08M787	170.135	5mm	170.002	2,5mm
CV50BHCSLT10M787	170.135	5mm	170.003	3mm

HC Slim T IN-CV Form B/AD

order number	catalog number	D1	D2	D21	D22	L1	L2	L9	V	lbs
3019260	CV50BHCSLT025787	.25	.54	.77	1.75	7.87	1.38	1.06	.39	9.22
3019261	CV50BHCSLT038787	.38	.69	1.75	2.75	7.87	3.35	1.22	.39	9.19

Spare Parts

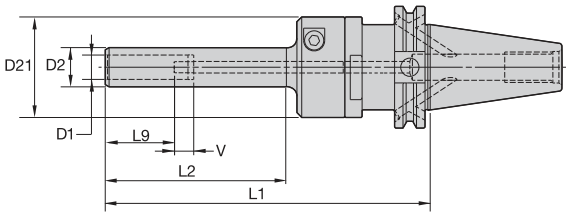


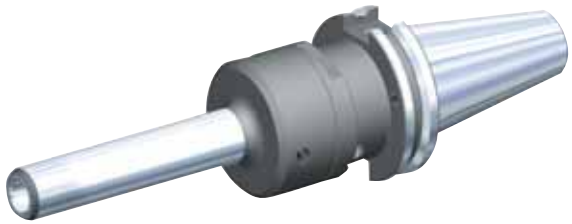


catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
CV50BHCSLT025787	170.135	5mm	170.002	2,5mm
CV50BHCSLT038787	170.135	5mm	170.003	3mm

(continued)

(HC Slim continued)



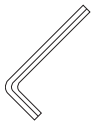


HC Slim MM-CV Form B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
2508155	CV50BHCSL12M787	12	19,5	44,5	200	95	36	10	3,91
3019254	CV50BHCSL14M787	14	21,5	52,5	200	95	36	10	4,25
3019255	CV50BHCSL16M787	16	23,5	52,5	200	95	39	10	4,27
3019256	CV50BHCSL18M787	18	25,5	52,5	200	95	39	10	4,31
2508156	CV50BHCSL20M787	20	27,5	52,5	200	95	41	10	4,32

Spare Parts





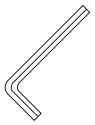
catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
CV50BHCSL12M787	170.135	5mm	170.002	2,5mm
CV50BHCSL14M787	170.135	5mm	170.002	2,5mm
CV50BHCSL16M787	170.135	5mm	170.002	2,5mm
CV50BHCSL18M787	170.135	5mm	170.002	2,5mm
CV50BHCSL20M787	170.135	5mm	170.002	2,5mm

HC Slim IN-CV Form B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	lbs
2508157	CV50BHCSL050787	.50	.81	2.07	7.87	3.74	1.42	.39	9.28
3019262	CV50BHCSL062787	.63	.93	2.07	7.87	3.74	1.54	.39	9.41
2508158	CV50BHCSL075787	.75	1.06	2.07	7.87	3.74	1.61	.39	9.52

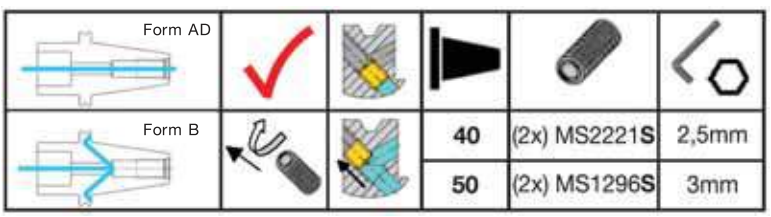
Spare Parts



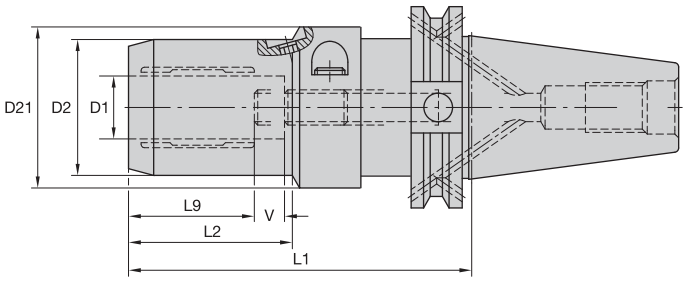


catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
CV50BHCSL050787	170.135	5mm	170.002	2,5mm
CV50BHCSL062787	170.135	5mm	170.002	2,5mm
CV50BHCSL075787	170.135	5mm	170.002	2,5mm

NOTE: Do not overtorque actuation screw. Use supplied wrench and tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw and actuation wrench.
Unable to use SEFAS™ chamfering rings on this design.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.





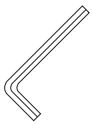




ERICKSON

HC MM-CV Form B/AD

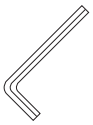




order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	kg
2079529	CV50BHC06M350	6	25,7	63	89	33	27	10	170.135	5mm	170.002	2,5mm	3,44
2079530	CV50BHC08M350	8	27,7	63	89	33	27	10	170.135	5mm	170.002	2,5mm	3,46
2079531	CV50BHC10M375	10	29,7	63	95	37	31	10	170.135	5mm	170.002	2,5mm	3,54
2079532	CV50BHC12M375	12	31,6	63	95	40	36	10	170.135	5mm	170.002	2,5mm	3,52
2079563	CV50BHC14M400	14	33,6	63	102	46	41	10	170.135	5mm	170.003	3mm	3,56
2079564	CV50BHC16M400	16	37,6	63	102	47	41	10	170.135	5mm	170.003	3mm	3,62
2079565	CV50BHC18M400	18	39,6	63	102	47	41	10	170.135	5mm	170.003	3mm	3,64
2079566	CV50BHC20M400	20	41,6	63	102	48	41	10	170.135	5mm	170.003	3mm	3,67
1605226	CV50BHC25M462	25	49,9	63	117	51	51	10	170.136	6mm	170.004	4mm	4,10
1605227	CV50BHC32M462	32	59,9	63	117	59	51	10	170.136	6mm	170.004	4mm	4,29

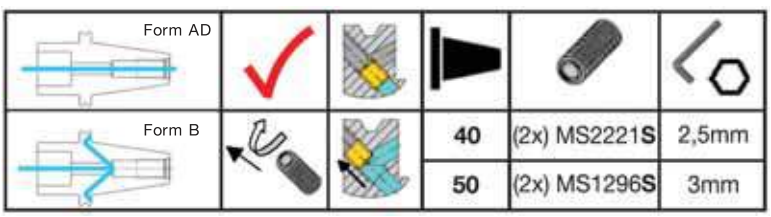
HC IN-CV Form B/AD





order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	lbs
2079524	CV50BHC025350	1/4	1.01	2.48	3.50	1.30	1.06	.39	170.135	5mm	170.002	2,5mm	7.59
2079525	CV50BHC038375	3/8	1.17	2.48	3.75	1.46	1.22	.39	170.135	5mm	170.002	2,5mm	7.83
2079526	CV50BHC050375	1/2	1.24	2.48	3.75	1.57	1.42	.39	170.135	5mm	170.002	2,5mm	7.74
2079527	CV50BHC062400	5/8	1.48	2.48	4.00	1.83	1.54	.39	170.135	5mm	170.003	3mm	8.00
2079528	CV50BHC075400	3/4	1.64	2.48	4.00	1.89	1.61	.39	170.135	5mm	170.003	3mm	8.11
1605143	CV50BHC100462	1	1.96	2.48	4.63	2.01	1.81	.39	170.136	6mm	170.004	4mm	9.06
1605144	CV50BHC125462	1 1/4	2.36	2.48	4.63	2.32	1.97	.39	170.136	6mm	170.004	4mm	9.50

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.





KM4X™

The Next Generation Spindle Interface for Heavy-Duty Machining!

KM4X is designed to take on your most aggressive machining jobs. This next generation KM™ spindle interface should be your first choice for heavy-duty machining applications. It's especially suited for large structural components, like titanium aerospace components.

We engineered these rotating and static tool adaptors to handle 3x more bending capacity than similar competitive models.

What does this mean for you?

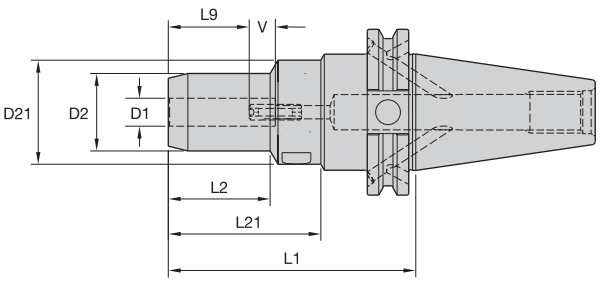
- Enables full use of machine and cutting tools for the highest productivity.
- Higher metal removal rates.
- Can retrofit to existing machines to boost throughput without buying new equipment .
- Ideal for aerospace and transportation industry machining jobs.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®



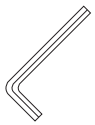




ERICKSON

HC Trend MM-CV Form B/AD



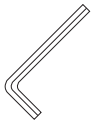


order number	catalog number	D1	D2	D21	L1	L2	L21	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	kg
2977690	**CV50BHCT06M350**	6	25,7	63	89	33	53	27	10	**170.135**	6mm	**170.003**	3mm	3,48
2452778	**CV50BHCT06M600**	6	25,7	63	152	100	117	27	10	**170.135**	5mm	**170.003**	3mm	3,68
2977691	**CV50BHCT08M350**	8	27,7	63	89	33	53	27	10	**170.135**	5mm	**170.003**	3mm	3,55
2452779	**CV50BHCT08M600**	8	27,7	63	152	100	117	27	10	**170.135**	5mm	**170.003**	3mm	3,73
2977692	**CV50BHCT10M375**	10	29,7	63	95	37	59	31	10	**170.135**	5mm	**170.003**	3mm	3,58
2452780	**CV50BHCT10M600**	10	29,7	63	152	100	117	31	10	**170.135**	5mm	**170.003**	3mm	3,80
2977693	**CV50BHCT12M375**	12	31,6	63	95	40	59	36	10	**170.135**	5mm	**170.003**	3mm	3,56
2452781	**CV50BHCT12M600**	12	31,6	63	152	100	117	36	10	**170.135**	5mm	**170.005**	5mm	3,85
2977694	**CV50BHCT14M400**	14	33,6	63	102	46	66	41	10	**170.135**	5mm	**170.005**	5mm	3,60
2452782	**CV50BHCT14M600**	14	33,6	63	152	100	117	36	10	**170.135**	5mm	**170.005**	5mm	3,92
2977695	**CV50BHCT16M400**	16	37,6	63	102	47	66	41	10	**170.135**	5mm	**170.005**	5mm	3,67
2453233	**CV50BHCT16M600**	16	37,6	63	152	100	117	39	10	**170.135**	5mm	**170.005**	5mm	4,08
2977696	**CV50BHCT18M400**	18	39,6	63	102	47	66	41	10	**170.135**	5mm	**170.005**	5mm	3,70
2453234	**CV50BHCT18M600**	18	39,6	63	152	100	117	39	10	**170.135**	5mm	**170.005**	5mm	4,15
2977697	**CV50BHCT20M400**	20	41,6	63	102	48	66	41	10	**170.135**	5mm	**170.005**	5mm	3,71
2453235	**CV50BHCT20M600**	20	41,6	63	152	100	117	41	10	**170.135**	5mm	**170.005**	5mm	4,23
2977698	**CV50BHCT25M462**	25	49,9	63	117	51	81	51	10	**170.136**	6mm	**170.005**	5mm	4,15
2977699	**CV50BHCT32M462**	32	59,9	63	117	59	81	51	10	**170.136**	6mm	**170.005**	5mm	4,33

(continued)

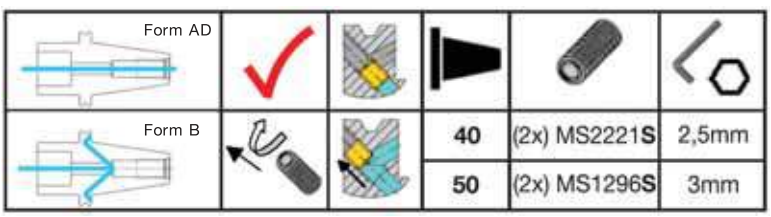
(HC Trend continued)

HC Trend IN-CV Form B/AD

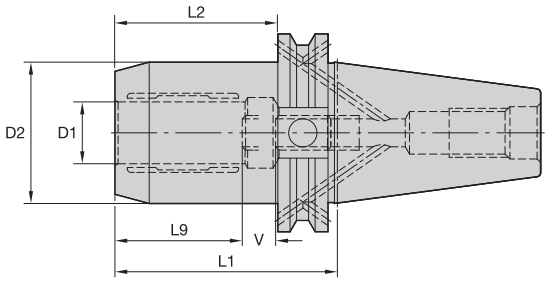



order number	catalog number	D1	D2	D21	L1	L2	L21	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	lbs
2977683	**CV50BHCT025350**	1/4	1.01	2.47	3.50	1.30	2.08	1.06	.39	**170.135**	5mm	**170.003**	3mm	7.67
2452210	**CV50BHCT025600**	1/4	1.01	2.47	6.00	3.94	4.59	1.06	.39	**170.135**	5mm	**170.003**	3mm	8.10
2977684	**CV50BHCT038375**	3/8	1.17	2.47	3.75	1.46	2.33	1.22	.39	**170.135**	5mm	**170.003**	3mm	7.89
2452774	**CV50BHCT038600**	3/8	1.17	2.47	6.00	3.94	4.59	1.22	.39	**170.135**	5mm	**170.003**	3mm	8.36
2977685	**CV50BHCT050375**	1/2	1.24	2.47	3.75	1.57	2.33	1.42	.39	**170.135**	5mm	**170.003**	3mm	7.83
2452775	**CV50BHCT050600**	1/2	1.24	2.47	6.00	3.94	4.59	1.42	.39	**170.135**	5mm	**170.005**	5mm	8.47
2977686	**CV50BHCT062400**	5/8	1.48	2.47	4.00	1.83	2.58	1.54	.39	**170.135**	5mm	**170.005**	5mm	8.09
2452776	**CV50BHCT062600**	5/8	1.48	2.47	6.00	3.94	4.59	1.54	.39	**170.135**	5mm	**170.005**	5mm	8.98
2977687	**CV50BHCT075400**	3/4	1.64	2.47	4.00	1.89	2.58	1.61	.39	**170.135**	5mm	**170.005**	5mm	8.20
2452777	**CV50BHCT075600**	3/4	1.64	2.47	6.00	3.94	4.59	1.61	.39	**170.135**	5mm	**170.005**	5mm	9.33
2977688	**CV50BHCT100462**	1	1.96	2.47	4.63	2.01	3.21	1.81	.39	**170.136**	6mm	**170.005**	5mm	9.17
2977689	**CV50BHCT125462**	1 1/4	2.35	2.47	4.63	2.32	3.21	1.97	.39	**170.136**	6mm	**170.005**	5mm	9.57

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.



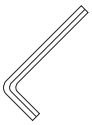






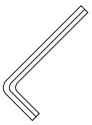
ERICKSON

HC Basic MM-CV Form B/AD

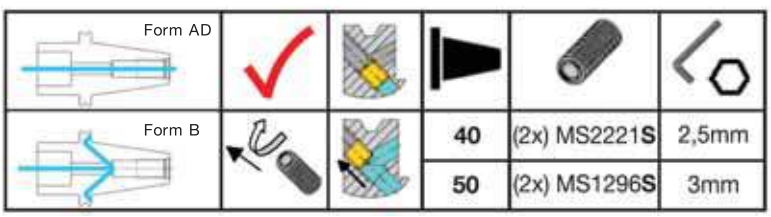
order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	kg
2001977	CV50BHCB20M400	20	62,9	102	65	41	10	170.135	5mm	170.005	5mm	4,38

HC Basic IN-CV Form B/AD

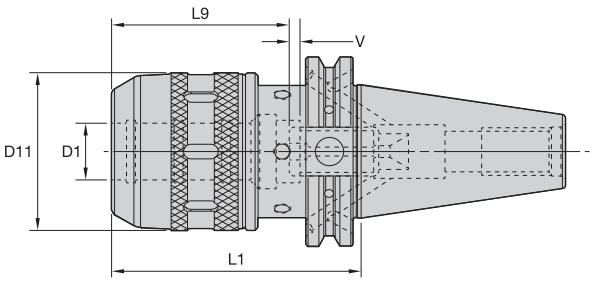
order number	catalog number	D1	D2	L1	L2	L9	V	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw	lbs
2001978	CV50BHCB075400	3/4	2.47	4.00	2.56	1.61	.39	170.135	5mm	170.005	5mm	9.68

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.



- Heavy- and fine-milling capabilities.
- Balancable — fine tune with optional M6 set screws.







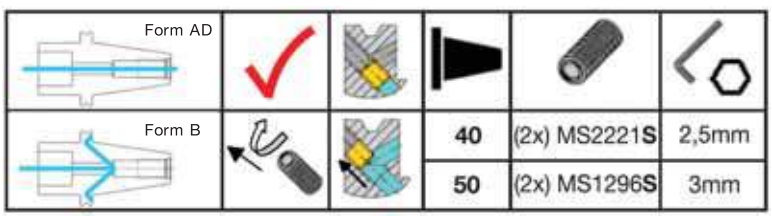
ERICKSON

HPMC IN-CV Form B/AD

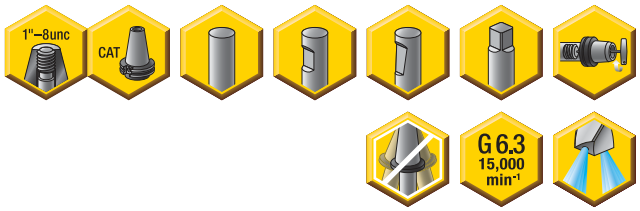


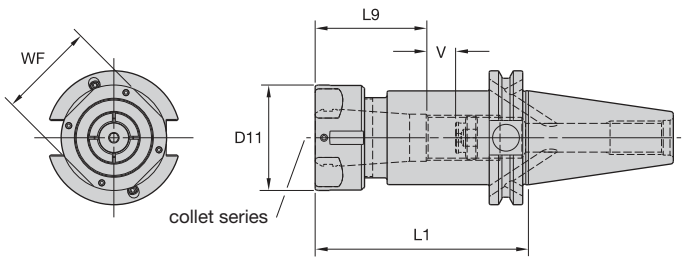

order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	lbs
3100403	CV50BHPMC075354	3/4	2.09	3.54	1.93	.79	PSW52M	MCSS16040M	2,5mm & 5mm	8.10
3100404	CV50BHPMC075650	3/4	2.09	6.50	1.93	.79	PSW52M	MCSS16040M	2,5mm & 5mm	10.50
3100405	CV50BHPMC100354	1	2.40	3.54	2.17	.79	PSW58M	MCSS16040M	2,5mm & 5mm	8.50
3100406	CV50BHPMC100531	1	2.40	5.32	2.17	.79	PSW58M	MCSS16040M	2,5mm & 5mm	10.50
3100407	CV50BHPMC100650	1	2.40	6.50	2.17	.79	PSW58M	MCSS16040M	2,5mm & 5mm	11.85
3100408	CV50BHPMC125354	1 1/4	2.76	3.54	2.28	.79	PSW68M	MCSS16040M	2,5mm & 5mm	9.00
3100409	CV50BHPMC125531	1 1/4	2.91	5.32	2.95	.79	PSW68M	MCSS16040M	2,5mm & 5mm	11.70
3100410	CV50BHPMC125650	1 1/4	2.91	6.50	2.95	.79	PSW68M	MCSS16040M	2,5mm & 5mm	13.50

NOTE: Milling chuck technical section, see page M88.
Supplied with locknut and stop screw.
Locknut wrench not included.
Optional M6~1,0P fine-balancing screw set is available (order number HPMCBALSCREWSET) and must be ordered separately; see page L14.
Reduction sleeves are available and must be ordered separately; see page J6.
For retention knobs, see page L45.



- Tremendous Grip (3:1 advantage).
- Totally flush face, locknut to collet.
- Locknut uses either open end wrench or spanner wrench.
- Locknut disk sealing cap available for through coolant to prevent collet contamination.







Collet Capacity

TG collet series	mm min	mm max	inch min	inch max
TG50	1,1	13,5	1/32	17/32
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

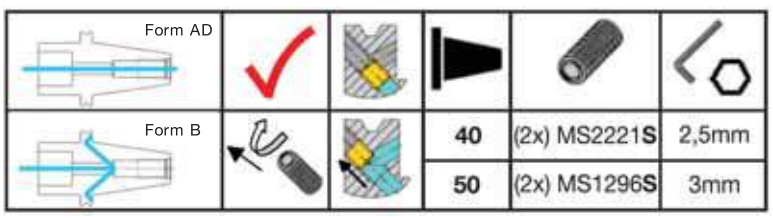
ERICKSON™

TG Flush-CV Form B/AD



order number	catalog number	collet series	D11	L1	L9	V	WF	locknut	wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
2993251	**CV50BTGF075275**	TG75	1.97	2.75	1.89	1	2	**LNATGF075M**	**HSW45M**	100	**SS081041G**	4mm & 5/32	7.21
2993247	**CV50BTGF050275**	TG50	1.50	2.75	1.46	2	1	**LNATGF050M**	**HSW34M**	50	**SS056041G**	4mm & 5/32	7.06
2993255	**CV50BTGF100275**	TG100	2.36	2.75	2.44	1	2	**LNATGF100M**	**HSW58M**	150	**SS112041G**	4mm & 5/32	7.13
2993248	**CV50BTGF050400**	TG50	1.50	4.00	1.46	2	1	**LNATGF050M**	**HSW34M**	50	**SS056041G**	4mm & 5/32	7.38
2993256	**CV50BTGF100400**	TG100	2.36	4.00	2.44	1	2	**LNATGF100M**	**HSW58M**	150	**SS112041G**	4mm & 5/32	8.28
2993252	**CV50BTGF075400**	TG75	1.97	4.00	1.89	2	2	**LNATGF075M**	**HSW45M**	100	**SS081041G**	4mm & 5/32	8.15
2993253	**CV50BTGF075600**	TG75	1.97	6.00	1.89	2	2	**LNATGF075M**	**HSW45M**	100	**SS081041G**	4mm & 5/32	9.52
2993249	**CV50BTGF050600**	TG50	1.50	6.00	1.46	2	1	**LNATGF050M**	**HSW34M**	50	**SS056041G**	4mm & 5/32	7.75
2993257	**CV50BTGF100600**	TG100	2.36	6.00	2.44	3	2	**LNATGF100M**	**HSW58M**	150	**SS112041G**	4mm & 5/32	10.39
2993250	**CV50BTGF050800**	TG50	1.50	8.00	1.46	2	1	**LNATGF050M**	**HSW34M**	50	**SS056041G**	4mm & 5/32	8.48
2993258	**CV50BTGF100800**	TG100	2.36	8.00	2.44	3	2	**LNATGF100M**	**HSW58M**	150	**SS112041G**	4mm & 5/32	12.53
2993254	**CV50BTGF075800**	TG75	1.97	8.00	1.89	2	2	**LNATGF075M**	**HSW45M**	100	**SS081041G**	4mm & 5/32	11.02

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Disk sealing cap and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.





KM™ QUICK CHANGE The ISO 26622 Standard

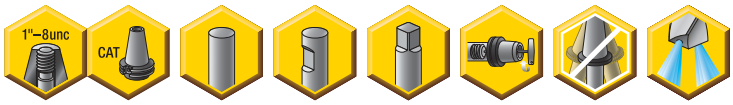
KM™ Quick-Change Tooling — the ISO 26622 Standard.

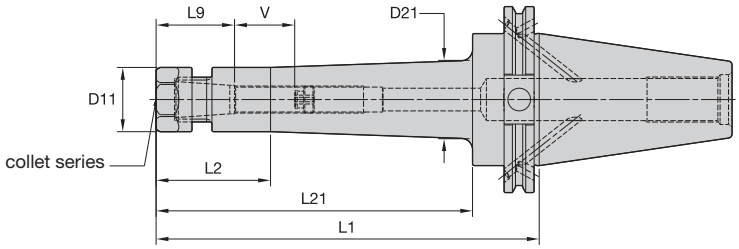
- Our unique three-surface taper contact design makes this the most rigid and accurate modular quick-change tooling system available.
- It's highly versatile, too: can be fully and easily employed on your lathe, machining center, multi-spindle, or mill-turn machine — significantly reducing your tool-change and part setup downtime!

www.kennametal.com

KENNAMETAL®

- Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG50	1,3	13,5	1/32	17/32

ERICKSON

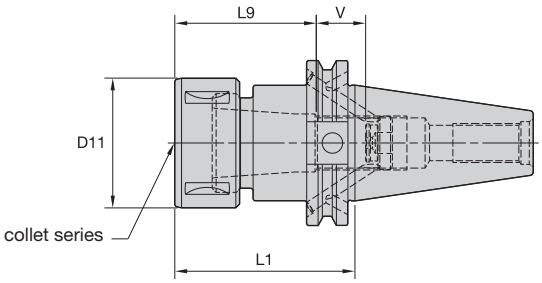
TG Hex-CV Form B/AD



order number	catalog number	collet series	D11	D21	L1	L2	L21	L9	V	locknut	wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
4135687	**CV50BTG050300**	TG50	1.34	—	3.00	1.59	—	1.50	1.81	**LN050M**	**OEW30M**	50	**SS056041G**	4mm & 5/32	7.06
4135688	**CV50BTG050500**	TG50	1.34	—	5.00	3.59	—	1.50	2.44	**LN050M**	**OEW30M**	50	**SS056041G**	4mm & 5/32	7.58
4135689	**CV50BTG050800**	TG50	1.34	1.63	8.00	2.00	6.59	1.50	2.44	**LN050M**	**OEW30M**	50	**SS056041G**	4mm & 5/32	8.93
4135690	**CV50BTG0501000**	TG50	1.34	1.70	10.00	3.00	8.59	1.50	2.44	**LN050M**	**OEW30M**	50	**SS056041G**	4mm & 5/32	9.85
4135691	**CV50BTG0501200**	TG50	1.34	1.81	12.00	3.50	10.59	1.50	2.44	**LN050M**	**OEW30M**	50	**SS056041G**	4mm & 5/32	10.97

(continued)

(TG Form B/AD continued)





	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

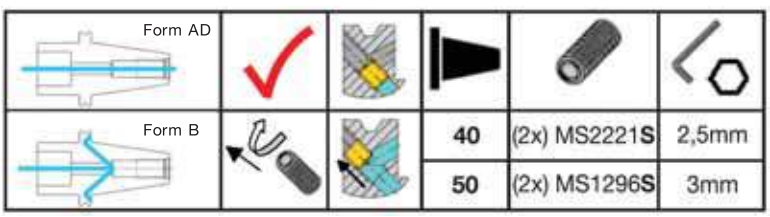
TG Round-CV Form B/AD



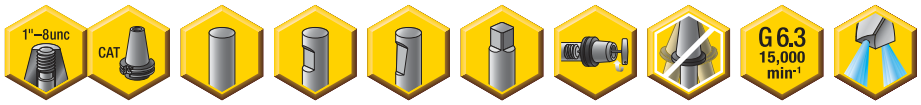


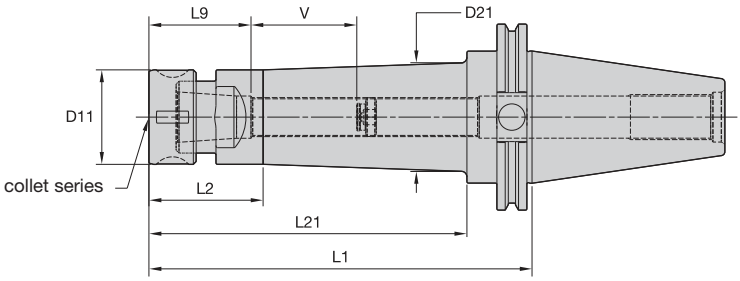
order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
1261786	**CV50BTG075300G**	TG75	1.97	3.00	1.93	1.46	**LNA075M**	**HSW45M**	100	**SS081041G**	4mm & 5/32	7.34
1261787	**CV50BTG075600G**	TG75	1.97	6.00	1.93	4.45	**LNA075M**	**HSW45M**	100	**SS081041G**	4mm & 5/32	9.56
1261788	**CV50BTG100300G**	TG100	2.36	3.00	2.56	.98	**LNA100M**	**HSW58M**	150	**SS112041G**	4mm & 5/32	7.32
1261789	**CV50BTG100750G**	TG100	2.36	7.50	2.56	5.12	**LNA100M**	**HSW58M**	150	**SS112041G**	4mm & 5/32	11.80

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.



- Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

ERICKSON

TG Round-CV Form AD

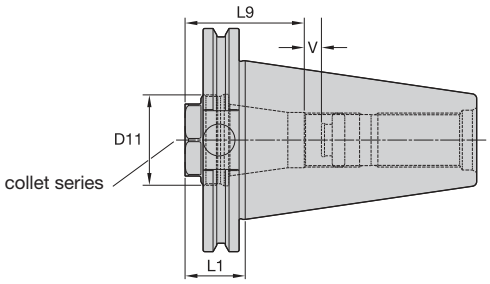


order number	catalog number	collet series	D11	D21	L1	L2	L21	L9	V	locknut	wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
1025603	**CV50TG075279G**	TG75	1.97	—	2.79	1.42	—	1.93	1.38	**LNA075M**	**HSW45M**	100.0000	**SS081041G**	4mm & 5/32	7.30
1025635	**CV50TG075579G**	TG75	1.97	2.15	5.79	1.82	4.38	1.93	4.37	**LNA075M**	**HSW45M**	100.0000	**SS081041G**	4mm & 5/32	9.70
1025914	**CV50TG075800G**	TG75	1.97	2.27	8.00	2.38	6.63	2.09	4.45	**LNA075M**	**HSW45M**	100.0000	**SS081041G**	4mm & 5/32	11.45
1025915	**CV50TG0751000G**	TG75	1.97	2.40	10.00	2.38	8.63	2.09	4.45	**LNA075M**	**HSW45M**	100.0000	**SS081041G**	4mm & 5/32	13.61
1025916	**CV50TG0751200G**	TG75	1.97	2.54	12.00	2.40	10.63	1.93	4.57	**LNA075M**	**HSW45M**	100.0000	**SS081041G**	4mm & 5/32	16.50
2636767	**CV50TG100276G**	TG100	2.36	—	2.76	1.47	—	2.76	1.85	**LNA100M**	**HSW58M**	150.0000	**SS112041G**	4mm & 5/32	7.07
2636768	**CV50TG100326G**	TG100	2.36	—	3.26	1.69	—	2.76	2.36	**LNA100M**	**HSW58M**	150.0000	**SS112041G**	4mm & 5/32	7.61
2636769	**CV50TG100526G**	TG100	2.36	—	5.26	3.89	—	2.76	4.33	**LNA100M**	**HSW58M**	150.0000	**SS112041G**	4mm & 5/32	9.50
2636770	**CV50TG100726G**	TG100	2.36	—	7.26	5.89	—	2.76	5.15	**LNA100M**	**HSW58M**	150.0000	**SS112041G**	4mm & 5/32	11.56

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.

• Grip (2:1 advantage).







ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

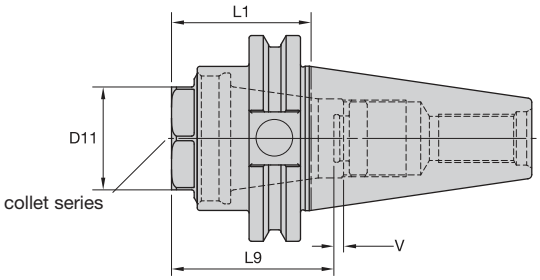
ERICKSON

ER Short-CV Z Form AD



order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
2978741	**CV50ZSER32106**	ER32	1.41	1.06	1.97	.67	**LNECSER32M**	**OEW32M**	100	**SS094041G**	4mm & 5/32	5.32
2978763	**CV50ZSER40106**	ER40	1.81	1.06	2.24	.43	**LNECSER40M**	**OEW168**	130	**SS112041G**	4mm & 5/32	4.94

CV50 toolholders deviate from ANSI B5.50 standard. The 2.750" diameter in front of the V-flange has been eliminated to achieve short gage lengths.





ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ER Short-CV Form AD

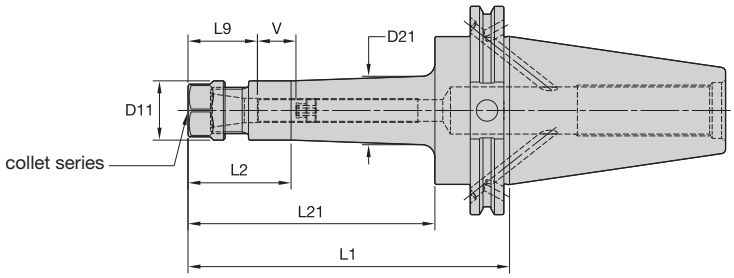


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
2978742	**CV50SER32169**	ER32	1.41	1.69	1.97	1.06	**LNECSER32M**	**OEW32M**	100	**SS094041G**	4mm & 5/32	6.27
2978764	**CV50SER40169**	ER40	1.81	1.69	2.24	.83	**LNECSER40M**	**OEW168**	130	**SS112041G**	4mm & 5/32	5.86

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.

• Grip (2:1 advantage).







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Hex-CV Form B/AD

order number	catalog number	collet series	D11	D21	L1	L2	L21	L9	V	lbs
2249706	**CV50BER16250**	ER16	1.10	–	2.50	1.13	–	1.26	1.69	6.83
2249707	**CV50BER16400**	ER16	1.10	–	4.00	2.63	–	1.26	1.50	6.97
2249708	**CV50BER16600**	ER16	1.10	1.29	6.00	1.92	4.59	1.26	1.50	7.55
2249709	**CV50BER20250**	ER20	1.34	–	2.50	1.13	–	1.42	1.73	6.84
1261782	**CV50BER20400**	ER20	1.34	–	4.00	2.63	–	1.42	1.73	7.19
2249710	**CV50BER20600**	ER20	1.34	–	6.00	4.63	–	1.42	1.73	7.77

Spare Parts

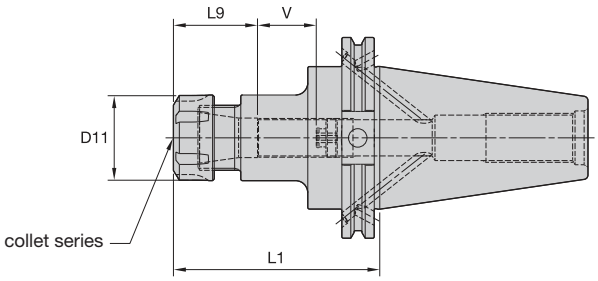




catalog number	locknut	wrench	counterbore collet torque (ft. lbs.)	straight collet torque (ft. lbs.)	stop screw	wrench size stop screw
CV50BER16250	**LNHSER16M**	**OEW25M**	30	42	**SS044038G**	4mm & 5/32
CV50BER16400	**LNHSER16M**	**OEW25M**	30	42	**SS044038G**	4mm & 5/32
CV50BER16600	**LNHSER16M**	**OEW25M**	30	42	**SS044038G**	4mm & 5/32
CV50BER20250	**LNHSER20M**	**OEW30M**	24	59	**SS056041G**	4mm & 5/32
CV50BER20400	**LNHSER20M**	**OEW30M**	24	59	**SS056041G**	4mm & 5/32
CV50BER20600	**LNHSER20M**	**OEW30M**	24	59	**SS056041G**	4mm & 5/32

(continued)

(ER Form B/AD continued)





ER Round-CV Form B/AD

order number	catalog number	collet series	D11	L1	L9	V	lbs
2249711	**CV50BER25250**	ER25	1.65	2.50	1.57	1	6.85
2249712	**CV50BER25400**	ER25	1.65	4.00	1.57	2	7.61
2249713	**CV50BER25600**	ER25	1.65	6.00	1.57	2	8.44
2249714	**CV50BER32275**	ER32	1.97	2.75	1.81	1	6.91
1261783	**CV50BER32400**	ER32	1.97	4.00	1.81	1	7.78
2249715	**CV50BER32600**	ER32	1.97	6.00	1.81	1	9.19
2249716	**CV50BER40300**	ER40	2.48	3.00	2.05	1	7.21
2249717	**CV50BER40600**	ER40	2.48	6.00	2.05	4	10.58

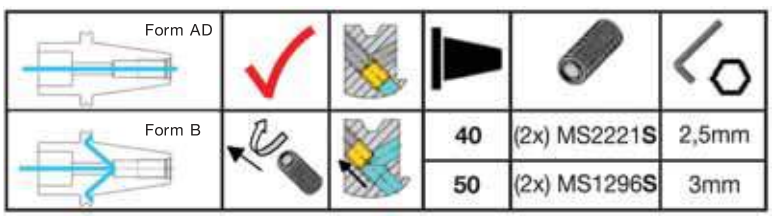
Spare Parts





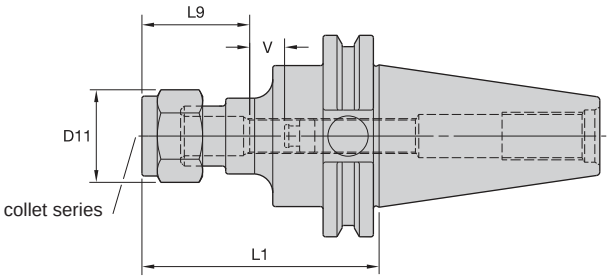
catalog number	locknut	wrench	counterbore collet torque (ft. lbs.)	stop screw	wrench size stop screw
CV50BER25250	**LNSER25M**	**ER25WM**	77	**SS075041G**	4mm & 5/32
CV50BER25400	**LNSER25M**	**ER25WM**	77	**SS075041G**	4mm & 5/32
CV50BER25600	**LNSER25M**	**ER25WM**	77	**SS075041G**	4mm & 5/32
CV50BER32275	**LNSER32M**	**ER32WM**	100	**SS094041G**	4mm & 5/32
CV50BER32400	**LNSER32M**	**ER32WM**	100	**SS094041G**	4mm & 5/32
CV50BER32600	**LNSER32M**	**ER32WM**	100	**SS094041G**	4mm & 5/32
CV50BER40300	**LNSER40M**	**ER40WM**	130	**SS112041G**	4mm & 5/32
CV50BER40600	**LNSER40M**	**ER40WM**	130	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.



• Grip 1:1.







ERICKSON

DA collet series	Collet Capacity mm min	mm max	inch min	inch max
DA180	2,2	20	1/64	3/4

DA Hex-CV Form AD

order number	catalog number	collet series	D11	L1	L9	V	lbs
1015307	**CV50DA188600**	DA180	1.73	6	1.93	4.65	8.21
1015306	**CV50DA188300**	DA180	1.73	3	1.93	2.36	7.03

Spare Parts

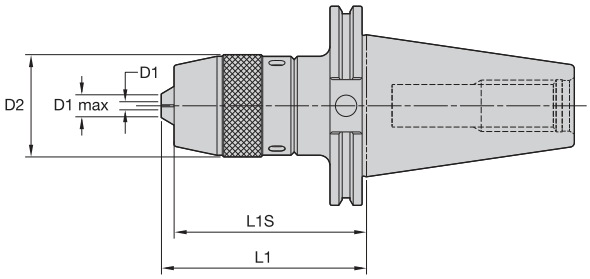




catalog number	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
CV50DA188300	**NPA188**	**OEW150**	75	**SS081041G**	4mm & 5/32
CV50DA188600	**NPA188**	**OEW150**	75	**SS081041G**	4mm & 5/32

NOTE: Tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.
For retention knobs, see page L45.







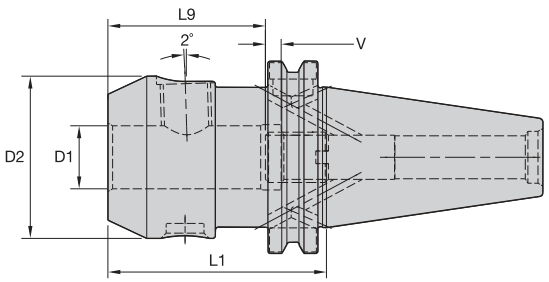
ERICKSON

DC-CV Form A

order number	catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D2	L1	L1S	locknut wrench	lbs
2262968	**CV50DC13M421**	1,0	.039	13,0	.512	1.97	4.21	3.72	**HSW45M**	7.85

NOTE: Locknut wrench is supplied.
For retention knobs, see page L45.







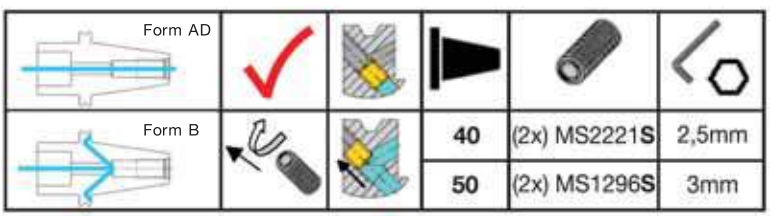
ERICKSON™

WN MM-CV Form B/AD



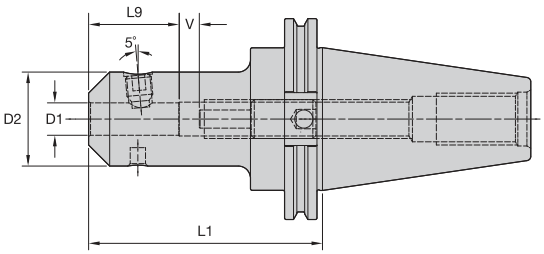

order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1549343	**CV50BWN06M244**	6	25	62	30	10	**SS03M012**	3mm	7	**571.060**	2,5mm	3,14
1549344	**CV50BWN08M244**	8	28	62	30	10	**SS03M014**	4mm	15	**571.067**	3mm	3,10
1549378	**CV50BWN10M244**	10	35	62	35	10	**SS03M018**	5mm	25	**571.068**	4mm	3,21
1549345	**CV50BWN12M264**	12	42	67	40	10	**SS03M023**	6mm	35	**571.074**	5mm	3,32
1549346	**CV50BWN14M264**	14	44	67	40	10	**SS03M023**	6mm	35	**571.074**	5mm	3,30
1549352	**CV50BWN16M275**	16	48	70	43	10	**SS03M025**	6mm	50	**571.075**	6mm	3,41
1549353	**CV50BWN18M275**	18	50	70	43	10	**SS03M025**	6mm	50	**571.075**	6mm	3,43
1549362	**CV50BWN20M275**	20	52	70	45	10	**SS03M026**	8mm	95	**571.076**	6mm	3,43
1804514	**CV50BWN20M600**	20	52	152	45	10	**SS03M026**	8mm	95	**571.076**	6mm	4,67
1549354	**CV50BWN25M375**	25	65	95	50	10	**SS03M027**	10mm	135	**571.077**	6mm	4,23
1804515	**CV50BWN25M600**	25	65	152	50	10	**SS03M027**	10mm	135	**571.077**	6mm	5,52
1549355	**CV50BWN32M388**	32	72	99	54	10	**SS03M029**	10mm	160	**571.076**	6mm	4,51
1804516	**CV50BWN32M600**	32	72	152	54	10	**SS03M029**	10mm	160	**571.076**	6mm	6,06

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw and stop screw.
Clamp screw or stop screw wrenches not included.
For retention knobs, see page L45.



- 5° NAS 987 Whistle Notch cutting toolholders.
- No through-the-toolholder coolant capability (Form A only), unless stop screw is removed.
- Axial adjustment with consistant 3/8" drive throughout complete range of adapters.







ERICKSON

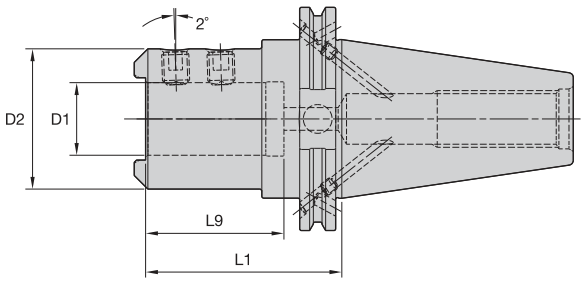
WN NAS-CV Form AD • Inch



order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size clamp screw	ft. lbs.	wrench size stop screw	lbs
3594645	CV50WNA038282	3/8	1.38	2.82	1.19	.38	–	3/16	15	3/8	7.33
3594646	CV50WNA038469	3/8	1.38	4.69	1.19	.38	–	3/16	15	3/8	7.94
3594647	CV50WNA038669	3/8	1.38	6.69	1.19	.38	–	3/16	15	3/8	8.59
3594648	CV50WNA050273	1/2	1.63	2.73	1.40	.38	–	3/16	15	3/8	7.45
3594649	CV50WNA050460	1/2	1.63	4.60	1.40	.38	–	3/16	15	3/8	8.37
3594650	CV50WNA050660	1/2	1.63	6.60	1.40	.38	–	3/16	15	3/8	9.36
3594651	CV50WNA062266	5/8	1.81	2.66	1.52	.38	–	1/4	60	3/8	7.55
3594652	CV50WNA062453	5/8	1.81	4.53	1.52	.38	–	1/4	60	3/8	8.75
3594653	CV50WNA062653	5/8	1.81	6.53	1.52	.38	–	1/4	60	3/8	10.02
3594654	CV50WNA075263	3/4	2.00	2.63	1.54	.38	–	1/4	60	3/8	7.60
3594655	CV50WNA075450	3/4	2.00	4.50	1.65	.38	–	1/4	60	3/8	9.14
3594656	CV50WNA075650	3/4	2.00	6.50	1.65	.38	–	1/4	60	3/8	10.73
3594657	CV50WNA088263	7/8	2.25	2.63	1.53	.38	–	1/4	60	3/8	7.78
3594658	CV50WNA088450	7/8	2.25	4.50	1.64	.38	–	1/4	60	3/8	9.74
3594659	CV50WNA088650	7/8	2.25	6.50	1.64	.38	–	1/4	60	3/8	11.88
3594660	CV50WNA100300	1	2.63	3.00	1.90	.38	S-1820	3/8	110	3/8	8.57
3594661	CV50WNA100450	1	2.63	4.50	1.90	.38	S-1820	3/8	110	3/8	10.75
3594662	CV50WNA100650	1	2.63	6.50	1.90	.38	S-1820	3/8	110	3/8	13.68
3594663	CV50WNA125300	1 1/4	2.88	3.00	1.90	.38	S-1820	3/8	110	3/8	8.80
3594664	CV50WNA125450	1 1/4	2.88	4.50	1.90	.38	S-1820	3/8	110	3/8	11.44
3594665	CV50WNA125650	1 1/4	2.88	6.50	1.90	.38	S-1820	3/8	110	3/8	14.98
3594666	CV50WNA150400	1 1/2	3.13	4.00	1.90	.38	S-1820	3/8	110	3/8	10.95
3594667	CV50WNA200535	2	4.00	5.35	3.01	.38	S-1820	3/8	110	3/8	16.44
3594668	CV50WNA200735	2	4.00	7.35	3.01	.38	S-1820	3/8	110	3/8	23.42
3594669	CV50WNA250535	2 1/2	5.00	5.35	3.01	.38	–	3/8	110	3/8	22.44
3594670	CV50WNA250735	2 1/2	5.00	7.35	3.01	.38	–	3/8	110	3/8	26.77
3594671	CV50ZWNA200375	2	3.75	3.75	3.01	.38	S-1820	3/8	110	3/8	11.48

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw and stop screw (3/4"-10 RH x 2.25lg).
Clamp screw or stop screw wrenches not included.
For retention knobs, see page L45.







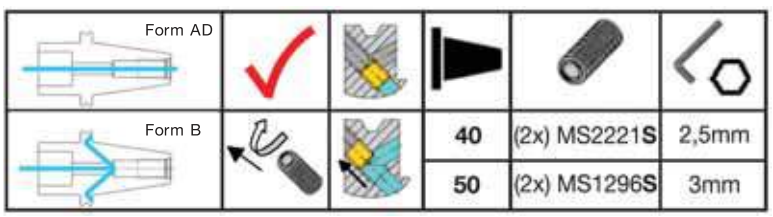
ERICKSON

WD MM-CV Form B/AD

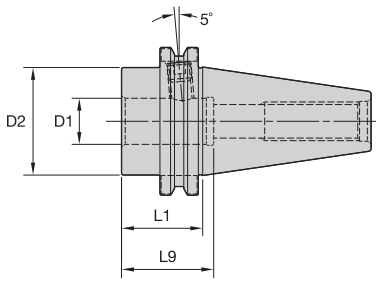


order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1749279	**CV50BWD32M343**	32	63	87	61	**SS03M023**	6mm	35	3,84
1749283	**CV50BWD40M343**	40	70	87	71	**SS03M023**	6mm	35	3,88
1749284	**CV50BWD50M343**	50	80	87	69	**SS03M023**	6mm	35	4,04

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Lock screw wrenches not included.
For retention knobs, see page L45.









ERICKSON

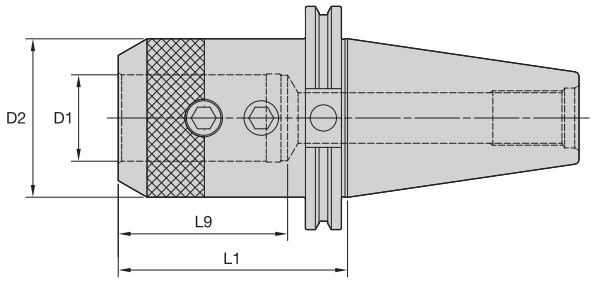
SWN IN-CV Form AD (Tap Chuck Adapter)



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1064539	**CV50TA1137**	1.00	2.75	1.38	3.63	**ELS062050PKG**	5/16	70	6.53
1017996	**CV50TA15200**	1.50	2.75	2.00	3.80	**ELS050050PKG**	1/4	60	6.38

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.







ERICKSON

EM IN-CV Form AD



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	lbs	ft. lbs.
1013379	CV50EM018250	3/16	.69	2.50	4.69	S1045PKG	3/32	6.55	3
1013408	CV50EM018450	3/16	.69	4.50	6.69	S1045PKG	3/32	6.84	3
1013409	CV50EM018650	3/16	.69	6.50	8.69	S1045PKG	3/32	7.05	3
1013380	CV50EM025250	1/4	.78	2.50	4.69	ELS025025PKG	1/8	6.55	5
1013410	CV50EM025450	1/4	.78	4.50	6.69	ELS025025PKG	1/8	7.17	5
1013411	CV50EM025650	1/4	.78	6.50	7.68	ELS025025PKG	1/8	7.19	5
1013381	CV50EM031250	5/16	1.00	2.50	4.69	ELS031031PKG	5/32	6.61	11
1013412	CV50EM031450	5/16	1.00	4.50	6.69	ELS031031PKG	5/32	7.15	11
1013413	CV50EM031650	5/16	1.00	6.50	8.69	ELS031031PKG	5/32	7.60	11
1026020	CV50EM038250	3/8	1.00	2.50	4.69	ELS038031PKG	3/16	6.63	15
1026286	CV50EM038450	3/8	1.00	4.50	6.69	ELS038031PKG	3/16	7.07	15
1026093	CV50EM038650	3/8	1.00	6.50	8.69	ELS038031PKG	3/16	7.45	15
1013382	CV50EM038850	3/8	1.00	8.50	10.70	ELS038031PKG	3/16	8.27	15
1013383	CV50EM044250	7/16	1.25	2.50	4.69	ELS044038PKG	7/32	6.78	20
1026021	CV50EM050262	1/2	1.38	2.62	4.81	ELS044038PKG	7/32	6.82	20
1026114	CV50EM050462	1/2	1.38	4.62	6.81	ELS044038PKG	7/32	7.52	20
1026115	CV50EM050662	1/2	1.38	6.62	8.81	ELS044038PKG	7/32	8.21	20
1013404	CV50EM050850	1/2	1.25	8.50	10.69	ELS044038PKG	7/32	9.03	20
1026022	CV50EM062375	5/8	1.63	3.75	5.94	ELS056050PKG	1/4	7.53	40
1026116	CV50EM062575	5/8	1.63	5.75	7.94	ELS056050PKG	1/4	8.63	40
1026117	CV50EM062775	5/8	1.63	7.75	9.94	ELS056050PKG	1/4	9.48	40
1026250	CV50EM075375	3/4	1.75	3.75	5.94	ELS062050PKG	5/16	7.65	70
1026118	CV50EM075575	3/4	1.75	5.75	7.94	ELS062050PKG	5/16	8.67	70
1026119	CV50EM075775	3/4	1.75	7.75	7.91	ELS062050PKG	5/16	9.81	70
1013405	CV50EM0751000	3/4	1.75	10.00	12.19	ELS062050PKG	5/16	12.25	70
1026023	CV50EM088375	7/8	2.00	3.75	4.19	ELS062050PKG	5/16	7.65	70
1026120	CV50EM088575	7/8	2.00	5.75	4.19	ELS062050PKG	5/16	9.44	70
1026121	CV50EM088775	7/8	2.00	7.75	4.19	ELS062050PKG	5/16	10.85	70
1026044	CV50EM100400	1	2.00	4.00	4.49	ELS075056PKG	3/8	7.94	110
1026287	CV50EM100600	1	2.00	6.00	4.49	ELS075056PKG	3/8	9.39	110

(continued)

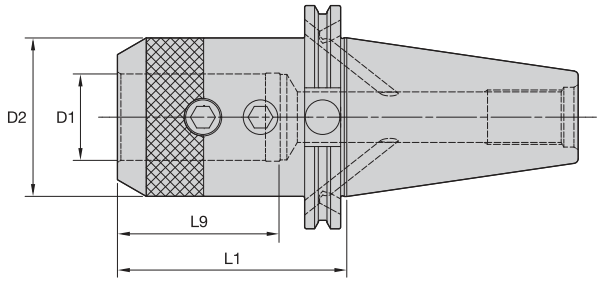
(EM IN-CV Form AD continued)



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	lbs	ft. lbs.
1026122	**CV50EM100800**	1	2.00	8.00	4.49	**ELS075056PKG**	3/8	10.82	110
1013406	**CV50EM1001000**	1	2.00	10.00	4.49	**ELS075056PKG**	3/8	13.37	110
1026045	**CV50EM125400**	1 1/4	2.50	4.00	2.39	**ELS075062PKG**	3/8	8.98	110
1026123	**CV50EM125600**	1 1/4	2.50	6.00	2.39	**ELS075062PKG**	3/8	11.42	110
1026288	**CV50EM125800**	1 1/4	2.50	8.00	2.39	**ELS075062PKG**	3/8	13.85	110
1013407	**CV50EM1251000**	1 1/4	2.50	10.00	2.39	**ELS075062PKG**	3/8	16.28	110
1026284	**CV50EM150400**	1 1/2	2.75	4.00	2.82	**ELS075069PKG**	3/8	9.19	110
1026289	**CV50EM150600**	1 1/2	2.75	6.00	2.82	**ELS075069PKG**	3/8	12.21	110
1026144	**CV50EM150800**	1 1/2	2.75	8.00	2.82	**ELS075069PKG**	3/8	15.25	110
1026046	**CV50EM200562**	2	3.75	5.62	3.38	**ELS100088PKG**	1/2	15.96	150
1026145	**CV50EM200762**	2	3.75	7.62	3.38	**ELS100088PKG**	1/2	19.01	150
1026290	**CV50EM200962**	2	3.75	9.62	3.38	**ELS100088PKG**	1/2	22.08	150

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.







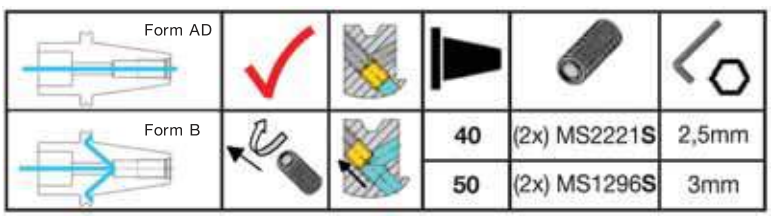
ERICKSON

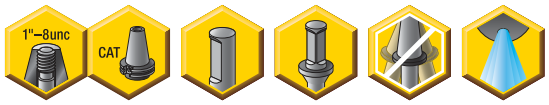
EM IN-CV Form B/AD

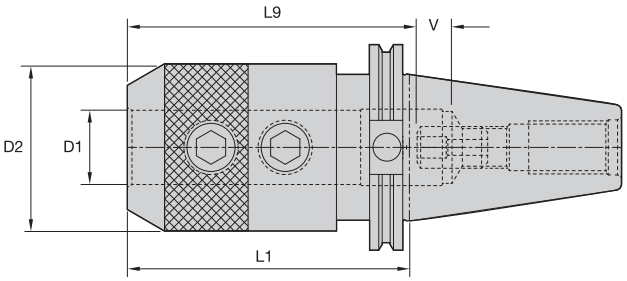


order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	lbs	ft. lbs.
1261776	**CV50BEM050462**	1/2	1.38	4.62	6.81	**ELS044038PKG**	7/32	7.53	20
1261777	**CV50BEM062375**	5/8	1.62	3.75	5.94	**ELS056050PKG**	1/4	7.48	40
1261778	**CV50BEM075375**	3/4	1.75	3.75	5.94	**ELS062050PKG**	5/16	7.62	70
1261779	**CV50BEM100400**	1	2.00	4.00	4.49	**ELS075056PKG**	3/8	7.90	110
1261780	**CV50BEM125400**	1 1/4	2.50	4.00	2.39	**ELS075062PKG**	3/8	8.94	110
1261781	**CV50BEM150400**	1 1/2	2.75	4.00	2.82	**ELS075069PKG**	3/8	9.17	110

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.









ERICKSON

SS-CV Form AD • Inch

order number	catalog number	D1	D2	L1	L9	V	lbs
1018311	CV50SS100400	1	2.25	4.00	3.75	.63	8.74
1018312	CV50SS100600	1	2.25	6.00	3.75	.63	10.66
1018313	CV50SS100800	1	2.25	8.00	3.75	.63	12.57
1018357	CV50SS150400	1 1/2	2.75	4.00	3.25	1.25	8.83
1018358	CV50SS150600	1 1/2	2.75	6.00	3.25	1.25	11.85
1018359	CV50SS150800	1 1/2	2.75	8.00	3.25	1.25	14.87
1018354	CV50SS125400	1 1/4	2.50	4.00	3.25	1.25	8.80
1018355	CV50SS125600	1 1/4	2.50	6.00	3.25	1.25	11.24
1018356	CV50SS125800	1 1/4	2.50	8.00	3.25	1.25	13.67
1018360	CV50SS175400	1 3/4	3.13	4.00	2.75	1.25	9.51
1018361	CV50SS200562	2	3.69	5.62	3.25	1.25	14.99
1018362	CV50SS200762	2	3.69	7.62	3.25	1.25	20.70
1018425	CV50SS250800	2 1/2	4.00	8.00	4.25	1.25	21.50
1018424	CV50SS225650	2 1/4	4.00	6.50	3.75	1.25	18.64

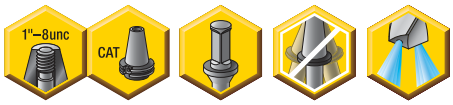
Spare Parts

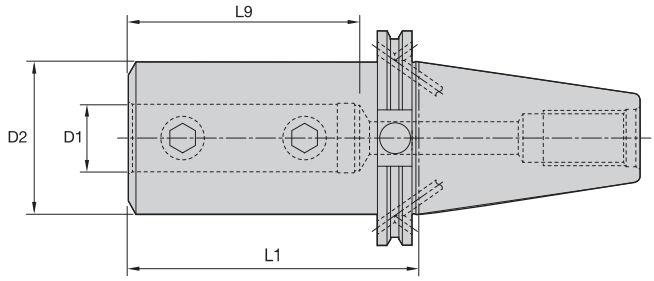




catalog number	lock screw	wrench size clamp screw	ft. lbs.	stop screw	wrench size stop screw
CV50SS100400	ELS075062PKG	3/8	110	CSS081125	1/8
CV50SS100600	ELS075062PKG	3/8	110	CSS081125	1/8
CV50SS125400	ELS075062PKG	3/8	110	CSS112175PKG	3/16
CV50SS125600	ELS075062PKG	3/8	110	CSS112175PKG	3/16
CV50SS150400	ELS075062PKG	3/8	110	CSS112175PKG	3/16
CV50SS150600	ELS075062PKG	3/8	110	CSS112175PKG	3/16
CV50SS175400	ELS075069PKG	3/8	110	CSS112175PKG	3/16
CV50SS200562	ELS100088PKG	1/2	150	CSS112175PKG	3/16
CV50SS250800	ELS100062	1/2	150	CSS112175PKG	3/16

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screws and stop screw.
Clamp screw or stop screw wrench not included.
For retention knobs, see page L45.







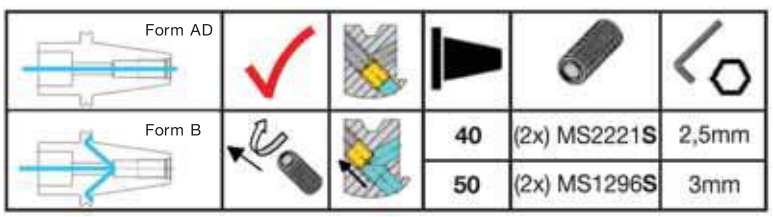
ERICKSON

SSF IN-CV Form B/AD

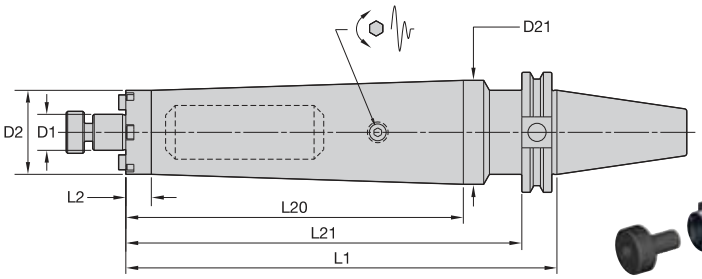


order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1749472	**CV50BSSF075275**	3/4	1.75	2.75	2.25	**ELS062050PKG**	5/16	70	7.21
1749473	**CV50BSSF100400**	1	2.00	4.00	3.25	**DWG ELS075050**	3/8	110	8.05
1749474	**CV50BSSF125400**	1 1/4	2.50	4.00	3.50	**ELS075056PKG**	3/8	110	8.86
1749475	**CV50BSSF150450**	1 1/2	2.75	4.50	4.00	**ELS075056PKG**	3/8	110	9.67
1749209	**CV50BSSF200550**	2	3.75	5.50	4.25	**ELS100088PKG**	1/2	150	15.23

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.









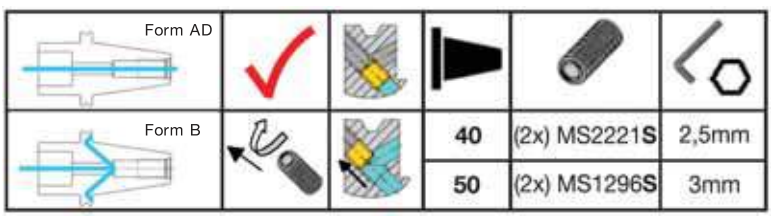
ERICKSON

SMC TD Lock IN-CV Form A

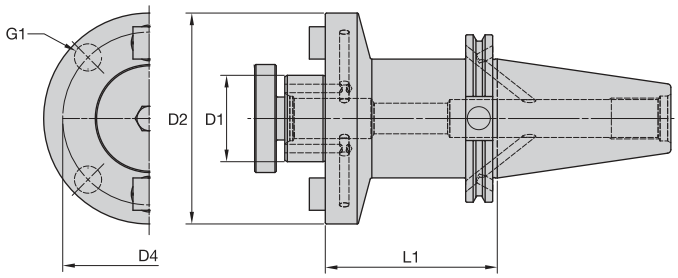



order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	drive key	wrench size lock screw	lbs
4136189	**CV50BTDSMC0751050**	3/4	1.75	2.75	10.50	.53	9.09	9.75	**KLS07**	**KDK05**	1/4	16.53
4136190	**CV50BTDSMC1001250**	1	2.75	—	12.50	11.75	—	—	**KLS10**	**KDK06**	5/16	24.62
4136191	**CV50BTDSMC1251300**	1 1/4	2.88	—	13.00	12.25	—	—	**KLS12**	**KDK08**	5/16	31.97

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knobs, see page L45.



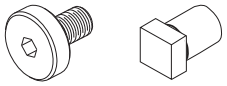






ERICKSON

SMC Lock IN-CV Form B/AD



order number	catalog number	D1	D2	D4	G1	L1	lock screw	drive key	wrench size retention screw	lbs
3640130	CV50BSM2C050150	1/2	1.20	—	—	1.50	KLS05	KDK04	3/16	6.80
3640132	CV50BSM2C050350	1/2	1.20	—	—	3.50	KLS05	KDK04	3/16	7.10
3640194	CV50BSM2C050550	1/2	1.20	—	—	5.50	KLS05	KDK04	3/16	7.64
3640129	CV50BSMC050150	1/2	1.44	—	—	1.50	KLS05	KDK04	3/16	6.81
3640131	CV50BSMC050350	1/2	1.44	—	—	3.50	KLS05	KDK04	3/16	7.39
3640193	CV50BSMC050550	1/2	1.44	—	—	5.50	KLS05	KDK04	3/16	8.21
3640196	CV50BSM2C075150	3/4	1.46	—	—	1.50	KLS07	—	1/4	6.80
3640198	CV50BSM2C075350	3/4	1.46	—	—	3.50	KLS07	—	1/4	7.41
3640200	CV50BSM2C075550	3/4	1.46	—	—	5.50	KLS07	—	1/4	8.17
3640195	CV50BSMC075150	3/4	1.75	—	—	1.50	KLS07	KDK05	1/4	6.94
3640197	CV50BSMC075350	3/4	1.75	—	—	3.50	KLS07	KDK05	1/4	7.85
3640199	CV50BSMC075550	3/4	1.75	—	—	5.50	KLS07	KDK05	1/4	9.04
3640201	CV50BSMC075700	3/4	1.75	—	—	7.00	KLS07	KDK05	1/4	10.51
3640202	CV50BSMC075900	3/4	1.75	—	—	9.00	KLS07	KDK05	1/4	12.39
3640204	CV50BSM2C100200	1	2.19	—	—	2.00	KLS10	KDK06	5/16	7.26
3640206	CV50BSM2C100400	1	2.19	—	—	4.00	KLS10	KDK06	5/16	9.12
3640208	CV50BSM2C100600	1	2.19	—	—	6.00	KLS10	KDK06	5/16	10.98
3640203	CV50BSMC100200	1	2.75	—	—	2.00	KLS10	KDK06	5/16	7.63
3640205	CV50BSMC100400	1	2.75	—	—	4.00	KLS10	KDK06	5/16	10.72
3640207	CV50BSMC100600	1	2.75	—	—	6.00	KLS10	KDK06	5/16	13.81
3640209	CV50BSMC100800	1	2.75	—	—	8.00	KLS10	KDK06	5/16	16.89
3640210	CV50BSMC1001000	1	2.75	—	—	10.00	KLS10	KDK06	5/16	19.98
3640211	CV50BSMC125150	1 1/4	2.75	—	—	1.50	KLS12	KDK08	5/16	7.10
3640212	CV50BSMC125350	1 1/4	2.88	—	—	3.50	KLS12	KDK08	5/16	10.24
3640213	CV50BSMC125550	1 1/4	2.88	—	—	5.50	KLS12	KDK08	5/16	13.27
3640214	CV50BSMC125700	1 1/4	2.88	—	—	7.00	KLS12	KDK08	5/16	15.22
3640215	CV50BSMC125900	1 1/4	2.88	—	—	9.00	KLS12	KDK08	5/16	18.57
3640216	CV50BSMC150240	1 1/2	3.81	—	—	2.40	KLS15	KDK10	3/8	9.88
3640217	CV50BSMC150400	1 1/2	3.81	—	—	4.00	KLS15	KDK10	3/8	12.53
3640218	CV50BSMC150600	1 1/2	3.81	—	—	6.00	KLS15	KDK10	3/8	15.72
3640219	CV50BSMC150800	1 1/2	3.81	—	—	8.00	KLS15	KDK10	3/8	18.90
3640220	CV50BSMC200240	2	4.88	4.00	5/8-11 UNC	2.40	KLS20	KDK12	9/16	11.95

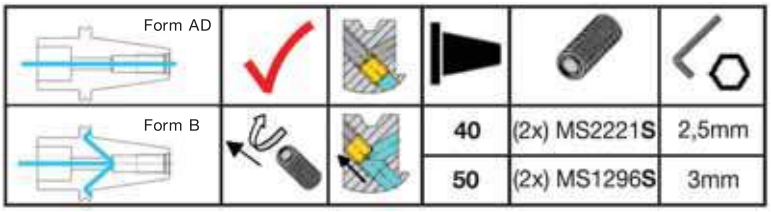
(continued)

(SMC Lock IN-CV Form B/AD continued)

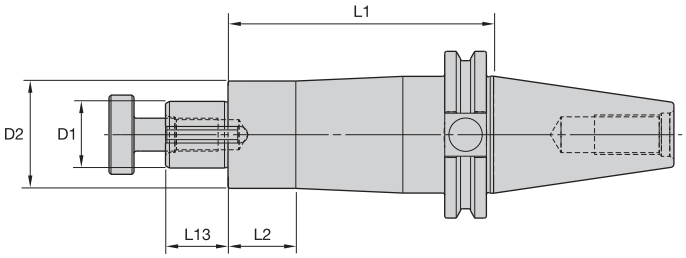



order number	catalog number	D1	D2	D4	G1	L1	lock screw	drive key	wrench size retention screw	lbs
3640221	**CV50BSMC200400**	2	4.88	4.00	5/8-11 UNC	4.00	**KLS20**	**KDK12**	9/16	14.94
3640222	**CV50BSMC200600**	2	4.88	4.00	5/8-11 UNC	6.00	**KLS20**	**KDK12**	9/16	18.18
3640223	**CV50BSMC200800**	2	4.88	4.00	5/8-11 UNC	8.00	**KLS20**	**KDK12**	9/16	21.43
3640224	**CV50BSMC250240**	2 1/2	4.88	4.00	5/8-11 UNC	2.40	**—**	**KDK16**	—	12.87
3640225	**CV50BSMC250400**	2 1/2	4.88	4.00	5/8-11 UNC	4.00	**—**	**KDK16**	—	15.80

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knob, see page L45.









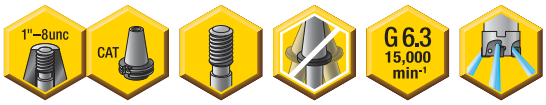
ERICKSON

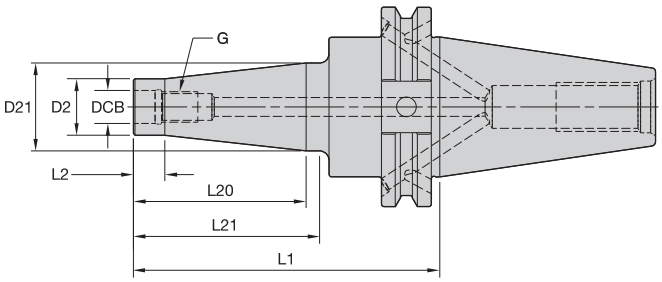
SA IN-CV Form A




order number	catalog number	D1	D2	L1	L2	L13	lock screw	wrench size lock screw	drive key	lbs
1261878	**CV50SA062400**	5/8	1.25	4.00	2.63	.78	**KLS07**	1/4	**DWG SDK062088**	7.96
1026217	**CV50SA100400**	1	1.56	4.00	2.63	.94	**KLS10**	5/16	**DWG SDK100106**	8.59
2461123	**CV50SA100600**	1	1.56	6.00	.87	.94	**KLS10**	5/16	**DWG SDK100106**	11.60
2461124	**CV50SA125400**	1 1/4	1.88	4.00	2.63	1.09	**KLS12**	5/16	**DWG SDK125119**	9.56
1026218	**CV50SA125600**	1 1/4	1.88	6.00	1.06	1.09	**KLS12**	5/16	**DWG SDK125119**	12.60
2461125	**CV50SA150400**	1 1/2	2.00	4.00	2.63	1.70	**KLS15**	3/8	**DWG SDK150175**	10.35
1026223	**CV50SA150600**	1 1/2	2.00	6.00	1.06	1.70	**KLS15**	3/8	**DWG SDK150175**	13.44
1026244	**CV50SA200600**	2	2.75	6.00	5.25	1.70	**KLS20**	9/16	**SDK200169**	16.67

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive key.
Lock screw wrench not included.
For retention knobs, see page L45.





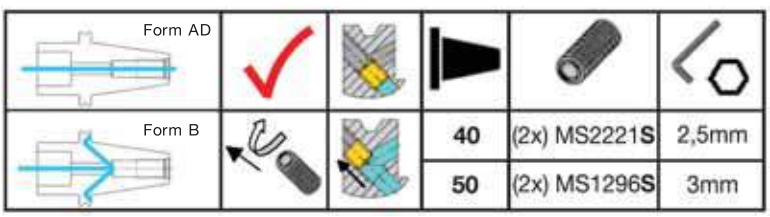


ERICKSON

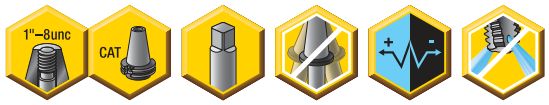
ST-CV Form B/AD

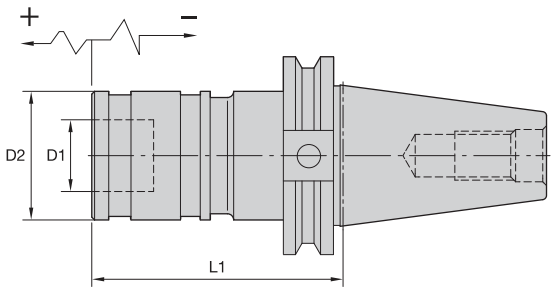
order number	catalog number	DCB	G	D2	D21	L1	L2	L20	L21	lbs
4073648	**CV50BST12M343**	.5	M12	.83	.94	3.43	.39	1.77	1.83	7.06
4073649	**CV50BST12M539**	.5	M12	.83	1.22	5.39	.39	3.54	3.75	7.62
4073650	**CV50BST12M736**	.5	M12	.83	1.54	7.36	.39	5.71	5.72	8.51
4073651	**CV50BST16M343**	.7	M16	1.14	1.34	3.43	.39	1.77	1.79	7.35
4073652	**CV50BST16M539**	.7	M16	1.14	1.54	5.39	.39	3.54	3.75	8.23
4073653	**CV50BST16M739**	.7	M16	1.14	1.54	7.36	.39	5.51	5.72	8.98
4073654	**CV50BST16M933**	.7	M16	1.14	1.93	9.33	.39	7.48	7.69	10.81

NOTE: For retention knobs, see page L45.



• Rapid Change style.







ERICKSON

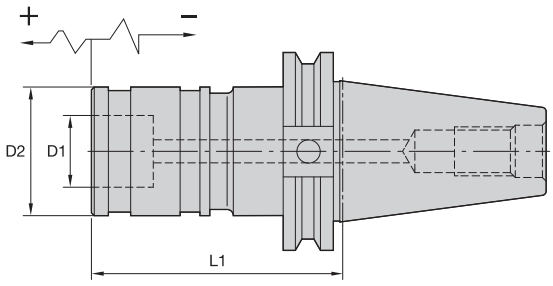
RC-CV Form A

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	lbs
1615981	**CV50TCRC1297**	1	M1 - M14	#0 - 9/16	.75	1.42	2.96	7.22
1615982	**CV50TCRC2393**	2	M5 - M24	5/16 - 7/8	1.22	2.09	3.86	8.00
1615983	**CV50TCRC3516**	3	M14 - M27	13/16 - 1 3/8	1.89	3.07	5.16	9.60

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
For retention knobs, see page L45.

• Rapid Change style.
• High-pressure coolant capability through the chuck.







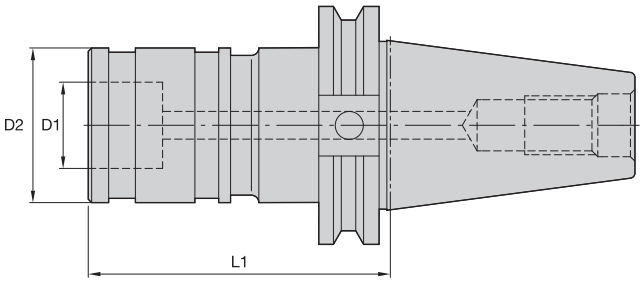
ERICKSON

RC Coolant-CV Form AD

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	lbs
1615989	**CV50CHTCRC1382**	1	M1 - M14	#0 - 9/16	.75	1.42	3.82	7.70
1615990	**CV50CHTCRC2524**	2	M5 - M24	5/16 - 7/8	1.22	2.09	5.23	10.30
1616001	**CV50CHTCRC3717**	3	M14 - M27	13/16 - 1 3/8	1.89	3.07	7.17	16.30

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
For retention knobs, see page L45.







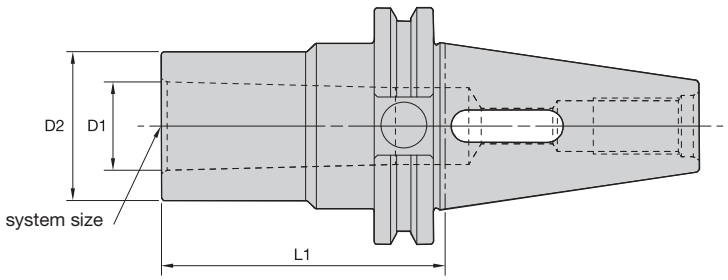
ERICKSON

STRC-CV Form AD

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	lbs
1615973	CV50CSTRC1290	1	M1 - M14	#0 - 9/16	.75	1.26	3	7.20
1615974	CV50CSTRC2350	2	M5 - M24	5/16 - 7/8	1.22	1.97	4	8.00
1615976	CV50CSTRC3481	3	M14 - M27	13/16 - 1 3/8	1.89	2.81	5	10.60

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
For retention knobs, see page L45.





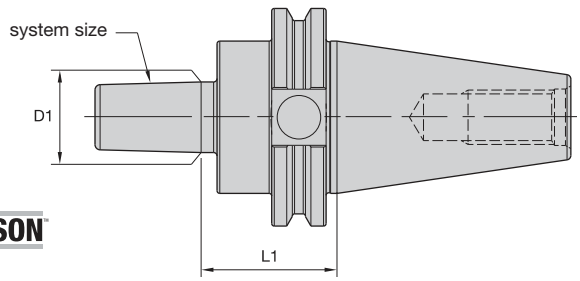


ERICKSON

MT-CV Form A

order number	catalog number	system size	D1	D2	L1	lbs
1026049	CV50MT1150	1	.47	2.75	1.50	6.77
1026050	CV50MT2200	2	.70	2.75	2.00	7.43
1026051	CV50MT3250	3	.94	1.57	2.50	6.73
1026052	CV50MT4338	4	1.23	1.89	3.38	6.90
1026091	CV50MT5375	5	1.75	2.75	3.75	7.55

NOTE: For retention knobs, see page L45.





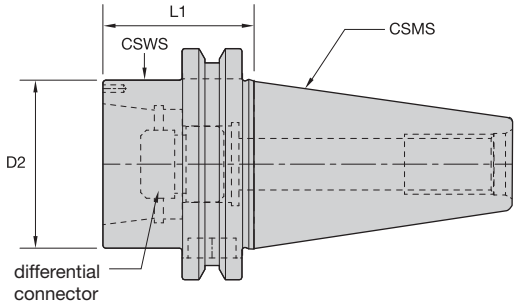
ERICKSON

JT-CV Form A

order number	catalog number	system size	D1	L1	lbs
1026379	CV50JT3268	3	.81	1.46	6.97

NOTE: For retention knobs, see page L45.

• Differential connector included.





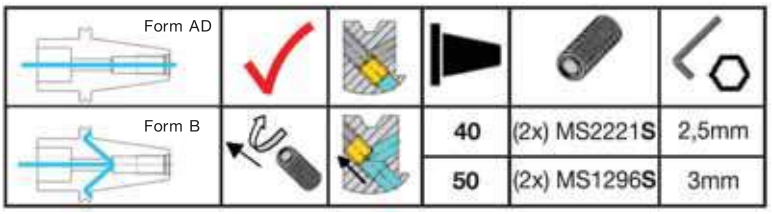
CV to KR Adapters B/AD • Metric

order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	kg	reference head
3554368	CV50BKR32157	CV50	KR32	50	40	KRDCKR32M	3,25	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554369	CV50BKR50157	CV50	KR50	65	40	KRDCKR50M	3,05	SVS4B,5B,SVU65,SVUBB2
3554370	CV50BKR63236	CV50	KR63	85	60	KRDCKR63M	3,50	SVS6B,7B,8B
3554371	CV50BKR80275	CV50	KR80	95	70	KRDCKR80M	4,28	SVU92,120

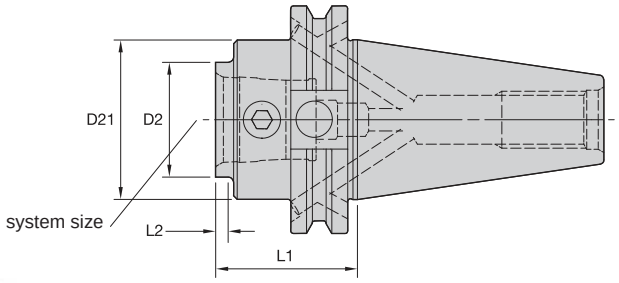
CV to KR Adapters B/AD • Inch

order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	lbs	reference head
3554368	CV50BKR32157	CV50	KR32	1.97	1.571	KRDCKR32M	7.20	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554369	CV50BKR50157	CV50	KR50	2.56	1.571	KRDCKR50M	6.70	SVS4B,5B,SVU65,SVUBB2
3554370	CV50BKR63236	CV50	KR63	3.35	2.358	KRDCKR63M	7.70	SVS6B,7B,8B
3554371	CV50BKR80275	CV50	KR80	3.74	2.752	KRDCKR80M	9.40	SVU92,120

NOTE: For more information on Romicron boring systems, see the Kennametal Innovations Master Catalog Cutting Tools 2013.







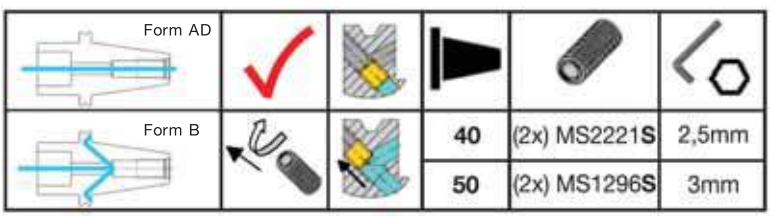


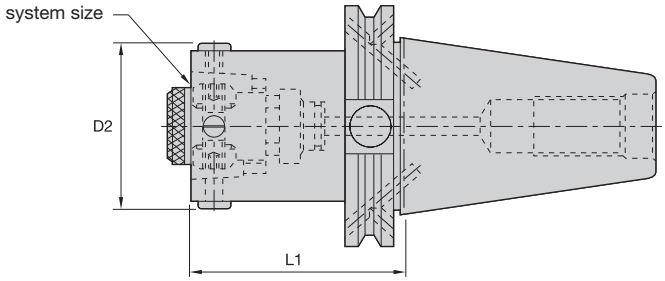
KM QUICK CHANGE ERICKSON

KM-CV Form B/AD

order number	catalog number	system size	D2	D21	L1	L2	KM spare parts package	wrench size actuation screw	ft. lbs.	lbs
2992484	**CV50BKM32157**	KM32	1.26	2.75	1.58	.12	**KM32PKG3L**	5mm	6	6.60
2992485	**CV50BKM32354**	KM32	1.26	2.75	3.54	1.89	**KM32PKG3S**	5mm	6	7.10
2992486	**CV50BKM40157**	KM40	1.57	2.75	1.58	.12	**KM40PKG3L**	6mm	9	6.61
2992487	**CV50BKM40394**	KM40	1.57	2.75	3.94	2.28	**KM40PKG3S**	6mm	9	7.63
2992488	**CV50BKM50236**	KM50	1.97	2.75	2.36	.16	**KM50PKG3L**	10mm	20	7.59
2992489	**CV50BKM50472**	KM50	1.97	2.75	4.72	3.07	**KM50PKG3S**	10mm	20	8.83
2992490	**CV50BKM50630**	KM50	1.97	2.75	6.30	4.65	**KM50PKG3S**	10mm	20	9.95
2992491	**CV50BKM63236**	KM63	2.48	2.75	2.36	.20	**KM63PKG3L**	12mm	35	7.39
2992492	**CV50BKM63551**	KM63	2.48	2.75	5.51	4.06	**KM63PKG3S**	12mm	35	11.04
2992493	**CV50BKM63709**	KM63	2.48	2.75	7.09	5.63	**KM63PKG3S**	12mm	35	13.12
2992494	**CV50BKM80319**	KM80	3.15	—	3.19	—	**KM80PKG3S**	14mm	58	9.04

NOTE: These products only available in the U.S., Canada, and Japan.
Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.
For retention knobs, see page L45.







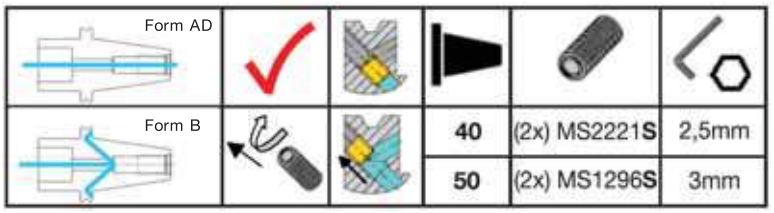


ERICKSON

HSK-CV Form B/AD

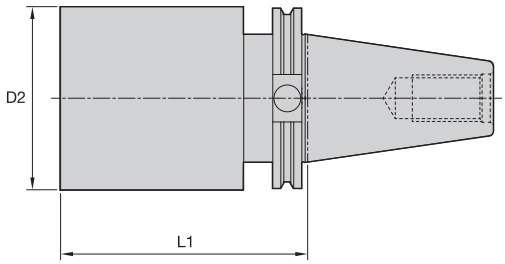
order number	catalog number	system size	D2	L1	wrench size actuation screw	ft. lbs.	lbs
1533058	**CV50BHSK50197**	HSK50	2.17	1.97	4mm	11	6.39
1533059	**CV50BHSK63236**	HSK63	2.76	2.36	5mm	15	6.83

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with actuation mechanism and sealing ring.
For retention knobs, see page L45.



• Machinable front 20–30 HRC.







ERICKSON

BB-CV Form A

order number	catalog number	D2	L1	lbs
1065951	**CV50BB400120**	4.00	12.00	44.56
1020558	**CV50BB400600**	4.00	6.00	23.23
1020560	**CV50BB600120**	6.00	12.00	91.40
1020559	**CV50BB600600**	6.00	6.00	43.50

NOTE: For retention knobs, see page L45.



DV Shank Tools

DV40 . . . . . G2–G41
DV50 . . . . . G42–G77





ERICKSON™ DV V-Flange Shank Tooling System • DV40 Series

Primary Application

ERICKSON V-Flange DV Taper Tooling is manufactured from premium materials and meets or exceeds the latest DIN 69871 specification and ISO-1947 taper accuracy of AT3 specification standards. The DV40 tools are either pre-balanced to a high specification or balanced-by-design. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, retention knobs, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.



DV DIN 69871 Form B/AD Shank

NOTE: Inherent out-of-balance conditions due to notch and unequal depth of drive slots.

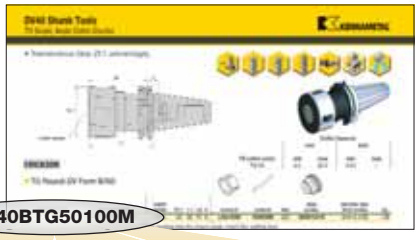


Features and Benefits

- DIN 69871 7/24 taper.
- Standard M16 metric drawbar thread.
- Taper accuracy of AT3 specification or better.
- All tools set to form AD coolant specification. Many can be converted to form B style.
- Maximum 100 bar (1,500 psi) coolant pressure.

How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



DV40BTG50100M

DV — Shank Style

DIN 69871

40 — Shank Taper Size

40 = 40

50 = 50

B — Special Feature *(optional)*

B =
DIN form B coolant feature, tool shipped to AD specifications (design allows conversion to form B style)

(blank) =
(no "B" or "Z") — tool built to DIN form A/AD coolant style

CH =
Coolant form AD — high pressure

HPV =
High performance and balanceable

TD =
Tunable

TG — Toolholder Style

BB	=	Bar blank
DA	=	Double-angle collet chuck
DC	=	Drill chuck
EM	=	End mill adapter
ER	=	DIN 6499 single-angle collet chuck
HC	=	Hydraulic chuck — Standard Line
HCB	=	Hydraulic chuck — Basic Line
HCSL	=	Hydraulic chuck — Slim Line
HCSLT	=	Hydraulic chuck — Slim Line — Trend
HCT	=	Hydraulic chuck — Trend Line
HPMC	=	Bearing milling chuck — high performance
HSK	=	HSK adapter
JT	=	Jacobs taper adapter
KM	=	KM™ adapter
MT	=	Morse taper adapter
RC	=	Rapid Change — T&C tapping adapter chuck
SA	=	Slotting cutter adapter
SER	=	DIN 6499 single-angle collet chuck — short with internal locknut
SFTT	=	**SAFE-LOCK**™ Shrink Fit Thermo Toolholder
SM2C	=	Shell mill adapter with coolant and small diameter
SMC	=	Shell mill adapter with coolant
SS	=	Adapter for straight shanks (drills)
SSF	=	Adapter for straight shanks with flat (drills)
ST	=	Screw-on adapters
STRC	=	Rapid Change — solid tapping adapter chuck
SWN	=	Whistle Notch™ 2° — short — (not to DIN standard)
TA	=	Tap chuck adapter
TCRC	=	Rapid Change — T&C tapping adapter chuck
TG	=	Tremendous Grip single-angle collet chuck
TGF	=	Tremendous Grip single-angle collet chuck — flush face
TT	=	Shrink Fit thermo toolholder
TTHT	=	Shrink Fit thermo toolholder — high torque
WD	=	Whistle Notch with drive
WN	=	Whistle Notch (2° metric; 5° inch)

50 — Toolholder Size

TG =
Collet series xx (50), xxx (100)

EM =
I.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

SM =
O.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

100 — Tool Length

(Taper gage line to front of tool)

metric
xxx = xxx

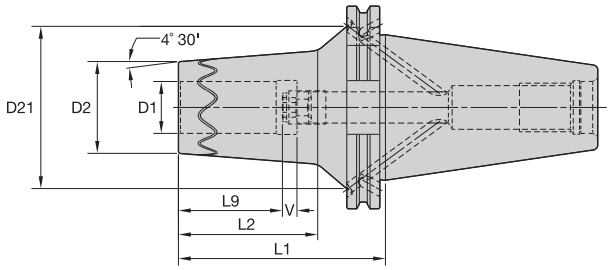
inch
xxx = x.xx

M — Identification Values

M =
Tool built to metric values and has metric retention thread

- **SAFE-LOCK™**, innovative and unique non-slip system.
- Suitable for carbide and HSS cutting tools.
- Need ≥ 10 kW shrink unit.







Cutting Tool Shank Requirements
metric (ISO standard)

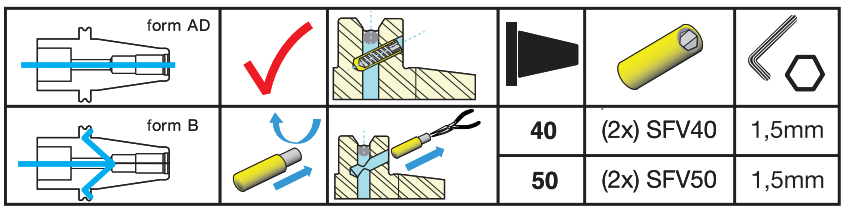
cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

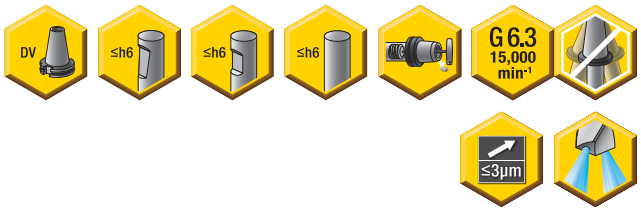
TT SF HPV MM-DV FORM B/AD

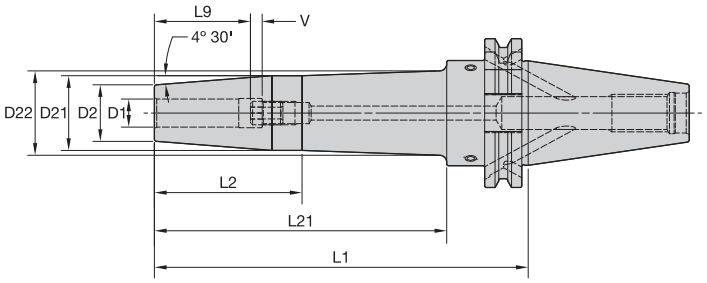
order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
5129969	**DV40BSFTT12065M**	12	27	34	65	46	37	10	1,00
5129970	**DV40BSFTT14065M**	14	30	37	65	46	37	10	1,04
5090239	**DV40BSFTT16065M**	16	30	37	65	46	40	10	1,01
5090260	**DV40BSFTT18065M**	18	36	43	65	46	40	10	1,10
5090261	**DV40BSFTT20065M**	20	36	43	65	46	42	10	1,07
5090262	**DV40BSFTT25075M**	25	46	52	75	56	48	10	1,35
5090263	**DV40BSFTT32080M**	32	46	53	80	61	48	10	1,27

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Shrink Fit accessories, see pages L12–L13.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.



- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT GP HPV MM-DV Form B/AD



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3790097	DV40BHPVTT06080M	6	21	27	—	80	61	—	26	10	TTSS05014M	2,5mm	0,99
3790098	DV40BHPVTT06120M	6	21	27	—	120	85	—	26	10	TTSS05014M	2,5mm	1,28
3790099	DV40BHPVTT06160M	6	21	27	32	160	50	125	26	10	TTSS05014M	2,5mm	1,52
3790100	DV40BHPVTT08080M	8	21	27	—	80	61	—	26	10	TTSS06014M	3mm	0,99
3790101	DV40BHPVTT08120M	8	21	27	—	120	85	—	26	10	TTSS06014M	3mm	1,28
3790102	DV40BHPVTT08160M	8	21	27	32	160	50	125	26	10	TTSS06014M	3mm	1,52
3790203	DV40BHPVTT10080M	10	24	32	—	80	61	—	31	10	TTSS08014M	4mm	1,05
3790204	DV40BHPVTT10120M	10	24	32	—	120	85	—	31	10	TTSS08014M	4mm	1,38
3790205	DV40BHPVTT10160M	10	24	32	36	160	63	125	31	10	TTSS08014M	4mm	1,68
3617617	DV40BHPVTT12080M	12	24	32	—	80	61	—	36	10	TTSS10014M	5mm	1,03
3617642	DV40BHPVTT12120M	12	24	32	—	120	85	—	36	10	TTSS10014M	5mm	1,37
3617643	DV40BHPVTT12160M	12	24	32	36	160	63	125	36	10	TTSS10014M	5mm	1,66
3617644	DV40BHPVTT14080M	14	27	34	—	80	61	—	36	10	TTSS10014M	5mm	1,08
3617645	DV40BHPVTT14120M	14	27	34	—	120	85	—	36	10	TTSS10014M	5mm	1,43

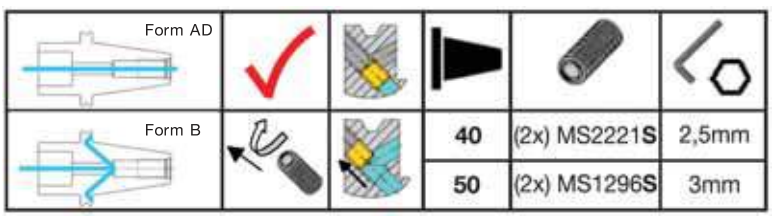
(continued)

(TT GP HPV continued)

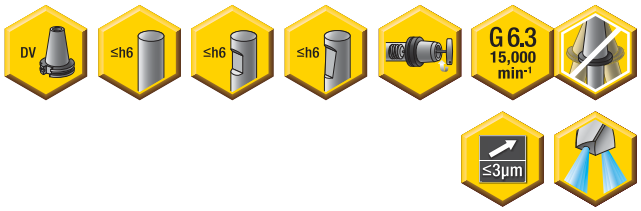


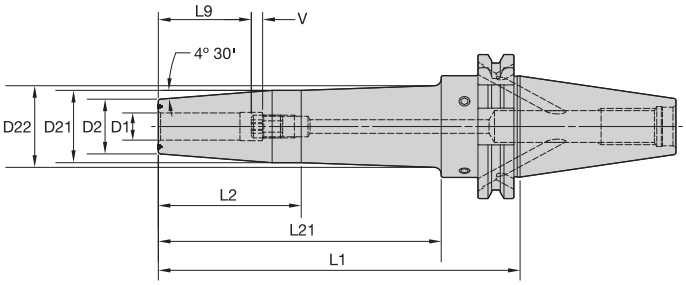
order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3617646	**DV40BHPVTT14160M**	14	27	34	38	160	63	125	36	10	**TTSS10014M**	5mm	1,76
3617647	**DV40BHPVTT16080M**	16	27	34	—	80	61	—	39	10	**TTSS12014M**	6mm	1,05
3617648	**DV40BHPVTT16120M**	16	27	34	—	120	85	—	39	10	**TTSS12014M**	6mm	1,40
3617649	**DV40BHPVTT16160M**	16	27	34	38	160	63	125	39	10	**TTSS12014M**	6mm	1,73
3617650	**DV40BHPVTT18080M**	18	33	41	—	80	61	—	39	10	**TTSS12014M**	6mm	1,19
3617651	**DV40BHPVTT18120M**	18	33	42	—	120	85	—	39	10	**TTSS12014M**	6mm	1,63
3617652	**DV40BHPVTT18160M**	18	33	42	—	160	125	—	39	10	**TTSS12014M**	6mm	2,05
3617653	**DV40BHPVTT20080M**	20	33	41	—	80	61	—	41	10	**TTSS16014M**	8mm	1,16
3617654	**DV40BHPVTT20120M**	20	33	42	—	120	85	—	41	10	**TTSS16014M**	8mm	1,59
3617655	**DV40BHPVTT20160M**	20	33	42	—	160	125	—	41	10	**TTSS16014M**	8mm	2,00
3617656	**DV40BHPVTT25100M**	25	44	53	—	100	81	—	47	10	**TTSS16014M**	8mm	1,65
3617657	**DV40BHPVTT25160M**	25	44	53	—	160	141	—	47	10	**TTSS16014M**	8mm	2,65
3617658	**DV40BHPVTT32100M**	32	44	53	—	100	81	—	51	10	**TTSS16014M**	8mm	1,49
3617659	**DV40BHPVTT32160M**	32	44	53	—	160	141	—	51	10	**TTSS16014M**	8mm	2,48

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.



- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT HT HPV MM-DV Form B/AD



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3617591	**DV40BHPVTTHT12080M**	12	24	32	—	80	61	—	36	10	**TTSS10014M**	5mm	1,03
3617592	**DV40BHPVTTHT12120M**	12	24	32	—	120	85	—	36	10	**TTSS10014M**	5mm	1,37
3617605	**DV40BHPVTTHT12160M**	12	24	32	36	160	63	125	36	10	**TTSS10014M**	5mm	1,66
3617606	**DV40BHPVTTHT14080M**	14	27	34	—	80	61	—	36	10	**TTSS10014M**	5mm	1,08
3617607	**DV40BHPVTTHT14120M**	14	27	34	—	120	85	—	36	10	**TTSS10014M**	5mm	1,43
3617608	**DV40BHPVTTHT14160M**	14	27	34	38	160	63	125	36	10	**TTSS10014M**	5mm	1,76
3617609	**DV40BHPVTTHT16080M**	16	27	34	—	80	61	—	39	10	**TTSS12014M**	6mm	1,05
3617610	**DV40BHPVTTHT16120M**	16	27	34	—	120	85	—	39	10	**TTSS12014M**	6mm	1,40
3617611	**DV40BHPVTTHT16160M**	16	27	34	38	160	63	125	39	10	**TTSS12014M**	6mm	1,73
3617612	**DV40BHPVTTHT18080M**	18	33	41	—	80	61	—	39	10	**TTSS12014M**	6mm	1,19
3617613	**DV40BHPVTTHT18120M**	18	33	42	—	120	85	—	39	10	**TTSS12014M**	6mm	1,63
3617614	**DV40BHPVTTHT18160M**	18	33	42	—	160	125	—	39	10	**TTSS12014M**	6mm	2,05
3617615	**DV40BHPVTTHT20080M**	20	33	41	—	80	61	—	41	10	**TTSS16014M**	8mm	1,16
3617616	**DV40BHPVTTHT20120M**	20	33	42	—	120	85	—	41	10	**TTSS16014M**	8mm	1,59

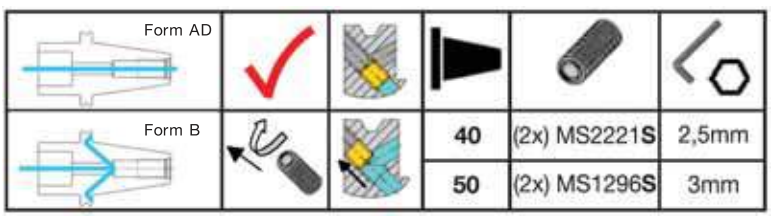
(continued)

(TT HT HPV continued)

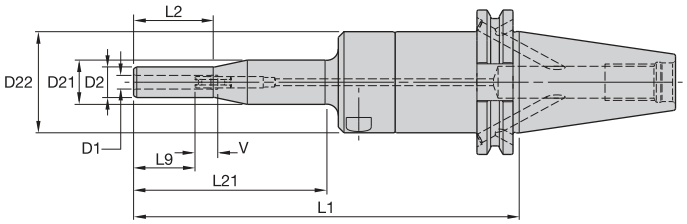


order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3617618	**DV40BHPVTTHT20160M**	20	33	42	—	160	125	—	41	10	**TTSS16014M**	8mm	2,00
3617619	**DV40BHPVTTHT25100M**	25	44	53	—	100	81	—	47	10	**TTSS16014M**	8mm	1,65
3617620	**DV40BHPVTTHT25160M**	25	44	53	—	160	141	—	47	10	**TTSS16014M**	8mm	2,65
3617621	**DV40BHPVTTHT32100M**	32	44	53	—	100	81	—	51	10	**TTSS16014M**	8mm	1,49
3617622	**DV40BHPVTTHT32160M**	32	44	53	—	160	141	—	51	10	**TTSS16014M**	8mm	2,48

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5mm lg fine-balancing screw set (10 pieces) is available. Order number is MS1276PKG and must be ordered separately.
For retention knobs, see page L45.









Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20	h6	0,000/-0,013

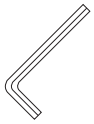
ERICKSON

HC Slim-T MM-DV Form B/AD

order number	catalog number	D1	D2	D21	D22	L1	L2	L9	L21	V	kg
3019233	**DV40BHCSLT06170M**	6	13,5	19,5	44,5	170	35	27	85	10	1,64
3019234	**DV40BHCSLT08170M**	8	15,5	19,5	44,5	170	35	27	85	10	1,65
3019235	**DV40BHCSLT10170M**	10	17,5	44,5	–	170	85	31	151	10	1,64

Spare Parts

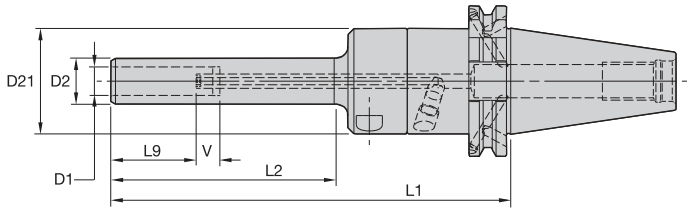


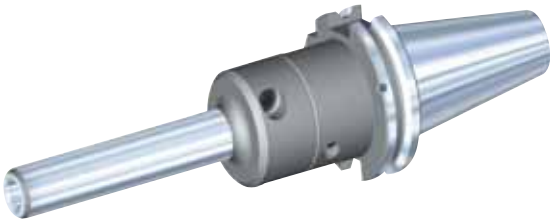


catalog number	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw
DV40BHCSLT06170M	**170.135**	5mm	**170.002**	2,5mm
DV40BHCSLT08170M	**170.135**	5mm	**170.002**	2,5mm
DV40BHCSLT10170M	**170.135**	5mm	**170.003**	3mm

(continued)

(Slim Line continued)



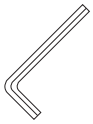


HC Slim MM-DV Form B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
2634535	**DV40BHCSL12170M**	12	19,5	44,5	170	95	36	10	1,55
2634536	**DV40BHCSL14170M**	14	21,5	52,5	170	95	36	10	1,78
2634537	**DV40BHCSL16170M**	16	23,5	52,5	170	95	39	10	1,80
2634538	**DV40BHCSL18170M**	18	25,5	52,5	170	95	39	10	1,85
2634539	**DV40BHCSL20170M**	20	27,5	52,5	170	95	41	10	1,89

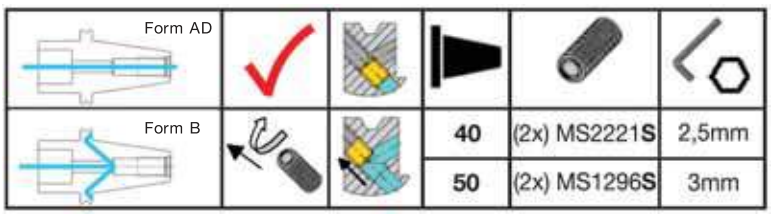
Spare Parts



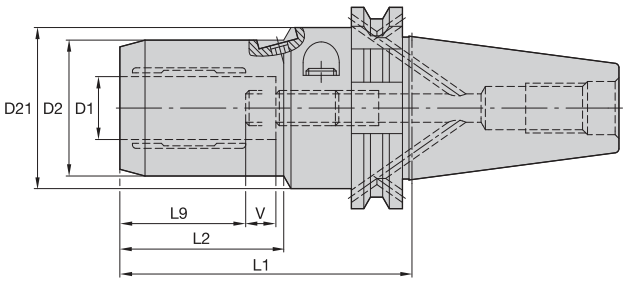


catalog number	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw
DV40BHCSL12170M	**170.135**	5mm	**170.002**	2,5mm
DV40BHCSL14170M	**170.135**	5mm	**170.002**	2,5mm
DV40BHCSL16170M	**170.135**	5mm	**170.002**	2,5mm
DV40BHCSL18170M	**170.135**	5mm	**170.002**	2,5mm
DV40BHCSL20170M	**170.135**	5mm	**170.002**	2,5mm

NOTE: Do not overtorque actuation screw. Use supplied wrench and tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw and actuation wrench.
Unable to use SEFAS™ chamfering rings on this design.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.









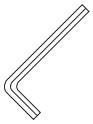
Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

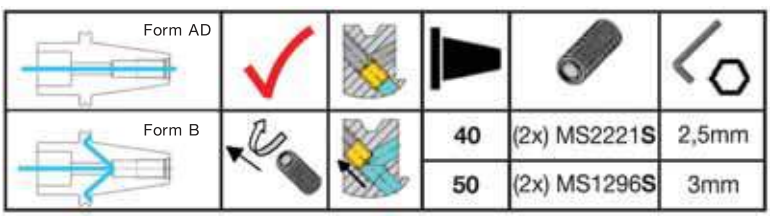
HC MM-DV Form B/AD



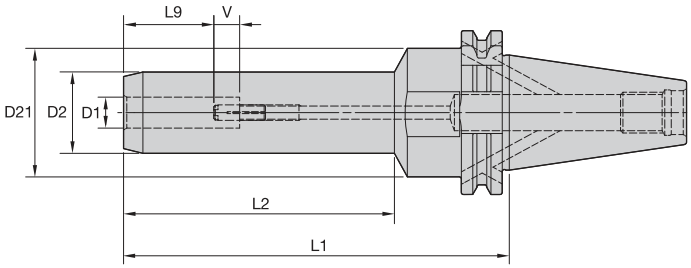


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	kg
1245443	**DV40BHC06072M**	6	25,7	50	72	33	30	10	**170.135**	5mm	**170.002**	2,5mm	1,12
1245444	**DV40BHC08072M**	8	27,7	50	72	34	30	10	**170.135**	5mm	**170.002**	2,5mm	1,13
1245445	**DV40BHC10077M**	10	29,7	50	77	39	35	10	**170.135**	5mm	**170.002**	2,5mm	1,17
1237451	**DV40BHC12077M**	12	31,6	50	77	40	35	10	**170.135**	5mm	**170.002**	2,5mm	1,18
1245446	**DV40BHC14082M**	14	33,6	50	82	46	40	10	**170.135**	5mm	**170.003**	3mm	1,22
1237452	**DV40BHC16082M**	16	37,6	50	82	47	40	10	**170.135**	5mm	**170.003**	3mm	1,28
1245447	**DV40BHC18082M**	18	39,6	50	82	47	40	10	**170.135**	5mm	**170.003**	3mm	1,31
1191013	**DV40BHC20082M**	20	41,6	50	82	48	40	10	**170.135**	5mm	**170.003**	3mm	1,33
1245448	**DV40BHC25117M**	25	49,8	63	117	51	51	10	**170.136**	6mm	**170.004**	4mm	2,16
1245449	**DV40BHC32117M**	32	59,8	63	117	59	51	10	**170.136**	6mm	**170.004**	4mm	2,34

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.









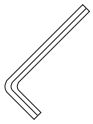
Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20	h6	0,000/-0,013

ERICKSON

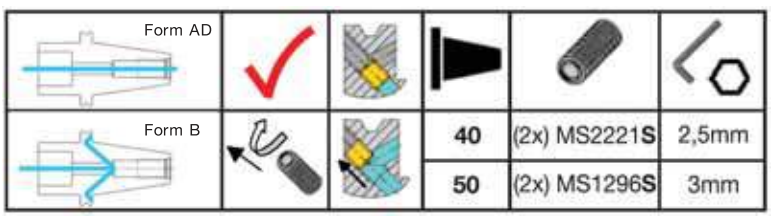
HC Trend In-DV Form B/AD



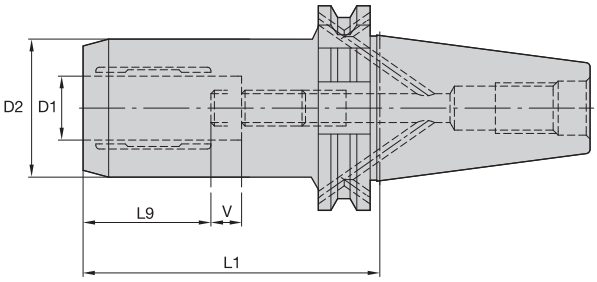


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	kg
1809973	**DV40BHCT06150M**	6	26	50	150	105	30	10	**170.135**	5mm	**170.003**	3mm	1,50
1809974	**DV40BHCT08150M**	8	28	50	150	105	30	10	**170.135**	5mm	**170.003**	3mm	1,56
1809975	**DV40BHCT10150M**	10	30	50	150	105	35	10	**170.135**	5mm	**170.003**	3mm	1,63
1809976	**DV40BHCT12150M**	12	32	50	150	105	35	10	**170.135**	5mm	**170.003**	3mm	1,69
1809977	**DV40BHCT14150M**	14	34	50	150	105	40	10	**170.135**	5mm	**170.005**	5mm	1,73
1809978	**DV40BHCT16150M**	16	38	50	150	105	40	10	**170.135**	5mm	**170.005**	5mm	1,90
1809979	**DV40BHCT18150M**	18	40	50	150	105	40	10	**170.135**	5mm	**170.005**	5mm	1,98
1809980	**DV40BHCT20150M**	20	42	50	150	105	40	10	**170.135**	5mm	**170.005**	5mm	2,07

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.





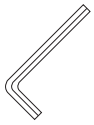




ERICKSON

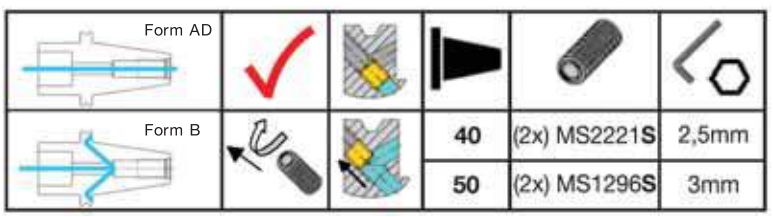
HC Basic MM-DV Form B/AD



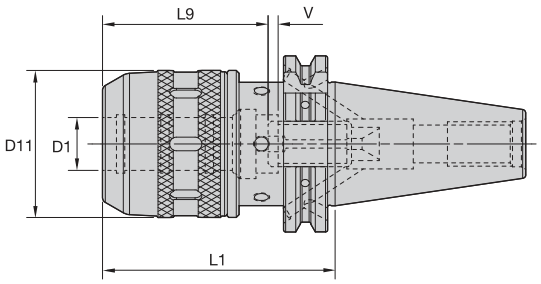


order number	catalog number	D1	D2	L1	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	kg
1599399	**DV40BHCB20082M**	20	49,9	82	41	10	**170.135**	5mm	–	5mm	1,57

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.









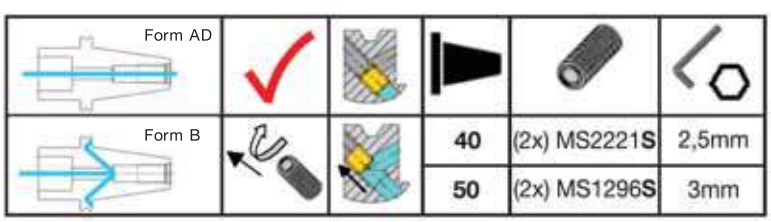
ERICKSON

HPMC MM-DV Form B/AD



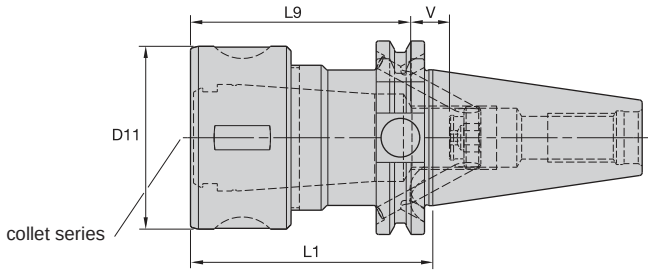

order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	kg
3523084	**DV40BHPMC20085M**	20	53	85	44	20	**PSW52M**	**MCSS16040M**	2,5mm & 5mm	1,54
3523085	**DV40BHPMC20150M**	20	53	150	49	20	**PSW52M**	**MCSS16040M**	2,5mm & 5mm	2,59
3523086	**DV40BHPMC25095M**	25	61	95	55	20	**PSW58M**	**MCSS16040M**	2,5mm & 5mm	1,91
3523087	**DV40BHPMC25150M**	25	61	150	55	20	**PSW58M**	**MCSS16040M**	2,5mm & 5mm	2,93
3523088	**DV40BHPMC32120M**	32	70	120	58	20	**PSW68M**	**MCSS16040M**	2,5mm & 5mm	2,56
3523089	**DV40BHPMC32150M**	32	70	150	58	20	**PSW68M**	**MCSS16040M**	2,5mm & 5mm	3,27

NOTE: Milling chuck technical section, see page M88.
Supplied with locknut and stop screw.
Locknut wrench not included.
Optional M6~1,0P fine-balancing screw set is available (order number HPMCBALSCREWSET) and must be ordered separately; see page L14.
Reduction sleeves are available and must be ordered separately; see page J6.
For retention knobs, see page L45.



- Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG100	2,6	25,5	5/64	1

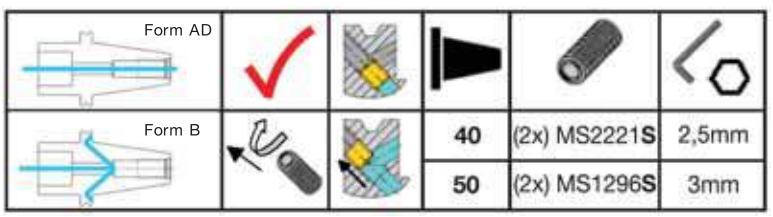
ERICKSON

TG Round-DV Form B/AD



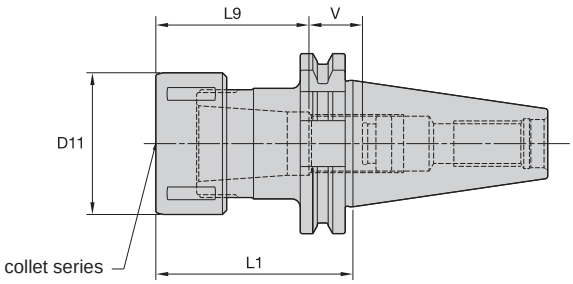
order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	kg
1237204	**DV40BTG100080M**	DV40	60	80	70	8	**LNA100M**	**HSW58M**	203	**SS081041G**	4mm & 5/32	1,38

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.



• Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1
TG150	11,6	40,0	23/64	1 1/2

ERICKSON

TG Round-DV Form AD

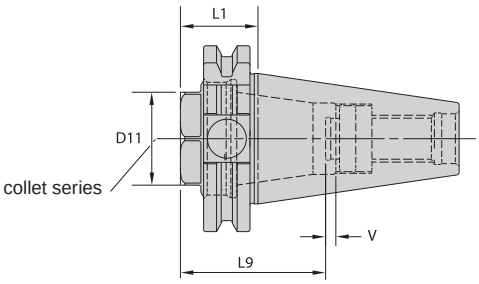


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	kg
1191962	**DV40TG075070M**	TG75	50	70	54	14	**LNA075M**	**HSW45M**	136	**SS081041G**	4mm & 5/32	1,14
1156385	**DV40TG100080M**	TG100	60	80	70	23	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	1,30
1263986	**DV40TG100100M**	TG100	60	100	70	43	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	1,49
1191963	**DV40TG100150M**	TG100	60	150	70	70	**LNA100M**	**HSW58M**	203	**SS112041G**	4mm & 5/32	1,99
1191964	**DV40TG150125M**	TG150	85	125	86	52	**LNA150M**	**HSW80M**	271	**SS112041G**	4mm & 5/32	2,57

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.

• Grip (2:1 advantage).







Collet Capacity

ER collet series	mm min	mm max	inch min	inch max
ER32	2,0	20,0	.08	.81

ERICKSON

ER Short-DV Form AD





order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	kg
3479819	**DV40SER32027M**	ER32	36	27	50	5	**LNECSER32M**	**OEW32M**	136	**SS094041G**	4mm & 5/32	0,60

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.



Romicron™ Boring System

Fast
Adjustments can be made in less than 5 seconds, while still holding 0,002mm (.0001") on the diameter!

Accurate
Each click of the dial is 0,001mm (.000040") on the radius and can be done in less than 5 seconds.
This high-performance boring system will give you:

- More uptime.
- Less scrap.
- Longer tool life.
- CPKs greater than 1.33.
- Less stress during adjustments.

NOTE: For Romicron boring systems, see the Kennametal Innovations Master Catalog Cutting Tools 2013.

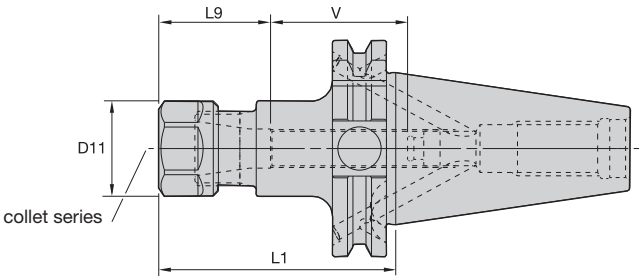
Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

• Grip (2:1 advantage).







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER16	0,5	10,0	.02	.41
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON™

ER Hex-DV Form B/AD

order number	catalog number	collet series	D11	L1	L9	V	kg
1770957	**DV40BER16070M**	ER16	28	70	32	48	0,96
1770958	**DV40BER16120M**	ER16	28	120	32	48	1,14

Spare Parts

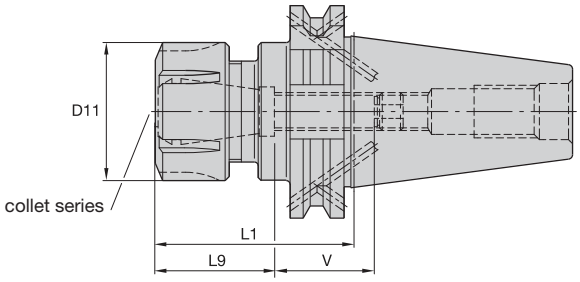




catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
DV40BER16070M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
DV40BER16120M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32

(continued)

(ER continued)





ER Round-DV Form B/AD

order number	catalog number	collet series	D11	L1	L9	V	kg
1263807	**DV40BER25065M**	ER25	42	65	40	35	1,04
1263808	**DV40BER25120M**	ER25	42	120	40	60	1,51
1263809	**DV40BER32070M**	ER32	50	70	46	33	1,08
1263810	**DV40BER32120M**	ER32	50	120	46	54	1,55
1263811	**DV40BER40080M**	ER40	63	80	52	34	1,22
1263812	**DV40BER40120M**	ER40	63	120	52	48	1,57

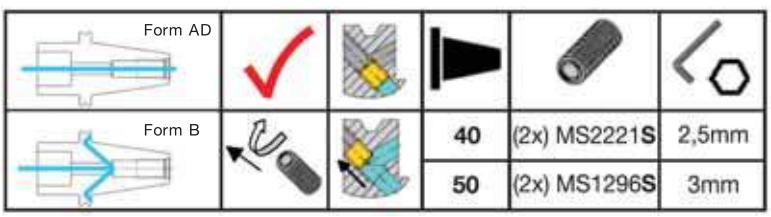
Spare Parts



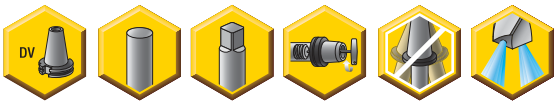


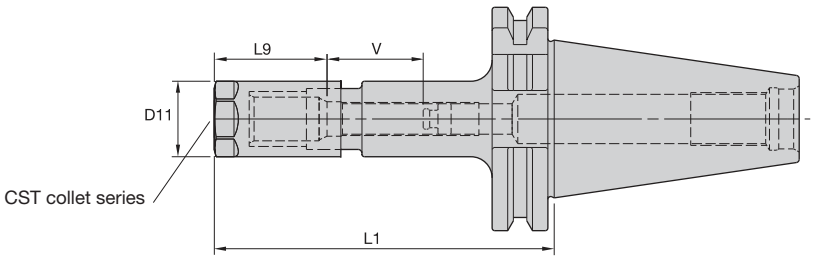
catalog number	locknut	wrench	Nm	stop screw	wrench size stop screw
DV40BER25065M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
DV40BER25120M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
DV40BER32070M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
DV40BER32120M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
DV40BER40080M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32
DV40BER40120M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.



- Grip 1:1.
- Balanced-by-design.
- Through-the-toolholder coolant capability — form AD.



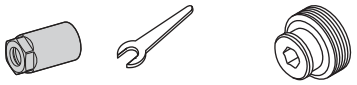




ERICKSON™

	Collet Capacity			
	mm		inch	
DA 08 collet series	min	max	min	max
DA200	0,2	10	1/64	25/64

DA Style 04-DV Form AD • Hex Locknut • Metric



order number	catalog number	CST collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	Nm	kg
1156381	**DV40DA204100M**	DA200	21	100	38	30	**LNA204M**	**OEW19M**	54	**SS038031G**	2mm & 5/64	54	1,10
1191927	**DV40DA204150M**	DA200	21	150	38	30	**LNA204M**	**OEW19M**	54	**SS038031G**	2mm & 5/64	54	1,06

NOTE: Tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.
For retention knobs, see page L45.

High-Performance Solid Carbide End Mills

In High-Performance Cutting (HPC), slow microcreeping can cause the cutting tool to be pulled out of the chuck, **turning high-quality workpieces to scrap.**

Be on the Safe Side with SAFE-LOCK™ in High-Performance Cutting (HPC)







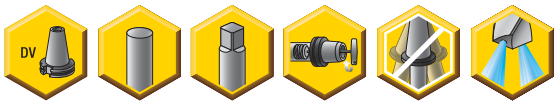
Benefits

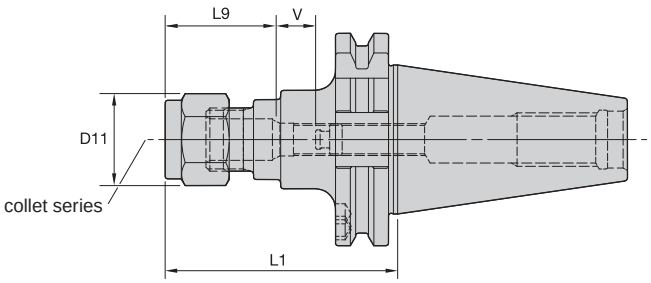
- Highly accurate clamping due to positive connection.
- No loss of accuracy.
- No pull out or spinning of the tool.
- No damage to the workpiece or machine.
- Groove on tool shank is directed so the tool will be pulled into the chuck (depending on direction of rotation).



To learn more, ***scan here****.*
For instructions on how to scan, please see page xxxiii.

• Grip 1:1.







	Collet Capacity			
	mm		inch	
DA collet series	min	max	min	max
DA200	0,2	10	1/64	25/64
DA100	1,8	14	1/64	9/16
DA180	2,2	20	1/64	3/4

ERICKSON™

DA Hex-DV Form AD

order number	catalog number	collet series	D11	L1	L9	V	lbs
1156382	**DV40DA208070M**	DA200	1.08	2.76	1.50	1.26	2.11
1191924	**DV40DA108070M**	DA100	1.44	2.76	1.77	1.58	2.19

Spare Parts



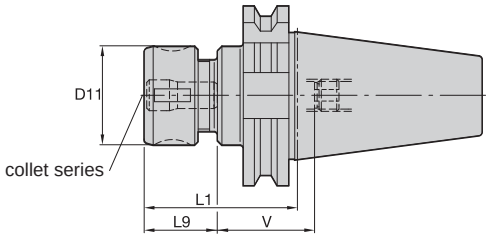




catalog number	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
DV40DA208070M	**LNA208M**	**OEW24M**	44	**SS038031G**	2mm & 5/64
DV40DA108070M	**LNA108M**	**OEW32M**	55	**SS056041G**	4mm & 5/32

(continued)

(DA continued)





DA Round-DV Form AD

order number	catalog number	collet series	D11	L1	L9	V	lbs
1156380	**DV40DA188070M**	DA180	1.69	2.76	1.96	.67	2.65
1191925	**DV40DA188100M**	DA180	1.69	3.94	1.96	1.86	3.09
1191926	**DV40DA188150M**	DA180	1.69	5.91	1.96	1.86	3.97

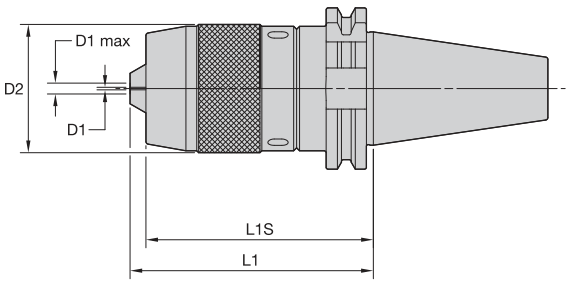
Spare Parts





catalog number	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
DV40DA188070M	**LNA188M**	**HSW45M**	100	**SS081041G**	4mm & 5/32
DV40DA188100M	**LNA188M**	**HSW45M**	100	**SS081041G**	4mm & 5/32
DV40DA188150M	**LNA188M**	**HSW45M**	100	**SS081041G**	4mm & 5/32

NOTE: For retention, tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.





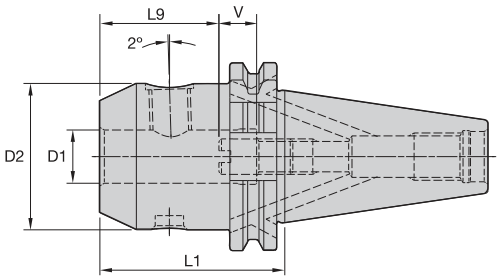
ERICKSON

DC-DV Form A

order number	catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D2	L1	L1S	locknut wrench	ft. lbs.	lbs
3583505	**DV40DC13090M**	1,0	.039	13,0	.512	50,5	102,3	90	**PSW45M**	40	3.48

NOTE: Tighten to the recommended tightening torque.
Locking wrench not supplied.
For retention knobs, see page L45.







ERICKSON

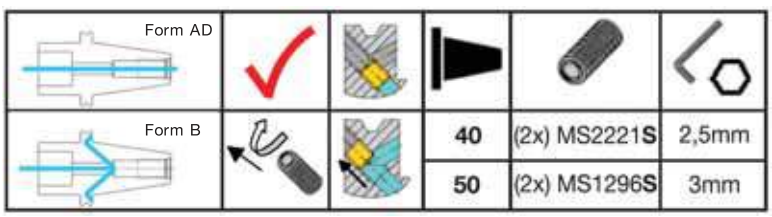
WN MM-DV Form B/AD

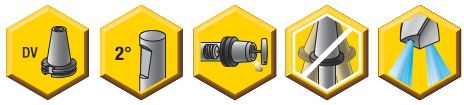


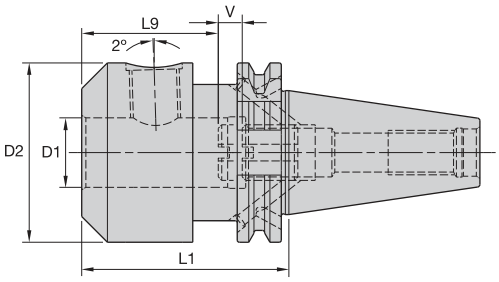


order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1135194	**DV40BWN06050M**	6	25	50	30	10	**SS03M012**	3mm	7	**571.060**	2,5mm	0,89
1135203	**DV40BWN08050M**	8	28	50	30	10	**SS03M014**	4mm	15	**571.067**	3mm	0,92
1135210	**DV40BWN10050M**	10	35	50	35	10	**SS03M018**	5mm	25	**571.068**	4mm	0,98
1135219	**DV40BWN12050M**	12	42	50	40	10	**SS03M023**	6mm	35	**571.074**	5mm	1,05
1135227	**DV40BWN14050M**	14	44	50	40	10	**SS03M023**	6mm	35	**571.074**	5mm	1,07
1135245	**DV40BWN16063M**	16	48	63	43	10	**SS03M025**	6mm	50	**571.075**	6mm	1,27
1135255	**DV40BWN18063M**	18	50	63	43	10	**SS03M025**	6mm	50	**571.075**	6mm	1,31
1135265	**DV40BWN20063M**	20	52	63	45	10	**SS03M026**	8mm	95	**571.076**	6mm	1,29
1135273	**DV40BWN25100M**	25	65	100	50	10	**SS03M027**	10mm	135	**571.076**	6mm	2,26
1135282	**DV40BWN32100M**	32	72	100	54	10	**SS03M029**	10mm	160	**571.076**	6mm	2,48

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw or stop screw wrenches not included.
For retention knobs, see page L45.









ERICKSON

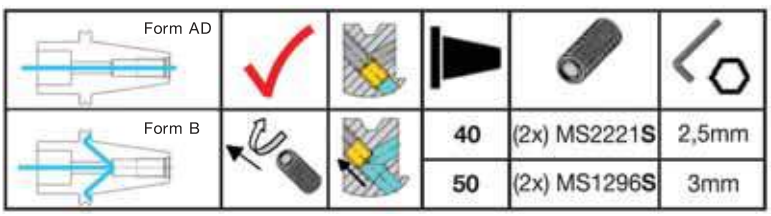
SWN MM-DV Form B/AD



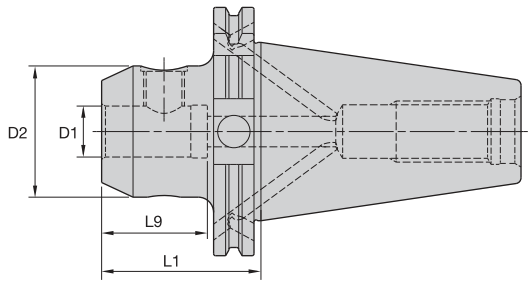


order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1134537	**DV40BSWN25075M**	25	65	75	44	15	**SS03M027**	10mm	135	**571.066**	10mm	1,71
1134538	**DV40BSWN32075M**	32	72	75	46	17	**SS03M029**	10mm	160	**571.066**	10mm	1,80

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrenches not included.
For retention knobs, see page L45.









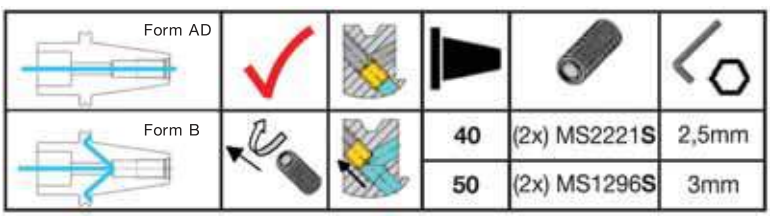
ERICKSON

EM MM-DV Form B/AD

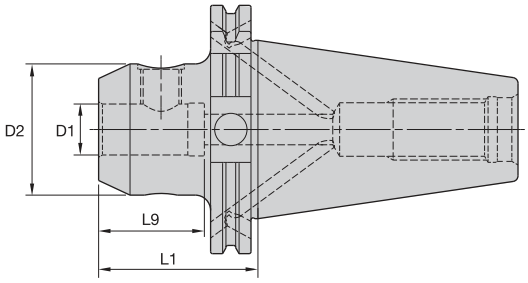


order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1263781	**DV40BEM06050M**	6	25	50	40	**SS03M012**	3mm	7	0,88
1263784	**DV40BEM08050M**	8	28	50	40	**SS03M014**	4mm	15	0,93
1263787	**DV40BEM10050M**	10	35	50	45	**SS03M018**	5mm	25	0,96
1263790	**DV40BEM12050M**	12	42	50	50	**SS03M023**	6mm	35	1,03
1886608	**DV40BEM14050M**	14	44	50	50	**SS03M023**	6mm	35	1,06
1263796	**DV40BEM16063M**	16	48	63	53	**SS03M025**	6mm	50	1,25
1263799	**DV40BEM20063M**	20	50	63	55	**SS03M026**	8mm	95	1,25
1156378	**DV40BEM25100M**	25	65	100	60	**SS03M027**	10mm	135	2,27
1237816	**DV40BEM32100M**	32	72	100	65	**SS03M029**	10mm	160	2,48

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.





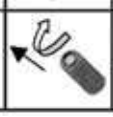




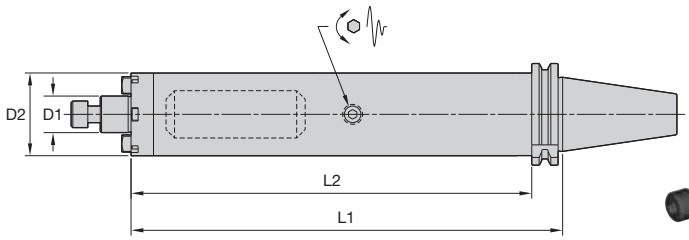
SEM MM-DV Form B/AD

order number	catalog number	D1	D2	L1	L9
1263821	**DV40BSEM25045M**	25	44,45	45	60
1263822	**DV40BSEM32070M**	32	65,50	70	–

NOTE: Do not overtighten clamp screw.
Supplied with clamp screw.
Clamp screw wrench not included.
For retention knobs, see page L45.

Form AD					
Form B			**40**	(2x) MS2221S	2,5mm
			50	(2x) MS1296S	3mm







ERICKSON

SMC TD Cap MM-DV Form B/AD





order number	catalog number	D1	D2	L1	L2	lock screw	drive key	wrench size lock screw	kg
4135132	**DV40BTDSMC22260M**	22	49	260	13,5	**MS1234**	**KDK22M**	8mm	4,30

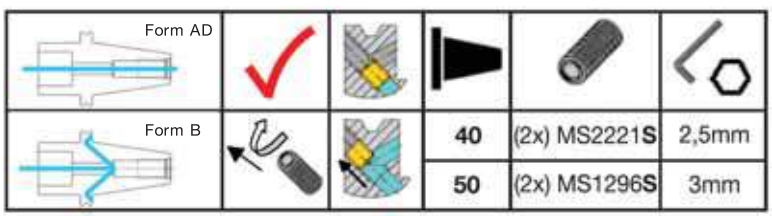
SMC TD Lock MM-DV Form B/AD



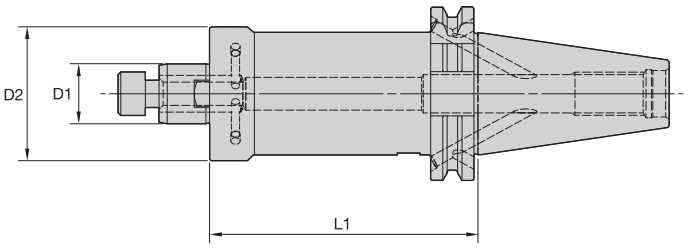


order number	catalog number	D1	D2	L1	L2	lock screw	drive key	wrench size lock screw	kg
4135483	**DV40BTDSMC27260M**	27	61	260	241,0	**KLSS27M**	**–**	10mm	5,88

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Lock screw wrench not included.
For retention knobs, see page L45.









ERICKSON

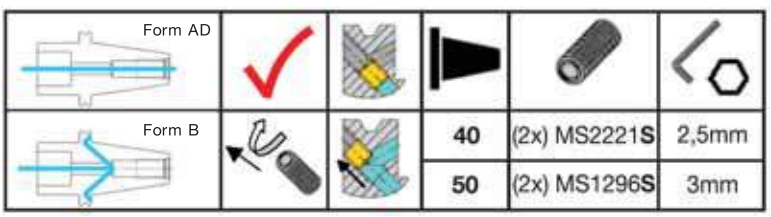
SMC Cap MM-DV Form B/AD



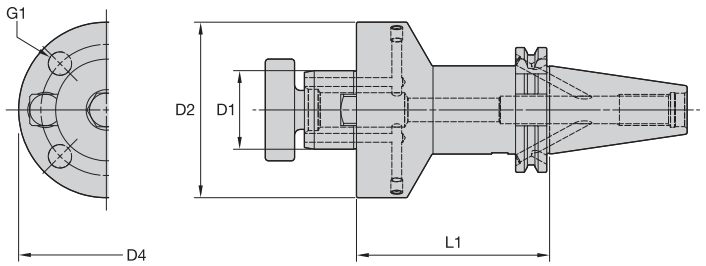


order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3767816	**DV40BSM2C16035M**	16	38	35	**MS1294**	**KDK16M**	6mm	0,94
3767818	**DV40BSM2C16100M**	16	38	100	**MS1294**	**KDK16M**	6mm	1,46
3767815	**DV40BSMC16035M**	16	44	35	**MS1294**	**KDK16M**	6mm	0,98
3767817	**DV40BSMC16100M**	16	44	100	**MS1294**	**KDK16M**	6mm	1,70
3767820	**DV40BSM2C22035M**	22	42	35	**MS1234**	**–**	8mm	1,00
3767822	**DV40BSM2C22100M**	22	42	100	**MS1234**	**–**	8mm	1,65
3767819	**DV40BSMC22035M**	22	49	35	**MS1234**	**KDK22M**	8mm	1,06
3767821	**DV40BSMC22100M**	22	49	100	**MS1234**	**KDK22M**	8mm	1,81

(continued)



(SMC continued)



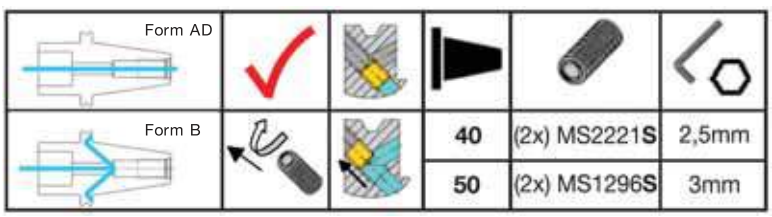


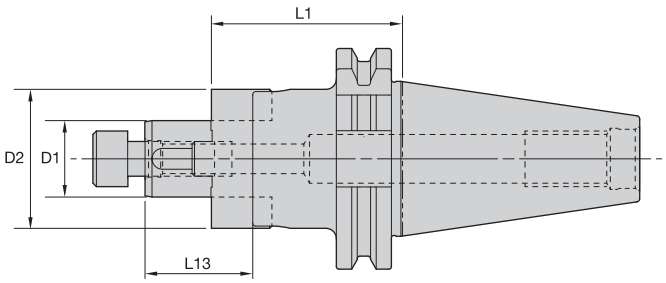
SMC Lock MM-DV Form B/AD




order number	catalog number	D1	D2	L1	G1	D4	lock screw	drive key	wrench size lock screw	kg
3767833	**DV40BSMC27035M**	27	50,0	35	–	–	**KLSS27M**	**KDK27M**	10mm	1,14
3767834	**DV40BSMC27100M**	27	60,0	100	–	–	**KLSS27M**	**KDK27M**	10mm	2,05
3767835	**DV40BSMC32050M**	32	78,0	50	–	–	**KLSS32M**	**KDK32M**	14mm	1,77
3767836	**DV40BSMC32100M**	32	78,0	100	–	–	**KLSS32M**	**KDK32M**	14mm	2,54
3767837	**DV40BSMC40050M**	40	89,3	50	M12 X 1.75	67	**KLSS40M**	**KDK40M**	17mm	2,01
3767838	**DV40BSMC40100M**	40	89,3	100	M12 X 1.75	67	**KLSS40M**	**KDK40M**	17mm	3,23

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Lock screw wrench not included.
For retention knobs, see page L45.







ERICKSON

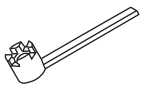
CS MM-DV Form AD • Cap Screw Design





order number	catalog number	D1	D2	L1	L13	lock screw	wrench size lock screw	combi driver ring	combi drive key	kg
1263828	**DV40CS16055M**	16	32	55	27	**MS1294**	6mm	**CDR16M**	**CDK16M**	1,02
1191920	**DV40CS16100M**	16	32	100	27	**MS1294**	6mm	**CDR16M**	**CDK16M**	1,25
1236436	**DV40CS22055M**	22	40	55	31	**MS1234**	8mm	**CDR22M**	**CDK22M**	1,18
1191921	**DV40CS22100M**	22	40	100	31	**MS1234**	8mm	**CDR22M**	**CDK22M**	1,56

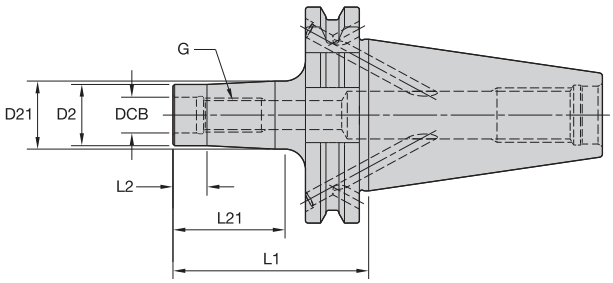
CS MM-DV Form AD • Lock Screw Design



order number	catalog number	D1	D2	L1	L13	lock screw	wrench	combi driver ring	combi drive key	kg
1156379	**DV40CS27055M**	27	48	55	33	**KLS27MPKG**	**SMW27M**	**CDR27M**	**CDK27M**	1,36
1263832	**DV40CS27100M**	27	48	100	33	**KLS27MPKG**	**SMW27M**	**CDR27M**	**CDK27M**	1,94
1263833	**DV40CS27150M**	27	48	150	33	**KLS27MPKG**	**SMW27M**	**CDR27M**	**CDK27M**	2,59
1191922	**DV40CS32060M**	32	58	60	38	**KLS32M**	**SMW32M**	**CDR32M**	**CDK32M**	1,65
1263835	**DV40CS32100M**	32	58	100	38	**KLS32M**	**SMW32M**	**CDR32M**	**CDK32M**	2,43
1191923	**DV40CS40060M**	40	70	60	41	**KLS40M**	**SMW40M**	**CDR40M**	**CDK40M**	2,06

NOTE: Do not overtighten lock screw.
Supplied with lock screw, drive ring, and drive keys.
Lock screw wrench not included.
For retention knobs, see page L45.



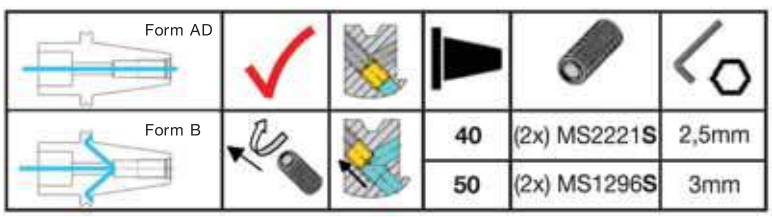


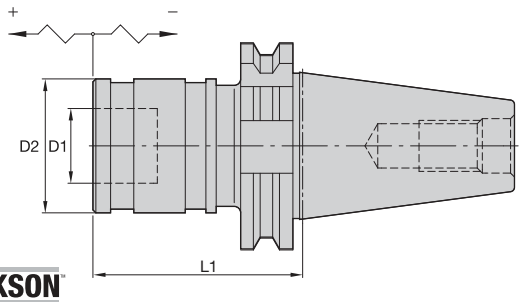
ERICKSON

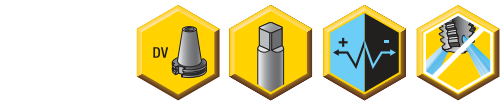
■ ST-DV Form B/AD

order number	catalog number	DCB	G	D2	D21	L1	L2	L21	kg
4066108	DV40BST06038M	6,5	M6	10	–	38	13	–	0,82
4066109	DV40BST06058M	6,5	M6	10	13	58	10	33	0,80
4066110	DV40BST06078M	6,5	M6	10	20	78	10	53	0,85
4066111	DV40BST06098M	6,5	M6	10	23	98	10	73	0,90
4066112	DV40BST08038M	8,5	M8	13	–	38	13	–	0,82
4066123	DV40BST08058M	8,5	M8	13	15	58	10	33	0,81
4066124	DV40BST08078M	8,5	M8	13	23	78	10	53	0,88
4066125	DV40BST08098M	8,5	M8	13	23	98	10	73	0,91
4066126	DV40BST10038M	10,5	M10	18	–	38	13	–	0,83
4066127	DV40BST10058M	10,5	M10	18	20	58	10	33	0,87
4066128	DV40BST10078M	10,5	M10	18	25	78	10	53	0,91
4066129	DV40BST10098M	10,5	M10	18	28	98	10	73	0,99
4066130	DV40BST12038M	12,5	M12	21	–	38	13	–	0,83
4066131	DV40BST12058M	12,5	M12	21	24	58	10	33	0,88
4066132	DV40BST12078M	12,5	M12	21	24	78	10	53	0,91
4066133	DV40BST12098M	12,5	M12	21	31	98	10	73	1,05
4066134	DV40BST12118M	12,5	M12	21	31	118	10	93	1,12
4066135	DV40BST16038M	17,0	M16	29	–	38	13	–	0,86
4066136	DV40BST16058M	17,0	M16	29	–	58	33	–	0,95
4066137	DV40BST16078M	17,0	M16	29	34	78	10	53	1,09
4066138	DV40BST16098M	17,0	M16	29	34	98	10	73	1,20
4066139	DV40BST16118M	17,0	M16	29	39	118	10	93	1,42

NOTE: For retention knobs, see page L45.







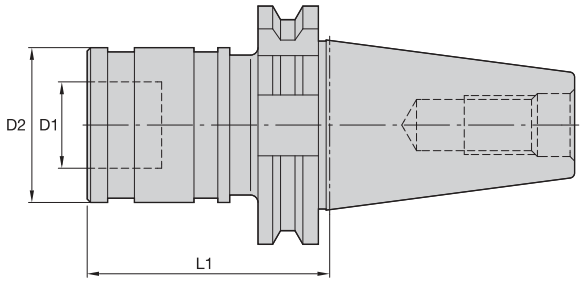


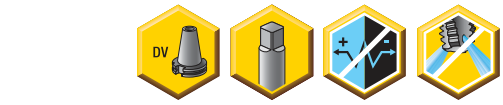
ERICKSON

RC-DV Form A

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	tension	compression	kg
1777397	**DV40RC1060M**	1	M1 - M14	#0 - 9/16	19	36	60	7,5	7,5	1,80
1777380	**DV40RC2098M**	2	M5 - M24	5/16 - 7/8	31	53	98	12,5	12,5	2,00
1777381	**DV40RC3150M**	3	M14 - M27	13/16 - 1 3/8	48	78	150	20,0	20,0	2,70

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
For retention knobs, see page L45.







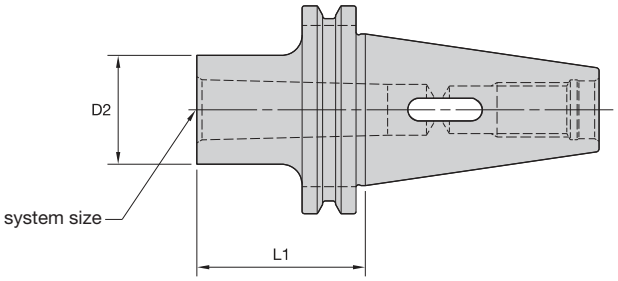
ERICKSON

STRC-DV Form A

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	kg
1777541	**DV40STRC1074M**	1	M1 - M14	#0 - 9/16	19	36	74	1,20
1778012	**DV40STRC2089M**	2	M5 - M24	5/16 - 7/8	31	53	89	1,50

NOTE: Quick-change tap adapters are available and must be ordered separately; see page J76.
For retention knobs, see page L45.







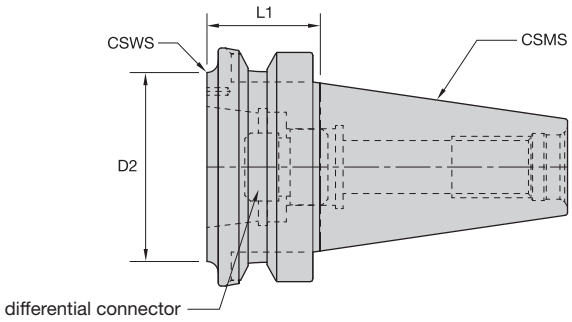
ERICKSON

MT-DV Form A

order number	catalog number	system size	D2	L1	kg
1191946	**DV40MT1050M**	1	25	50	1,03
1156384	**DV40MT2050M**	2	32	50	1,01
1191947	**DV40MT3070M**	3	40	70	1,03
1191948	**DV40MT4095M**	4	48	95	1,25

NOTE: For retention knobs; see page L45.

• Differential connector included.







DV to KR DIN 69871 AD/B • Metric



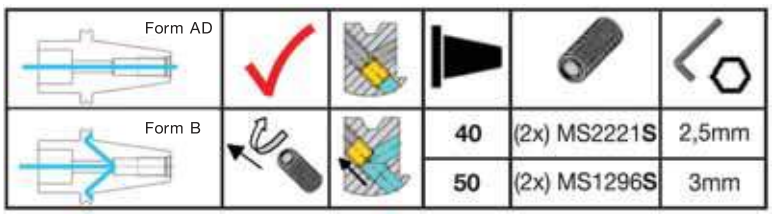
order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	kg	reference head
1539005	**DV40BKR32041M**	DV40	KR32	44	41	**KRDCKR32M**	1,00	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1263816	**DV40BKR50060M**	DV40	KR50	65	60	**KRDCKR50M**	1,40	SVS4B,5B,SVU65,SVUBB2

DV to KR DIN 69871 AD/B • Inch

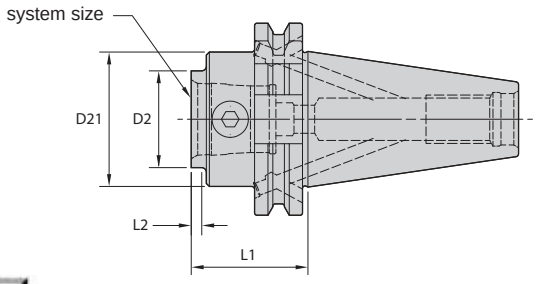


order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	lbs	reference head
1539005	**DV40BKR32041M**	DV40	KR32	1.75	1.614	**KRDCKR32M**	2.20	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1263816	**DV40BKR50060M**	DV40	KR50	2.56	2.362	**KRDCKR50M**	3.08	SVS4B,5B,SVU65,SVUBB2

NOTE: For Romicron boring systems, see the Kennametal Innovations Master Catalog Cutting Tools 2013.









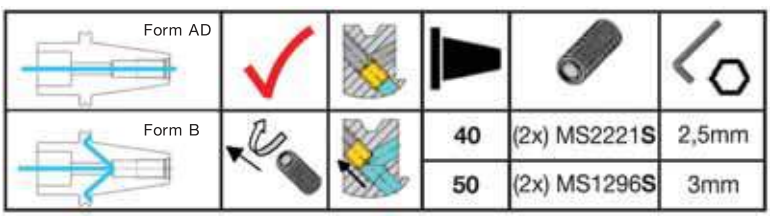
KM QUICK CHANGE

ERICKSON

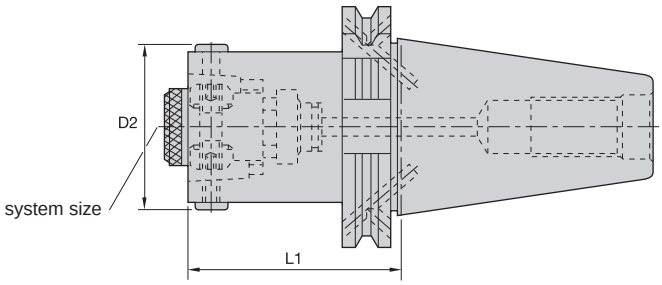
KM-DV Form B/AD

order number	catalog number	system size	D2	D21	L1	L2	KM spare parts package	wrench size actuation screw	Nm	kg
1974735	**DV40BKM32040M**	KM32	32	44,5	40	5	**KM32PKG3L**	5mm	8-11	0,97
1974736	**DV40BKM32090M**	KM32	32	44,5	90	55	**KM32PKG3S**	5mm	8-11	1,23
1974737	**DV40BKM40040M**	KM40	40	44,5	40	5	**KM40PKG3L**	6mm	12-16	0,95
1974738	**DV40BKM40100M**	KM40	40	44,5	100	65	**KM40PKG3S**	6mm	12-16	1,47
1974739	**DV40BKM50060M**	KM50	50	—	60	41	**KM50PKG3S**	10mm	27-34	1,22
1974740	**DV40BKM50120M**	KM50	50	—	120	101	**KM50PKG3S**	10mm	27-34	2,07

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.
For retention knobs, see page L45.







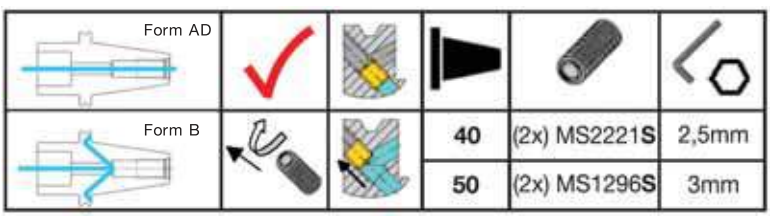


ERICKSON

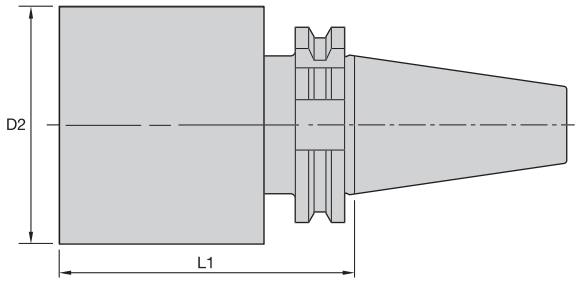
HSK-DV Form B/AD

order number	catalog number	system size	D2	L1	wrench size actuation screw	Nm	kg
1519665	**DV40BHSK40060M**	HSK40	45	60	3mm	8	1,00
1519668	**DV40BHSK50065M**	HSK50	55	65	4mm	15	1,00
1320683	**DV40BHSK63075M**	HSK63	70	75	5mm	20	1,20

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with actuation mechanism and sealing ring.
For retention knobs, see page L45.



• Machinable front 20–30 HRC.



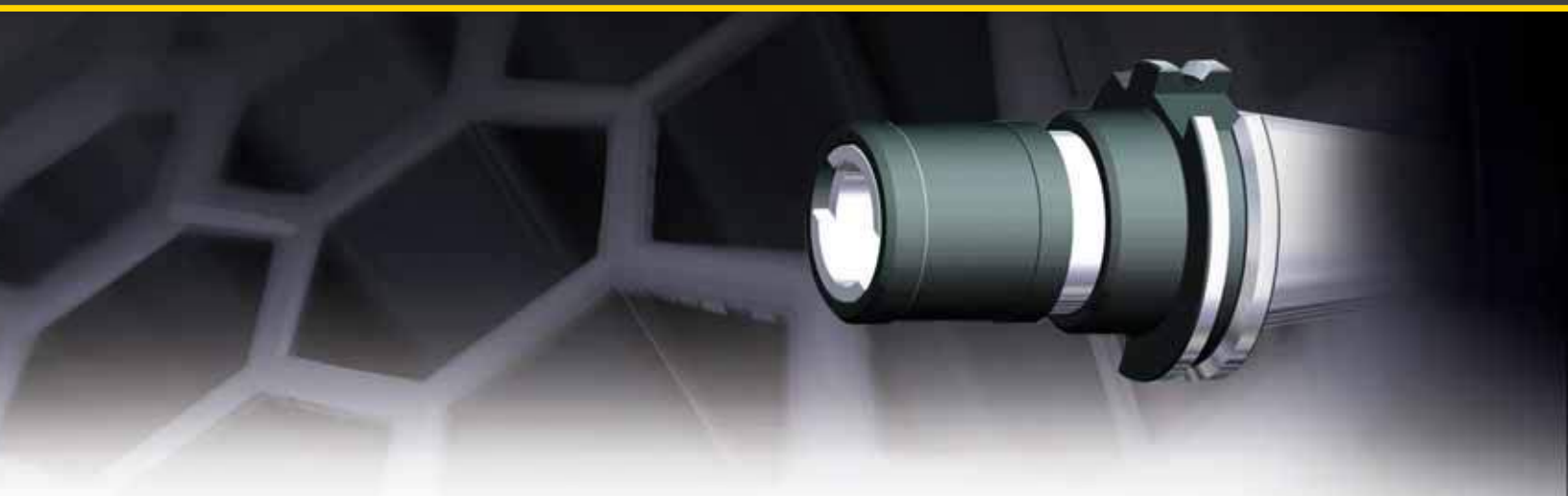


ERICKSON™

BB-DV Form A

order number	catalog number	D2	L1	kg
1263773	**DV40BB063280M**	63	280	7,00
1263774	**DV40BB082280M**	82	280	11,15
1263775	**DV40BB104200M**	104	200	11,99

NOTE: For retention knobs, see page L45.



ERICKSON™ DV V-Flange Shank Tooling System • DV50 Series

Primary Application

ERICKSON V-Flange DV Taper Tooling is manufactured from premium materials and meets or exceeds the latest DIN 69871 specification and ISO-1947 taper accuracy of AT3 specification standards. The DV50 tools are either pre-balanced to a high specification or balanced-by-design. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, retention knobs, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.



DV DIN 69871 Form B/AD Shank

NOTE: Inherent out-of-balance conditions due to notch and unequal depth of drive slots.

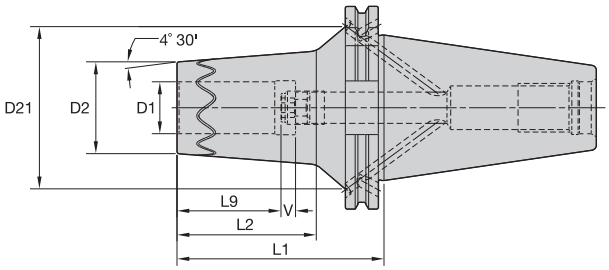


Features and Benefits

- DIN 69871 7/24 taper.
- Standard M24 metric drawbar thread.
- Taper accuracy of AT3 specification or better.
- All tools set to form AD coolant specification. Many can be converted to form B style.
- Maximum 100 bar (1,500 psi) coolant pressure.

- **SAFE-LOCK™**, innovative and unique non-slip system.
- Suitable for carbide and HSS cutting tools.
- Need ≥ 10 kW shrink unit.







Cutting Tool Shank Requirements
metric (ISO standard)

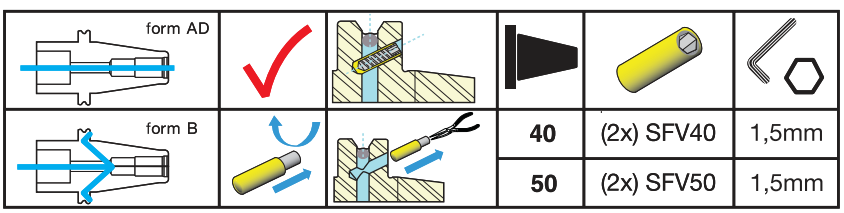
cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013

ERICKSON™

TT SF HPV MM-DV FORM B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
5090271	**DV50BSFTT12080M**	12	27	55	80	61	37	10	2,97
5090272	**DV50BSFTT14080M**	14	33	43	80	61	37	10	3,10
5090273	**DV50BSFTT16080M**	16	33	43	80	61	40	10	3,06
5090274	**DV50BSFTT18080M**	18	45	54	80	61	40	10	3,41
5090275	**DV50BSFTT20080M**	20	45	54	80	61	42	10	3,37
5090276	**DV50BSFTT25100M**	25	44	78	100	81	48	10	3,72

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Shrink Fit accessories, see pages L12–L13.
HSK coolant unit and wrench are available and must be ordered separately; see page L44.



40	(2x) SFV40	1,5mm
50	(2x) SFV50	1,5mm

Looking for a product that's not shown in this catalog?

Check the Kennametal website!



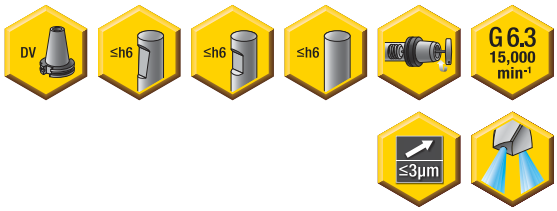
Tooling Systems

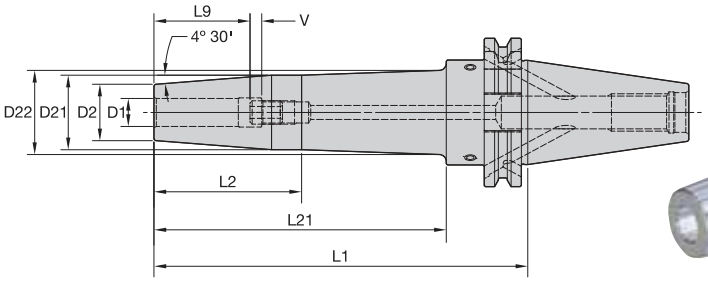
Online product catalog available 24/7

Visit **http://www.kennametal.com/toolingsystems/** to browse our electronic catalog any time you're looking for Kennametal's best tooling solutions. It's fast, free, and always available. The online e-catalog is updated weekly with products and solutions for milling, turning, holemaking, and tooling systems applications.

KENNAMETAL

- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide and HSS cutting tools (requirements below).







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
6	h6	0,000/-0,008
8 & 10	h6	0,000/-0,009
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT GP HPV MM-DV Form B/AD



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3790206	DV50BHPVTT06080M	6	21	27	—	80	61	—	26	10	TTSS05014M	2,5mm	2,72
3790207	DV50BHPVTT06120M	6	21	27	—	120	85	—	26	10	TTSS05014M	2,5mm	3,30
3790208	DV50BHPVTT06160M	6	21	27	32	160	50	125	26	10	TTSS05014M	2,5mm	3,54
3790209	DV50BHPVTT08080M	8	21	27	—	80	61	—	26	10	TTSS06014M	3mm	2,71
3790210	DV50BHPVTT08120M	8	21	27	—	120	85	—	26	10	TTSS06014M	3mm	3,29
3790211	DV50BHPVTT08160M	8	21	27	32	160	50	125	26	10	TTSS06014M	3mm	3,53
3790212	DV50BHPVTT10080M	10	24	32	—	80	61	—	31	10	TTSS08014M	4mm	2,78
3790213	DV50BHPVTT10120M	10	24	32	—	120	85	—	31	10	TTSS08014M	4mm	3,40
3790214	DV50BHPVTT10160M	10	24	32	36	160	63	125	31	10	TTSS08014M	4mm	3,70
3617660	DV50BHPVTT12080M	12	24	32	—	80	61	—	36	10	TTSS10014M	5mm	2,76
3617661	DV50BHPVTT12120M	12	24	32	—	120	85	—	36	10	TTSS10014M	5mm	3,38
3617662	DV50BHPVTT12160M	12	24	32	36	160	63	125	36	10	TTSS10014M	5mm	3,68
3617663	DV50BHPVTT14080M	14	27	34	—	80	61	—	36	10	TTSS10014M	5mm	2,81
3617664	DV50BHPVTT14120M	14	27	34	—	120	85	—	36	10	TTSS10014M	5mm	3,45

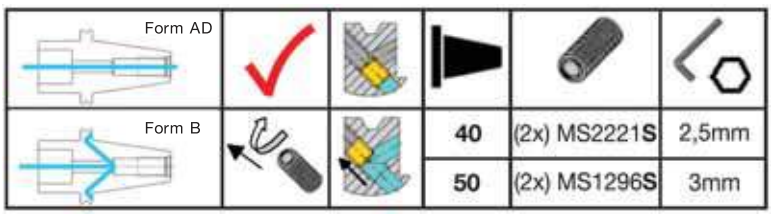
(continued)

(TT GP HPV MM-DV Form B/AD continued)

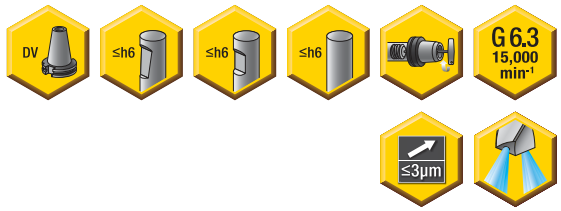


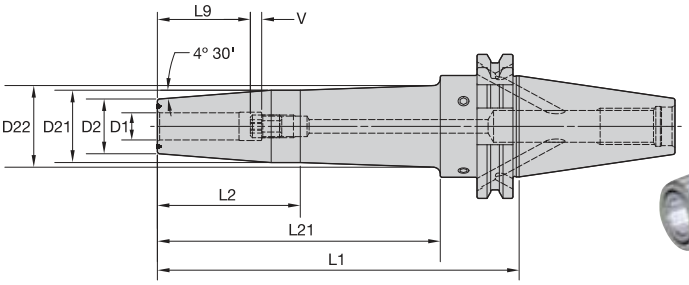
order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3617665	**DV50BHPVTT14160M**	14	27	34	39	160	57	125	36	10	**TTSS10014M**	5mm	3,79
3617666	**DV50BHPVTT16080M**	16	27	34	—	80	61	—	39	10	**TTSS12014M**	6mm	2,80
3617667	**DV50BHPVTT16120M**	16	27	34	—	120	85	—	39	10	**TTSS12014M**	6mm	3,42
3617668	**DV50BHPVTT16160M**	16	27	34	39	160	57	125	39	10	**TTSS12014M**	6mm	3,76
3617669	**DV50BHPVTT18080M**	18	33	41	—	80	61	—	39	10	**TTSS12014M**	6mm	2,93
3617670	**DV50BHPVTT18120M**	18	33	42	—	120	85	—	39	10	**TTSS12014M**	6mm	3,65
3617671	**DV50BHPVTT18160M**	18	33	42	46	160	69	125	39	10	**TTSS12014M**	6mm	4,13
3617672	**DV50BHPVTT20080M**	20	33	41	—	80	61	—	41	10	**TTSS16014M**	8mm	2,90
3617673	**DV50BHPVTT20120M**	20	33	42	—	120	85	—	41	10	**TTSS16014M**	8mm	3,61
3617674	**DV50BHPVTT20160M**	20	33	42	46	160	69	125	41	10	**TTSS16014M**	8mm	4,08
3617675	**DV50BHPVTT25100M**	25	44	53	—	100	81	—	47	10	**TTSS16014M**	8mm	3,48
3617676	**DV50BHPVTT25160M**	25	44	53	—	160	120	—	47	10	**TTSS16014M**	8mm	4,74
3617677	**DV50BHPVTT32100M**	32	44	53	—	100	81	—	51	10	**TTSS16014M**	8mm	3,32
3617678	**DV50BHPVTT32160M**	32	44	53	—	160	120	—	51	10	**TTSS16014M**	8mm	4,58

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available. Order number is MS127PKG and must be ordered separately.
For retention knobs, see page L45.



- 30–50% higher clamping torque compared to GP line.
- Balanceable — fine tune with optional M6 set screws.
- Suitable for carbide only, designated by groove in front face (requirements below).
- 10 kW power or greater Shrink Fit device must be used.







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
12, 14, 16, & 18	h6	0,000/-0,011
20 & 25	h6	0,000/-0,013
32	h6	0,000/-0,016

ERICKSON

TT HT HPV MM-DV Form B/AD



order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3617623	**DV50BHPVTTHT12080M**	12	24	32	—	80	61	—	36	10	**TTSS10014M**	5mm	2,76
3617624	**DV50BHPVTTHT12120M**	12	24	32	—	120	85	—	36	10	**TTSS10014M**	5mm	3,38
3617625	**DV50BHPVTTHT12160M**	12	24	32	36	160	63	125	36	10	**TTSS10014M**	5mm	3,68
3617626	**DV50BHPVTTHT14080M**	14	27	34	—	80	61	—	36	10	**TTSS10014M**	5mm	2,81
3617627	**DV50BHPVTTHT14120M**	14	27	34	—	120	85	—	36	10	**TTSS10014M**	5mm	3,45
3617628	**DV50BHPVTTHT14160M**	14	27	34	39	160	57	125	36	10	**TTSS10014M**	5mm	3,79
3617629	**DV50BHPVTTHT16080M**	16	27	34	—	80	61	—	39	10	**TTSS12014M**	6mm	2,80
3617630	**DV50BHPVTTHT16120M**	16	27	34	—	120	85	—	39	10	**TTSS12014M**	6mm	3,42
3617631	**DV50BHPVTTHT16160M**	16	27	34	39	160	57	125	39	10	**TTSS12014M**	6mm	3,76
3617632	**DV50BHPVTTHT18080M**	18	33	41	—	80	61	—	39	10	**TTSS12014M**	6mm	2,93
3617633	**DV50BHPVTTHT18120M**	18	33	42	—	120	85	—	39	10	**TTSS12014M**	6mm	3,65
3617634	**DV50BHPVTTHT18160M**	18	33	42	46	160	69	125	39	10	**TTSS12014M**	6mm	4,13

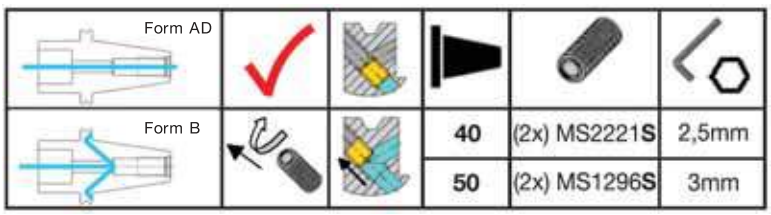
(continued)

(TT HT HPV MM-DV Form B/AD continued)

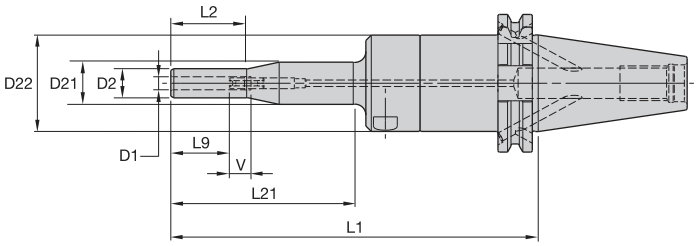


order number	catalog number	D1	D2	D21	D22	L1	L2	L21	L9	V	stop screw	wrench size stop screw	kg
3617635	**DV50BHPVTTHT20080M**	20	33	41	—	80	61	—	41	10	**TTSS16014M**	8mm	2,90
3617636	**DV50BHPVTTHT20120M**	20	33	42	—	120	85	—	41	10	**TTSS16014M**	8mm	3,61
3617637	**DV50BHPVTTHT20160M**	20	33	42	46	160	69	125	41	10	**TTSS16014M**	8mm	4,08
3617638	**DV50BHPVTTHT25100M**	25	44	53	—	100	81	—	47	10	**TTSS16014M**	8mm	3,48
3617639	**DV50BHPVTTHT25160M**	25	44	53	—	160	125	—	47	10	**TTSS16014M**	8mm	4,74
3617640	**DV50BHPVTTHT32100M**	32	44	53	—	100	81	—	51	10	**TTSS16014M**	8mm	3,32
3617641	**DV50BHPVTTHT32160M**	32	44	53	—	160	125	—	51	10	**TTSS16014M**	8mm	4,58

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
Optional M6~1.0P x 5 lg fine-balancing screw set (10 pieces) is available. Order number is M51276PKG and must be ordered separately.
For retention knobs, see page L45.









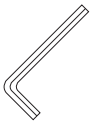
ERICKSON

HC Slim T MM-DV Form B/AD

order number	catalog number	D1	D2	D21	D22	L1	L2	L9	L21	V	kg
3019239	**DV50BHCSLT06200M**	6	13,5	19,5	44	200	35	27	85	10	3,81
3019240	**DV50BHCSLT08200M**	8	15,5	19,5	44	200	35	27	85	10	3,82
3019241	**DV50BHCSLT10200M**	10	17,5	44,5	—	200	85	31	181	10	3,81

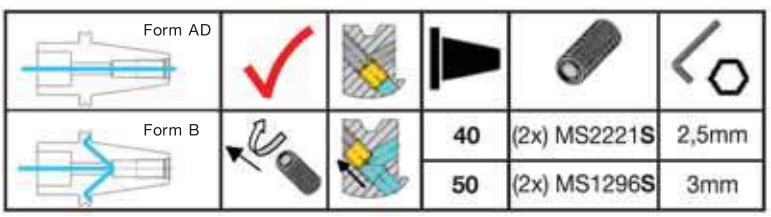
Spare Parts



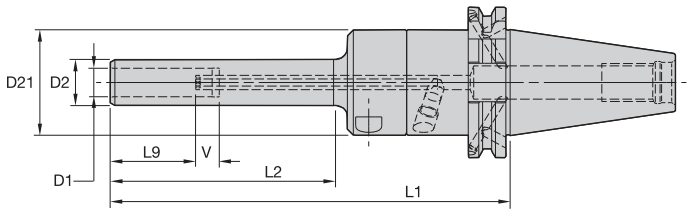


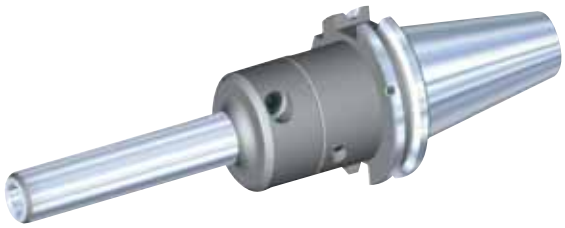
catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
DV50BHCSLT06200M	**170.135**	5mm	**170.002**	2,5mm
DV50BHCSLT08200M	**170.135**	5mm	**170.002**	2,5mm
DV50BHCSLT10200M	**170.135**	5mm	**170.003**	3mm

(continued)



(HC Slim continued)



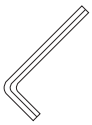


HC Slim MM-DV Form B/AD

order number	catalog number	D1	D2	D21	L1	L2	L9	V	kg
2634420	**DV50BHCSL12200M**	12	19,5	44,5	200	95	36	10	3,57
2634421	**DV50BHCSL14200M**	14	21,5	52,5	200	95	36	10	3,99
2634422	**DV50BHCSL16200M**	16	23,5	52,5	200	95	39	10	4,01
2634533	**DV50BHCSL18200M**	18	25,5	52,5	200	95	39	10	4,05
2634534	**DV50BHCSL20200M**	20	27,5	52,5	200	95	41	10	4,09

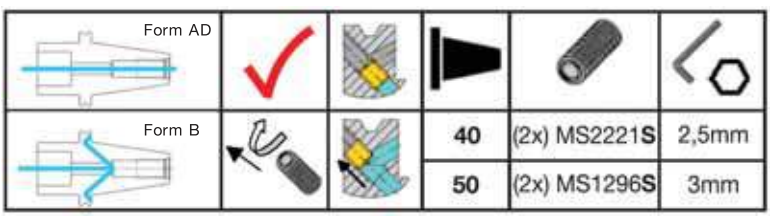
Spare Parts



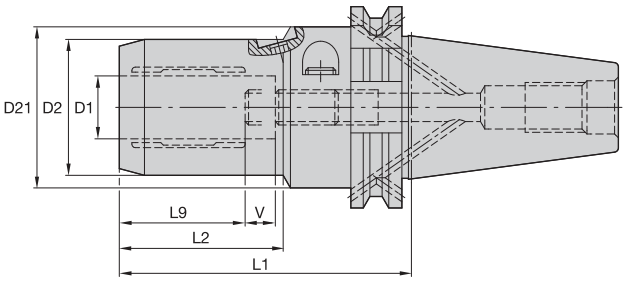


catalog number	actuation wrench	wrench size actuation screw	length-adjustment wrench	wrench size stop screw
DV50BHCSL12200M	**170.135**	5mm	**170.002**	2,5mm
DV50BHCSL14200M	**170.135**	5mm	**170.002**	2,5mm
DV50BHCSL16200M	**170.135**	5mm	**170.002**	2,5mm
DV50BHCSL18200M	**170.135**	5mm	**170.002**	2,5mm
DV50BHCSL20200M	**170.135**	5mm	**170.002**	2,5mm

NOTE: Do not overtorque actuation screw. Use supplied wrench and tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw and actuation wrench.
Unable to use SEFAS™ chamfering rings on this design.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.





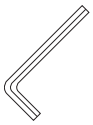




ERICKSON

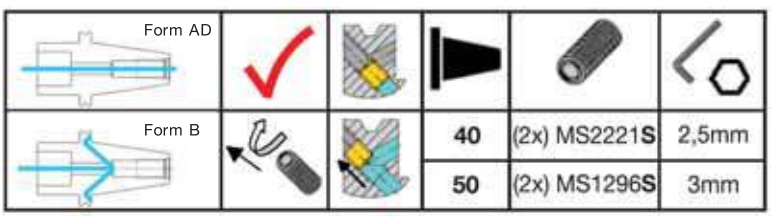
HC MM-DV Form B/AD



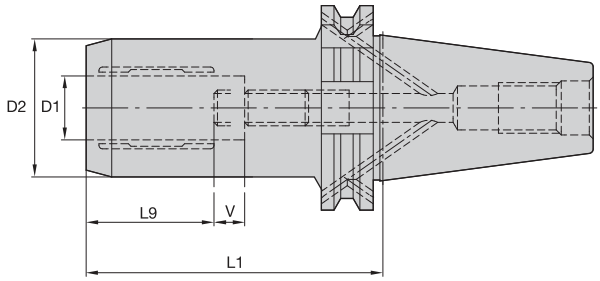


order number	catalog number	D1	D2	D21	L1	L2	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	kg
1245450	**DV50BHC06072M**	6	25,7	50	72	33	30	10	**170.135**	5mm	**170.002**	2,5mm	2,87
1245451	**DV50BHC08072M**	8	27,7	50	72	34	30	10	**170.135**	5mm	**170.002**	2,5mm	2,90
1191014	**DV50BHC10077M**	10	29,7	50	77	39	35	10	**170.135**	5mm	**170.002**	2,5mm	2,92
1191015	**DV50BHC12077M**	12	31,6	50	77	40	35	10	**170.135**	5mm	**170.002**	2,5mm	2,93
1245452	**DV50BHC14082M**	14	33,6	50	82	46	40	10	**170.135**	5mm	**170.003**	3mm	2,96
1245453	**DV50BHC16082M**	16	37,6	50	82	47	40	10	**170.135**	5mm	**170.003**	3mm	3,02
1245454	**DV50BHC18082M**	18	39,6	50	82	47	40	10	**170.135**	5mm	**170.003**	3mm	3,04
1191016	**DV50BHC20082M**	20	41,6	50	82	48	40	10	**170.135**	5mm	**170.003**	3mm	3,06
1245455	**DV50BHC25117M**	25	49,8	63	117	51	51	10	**170.136**	6mm	**170.004**	4mm	4,03
1197514	**DV50BHC32117M**	32	59,8	63	117	59	51	10	**170.136**	6mm	**170.004**	4mm	4,21

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.





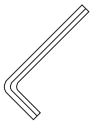




ERICKSON

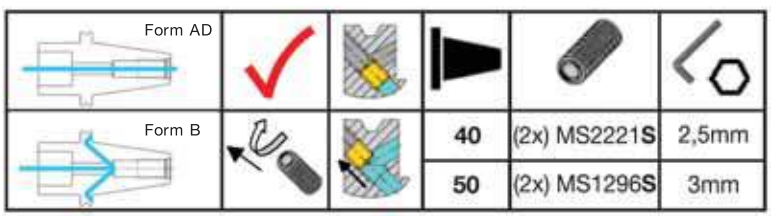
HC Basic MM-DV Form B/AD



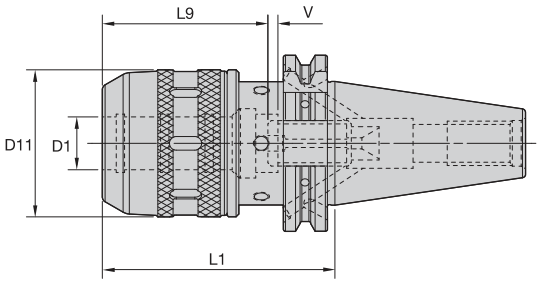


order number	catalog number	D1	D2	L1	L9	V	actuation wrench	wrench size actuation screw	stop screw wrench	wrench size stop screw	kg
1599686	**DV50BHCB20082M**	20	49,9	82	41	10	**170.135**	5mm	**170.005**	5mm	3,30

NOTE: Do not overtorque actuation screw. Tighten by hand until stop is felt.
Hydraulic chuck technical section, see page M84.
Supplied with stop screw.
Actuation wrench must be ordered separately.
Reduction sleeves are available and must be ordered separately; see page J2.
For retention knobs, see page L45.









ERICKSON

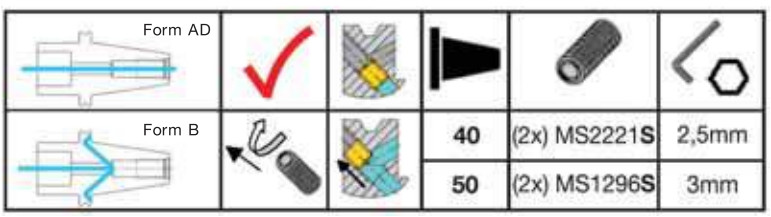
HPMC MM-DV Form B/AD





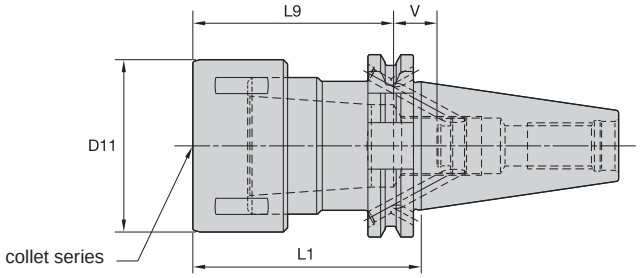
order number	catalog number	D1	D11	L1	L9	V	locknut wrench	stop screw	wrench size stop screw	kg
3523090	**DV50BHPMC20090M**	20	53	90	49	20	**PSW52M**	**MCSS16040M**	2.5 mm & 5 mm	3,67
3523091	**DV50BHPMC20165M**	20	53	165	49	20	**PSW52M**	**MCSS16040M**	2.5 mm & 5 mm	4,76
3523092	**DV50BHPMC25090M**	25	61	90	55	20	**PSW58M**	**MCSS16040M**	2.5 mm & 5 mm	3,86
3523093	**DV50BHPMC25165M**	25	61	165	55	20	**PSW58M**	**MCSS16040M**	2.5 mm & 5 mm	5,37
3523094	**DV50BHPMC32090M**	32	70	90	58	20	**PSW68M**	**MCSS16040M**	2.5 mm & 5 mm	4,08
3523095	**DV50BHPMC32165M**	32	74	165	75	20	**PSW68M**	**MCSS16040M**	2.5 mm & 5 mm	6,12

NOTE: Milling chuck technical section, see page M88.
Supplied with locknut and stop screw.
Locknut wrench not included.
Optional M6~1,0P fine-balancing screw set is available (order number HPMCBALSCREWSET) and must be ordered separately; see page L14.
Reduction sleeves are available and must be ordered separately; see page J6.
For retention knobs, see page L45.



• Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG100	2,6	25,5	5/64	1

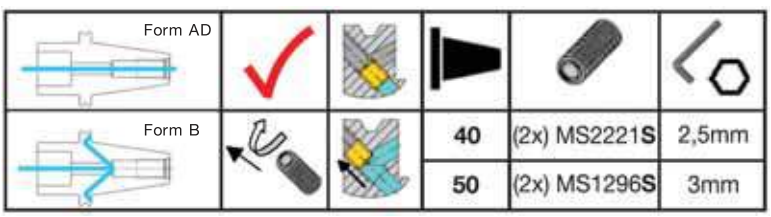
ERICKSON

TG Round-DV Form B/AD



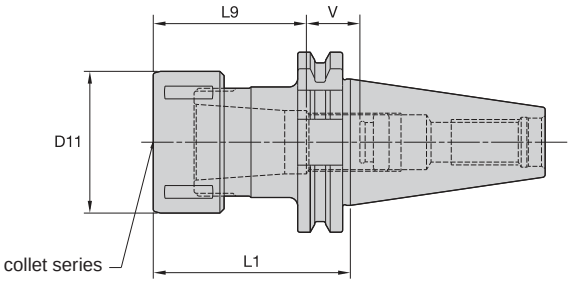
order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	stop screw	wrench size stop screw	kg
1125523	**DV50BTG100085M**	TG100	60	85	70	18	**LNA100M**	**HSW58M**	**SS112041G**	4mm & 5/32	3,00
1264147	**DV50BTG100150M**	TG100	60	150	70	80	**LNA100M**	**HSW58M**	**SS112041G**	4mm & 5/32	4,50

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.



- Tremendous Grip (3:1 advantage).







Collet Capacity

TG collet series	mm min	mm max	inch min	inch max
TG100	2,6	25,5	5/64	1
TG150	11,6	40,0	23/64	1 1/2

ERICKSON

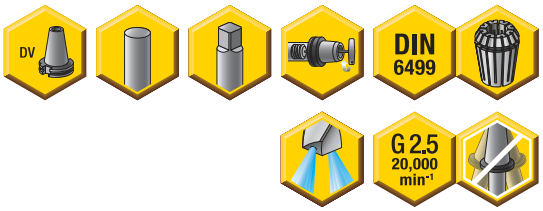
TG Round-DV Form AD

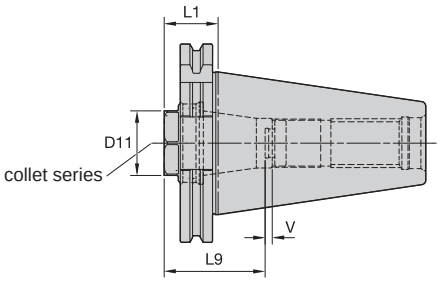


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	stop screw	wrench size stop screw	kg
1156402	**DV50TG100085M**	TG100	60	85	70	38	**LNA100M**	**HSW58M**	**SS112041G**	4mm & 5/32	3,36
1156403	**DV50TG100150M**	TG100	60	150	70	80	**LNA100M**	**HSW58M**	**SS112041G**	4mm & 5/32	4,54
1264353	**DV50TG100200M**	TG100	60	200	70	80	**LNA100M**	**HSW58M**	**SS112041G**	4mm & 5/32	5,51
1252592	**DV50TG150090M**	TG150	85	90	83	27	**LNA150M**	**HSW80M**	**SS162062G**	4mm & 5/32	3,73
1228270	**DV50TG150150M**	TG150	85	150	83	67	**LNA150M**	**HSW80M**	**SS162062G**	4mm & 5/32	4,94

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.

• Grip (2:1 advantage).







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Short-DV Form AD

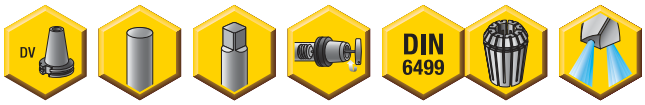


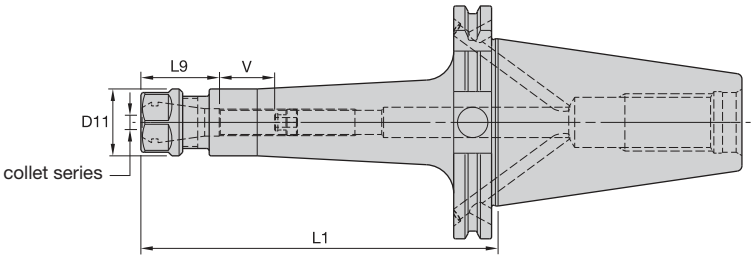


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	kg
3479820	**DV50SER32027M**	ER32	36	27	50	17	**LNECSER32M**	**OEW32M**	136	**SS094041G**	4mm & 5/32	2,41
3479821	**DV50SER40027M**	ER40	46	27	57	11	**LNECSER40M**	**OEW168**	176	**SS112041G**	4mm & 5/32	2,24

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.

• Grip (2:1 advantage).







ER collet series	Collet Capacity mm min	mm max	inch min	inch max
ER16	0,5	10,0	.02	.41
ER25	1,0	16,0	.04	.63
ER32	2,0	20,0	.08	.81
ER40	3,0	26,0	.12	1.00

ERICKSON

ER Hex-DV Form B/AD

order number	catalog number	collet series	D11	L1	L9	V	kg
1748235	**DV50BER16100M**	ER16	28	100	32	48	2,81
1972537	**DV50BER16150M**	ER16	28	150	32	48	3,13

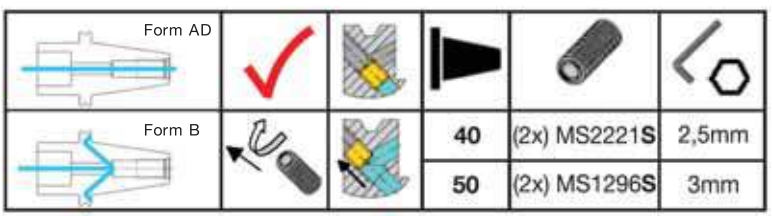
Spare Parts



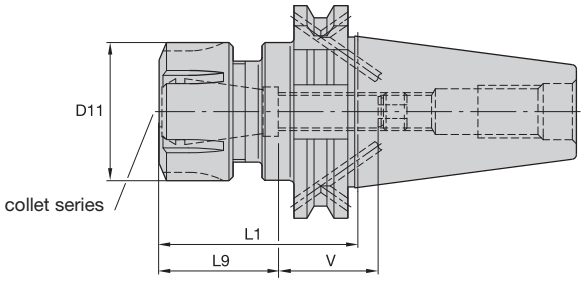


catalog number	locknut	wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
DV50BER16100M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32
DV50BER16150M	**LNHSER16M**	**OEW25M**	40	56	**SS044038G**	4mm & 5/32

(continued)



(ER DV Form B/AD continued)





ER Round-DV Form B/AD

order number	catalog number	collet series	D11	L1	L9	V	kg
1264126	**DV50BER25070M**	ER25	42	70	40	50	2,87
1264127	**DV50BER25150M**	ER25	42	150	40	60	3,53
1264128	**DV50BER32070M**	ER32	50	70	46	54	2,91
1264129	**DV50BER32150M**	ER32	50	150	46	54	3,89
1264130	**DV50BER40080M**	ER40	63	80	52	48	3,25
1264132	**DV50BER40150M**	ER40	63	150	52	48	4,66

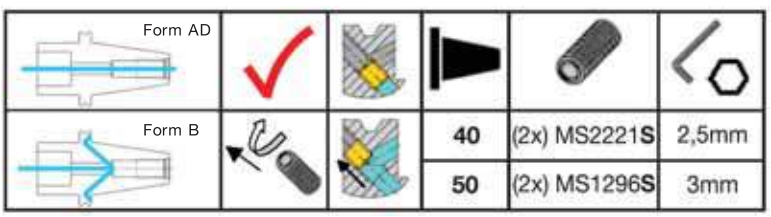
Spare Parts

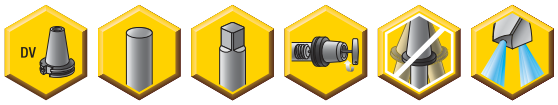


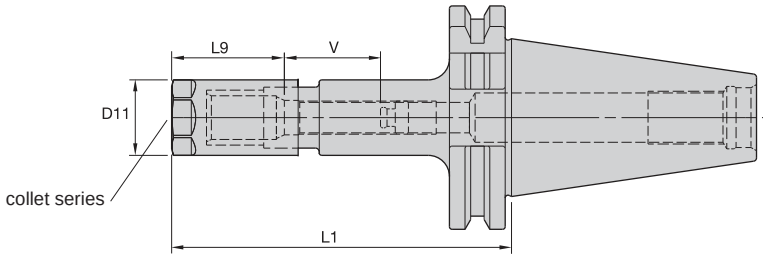


catalog number	locknut	wrench	counterbore collet torque (Nm)	stop screw	wrench size stop screw
DV50BER25070M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
DV50BER25150M	**LNSER25M**	**ER25WM**	104	**SS075041G**	4mm & 5/32
DV50BER32070M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
DV50BER32150M	**LNSER32M**	**ER32WM**	136	**SS094041G**	4mm & 5/32
DV50BER40080M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32
DV50BER40150M	**LNSER40M**	**ER40WM**	176	**SS112041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.
For retention knobs, see page L45.









Collet Capacity

DA 08 collet series	mm min	mm max	inch min	inch max
DA200	0,2	10	1/64	25/64

ERICKSON

DA 04 Hex-DV Form AD

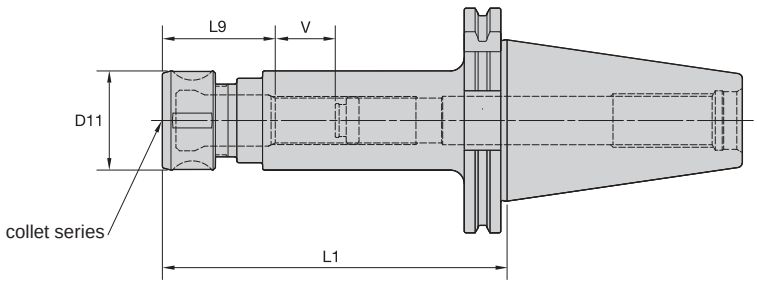


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	Nm	stop screw	wrench size stop screw	kg
1264197	**DV50DA204100M**	DA200	21,46	100	38	32	**LNA204M**	**OEW19M**	54	**SS038031G**	2mm & 5/64	3,00
1264198	**DV50DA204150M**	DA200	21,46	150	38	32	**LNA204M**	**OEW19M**	54	**SS038031G**	2mm & 5/64	3,20

NOTE: Tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–L68.
For retention knobs, see page L45.

• Grip 1:1.







DA collet series	Collet Capacity mm min	mm max	inch min	inch max
DA180	2,2	20	1/64	3/4

ERICKSON

DA 08 Round-DV Form AD

order number	catalog number	collet series	D11	L1	L9	V
1179333	**DV50DA188070M**	DA180	43	70	50	49
1156389	**DV50DA188150M**	DA180	43	150	50	50
1136821	**DV50DA188200M**	DA180	43	200	50	50

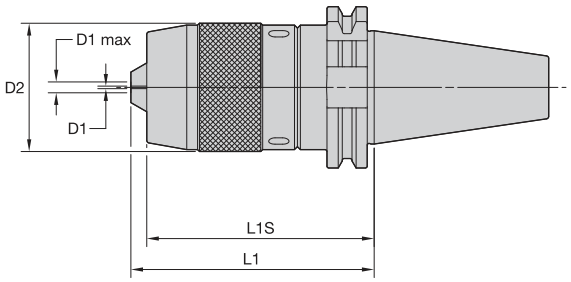
Spare Parts





catalog number	locknut	locknut wrench	Nm	stop screw	wrench size stop screw
DV50DA188070M	**LNA188M**	**HSW45M**	136	**SS081041G**	4mm & 5/32
DV50DA188150M	**LNA188M**	**HSW45M**	136	**SS081041G**	4mm & 5/32
DV50DA188200M	**LNA188M**	**HSW45M**	136	**SS081041G**	4mm & 5/32

NOTE: For retention, tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.
For retention knobs, see page L45.





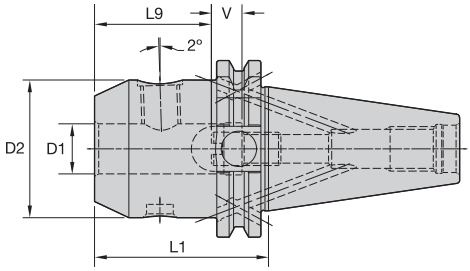
ERICKSON

DC-DV Form A

order number	catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D2	L1	L1S	locknut wrench	Nm	kg
3583506	**DV50DC13090M**	1,0	.039	13,0	.512	50,5	102,3	90	**PSW45M**	55	3,50

NOTE: Tighten to the recommended tightening torque.
Locking wrench not supplied.
For retention knobs, see page L45.







ERICKSON

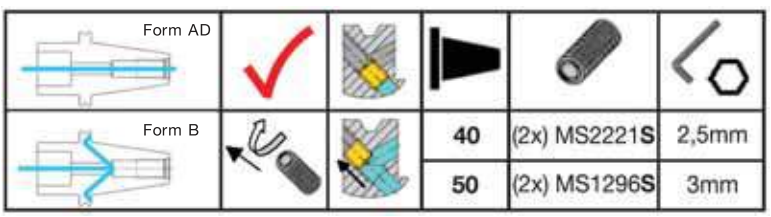
WN MM-DV Form B/AD



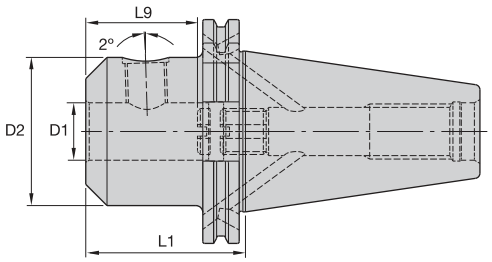


order number	catalog number	D1	D2	L1	L9	V	lock screw	wrench size lock screw	Nm	stop screw	wrench size stop screw	kg
1136755	**DV50BWN06063M**	6	25	63	30	10	**SS03M012**	3 mm	7	**571.060**	2,5mm	2,67
1136774	**DV50BWN08063M**	8	28	63	30	10	**SS03M014**	4 mm	15	**571.067**	3mm	2,71
1136783	**DV50BWN10063M**	10	35	63	35	10	**SS03M018**	5 mm	25	**571.068**	4mm	2,83
1191334	**DV50BWN12063M**	12	42	63	40	10	**SS03M023**	6 mm	35	**571.074**	5mm	2,95
1136800	**DV50BWN14063M**	14	44	63	40	10	**SS03M023**	6 mm	35	**571.074**	5mm	2,98
1136806	**DV50BWN16063M**	16	48	63	43	10	**SS03M025**	6 mm	50	**571.075**	6mm	3,05
1136814	**DV50BWN18063M**	18	50	63	43	10	**SS03M025**	6 mm	50	**571.075**	6mm	3,11
1136823	**DV50BWN20063M**	20	52	63	45	10	**SS03M026**	8 mm	95	**571.076**	6mm	3,12
1136842	**DV50BWN25080M**	25	65	80	50	10	**SS03M027**	10 mm	135	**571.076**	6mm	3,82
1136851	**DV50BWN32100M**	32	72	100	54	10	**SS03M029**	10 mm	160	**571.076**	6mm	4,59

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and stop screw.
Lock screw or stop screw wrenches not included.
For retention knobs, see page L45.









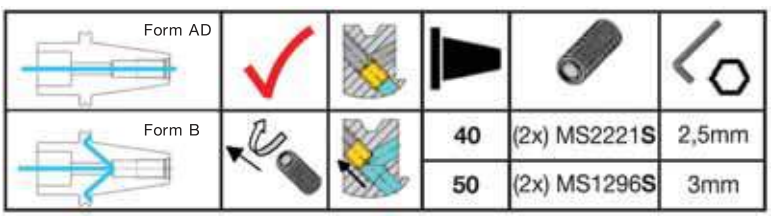
ERICKSON

SWN IN-DV Form B/AD

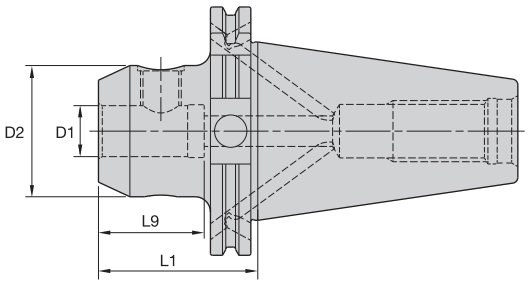


order number	catalog number	D1	D2	L1	L9	lock screw	Nm	wrench size lock screw	kg
1134539	**DV50BSWN25070M**	25	65	70	44	**SS03M027**	135	10mm	3,59
1134540	**DV50BSWN32070M**	32	70	70	46	**SS03M029**	160	10mm	3,69

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrenches not included.
For retention knobs, see page L45.









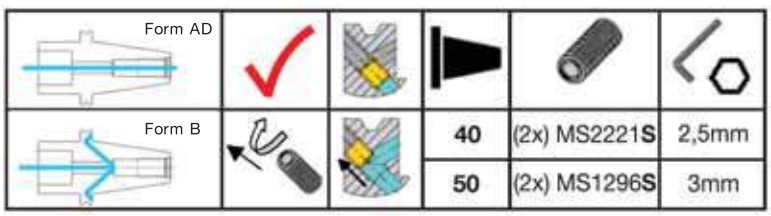
ERICKSON

EM MM-DV Form B/AD

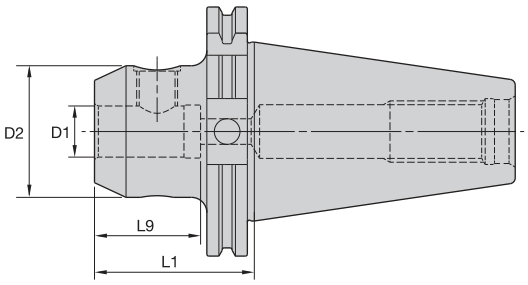


order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1264102	**DV50BEM16063M**	16	48	63	53	**SS03M025**	6mm	50	3,00
1264107	**DV50BEM20063M**	20	52	63	55	**SS03M026**	8mm	95	3,06
1156387	**DV50BEM25080M**	25	65	80	60	**SS03M027**	10mm	135	3,72
1156388	**DV50BEM32100M**	32	72	100	65	**SS03M029**	10mm	160	4,48
1264122	**DV50BEM40110M**	40	90	110	75	**SS03M032**	10mm	160	5,76
1264125	**DV50BEM50120M**	50	100	120	85	**SS03M030**	12mm	250	6,63

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.









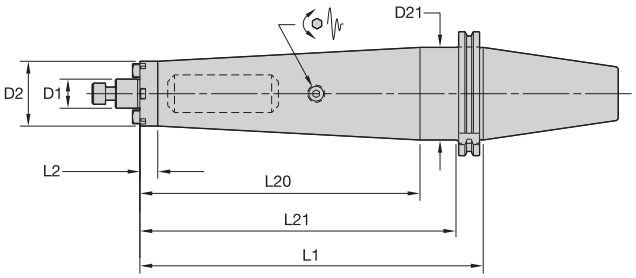
ERICKSON

EM MM-DV Form AD



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	Nm	kg
1264207	**DV50EM06063M**	6	25	63	40	**SS03M012**	3mm	7	2,67
1264208	**DV50EM06150M**	6	25	150	40	**SS03M012**	3mm	7	2,96
1264210	**DV50EM08063M**	8	28	63	40	**SS03M014**	4mm	15	2,71
1264212	**DV50EM08150M**	8	28	150	40	**SS03M014**	4mm	15	3,05
1264214	**DV50EM10063M**	10	35	63	45	**SS03M018**	5mm	25	2,84
1264216	**DV50EM10150M**	10	35	150	45	**SS03M018**	5mm	25	3,39
1191975	**DV50EM12063M**	12	42	63	50	**SS03M023**	6mm	35	3,02
1264219	**DV50EM12150M**	12	42	150	50	**SS03M023**	6mm	35	3,77
1189666	**DV50EM16150M**	16	48	150	53	**SS03M025**	6mm	50	4,13
1152193	**DV50EM20150M**	20	52	150	55	**SS03M026**	8mm	95	4,44

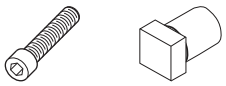
NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.



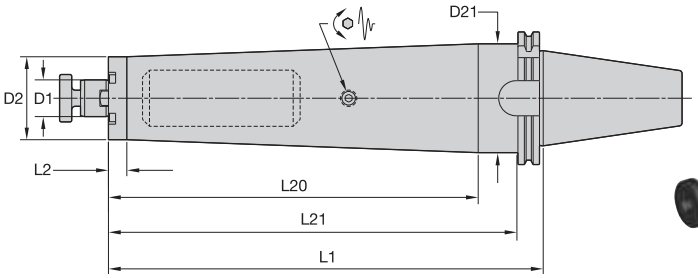


ERICKSON

SMC TD Cap MM-DV Form B/AD

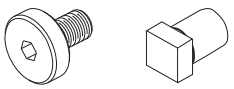


order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	drive key	wrench size lock screw	kg
4135484	**DV50BTDSMC22260M**	22	49	70	260	13,5	211,8	241	**MS1234**	**KDK22M**	8mm	7,83



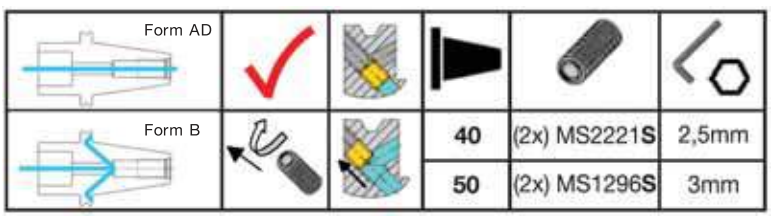


SMC TD Lock MM-DV Form B/AD

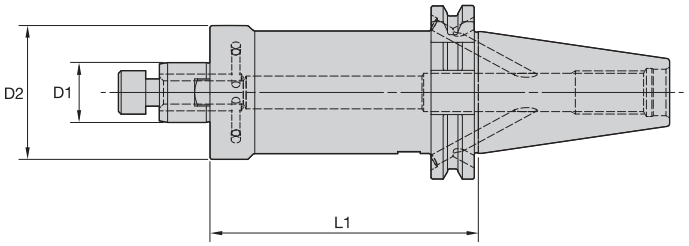


order number	catalog number	D1	D2	D21	L1	L2	L20	L21	lock screw	drive key	wrench size lock screw	kg
4135485	**DV50BTDSMC27320M**	27	61	80	320	13,5	271,8	301	**KLSS27M**	**–**	10mm	11,63
4135486	**DV50BTDSMC32330M**	32	78	–	330	311,0	–	–	**KLSS32M**	**KDK32M**	14mm	15,91

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Lock screw wrench not included.
For retention knobs, see page L45.









ERICKSON

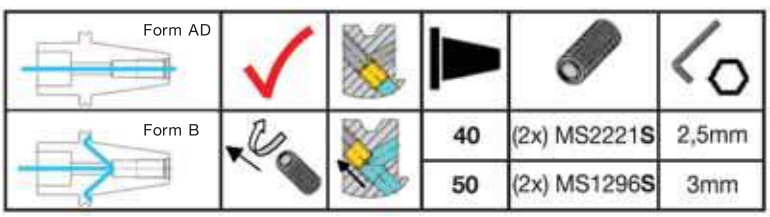
SMC Cap MM-DV Form B/AD



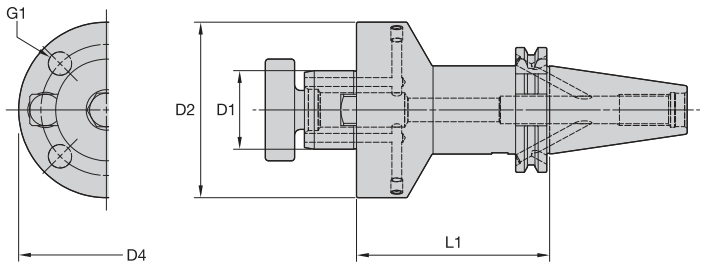


order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	kg
3767840	**DV50BSM2C16035M**	16	38	35	**MS1294**	**KDK16M**	6mm	2,73
3767842	**DV50BSM2C16100M**	16	38	100	**MS1294**	**KDK16M**	6mm	3,17
3767839	**DV50BSMC16035M**	16	44	35	**MS1294**	**KDK16M**	6mm	2,76
3767841	**DV50BSMC16100M**	16	44	100	**MS1294**	**KDK16M**	6mm	3,39
3767844	**DV50BSM2C22035M**	22	42	35	**MS1234**	**–**	8mm	2,76
3767846	**DV50BSM2C22100M**	22	42	100	**MS1234**	**–**	8mm	3,31
3767848	**DV50BSM2C22150M**	22	42	150	**MS1234**	**–**	8mm	3,75
3767843	**DV50BSMC22035M**	22	49	35	**MS1234**	**KDK22M**	8mm	2,82
3767845	**DV50BSMC22100M**	22	49	100	**MS1234**	**KDK22M**	8mm	3,63
3767847	**DV50BSMC22150M**	22	49	150	**MS1234**	**KDK22M**	8mm	4,26

(continued)



(SMC continued)



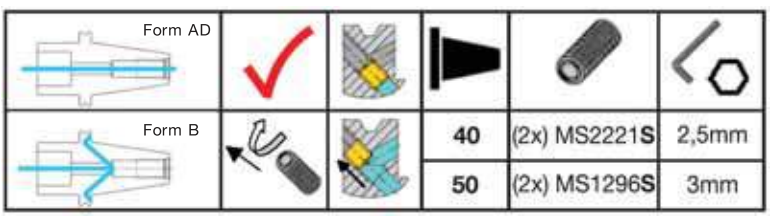


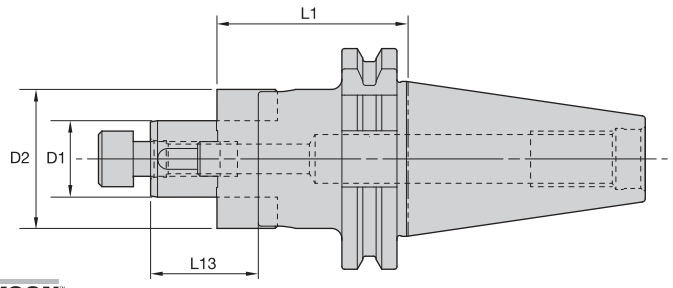
SMC Lock MM-DV Form B/AD




order number	catalog number	D1	D2	L1	G1	D4	lock screw	drive key	wrench size lock screw	kg
3767849	**DV50BSMC27035M**	27	60,0	35	–	–	**KLSS27M**	**KDK27M**	10mm	2,98
3767850	**DV50BSMC27100M**	27	60,0	100	–	–	**KLSS27M**	**KDK27M**	10mm	4,26
3767851	**DV50BSMC27150M**	27	60,0	150	–	–	**KLSS27M**	**KDK27M**	10mm	5,24
3767852	**DV50BSMC32035M**	32	78,0	35	–	–	**KLSS32M**	**KDK32M**	14mm	3,31
3767853	**DV50BSMC32100M**	32	78,0	100	–	–	**KLSS32M**	**KDK32M**	14mm	5,17
3767854	**DV50BSMC32150M**	32	78,0	150	–	–	**KLSS32M**	**KDK32M**	14mm	6,58
3767855	**DV50BSMC40050M**	40	89,3	50	M12 X 1.75	66,7	**KLSS40M**	**KDK40M**	17mm	4,18
3767856	**DV50BSMC40100M**	40	89,3	100	M12 X 1.75	66,7	**KLSS40M**	**KDK40M**	17mm	5,76
3767857	**DV50BSMC40150M**	40	89,3	150	M12 X 1.75	66,7	**KLSS40M**	**KDK40M**	17mm	7,12
3767858	**DV50BSMC60070M**	60	129,0	70	M16 X 2.0	101,6	**–**	**KDK60M**	–	6,24

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and drive keys.
Lock screw wrench not included.
For retention knobs, see page L45.







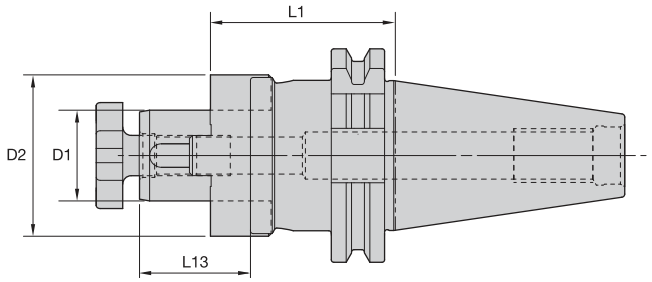
ERICKSON

CS-DV Form AD • Cap Screw Design



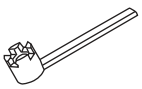


order number	catalog number	D1	D2	L1	L13	lock screw	wrench size retention screw	combi driver ring	combi drive key	kg
1264174	**DV50CS16055M**	16	32	55	27	**MS1294**	6mm	**CDR16M**	**CDK16M**	2,78
1191972	**DV50CS22055M**	22	40	55	31	**MS1234**	8mm	**CDR22M**	**CDK22M**	2,93
1264181	**DV50CS22100M**	22	40	100	31	**MS1234**	8mm	**CDR22M**	**CDK22M**	3,36
1236218	**DV50CS22150M**	22	40	150	31	**MS1234**	8mm	**CDR22M**	**CDK22M**	3,83





CS-DV Form AD • Lock Screw Design

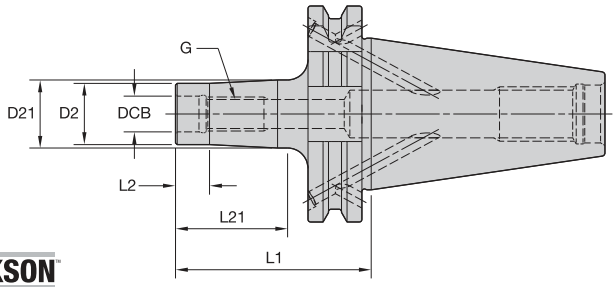





order number	catalog number	D1	D2	L1	L13	lock screw	lock screw wrench	combi driver ring	combi drive key	kg
1191973	**DV50CS27055M**	27	48	55	33	**KLS27MPKG**	**SMW27M**	**CDR27M**	**CDK27M**	3,11
1264185	**DV50CS27100M**	27	48	100	33	**KLS27MPKG**	**SMW27M**	**CDR27M**	**CDK27M**	3,75
1264186	**DV50CS27150M**	27	48	150	33	**KLS27MPKG**	**SMW27M**	**CDR27M**	**CDK27M**	4,27
1191974	**DV50CS32055M**	32	58	55	38	**KLS32M**	**SMW32M**	**CDR32M**	**CDK32M**	3,41
1264188	**DV50CS32100M**	32	58	100	38	**KLS32M**	**SMW32M**	**CDR32M**	**CDK32M**	4,29
1264189	**DV50CS32150M**	32	58	150	38	**KLS32M**	**SMW32M**	**CDR32M**	**CDK32M**	5,18
1232559	**DV50CS40100M**	40	70	100	41	**KLS40M**	**SMW40M**	**CDR40M**	**CDK40M**	5,17
1264192	**DV50CS40150M**	40	70	150	41	**KLS40M**	**SMW40M**	**CDR40M**	**CDK40M**	6,57
1264194	**DV50CS50075M**	50	90	75	46	**KLS50M**	**SMW50M**	**CDR50M**	**CDK50M**	7,20
1264195	**DV50CS50150M**	50	90	150	46	**KLS50M**	**SMW50M**	**CDR50M**	**CDK50M**	7,84

NOTE: Do not overtighten lock screw.
Supplied with lock screw, drive ring, and drive keys.
Lock screw wrench not included.
For retention knobs, see page L45.





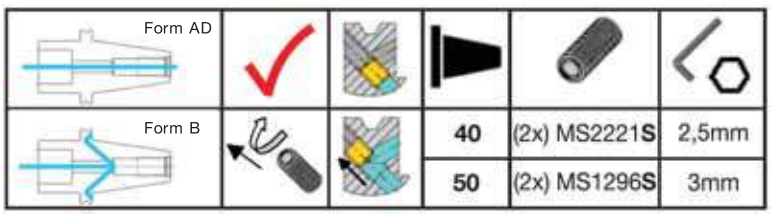


ERICKSON

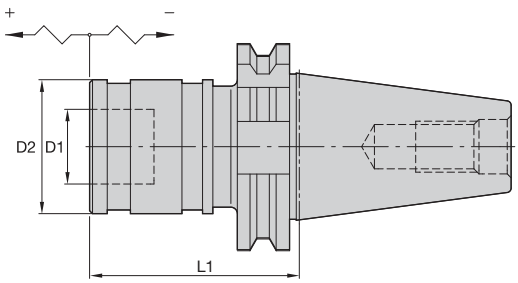
ST-DV Form B/AD

order number	catalog number	DCB	G	D2	D21	L1	L2	L21	kg
4067827	**DV50BST12087M**	12,5	M12	21	24	87	10	62	2,77
4067828	**DV50BST12137M**	12,5	M12	21	31	137	10	112	3,05
4067829	**DV50BST12187M**	12,5	M12	21	39	187	10	162	3,50
4067830	**DV50BST16087M**	17,0	M16	29	34	87	10	62	2,96
4067831	**DV50BST16137M**	17,0	M16	29	39	137	10	112	3,38
4067832	**DV50BST16187M**	17,0	M16	29	39	187	10	162	3,71
4067863	**DV50BST16237M**	17,0	M16	29	49	237	10	212	4,62

NOTE: For retention knobs, see page L45.
For technical information, see page M96–M97.









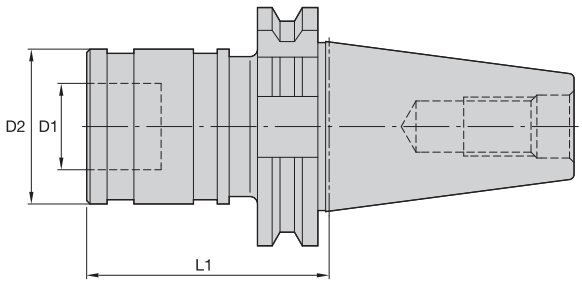
ERICKSON

RC-DV Form A

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	tension	compression	kg
1777453	**DV50RC1075M**	1	M1 - M14	#0 - 9/16	19	36	75	7,5	7,5	2,90
1777455	**DV50RC2084M**	2	M5 - M24	5/16 - 7/8	31	53	85	12,5	12,5	3,70
1777540	**DV50RC3139M**	3	M14 - M27	13/16 - 1 3/8	48	78	139	20,0	20,0	4,50

NOTE: Quick-change tap adapters are available and must be ordered separately; see page M76.
For retention knobs, see page L45.







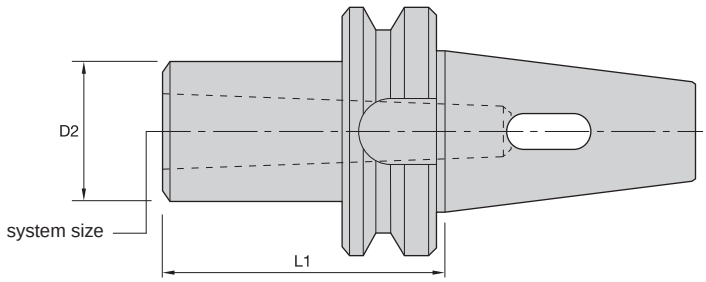
ERICKSON

STRC-DV Form AD

order number	catalog number	adapter size	tap size mm	tap size in	D1	D2	L1	kg
1778243	**DV50STRC1074M**	1	M1 - M14	#0 - 9/16	19	36	74	3,60
1778244	**DV50STRC2089M**	2	M5 - M24	5/16 - 7/8	31	53	89	3,80

NOTE: Quick-change tap adapters are available and must be ordered separately; see page M76.
For retention knobs, see page L45.







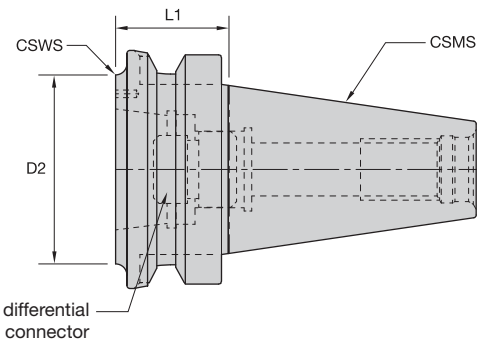
ERICKSON

MT-DV Form A

order number	catalog number	system size	D2	L1	kg
1191989	**DV50MT5105M**	5	69,9	105	3,75

NOTE: For retention knobs; see page L45.

• Differential connector included.







DV to KR DIN 69871 AD/B • Metric



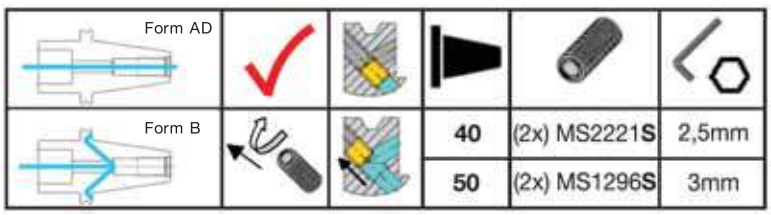
order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	kg	reference head
1528328	**DV50BKR32041M**	DV50	KR32	50	41	**KRDCKR32M**	2,80	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1191971	**DV50BKR50040M**	DV50	KR50	65	40	**KRDCKR50M**	2,80	SVS4B,5B,SVU65,SVUBB2
1264135	**DV50BKR63060M**	DV50	KR63	85	60	**KRDCKR63M**	3,30	SVS6B,7B,8B
1264136	**DV50BKR80070M**	DV50	KR80	95	70	**KRDCKR80M**	4,10	SVU92,120

DV to KR DIN 69871 AD/B • Inch

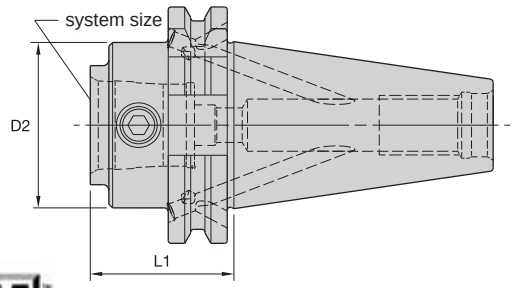


order number	catalog number	CSMS system size	CSWS system size	D2	L1	differential connector	lbs	reference head
1528328	**DV50BKR32041M**	DV50	KR32	1.96	1.614	**KRDCKR32M**	6.16	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1191971	**DV50BKR50040M**	DV50	KR50	2.56	1.575	**KRDCKR50M**	6.16	SVS4B,5B,SVU65,SVUBB2
1264135	**DV50BKR63060M**	DV50	KR63	3.34	2.362	**KRDCKR63M**	7.26	SVS6B,7B,8B
1264136	**DV50BKR80070M**	DV50	KR80	3.73	2.756	**KRDCKR80M**	9.02	SVU92,120

NOTE: For Romicron boring systems, see the Kennametal Innovations Master Catalog Cutting Tools 2013.









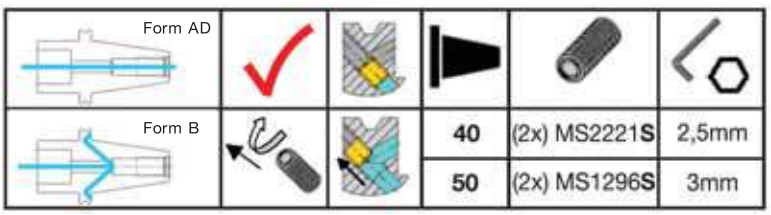
KM QUICK CHANGE

ERICKSON

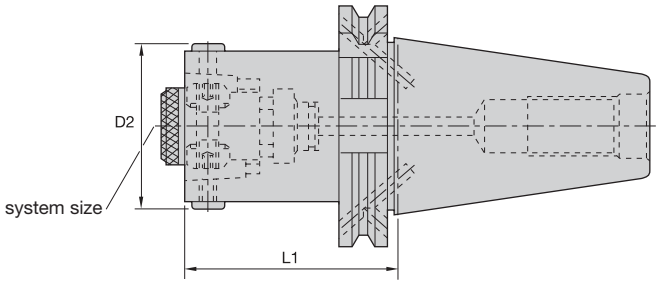
KM-DV Form B/AD

order number	catalog number	system size	D2	L1	KM spare parts package	wrench size actuation screw	Nm	kg
1974741	**DV50BKM32040M**	KM32	32	40,0	**KM32PKG3S**	5mm	8-11	2,64
1974742	**DV50BKM32090M**	KM32	32	90,0	**KM32PKG3S**	5mm	8-11	2,91
1974813	**DV50BKM40040M**	KM40	40	40,0	**KM40PKG3L**	6mm	12-16	3,00
1974814	**DV50BKM40100M**	KM40	40	100,0	**KM40PKG3S**	6mm	12-16	3,18
1974815	**DV50BKM50060M**	KM50	50	60,0	**KM50PKG3S**	10mm	27-34	2,99
1974816	**DV50BKM50120M**	KM50	50	120,0	**KM50PKG3S**	10mm	27-34	3,79
1974817	**DV50BKM63060M**	KM63	63	60,0	**KM63PKG3S**	12mm	47-54	3,18
1974818	**DV50BKM63140M**	KM63	63	140,0	**KM63PKG3S**	12mm	47-54	4,95
1974819	**DV50BKM80080M**	KM80	80	80,0	**KM80PKG3S**	14mm	79-85	4,23

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with KM actuation mechanism.
For retention knobs, see page L45.







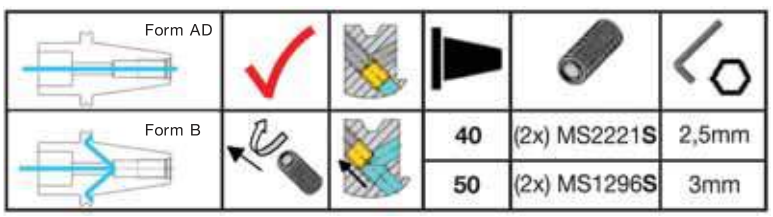


ERICKSON

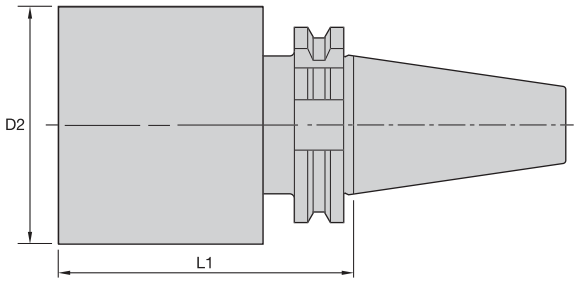
HSK-DV Form B/AD

order number	catalog number	system size	D2	L1	wrench size actuation screw	Nm	kg
1519669	**DV50BHSK32055M**	HSK32	37	55	3mm	6	2,70
1519670	**DV50BHSK40060M**	HSK40	45	60	3mm	8	2,80
1124343	**DV50BHSK50065M**	HSK50	55	65	4mm	15	2,90
1126202	**DV50BHSK63075M**	HSK63	70	75	5mm	20	3,10

NOTE: Do not overtorque actuation screw; use torque recommendations above.
Supplied with actuation mechanism and sealing ring.
For retention knobs, see page L45.



• Machinable front 20–30 RW C.





ERICKSON

BB-DV Form A

order number	catalog number	D2	L1	kg
1264076	**DV50BB104350M**	104	350	24,08
1123987	**DV50BB134250M**	134	250	26,86

NOTE: For retention knobs, see page L45.

KENNAMETAL®





QC and R8 Shank Tools

QC30 Shank Tools H2–H9
QC40 Shank Tools H10–H17
QC50 Shank Tools H18–H22
R8 Shank Tools H24–H27



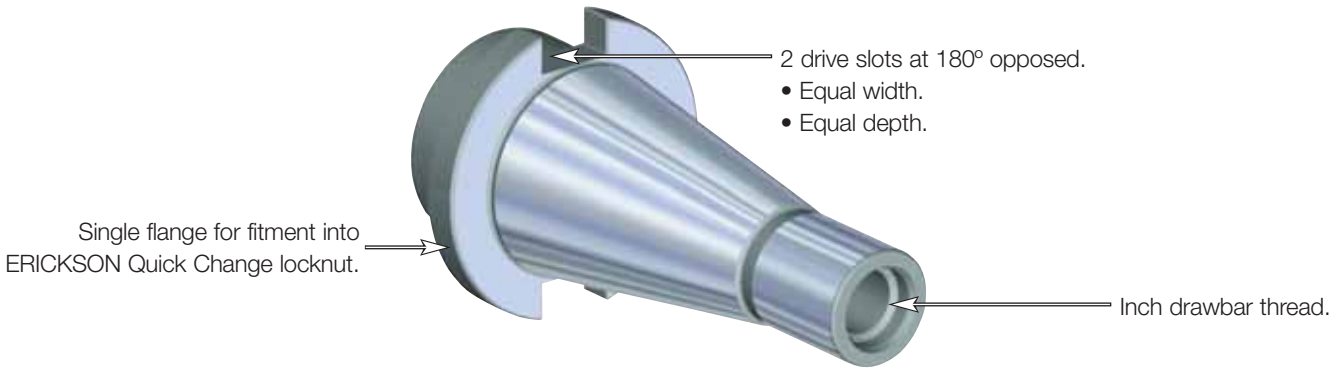
ERICKSON™ Quick Change Flange Shank Tooling System • QC30 Series

Primary Application

With an ERICKSON QC locknut retrofitted to manual-loading milling machine spindles, the ERICKSON Quick Change Flange QC Taper Tooling can be used as a quick-change system. The QC30 tools are manufactured from premium materials and meet or exceed the latest ISO-1947 taper accuracy. QC tools are balanced-by-design and will perform effectively at lower RPMs. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.

Features and Benefits

- 7/24 taper, interchangeable with NMTB and DIN2080 shank tooling.
- Hub at the tail end of taper cone houses the machine's drawbar bolt, standard 1/2" – 13 UNC – 2B thread.
- Flange faces are precision ground to accommodate ERICKSON QC locknuts.
- Taper accuracy of AT4 specification or better.
- Maximum 100 bar (1,500 psi) coolant pressure.



QC Quick Change (NMTB)

How Do Catalog Numbers Work?

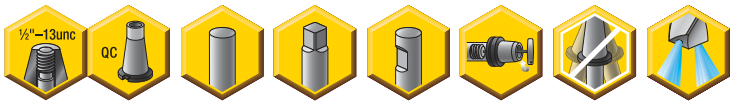
Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.

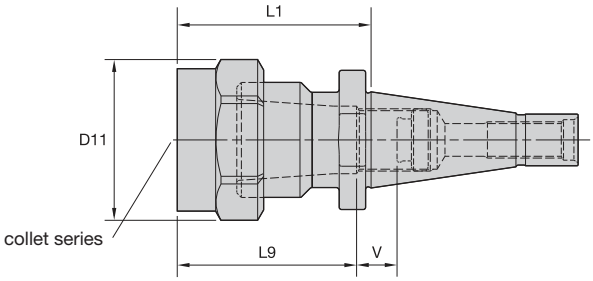


QC30TG50100M

QC	30	TG	50	100	M
Shank Style	Shank Taper Size	Toolholder Style	Toolholder Size	Tool Length	Tool Length
	30 = 30 **40** = 40 **50** = 50	**DA** = Double-angle collet chuck **EM** = End mill adapter **MS** = Morse taper adapter **SA** = Slotting cutter adapter **SM** = Shell mill adapter **TA** = Tap chuck adapter **TG** = Tremendous Grip single-angle collet chuck		(Taper gage line to from of tool) **inch** xxx = x.xx	
		TG = Collet series xx (50), xxx (100) **EM** = I.D. size: metric — xx = xx, (20); inch — xxx = x.xx, (075) **SM** = O.D. size: metric — xx = xx, (20); inch — xxx = x.xx, (075)			**M** = Tool built to metric values and has metric retention thread **(blank)** = Tool built to inch values and has inch retention thread

• Tremendous Grip (3:1 advantage).







	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

ERICKSON™

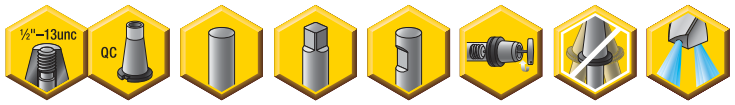
TG Hex-QC IN

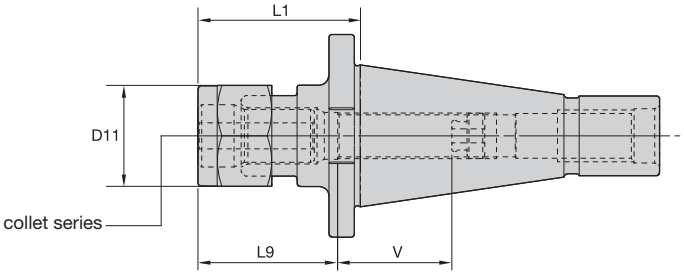


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
1025640	**QC30TG075253**	TG75	1.81	2.53	2.31	.37	**NPA075**	**OEW188**	100	**SS081041G**	4mm & 5/32	1.26
1025641	**QC30TG100394**	TG100	2.44	3.94	2.91	.83	**NPA100**	**OEW225**	150	**SS081041G**	4mm & 5/32	2.57

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.

• Grip 1:1.







	Collet Capacity			
	mm		inch	
DA collet series	min	max	min	max
DA300	0,2	6	1/64	1/4
DA200	0,2	10	1/64	25/64
DA100	1,8	14	1/64	9/16
DA180	2,2	20	1/64	3/4

ERICKSON

DA Hex-QC IN

order number	catalog number	collet series	D11	L1	L9	V	lbs
1015552	**QC30DA308162**	DA300	.77	1.62	1.34	1.38	.73
1015546	**QC30DA208181**	DA200	1.15	1.81	1.42	1.49	.82
1015595	**QC30DA188206**	DA180	1.73	2.06	1.93	.47	.90
1015544	**QC30DA108200**	DA100	1.44	2.00	1.65	1.10	.90

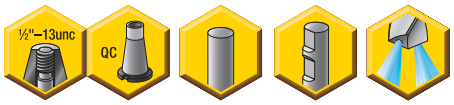
Spare Parts

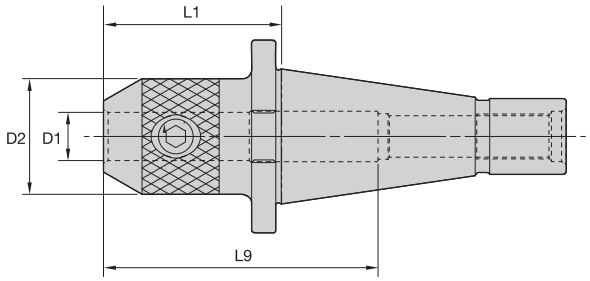




catalog number	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
QC30DA308162	**LNA308M**	**—**	20	**SS031031G**	2mm & 5/64
QC30DA208181	**NPA208**	**OEW100**	40	**SS044038G**	2mm & 5/64
QC30DA188206	**NPA188**	**OEW150**	75	**SS081041G**	4mm & 5/32
QC30DA108200	**LNA108M**	**OEW32M**	55	**SS056041G**	4mm & 5/32

NOTE: Tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.
For retention knobs, see page L45.







ERICKSON

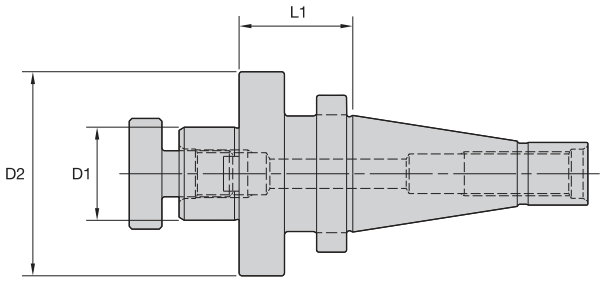
EM IN-QC IN



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1018668	**QC30EM018175**	3/16	.69	1.75	3.40	**S1045PKG**	3/32	3	.73
1018669	**QC30EM038175**	3/8	1.00	1.75	3.40	**ELS038031PKG**	3/16	15	.84
1018671	**QC30EM062175**	5/8	1.44	1.75	2.14	**DWG ELS056038**	1/4	40	.96
1018242	**QC30EM025175**	1/4	1.00	1.75	3.40	**ELS025025PKG**	1/8	5	.86
1018670	**QC30EM050175**	1/2	1.25	1.75	3.07	**ELS044038PKG**	7/32	20	.90
1018672	**QC30EM075213**	3/4	1.75	2.13	2.27	**ELS062050PKG**	5/16	70	1.28
1018714	**QC30EM100269**	1	2.00	2.69	2.51	**ELS075056PKG**	3/8	110	1.73
1018715	**QC30EM125363**	1 1/4	2.50	3.63	2.51	**ELS075062PKG**	3/8	110	3.65

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.







ERICKSON

SM IN-QC IN

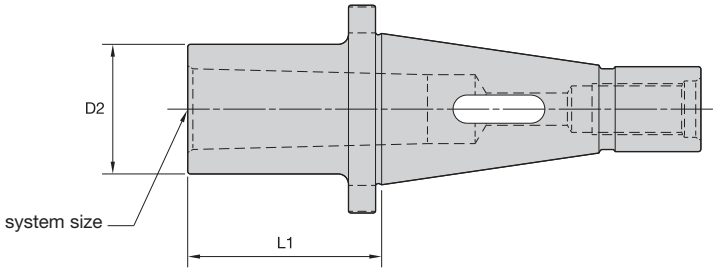




order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size retention screw	lbs
1018716	**QC30SM050125**	1/2	1.44	1.25	**KLS05**	**KDK04**	3/16	1
1018717	**QC30SM075131**	3/4	1.75	1.31	**KLS07**	**KDK05**	1/4	1
1018718	**QC30SM100131**	1	2.19	1.31	**KLS10**	**KDK06**	5/16	2
1018719	**QC30SM125144**	1 1/4	2.88	1.44	**KLS12**	**KDK08**	5/16	2
1018720	**QC30SM150156**	1 1/2	3.81	1.56	**KLS15**	**KDK10**	3/8	4

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knobs, see page L45.





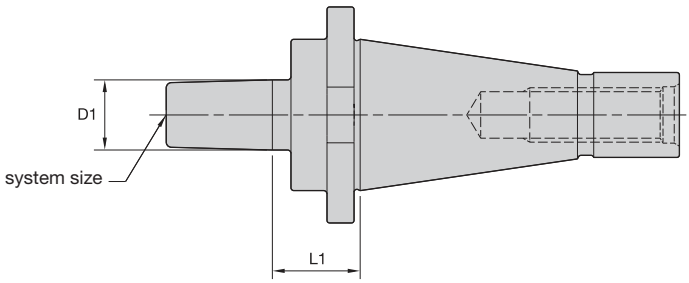


ERICKSON™

MT-QC IN

order number	catalog number	system size	D2	L1	kg
1018721	**QC30MT1100**	1	25	25,40	0,31
1018722	**QC30MT2212**	2	32	53,85	0,44
1018723	**QC30MT3281**	3	40	71,37	0,54

NOTE: For retention knobs, see page L45.





ERICKSON

JT-QC IN

order number	catalog number	system size	D1	L1	lbs
1018774	**QC30JT1159**	1	.38	.93	.80
1018775	**QC30JT2181**	2	.56	.94	.84
1018776	**QC30JT3219**	3	.81	.97	.95
1018779	**QC30JT33197**	33	.62	.97	.86
1018777	**QC30JT4262**	4	1.12	.96	1.25
1018778	**QC30JT6197**	6	.68	.97	.89

NOTE: For retention knobs, see page L45.

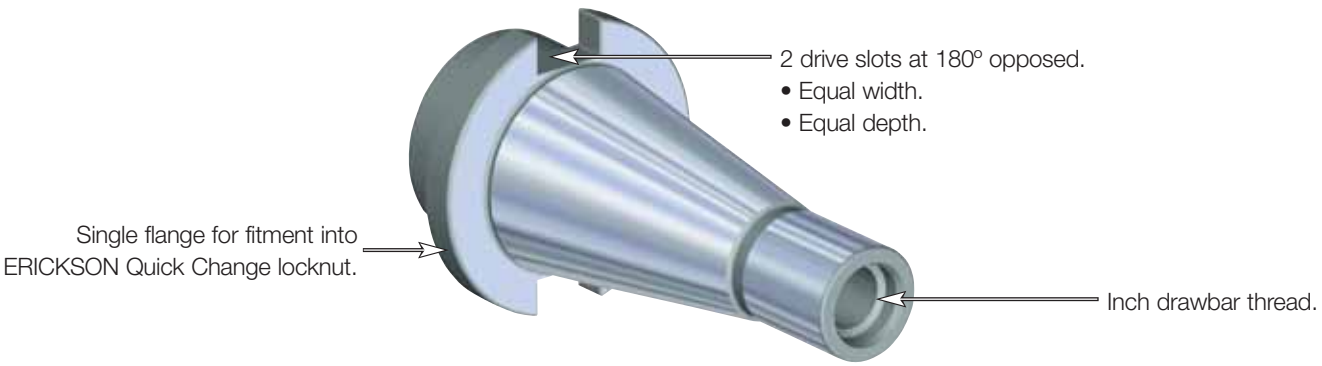
ERICKSON™ Quick Change Flange Shank Tooling System • QC40 Series

Primary Application

With an ERICKSON QC locknut retrofitted to manual-loading milling machine spindles, the ERICKSON Quick Change Flange QC Taper Tooling can be used as a quick-change system. The QC40 tools are manufactured from premium materials and meet or exceed the latest ISO-1947 taper accuracy. QC tools are balanced-by-design and will perform effectively at lower RPMs. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.

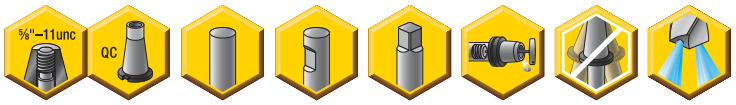
Features and Benefits

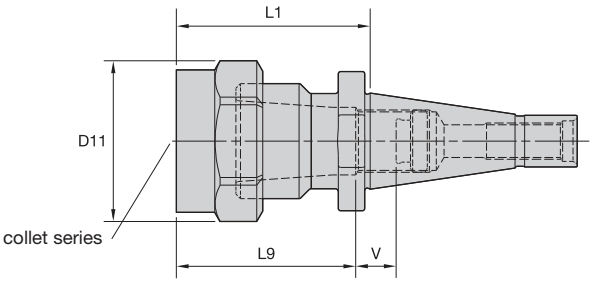
- 7/24 taper, interchangeable with NMTB and DIN2080 shank tooling.
- Hub at the tail end of taper cone houses the machine's drawbar bolt, standard 5/8" – 11 UNC – 2B thread.
- Flange faces are precision ground to accommodate ERICKSON QC locknuts.
- Taper accuracy of AT4 specification or better.
- Maximum 100 bar (1,500 psi) coolant pressure.



QC Quick Change (NMTB)

• Tremendous Grip (3:1 advantage).







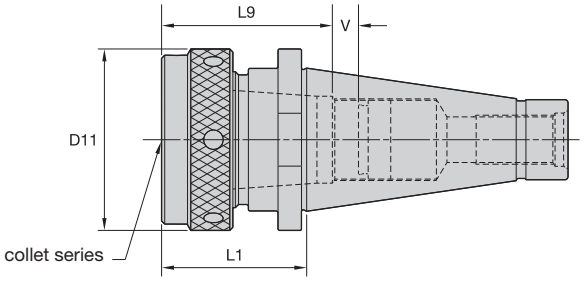
TG collet series	Collet Capacity mm min	mm max	inch min	inch max
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1
TG150	11,6	40,0	23/64	1-1/2

ERICKSON

TG Hex-QC IN



order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	stop screw	wrench size stop screw	lbs
1025642	**QC40TG075211**	TG75	2.09	2.11	2.31	1.04	**NPA075**	**OEW188**	**SS081041G**	4mm & 5/32	2.07
1025643	**QC40TG100255**	TG100	2.50	2.55	2.72	.41	**NPA100**	**OEW225**	**SS112041G**	4mm & 5/32	2.56





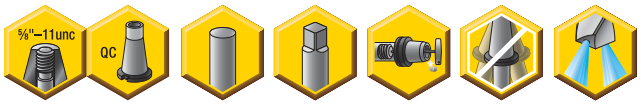
TG Round-QC IN

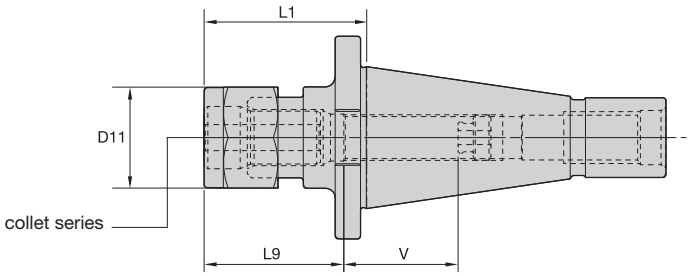


order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	stop screw	wrench size stop screw	lbs
1013525	**QC40TG150450**	TG150	3.48	4.50	3.22	1.24	**NPA150**	**PSW350**	**SS125050G**	4mm & 5/32	5.75

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.

• Grip 1:1.







	Collet Capacity			
	mm		inch	
DA collet series	min	max	min	max
DA300	0,2	6	1/64	1/4
DA200	0,2	10	1/64	25/64
DA100	1,8	14	1/64	9/16
DA180	2,2	20	1/64	3/4

ERICKSON™

DA Hex-QC IN

order number	catalog number	collet series	D11	L1	L9	V	lbs
1015413	**QC40DA308163**	DA300	.77	1.63	1.30	1.30	1.69
1015412	**QC40DA208181**	DA200	1.15	1.81	1.46	2.04	1.79
1015410	**QC40DA108200**	DA100	1.44	2.00	1.65	2.05	1.87
1015411	**QC40DA188206**	DA180	1.73	2.06	1.93	1.73	1.82

Spare Parts



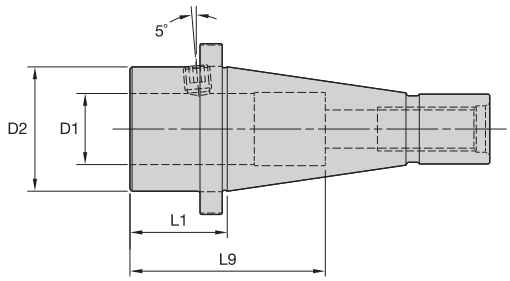


catalog number	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
QC40DA308163	**LNA308M**	**—**	20.00	**SS031031G**	2mm & 5/64
QC40DA208181	**NPA208**	**OEW100**	40.00	**SS044038G**	4mm & 5/32
QC40DA108200	**LNA108M**	**OEW32M**	55.00	**SS056041G**	4mm & 5/32
QC40DA188206	**NPA188**	**OEW150**	75.00	**SS081041G**	4mm & 5/32

NOTE: For retention, tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.
For retention knobs, see page L45.

- Through-the-toolholder coolant capability — form AD.
- 1" — 8 UNC drawbar thread.
- Suitable for Whistle Notch straight-shank-style tap chucks.





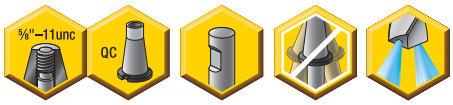


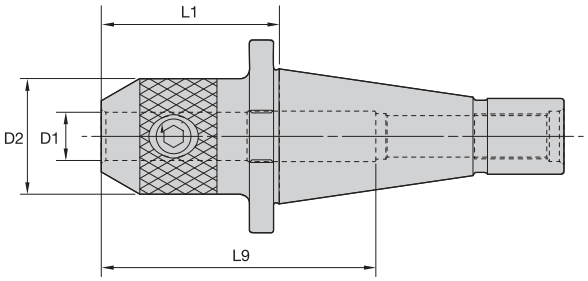
ERICKSON

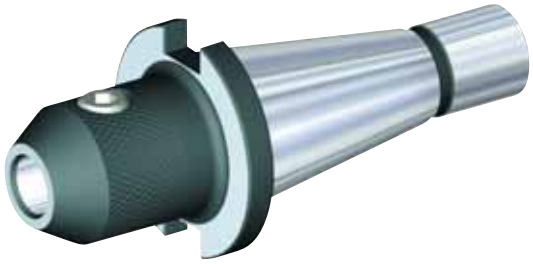
SWN IN-QC IN

order number	catalog number	D1	D2	L1	L9	wrench size lock screw	ft. lbs.	lbs
1017943	**QC40TA1137**	1.00	1.75	1.38	2.75	3/16	15	1.68

NOTE: Do not overtighten clamp screw; use torque recommendations above.
Supplied with clamp screw.
Clamp screw wrench not included.
For retention knobs, see page L45.







ERICKSON

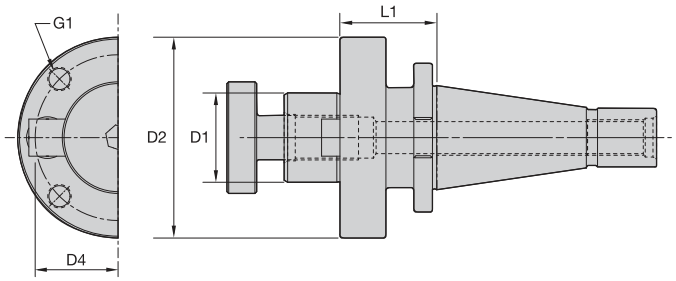
EM IN-QC IN



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1018781	**QC40EM018231**	.19	.69	2.31	4.84	**S1045PKG**	3/32	3	1.74
1018667	**QC40EM025138**	.25	1.00	1.38	3.91	**ELS025025PKG**	1/8	5	1.73
1018782	**QC40EM038231**	.38	1.00	2.31	4.84	**ELS038031PKG**	3/16	15	1.86
1018783	**QC40EM050231**	.50	1.25	2.31	4.84	**ELS044038PKG**	7/32	20	2.02
1018844	**QC40EM062231**	.63	1.50	2.31	3.56	**ELS056050PKG**	1/4	40	2.18
1018845	**QC40EM075231**	.75	1.75	2.31	3.94	**ELS062050PKG**	5/16	70	2.46
1018846	**QC40EM088294**	.88	2.00	2.94	4.19	**ELS062050PKG**	5/16	70	2.80
1018847	**QC40EM100338**	1.00	2.00	3.38	4.49	**ELS075056PKG**	3/8	110	3.00
1018848	**QC40EM125369**	1.25	2.50	3.69	2.39	**ELS075062PKG**	3/8	110	4.63
1019099	**QC40EM150395**	1.50	2.75	3.95	2.82	**ELS075062PKG**	3/8	110	5.29

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.







ERICKSON

SM IN-QC IN

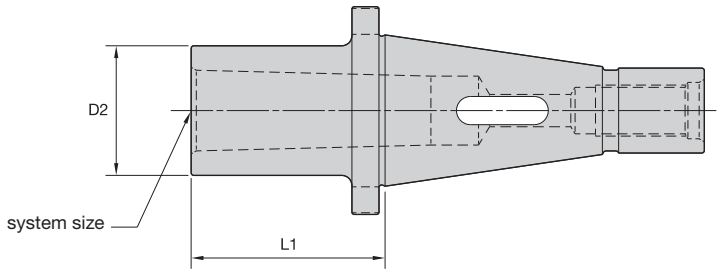




order number	catalog number	D1	D2	D4	G1	L1	lock screw	drive key	wrench size lock screw	lbs
1018849	**QC40SM050088**	1/2	1.44	—	—	.88	**KLS05**	**KDK04**	3/16	1.90
1018850	**QC40SM075088**	3/4	1.75	—	—	.88	**KLS07**	**KDK05**	1/4	2.02
1018851	**QC40SM100131**	1	2.19	—	—	1.31	**KLS10**	**KDK06**	5/16	2.57
1018852	**QC40SM125150**	1 1/4	2.88	—	—	1.50	**KLS12**	**KDK08**	5/16	3.47
1018853	**QC40SM150163**	1 1/2	3.38	—	—	1.63	**KLS15**	**KDK10**	3/8	4.58
1018904	**QC40SM200163**	2	4.88	4.00	5/8-11 UNC	1.63	**KLS20**	**KDK12**	9/16	6.85

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knob, see page L45.







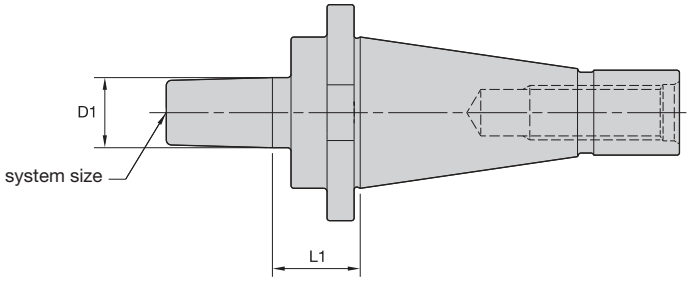
ERICKSON

MT-QC IN

order number	catalog number	system size	D2	L1	lbs
1018905	**QC40MT1094**	1	1.00	.94	1.64
1018906	**QC40MT2206**	2	1.25	2.06	1.93
1018907	**QC40MT3225**	3	1.50	2.25	1.95
1018908	**QC40MT4306**	4	1.88	3.06	2.33
1019097	**QC40MT5700**	5	2.38	7.00	5.57

NOTE: For retention knobs, see page L45.







ERICKSON

JT-QC IN

order number	catalog number	system size	D1	L1	lbs
1018909	**QC40JT2188**	2	.56	1.01	2.02
1018910	**QC40JT3225**	3	.81	1.03	2.11
1018913	**QC40JT33194**	33	.62	.94	2.00
1018911	**QC40JT4269**	4	1.12	1.03	2.44
1018912	**QC40JT6194**	6	.68	.94	2.02

NOTE: For retention knobs, see page L45.

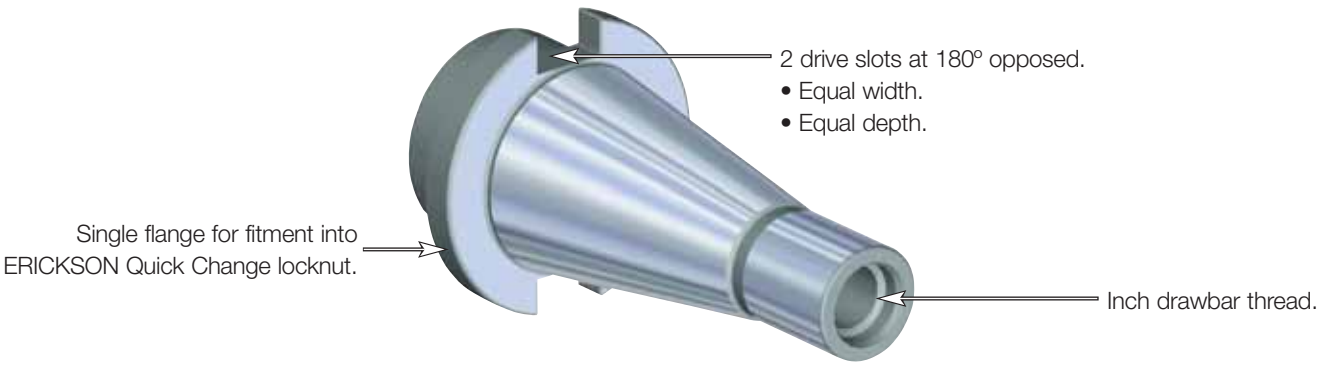
ERICKSON™ Quick Change Flange Shank Tooling System • QC50 Series

Primary Application

With an ERICKSON QC locknut retrofitted to manual-loading milling machine spindles, the ERICKSON Quick Change Flange QC Taper Tooling can be used as a quick-change system. The QC50 tools are manufactured from premium materials and meet or exceed the latest ISO-1947 taper accuracy. QC tools are balanced-by-design and will perform effectively at lower RPMs. For high speed applications Kennametal recommends that the complete toolholder assembly (toolholder, collets, hardware, and cutting tools) be balanced as one entity. Exact RPM limits can only be determined by considering machine and spindle configurations in conjunction with tooling design and safety limits factored as a complete system.

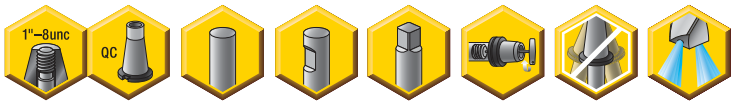
Features and Benefits

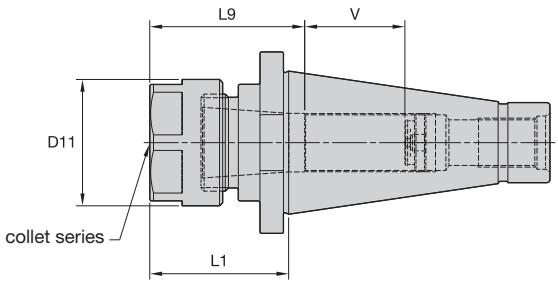
- 7/24 taper, interchangeable with NMTB and DIN2080 shank tooling.
- Hub at the tail end of taper cone houses the machine's drawbar bolt, standard 1" – 8 UNC – 2B thread.
- Flange faces are precision ground to accommodate ERICKSON QC locknuts.
- Taper accuracy of AT4 specification or better.
- Maximum 100 bar (1,500 psi) coolant pressure.



QC Quick Change (NMTB)

• Tremendous Grip (3:1 advantage).







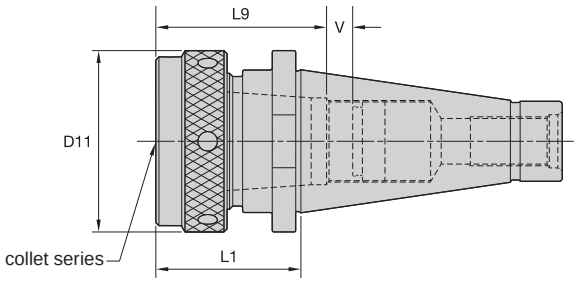
	Collet Capacity			
	mm		inch	
TG collet series	min	max	min	max
TG100	2,6	25,5	5/64	1
TG150	11,6	40,0	23/64	1-1/2

ERICKSON

TG Hex-QC IN



order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	stop screw	wrench size stop screw	ft. lbs.	lbs
1025798	**QC50TG100272**	TG100	2.44	2.72	2.76	2.28	**NPA100**	**OEW225**	**SS112041G**	4mm & 5/32	150	6.45



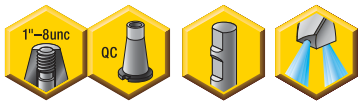


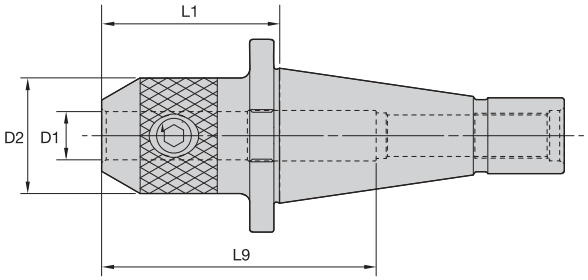
TG Round-QC IN



order number	catalog number	collet series	D11	L1	L9	V	locknut	wrench	stop screw	wrench size stop screw	ft. lbs.	lbs
1013526	**QC50TG150284**	TG150	3.50	2.84	3.15	1.26	**NPA150**	**PSW350**	**SS162062G**	4mm & 5/32	200	7.14

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
Balanceable/interchangeable locknuts are available and must be ordered separately; see page L16.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.
For retention knobs, see page L45.







ERICKSON

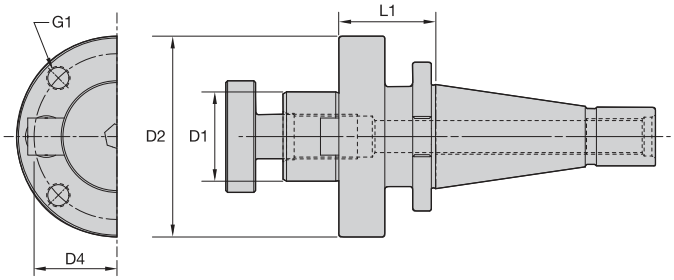
EM IN-QC IN



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1019096	**QC50EM038275**	3/8	1.00	2.75	5.96	**ELS038031PKG**	3/16	15	5.81
1018979	**QC50EM050275**	1/2	1.38	2.75	5.96	**ELS044038PKG**	7/32	20	6.07
1019101	**QC50EM062275**	5/8	1.63	2.75	5.96	**ELS056050PKG**	1/4	40	6.18
1019100	**QC50EM075275**	3/4	1.75	2.75	5.96	**ELS062050PKG**	5/16	70	6.30
1018980	**QC50EM088200**	7/8	2.00	2.00	4.19	**ELS062050PKG**	5/16	70	6.05
1018981	**QC50EM100306**	1	2.00	3.06	4.49	**ELS075056PKG**	3/8	110	6.58
1019102	**QC50EM125306**	1-1/4	2.50	3.06	2.39	**ELS075062PKG**	3/8	110	7.57
1019145	**QC50EM150350**	1-1/2	2.75	3.50	2.82	**ELS075069PKG**	3/8	110	8.42
1018982	**QC50EM200475**	2	3.75	4.75	3.38	**ELS100088PKG**	1/2	150	13.67

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.
For retention knobs, see page L45.







ERICKSON

SM IN-QC IN

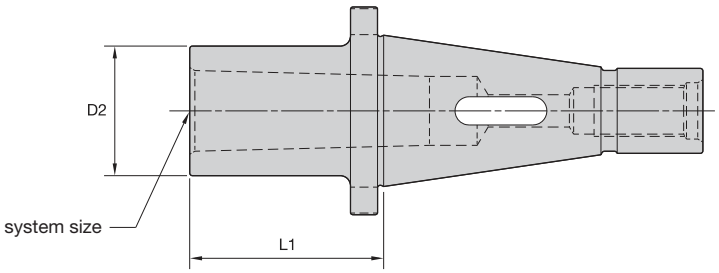




order number	catalog number	D1	D2	D4	G1	L1	lock screw	drive key	wrench size retention screw	lbs
1925520	**QC50SM050125**	1/2	1.44	—	—	1.25	**KLS05**	**KDK04**	3/16	5.71
1018983	**QC50SM075125**	3/4	1.75	—	—	1.25	**KLS07**	**KDK05**	1/4	5.78
1019273	**QC50SM075600**	3/4	1.75	—	—	6.00	**KLS07**	**KDK05**	1/4	9.40
1019024	**QC50SM100188**	1	2.19	—	—	1.88	**KLS10**	**KDK06**	5/16	7.28
1019334	**QC50SM100600**	1	2.19	—	—	6.00	**KLS10**	**KDK06**	5/16	11.57
1019335	**QC50SM100800**	1	2.19	—	—	8.00	**KLS10**	**KDK06**	5/16	14.36
1019336	**QC50SM125600**	1-1/4	2.75	—	—	6.00	**KLS12**	**KDK08**	5/16	14.45
1019337	**QC50SM1251000**	1-1/4	2.75	—	—	10.00	**KLS12**	**KDK08**	5/16	20.66
1019025	**QC50SM125188**	1-1/4	2.88	—	—	1.88	**KLS12**	**KDK08**	5/16	14.78
1019146	**QC50SM150188**	1-1/2	3.38	—	—	1.88	**KLS15**	**KDK10**	3/8	8.99
1019095	**QC50SM200188**	2	4.88	4.00	5/8-11 UNC	1.88	**KLS20**	**KDK12**	9/16	11.04
1019026	**QC50SM250200**	2-1/2	4.88	4.00	5/8-11 UNC	2.00	**—**	**KDK16**	1/2	11.94

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw and drive keys.
Interchangeable coolant-style lock screws are available and must be ordered separately; see page L38.
Lock screw wrench not included.
For retention knob, see page L45.







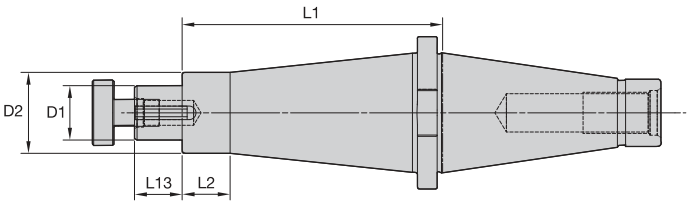
ERICKSON

MT-QC IN

order number	catalog number	system size	D2	L1	lbs
1019027	**QC50MT2188**	2	1.25	1.88	5.61
1019028	**QC50MT3238**	3	1.62	2.38	5.67
1019029	**QC50MT4325**	4	2.00	3.25	6.44
1019030	**QC50MT5462**	5	2.75	4.62	8.74

NOTE: For retention knobs, see page L45.







ERICKSON

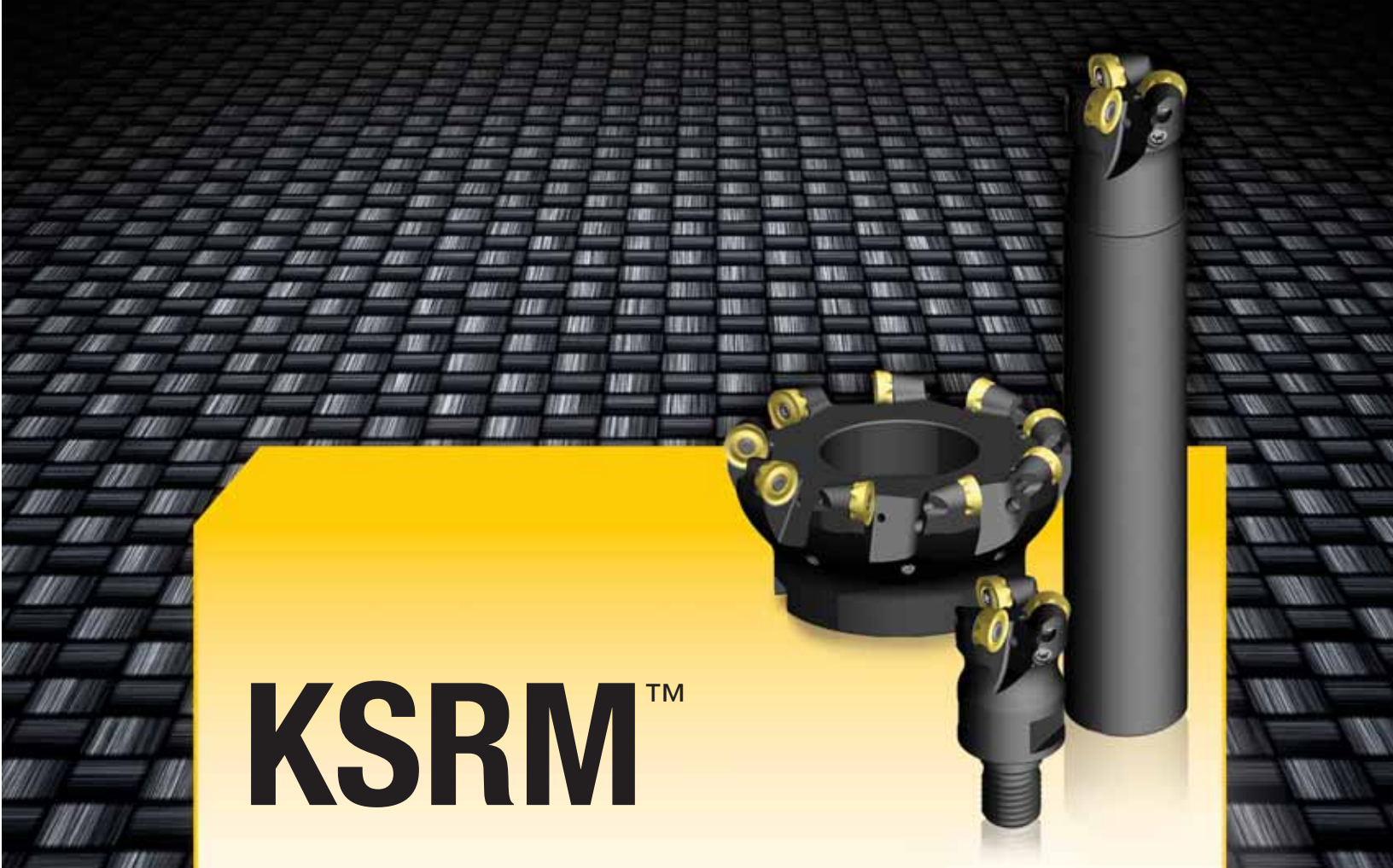
SA IN-QC IN





order number	catalog number	D1	D2	L1	L2	L13	lock screw	wrench size lock screw	drive key	lbs
1026342	**QC50SA125600**	1-1/4	1.86	6	1.10	1.09	**KLS12**	5/16	**DWG SDK125119**	12.27
1026343	**QC50SA150600**	1-1/2	2.11	6	1.25	1.70	**KLS15**	3/8	**DWG SDK150175**	13.49
1026222	**QC50SA200600**	2	2.75	6	5.41	1.70	**KLS20**	9/16	**SDK200169**	16.72

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive key.
Lock screw wrench not included.
For retention knobs, see page L45.



KSRM™

Mulitpurpose Milling Cutters

Specially developed for machining titanium and stainless steel. KSRM platform enables you to pocket, profile, ramp, and plunge with up to 1mm (.039") fz with consistent performance, providing outstanding metal removal rates with the lowest cutting forces in roughing applications.

- Anti-rotation feature with eight indexes.
- High positive topography with strong cutting edges.
- High clearance on the cutters and inserts.
- Wide cutter offering with internal coolant.
- Ground and PSTS inserts.
- Provides more stability and reliability.
- Lower cutting forces generated.
- Cutters can run with higher feed rates and better ramping capacities.
- Take advantage of through-spindle coolant to use the latest holders offered.
- Cover extensive workpiece materials.
- Superior productivity and better insert utilization/cost per edge.
- Long tool life and better metal removal rate.
- Able to convert all milling applications.
- Improve tool life and chip evacuation.
- Superior overall performance.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

Shank Tooling System • R8 Shank Tooling

Primary Application

R8 Shank Toolholders are designed with a locking groove that aligns into a locking mechanism when inserted into the spindle. A milling machine drawbar bolt pulls the tool into the spindle for a secure connection.

Features and Benefits

- All non-critical surfaces are black oxide.
- Design enables coolant as a standard feature.
- Clean components prior to assembly.
- To avoid destroying the toolholder, never overtighten toolholders or neglect surface damage.



How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



R8DA188181

R8

Shank Style

DA

Toolholder Style

DA = Double-angle collet chuck

EM = End mill adapter

SM = Shell mill adapter

188

Toolholder Size

DA =
Collet series xxx (188)

EM =
I.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

SM =
O.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

181

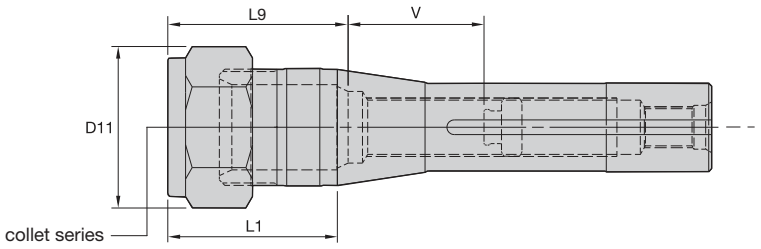
Tool Length

(Tool gage line to front of tool)

inch
xxx = x.xx

• Grip 1:1.







ERICKSON

DA collet series	Collet Capacity mm min	mm max	inch min	inch max
DA180	2,2	20	1/64	3/4

DA 08 Hex-R8

order number	catalog number	collet series	D11	L1	L9	V	lbs
1015548	**R8DA188181**	DA180	1.73	1.81	2.29	2.36	1.01

Spare Parts

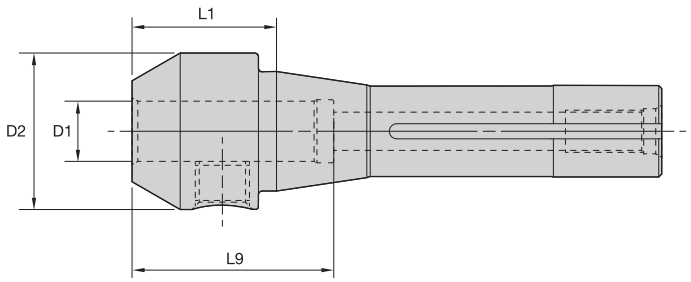


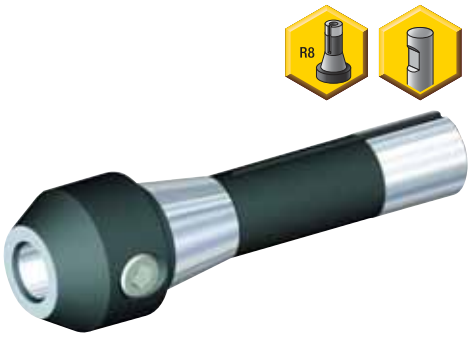




catalog number	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
R8DA188181	**NPA188**	**OEW150**	75	**SS062041G**	4mm & 5/32

NOTE: For retention, tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.





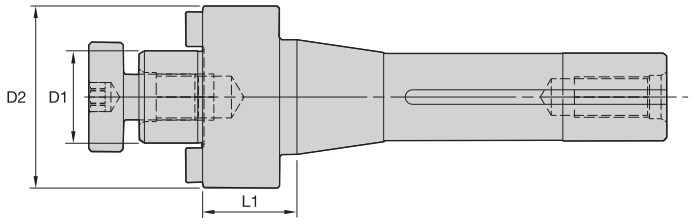
ERICKSON

EM IN-R8



order number	catalog number	D1	D2	L1	L9	lock screw	wrench size lock screw	ft. lbs.	lbs
1286048	**R8EM018112**	3/16	.69	1.13	1.01	**S1045PKG**	3/32	5	.86
1286049	**R8EM038100**	3/8	1.00	1.00	1.73	**ELS038031PKG**	3/16	15	.90
1286050	**R8EM050112**	1/2	1.24	1.13	1.73	**ELS044038PKG**	7/32	20	.95
1286051	**R8EM062150**	5/8	1.63	1.50	2.09	**ELS056050PKG**	1/4	40	1.29
1229174	**R8EM075262**	3/4	1.75	2.63	2.22	**ELS062050PKG**	5/16	70	2.04
1286052	**R8EM088306**	7/8	2.00	3.06	2.22	**ELS062050PKG**	5/16	70	2.80
1286053	**R8EM100306**	1	2.00	3.06	2.46	**ELS075056PKG**	3/8	110	2.64
1286054	**R8EM125306**	1-1/4	2.50	3.06	2.51	**ELS075056PKG**	3/8	110	3.72

NOTE: Do not overtighten lock screw; use torque recommendations above.
Supplied with lock screw.
Lock screw wrench not included.





ERICKSON

SM Lock IN-R8



order number	catalog number	D1	D2	L1	lock screw	drive key	wrench size lock screw	lbs
1286058	**R8SM050102**	1/2	1.28	1.02	**KLS05**	**KDK04**	3/16	1.23
1286059	**R8SM075102**	3/4	1.63	1.02	**KLS07**	**KDK05**	1/4	1.50
1286060	**R8SM100102**	1	1.97	1.02	**KLS10**	**KDK06**	5/16	1.85
1286061	**R8SM125102**	1-1/4	2.50	1.02	**KLS12**	**KDK08**	5/16	2.51

NOTE: Do not overtighten lock screw.
Supplied with lock screw and drive keys.
Lock screw wrench not included.

KENNAMETAL



Straight Shanks

Shrink Fit Toolholders I4–I5

TG Single-Angle Collet Chucks I6–I7

Standard I6

Tension and Compression I7

ER Single-Angle Collet Chucks I8–I11

Standard I8–I11

DA Double-Angle Collet Chucks I12–I22

01 Series Standard I12–I13

04 Series Standard I14–I15

08 Series Standard I16–I17

Tap Chucks I18–I20

Floating Holders I21–I22

Screw-On Adapters for Modular Milling Cutters I23–I26

Slotting Cutter Adapters I27



Shank Tooling System • Straight Shank Tools

Primary Application

Straight Shank Toolholders are ideal for extending tool length to reach difficult-to-machine areas. These toolholders are intended for use in combination with other toolholder and adapter systems.

Features and Benefits

- All non-critical surfaces are black oxide.
- Design enables coolant as a standard feature on most designs.
- Clean components prior to assembly.
- To avoid destroying the toolholder, never over tighten toolholders or neglect surface damage.



How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



ERICKSON

SS120TG50100M

SS	120	TG	50	100	M
Shank Style	Shank Taper Size	Toolholder Style	Toolholder Size	Tool Length	Identification Value

120 = 12mm
125 = 12,5mm
160 = 16mm
190 = 19mm
200 = 20mm
250 = 25mm
038 = 3/8"
050 = 1/2"
062 = 5/8"
075 = 3/4"
100 = 1"
125 = 1-1/4"
150 = 1-1/2"
175 = 1-3/4"
200 = 2"

DA = Double-angle collet chuck
DP = Double pin, floating holder
ER = DIN 6499 single-angle collet chuck
FC = Fully floating holder
SA = Slotting cutter adapter
STL = DAL — tapping adapter, solid
TCJ = DAJ — tapping adapter, tension and compression
TCK = DAK — tapping adapter, tension and compression
TCL = DAL — tapping adapter, tension and compression
TCTG = TG — tapping adapter, tension and compression
TG = Tremendous Grip single-angle collet chuck
TOJ = DAJ — tapping adapter, tension only
TOK = DAK — tapping adapter, tension only
TOL = DAL — tapping adapter, tension only
TT = Shrink Fit thermo toolholder

TG =
Collet series xx (50), xxx (100)

EM =
I.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

SM =
O.D. size: metric — xx = xx, (20);
inch — xxx = x.xx, (075)

(Flange face to front of tool)

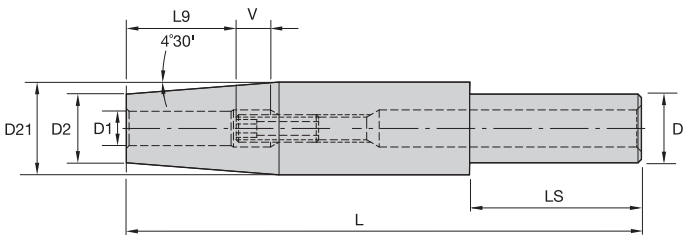
metric
xxx = xxx

inch
xxx = x.xx

M = Tool built to metric values
(blank) = Tool built to inch values

- Suitable for carbide and HSS cutting tools (requirements below).
- Slim design for extending adapters, collet chucks, and toolholders.
- 10mm (3/8") axial adjustment.







Cutting Tool Shank Requirements
metric (ISO standard)

cutting tool shank diameter	tolerance	
3	h4	0,000/-0,003
4	h4	0,000/-0,004
5	h5	0,000/-0,005
6	h6	0,000/ -0,008
8 & 10	h6	0,000/ -0,009
12	h6	0,000/ -0,011

ERICKSON

TT GP MM-SS MM



order number	catalog number	D	D1	D2	D21	L	LS	L9	V	stop screw	wrench size stop screw	kg
2264458	**SS160TT03110M**	16	3	9	15	110	50	15	10	**TTSS05014M**	2,5mm	0,11
2456194	**SS160TT04110M**	16	4	9	15	110	50	15	10	**TTSS05014M**	2,5mm	0,12
1801299	**SS200TT04150M**	20	4	9	15	150	60	15	10	**TTSS05014M**	2,5mm	0,22
1801300	**SS200TT05150M**	20	5	9	15	150	60	15	10	**TTSS06014M**	3mm	0,22
1801301	**SS200TT06150M**	20	6	15	—	150	118	26	10	**TTSS05014M**	2,5mm	0,30
1801302	**SS200TT08150M**	20	8	15	—	150	118	26	10	**TTSS06014M**	3mm	0,30
1801413	**SS200TT10150M**	20	10	20	27	150	50	31	10	**TTSS08014M**	4mm	0,46
1801414	**SS200TT12150M**	20	12	20	27	150	50	36	10	**TTSS10014M**	5mm	0,44

(continued)

(TT GP continued)

Cutting Tool Shank Requirements
inch (industry standard)

cutting tool shank diameters	tolerance
1/8 & 3/16	.0000/-.0003
1/4, 5/16, & 3/8	.0000/-.0004
7/16, 1/2, 9/16, & 5/8	.0000/-.0004

TT GP IN-SS IN



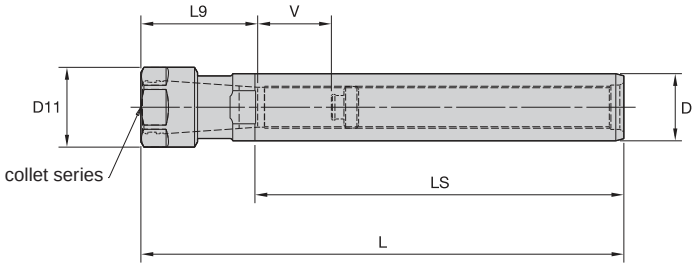
order number	catalog number	D	D1	D2	D21	L	LS	L9	V	stop screw	wrench size stop screw	lbs
1794109	**SS050TT012600**	1/2	1/8	.35	.50	6.00	5.07	.61	.39	**TTSS05014M**	2,5mm	.26
1794110	**SS050TT018600**	1/2	3/16	.35	.50	6.00	5.07	.61	.39	**TTSS06014M**	3mm	.25
1794111	**SS075TT025600**	3/4	1/4	.59	.75	6.00	4.98	1.02	.39	**TTSS05014M**	2,5mm	.62
1794112	**SS075TT031600**	3/4	5/16	.59	.75	6.00	4.98	1.02	.39	**TTSS06014M**	3mm	.61
1794233	**SS075TT038600**	3/4	3/8	.79	1.06	6.00	1.50	1.22	.39	**TTSS08014M**	4mm	1.07
1794234	**SS075TT044600**	3/4	7/16	.79	1.06	6.00	1.50	1.42	.39	**TTSS10014M**	4mm	1.05
1794235	**SS075TT050600**	3/4	1/2	.79	1.06	6.00	1.50	1.42	.39	**TTSS10014M**	5mm	1.02
1794236	**SS100TT056700**	1	9/16	.95	1.26	7.00	1.75	1.42	.39	**TTSS10014M**	4mm	1.72
1794237	**SS100TT062700**	1	5/8	.95	1.26	7.00	1.75	1.54	.39	**TTSS12014M**	6mm	1.68

Straight shank toolholders are a great complement to the Shrink Fit program. Use caution to not overheat the Slim Line design. Overheating can cause warping or permanent damage. The life cycle of the toolholders will be drastically reduced if the activating heat is not controlled. The Slim Line design permits only a limited number of heat shrinks. Testing has shown more than 300 heat shrinks can be performed with the straight shank extensions when the activation heat is controlled to less than 426 °C (800 °F).

NOTE: Do not overheat. Overheating will destroy the accuracy and functionality of the toolholder.
Shrink Fit technical section, see page M78.
Supplied with stop screw.
Adjusting stop screw gage, see page M81.
For Shrink Fit machine and accessories, see pages L12–L13.

- Tremendous Grip (3:1 advantage).





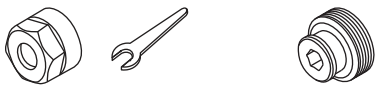


Collet Capacity

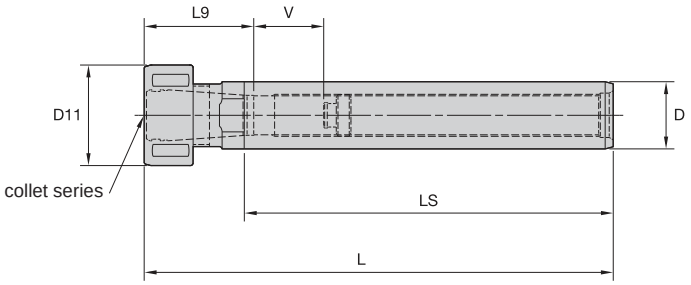
TG collet series	mm min	mm max	inch min	inch max
TG50	1,1	13,5	1/32	17/32
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

ERICKSON

TG Hex-SS IN



order number	catalog number	collet series	D	D11	L	L9	LS	V	locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
1082537	**SS100TG050719**	TG50	1	1.19	7.19	1.77	5.49	4.73	**NPA050**	**OEW106**	75	**SS062041G**	4mm & 5/32	1.03
1025794	**SS125TG075850**	TG75	1 1/4	2.09	8.50	2.06	6.00	3.56	**NPA075**	**OEW188**	100	**SS081041G**	4mm & 5/32	2.28
1025797	**SS150TG075775**	TG75	1 1/2	2.09	7.75	2.06	6.00	5.00	**NPA075**	**OEW188**	100	**SS081041G**	4mm & 5/32	2.97
2636807	**SS125TG100925**	TG100	1 1/4	2.44	9.25	2.88	6.00	3.63	**NPA100**	**OEW225**	150	**SS081041G**	4mm & 5/32	3.27
1025638	**SS150TG100925**	TG100	1 1/2	2.44	9.25	2.63	6.00	5.93	**NPA100**	**OEW225**	150	**SS112041G**	4mm & 5/32	3.52
1025796	**SS175TG100819**	TG100	1 3/4	2.44	8.19	2.63	6.02	4.87	**NPA100**	**OEW225**	150	**SS112041G**	4mm & 5/32	4.15
1025795	**SS200TG100819**	TG100	2	2.44	8.19	2.76	6.00	4.74	**NPA100**	**OEW225**	150	**SS112041G**	4mm & 5/32	5.38





TG Round-SS IN

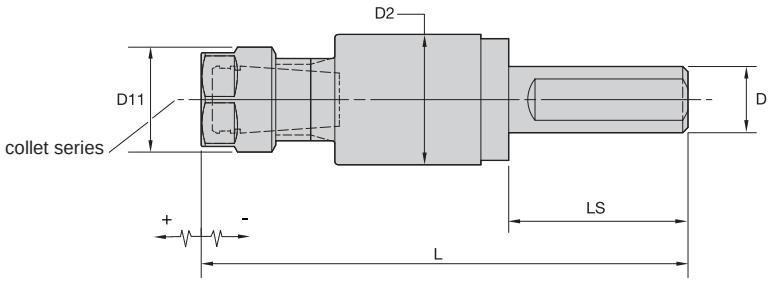


order number	catalog number	collet series	D	D11	L	L2	L9	V	locknut	wrench	ft. lbs.	stop screw	wrench size stop screw	lbs
1025637	**SS100TG050698G**	TG50	1	1.50	6.98	1.49	1.77	4.53	**LNA050M**	**HSW34M**	50	**SS062041G**	4mm & 5/32	1.15

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.

- Tremendous Grip (3:1 advantage).
- Anti-friction drive.
- Compact design.
- Adjustment hard start.







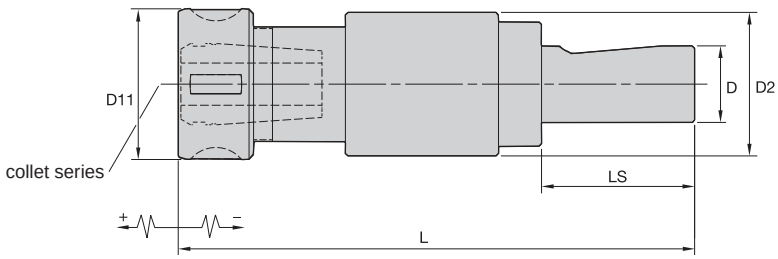
TG collet series	Collet Capacity mm min	mm max	inch min	inch max
TG50	1,1	13,5	1/32	17/32
TG75	2,6	20,0	3/64	3/4
TG100	2,6	25,5	5/64	1

ERICKSON

TG Hex Tap T&C-SS IN



order number	catalog number	collet series	D	D11	D2	L	LS	tension	compression	hex assembly	OEW	ft. lbs.	lbs
1288221	**SS075TCTG050**	TG50	3/4	1.22	1.48	5.48	2.00	.25	.30	**NPA050**	**OEW106**	75	.68





TG Round Tap T&C-SS IN

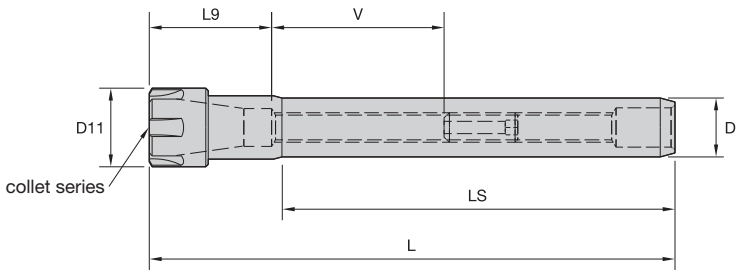


order number	catalog number	collet series	D	D11	D2	L	LS	tension	compression	locknut	wrench	ft. lbs.	lbs
1288256	**SS100TCTG075**	TG75	1	1.97	1.88	6.79	2.20	.40	.43	**LNA075M**	**HSW45M**	100	1.50
1017625	**SS150TCTG100756**	TG100	1 1/2	2.36	2.50	7.56	2.68	.50	.13	**LNA100M**	**HSW58M**	150	2.12

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut.
Locknut wrench must be ordered separately.
Interchangeable locknuts, coolant-style locknuts, and coolant disks are available and must be ordered separately; see pages L16–L17.
TG standard straight-bore collets, see page J10.
TG tap collets, see page J10.

• Grip (2:1 advantage).







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER11	0,5	7,0	.02	.28
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63
ER32	1,0	20,0	.04	.79

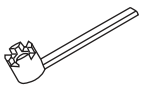
ERICKSON

ER Slim-SS MM

order number	catalog number	collet series	D	D11	L	LS	L9	V	kg
1288261	**SS120ER11107M**	ER11	12	16	107	80	24	56	0,08
1288285	**SS160ER11132M**	ER11	16	16	132	100	24	56	0,16
1125015	**SS200ER16182M**	ER16	20	22	182	140	32	68	0,32
1288321	**SS250ER20190M**	ER20	25	28	190	150	36	64	0,55

Spare Parts



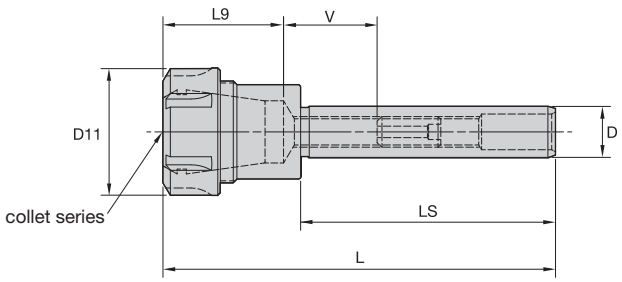




catalog number	locknut	locknut wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	stop screw	wrench size stop screw
SS120ER11107M	**LER11M**	**ER11WEM**	12	16	**CSS0615M**	3mm
SS200ER16182M	**LER16M**	**ER16WEM**	24	24	**CSS1020M**	5mm
SS250ER20190M	**LER20M**	**ER20WEM**	28	28	**CSS1225M**	6mm

(continued)

(ER SS MM continued)





ER Round-SS MM

order number	catalog number	collet series	D	D11	L	LS	L9	V	kg
1288303	**SS200ER25146M**	ER25	20	42	146	100	42	58	0,38
1288304	**SS200ER32154M**	ER32	20	50	154	100	49	51	0,51

Spare Parts



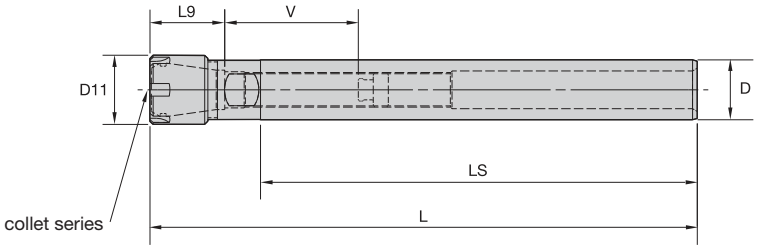


catalog number	locknut	locknut wrench	Nm	stop screw	wrench size stop screw
SS200ER25146M	**LNSER25M**	**ER25WM**	104	**CSS1225M**	6mm
SS200ER32154M	**LNSER32M**	**ER32WM**	136	**CSS1225M**	6mm

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.

• Grip (2:1 advantage).







	Collet Capacity			
	mm		inch	
ER collet series	min	max	min	max
ER8	0,5	0,5	.02	.20
ER11	0,5	7,0	.02	.28
ER16	0,5	10,0	.02	.41
ER20	0,5	13,0	.02	.50
ER25	1,0	16,0	.04	.63

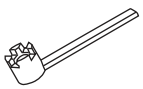
ERICKSON

ER Slim-SS IN

order number	catalog number	collet series	D	D11	L	LS	L9	V	lbs
1021460	**SS038ER08500**	ER8	3/8	.47	5.00	4.15	.71	1.42	.10
1021462	**SS050ER11700**	ER11	1/2	.63	7.00	5.96	.95	3.23	.26
1021494	**SS075ER16700**	ER16	3/4	.87	7.00	5.47	1.30	2.24	.56

Spare Parts



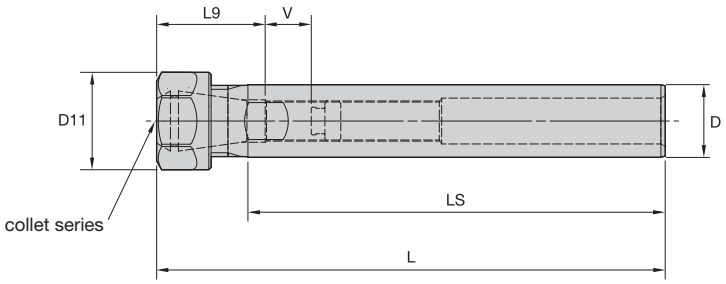




catalog number	locknut	wrench	Nm	stop screw	wrench size stop screw
SS038ER08500	**LER08M**	**ER08WEM**	4.8	**SS025031PKG**	—
SS050ER11700	**LER11M**	**ER11WEM**	12.0	**SS031031G**	2mm & 5/64
SS075ER16700	**LER16M**	**ER16WEM**	24.0	**SS044038G**	4mm & 5/32

(continued)

(ER SS IN continued)





ER Hex-SS IN

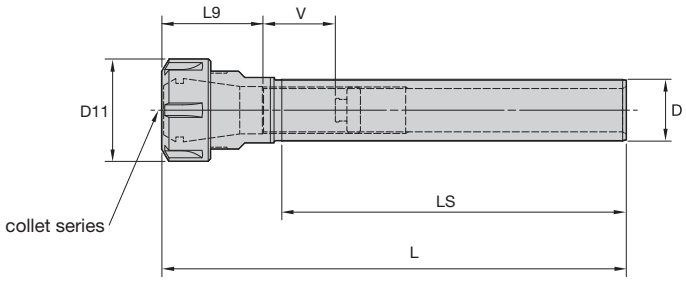
order number	catalog number	collet series	D	D11	L	LS	L9	V	lbs
1021496	**SS100ER20700**	ER20	1.00	1.34	7.00	5.70	1.30	2.20	1.07

Spare Parts





catalog number	locknut	wrench	counterbore collet torque (ft. lbs.)	straight collet torque (ft. lbs.)	stop screw	wrench size stop screw
SS100ER20700	**LNHSER20M**	**OEW30M**	24	59	**SS056041G**	4mm & 5/32





ER Round-SS IN

order number	catalog number	collet series	D	D11	L	LS	L9	V	lbs
1021498	**SS100ER25750**	ER25	1.00	1.65	7.50	5.69	1.58	1.97	1.13

Spare Parts





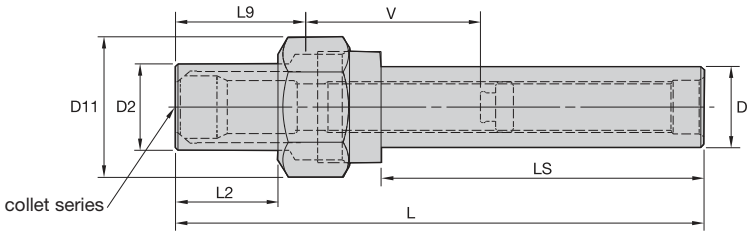


catalog number	locknut	wrench	ft. lbs.	stop screw	wrench size stop screw
SS100ER25750	**LNSER25M**	**ER25WM**	77	**SS075041G**	4mm & 5/32

NOTE: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
ER standard straight-bore collets, see page J50.
ER tap collets, see pages J58–J59.
ER TCT tension-only tap collets, see page J60.

• Grip 1:1.







	Collet Capacity			
	mm		inch	
DA collet series	min	max	min	max
DA300	0,2	6	1/64	1/4
DA200	0,2	10	1/64	25/64
DA100	1,8	14	1/64	9/16
DA180	2,2	20	1/64	3/4

ERICKSON

DA 01-SS IN

order number	catalog number	collet series	D	D2	D11	L	L2	LS	L9	V	lbs
1015309	**SS050DA301544**	DA300	1/2	.50	.87	5.44	.62	3.98	1.25	2.9370	.23
1015312	**SS062DA301319**	DA300	5/8	.50	.87	3.19	.62	1.73	1.21	1.4800	.21
1015313	**SS062DA301544**	DA300	5/8	.50	.87	5.44	.62	3.98	1.25	2.9410	.36
1015736	**SS062DA201325**	DA200	5/8	.81	1.44	3.25	.91	1.26	1.30	1.4600	.45
1015522	**SS062DA201600**	DA200	5/8	.81	1.44	6.00	.91	4.01	1.42	2.7559	.60
1015483	**SS075DA301344**	DA300	3/4	.50	.86	3.44	.61	—	1.22	1.7300	.30
1015695	**SS075DA301544**	DA300	3/4	.50	.86	5.44	—	3.96	1.26	3.5400	.51
1015669	**SS075DA201600**	DA200	3/4	.81	1.44	6.00	.91	4.01	1.11	3.0120	.71
1015601	**SS075DA101650**	DA100	3/4	1.06	1.73	6.50	—	3.96	1.57	4.1800	.98
1015666	**SS100DA301544**	DA300	1	.50	.86	5.44	.62	3.96	1.22	3.0300	.89
1015340	**SS100DA201600**	DA200	1	.81	1.44	6.00	.88	4.01	1.50	2.5980	1.10
1015520	**SS100DA101650**	DA100	1	1.06	1.73	6.50	1.26	3.96	1.69	4.0200	1.24
1015625	**SS100DA181638**	DA180	1	1.32	2.02	6.38	—	3.96	1.69	4.0160	1.33
1015375	**SS125DA181838**	DA180	1 1/4	1.32	2.02	8.38	2.42	5.96	1.73	3.9800	2.12
1015378	**SS150DA201600**	DA200	1 1/2	.81	1.44	6.00	—	4.01	1.50	2.6300	2.21
1015597	**SS150DA181838**	DA180	1 1/2	1.32	2.02	8.38	—	5.96	1.50	4.2100	3.03
1015764	**SS200DA201800**	DA200	2	.81	1.44	8.00	.91	6.01	1.50	2.6378	5.45
1015765	**SS200DA101850**	DA100	2	1.06	1.73	8.50	1.26	5.97	1.70	4.0160	5.46
1015631	**SS200DA181838**	DA180	2	1.32	2.02	8.38	.99	5.98	1.88	5.9060	5.41

(continued)

(DA 01-SS IN continued)

Spare Parts



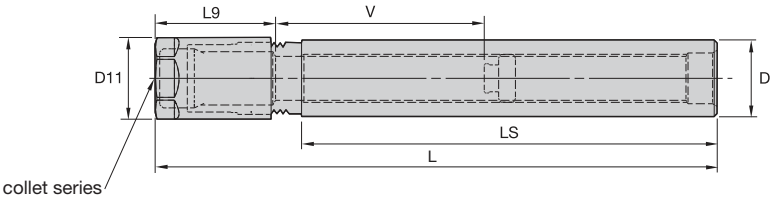



catalog number	nose piece	hex locknut	locknut wrench	ft. lbs.	stop screw	wrench size stop screw
SS050DA301544	**NP301**	**LN301**	**OEW075**	20	**SS031031G**	2mm & 5/64
SS062DA301319	**NP301**	**LN301**	**OEW075**	20	**SS031031G**	2mm & 5/64
SS062DA301544	**NP301**	**LN301**	**OEW075**	20	**SS031031G**	2mm & 5/64
SS062DA201325	**NP201**	**LN201**	**OEW125**	40	**SS038031G**	2mm & 5/64
SS062DA201600	**NP201**	**LN201**	**OEW125**	40	**SS038031G**	2mm & 5/64
SS075DA301344	**NP301**	**LN301**	**OEW075**	20	**SS031031G**	2mm & 5/64
SS075DA301544	**NP301**	**LN301**	**OEW075**	20	**SS031031G**	2mm & 5/64
SS075DA201600	**NP201**	**LN201**	**OEW125**	40	**SS044038G**	4mm & 5/32
SS075DA101650	**NP101**	**LN101**	**OEW150**	45	**SS050038G**	4mm & 5/32
SS100DA301544	**NP301**	**LN301**	**OEW075**	20	**SS031031G**	2mm & 5/64
SS100DA201600	**NP201**	**LN201**	**OEW125**	40	**SS044038G**	4mm & 5/32
SS100DA101650	**NP101**	**LN101**	**OEW150**	45	**SS062041G**	4mm & 5/32
SS100DA181638	**NP181**	**LN181**	**OEW175**	75	**SS075041G**	4mm & 5/32
SS125DA181838	**NP181**	**LN181**	**OEW150**	75	**SS081041G**	4mm & 5/32
SS150DA201600	**NP201**	**LN201**	**OEW125**	40	**SS044038G**	4mm & 5/32
SS150DA181838	**NP181**	**LN181**	**OEW175**	75	**SS081041G**	4mm & 5/32
SS200DA201800	**NP201**	**LN201**	**OEW125**	40	**SS044038G**	4mm & 5/32
SS200DA101850	**NP101**	**LN101**	**OEW150**	45	**SS062041G**	4mm & 5/32
SS200DA181838	**NP181**	**LN181**	**OEW175**	75	**SS081041G**	4mm & 5/32

NOTE: Tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.

- Grip 1:1.
- Small outside diameter clearance is ideal for machining centers, close center-distance, and fixture problems.







DA collet series	Collet Capacity mm min	mm max	inch min	inch max
DA000	0,65	4	—	—
DA300	0,2	6	1/64	1/4
DA200	0,2	10	1/64	25/64
DA100	1,8	14	1/64	9/16
DA180	2,2	20	1/64	3/4

ERICKSON™

DA 04-SS MM

order number	catalog number	collet series	D	D11	L	LS	L9	V	kg
1015043	**SS080DA000132M**	DA000	8,0	10,1	132	100	—	—	0,05
1015037	**SS125DA304109M**	DA300	12,5	14,2	109	72	33	63	0,07
1015038	**SS125DA304173M**	DA300	12,5	14,2	173	136	34	126	0,11
1015034	**SS190DA204117M**	DA200	19,1	21,5	117	74	37	65	0,19
1015013	**SS190DA204181M**	DA200	19,1	21,5	181	138	42	124	0,29
1015035	**SS200DA204117M**	DA200	20,0	21,5	117	74	38	65	0,21
1015036	**SS200DA204181M**	DA200	20,0	21,5	181	138	37	128	0,32
1015011	**SS250DA104122M**	DA100	25,0	27,0	122	73	46	61	0,29
1015012	**SS250DA104186M**	DA100	25,0	27,0	186	137	46	124	0,45

Spare Parts





catalog number	locknut	locknut wrench	Nm	stop screw	wrench size stop screw
SS080DA000132M	**LN000M**	**OEW9M**	41	—	—
SS125DA304109M	**LNA304M**	**OEW13M**	27	**SS031031G**	2mm & 5/64
SS125DA304173M	**LNA304M**	**OEW13M**	27	**SS031031G**	2mm & 5/64
SS190DA204117M	**LNA204M**	**OEW19M**	54	**SS044038G**	4mm & 5/32
SS190DA204181M	**LNA204M**	**OEW19M**	54	**SS044038G**	4mm & 5/32
SS200DA204117M	**LNA204M**	**OEW19M**	54	**SS044038G**	4mm & 5/32
SS200DA204181M	**LNA204M**	**OEW19M**	54	**SS044038G**	4mm & 5/32
SS250DA104122M	**LNA104M**	**OEW24M**	61	**SS062041G**	4mm & 5/32
SS250DA104186M	**LNA104M**	**OEW24M**	61	**SS062041G**	4mm & 5/32

(continued)

(DA 04-SS continued)

DA 04-SS IN

order number	catalog number	collet series	D	D11	L	LS	L9	V	lbs
1015308	**SS050DA304438**	DA300	1/2	.56	4.38	2.93	1.34	2.60	.17
1015311	**SS050DA304681**	DA300	1/2	.56	6.81	5.36	1.27	2.98	.24
1015334	**SS075DA204469**	DA200	3/4	.84	4.69	3.00	1.50	2.63	.42
1015337	**SS075DA204712**	DA200	3/4	.84	7.13	5.44	1.50	3.27	.62
1015338	**SS100DA104488**	DA100	1	1.06	4.88	2.95	1.69	2.56	.66
1015342	**SS100DA104731**	DA100	1	1.06	7.31	5.38	1.73	4.96	1.02
1015517	**SS125DA184738**	DA180	1 1/4	1.44	7.38	5.38	1.89	4.76	1.61
1015594	**SS125DA184988**	DA180	1 1/4	1.44	9.88	7.86	1.89	7.20	2.15
1015737	**SS150DA404104**	DA400	1 1/2	1.87	10.40	7.96	2.20	7.25	2.80
1015545	**SS150DA404791**	DA400	1 1/2	1.88	7.91	5.18	2.19	4.81	2.22

Spare Parts



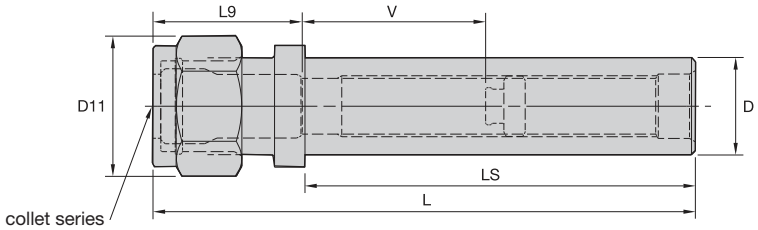


catalog number	locknut	wrench	ft. lbs.	stop screw	wrench size stop screw
SS050DA304438	**LNA304M**	**OEW050**	20	**SS031031G**	2mm & 5/64
SS050DA304681	**LNA304M**	**OEW050**	20	**SS031031G**	2mm & 5/64
SS075DA204469	**LNA204M**	**OEW075**	40	**SS044038G**	4mm & 5/32
SS075DA204712	**LNA204M**	**OEW075**	40	**SS044038G**	4mm & 5/32
SS100DA104488	**LNA104M**	**OEW094**	45	**SS062041G**	4mm & 5/32
SS100DA104731	**LNA104M**	**OEW094**	45	**SS062041G**	4mm & 5/32
SS125DA184738	**LNA184M**	**OEW119**	60	**SS081041G**	4mm & 5/32
SS125DA184988	**LNA184M**	**OEW119**	60	**SS081041G**	4mm & 5/32
SS150DA404104	**LNA404M**	**OEW168**	64	**SS112041G**	4mm & 5/32
SS150DA404791	**LNA404M**	**OEW168**	64	**SS112041G**	4mm & 5/32

NOTE: Tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.

- Grip 1:1.
- Heavy-duty design.







Collet Capacity

DA collet series	mm min	mm max	inch min	inch max
DA300	0,2	6	1/64	1/4
DA200	0,2	10	1/64	25/64
DA100	1,8	14	1/64	9/16
DA180	2,2	20	1/64	3/4

DA 08-SS-IN

order number	catalog number	collet series	D	D11	L	LS	L9	V	lbs
1015310	**SS050DA308516**	DA300	1/2	.79	5.16	3.98	1.34	2.91	.22
1015519	**SS062DA308516**	DA300	5/8	.77	5.16	3.98	1.38	2.80	.35
1015694	**SS062DA208569**	DA200	5/8	1.15	5.69	4.00	1.38	2.87	.44
1015336	**SS075DA308516**	DA300	3/4	.79	5.16	4.24	1.97	2.62	.50
1015335	**SS075DA208531**	DA200	3/4	1.15	5.31	3.96	1.45	2.68	.52
1015518	**SS075DA108588**	DA100	3/4	1.44	5.88	4.00	1.73	3.62	.67
1015696	**SS100DA308516**	DA300	1	.77	5.16	3.98	1.38	2.76	.88
1015734	**SS100DA208431**	DA200	1	1.15	4.31	2.96	1.50	2.24	.73
1015341	**SS100DA208531**	DA200	1	1.15	5.31	3.95	1.46	2.68	.91
1015698	**SS100DA108556**	DA100	1	1.44	5.56	3.99	1.75	3.21	.90
1015339	**SS100DA188638**	DA180	1	1.73	6.38	4.00	1.97	3.82	1.04
1015703	**SS125DA208531**	DA200	1-1/4	1.15	5.31	3.96	1.50	2.59	1.40
1015343	**SS125DA108556**	DA100	1-1/4	1.44	5.56	3.99	1.77	3.19	1.40
1015374	**SS125DA108756**	DA100	1-1/4	1.44	7.56	5.99	1.77	3.94	1.92
1015376	**SS125DA188762**	DA180	1-1/4	1.73	7.63	5.91	1.93	5.04	1.76
1015379	**SS150DA208531**	DA200	1-1/2	1.15	5.31	3.96	1.50	3.22	2.02
1015629	**SS150DA208731**	DA200	1-1/2	1.15	7.31	5.96	1.46	2.67	2.91
1015380	**SS150DA108756**	DA100	1-1/2	1.44	7.56	5.99	1.77	3.94	2.83
1015381	**SS150DA188762**	DA180	1-1/2	1.73	7.63	5.91	1.93	5.08	2.64
1015404	**SS175DA188762**	DA180	1-3/4	1.73	7.63	5.91	1.93	5.08	3.70
1015405	**SS200DA188762**	DA180	2	1.73	7.63	5.91	1.89	5.22	4.92

(continued)

(DA 08-SS IN continued)

Spare Parts

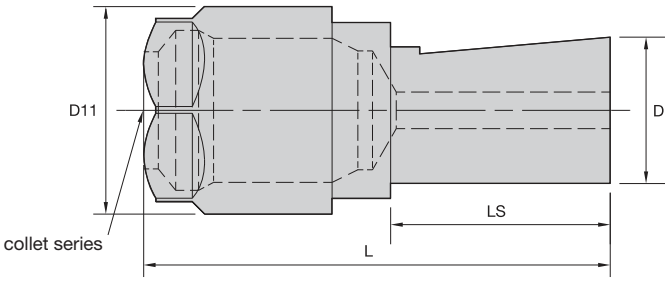




catalog number	locknut	wrench	ft. lbs.	stop screw	wrench size stop screw
SS050DA308516	**LNA308M**	**OEW068**	20	**SS031031G**	2mm & 5/64
SS062DA308516	**LNA308M**	**OEW068**	20	**SS031031G**	2mm & 5/64
SS062DA208569	**NPA208**	**OEW100**	40	**SS038031G**	2mm & 5/64
SS075DA308516	**LNA308M**	**OEW068**	20	**SS031031G**	2mm & 5/64
SS075DA208531	**NPA208**	**OEW100**	40	**SS044038G**	4mm & 5/32
SS075DA108588	**LNA108M**	**OEW125**	55	**SS050038G**	4mm & 5/32
SS100DA308516	**LNA308M**	**OEW068**	20	**SS031031G**	2mm & 5/64
SS100DA208431	**NPA208**	**OEW100**	40	**SS044038G**	4mm & 5/32
SS100DA208531	**NPA208**	**OEW100**	40	**SS044038G**	4mm & 5/32
SS100DA108556	**LNA108M**	**OEW125**	55	**SS062041G**	4mm & 5/32
SS100DA188638	**NPA188**	**OEW150**	75	**SS075041G**	4mm & 5/32
SS125DA208531	**NPA208**	**OEW100**	40	**SS044038G**	4mm & 5/32
SS125DA108556	**LNA108M**	**OEW125**	55	**SS062041G**	4mm & 5/32
SS125DA108756	**LNA108M**	**OEW125**	55	**SS062041G**	4mm & 5/32
SS125DA188762	**NPA188**	**OEW150**	75	**SS081041G**	4mm & 5/32
SS150DA208531	**NPA208**	**OEW100**	40	**SS044038G**	4mm & 5/32
SS150DA208731	**NPA208**	**OEW100**	40	**SS044038G**	4mm & 5/32
SS150DA108756	**LNA108M**	**OEW125**	55	**SS062041G**	4mm & 5/32
SS150DA188762	**NPA188**	**OEW150**	75	**SS081041G**	4mm & 5/32
SS175DA188762	**NPA188**	**OEW150**	75	**SS081041G**	4mm & 5/32
SS200DA188762	**NPA188**	**OEW150**	75	**SS081041G**	4mm & 5/32

NOTE: For retention tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut and stop screw.
Locknut wrench must be ordered separately.
Stop screw coolant caps are available and must be ordered separately; see pages L34–L35.
DA standard straight-bore collets, see page J62.
DA non-pullout collets, see pages J65–J68.

- Grip 1:1.
- Industry standard Erickson™ double-angle collet system.
- Small outside diameter clearance is ideal for machining centers, close center-distance, and fixture issues.
- Solid drive/positive drive collets prevent tap slippage.
- Right- or left-hand tapping capability.
- Economical to use.





	Collet Capacity					
	mm		inch			
DA L collet series	min	max	min	max	min	max
L	M5	M24	#0	7/8	1/16P	1/2P

ERICKSON

DA L Tap Solid-SS IN



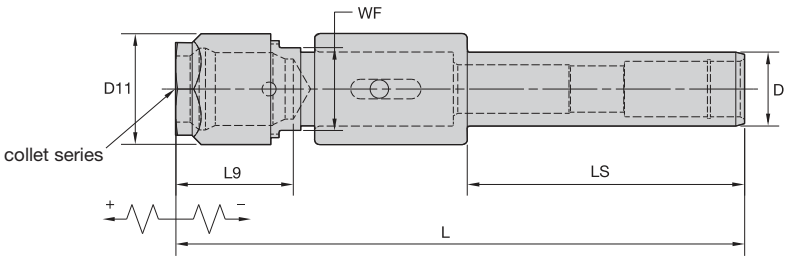


order number	catalog number	collet series	D	D11	L	LS	locknut	ft. lbs.	wrench	lbs
1017941	**SS100STL169**	L	1	1.50	3.19	1.50	**LNAL04M**	60	**OEW125**	1.59

NOTE: Tighten locknut to the recommended tightening torque.
Collet chuck technical section, see page M98.
Supplied with locknut.
Locknut wrench must be ordered separately.
DA standard straight-bore collets, see page J62.

- Grip 1:1.
- Industry standard Erickson™ double-angle collet system.
- Small outside diameter clearance is ideal for use on machining centers, close center-distance, and fixture issues.
- Use for through hole tapping.
- Key drive.
- Right- or left-hand tapping capability.
- Alternate springs available to adjust tension pressure to control thread quality in a variety of workpiece conditions.
- Positive-drive collets prevent tap slippage.
- Economical to use.







Collet Capacity

DA J, K, and L collet series	mm min	mm max	inch min	inch max	min	max
J	M1	M12	#0	1/2	1/16P	—
K	M1	M16	#0	5/8	1/16P	1/8P
L	M5	M24	#0	7/8	1/16P	1/2P

ERICKSON

DA J, K, and L Tap T&C-SS • Inch




order number	catalog number	collet series	D	D11	L	LS	L9	tension	compression	WF	locknut	ft. lbs.	wrench	lbs
1017581	**SS075TCJ731**	J	3/4	.85	7.31	5.44	1.50	.56	.19	.562	**LNA204M**	40	**OEW075**	.72
1017748	**SS100TCK719**	K	1	1.06	7.19	5.44	—	.56	.19	.750	**LNAK04M**	45	**OEW094**	1.23
1017580	**SS100TCL769**	L	1	1.50	7.69	3.75	—	.56	.19	1.125	**LNAL04M**	60	**OEW125**	2.06

NOTE: Do not overtighten locknut; use torque recommendations above.
Collet chuck technical section, see page M98.
Supplied with locknut.
Locknut wrench must be ordered separately.
DA standard straight-bore collets, see page J62.

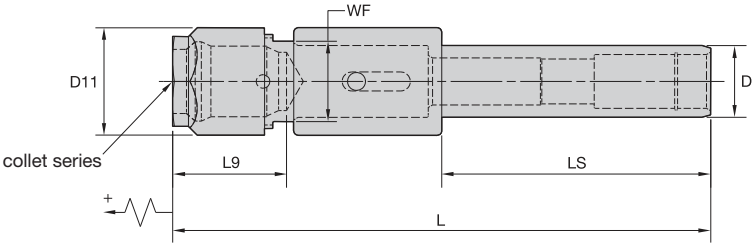
Alternate Tension Adjustment Springs for Tension and Compression Chucks

tap chuck	standard spring	alternate spring	preload (lb/in²)
SS075TCJ731	**CS0563041156PKG**	—	2.37
—	—	**heavier CS054001150PKG**	3.50
SS100TCK719	**CS0720067125PKG**	—	6.75
—	—	**lightest CS0563041156PKG**	2.37
—	—	**lightest CS0600049125PKG**	3.25
—	—	**heavier CS0600055150PKG**	7.50
—	—	**heaviest CS0600072150PKG**	18.00
SS100TCL769	**CS0600072150PKG**	—	18.00
—	—	**light CS0600055150 PKG**	7.50

NOTE: There are two springs in a package.

- Grip 1:1.
- Industry standard Erickson™ double-angle collet system.
- Small outside diameter clearance is ideal for use with machining centers, close center-distance, and fixture issues.
- Use for through hole tapping.
- Solid hard start ensures tap will start at same point every time, regardless if it is sharp or dull.
- Key drive.
- Right- or left-hand tapping capability.
- Alternate springs available to adjust tension pressure to control thread quality in a variety of workpiece conditions.
- Positive-drive collets prevent tap slippage.
- Economical to use.







Collet Capacity

DA J, K, and L collet series	mm		inch			
	min	max	min	max	min	max
J	M1	M12	#0	1/2	1/16P	—
K	M1	M16	#0	5/8	1/16P	1/8P
L	M5	M24	#0	7/8	1/16P	1/2P

ERICKSON

DA J, K, and L Tap Tension Only-SS • Inch





order number	catalog number	collet series	D	D11	L	LS	L9	tension	WF	locknut	ft. lbs.	wrench	lbs
1017627	**SS075TOJ712**	J	3/4	.85	7.13	5.44	1.50	.50	.562	**LNA204M**	40	**OEW075**	.72
1017629	**SS100TOK700**	K	1	1.06	7.00	5.44	1.47	.75	.750	**LNAK04M**	45	**OEW094**	1.14
1017631	**SS100TOL750**	L	1	1.50	7.50	3.75	1.59	.75	1.125	**LNAL04M**	60	**OEW125**	2.08

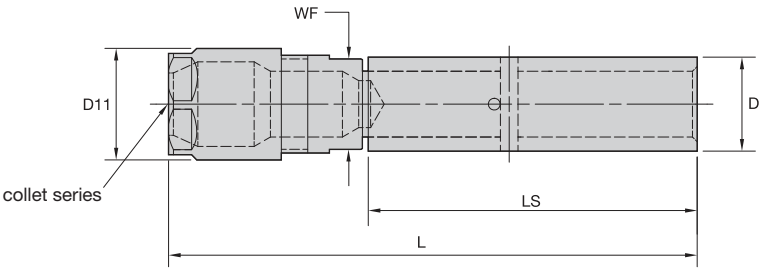
NOTE: Do not overtighten locknut; use torque recommendations above.
Collet chuck technical section, see page M98.
Supplied with locknut.
Locknut wrench must be ordered separately.
DA standard straight-bore collets, see page J62.

Alternate Tension Adjustment Springs for Tension-Only Chucks

tap chuck	standard spring	alternate spring	preload (lb/in²)
SS075TOJ712	**CS0563041156PKG**	—	2.37
—	—	heavier **CS0540041150 PKG**	3.50
SS100TOK700	**CS0600055150PKG**	—	7.50
—	—	lighter **CS0563041156 PKG**	2.37
SS100TOL750	**CS0600049125PKG**	—	3.25
—	—	heavier **CS0600055150 PKG**	7.50

NOTE: There are two springs in a package.

- Grip 1:1.
- Industry standard Erickson™ double-angle collet system.
- Ideal for machining centers.
- Tool holder provides 0,10mm (.004") movement in all directions to compensate for angular and parallel misalignments.
- Minimum outside diameter and overhang provide maximum tool clearance.





	Collet Capacity			
	mm		inch	
DA collet series	min	max	min	max
DA300	0,2	6	1/64	1/4
DA200	0,2	10	1/64	25/64
DA100	1,8	14	1/64	9/16
DA180	2,2	20	1/64	3/4

ERICKSON™

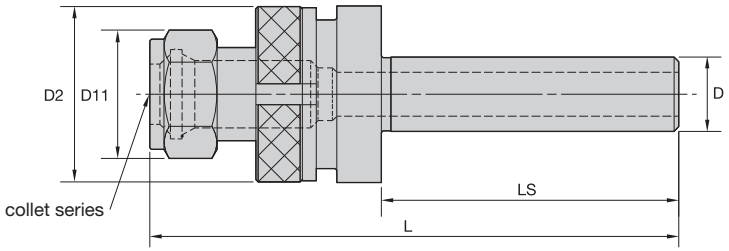
DA 08 DP F-SS IN



order number	catalog number	collet series	D	D11	L	LS	WF	locknut	wrench	ft. lbs.	lbs
1015905	**SS050DP308403**	DA300	1/2	.69	4.03	2.50	.500	**NPA338**	**OEW062**	20	.22
1015906	**SS075DP308403**	DA300	3/4	.69	4.03	2.50	.500	**NPA338**	**OEW062**	20	.50
1015980	**SS075DP208448**	DA200	3/4	.94	4.50	3.00	.625	**NPA238**	**OEW088**	40	.56
1015949	**SS100DP308403**	DA300	1	.69	4.03	2.50	.500	**NPA338**	**OEW062**	20	.89
1015981	**SS100DP208448**	DA200	1	.94	4.50	3.00	.625	**NPA238**	**OEW088**	40	.99
1015979	**SS100DP108562**	DA100	1	1.19	5.63	3.50	.875	**NPA139**	**OEW088**	55	1.24
1015944	**SS125DP188696**	DA180	1-1/4	1.50	6.97	4.50	1.125	**LNA138**	**OEW138**	75	2.41

NOTE: Do not overtighten locknut; use torque recommendations above.
Using two wrenches is recommended to prevent premature wear on the floating mechanism. Wrenches must be ordered separately.
Collet chuck technical section, see page M98.
Supplied with locknut.
DA standard straight-bore collets, see page J62.

- Grip 1:1.
- Industry standard Erickson™ double-angle collet system.
- Recommended only for stationary applications (lathe).
- Toolholder provides 0,25mm (.010") movement in all directions to compensate for angular and parallel misalignments.
- Hollow design enables coolant through the tool and short projection lengths.
- Adjusting nut varies spring tension to compensate for cutter weight.





	Collet Capacity			
	mm		inch	
DA 08 collet series	min	max	min	max
DA180	2,2	20	1/64	3/4

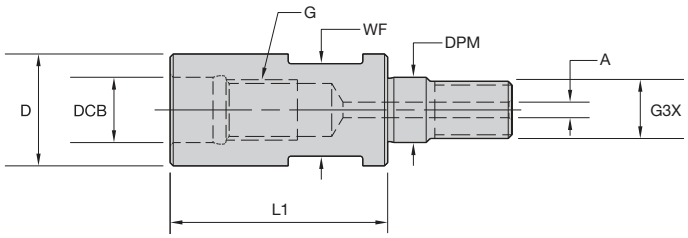
ERICKSON™

DA 08 FF-SS IN



order number	catalog number	collet series	D	D11	D2	L	LS	locknut	wrench	wrench	ft. lbs.	lbs
1015975	**SS075FC188688**	DA180	3/4	1.73	2.38	6.88	4.00	**NPA188**	**OEW150**	**HSW58M**	75	.86
1015982	**SS100FC188688**	DA180	1	1.73	2.38	6.88	4.00	**NPA188**	**OEW150**	**HSW58M**	75	1.52
1015910	**SS125FC188888**	DA180	1 1/4	1.73	2.38	8.88	6.00	**NPA188**	**OEW150**	**HSW58M**	75	4.08
1015952	**SS150FC188688**	DA180	1 1/2	1.73	2.38	6.88	4.00	**NPA188**	**OEW150**	**HSW58M**	75	3.44
1015947	**SS150FC188888**	DA180	1 1/2	1.73	2.38	8.88	6.00	**NPA188**	**OEW150**	**HSW58M**	75	4.44
1015976	**SS175FC188888**	DA180	1 3/4	1.73	2.38	8.88	6.00	**NPA188**	**OEW150**	**HSW58M**	75	6.04
1013502	**SS200FC188888**	DA180	2	1.73	2.38	8.88	6.00	**NPA188**	**OEW150**	**HSW58M**	75	—

NOTE: Do not overtighten locknut; use torque recommendations above.
Locknut and adjusting nut wrenches must be ordered separately.
Collet chuck technical section, see page M98.
Supplied with locknut.
DA standard straight-bore collets, see page J62.



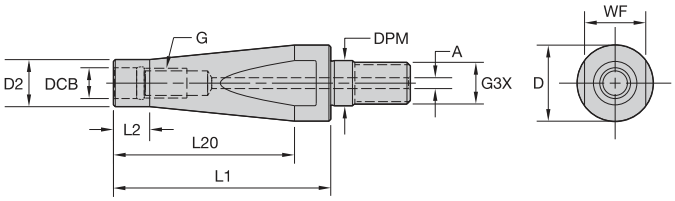


ERICKSON

ST Ext-ST

order number	catalog number	DCB	G	DPM	G3X	D	A	L1	WF	kg
4074158	**M06MST06025M**	6,5	M6	6,5	M6	9,8	2	25	7	0,01
4074159	**M08MST08030M**	8,5	M8	8,5	M8	13,0	2	30	10	0,03
4074160	**M10MST10035M**	10,5	M10	10,5	M10	18,0	3	35	15	0,06
4074161	**M12MST12040M**	12,5	M12	12,5	M12	21,0	3	40	17	0,10
4074162	**M16MST16040M**	17,0	M16	17,0	M16	29,0	4	40	22	0,18

NOTE: For Screw-On end mill cutters, see the Kennametal Innovations Master Catalog Cutting Tools 2013.





ERICKSON

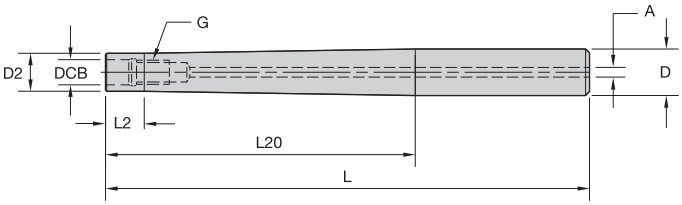
■ ST Red-ST

order number	catalog number	DCB	G	DPM	G3X	D	D2	A	L1	L2	L20	WF
4077826	**M08MST06025M**	6,5	M6	8,5	M8	13	10	2,0	25	10	15	10
4077815	**M10MST08030M**	8,5	M8	10,5	M10	18	13	2,5	30	10	20	15
4077822	**M12MST06080M**	6,5	M6	12,5	M12	21	10	3,0	80	10	70	17
4077818	**M12MST06040M**	6,5	M6	12,5	M12	21	10	3,0	40	10	30	17
4077820	**M12MST10035M**	10,5	M10	12,5	M12	21	18	3,0	35	10	25	17
4077816	**M12MST06060M**	6,5	M6	12,5	M12	21	10	3,0	60	10	50	17
4077817	**M12MST08080M**	8,5	M8	12,5	M12	21	13	3,0	80	10	70	17
4077819	**M12MST08060M**	8,5	M8	12,5	M12	21	13	3,0	60	10	50	17
4077821	**M12MST08040M**	8,5	M8	12,5	M12	21	13	3,0	40	10	30	17
4077825	**M16MST10060M**	10,5	M10	17,0	M16	29	18	4,0	60	10	50	22
4074194	**M16MST12040M**	12,5	M12	17,0	M16	29	21	4,0	35	10	25	22
4074193	**M16MST08060M**	8,5	M8	17,0	M16	29	13	4,0	60	10	50	22
4077824	**M16MST10080M**	10,5	M10	17,0	M16	29	18	4,0	80	10	70	22
4077823	**M16MST08080M**	8,5	M8	17,0	M16	29	13	4,0	80	10	70	22

NOTE: For Screw-On end mill cutters, see the Kennametal Innovations Master Catalog Cutting Tools 2013.

• Heavy metal for strength.





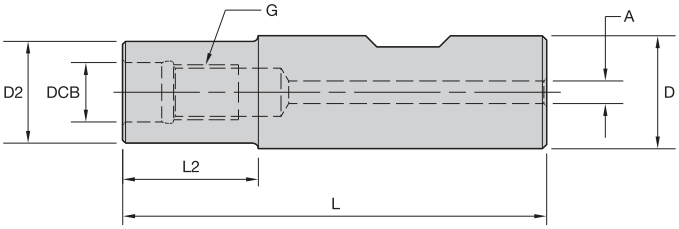


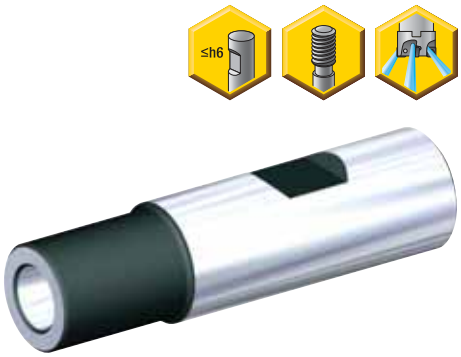
ERICKSON

■ ST EXT-SS MM

order number	catalog number	DCB	G	D	D2	A	L	L2	L20
4160427	**SS120STCHM06085M**	6,5	M6	12	10	2,5	85	10	40
4160428	**SS120STCHM06105M**	6,5	M6	12	10	2,5	105	10	60
4160430	**SS120STCHM06125M**	6,5	M6	12	10	2,5	125	10	80
4160431	**SS160STCHM08088M**	8,5	M8	16	13	3,0	88	10	40
4160473	**SS160STCHM08128M**	8,5	M8	16	13	3,0	128	10	80
4160432	**SS160STCHM08108M**	8,5	M8	16	13	3,0	108	10	60
4160474	**SS160STCHM08148M**	8,5	M8	16	13	3,0	148	10	100
4160475	**SS160STCHM08168M**	8,5	M8	16	13	3,0	168	10	120
4160480	**SS200STCHM10170M**	10,5	M10	20	18	3,5	170	10	130
4160479	**SS200STCHM10150M**	10,5	M10	20	18	3,5	150	10	100
4160478	**SS200STCHM10130M**	10,5	M10	20	18	3,5	130	10	80
4160477	**SS200STCHM10110M**	10,5	M10	20	18	3,5	110	10	60
4160476	**SS200STCHM10090M**	10,5	M10	20	18	3,5	90	10	40

NOTE: For Screw-On end mill cutters, see the Kennametal Innovations Master Catalog Cutting Tools 2013.



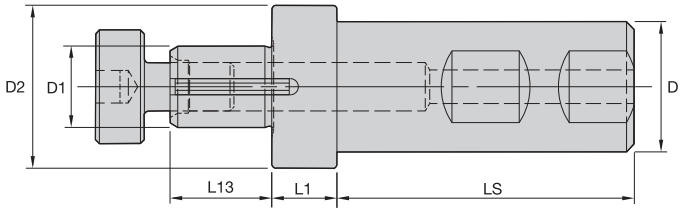


ERICKSON

ST EXT-WN MM

order number	catalog number	DCB	G	D	D2	A	L	L2
4074129	**M06WST10060M**	6,5	M6	10	10	2	60	19
4074131	**M08WST16073M**	8,5	M8	16	13	4	73	24
4074132	**M10WST20080M**	10,5	M10	20	18	4	75	24
4074153	**M12WST25086M**	12,5	M12	25	21	5	86	29
4074154	**M16WST32095M**	17,0	M16	32	29	6	95	34

NOTE: For Screw-On end mill cutters, see the Kennametal Innovations Master Catalog Cutting Tools 2013.





ERICKSON

SA-SS IN





order number	catalog number	D	D1	D2	L1	LS	L13	lock screw	wrench size lock screw	drive key	spacing collar	lbs
1288235	**SS100SA062050**	1	5/8	1.25	.50	2.28	.78	**KLS07**	1/4	**DWG SDK062088**	**–**	.74
1288264	**SS125SA100075**	1 1/4	1	1.61	.75	2.28	.94	**KLS10**	5/16	**DWG SDK100106**	**–**	1.46
1015362	**SS125SA125075**	1 1/4	1 1/4	1.86	.75	2.28	1.09	**KLS12**	5/16	**DWG SDK125119**	**QNB-80617B**	2.05
1015363	**SS150SA150100**	1 1/2	1 1/2	2.11	1.00	2.69	1.70	**KLS15**	3/8	**DWG SDK150175**	**–**	3.28
1015384	**SS200SA200100**	2	2	2.75	1.00	3.25	1.70	**KLS20**	9/16	**SDK200169**	**–**	6.64

NOTE: Do not overtighten lock screw.
Item 1288264 is supplied with .156" spacer.
Item 1015362 is supplied with .250" spacer.
Supplied with lock screw and drive key.
Lock screw wrench not included.



Collets and Sleeves

HC Hydraulic Chuck Sleeves J2–J5
SMC Bearing Milling Chuck Sleeves J6–J9
TG Single-Angle Collets (Standard, Coolant, High Precision, Non-Pullout [End Mill], and Tap Collets) J10–J48
TG50 Series J14–J21
TG75 Series J22–J29
TG100 Series J30–J41
TG150 Series J42–J48
ER Single-Angle Collets (ER8, 11, 16, 25, 32, and 40) J50–J60
Standard Collets J54–J57
Solid Tap Collets J58–J59
Tension Tap Collets J60
DA Double-Angle Collets (DA100, 180, 200, and 300) J62–J75
Standard Collets J65–J69
DA-J Solid Tap Collets J71
DA-K Solid Tap Collets J72–J73
DA-L Solid Tap Collets J74–J75
RC Rapid Quick-Change Tap Adapters J76–J81



ERICKSON™ HC Hydraulic Chuck Sleeves • Drilling

Primary Application

ERICKSON Hydraulic Reduction Sleeves are specially designed for high-precision clamping of straight cylindrical cutting tool shanks. The self-sealing design enables efficient use of through-coolant cutting tools when the cutting tool shank completely engages the full gripping length of the sleeve.

Features and Benefits

- One-piece design with slot configuration to seal coolant.
- Cutting tool must be cylindrical and have a through hole when using coolant.
- Capable of up to 100 bar (1,500 psi) coolant pressure.
- Cutting tool shank requirement tolerance is h6 and Ra ≥0,3 µm (12 µ in) surface finish.
- Maximum collapse is h6.



How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



ERICKSON™

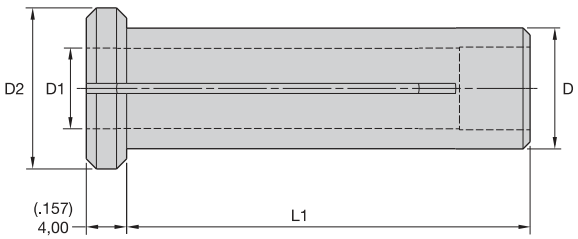
20MHC160M

20	M	HC	160	M
System Size	System Value	Sleeve Style	Sleeve Bore Size	Identification Value
12 = 12mm **20** = 20mm **32** = 32mm **50** = 1/2" **75** = 3/4" **12** = 1-1/4"	**M** = Previous two numbers built in metric values	**HC** = Hydraulic Chuck	**metric (xx.x)** **010** = 1mm **160** = 16mm **250** = 25mm **inch (x.xxx)** **0125** = 1/8" **0500** = 1/2" **1000** = 1"	**M** = Sleeve bore size built to metric values **(blank)** = Sleeve bore size built to metric values



- One-piece design with slot configuration to seal coolant.
- Cutting tool must be cylindrical and have a through hole when using coolant.
- Sleeve must be inserted completely into the hydraulic chuck until shoulder mates against the hydraulic chuck front face.
- Cutting tools must be in full contact with the sleeve length (L1).







ERICKSON

Metric with Metric Bores

D1	12HC D = 12mm D2 = 16mm L1 = 40mm	20HC D = 20mm D2 = 25mm L1 = 50mm	25HC D = 25mm D2 = 30mm L1 = 56mm	32HC D = 32mm D2 = 36mm L1 = 60mm
3,0	12MHC030M	20MHC030M	25MHC030M	–
4,0	12MHC040M	20MHC040M	25MHC040M	–
5,0	12MHC050M	20MHC050M	25MHC050M	–
6,0	12MHC060M	20MHC060M	25MHC060M	32MHC060M
7,0	12MHC070M	20MHC070M	25MHC070M	32MHC070M
8,0	12MHC080M	20MHC080M	25MHC080M	32MHC080M
9,0	12MHC090M	20MHC090M	25MHC090M	32MHC090M
10,0	12MHC100M	20MHC100M	25MHC100M	32MHC100M
11,0	–	20MHC110M	–	32MHC110M
12,0	–	20MHC120M	25MHC120M	32MHC120M
13,0	–	20MHC130M	–	32MHC130M
14,0	–	20MHC140M	25MHC140M	32MHC140M
15,0	–	20MHC150M	–	32MHC150M
16,0	–	20MHC160M	25MHC160M	32MHC160M
17,0	–	–	–	32MHC170M
18,0	–	–	25MHC180M	32MHC180M
19,0	–	–	–	32MHC190M
20,0	–	–	25MHC200M	32MHC200M
22,0	–	–	–	32MHC220M
25,0	–	–	–	32MHC250M

(continued)

(HC Hydraulic Chuck Sleeves continued)

Metric with Inch Bores

D1	20HC D = 20mm D2 = 25mm L1 = 50mm	32HC D = 32mm D2 = 36mm L1 = 60mm
3/16	20HCM0188	–
1/4	20HCM0250	–
5/16	20HCM0312	–
3/8	20HCM0375	–
7/16	20HCM0438	–
1/2	20HCM0500	32HCM0500
9/16	20HCM0562	32HCM0562
5/8	20HCM0625	32HCM0625
11/16	–	32HCM0688
3/4	–	32HCM0750
7/8	–	32HCM0875
1	–	32HCM1000

Inch with Metric Bores

D1	50HC D = .500 D2 = .630 L1 = 1.575	75HC D = .750 D2 = .984 L1 = 1.969	12HC D = 1.250 D2 = 1.417 L1 = 2.362
3,0	50HC030M	75HC030M	–
4,0	50HC040M	75HC040M	–
5,0	50HC050M	75HC050M	–
6,0	50HC060M	75HC060M	–
8,0	50HC080M	75HC080M	–
10,0	50HC100M	75HC100M	–
12,0	–	75HC120M	–
14,0	–	75HC140M	–
16,0	–	75HC160M	12HC160M
18,0	–	–	12HC180M
20,0	–	–	12HC200M
25,0	–	–	12HC250M

Inch with Inch Bores

D1	50HC D = .500 D2 = .630 L1 = 1.575	75HC D = .750 D2 = .945 L1 = 1.969	12HC D = 1.250 D2 = 1.417 L1 = 2.362
1/8	50HC0125	75HC0125	–
3/16	50HC0188	75HC0188	–
1/4	50HC0250	75HC0250	–
5/16	50HC0312	75HC0312	–
3/8	50HC0375	75HC0375	–
7/16	–	75HC0438	–
1/2	–	75HC0500	12HC0500
9/16	–	75HC0562	12HC0562
5/8	–	75HC0625	12HC0625
11/16	–	–	12HC0688
3/4	–	–	12HC0750
13/16	–	–	12HC0812
7/8	–	–	12HC0875
1	–	–	12HC1000

NOTE: Inserting the cutting tool less than the full gripping length (L9) of the sleeve can permanently damage the sleeve and hydraulic chuck. Full length of the gripping bore needs to be maintained to achieve maximum accuracy, safety, and coolant sealing feature.

ERICKSON™ SMC Bearing Milling Chuck Sleeves • Milling

Primary Application

ERICKSON Bearing Milling Chuck Reduction Sleeves are specially designed for high-precision clamping of straight cylindrical cutting tool shanks. These are not self-sealing designed and rely on the back-up screws in the milling chuck for sealing coolant through the cutting tool.

Features and Benefits

- One-piece design.
- Cutting tool shank requirement tolerance is h6.
- Maximum collapse is h6.



- One-piece design.
- Cutting tool must be cylindrical and have a through hole when using coolant.
- Cutting tool shank requirement tolerance is h6 and Ra ≥ 0,3 µm (12 µ in) surface finish.
- Maximum collapse is h6.



20SMC120M

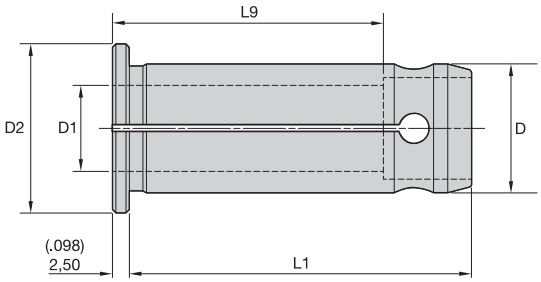
ERICKSON

20	SMC	120	M
System Size	Sleeve Style	Sleeve Bore Size	Identification Value
20 = 20mm **25** = 25mm **32** = 32mm **75** = 3/4" **10** = 1" **12** = 1-1/4"	**SMC** = Milling Chuck	**metric (xx.x)** **010** = 1mm **160** = 16mm **245** = 24,5mm **inch (x.xxx)** **0125** = 1/8" **0500** = 1/2" **1000** = 1"	**M** = Sleeve bore size built to metric values **(blank)** = Sleeve bore size built to metric values





- One-piece design.
- Cutting tool must be cylindrical and have a through hole when using coolant.
- Sleeve must be inserted completely into the milling chuck until shoulder mates against the chuck front face.
- Cutting tools must be in full contact with the sleeve bore length (L9).
- Maximum collapse is h6.
- Metric and inch bores are available.





ERICKSON

Metric with Metric Bores

D1	20SMC D = 20mm D2 = 25mm L1 = 50,5mm	32SMC D = 32mm D2 = 37mm L1 = 61,51mm	L9
6	20SMC060M	32SMC060M	32,0
8	20SMC080M	32SMC080M	35,0
10	20SMC100M	–	36,0
10	–	32SMC100M	38,0
12	20SMC120M	–	40,0
12	–	32SMC120M	42,5
16	20SMC160M	–	41,0
16	–	32SMC160M	47,5
20	–	32SMC200M	48,5
25	–	32SMC250M	51,5

Inch with Metric Bores

D1	75SMC D = 19,05mm D2 = 25mm L1 = 50,5mm	10SMC D = 25,4mm D2 = 29mm L1 = 58,5mm	12SMC D = 31,75mm D2 = 37mm L1 = 61,51mm	L9
.2362	75SMC060M	10SMC060M	12SMC060M	1.260
.3150	75SMC080M	10SMC080M	12SMC080M	1.378
.3937	75SMC100M	–	–	1.417
.3937	–	–	12SMC100M	1.496
.3937	–	10SMC100M	–	1.516
.4724	75SMC120M	–	–	1.575
.4724	–	10SMC120M	12SMC120M	1.673
.5512	75SMC140M	–	–	1.614
.5512	–	10SMC140M	–	1.673
.5512	–	–	12SMC140M	1.752
.6299	75SMC160M	–	–	1.614
.6299	–	10SMC160M	12SMC160M	1.870

(continued)

(SMC Milling Chuck Sleeves continued)

D1	75SMC D = 19,05mm D2 = 25mm L1 = 50,5mm	10SMC D = 25,4mm D2 = 29mm L1 = 58,5mm	12SMC D = 31,75mm D2 = 37mm L1 = 61,51mm	L9
.7087	–	–	12SMC180M	1.870
.7087	–	10SMC180M	–	1.909
.7874	–	10SMC200M	12SMC200M	1.909
.8661	–	–	12SMC220M	1.949
.9843	–	–	12SMC250M	2.028

Inch with Inch Bores

D1	75SMC D = .750 D2 = .984 L1 = 1.988	10SMC D = 1.000 D2 = 1.142 L1 = 2.303	12SMC D = 1.250 D2 = 1.457 L1 = 2.422	L9
1/8	75SMC0125	10SMC0125	12SMC0125	.709
3/16	75SMC0188	10SMC0188	12SMC0188	.984
1/4	75SMC0250	10SMC0250	12SMC0250	1.260
5/16	75SMC0312	10SMC0312	12SMC0312	1.378
3/8	75SMC0375	–	–	1.417
3/8	–	–	12SMC0375	1.496
3/8	–	10SMC0375	–	1.516
7/16	75SMC0438	10SMC0438	12SMC0438	1.575
1/2	75SMC0500	–	–	1.575
1/2	–	10SMC0500	12SMC0500	1.673
9/16	75SMC0563	–	–	1.614
9/16	–	10SMC0563	–	1.673
9/16	–	–	12SMC0563	1.752
5/8	75SMC0625	–	–	1.614
5/8	–	10SMC0625	12SMC0625	1.870
3/4	–	10SMC0750	12SMC0750	1.909
7/8	–	10SMC0875	–	1.909
7/8	–	–	12SMC0875	1.949
1	–	–	12SMC1000	2.028

ERICKSON™ • TG Single-Angle Collets

Primary Application

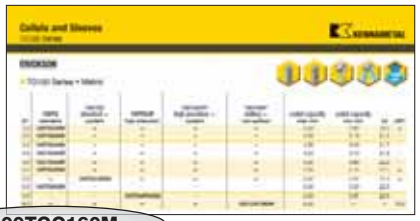
TG — Tremendous Grip Collets are manufactured according to the original ERICKSON standard and developed to utilize the full power available from the modern machine tool. A slow taper (8° inclusive angle) is used to produce maximum wedge action as the collet is forced back into the chuck body from the actuating locknut. From all the Collets Kennametal offers, the TG system is superior on grip, versatile in applications, and the most accurate. They are ideal for end milling, drilling, tapping, reaming, and boring solutions and available in a variety of styles, TG50, TG75, TG100, and TG150, with clamping ranges from 0,5–40mm (.0197–1.5000").

Features and Benefits

- Original ERICKSON standard.
- Slow 8° inclusive angle taper for best grip (approximately 3:1).
- Standard design accuracy to DIN 6499 Class 2 accuracy.
- HP design accuracy to DIN 6499 Class 1 accuracy.
- Bonded style available for through-coolant applications.
- Non-pullout style to captivate Weldon®-style end mills.
- Dedicated versions for tapping — driving off the square of the tap.



- Provides Tremendous Grip (3:1 advantage) and accuracy for all drilling applications.
- Industry-standard Erickson™ single-angle collet system.
- Grips on back taper and margin of drill for maximum feed rates and more accurate holes.
- Manufactured to DIN 6499 Class 2 accuracy, see page M103.



100TGC160M

ERICKSON

100	TG	C	160	M
System Size	Collet Style	Special Features *(optional)*	Collet Bore Size	Identification Value
50 = 50 **75** = 75 **100** = 100 **150** = 150	**TG** = Tremendous Grip, single angle	**C** = Coolant style — bonded **HP** = High precision **CHP** = Coolant/high precision **NP** = Non-pullout (slot for drive) **ST** = Solid tapping (slot for drive) **STC** = Solid tapping/coolant (slot for drive)	**metric (xx.x)** **010** = 1mm **160** = 16mm **245** = 24,5mm **inch (x.xxx)** **0125** = 1/8" **0500** = 1/2" **1000** = 1"	**M** = Sleeve bore size built to metric values **(blank)** = Sleeve bore size built to metric values



TG • Tremendous Grip

ERICKSON™

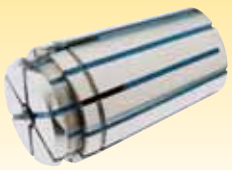
- Provides Tremendous Grip and accuracy for all drilling applications.
- 0,4mm [.016" (1/64)] range of collapse.
- Grips on back taper and margin of drill for maximum feed rates and more accurate holes.
- Manufactured to DIN 6499 Class 2 accuracy.



TGC • Tremendous Grip Coolant

ERICKSON™

- Rubber-filled slots seal collet for coolant-fed tool applications.
- Suitable for coolant pressure up to 100 bar (1500 psi).
- Unique design features permit easy entry into nosepiece.
- Available from stock in all popular sizes.
- Fits all standard TG-style collet chucks.
- 0,13mm (.005") range collapse.
- Design enables flutes of drills to enter collet, unlike competitive designs.



TGHP • Tremendous Grip High Precision

ERICKSON™

- Twice as accurate as standard TG- and ER-style collets.
- Available from stock in all popular sizes.
- Can be used in all standard TG-style collet chucks.
- 0,25mm (.010") range of collapse.
- Manufactured to DIN 6499 Class 1 accuracy.



TGCHP • Tremendous Grip Coolant High Precision

ERICKSON™

- Rubber-filled slots seal collet for coolant-fed tool applications.
- Suitable for coolant pressure up to 100 bar (1500 psi).
- Unique design features permit easy entry into nosepiece.
- Available from stock in all popular sizes.
- Fits all standard TG-style collet chucks.
- 0,13mm (.005") range of collapse.
- Manufactured to DIN 6499 Class 1 accuracy.



TGNP • Tremendous Grip Non-Pullout, Weldon® Style

ERICKSON™

- Positive retention and drive provided by drive wedge in collet.
- Eliminates inaccuracy created by solid end mill holders.
- 0,13mm (.005") range of collapse.
- Fits all standard TG-style collet chucks.



TGST • Tremendous Grip Single-Angle Tap Collet

ERICKSON™

- Designed to grip the tap on the shank and square.
- Fits all standard TG-style collet chucks.
- 0,13mm (.005") range of collapse.



TGSTC • Tremendous Grip Single-Angle Tap Collet, Coolant Style

ERICKSON™

- Rubber-filled slots seal collet for coolant-fed tool applications.
- Suitable for coolant pressure up to 70 bar (1000 psi).
- Designed to grip the tap on the shank and square.
- Fits all standard TG-style collet chucks.
- 0,13mm (.005") range of collapse.





ERICKSON™

Superior Gripping

For bearing milling chucks when grip counts. ERICKSON — the industry name you can trust.

- Heavy and fine milling applications.
- Great accuracy ≤5µm (.0002") at 3 x D and best gripping system.
- Pre-balanced to high specifications.
- Versatile as a collet chuck with the use of reduction sleeves.

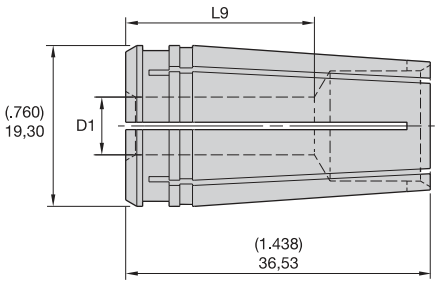
Visit **www.kennametal.com** or contact your local Authorized Kennametal Distributor.

www.kennametal.com

KENNAMETAL®

- Provides Tremendous Grip (3:1 advantage) and accuracy for all drilling applications.
- Industry-standard Erickson™ single-angle collet system.
- 50TG 0,4mm [.016" (1/64)] range of collapse.
- 50TGC and 50TGCHP 0,13mm (.005") range of collapse.
- 50TGHP 0,25mm (.010") range of collapse.
- Grips on back taper and margin of drill for maximum feed rates and more accurate holes.
- Manufactured to DIN 6499 Class 2 accuracy; see page M103.
- HP design manufactured to DIN 6499 class/accuracy.





ERICKSON™

TG50 Series • Metric

D1	50TG standard	50TGC standard — coolant	50TGHP high precision	50TGCHP high precision — coolant	collet capacity max mm	collet capacity min mm	L9
1,5	**50TG015M**	—	—	—	1,50	1,10	11,9
2,0	**50TG020M**	—	—	—	2,00	1,60	12,0
2,5	**50TG025M**	—	—	—	2,50	2,10	18,0
3,0	**50TG030M**	—	—	—	3,00	2,60	18,2
3,5	**50TG035M**	—	—	—	3,50	3,10	18,4
4,0	**50TG040M**	—	—	—	4,00	3,60	21,7
4,0	—	—	**50TGHP040M**	—	4,00	3,75	21,7
4,5	**50TG045M**	—	—	—	4,50	4,10	21,9
5,0	**50TG050M**	—	—	—	5,00	4,60	22,0
5,5	**50TG055M**	—	—	—	5,50	5,10	22,2
6,0	—	—	**50TGHP060M**	—	6,00	5,75	22,3
6,0	**50TG060M**	—	—	—	6,00	5,60	22,3
6,0	—	**50TGC060M**	—	—	6,00	5,87	22,3
6,0	—	—	—	**50TGCHP060M**	5,90	5,87	22,4
6,5	**50TG065M**	—	—	—	6,50	6,10	22,3
7,0	**50TG070M**	—	—	—	7,00	6,60	29,0

(continued)

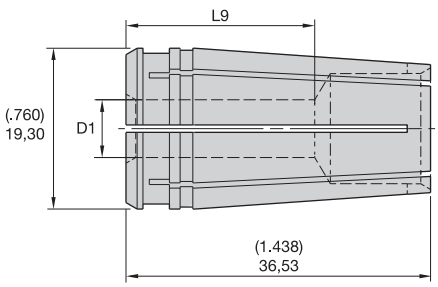
(TG50 Series continued)

D1	50TG standard	50TGC standard — coolant	50TGHP high precision	50TGCHP high precision — coolant	collet capacity max mm	collet capacity min mm	L9
7,5	**50TG075M**	—	—	—	7,50	7,10	29,1
8,0	—	**50TGC080M**	—	—	8,00	7,87	22,9
8,0	—	—	—	**50TGCHP080M**	7,90	7,87	23,0
8,0	**50TG080M**	—	—	—	8,00	7,60	29,3
8,0	—	—	**50TGHP080M**	—	8,00	7,75	29,4
8,5	**50TG085M**	—	—	—	8,50	8,10	29,4
9,0	**50TG090M**	—	—	—	9,00	8,60	29,6
9,5	**50TG095M**	—	—	—	9,50	9,10	29,9
10,0	—	**50TGC100M**	—	—	10,00	9,87	30,0
10,0	—	—	—	**50TGCHP100M**	9,90	9,87	30,0
10,0	—	—	**50TGHP100M**	—	10,00	9,75	30,0
10,0	**50TG100M**	—	—	—	10,00	9,60	30,0
10,5	**50TG105M**	—	—	—	10,50	10,10	30,2
11,0	**50TG110M**	—	—	—	11,00	10,60	30,3
11,5	**50TG115M**	—	—	—	11,50	11,10	30,5
12,0	—	**50TGC120M**	—	—	12,00	11,87	30,3
12,0	**50TG120M**	—	—	—	12,00	11,60	30,6
12,0	—	—	—	**50TGCHP120M**	11,90	11,87	30,6
12,0	—	—	**50TGHP120M**	—	12,00	11,75	30,6
12,5	**50TG125M**	—	—	—	12,50	12,10	30,8
13,0	**50TG130M**	—	—	—	13,00	12,60	30,9
13,5	**50TG135M**	—	—	—	13,50	13,10	36,5

NOTE: Inserting the cutting tool less than 2/3 the gripping length into the collet can permanently damage the collet.
Full length of the gripping bore must be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.

- Rubber-filled slots seal collet for coolant-fed tool applications.
- Provides Tremendous Grip (3:1 advantage) and accuracy for all drilling applications.
- Industry-standard Erickson™ single-angle collet system.
- 0,13mm (.005") range of collapse.
- 50TG 0,4mm [.016" (1/64)] range of collapse.
- 50TGTGC and 50TGCHP 0,13mm (.005") range of collapse.
- 50TGHP 0,25mm (.010") range of collapse.
- Grips on back taper and margin of drill for maximum feed rates and more accurate holes.
- Manufactured to DIN 6499 Class 2 accuracy; see page M103.
- HP design manufactured to DIN 6499 class/accuracy.









ERICKSON™

TG50 Series • Inch

D1	50TG standard	50TGC standard — coolant	50TGHP high precision	50TGCHP high precision — coolant	collet capacity max inch	collet capacity min inch	L9
3/64	**50TG0047**	—	—	—	.0470	.0313	.465
1/16	**50TG0062**	—	—	—	.0625	.0469	.470
5/64	**50TG0078**	—	—	—	.0780	.0625	.475
3/32	**50TG0094**	—	—	—	.0940	.0781	.710
7/64	**50TG0109**	—	—	—	.1090	.0938	.715
1/8	—	—	**50TGHP0125**	—	.1250	.1150	.719
1/8	**50TG0125**	—	—	—	.1250	.1094	.720
1/8	—	—	—	**50TGCHP0125**	.1250	.1200	.847
9/64	—	**50TGC0141**	—	—	.1406	.1356	.852
9/64	**50TG0141**	—	—	—	.1410	.1250	.725
5/32	**50TG0156**	—	—	—	.1560	.1406	.855
5/32	—	**50TGC0156**	—	—	.1563	.1513	.857

(continued)

(TG50 Series continued)

D1	50TG standard	50TGC standard — coolant	50TGHP high precision	50TGCHP high precision — coolant	collet capacity max inch	collet capacity min inch	L9
11/64	—	**50TGC0172**	—	—	.1719	.1669	.861
11/64	**50TG0172**	—	—	—	.1720	.1563	.860
3/16	—	—	**50TGHP0188**	—	.1875	.1775	.865
3/16	—	**50TGC0188**	—	**50TGCHP0188**	.1875	.1825	.866
3/16	**50TG0188**	—	—	—	.1880	.1719	.865
13/64	**50TG0203**	—	—	—	.2030	.1875	.870
13/64	—	**50TGC0203**	—	—	.2031	.1981	.871
7/32	—	**50TGC0219**	—	—	.2188	.2138	.876
7/32	**50TG0219**	—	—	—	.2190	.2031	.875
15/64	**50TG0234**	—	—	—	.2340	.2188	.880
1/4	—	**50TGC0250**	—	**50TGCHP0250**	.2500	.2450	.885
1/4	—	—	**50TGHP0250**	—	.2500	.2400	1.139
1/4	**50TG0250**	—	—	—	.2500	.2344	1.139
17/64	—	**50TGC0266**	—	—	.2656	.2606	.890
17/64	**50TG0266**	—	—	—	.2660	.2500	1.144
9/32	**50TG0281**	—	—	—	.2810	.2656	1.148
9/32	—	**50TGC0281**	—	—	.2813	.2763	.894
19/64	**50TG0297**	—	—	—	.2970	.2813	1.153
5/16	**50TG0312**	—	—	—	.3120	.2969	1.158
5/16	—	**50TGC0312**	—	**50TGCHP0312**	.3125	.3075	.904
5/16	—	—	**50TGHP0312**	—	.3125	.3025	1.158
21/64	**50TG0328**	—	—	—	.3280	.3125	1.163
21/64	—	**50TGC0328**	—	—	.3281	.3231	.908
11/32	—	**50TGC0344**	—	—	.3438	.3388	.913
11/32	**50TG0344**	—	—	—	.3440	.3281	1.167
23/64	**50TG0359**	—	—	—	.3590	.3438	1.172
23/64	—	**50TGC0359**	—	—	.3594	.3544	.918
3/8	—	**50TGC0375**	—	**50TGCHP0375**	.3750	.3700	.922
3/8	**50TG0375**	—	—	—	.3750	.3594	1.177
3/8	—	—	**50TGHP0375**	—	.3750	.3650	1.177
25/64	—	**50TGC0391**	—	—	.3906	.3856	1.182
25/64	**50TG0391**	—	—	—	.3910	.3750	1.181
13/32	**50TG0406**	—	—	—	.4060	.3906	1.186
13/32	—	**50TGC0406**	—	—	.4063	.4013	1.187
27/64	—	**50TGC0422**	—	—	.4219	.4169	1.192
27/64	**50TG0422**	—	—	—	.4220	.4063	1.191
7/16	—	—	**50TGHP0438**	—	.4375	.4275	1.195
7/16	—	**50TGC0438**	—	**50TGCHP0438**	.4375	.4325	1.196
7/16	**50TG0438**	—	—	—	.4380	.4219	1.196
29/64	**50TG0453**	—	—	—	.4530	.4375	1.200

(continued)

(TG50 Series continued)

D1	50TG standard	50TGC standard — coolant	50TGHP high precision	50TGCHP high precision — coolant	collet capacity max inch	collet capacity min inch	L9
29/64	—	**50TGC0453**	—	—	.4531	.4481	1.201
15/32	**50TG0469**	—	—	—	.4680	.4531	1.205
15/32	—	**50TGC0469**	—	—	.4688	.4638	1.206
31/64	**50TG0484**	—	—	—	.4840	.4688	1.209
31/64	—	**50TGC0484**	—	—	.4844	.4794	1.210
1/2	—	—	**50TGHP0500**	—	.5000	.4900	1.214
1/2	**50TG0500**	—	—	—	.5000	.4844	1.214
1/2	—	**50TGC0500**	—	**50TGCHP0500**	.5000	.4950	1.215
33/64	—	**50TGC0516**	—	—	.5156	.5106	1.220
33/64	**50TG0516**	—	—	—	.5160	.5000	1.209
17/32	**50TG0531**	—	—	—	.5310	.5156	1.438
17/32	—	**50TGC0531**	—	—	.5313	.5263	1.438

NOTE: Inserting the cutting tool less than 2/3 the gripping length into the collet can permanently damage the collet.
Full length of the gripping bore must be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.

• An economical way to purchase a group of collets.



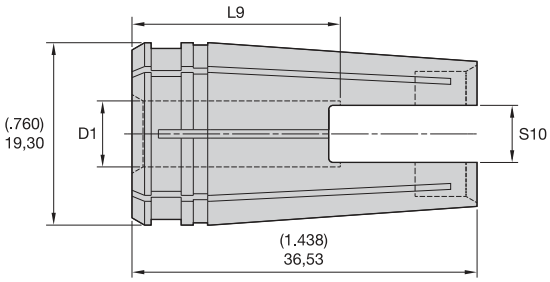
ERICKSON

TG50 Collet Set • Inch

catalog number	series	quantity	dimensional range	incremental division
S50TG1SET	TG50	32	3/16 - 17/64	1/64
S50TG2SET	TG50	15	3/32 - 17/64	1/32

- Rubber-filled slots seal collet for coolant-fed tool applications.
- Can be used in all standard TG collet chucks.
- Provides Tremendous Grip (3:1 advantage) and accuracy for tapping applications.
- Slot in back of collets acts as a drive for the tap square.
- Industry-standard Erickson™ single-angle collet system.
- Manufactured to DIN 6499 Class 2 accuracy; see page M103.







ERICKSON™

TG50 Solid Tap Collet • Metric DIN and ISO

tap size	50TGST solid tap — non-coolant	collet series	D1	S10	L9
M1 & M1,8 & M3 & M3,5	**50TGST025021M**	TG50	2,5	2,1	17,0
M2,5 & M4	**50TGST028021M**	TG50	2,8	2,1	17,0
M3 & M4	**50TGST032025M**	TG50	3,2	2,5	17,0
M3 & M5	**50TGST035027M**	TG50	3,5	2,7	17,0
M4 & M5	**50TGST040032M**	TG50	4,0	3,2	17,0
M4 & M6	**50TGST045034M**	TG50	4,5	3,4	17,0
M5	**50TGST050040M**	TG50	5,0	4,0	17,0
M5 & M6 & M7 & M8	**50TGST060049M**	TG50	6,0	4,9	17,0
M6	**50TGST063050M**	TG50	6,3	4,9	17,0
M10	**50TGST070055M**	TG50	7,0	5,5	17,0
M7	**50TGST071056M**	TG50	7,1	5,6	17,0
M8	**50TGST080062M**	TG50	8,0	6,2	17,0
M12	**50TGST090070M**	TG50	9,0	7,0	17,0
M10	**50TGST100080M**	TG50	10,0	8,0	17,0
M14	**50TGST110090M**	TG50	11,0	9,0	17,0
M16	**50TGST120090M**	TG50	12,0	9,0	17,0

(continued)

(TG50 Single-Angle Solid Tap Collets continued)

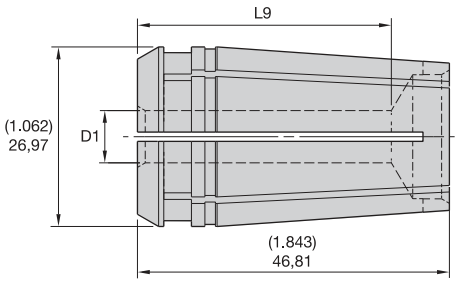
TG50 Solid Tap Collet • Inch/Metric ANSI

tap size mm	tap size in	50TGST solid tap — non-coolant	50TGSTC solid tap — coolant	collet series	D1	S10	L9
M3 & M3,15 & M3,5	#0-#6 & 1/8	**50TGST6**	—	TG50	.141	.110	.775
M4	#8 & 5/32	**50TGST8**	—	TG50	.168	.131	.775
M4,5 & M5	#10 & 3/16	**50TGST10**	—	TG50	.194	.152	.900
—	#12 & 7/32	**50TGST12**	—	TG50	.220	.165	.807
M6 & M6,3	#14 & 1/4	**50TGST025**	**50TGSTC025**	TG50	.255	.191	.838
—	1/16P & 1/8P(SS)	**50TGST006P**	—	TG50	.313	.234	.775
M7 & M8	5/16	**50TGST031**	**50TGSTC031**	TG50	.318	.238	.868
—	7/16	**50TGST043**	**50TGSTC043**	TG50	.323	.242	.963
M12 & M12,5	1/2	**50TGST050**	**50TGSTC050**	TG50	.367	.275	.932
M10	3/8	**50TGST037**	**50TGSTC037**	TG50	.381	.286	.900
M14	9/16	**50TGST056**	**50TGSTC056**	TG50	.429	.322	.937
—	1/8P(LS)	**50TGST012P**	—	TG50	.438	.328	.775
M16	5/8	**50TGST062**	—	TG50	.480	.360	.876

NOTE: Inserting the cutting tool less than 2/3 of the gripping length into the collet can influence the coolant sealing performance and permanently damage the collet.
Full length of the gripping bore needs to be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.

- Provides Tremendous Grip (3:1 advantage) and accuracy for all drilling applications.
- Industry-standard Erickson™ single-angle collet system.
- 75TG 0,4mm [.016" (1/64)] range of collapse.
- 75TGC and 75TGCHP 0,13mm (.005") range of collapse.
- 75TGHP 0,25mm (.010") range of collapse.
- Grips on back taper and margin of drill for maximum feed rates and more accurate holes.
- Manufactured to DIN 6499 Class 2 accuracy; see page M103.
- HP design manufactured to DIN 6499 class/accuracy.







ERICKSON™

TG75 Series • Metric

D1	75TG standard	75TGC standard — coolant	75TGHP high precision	75TGCHP high precision — coolant	collet capacity max mm	collet capacity min mm	L9
3,0	**75TG030M**	—	—	—	3,00	2,60	18,6
3,5	**75TG035M**	—	—	—	3,50	3,10	18,8
4,0	**75TG040M**	—	—	—	4,00	3,60	22,1
4,0	—	—	**75TGHP040M**	—	4,00	3,75	22,1
4,5	**75TG045M**	—	—	—	4,50	4,10	22,3
5,0	**75TG050M**	—	—	—	5,00	4,60	22,5
5,5	**75TG055M**	—	—	—	5,50	5,10	22,6
6,0	—	**75TGC060M**	—	—	6,00	5,87	22,8
6,0	**75TG060M**	—	—	—	6,00	5,60	22,8
6,0	—	—	**75TGHP060M**	—	6,00	5,75	22,8
6,0	—	—	—	**75TGCHP060M**	6,00	5,87	22,8
6,5	**75TG065M**	—	—	—	6,50	6,10	37,7
7,0	**75TG070M**	—	—	—	7,00	6,60	37,8
7,5	**75TG075M**	—	—	—	7,50	7,10	38,0
8,0	—	**75TGC080M**	—	**75TGCHP080M**	8,00	7,87	25,9
8,0	—	—	**75TGHP080M**	—	8,00	7,75	38,1

(continued)

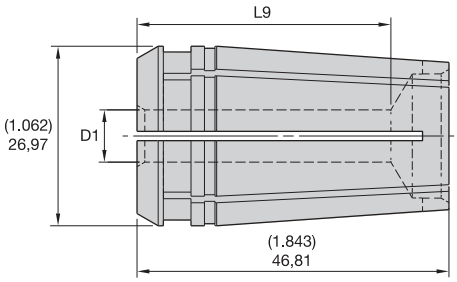
(TG75 Series continued)

D1	75TG standard	75TGC standard — coolant	75TGHP high precision	75TGCHP high precision — coolant	collet capacity max mm	collet capacity min mm	L9
8,0	**75TG080M**	—	—	—	8,00	7,60	38,1
8,5	**75TG085M**	—	—	—	8,50	8,10	38,3
9,0	**75TG090M**	—	—	—	9,00	8,60	38,4
9,5	**75TG095M**	—	—	—	9,50	9,10	38,6
10,0	—	—	—	**75TGCHP100M**	10,00	9,87	38,7
10,0	—	—	**75TGHP100M**	—	10,00	9,75	38,7
10,0	**75TG100M**	—	—	—	10,00	9,60	38,7
10,0	—	**75TGC100M**	—	—	10,00	9,87	38,7
10,5	**75TG105M**	—	—	—	10,50	10,10	38,8
11,0	**75TG110M**	—	—	—	11,00	10,60	39,0
11,5	**75TG115M**	—	—	—	11,50	11,10	39,1
12,0	—	**75TGC120M**	—	—	12,00	11,87	39,3
12,0	**75TG120M**	—	—	—	12,00	11,60	39,3
12,0	—	—	**75TGHP120M**	—	12,00	11,75	39,3
12,0	—	—	—	**75TGCHP120M**	12,00	11,87	39,3
12,5	**75TG125M**	—	—	—	12,50	12,10	39,4
13,0	**75TG130M**	—	—	—	13,00	12,60	39,6
13,5	**75TG135M**	—	—	—	13,50	13,10	39,7
14,0	—	**75TGC140M**	—	**75TGCHP140M**	14,00	13,87	39,9
14,0	—	—	**75TGHP140M**	—	14,00	13,75	46,8
14,0	**75TG140M**	—	—	—	14,00	13,60	46,8
14,5	**75TG145M**	—	—	—	14,50	14,10	46,8
15,0	**75TG150M**	—	—	—	15,00	14,60	46,8
15,5	**75TG155M**	—	—	—	15,50	15,10	46,8
16,0	—	**75TGC160M**	—	**75TGCHP160M**	16,00	15,87	40,5
16,0	**75TG160M**	—	—	—	16,00	15,60	46,8
16,0	—	—	**75TGHP160M**	—	16,00	15,75	46,8
16,5	**75TG165M**	—	—	—	16,50	16,10	46,8
17,0	**75TG170M**	—	—	—	17,00	16,60	46,8
17,5	**75TG175M**	—	—	—	17,50	17,10	46,8
18,0	—	**75TGC180M**	—	**75TGCHP180M**	18,00	17,87	41,1
18,0	**75TG180M**	—	—	—	18,00	17,60	46,8
18,0	—	—	**75TGHP180M**	—	18,00	17,75	46,8
19,0	**75TG190M**	—	—	—	19,00	18,60	46,8
19,5	**75TG195M**	—	—	—	19,50	19,10	46,8
20,0	**75TG200M**	—	—	—	20,00	19,60	46,8
20,0	—	**75TGC200M**	—	**75TGCHP200M**	20,00	19,87	46,8
20,0	—	—	**75TGHP200M**	—	20,00	19,75	46,8

NOTE: Inserting the cutting tool less than 2/3 the gripping length into the collet can permanently damage the collet.
Full length of the gripping bore must be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.

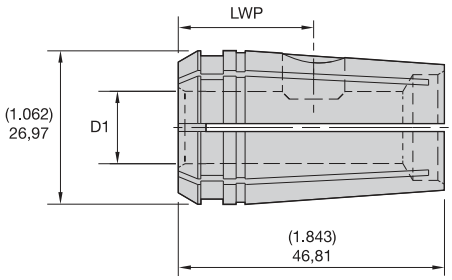
- Provides Tremendous Grip (3:1 advantage) and accuracy for all drilling applications.
- Industry-standard Erickson™ single-angle collet system.
- 75TG and 75TGC 0,4mm [.016" (1/64)] range of collapse.
- 75TGCHP and 75TGNP 0,13mm (.005") range of collapse.
- 75TGHP 0,25mm (.010") range of collapse.
- Grips on back taper and margin of drill for maximum feed rates and more accurate holes.
- Manufactured to DIN 6499 Class 2 accuracy; see page M103.
- HP design manufactured to DIN 6499 class/accuracy.













TG Collet — NP

TG Collet — NP

ERICKSON

TG75 Series • Inch

D1	75TG standard	75TGC standard — coolant	75TGHP high precision	75TGCHP high precision — coolant	75TGNP milling — non-pullout	collet capacity max inch	collet capacity min inch	L9	LWP
1/16	**75TG0062**	—	—	—	—	.0620	.0469	.485	—
5/64	**75TG0078**	—	—	—	—	.0780	.0625	.490	—
3/32	**75TG0094**	—	—	—	—	.0940	.0781	.725	—
7/64	**75TG0109**	—	—	—	—	.1090	.0938	.730	—

(continued)

(TG75 Series continued)

D1	75TG standard	75TGC standard — coolant	75TGHP high precision	75TGCHP high precision — coolant	75TGNP milling — non-pullout	collet capacity max inch	collet capacity min inch	L9	LWP
1/8	75TG0125	—	—	—	—	.1250	.1094	.735	—
1/8	—	—	75TGHP0125	—	—	.1250	.1150	.735	—
9/64	75TG0141	—	—	—	—	.1410	.1250	.740	—
5/32	75TG0156	—	—	—	—	.1560	.1406	.872	—
11/64	75TG0172	—	—	—	—	.1720	.1563	.877	—
3/16	—	—	75TGHP0188	—	—	.1875	.1775	.881	—
3/16	75TG0188	—	—	—	—	.1880	.1719	.881	—
13/64	75TG0203	—	—	—	—	.2030	.1875	.886	—
7/32	75TG0219	—	—	—	—	.2190	.2031	.891	—
15/64	75TG0234	—	—	—	—	.2340	.2188	.895	—
1/4	—	—	—	75TGCHP0250	—	.2500	.2450	1.000	—
1/4	—	75TGC0250	—	—	—	.2500	.2450	1.001	—
1/4	—	—	75TGHP0250	—	—	.2500	.2400	1.480	—
1/4	75TG0250	—	—	—	—	.2500	.2344	1.481	—
17/64	—	75TGC0266	—	—	—	.2656	.2606	1.006	—
17/64	75TG0266	—	—	—	—	.2660	.2500	1.486	—
9/32	75TG0281	—	—	—	—	.2810	.2656	1.490	—
9/32	—	75TGC0281	—	—	—	.2813	.2763	1.010	—
19/64	—	75TGC0297	—	—	—	.2969	.2919	1.015	—
19/64	75TG0297	—	—	—	—	.2970	.2813	1.495	—
5/16	75TG0312	—	—	—	—	.3120	.2969	1.500	—
5/16	—	75TGC0312	—	—	—	.3125	.3075	1.020	—
5/16	—	—	75TGHP0312	—	—	.3125	.3025	1.499	—
21/64	75TG0328	—	—	—	—	.3280	.3125	1.505	—
21/64	—	75TGC0328	—	—	—	.3281	.3231	1.024	—
11/32	—	75TGC0344	—	—	—	.3438	.3281	1.029	—
11/32	75TG0344	—	—	—	—	.3440	.3281	1.509	—
23/64	75TG0359	—	—	—	—	.3590	.3438	1.514	—
23/64	—	75TGC0359	—	—	—	.3594	.3544	1.034	—
3/8	—	—	—	75TGCHP0375	—	.3750	.3700	1.038	—
3/8	—	—	75TGHP0375	—	—	.3750	.3650	1.518	—
3/8	—	75TGC0375	—	—	—	.3750	.3700	1.518	—
3/8	75TG0375	—	—	—	—	.3750	.3594	1.519	—
3/8	—	—	—	—	75TGNP0375	.3750	—	—	.703
25/64	—	75TGC0391	—	—	—	.3906	.3856	1.523	—
25/64	75TG0391	—	—	—	—	.3910	.3750	1.521	—
13/32	75TG0406	—	—	—	—	.4060	.3906	1.526	—
13/32	—	75TGC0406	—	—	—	.4063	.4013	1.528	—
27/64	—	75TGC0422	—	—	—	.4219	.4169	1.533	—
27/64	75TG0422	—	—	—	—	.4220	.4063	1.531	—
7/16	—	—	75TGHP0438	—	—	.4375	.4275	1.535	—
7/16	—	75TGC0438	—	75TGCHP0438	—	.4375	.4325	1.537	—
7/16	75TG0438	—	—	—	—	.4380	.4219	1.536	—
29/64	75TG0453	—	—	—	—	.4530	.4375	1.540	—
29/64	—	75TGC0453	—	—	—	.4531	.4481	1.542	—
15/32	—	75TGC0469	—	—	—	.4688	.4638	1.547	—
15/32	75TG0469	—	—	—	—	.4690	.4531	1.545	—
31/64	75TG0484	—	—	—	—	.4840	.4688	1.549	—

(continued)

(TG75 Series continued)

D1	75TG standard	75TGC standard — coolant	75TGHP high precision	75TGCHP high precision — coolant	75TGNP milling — non-pullout	collet capacity max inch	collet capacity min inch	L9	LWP
31/64	—	75TGC0484	—	—	—	.4844	.4794	1.551	—
1/2	75TG0500	—	—	—	—	.5000	.4844	1.554	—
1/2	—	—	75TGHP0500	—	—	.5000	.4900	1.554	—
1/2	—	75TGC0500	—	75TGCHP0500	—	.5000	.4950	1.556	—
1/2	—	—	—	—	75TGNP0500	.5000	—	—	.828
33/64	75TG0516	—	—	—	—	.5156	.5000	1.559	—
33/64	—	75TGC0516	—	—	—	.5156	.5106	1.561	—
17/32	75TG0531	—	—	—	—	.5310	.5156	1.563	—
17/32	—	75TGC0531	—	—	—	.5313	.5263	1.565	—
35/64	—	75TGC0547	—	—	—	.5469	.5419	1.570	—
35/64	75TG0547	—	—	—	—	.5470	.5313	1.843	—
9/16	75TG0562	—	—	—	—	.5620	.5469	1.843	—
9/16	—	75TGC0562	—	75TGCHP0562	—	.5625	.5575	1.575	—
9/16	—	—	75TGHP0562	—	—	.5625	.5525	1.843	—
37/64	75TG0578	—	—	—	—	.5780	.5625	1.843	—
37/64	—	75TGC0578	—	—	—	.5781	.5731	1.579	—
19/32	—	75TGC0594	—	—	—	.5938	.5888	1.584	—
19/32	75TG0594	—	—	—	—	.5940	.5781	1.843	—
39/64	75TG0609	—	—	—	—	.6090	.5938	1.843	—
39/64	—	75TGC0609	—	—	—	.6094	.6044	1.589	—
5/8	—	75TGC0625	—	75TGCHP0625	—	.6250	.6200	1.594	—
5/8	75TG0625	—	—	—	—	.6250	.6094	1.843	—
5/8	—	—	75TGHP0625	—	—	.6250	.6150	1.843	—
5/8	—	—	—	—	75TGNP0625	.6250	—	—	.859
41/64	—	75TGC0641	—	—	—	.6406	.6356	1.598	—
41/64	75TG0641	—	—	—	—	.6410	.6250	1.843	—
21/32	75TG0656	—	—	—	—	.6560	.6406	1.843	—
21/32	—	75TGC0656	—	—	—	.6563	.6513	1.603	—
43/64	—	75TGC0672	—	—	—	.6719	.6669	1.608	—
43/64	75TG0672	—	—	—	—	.6720	.6563	1.843	—
11/16	—	75TGC0688	—	75TGCHP0688	—	.6875	.6825	1.612	—
11/16	75TG0688	—	—	—	—	.6880	.6719	1.843	—
45/64	75TG0703	—	—	—	—	.7030	.6875	1.843	—
45/64	—	75TGC0703	—	—	—	.7031	.6981	1.617	—
23/32	—	75TGC0719	—	—	—	.7188	.7138	1.622	—
23/32	75TG0719	—	—	—	—	.7190	.7031	1.843	—
47/64	75TG0734	—	—	—	—	.7340	.7188	1.843	—
47/64	—	75TGC0734	—	—	—	.7344	.7294	1.843	—
3/4	—	—	75TGHP0750		—	.7500	.7400	1.843	—
3/4	—	75TGC0750	—	75TGCHP0750	—	.7500	.7450	1.843	—
3/4	75TG0750	—	—	—	—	.7500	.7344	1.843	—
3/4	—	—	—	—	75TGNP0750	.7500	—	—	.922

• An economical way to purchase a group of collets.



TG Collet

ERICKSON

TG75 Collet Set • Inch

catalog number	series	quantity	dimensional range	incremental division
S75TG1SET	TG75	45	1/16 - 3/4	1/64
S75TG2SET	TG75	23	1/16 - 3/4	1/32
S75TG3SET	TG75	33	1/4 - 3/4	1/64
S75TG4SET	TG75	17	1/4 - 3/4	1/32



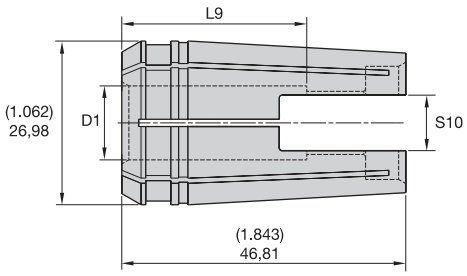
TG Collet — NP

TG75 NP-Out Collet Set • Inch

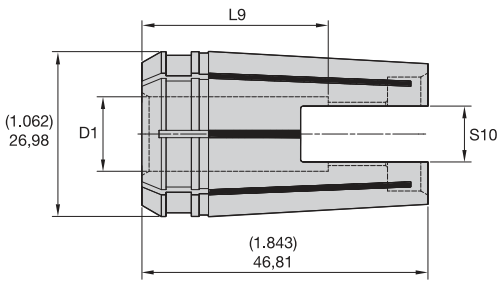
catalog number	series	quantity	dimensional range	incremental division
S75TGNPSET	TG75	4	3/8 - 3/4	1/8

- Rubber-filled slots seal collet for coolant-fed tool applications.
- Can be used in all standard TG collet chucks.
- Provides Tremendous Grip (3:1 advantage) and accuracy for all drilling applications.
- Industry-standard Erickson™ single-angle collet system.
- 0,13mm (.005") range of collapse.
- Grips on back taper and margin of drill for maximum feed rates and more accurate holes.
- Slot in back of collets acts as a drive for the tap square.
- Manufactured to DIN 6499 Class 2 accuracy; see page M103.











Coolant Type (Bonded)

ERICKSON

TG75 Solid Tap Collet • Solid Tap Coolant • Inch/Metric ANSI

tap size mm	tap size in	75TGST solid tap	75TGSTC solid tap — coolant	collet series	D1	S10	L9
M3 & M3,15 & M3,5	0-#6 & 1/8	**75TGST6**	**—**	TG75	.141	.110	.775
M4	8 & 5/32	**75TGST8**	**—**	TG75	.168	.131	.775
M4,5 & M5	10 & 3/16	**75TGST10**	**—**	TG75	.194	.152	.900
—	12 & 7/32	**75TGST12**	**—**	TG75	.220	.165	.807
M6 & M6,3	14 & 1/4	**75TGST025**	**75TGSTC025**	TG75	.255	.191	.838
—	1/16P & 1/8P(SS)	**75TGST006P**	**—**	TG75	.313	.234	.775
M7 & M8	5/16	**75TGST031**	**75TGSTC031**	TG75	.318	.238	.868
—	7/16	**75TGST043**	**75TGSTC043**	TG75	.323	.242	.963

(continued)

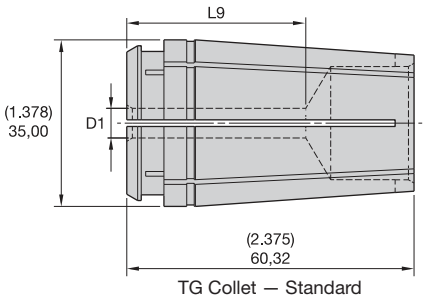
(TG75 Single-Angle Solid Tap Collets continued)

tap size mm	tap size in	75TGST solid tap	75TGSTC solid tap — coolant	collet series	D1	S10	L9
M12 & M12,5	1/2	**75TGST050**	**75TGSTC050**	TG75	.367	.275	.932
M10	3/8	**75TGST037**	**75TGSTC037**	TG75	.381	.286	.900
M14	9/16	**75TGST056**	**—**	TG75	.429	.322	1.087
—	1/8P(LS)	**75TGST012P**	**—**	TG75	.438	.328	.775
M16	5/8	**75TGST062**	**75TGSTC062**	TG75	.480	.360	1.031
M18	11/16	**75TGST068**	**75TGSTC068**	TG75	.542	.406	.968
—	1/4P	**75TGST025P**	**—**	TG75	.563	.421	.775
—	3/4	**75TGST075**	**75TGSTC075**	TG75	.590	.442	.906
M20	13/16	**75TGST081**	**—**	TG75	.652	.489	.906
—	1/2P	**75TGST050P**	**—**	TG75	.688	.515	.775
M22	7/8	**75TGST087**	**75TGSTC087**	TG75	.697	.523	.843
—	3/8P	**75TGST037P**	**—**	TG75	.700	.531	.775

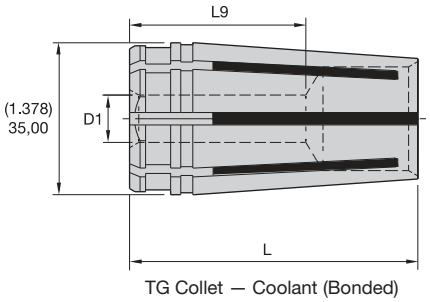
NOTE: Inserting the cutting tool less than 2/3 of the gripping length into the collet can influence the coolant sealing performance and permanently damage the collet.
Full length of the gripping bore needs to be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.

- Provides Tremendous Grip (3:1 advantage) and accuracy for all drilling applications.
- Industry-standard Erickson™ single-angle collet system.
- 100TG 0,4mm [.016" (1/64)] range of collapse.
- 100TGC and 100TGCHP 0,13mm (.005") range of collapse.
- 100TGHP 0,25mm (.010") range of collapse.
- Grips on back taper and margin of drill for maximum feed rates and more accurate holes.
- Manufactured to DIN 6499 Class 2 accuracy; see page M103.
- HP design manufactured to DIN 6499 class/accuracy.

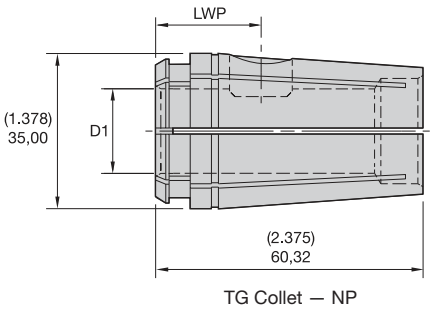




TG Collet — Standard



TG Collet — Coolant (Bonded)



TG Collet — NP







ERICKSON

TG100 Series • Metric

D1	100TG standard	100TGC standard — coolant	100TGHP high precision	100TGCHP high precision — coolant	100TGNP milling — non-pullout	collet capacity max mm	collet capacity min mm	L9	LWP
3,0	**100TG030M**	—	—	—	—	3,00	2,60	18,2	—
3,5	**100TG035M**	—	—	—	—	3,50	3,10	21,5	—
4,0	**100TG040M**	—	—	—	—	4,00	3,60	21,7	—
4,5	**100TG045M**	—	—	—	—	4,50	4,10	21,8	—
5,0	**100TG050M**	—	—	—	—	5,00	4,60	22,0	—
5,5	**100TG055M**	—	—	—	—	5,50	5,10	22,1	—
6,0	—	**100TGC060M**	—	—	—	6,00	5,87	22,3	—
6,0	**100TG060M**	—	—	—	—	6,00	5,60	22,3	—
6,0	—	—	**100TGHP060M**	—	—	6,00	5,87	22,3	—
6,0	—	—	—	—	**100TGNP060M**	6,00	—	—	16,0

(continued)

(TG100 Series continued)

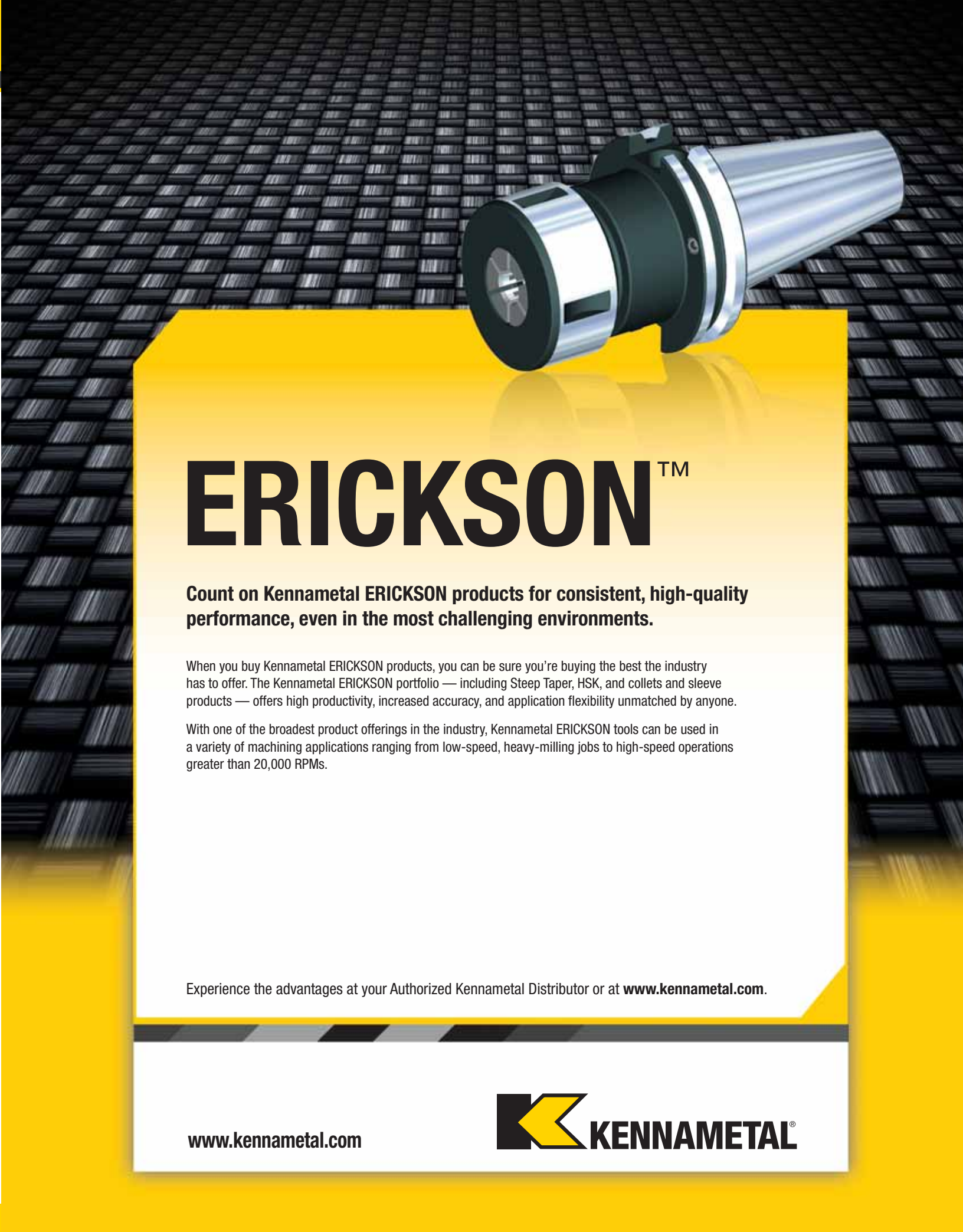
D1	100TG standard	100TGC standard — coolant	100TGHP high precision	100TGCHP high precision — coolant	100TGNP milling — non-pullout	collet capacity max mm	collet capacity min mm	L9	LWP
6,5	100TG065M	–	–	–	–	6,50	6,10	37,6	–
7,0	100TG070M	–	–	–	–	7,00	6,60	37,8	–
7,5	100TG075M	–	–	–	–	7,50	7,10	37,9	–
8,0	–	100TGC080M	–	–	–	8,00	7,87	34,9	–
8,0	100TG080M	–	–	–	–	8,00	7,60	38,1	–
8,0	–	–	100TGHP080M	–	–	8,00	7,87	38,1	–
8,5	100TG085M	–	–	–	–	8,50	8,10	38,2	–
9,0	100TG090M	–	–	–	–	9,00	8,60	38,4	–
9,5	100TG095M	–	–	–	–	9,50	9,10	38,5	–
10,0	–	100TGC100M	–	100TGCHP100M	–	10,00	9,87	38,5	–
10,0	–	–	100TGHP100M	–	–	10,00	9,87	38,7	–
10,0	100TG100M	–	–	–	–	10,00	9,60	38,7	–
10,5	100TG105M	–	–	–	–	10,50	10,10	38,8	–
11,5	100TG115M	–	–	–	–	11,50	11,10	39,1	–
12,0	–	100TGC120M	–	100TGCHP120M	–	12,00	11,87	39,1	–
12,0	100TG120M	–	–	–	–	12,00	11,60	39,3	–
12,0	–	–	–	–	100TGNP120M	12,00	–	–	18,0
12,5	100TG125M	–	–	–	–	12,50	12,10	39,4	–
13,0	100TG130M	–	–	–	–	13,00	12,60	39,6	–
13,5	100TG135M	–	–	–	–	13,50	13,10	39,7	–
14,0	–	–	100TGHP140M	–	–	14,00	13,87	39,9	–
14,0	100TG140M	–	–	–	–	14,00	13,60	39,9	–
14,0	–	100TGC140M	–	100TGCHP140M	–	14,00	13,87	43,7	–
14,5	100TG145M	–	–	–	–	14,50	14,10	40,0	–
15,0	100TG150M	–	–	–	–	15,00	14,60	40,2	–
15,5	100TG155M	–	–	–	–	15,50	15,10	40,3	–
16,0	100TG160M	–	–	–	–	16,00	15,60	40,5	–
16,0	–	100TGC160M	–	100TGCHP160M	–	16,00	15,87	44,3	–
16,0	–	–	–	–	100TGNP160M	16,00	–	–	20,5
16,5	100TG165M	–	–	–	–	16,50	16,10	40,6	–
17,0	100TG170M	–	–	–	–	17,00	16,60	40,8	–
17,5	100TG175M	–	–	–	–	17,50	17,10	40,9	–
23,0	100TG230M	–	–	–	–	23,00	22,60	60,3	–
23,5	100TG235M	–	–	–	–	23,50	23,10	60,3	–
24,0	100TG240M	–	–	–	–	24,00	23,60	60,3	–
24,5	100TG245M	–	–	–	–	24,50	24,10	60,3	–
25,0	–	100TGC250M	–	100TGCHP250M	–	25,00	24,87	50,0	–
25,0	100TG250M	–	–	–	–	25,00	24,60	60,3	–
25,0	–	–	100TGHP250M	–		25,00	24,87	60,3	–
25,0	–	–	–	–	100TGNP250M	25,00	–	–	22,0
25,5	100TG255M	–	–	–	–	25,50	25,10	60,3	–

(continued)

(TG100 Series continued)

D1	100TG standard	100TGC standard — coolant	100TGHP high precision	100TGCHP high precision — coolant	100TGNP milling — non-pullout	collet capacity max mm	collet capacity min mm	L9	LWP
18,0	**100TG180M**	—	—	—	—	18,00	17,60	41,1	—
18,0	—	—	**100TGHP180M**	—	—	18,00	17,87	41,1	—
18,0	—	**100TGC180M**	—	**100TGCHP180M**	—	18,00	17,87	44,9	—
18,5	**100TG185M**	—	—	—	—	18,50	18,10	41,2	—
19,0	**100TG190M**	—	—	—	—	19,00	18,60	41,4	—
19,5	**100TG195M**	—	—	—	—	19,50	19,10	60,3	—
20,0	—	**100TGC200M**	—	**100TGCHP200M**	—	20,00	19,87	48,5	—
20,0	**100TG200M**	—	—	—	—	20,00	19,60	60,3	—
20,0	—	—	**100TGHP200M**	—	—	20,00	19,87	60,3	—
20,0	—	—	—	—	**100TGNP200M**	20,00	—	—	23,0
20,5	**100TG205M**	—	—	—	—	20,50	20,10	60,3	—
21,0	**100TG210M**	—	—	—	—	21,00	20,60	60,3	—
22,0	**100TG220M**	—	—	—	—	22,00	21,60	60,3	—
22,5	**100TG225M**	—	—	—	—	22,50	22,10	60,3	—

NOTE: Inserting the cutting tool less than 2/3 of the gripping length into the collet can influence the coolant sealing performance and permanently damage the collet.
Full length of the gripping bore needs to be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.



ERICKSON™

Count on Kennametal ERICKSON products for consistent, high-quality performance, even in the most challenging environments.

When you buy Kennametal ERICKSON products, you can be sure you're buying the best the industry has to offer. The Kennametal ERICKSON portfolio — including Steep Taper, HSK, and collets and sleeve products — offers high productivity, increased accuracy, and application flexibility unmatched by anyone.

With one of the broadest product offerings in the industry, Kennametal ERICKSON tools can be used in a variety of machining applications ranging from low-speed, heavy-milling jobs to high-speed operations greater than 20,000 RPMs.

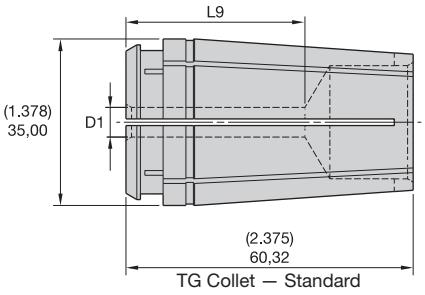
Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

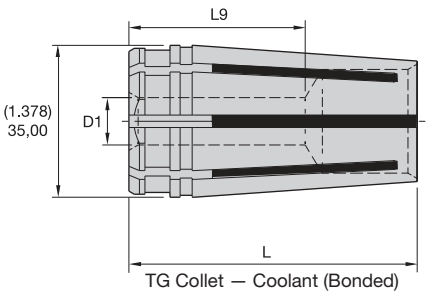
KENNAMETAL®

- Provides Tremendous Grip (3:1 advantage) and accuracy for all drilling applications.
- Industry-standard Erickson™ single-angle collet system.
- 100TG 0,4mm [.016" (1/64)] range of collapse.
- 100TGC and 100TGCHP 0,13mm (.005") range of collapse.
- 100TGHP 0,25mm (.010") range of collapse.
- Grips on back taper and margin of drill for maximum feed rates and more accurate holes.
- Manufactured to DIN 6499 Class 2 accuracy; see page M103.
- HP design manufactured to DIN 6499 class/accuracy.

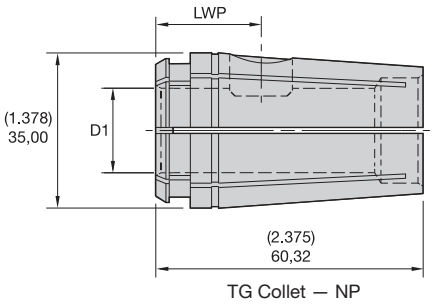




TG Collet — Standard



TG Collet — Coolant (Bonded)



TG Collet — NP







TG Collet — NP

ERICKSON™

TG100 Series • Inch

D1	100TG standard	100TGC standard — coolant	100TGHP high precision	100TGCHP high precision — coolant	100TGNP milling — non-pullout	collet capacity max inch	collet capacity min inch	L9	LWP
3/32	**100TG0094**	—	—	—	—	.0940	.0781	.707	—
7/64	**100TG0109**	—	—	—	—	.1090	.0938	.712	—
1/8	**100TG0125**	—	—	—	—	.1250	.1094	.844	—
1/8	—	—	**100TGHP0125**	—	—	.1250	.1150	.844	—
9/64	**100TG0141**	—	—	—	—	.1410	.1250	.848	—
5/32	**100TG0156**	—	—	—	—	.1563	.1410	.853	—
11/64	**100TG0172**	—	—	—	—	.1720	.1563	.858	—
3/16	—	—	**100TGHP0188**	—	—	.1875	.1775	.862	—
3/16	**100TG0188**	—	—	—	—	.1880	.1719	.862	—
13/64	**100TG0203**	—	—	—	—	.2030	.1875	.867	—

(continued)

(TG100 Series continued)

D1	100TG standard	100TGC standard — coolant	100TGHP high precision	100TGCHP high precision — coolant	100TGNP milling — non-pullout	collet capacity max inch	collet capacity min inch	L9	LWP
7/32	100TG0219	—	—	—	—	.2190	.2031	.872	—
15/64	100TG0234	—	—	—	—	.2340	.2188	.876	—
1/4	—	100TGC0250	—	—	—	.2500	.2450	1.356	—
1/4	—	—	100TGHP0250	—	—	.2500	.2400	1.461	—
1/4	100TG0250	—	—	—	—	.2500	.2344	1.480	—
17/64	—	100TGC0266	—	—	—	.2656	.2606	1.360	—
17/64	100TG0266	—	—	—	—	.2660	.2500	1.485	—
9/32	100TG0281	—	—	—	—	.2810	.2656	1.489	—
9/32	—	100TGC0281	—	—	—	.2813	.2763	1.365	—
19/64	—	100TGC0297	—	—	—	.2969	.2919	1.370	—
19/64	100TG0297	—	—	—	—	.2970	.2813	1.494	—
5/16	100TG0312	—	—	—	—	.3120	.2969	1.499	—
5/16	—	100TGC0312	—	—	—	.3125	.3075	1.374	—
5/16	—	—	100TGHP0312	—	—	.3125	.3025	1.499	—
21/64	100TG0328	—	—	—	—	.3280	.3125	1.503	—
21/64	—	100TGC0328	—	—	—	.3281	.3231	1.379	—
11/32	—	100TGC0344	—	—	—	.3438	.3388	1.384	—
11/32	100TG0344	—	—	—	—	.3440	.3281	1.508	—
23/64	100TG0359	—	—	—	—	.3590	.3438	1.513	—
23/64	—	100TGC0359	—	—	—	.3594	.3544	1.388	—
3/8	—	100TGC0375	—	—	—	.3750	.3700	1.393	—
3/8	—	—	—	100TGCHP0375	—	.3750	.3700	1.511	—
3/8	—	—	100TGHP0375	—	—	.3750	.3650	1.518	—
3/8	100TG0375	—	—	—	—	.3750	.3594	1.518	—
3/8	—	—	—	—	100TGNP0375	.3750	—	—	.703
25/64	—	100TGC0391	—	—	—	.3906	.3856	1.516	—
25/64	100TG0391	—	—	—	—	.3910	.3750	1.522	—
13/32	100TG0406	—	—	—	—	.4060	.3906	1.527	—
13/32	—	100TGC0406	—	—	—	.4063	.4013	1.520	—
27/64	—	100TGC0422	—	—	—	.4219	.4169	1.525	—
27/64	100TG0422	—	—	—	—	.4220	.4063	1.532	—
7/16	—	100TGC0438	—	100TGCHP0438	—	.4375	.4325	1.530	—
7/16	—	—	100TGHP0438	—	—	.4375	.4275	1.536	—
7/16	100TG0438	—	—	—	—	.4380	.4219	1.536	—
29/64	100TG0453	—	—	—	—	.4530	.4375	1.541	—
29/64	—	100TGC0453	—	—	—	.4531	.4481	1.534	—
15/32	—	100TGC0469	—	—	—	.4688	.4638	1.539	—
15/32	100TG0469	—	—	—	—	.4690	.4531	1.546	—
31/64	100TG0484	—	—	—	—	.4840	.4688	1.550	—
31/64	—	100TGC0484	—	—	—	.4844	.4794	1.544	—
1/2	—	100TGC0500	—	100TGCHP0500	—	.5000	.4950	1.549	—
1/2	—	—	100TGHP0500	—	—	.5000	.4900	1.555	—
1/2	100TG0500	—	—	—	—	.5000	.4844	1.555	—
1/2	—	—	—	—	100TGNP0500	.5000	—	—	.828

(continued)

(TG100 Series continued)

D1	100TG standard	100TGC standard — coolant	100TGHP high precision	100TGCHP high precision — coolant	100TGNP milling — non-pullout	collet capacity max inch	collet capacity min inch	L9	LWP
33/64	—	100TGC0516	—	—	—	.5156	.5106	1.553	—
33/64	100TG0516	—	—	—	—	.5160	.5000	1.560	—
17/32	100TG0531	—	—	—	—	.5310	.5156	1.564	—
17/32	—	100TGC0531	—	—	—	.5313	.5263	1.558	—
35/64	—	100TGC0547	—	—	—	.5469	.5419	1.720	—
35/64	100TG0547	—	—	—	—	.5470	.5313	1.569	—
9/16	100TG0562	—	—	—	—	.5620	.5469	1.574	—
9/16	—	—	100TGHP0562	—	—	.5625	.5525	1.574	—
9/16	—	100TGC0562	—	100TGCHP0562	—	.5625	.5575	1.724	—
37/64	100TG0578	—	—	—	—	.5780	.5625	1.579	—
37/64	—	100TGC0578	—	—	—	.5781	.5731	1.729	—
19/32	—	100TGC0594	—	—	—	.5938	.5888	1.734	—
19/32	100TG0594	—	—	—	—	.5940	.5781	1.583	—
39/64	100TG0609	—	—	—	—	.6090	.5938	1.588	—
39/64	—	100TGC0609	—	—	—	.6094	.6044	1.738	—
5/8	100TG0625	—	—	—	—	.6250	.6094	1.593	—
5/8	—	—	100TGHP0625	—	—	.6250	.6150	1.593	—
5/8	—	100TGC0625	—	100TGCHP0625	—	.6250	.6200	1.743	—
5/8	—	—	—	—	100TGNP0625	.6250	—	—	.875
41/64	—	100TGC0641	—	—	—	.6406	.6356	1.748	—
41/64	100TG0641	—	—	—	—	.6410	.6250	1.597	—
21/32	100TG0656	—	—	—	—	.6560	.6406	1.602	—
21/32	—	100TGC0656	—	—	—	.6563	.6513	1.752	—
43/64	—	100TGC0672	—	—	—	.6719	.6669	1.757	—
43/64	100TG0672	—	—	—	—	.6720	.6563	1.607	—
11/16	—	—	100TGHP0688	—	—	.6875	.6775	1.612	—
11/16	—	100TGC0688	—	100TGCHP0688	—	.6875	.6825	1.762	—
11/16	100TG0688	—	—	—	—	.6880	.6719	1.612	—
45/64	100TG0703	—	—	—	—	.7030	.6875	1.612	—
45/64	—	100TGC0703	—	—	—	.7031	.6981	1.767	—
23/32	—	100TGC0719	—	—	—	.7188	.7138	1.771	—
23/32	100TG0719	—	—	—	—	.7190	.7031	1.621	—
47/64	100TG0734	—	—	—	—	.7340	.7188	1.625	—
47/64	—	100TGC0734	—	—	—	.7344	.7294	1.776	—
3/4	100TG0750	—	—	—	—	.7500	.7348	1.630	—
3/4	—	—	100TGHP0750	—	—	.7500	.7400	1.630	—
3/4	—	100TGC0750	—	100TGCHP0750	—	.7500	.7450	1.781	—
3/4	—	—	—	—	100TGNP0750	.7500	—	—	.938
49/64	—	100TGC0766	—	—	—	.7656	.7606	1.904	—
49/64	100TG0766	—	—	—	—	.7660	.7500	2.375	—
25/32	100TG0781	—	—	—	—	.7810	.7656	2.375	—
25/32	—	100TGC0781	—	—	—	.7813	.7763	1.908	—
51/64	—	100TGC0797	—	—	—	.7969	.7919	1.913	—
51/64	100TG0797	—	—	—	—	.7970	.7813	2.375	—
13/16	100TG0812	—	—	—	—	.8120	.7969	2.375	—
13/16	—	100TGC0812	—	—	—	.8125	.8075	1.917	—

(continued)

(TG100 Series continued)

D1	100TG standard	100TGC standard — coolant	100TGHP high precision	100TGCHP high precision — coolant	100TGNP milling — non-pullout	collet capacity max inch	collet capacity min inch	L9	LWP
53/64	**100TG0828**	—	—	—	—	.8280	.8125	2.375	—
53/64	—	**100TGC0828**	—	—	—	.8281	.8231	1.922	—
27/32	—	**100TGC0844**	—	—	—	.8438	.8388	1.927	—
27/32	**100TG0844**	—	—	—	—	.8440	.8281	2.375	—
55/64	**100TG0859**	—	—	—	—	.8590	.8438	2.375	—
7/8	—	**100TGC0875**	—	**100TGCHP0875**	—	.8750	.8700	1.936	—
7/8	—	—	**100TGHP0875**	—	—	.8750	.8650	2.375	—
7/8	**100TG0875**	—	—	—	—	.8750	.8594	2.375	—
7/8	—	—	—	—	**100TGNP0875**	.8750	—	2.375	.938
57/64	—	**100TGC0891**	—	—	—	.8906	.8856	1.941	—
57/64	**100TG0891**	—	—	—	—	.8910	.8750	2.375	—
29/32	**100TG0906**	—	—	—	—	.9060	.8906	2.375	—
29/32	—	**100TGC0906**	—	—	—	.9063	.9013	1.946	—
59/64	—	**100TGC0922**	—	—	—	.9219	.9169	1.950	—
59/64	**100TG0922**	—	—	—	—	.9220	.9063	2.375	—
15/16	—	**100TGC0938**	—	—	—	.9375	.9325	1.955	—
15/16	**100TG0938**	—	—	—	—	.9380	.9219	2.375	—
61/64	**100TG0953**	—	—	—	—	.9530	.9375	2.375	—
61/64	—	**100TGC0953**	—	—	—	.9531	.9481	1.960	—
31/32	—	**100TGC0969**	—	—	—	.9688	.9638	1.964	—
31/32	**100TG0969**	—	—	—	—	.9690	.9531	2.375	—
63/64	**100TG0984**	—	—	—	—	.9840	.9688	2.375	—
63/64	—	**100TGC0984**	—	—	—	.9844	.9794	1.969	—
1	**100TG1000**	—	—	—	—	1.0000	.9844	2.375	—
1	—	**100TGC1000**	—	**100TGCHP1000**	—	1.0000	.9950	2.375	—
1	—	—	**100TGHP1000**	—	—	1.0000	.9900	2.375	—
1	—	—	—	—	**100TGNP1000**	1.0000	—	—	.938

NOTE: Inserting the cutting tool less than 2/3 of the gripping length into the collet can influence the coolant sealing performance and permanently damage the collet.
Full length of the gripping bore needs to be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.

• An economical way to purchase a group of collets.



TG Collet

ERICKSON

TG100 Collet Set • Inch

catalog number	series	quantity	dimensional range	incremental division
S100TG1SET	TG100	59	3/32-1	1/64
S100TG2SET	TG100	30	3/32 - 1	1/32
S100TG3SET	TG100	41	3/8 - 1	1/64
S100TG4SET	TG100	21	3/8 - 1	1/32



TG Collet — NP

TG100 NP-Out Collet Set • Inch

catalog number	series	quantity	dimensional range	incremental division
S100TGNPSET	TG100	6	3/8-1	1/8



KenFeed™ Mini

Small High-Feed Milling Cutter for Machining Small and Medium Components

Roughing operations through the latest milling strategies up to 55 HRC. Specially suited for small parts or machines with lower power capacity. The KenFeed Mini delivers higher productivity with reduced tooling costs.

- Able to machine many materials and applications.
- Higher feed rates and/or HSM capabilities.
- Grade/geometry selection offers the best performance, even in hardened steel, stainless steel, and titanium materials.
- Improved tool life and MRR. Able to machine deep cavities with higher performance.

To learn more, ***scan here****.*
For instructions on how to scan, please see page xxxiii.

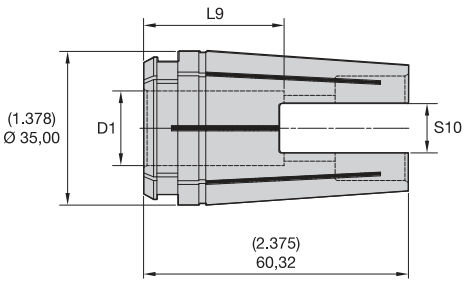
Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

- Rubber-filled slots seal collet for coolant-fed tool applications.
- Can be used in all standard TG collet chucks.
- Provides Tremendous Grip (3:1 advantage) and accuracy for tapping applications.
- Slot in back of collets acts as a drive for the tap square.
- Industry-standard Erickson™ single-angle collet system.
- Manufactured to DIN 6499 Class 2 accuracy; see page M103.







ERICKSON™

TG100 Solid Tap Collet • Metric DIN and ISO

tap size	catalog number	collet series	D1	S10	L9
M9 & M12	**100TGST090071M**	TG100	9,0	7,1	30,0
M10	**100TGST100080M**	TG100	10,0	8,0	30,0
M14	**100TGST110090M**	TG100	11,0	9,0	30,0
M16	**100TGST120090M**	TG100	12,0	9,0	30,0
M18	**100TGST140110M**	TG100	14,0	11,0	30,0
M20	**100TGST160120M**	TG100	16,0	12,0	30,0
M22 & M24	**100TGST180145M**	TG100	18,0	14,5	30,0

TG100 Solid Tap Collet • Solid Tap Coolant • Inch/Metric ANSI

tap size mm	tap size in	100TGST solid tap	100TGSTC solid tap — coolant	collet series	D1	S10	L9
M3 & M3,15 & M3,5	#0-#6 & 1/8	**100TGST6**	—	TG100	.141	.110	.141
M4	#8 & 5/32	**100TGST8**	—	TG100	.168	.131	.168
M4,5 & M5	#10 & 3/16	**100TGST10**	—	TG100	.194	.152	.194
—	#12 & 7/32	**100TGST12**	—	TG100	.220	.165	.220
M6 & M6,3	#14 & 1/4	**100TGST025**	—	TG100	.255	.191	.812
—	1/16P & 1/8P(SS)	**100TGST006P**	—	TG100	.313	.234	.812
M7 & M8	5/16	**100TGST031**	**100TGSTC031**	TG100	.318	.238	.868
—	7/16	**100TGST043**	**100TGSTC043**	TG100	.323	.242	.963
M12 & M12,5	1/2	**100TGST050**	**100TGSTC050**	TG100	.367	.275	.932
M10	3/8	**100TGST037**	**100TGSTC037**	TG100	.381	.286	.900
M14	9/16	**100TGST056**	—	TG100	.429	.322	1.087
—	1/8P(LS)	**100TGST012P**	—	TG100	.438	.328	.812
M16	5/8	**100TGST062**	**100TGSTC062**	TG100	.480	.360	1.087
M18	11/16	**100TGST068**	—	TG100	.542	.406	1.244

(continued)

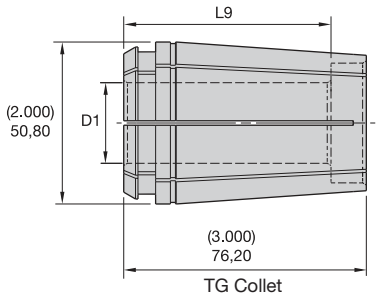
(TG100 Single-Angle Solid Tap Collets continued)

tap size mm	tap size in	100TGST solid tap	100TGSTC solid tap — coolant	collet series	D1	S10	L9
—	1/4P	**100TGST025P**	—	TG100	.563	.421	.812
—	3/4	**100TGST075**	**100TGSTC075**	TG100	.590	.442	1.213
M20	13/16	**100TGST081**	—	TG100	.652	.489	.652
—	1/2P	**100TGST050P**	—	TG100	.688	.515	.812
M22	7/8	**100TGST087**	—	TG100	.697	.523	.697
M22	7/8	—	**100TGSTC087**	TG100	.697	.523	1.369
—	3/8P	**100TGST037P**	—	TG100	.700	.531	.812
M24	15/16	**100TGST094**	—	TG100	.760	.570	.760
M25	1	—	**100TGSTC100**	TG100	.800	.600	1.313
M25	1	**100TGST100**	—	TG100	.800	.600	.800
M27	1 1/16 & 1 1/8	**100TGST112**	—	TG100	.896	.672	.896
—	3/4P	**100TGST075P**	—	TG100	.906	.679	.812

NOTE: Inserting the cutting tool less than 2/3 of the gripping length into the collet can influence the coolant sealing performance and permanently damage the collet.
Full length of the gripping bore needs to be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.

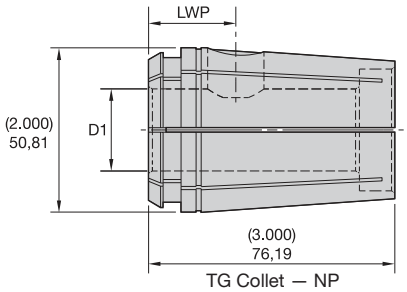
- Provides Tremendous Grip (3:1 advantage) and accuracy for all drilling applications.
- Industry-standard Erickson™ single-angle collet system.
- 0,4mm [.016" (1/64")] range of collapse.
- Grips on back taper and margin of drill for maximum feed rates and more accurate holes.
- Manufactured to DIN 6499 Class 2 accuracy; see page M103.





TG Collet


TG Collet



TG Collet — NP


TG Collet — NP

ERICKSON™

TG150 Series • Metric

D1	150TG standard	150TGNP standard — non-pullout	collet capacity max mm	collet capacity min mm	L9	LWP
12,0	**150TG120M**	—	12,0	11,6	44,0	—
13,0	**150TG130M**	—	13,0	12,6	44,0	—
14,0	**150TG140M**	—	14,0	13,6	44,0	—
14,5	**150TG145M**	—	14,5	14,1	44,0	—
15,0	**150TG150M**	—	15,0	14,6	54,0	—
16,0	**150TG160M**	—	16,0	15,6	54,0	—
18,0	**150TG180M**	—	18,0	17,6	54,0	—
19,0	**150TG190M**	—	19,0	18,6	76,2	—
20,0	**150TG200M**	—	20,0	19,6	76,2	—
21,0	**150TG210M**	—	21,0	20,6	76,2	—

(continued)

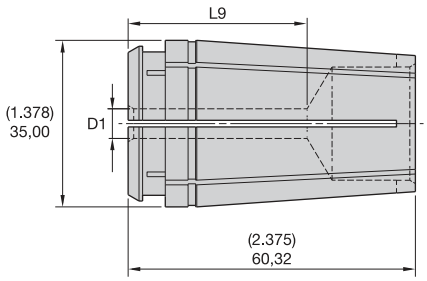
(TG150 Series continued)

D1	150TG standard	150TGNP standard — non-pullout	collet capacity max mm	collet capacity min mm	L9	LWP
22,0	**150TG220M**	**—**	22,0	21,6	76,2	—
25,0	**150TG250M**	**—**	25,0	24,6	76,2	—
25,0	**—**	**150TGNP250M**	25,0	—	—	22
25,5	**150TG255M**	**—**	25,5	25,1	76,2	—
26,0	**150TG260M**	**—**	26,0	25,6	76,2	—
27,0	**150TG270M**	**—**	27,0	26,6	76,2	—
28,0	**150TG280M**	**—**	28,0	27,6	76,2	—
30,0	**150TG300M**	**—**	30,0	29,6	76,2	—
32,0	**150TG320M**	**—**	32,0	31,6	76,2	—
32,0	**—**	**150TGNP320M**	32,0	—	—	22
34,0	**150TG340M**	**—**	34,0	33,6	76,2	—
35,0	**150TG350M**	**—**	35,0	34,6	76,2	—
36,0	**150TG360M**	**—**	36,0	35,6	76,2	—
38,0	**150TG380M**	**—**	38,0	37,6	76,2	—
40,0	**150TG400M**	**—**	40,0	39,6	76,2	—

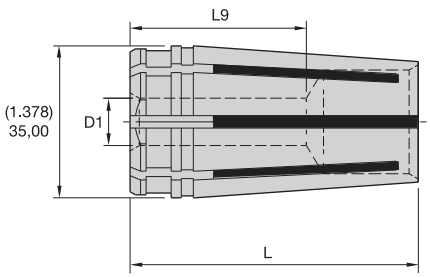
NOTE: Inserting the cutting tool less than 2/3 of the gripping length into the collet can influence the coolant sealing performance and permanently damage the collet.
Full length of the gripping bore needs to be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.

- Provides Tremendous Grip (3:1 advantage) and accuracy for all drilling applications.
- Industry-standard Erickson™ single-angle collet system.
- 150TG 0,4mm [.016" (1/64)] range of collapse.
- 150TGCHP and 150TGNP 0,13mm (.005") range of collapse.
- Grips on back taper and margin of drill for maximum feed rates and more accurate holes.
- Manufactured to DIN 6499 Class 2 accuracy; see page M103.
- HP design manufactured to DIN 6499 class/accuracy.

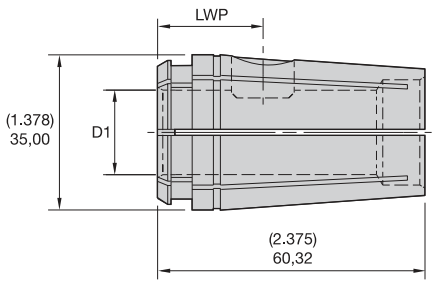




TG Collet



TG Collet — Coolant (Bonded)



TG Collet — NP


TG Collet


TG Collet — Coolant (Bonded)


TG Collet — NP

ERICKSON

TG150 Series • Inch

D1	150TG standard	150TGCHP high precision — coolant	150TGNP milling — non-pullout	collet capacity max inch	collet capacity min inch	L9	LWP
3/8	**150TG0375**	—	—	.3750	.3594	2.000	—
25/64	**150TG0391**	—	—	.3906	.3750	2.000	—
13/32	**150TG0406**	—	—	.4063	.3906	2.000	—
27/64	**150TG0422**	—	—	.4219	.4063	2.000	—
7/16	**150TG0438**	—	—	.4375	.4219	2.000	—
29/64	**150TG0453**	—	—	.4531	.4375	2.000	—
15/32	**150TG0468**	—	—	.4688	.4531	2.000	—
31/64	**150TG0484**	—	—	.4844	.4688	2.000	—
1/2	**150TG0500**	—	—	.5000	.4844	2.560	—
1/2	—	—	**150TGNP0500**	.5000	—	—	.828
33/64	**150TG0516**	—	—	.5156	.5000	2.560	—
17/32	**150TG0531**	—	—	.5313	.5156	2.560	—

(continued)

(TG150 Series continued)

D1	150TG standard	150TGCHP high precision — coolant	150TGNP milling — non-pullout	collet capacity max inch	collet capacity min inch	L9	LWP
35/64	**150TG0547**	—	—	.5469	.5313	2.560	—
9/16	**150TG0562**	—	—	.5625	.5469	2.560	—
37/64	**150TG0578**	—	—	.5781	.5625	2.560	—
19/32	**150TG0594**	—	—	.5938	.5781	2.560	—
39/64	**150TG0609**	—	—	.6094	.5938	2.560	—
5/8	**150TG0625**	—	—	.6250	.6094	2.560	—
5/8	—	—	**150TGNP0625**	.6250	—	—	.875
41/64	**150TG0641**	—	—	.6406	.6250	2.560	—
21/32	**150TG0656**	—	—	.6563	.6406	2.560	—
43/64	**150TG0672**	—	—	.6719	.6563	2.560	—
11/16	**150TG0688**	—	—	.6875	.6719	2.560	—
45/64	**150TG0703**	—	—	.7031	.6875	2.560	—
23/32	**150TG0719**	—	—	.7188	.7031	2.560	—
47/64	**150TG0734**	—	—	.7344	.7188	2.560	—
3/4	**150TG0750**	—	—	.7500	.7344	2.560	—
3/4	—	—	**150TGNP0750**	.7500	—	—	.938
49/64	**150TG0766**	—	—	.7656	.7500	2.560	—
25/32	**150TG0781**	—	—	.7813	.7656	2.560	—
51/64	**150TG0797**	—	—	.7969	.7813	2.560	—
13/16	**150TG0812**	—	—	.8125	.7969	2.560	—
53/64	**150TG0828**	—	—	.8281	.8125	2.560	—
27/32	**150TG0844**	—	—	.8438	.8281	2.560	—
55/64	**150TG0859**	—	—	.8594	.8438	2.560	—
7/8	**150TG0875**	—	—	.8750	.8594	2.560	—
7/8	—	—	**150TGNP0875**	.8750	—	—	.938
57/64	**150TG0891**	—	—	.8906	.8750	2.560	—
29/32	**150TG0906**	—	—	.9063	.8906	2.560	—
59/64	**150TG0922**	—	—	.9219	.9063	2.560	—
15/16	**150TG0938**	—	—	.9375	.9219	2.560	—
61/64	**150TG0953**	—	—	.9531	.9375	2.560	—
31/32	**150TG0969**	—	—	.9688	.9531	2.560	—
63/64	**150TG0984**	—	—	.9844	.9688	2.560	—
1	**150TG1000**	—	—	1.0000	.9844	2.560	—
1	—	**150TGCHP1000**	—	—	—	—	—
1	—	—	**150TGNP1000**	1.0000	—	—	1.063
1 1/64	**150TG1016**	—	—	1.0156	1.0000	2.560	—
1 1/32	**150TG1031**	—	—	1.0313	1.0156	2.560	—
1 3/64	**150TG1047**	—	—	1.0469	1.0313	2.560	—
1 1/16	**150TG1062**	—	—	1.0625	1.0469	2.560	—
1 5/64	**150TG1078**	—	—	1.0781	1.0625	2.560	—
1 3/32	**150TG1094**	—	—	1.0938	1.0781	2.560	—
1 7/64	**150TG1109**	—	—	1.1094	1.0938	2.560	—
1 9/64	**150TG1141**	—	—	1.1200	1.1094	2.560	—
1 1/8	**150TG1125**	—	—	1.1250	1.1200	2.560	—
1 5/32	**150TG1156**	—	—	1.1563	1.1250	2.560	—
1 11/64	**150TG1172**	—	—	1.1719	1.1563	2.560	—
1 3/16	**150TG1187**	—	—	1.1875	1.1719	2.560	—
1 13/64	**150TG1203**	—	—	1.2031	1.1875	2.560	—

(continued)

(TG150 Series continued)

D1	150TG standard	150TGCHP high precision — coolant	150TGNP milling — non-pullout	collet capacity max inch	collet capacity min inch	L9	LWP
1 7/32	**150TG1219**	—	—	1.2188	1.2031	2.560	—
1 15/64	**150TG1234**	—	—	1.2344	1.2188	2.560	—
1 1/4	**150TG1250**	—	—	1.2500	1.2344	2.560	—
1 1/4	—	—	**150TGNP1250**	1.2500	—	—	1.063
1 1/4	—	**150TGCHP1250**	—	—	—	—	—
1 17/64	**150TG1266**	—	—	1.2656	1.2500	2.560	—
1 9/32	**150TG1281**	—	—	1.2813	1.2656	2.560	—
1 19/64	**150TG1297**	—	—	1.2969	1.2813	2.560	—
1 5/16	**150TG1312**	—	—	1.3125	1.2969	2.560	—
1 21/64	**150TG1328**	—	—	1.3281	1.3125	2.560	—
1 11/32	**150TG1344**	—	—	1.3438	1.3281	2.560	—
1 23/64	**150TG1359**	—	—	1.3594	1.3438	2.560	—
1 3/8	**150TG1375**	—	—	1.3750	1.3594	2.560	—
1 25/64	**150TG1391**	—	—	1.3906	1.3750	2.560	—
1 13/32	**150TG1406**	—	—	1.4063	1.3906	2.560	—
1 27/64	**150TG1422**	—	—	1.4219	1.4063	2.560	—
1 7/16	**150TG1438**	—	—	1.4375	1.4219	2.560	—
1 29/64	**150TG1453**	—	—	1.4531	1.4375	2.560	—
1 15/32	**150TG1469**	—	—	1.4688	1.4531	2.560	—
1 1/2	**150TG1500**	—	—	1.5000	1.4688	2.560	—
1 1/2	—	—	**150TGNP1500**	1.5000	—	—	1.063
1 1/2	—	**150TGCHP1500**	—	—	—	—	—
1 31/32	**150TG1484**	—	—	1.9688	1.5000	2.560	—

NOTE: Inserting the cutting tool less than 2/3 of the gripping length into the collet can influence the coolant sealing performance and permanently damage the collet.
Full length of the gripping bore needs to be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.

• An economical way to purchase a group of collets.



TG Collet

ERICKSON

TG150 Collet Set • Metric

catalog number	series	quantity	dimensional range	incremental division
150TGS000M	TG150	3	25mm - 40mm	25 & 32 & 40

TG150 Collet Set • Inch

catalog number	series	quantity	dimensional range	incremental division
S150TG1SET	TG150	65	1/2 -1 1/2	1/64
S150TG2SET	TG150	33	1/2 - 1 1/2	1/32
S150TG4SET	TG150	25	3/4 -1 1/2	1/32

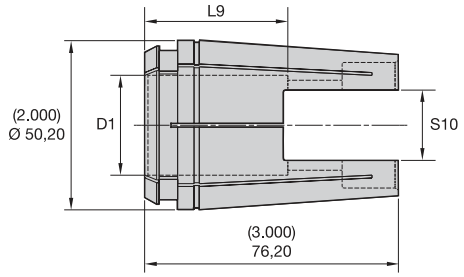


TG Collet — NP

TG150 NP-Out Collet Set • Inch

catalog number	series	quantity	dimensional range	incremental division
S150TGNPSET	TG150	7	1/2 - 1 1/2	1/8 (1/2-1) & 1/4 (1 1/4-1 1/2)

- Can be used in all standard TG collet chucks.
- Provides Tremendous Grip (3:1 advantage) and accuracy for tapping applications.
- Slot in back of collets acts as a drive for the tap square.
- Industry-standard Erickson™ single-angle collet system.





ERICKSON™

TG150 Solid Tap Collet • Metric DIN and ISO

*** Metric DIN and ISO only available in TG50 and TG100 series ***

TG150 Solid Tap Collet • Inch/Metric ANSI

tap size mm	tap size in	150TGST solid tap	collet series	D1	S10	L9
—	3/4	**150TGST075**	TG150	.590	.442	1.213
—	1/2P	**150TGST050P**	TG150	.688	.515	.812
—	3/8P	**150TGST037P**	TG150	.700	.531	.812
M25	1	**150TGST100**	TG150	.800	.600	1.463
M27	1 1/16 & 1 1/8	**150TGST112**	TG150	.896	.672	1.650
—	3/4P	**150TGST075P**	TG150	.906	.679	.906
M30	1 3/16 & 1 1/4	**150TGST125**	TG150	1.021	.766	1.750
M33	1 5/16 & 1 3/8	**150TGST137**	TG150	1.108	.831	1.687
—	1P	**150TGST100P**	TG150	1.125	2.142	.906
M36	1 7/16 & 1 1/2	**150TGST150**	TG150	1.233	.925	1.625
M39	1 5/8	**150TGST162**	TG150	1.305	.979	1.625
—	1 1/4P	**150TGST125P**	TG150	1.313	2.085	.963
M42	1 3/4	**150TGST175**	TG150	1.430	1.072	1.500
—	1 1/2P	**150TGST150P**	TG150	1.500	1.898	1.150

NOTE: Inserting the cutting tool less than 2/3 of the gripping length into the collet can influence the coolant sealing performance and permanently damage the collet.
Full length of the gripping bore needs to be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.



The Kennametal Solution

Kennametal Global Engineered Solutions. Coordinated global resources with world-class manufacturing, process development, and implementation capabilities.

No matter how small or large your project.

- Whether it's a single tailored tool or the development of a comprehensive manufacturing process, Kennametal's team can manage the development, personnel training, and successful implementation of the complete solution.

Regardless of where you're located, Kennametal is everywhere you are.

- With Kennametal's team, you receive globally coordinated manufacturing, process development, implementation, and optimization support and key alliances with machine tool builders and other leading technology manufacturers that ensure a complete solution.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®



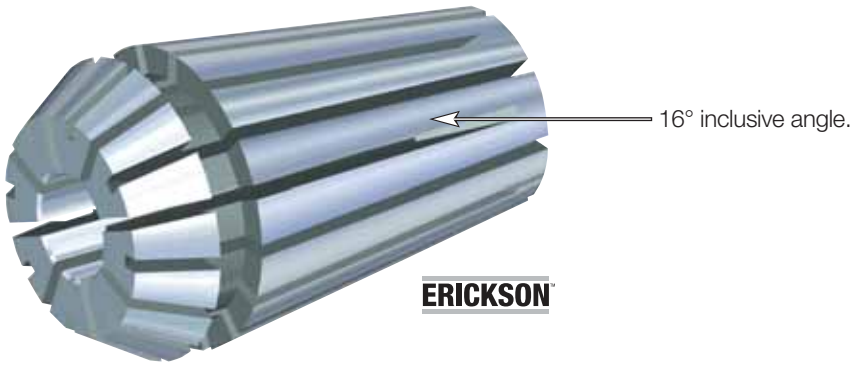
ER DIN 6499 Single-Angle Collets

Primary Application

The standard ER Collets are manufactured according to DIN 6499-B (16° inclusive angle) standard and are available in a variety of styles, ER8, ER11, ER16, ER20, ER25, ER32, and ER40, with sizes ranging from 0,5–26mm (.0197–1.0000"). Applications of light end milling, drilling, tapping, reaming, and boring solution are applicable.

Features and Benefits

- DIN 6499 Class 2 accuracy.
- 16° inclusive taper angle taper for approximately 2:1 grip.
- Dedicated versions for tapping — driving off the square of the tap.



How Do Catalog Numbers Work?

Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



ERICKSON

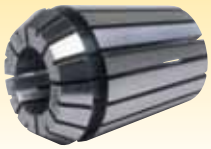
40	ER	C	160	M
System Size	Collet Style	Special Feature *(optional)*	Collet Bore Size	Identification Value
11 = ER11 **16** = ER16 **20** = ER20 **25** = ER25 **32** = ER32 **40** = ER40	**ER-DIN 6499** = Single angle	**TC** = Solid tapping (square for drive) **TCT** = Solid tapping with tension only	**metric (xx.x)** **010** = 1mm **160** = 16mm **245** = 24,5mm **inch (x.xxx)** **0125** = 1/8" **0500** = 1/2" **1000** = 1"	**M** = Collet bore size built to metric values **(blank)** = Collet bore size built to metric values



ER • Single Angle

ERICKSON

- Provides good grip and accuracy for all drilling applications.
- Wide clamping range.
- Available in both inch and metric bores.
- 1mm (.040") range of collapse.
- Manufactured to DIN 6499.
- Accuracy to DIN 6499 Class 2.



ERTC • Single-Angle Tap Collet

ERICKSON

- Designed to grip taps on shank and square to eliminate slippage.
- Fits all standard ER-style collet chucks.
- 0,13mm (.005") range of collapse.



ERTCT • Single-Angle Tap Collet with Axial Compensation

ERICKSON

- Designed to grip taps on shank and square to eliminate slippage.
- Tension only, cost effective solution for machines that require axial compensation for tapping.
- Fits all standard ER-style collet chucks.





HARVI II™

A New Dimension

The next generation high-performance end mill, HARVI II dramatically improves metal removal rates without reducing tool life.

- Best suited for applications in the aerospace, medical, die and mold, automotive, and general engineering markets.
- Outstanding performance in stainless steel, titanium, INCONEL®, and other high-temperature alloys and steels.
- Increased metal removal rates in roughing and finishing operations.

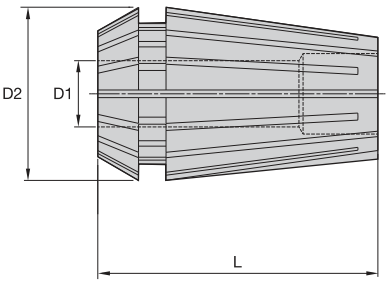
To learn more, ***scan here****.*
For instructions on how to scan, please see page xxxiii.

Visit **www.kennametal.com** or contact your local Authorized Kennametal Distributor.

www.kennametal.com

KENNAMETAL®

- Provides approximately 2:1 grip advantage.
- Wide clamping range for all drilling applications.
- ER8 and ER11 0,5mm (.020") range of collapse.
- ER16, ER20, ER25, ER32, and ER40 1mm (.040") range of collapse.
- Available in both metric and inch sizes.
- Manufactured to DIN 6499 Class 2 accuracy; see page M103.





ERICKSON

ER Collets • Metric

D1	ER8 D2 = 8,5mm L = 13,5mm	ER11 D2 = 11,5mm L = 18mm	ER16 D2 = 17mm L = 27,5mm	ER20 D2 = 21mm L = 31,5mm	ER25 D2 = 26mm L = 34mm	ER32 D2 = 33mm L = 40mm	ER40 D2 = 41mm L = 46mm	collet capacity max mm	collet capacity min mm
1,0	8ER010M	11ER010M	16ER010M	20ER010M	–	–	–	1,00	0,50
1,5	8ER015M	11ER015M	16ER015M	–	–	–	–	1,50	1,00
2,0	–	–	16ER020M	20ER020M	25ER020M	–	–	2,00	1,00
2,0	8ER020M	11ER020M	–	–	–	–	–	2,00	1,50
2,5	–	–	16ER025M	–	–	–	–	2,50	1,50
2,5	8ER025M	11ER025M	–	–	–	–	–	2,50	2,00
3,0	–	–	16ER030M	20ER030M	25ER030M	32ER030M	–	3,00	2,00
3,0	8ER030M	11ER030M	–	–	–	–	–	3,00	2,50
3,5	–	–	16ER035M	–	–	–	–	3,50	2,50
3,5	8ER035M	11ER035M	–	–	–	–	–	3,50	3,00
4,0	–	–	16ER040M	20ER040M	25ER040M	32ER040M	40ER040M	4,00	3,00
4,0	8ER040M	11ER040M	–	–	–	–	–	4,00	3,50
4,5	–	–	16ER045M	–	–	–	–	4,50	3,50
4,5	8ER045M	11ER045M	–	–	–	–	–	4,50	4,00
5,0	–	–	16ER050M	20ER050M	25ER050M	32ER050M	40ER050M	5,00	4,00
5,0	8ER050M	11ER050M	–	–	–	–	–	5,00	4,50
5,5	–	–	16ER055M	–	–	–	–	5,50	4,50
5,5	–	11ER055M	–	–	–	–	–	5,50	5,00
6,0	–	–	16ER060M	20ER060M	25ER060M	32ER060M	40ER060M	6,00	5,00
6,0	–	11ER060M	–	–	–	–	–	6,00	5,50
6,5	–	–	16ER065M	–	–	–	–	6,50	5,50
6,5	–	11ER065M	–	–	–	–	–	6,50	6,00
7,0	–	–	16ER070M	20ER070M	25ER070M	32ER070M	40ER070M	7,00	6,00
7,0	–	11ER070M	–	–	–	–	–	7,00	6,50
7,5	–	–	16ER075M	–	–	–	–	7,50	6,50
8,0	–	–	16ER080M	20ER080M	25ER080M	32ER080M	40ER080M	8,00	7,00

(continued)

(ER Single-Angle Standard Collets continued)

D1	ER8 D2 = 8,5mm L = 13,5mm	ER11 D2 = 11,5mm L = 18mm	ER16 D2 = 17mm L = 27,5mm	ER20 D2 = 21mm L = 31,5mm	ER25 D2 = 26mm L = 34mm	ER32 D2 = 33mm L = 40mm	ER40 D2 = 41mm L = 46mm	collet capacity max mm	collet capacity min mm
8,5	–	–	16ER085M	–	–	–	–	8,50	7,50
9,0	–	–	16ER090M	20ER090M	25ER090M	32ER090M	40ER090M	9,00	8,00
9,5	–	–	16ER095M	–	–	–	–	9,50	8,50
10,0	–	–	16ER100M	20ER100M	25ER100M	32ER100M	40ER100M	10,00	9,00
11,0	–	–	–	20ER110M	25ER110M	32ER110M	40ER110M	11,00	10,00
12,0	–	–	–	20ER120M	25ER120M	32ER120M	40ER120M	12,00	11,00
13,0	–	–	–	20ER130M	25ER130M	32ER130M	40ER130M	13,00	12,00
14,0	–	–	–	–	25ER140M	32ER140M	40ER140M	14,00	13,00
15,0	–	–	–	–	25ER150M	32ER150M	40ER150M	15,00	14,00
16,0	–	–	–	–	25ER160M	32ER160M	40ER160M	16,00	15,00
17,0	–	–	–	–	–	32ER170M	40ER170M	17,00	16,00
18,0	–	–	–	–	–	32ER180M	40ER180M	18,00	17,00
19,0	–	–	–	–	–	32ER190M	40ER190M	19,00	18,00
20,0	–	–	–	–	–	32ER200M	40ER200M	20,00	19,00
21,0	–	–	–	–	–	–	40ER210M	21,00	20,00
22,0	–	–	–	–	–	–	40ER220M	22,00	21,00
23,0	–	–	–	–	–	–	40ER230M	23,00	22,00
24,0	–	–	–	–	–	–	40ER240M	24,00	23,00
25,0	–	–	–	–	–	–	40ER250M	25,00	24,00
26,0	–	–	–	–	–	–	40ER260M	26,00	25,00

(continued)

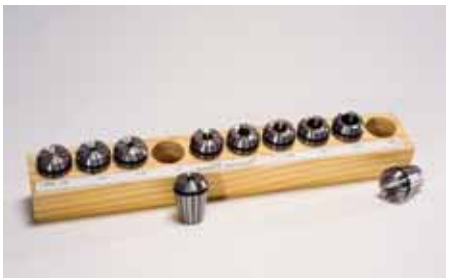
(ER Single-Angle Standard Collets continued)

ER Collets • Inch

D1	ER16 D2 = .669 L = 1.083	ER20 D2 = .827 L = 1.240	ER25 D2 = 1.024 L = 1.339	ER32 D2 = 1.299 L = 1.575	ER40 D2 = 1.614 L = 1.811	collet capacity max inch	collet capacity min inch
1/16	16ER0062	20ER0062	25ER0062	–	–	.0625	.0425
3/32	–	20ER0094	–	–	–	.0938	.0538
3/32	16ER0094	–	25ER0094	–	–	.0938	.0738
1/8	16ER0125	20ER0125	25ER0125	32ER0125	40ER0125	.1250	.0850
5/32	16ER0156	20ER0156	25ER0156	32ER0156	40ER0156	.1563	.1163
3/16	16ER0188	20ER0188	25ER0188	32ER0188	40ER0188	.1875	.1475
7/32	16ER0219	20ER0219	25ER0219	32ER0219	40ER0219	.2188	.1788
1/4	16ER0250	20ER0250	25ER0250	32ER0250	40ER0250	.2500	.2100
9/32	16ER0281	20ER0281	25ER0281	32ER0281	40ER0281	.2813	.2413
5/16	16ER0312	20ER0312	25ER0312	32ER0312	40ER0312	.3125	.2725
11/32	16ER0344	20ER0344	25ER0344	32ER0344	40ER0344	.3438	.3038
3/8	16ER0375	20ER0375	25ER0375	32ER0375	40ER0375	.3750	.3350
13/32	16ER0406	20ER0406	25ER0406	32ER0406	40ER0406	.4063	.3663
7/16	–	20ER0438	25ER0438	32ER0438	40ER0438	.4375	.3975
15/32	–	20ER0469	25ER0469	32ER0469	40ER0469	.4688	.4288
1/2	–	20ER0500	25ER0500	32ER0500	40ER0500	.5000	.4600
17/32	–	–	25ER0531	32ER0531	40ER0531	.5313	.4913
9/16	–	–	–	32ER0562	40ER0562	.5625	.5225
9/16	–	–	25ER0562	–	–	.5626	.5225
19/32	–	–	25ER0594	32ER0594	40ER0594	.5938	.5538
5/8	–	–	25ER0625	32ER0625	40ER0625	.6250	.5850
21/32	–	–	–	32ER0656	40ER0656	.6563	.6163
11/16	–	–	–	32ER0688	40ER0688	.6875	.6475
23/32	–	–	–	32ER0719	40ER0719	.7188	.6788
3/4	–	–	–	32ER0750	40ER0750	.7500	.7100
25/32	–	–	–	32ER0781	40ER0781	.7813	.7413
13/16	–	–	–	32ER0812	40ER0812	.8125	.7725
27/32	–	–	–	–	40ER0844	.8438	.8038
7/8	–	–	–	–	40ER0875	.8750	.8350
29/32	–	–	–	–	40ER0906	.9063	.8663
15/16	–	–	–	–	40ER0938	.9375	.8975
31/32	–	–	–	–	40ER0969	.9688	.9288
1	–	–	–	–	40ER1000	1.0000	.9600

NOTE: Inserting the cutting tool less than 2/3 the gripping length into the collet can permanently damage the collet.
Full length of the gripping bore must be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions.
Never try to stretch the collets by clamping oversized cutting tools.

• An economical way to purchase a set of collets.



ERICKSON

ER Collet Set • Metric

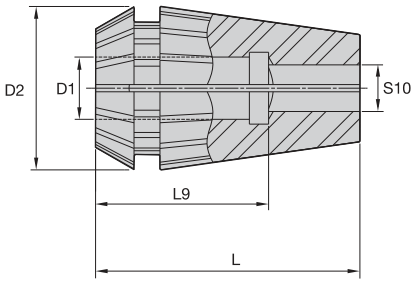
order number	catalog number	series	quantity	dimensional range	incremental division
1025864	8ERS000M	ER8	9	1mm - 5mm	.5
1020872	11ERS000M	ER11	13	1mm - 7mm	.5
1135892	16ERS000M	ER16	10	1mm - 10mm	1
1025865	20ERS000M	ER20	12	2mm - 13mm	1
1123858	25ERS000M	ER25	15	2mm - 16mm	1
1135911	32ERS000M	ER32	18	3mm - 20mm	1
1126252	40ERS000M	ER40	23	4mm - 26mm	1

ER Collet Set • Inch

order number	catalog number	series	quantity	dimensional range	incremental division
2269968	16ERS000SET2	ER16	12	1/16 - 13/32	1/32
2269969	20ERS000SET1	ER20	8	1/16 - 1/2	1/16
2269970	20ERS000SET2	ER20	15	1/16 - 1/2	1/32
2269971	25ERS000SET1	ER25	10	1/16 - 5/8	1/16
2269972	25ERS000SET2	ER25	19	1/16 - 5/8	1/32
2269973	32ERS000SET1	ER32	12	1/8 - 13/16	1/16
2269974	32ERS000SET2	ER32	23	1/8 - 13/16	1/32
2269975	40ERS000SET1	ER40	15	1/8 - 1	1/16
2269976	40ERS000SET2	ER40	29	1/8 - 1	1/32

NOTE: ER collet sets come complete with protective tray.

- Square in back of collet acts as a drive for the tap square.
- Can be used in all standard ER collet chucks.
- Available in metric and inch sizes.





ERICKSON

ER Solid Tap Collet • Metric DIN and ISO

tap size	ER16 D2 = 17mm L = 27,5mm	ER20 D2 = 21mm L = 31,5mm	ER25 D2 = 26mm L = 34mm	ER32 D2 = 33mm L = 40mm	ER40 D2 = 41mm L = 46mm	D1	S10	L9
M4 & M6	**16ERTC045034M**	**20ERTC045034M**	**25ERTC045034M**	**32ERTC045034M**	–	4,5	3,4	18
–	**16ERTC055043M**	**20ERTC055043M**	**25ERTC055043M**	**32ERTC055043M**	–	5,5	4,3	18
M5 & M6 & M7 & M8	**16ERTC060049M**	**20ERTC060049M**	**25ERTC060049M**	**32ERTC060049M**	–	6,0	4,9	18
M10	**16ERTC070055M**	**20ERTC070055M**	**25ERTC070055M**	**32ERTC070055M**	**40ERTC070055M**	7,0	5,5	18
M8	**16ERTC080062M**	**20ERTC080062M**	**25ERTC080062M**	**32ERTC080062M**	**40ERTC080062M**	8,0	6,2	22
M12	**16ERTC090070M**	**20ERTC090070M**	**25ERTC090070M**	**32ERTC090070M**	**40ERTC090070M**	9,0	7,0	22
M10	–	**20ERTC100080M**	**25ERTC100080M**	**32ERTC100080M**	**40ERTC100080M**	10,0	8,0	25
M14	–	**20ERTC110090M**	**25ERTC110090M**	**32ERTC110090M**	**40ERTC110090M**	11,0	9,0	25
M16	–	–	**25ERTC120090M**	**32ERTC120090M**	**40ERTC120090M**	12,0	9,0	25
M18	–	–	–	**32ERTC140110M**	**40ERTC140110M**	14,0	11,0	25
–	–	–	**25ERTC140110M**	–	–	14,0	11,0	25
M20	–	–	–	**32ERTC160120M**	–	16,0	12,0	25
–	–	–	**25ERTC160120M**	–	–	16,0	12,0	25
M20	–	–	–	–	**40ERTC160120M**	16,0	12,0	25
M22 & M24	–	–	–	**32ERTC180145M**	**40ERTC180145M**	18,0	14,5	25
M27 & M30	–	–	–	**32ERTC200160M**	**40ERTC200160M**	20,0	16,0	28
M30	–	–	–	–	**40ERTC220180M**	22,0	18,0	28

(continued)

(ER Single-Angle Solid Tap Collets continued)

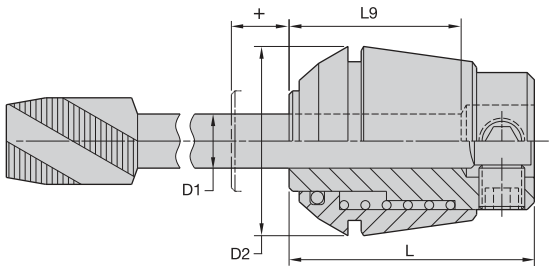
ER Solid Tap Collet • Inch/Metric ANSI

tap size mm	tap size in	ER16 D2 = .669 L = 1.083	ER20 D2 = .827 L = 1.240	ER25 D2 = 1.024 L = 1.339	ER32 D2 = 1.299 L = 1.575	ER40 D2 = 1.614 L = 1.811	D1	S10	L9
M4	8 & 5/32	**16ERTC8**	**20ERTC8**	**25ERTC8**	**32ERTC8**	–	.168	.131	.710
M4,5 & M5	10 & 3/16	**16ERTC10**	**20ERTC10**	**25ERTC10**	**32ERTC10**	–	.194	.152	.710
–	12 & 7/32	**16ERTC12**	**20ERTC12**	**25ERTC12**	**32ERTC12**	–	.220	.165	.710
M6 & M6,3	14 & 1/4	**16ERTC025**	**20ERTC025**	**25ERTC025**	**32ERTC025**	**40ERTC025**	.255	.191	.710
M7 & M8	5/16	–	**20ERTC031**	**25ERTC031**	**32ERTC031**	**40ERTC031**	.318	.238	.866
–	7/16	–	**20ERTC043**	**25ERTC043**	**32ERTC043**	**40ERTC043**	.323	.242	.866
M12 & M12,5	1/2	–	**20ERTC050**	**25ERTC050**	**32ERTC050**	**40ERTC050**	.367	.275	.866
M10	3/8	–	**20ERTC037**	**25ERTC037**	**32ERTC037**	**40ERTC037**	.381	.286	.866
M14	9/16	–	–	**25ERTC056**	**32ERTC056**	**40ERTC056**	.429	.322	.984
M16	5/8	–	–	**25ERTC062**	**32ERTC062**	**40ERTC062**	.480	.360	.984
M18	11/16	–	–	–	**32ERTC069**	**40ERTC069**	.542	.406	.984
–	3/4	–	–	–	**32ERTC075**	–	.590	.422	.984
–	3/4	–	–	–	–	**40ERTC075**	.590	.442	.984
M20	13/16	–	–	–	**32ERTC081**	**40ERTC081**	.652	.489	.984
M22	7/8	–	–	–	–	**40ERTC087**	.697	.523	.984
M24	15/16	–	–	–	–	**40ERTC093**	.760	.570	1.100
M25	1	–	–	–	–	**40ERTC100**	.800	.600	1.100

NOTE: Inserting the cutting tool less than 2/3 the gripping length into the collet can permanently damage the collet.
Full length of the gripping bore must be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.

- Tension feature for applications that need synchronized tapping.
- Adjustable screws in back of collet act as a drive for the tap square.
- Can be used in all standard ER collet chucks.
- Available in inch sizes.





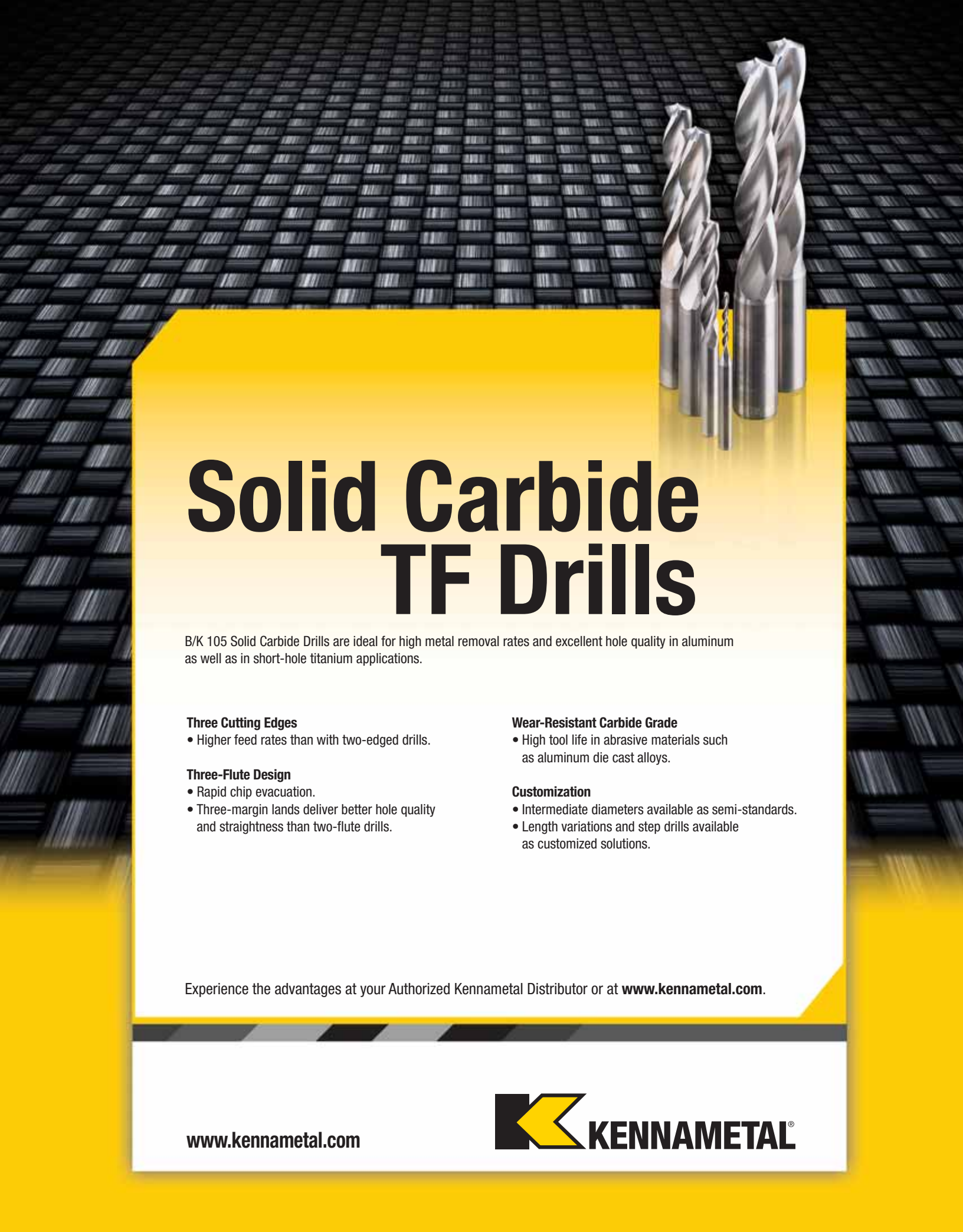


ERICKSON

ER T-Only Tap Collet • Inch/Metric ANSI

tap size mm	tap size in	ER12 D2 = 11,4mm L = 21,5mm	ER16 D2 = 17mm L = 27,5mm	ER20 D2 = 21mm L = 31,5mm	ER25 D2 = 26mm L = 34mm	ER32 D2 = 33mm L = 40mm	ER40 D2 = 41mm L = 46mm	D1 mm	D1 in
M3 & M3,15 & M3,5	#0-#6 & 1/8	12ERTCT6	16ERTCT6	20ERTCT6	25ERTCT6	–	–	3,58	.141
M4	#8 & 5/32	–	16ERTCT8	20ERTCT8	25ERTCT8	32ERTCT8	–	4,27	.168
M4,5 & M5	#10 & 3/16	–	16ERTCT10	20ERTCT10	25ERTCT10	32ERTCT10	–	4,93	.194
–	#12 & 7/32	–	–	20ERTCT12	25ERTCT12	32ERTCT12	–	5,59	.220
M6 & M6,3	#14 & 1/4	–	–	20ERTCT025	25ERTCT025	32ERTCT025	40ERTCT025	6,48	.255
M7 & M8	5/16	–	–	–	25ERTCT031	32ERTCT031	40ERTCT031	8,08	.318
–	7/16	–	–	–	25ERTCT043	32ERTCT043	40ERTCT043	8,20	.323
M12 & M12,5	1/2	–	–	–	25ERTCT050	32ERTCT050	40ERTCT050	9,32	.367
M10	3/8	–	–	–	25ERTCT037	32ERTCT037	40ERTCT037	9,68	.381
M14	9/16	–	–	–	–	32ERTCT056	40ERTCT056	10,90	.429
–	1/8P(LS)	–	–	–	–	32ERTCT012P	–	11,10	.437
M16	5/8	–	–	–	–	32ERTCT062	40ERTCT062	12,19	.480
M18	11/16	–	–	–	–	–	40ERTCT069	13,77	.542
–	3/4	–	–	–	–	–	40ERTCT075	14,99	.590
M20	13/16	–	–	–	–	–	40ERTCT081	16,56	.652
M22	7/8	–	–	–	–	–	40ERTCT087	17,70	.697

NOTE: 12ERTCT6 fits ER11 chucks.
Full length of the gripping bore must be maintained to achieve maximum accuracy and safety.



Solid Carbide TF Drills

B/K 105 Solid Carbide Drills are ideal for high metal removal rates and excellent hole quality in aluminum as well as in short-hole titanium applications.

Three Cutting Edges
- Higher feed rates than with two-edged drills.

Three-Flute Design
- Rapid chip evacuation.
- Three-margin lands deliver better hole quality and straightness than two-flute drills.

Wear-Resistant Carbide Grade
- High tool life in abrasive materials such as aluminum die cast alloys.

Customization
- Intermediate diameters available as semi-standards.
- Length variations and step drills available as customized solutions.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

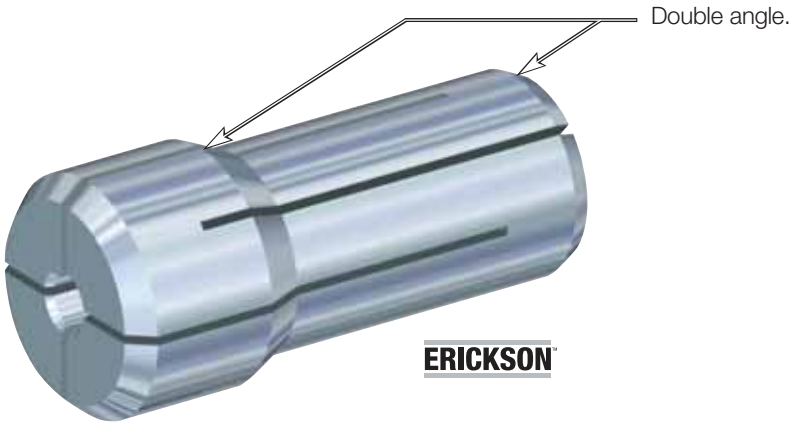
ERICKSON™ • DA Double-Angle Collets

Primary Application

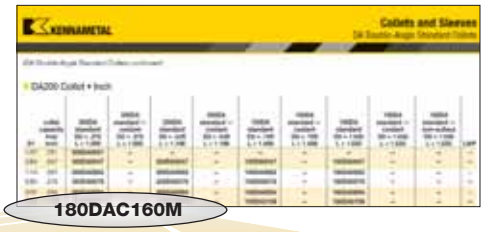
DA – Double-Angle Collets are well-known in the industry as an economical collet system allowing reaching in to areas where other systems have clearance issues. These collets are manufactured according to the original ERICKSON standard styles, DA000, DA100, DA180, DA200, and DA300, with clamping sizes ranging from 0,5–20mm (.0197–.7500"). They are ideal for end milling, drilling, tapping, reaming, and boring solutions.

Features and Benefits

- Original ERICKSON standard.
- Versatile double-angle design providing approximately 1:1 grip.
- Bonded style available for through-coolant applications.
- Non-pullout style to captivate Weldon®-style end mills.
- Dedicated versions for tapping — driving off the square of the tap.



- Industry-standard Erickson™ double-angle collet system.



ERICKSON™

180DAC160M

180	DA	C	160	M
System Size	Collet Style	Special Feature *(optional)*	Collet Bore Size	Identification Value
100 = DA100 **180** = DA180 **200** = DA200 **300** = DA300	**DA** = Erickson Double Angle	**C** = Coolant style bonded **NP** = Non-pullout Weldon® (end mill design)	**metric (xx.x)** **010** = 1mm **160** = 16mm **inch (x.xxx)** **0125** = 1/8" **0500** = 1/2"	**M** = Collet bore size built to metric values **(blank)** = Collet bore size built to metric values



DA • Double Angle

ERICKSON

- 0,8mm [.031" (1/32")] maximum range of collapse dependent on collet capacity.



DAC • Double-Angle Coolant

ERICKSON

- Rubber-filled slots seal coolant-fed tool applications.
- Suitable for coolant pressure up to 70 bar (1000 psi).
- Fits all standard DA-style collet chucks.
- 0,13mm (.005") range of collapse.



DANP • Double-Angle Non-Pullout, Weldon® Style

ERICKSON

- Designed to grip end mills with Weldon-style shanks.
- Positive retention and drive provided by drive wedge in collet.
- Eliminates inaccuracy created by solid end mill adapters.
- Fits all standard DA-style collet chucks.
- 0,13mm (.005") range of collapse.



DA-J, K, & L • Double-Angle Solid Tap

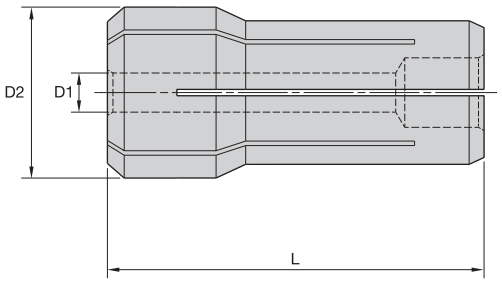
ERICKSON

- Provides positive drive for taps.

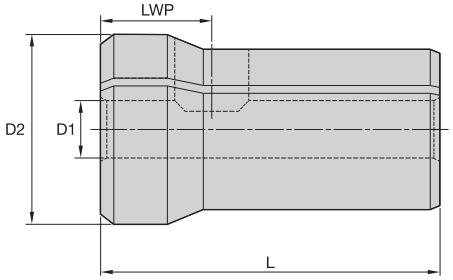




- For bonded collet DAC only — rubber-filled slots seal collet for coolant-fed tool applications.
- Provides 1:1 grip for most drilling, reaming, and tapping applications.
- Industry-standard Erickson™ double-angle collet system.
- 000DA 0,25mm (.010") to 0,38mm (.015") range of collapse dependent on collet capacity.
- 300DA, 200DA, 100DA, and 180DA 0,30mm (.012") to 0,80 mm (.031") range of collapse dependent on collet capacity.
- 200 DAC, 100DAC, 180DAC, and 180DANP 0,13mm (.005") range of collapse.
- 0,025mm (.001") TIR collet accuracy.



DA collet



DA collet — non-pullout


DA collet


DA collet — non-pullout

DA Collet • Metric

D1	collet capacity max mm	000DA standard D2 = 8,50mm L = 16,76mm	300DA standard D2 = 9,53mm L = 25,406mm	200DA standard D2 = 13,69mm L = 30,16mm	200DA standard — coolant D2 = 13,69mm L = 30,16mm	100DA standard D2 = 19,53mm L = 36,53mm	100DA standard — coolant D2 = 19,53mm L = 36,53mm	180DA standard D2 = 26,29mm L = 41,28mm	180DA standard — coolant D2 = 26,29mm L = 41,28mm	180DA standard — non-pullout D2 = 26,29mm L = 41,28mm	LWP
1,0	1,0	000DA010M	300DA010M	200DA010M	–	–	–	–	–	–	–
1,3	1,3	000DA012M	–	–	–	–	–	–	–	–	–
1,5	1,5	000DA015M	300DA015M	200DA015M	–	–	–	–	–	–	–
1,8	1,8	000DA017M	–	–	–	–	–	–	–	–	–
2,0	2,0	000DA020M	300DA020M*	200DA020M	–	–	–	–	–	–	–
2,3	2,3	000DA022M	–	–	–	–	–	–	–	–	–
2,5	2,5	000DA025M	300DA025M	200DA025M	–	100DA025M	–	–	–	–	–
2,8	2,8	000DA027M	–	–	–	–	–	–	–	–	–
3,0	3,0	000DA030M	300DA030M	200DA030M	–	100DA030M	–	180DA030M	–	–	–
3,3	3,3	000DA032M	–	–	–	–	–	–	–	–	–

*0,8mm is the maximum value depending on the selection of collet.

(continued)

(DA Double-Angle Standard Collets continued)

D1	collet capacity max mm	000DA standard D2 = 8,50mm L = 16,76mm	300DA standard D2 = 9,53mm L = 25,406mm	200DA standard D2 = 13,69mm L = 30,16mm	200DA standard — coolant D2 = 13,69mm L = 30,16mm	100DA standard D2 = 19,53mm L = 36,53mm	100DA standard — coolant D2 = 19,53mm L = 36,53mm	180DA standard D2 = 26,29mm L = 41,28mm	180DA standard — coolant D2 = 26,29mm L = 41,28mm	180DA standard — non-pullout D2 = 26,29mm L = 41,28mm	LWP
3,5	3,5	000DA035M	300DA035M	200DA035M	–	100DA035M	–	180DA035M	–	–	–
3,8	3,8	000DA037M	–	–	–	–	–	–	–	–	–
4,0	4,0	000DA040M	300DA040M	200DA040M	–	100DA040M	–	180DA040M	–	–	–
4,5	4,5	–	300DA045M	200DA045M	–	100DA045M	–	180DA045M	–	–	–
5,0	5,0	–	300DA050M	200DA050M	–	100DA050M	–	180DA050M	–	–	–
5,5	5,5	–	300DA055M	200DA055M	–	100DA055M	–	180DA055M	–	–	–
6,0	6,0	–	300DA060M	200DA060M	200DAC060M	100DA060M	100DAC060M	180DA060M	180DAC060M	–	–
6,5	6,5	–	–	200DA065M	–	100DA065M	–	180DA065M	–	–	–
7,0	7,0	–	–	200DA070M	–	100DA070M	–	180DA070M	–	–	–
7,5	7,5	–	–	200DA075M	–	100DA075M	–	180DA075M	–	–	–
8,0	8,0	–	–	200DA080M	200DAC080M	100DA080M	100DAC080M	180DA080M	180DAC080M	–	–
8,5	8,5	–	–	200DA085M	–	100DA085M	–	180DA085M	–	–	–
9,0	9,0	–	–	200DA090M	–	100DA090M	–	180DA090M	–	–	–
9,5	9,5	–	–	200DA095M	–	100DA095M	–	180DA095M	–	–	–
10,0	10,0	–	–	200DA100M	200DAC100M	100DA100M	100DAC100M	180DA100M	180DAC100M	–	–
10,0	10,0	–	–	–	–	–	–	–	–	180DANP100M	12,5
10,5	10,5	–	–	–	–	100DA105M	–	180DA105M	–	–	–
11,0	11,0	–	–	–	–	100DA110M	–	180DA110M	–	–	–
11,5	11,5	–	–	–	–	100DA115M	–	180DA115M	–	–	–
12,0	12,0	–	–	–	–	100DA120M	–	180DA120M	–	–	–
12,0	12,0	–	–	–	–	–	–	–	–	180DANP120M	12,5
12,0	12,0	–	–	–	–	–	100DAC120M	–	180DAC120M	–	–
12,5	12,5	–	–	–	–	100DA125M	–	180DA125M	–	–	–
13,0	13,0	–	–	–	–	100DA130M	–	180DA130M	–	–	–
13,5	13,5	–	–	–	–	100DA135M	–	180DA135M	–	–	–
14,0	14,0	–	–	–	–	100DA140M	100DAC140M	180DA140M	180DAC140M	–	–
14,5	14,5	–	–	–	–	–	–	180DA145M	–	–	–
15,0	15,0	–	–	–	–	–	–	180DA150M	–	–	–
15,5	15,5	–	–	–	–	–	–	180DA155M	–	–	–
16,0	16,0	–	–	–	–	–	–	–	180DAC160M	–	–
16,0	16,0	–	–	–	–	–	–	–	–	180DANP160M	16,1
16,0	16,0	–	–	–	–	–	–	180DA160M	–	–	–
16,5	16,5	–	–	–	–	–	–	180DA165M	–	–	–
17,0	17,0	–	–	–	–	–	–	180DA170M	–	–	–
17,5	17,5	–	–	–	–	–	–	180DA175M	–	–	–
18,0	18,0	–	–	–	–	–	–	180DA180M	180DAC180M	–	–
18,5	18,5	–	–	–	–	–	–	180DA185M	–	–	–
19,0	19,0	–	–	–	–	–	–	180DA190M	–	–	–
19,5	19,5	–	–	–	–	–	–	180DA195M	–	–	–
20,0	20,0	–	–	–	–	–	–	180DA200M	180DAC200M	–	–

(continued)

(DA Double-Angle Standard Collets continued)

DA200 Collet • Inch

D1	collet capacity max inch	300DA standard D2 = .375 L = 1.000	300DA standard — coolant D2 = .375 L = 1.000	200DA standard D2 = .539 L = 1.188	200DA standard — coolant D2 = .539 L = 1.188	100DA standard D2 = .769 L = 1.438	100DA standard — coolant D2 = .769 L = 1.438	180DA standard D2 = 1.035 L = 1.625	180DA standard — coolant D2 = 1.035 L = 1.625	180DA standard — non-pullout D2 = 1.035 L = 1.625	LWP
1/32	.031	300DA0031	—	—	—	—	—	—	—	—	—
3/64	.047	300DA0047	—	200DA0047	—	100DA0047	—	180DA0047	—	—	—
1/16	.063	300DA0062	—	200DA0062	—	100DA0062	—	180DA0062	—	—	—
5/64	.078	300DA0078	—	200DA0078	—	100DA0078	—	180DA0078	—	—	—
3/32	.094	300DA0094	—	200DA0094	—	100DA0094	—	180DA0094	—	—	—
7/64	.109	300DA0109	—	200DA0109	—	100DA0109	—	180DA0109	—	—	—
1/8	.125	300DA0125	300DAC0125	200DA0125	200DAC0125	100DA0125	100DAC0125	180DA0125	—	—	—
9/64	.141	300DA0141	300DAC0141	200DA0141	200DAC0141	—	—	180DA0141	—	—	—
9/64	.141	—	—	—	—	100DA0141	100DAC0141	—	—	—	—
5/32	.156	300DA0156	300DAC0156	200DA0156	200DAC0156	100DA0156	100DAC0156	180DA0156	—	—	—
11/64	.172	300DA0172	300DAC0172	200DA0172	200DAC0172	100DA0172	100DAC0172	180DA0172	—	—	—
3/16	.188	300DA0188	300DAC0188	200DA0188	200DAC0188	100DA0188	100DAC0188	180DA0188	—	—	—
13/64	.203	300DA0203	300DAC0203	200DA0203	—	100DA0203	100DAC0203	180DA0203	—	—	—
7/32	.219	300DA0219	300DAC0219	200DA0219	—	100DA0219	100DAC0219	180DA0219	—	—	—
15/64	.234	300DA0234	300DAC0234	200DA0234	200DAC0234	100DA0234	100DAC0234	180DA0234	—	—	—
1/4	.250	300DA0250	300DAC0250	200DA0250	200DAC0250	100DA0250	100DAC0250	180DA0250	180DAC0250	—	—
17/64	.266	—	—	200DA0266	200DAC0266	100DA0266	100DAC0266	180DA0266	180DAC0266	—	—
9/32	.281	—	—	200DA0281	200DAC0281	100DA0281	100DAC0281	180DA0281	180DAC0281	—	—
19/64	.297	—	—	200DA0297	—	100DA0297	100DAC0297	180DA0297	180DAC0297	—	—
5/16	.312	—	—	—	—	100DA0312	100DAC0312	—	—	—	—
5/16	.313	—	—	200DA0312	200DAC0312	—	—	180DA0312	180DAC0312	—	—
21/64	.328	—	—	200DA0328	200DAC0328	100DA0328	100DAC0328	180DA0328	180DAC0328	—	—
11/32	.344	—	—	200DA0344	200DAC0344	100DA0344	100DAC0344	180DA0344	180DAC0344	—	—
23/64	.359	—	—	200DA0359	—	100DA0359	100DAC0359	180DA0359	180DAC0359	—	—
3/8	.375	—	—	200DA0375	200DAC0375	100DA0375	100DAC0375	—	180DAC0375	—	—
3/8	.375	—	—	—	—	—	—	—	—	180DANP0375	.484
25/64	.391	—	—	200DA0391	200DAC0391	100DA0391	100DAC0391	180DA0391	180DAC0391	—	—
13/32	.406	—	—	—	—	100DA0406	100DAC0406	180DA0406	180DAC0406	—	—
27/64	.422	—	—	—	—	100DA0422	100DAC0422	180DA0422	180DAC0422	—	—
7/16	.438	—	—	—	—	100DA0438	100DAC0438	180DA0438	180DAC0438	—	—
29/64	.453	—	—	—	—	100DA0453	100DAC0453	180DA0453	180DAC0453	—	—
15/32	.469	—	—	—	—	100DA0469	100DAC0469	180DA0469	180DAC0469	—	—
31/64	.484	—	—	—	—	100DA0484	100DAC0484	180DA0484	180DAC0484	—	—
1/2	.500	—	—	—	—	100DA0500	100DAC0500	180DA0500	180DAC0500	—	—
1/2	.500	—	—	—	—	—	—	—	—	180DANP0500	.484
33/64	.516	—	—	—	—	100DA0516	100DAC0516	180DA0516	180DAC0516	—	—
17/32	.531	—	—	—	—	100DA0531	100DAC0531	180DA0531	180DAC0531	—	—
35/64	.547	—	—	—	—	100DA0547	100DAC0547	180DA0547	180DAC0547	—	—
9/16	.562	—	—	—	—	100DA0562	100DAC0562	—	—	—	—
9/16	.563	—	—	—	—	—	—	180DA0562	180DAC0562	—	—
37/64	.578	—	—	—	—	—	—	180DA0578	180DAC0578	—	—
19/32	.594	—	—	—	—	—	—	180DA0594	180DAC0594	—	—
39/64	.609	—	—	—	—	—	—	180DA0609	180DAC0609	—	—
5/8	.625	—	—	—	—	—	—	180DA0625	180DAC0625	—	—
5/8	.625	—	—	—	—	—	—	—	—	180DANP0625	.633
41/64	.641	—	—	—	—	—	—	180DA0641	180DAC0641	—	—
21/32	.656	—	—	—	—	—	—	180DA0656	180DAC0656	—	—
43/64	.672	—	—	—	—	—	—	180DA0672	180DAC0672	—	—

(continued)

(DA Double-Angle Standard Collets continued)

D1	collet capacity max inch	300DA standard D2 = .375 L = 1.000	300DA standard — coolant D2 = .375 L = 1.000	200DA standard D2 = .539 L = 1.188	200DA standard — coolant D2 = .539 L = 1.188	100DA standard D2 = .769 L = 1.438	100DA standard — coolant D2 = .769 L = 1.438	180DA standard D2 = 1.035 L = 1.625	180DA standard — coolant D2 = 1.035 L = 1.625	180DA standard — non-pullout D2 = 1.035 L = 1.625	LWP
11/16	.688	—	—	—	—	—	—	180DA0688	180DAC0688	—	—
45/64	.703	—	—	—	—	—	—	180DA0703	180DAC0703	—	—
23/32	.719	—	—	—	—	—	—	180DA0719	180DAC0719	—	—
47/64	.734	—	—	—	—	—	—	180DA0734	180DAC0734	—	—
3/4	.750	—	—	—	—	—	—	—	—	180DANP0750	.664
3/4	.750	—	—	—	—	—	—	180DA0750	180DAC0750	—	—

• An economical way to purchase a set of collets.



ERICKSON

DA Collet Set • Metric

order number	catalog number	series	quantity	dimensional range	incremental division
1293409	**000DAS000M**	DA000	13	1mm - 4mm	.25
1297410	**300DAS000M**	DA300	11	1mm - 6mm	.5
1296078	**200DAS000M**	DA200	19	1mm - 10mm	.5
1294736	**100DAS000M**	DA100	24	2,5mm - 14mm	.5
1191011	**180DAS000M**	DA180	35	3mm - 20mm	.5

DA Collet Set • Inch

order number	catalog number	series	quantity	dimensional range	incremental division
1289026	**S303SET**	DA300	8	3/64 - 1/4	1/32 (3/32–1/4) + 3/64 & 5/64
1289027	**S304SET**	DA300	9	1/8 - 1/4	1/64
1289028	**S305SET**	DA300	5	1/8 - 1/4	1/32
1288983	**S203SET**	DA200	9	1/8 - 3/8	1/32
1288984	**S204SET**	DA200	17	1/8 - 3/8	1/64
1288923	**S103SET**	DA100	11	1/4 - 9/16	1/32
1288925	**S104SET**	DA100	21	1/4 - 9/16	1/64
1288963	**S183SET**	DA180	17	1/4 - 3/4	1/32
1288964	**S184SET**	DA180	33	1/4 - 3/4	1/64



Difficult-to-Cut Materials Are No Match for Kennametal's High-Torque Shrink Fit System!

Two lines available to address all your High Torque (HT) and General Purpose (GP) requirements.

- HT line is ideal for heavy roughing operations that require higher clamping torque levels (30–50% higher than the GP line).
- Increase productivity and reduce costs with a shrinking and cooling process that takes 30 seconds or less!
- Precision engineered system ensures precise concentricity, greater balancing quality, optimized bore sizes, and superior metal removal rates.
- Increased accuracies when machining difficult to cut materials common to the aerospace industry.

SHRINKER®

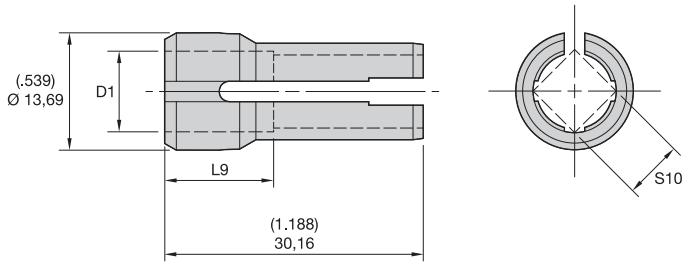
*To learn more, **scan here**.*
For instructions on how to scan, please see page xxxiii.

Visit **www.kennametal.com** or contact your local Authorized Kennametal Distributor.

www.kennametal.com

KENNAMETAL®

- Provides positive retention for tapping applications.
- Design of slots in back of collet acts as a drive for the tap square.
- Can be used in all standard J-series double-angle collet chucks.
- Industry-standard Erickson™ double-angle collet system.





ERICKSON

DA-J Tap Collet • Metric DIN

tap size	order number	catalog number	collet series	D1	S10	L9
M1 & M1,8 & M3 & M3,5	**1274924**	**JTC025021M**	J	2,5	2,1	13,0
M3 & M5	**1274926**	**JTC035027M**	J	3,5	2,7	13,0
M4 & M6	**1274928**	**JTC045034M**	J	4,5	3,4	13,0
M5 & M6 & M7 & M8	**1274931**	**JTC060049M**	J	6,0	4,9	13,0
M10	**1274932**	**JTC070055M**	J	7,0	5,5	13,0
M8 & M10 & M11	**1228732**	**JTC080063M**	J	8,1	6,3	13,0

DA-J Tap Collet • Metric ISO

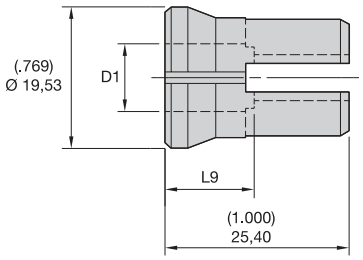
tap size	order number	catalog number	collet series	D1	S10	L9
M2,5 & M4	**1274925**	**JTC028021M**	J	2,8	2,1	13,0
M2,2 & M2,5	**1228728**	**JTC028022M**	J	2,8	2,2	13,0
M3 & M4	**1228729**	**JTC032025M**	J	3,2	2,5	13,0
M3,5 & M4,5	**1274927**	**JTC036028M**	J	3,6	2,8	13,0
M4 & M5	**1228730**	**JTC040032M**	J	4,0	3,2	13,0
M4,5 & M6	**1274929**	**JTC045036M**	J	4,5	3,6	13,0
12UNC/UNF	**1274930**	**JTC056045M**	J	5,6	4,5	—
M7	**1274933**	**JTC071056M**	J	7,1	5,6	13,0
M8 & M10 & M11	**1228732**	**JTC080063M**	J	8,1	6,3	13,0
M9 & M12	**1228733**	**JTC090071M**	J	9,0	7,1	13,0

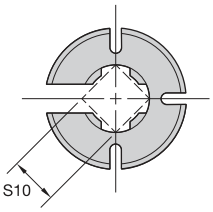
DA-J Tap Collet • Inch/Metric ANSI

tap size mm	tap size in	order number	catalog number	collet series	D1	S10	L9
M3 & M3,15 & M3,5	0-#6 & 1/8	**1016411**	**JTC6**	J	.141	.110	.500
M4	8 & 5/32	**1016464**	**JTC8**	J	.168	.131	.500
M4,5 & M5	10 & 3/16	**1016467**	**JTC10**	J	.194	.152	.500
—	12 & 7/32	**1016470**	**JTC12**	J	.220	.165	.500
M6 & M6,3	14 & 1/4	**1016473**	**JTC025**	J	.255	.191	.500
M7 & M8	5/16	**1016529**	**JTC031**	J	.318	.238	.500
—	7/16	**1016532**	**JTC043**	J	.323	.242	.500
M12 & M12,5	1/2	**1016585**	**JTC050**	J	.367	.275	.500
M10	3/8	**1016589**	**JTC037**	J	.381	.286	.500

NOTE: Inserting the cutting tool less than 2/3 the gripping length into the collet can permanently damage the collet.
Full length of the gripping bore must be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.

- Provides positive drive for tapping applications.
- Design of slots in back of collet acts as a drive for the tap square.
- Can be used in all standard K-series double-angle collet chucks.
- Industry-standard Erickson™ double-angle collet system.







ERICKSON™

DA-K Tap Collet • Metric DIN

tap size	order number	catalog number	collet series	D1	S10	L9
M1 & M1,8 & M3 & M3,5	**1280271**	**KTC025021M**	K	2,5	2,1	13,0
M3 & M5	**1280273**	**KTC035027M**	K	3,5	2,7	13,0
M4 & M6	**1280274**	**KTC045034M**	K	4,5	3,4	13,0
M5 & M6 & M7 & M8	**1280275**	**KTC060049M**	K	6,0	4,9	13,0
M10	**1280277**	**KTC070055M**	K	7,0	5,5	13,0
M10	**1192315**	**KTC100080M**	K	10,0	8,0	13,0
M14	**1280279**	**KTC110090M**	K	11,0	9,0	13,0
M16	**1280280**	**KTC120090M**	K	12,0	9,0	13,0

DA-K Tap Collet • Metric ISO

tap size	order number	catalog number	collet series	D1	S10	L9
M2,5 & M4	**1280272**	**KTC028021M**	K	2,8	2,1	13,0
M3,5 & 4,5	**1192306**	**KTC036028M**	K	3,6	2,8	13,0
M4 & M5	**1192307**	**KTC040032M**	K	4,0	3,2	13,0
M4,5 & M6	**1192308**	**KTC045036M**	K	4,5	3,6	13,0
M5	**1192309**	**KTC050040M**	K	5,0	4,0	13,0
M7	**1192312**	**KTC071056M**	K	7,1	5,6	13,0
M8 & M10 & M11	**1192313**	**KTC080063M**	K	8,0	6,3	13,0
M9 & M12	**1192314**	**KTC090071M**	K	9,0	7,1	13,0
M14	**1192316**	**KTC112090M**	K	11,2	9,0	13,0

(continued)

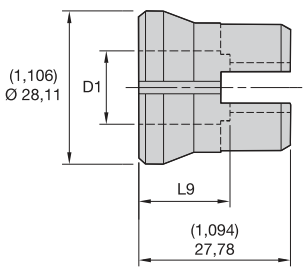
(DA-K Series Double-Angle Solid Tap Collets continued)

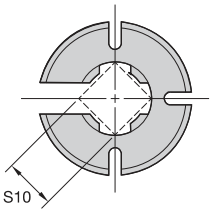
DA-K Tap Collet • Inch/Metric ANSI

tap size mm	tap size in	order number	catalog number	collet series	D1	S10	L9
M3 & M3,15 & M3,5	0-#6 & 1/8	**1016412**	**KTC6**	K	.141	.110	.480
M4	8 & 5/32	**1016465**	**KTC8**	K	.168	.131	.480
M4,5 & M5	10 & 3/16	**1016468**	**KTC10**	K	.194	.152	.480
—	12 & 7/32	**1016471**	**KTC12**	K	.220	.165	.480
M6 & M6,3	14 & 1/4	**1016524**	**KTC025**	K	.255	.191	.480
M7 & M8	5/16	**1016530**	**KTC031**	K	.318	.238	.480
—	7/16	**1016533**	**KTC043**	K	.323	.242	.480
M12 & M12,5	1/2	**1016586**	**KTC050**	K	.367	.275	.480
M10	3/8	**1016590**	**KTC037**	K	.381	.286	.480
M14	9/16	**1016592**	**KTC056**	K	.429	.322	.480

NOTE: Inserting the cutting tool less than 2/3 the gripping length into the collet can permanently damage the collet.
Full length of the gripping bore must be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.

- Provides positive drive for tapping applications.
- Design of slots in back of collet acts as a drive for the tap square.
- Can be used in all standard L-series double-angle collet chucks.
- Industry-standard Erickson™ double-angle collet system.







ERICKSON

DA-L Tap Collet • Metric DIN

tap size	order number	catalog number	collet series	D1	S10	L9
M5 & M6 & M7 & M8	**1192328**	**LTC060049M**	L	6,0	4,9	15,0
M10	**1109575**	**LTC070055M**	L	7,0	5,5	15,0
M10	**1117803**	**LTC100080M**	L	10,0	8,0	15,0
M14	**1281835**	**LTC110090M**	L	11,0	9,0	15,0
M16	**1281837**	**LTC120090M**	L	12,0	9,0	15,0
M18	**1281838**	**LTC140110M**	L	14,0	11,0	15,0
M20	**1281839**	**LTC160120M**	L	16,0	12,0	15,0
M22 & M24	**1109574**	**LTC180145M**	L	18,0	14,5	15,0

DA-L Tap Collet • Metric ISO

tap size	order number	catalog number	collet series	D1	S10	L9
—	**1192329**	**LTC063050M**	L	6,3	4,9	15,0
M7	**1192330**	**LTC071056M**	L	7,1	5,6	15,0
M8 & M10 & M11	**1117802**	**LTC080063M**	L	8,0	6,3	15,0
M9 & M12	**1093758**	**LTC090071M**	L	9,0	7,1	15,0
(1/4BSPF)	**1192331**	**LTC109082M**	L	10,9	8,2	—
(1/8NPT) (ANSI)	**1192332**	**LTC111085M**	L	11,1	8,5	—
M14	**1281836**	**LTC112090M**	L	11,2	9,0	15,0
M16 (3/8BSP)	**1192333**	**LTC125100M**	L	12,5	10,0	15,0
M18 & M20	**1192335**	**LTC140112M**	L	14,0	11,2	15,0
(1/4NPT) (ANSI)	**1192336**	**LTC143107M**	L	14,3	10,7	—
M22	**1192337**	**LTC160125M**	L	16,0	12,5	15,0
M24	**1192338**	**LTC180140M**	L	18,0	14,0	15,0

(continued)

(DA-L Series Double-Angle Solid Tap Collets continued)

DA-L Tap Collet • Inch/Metric ANSI

tap size mm	tap size in	order number	catalog number	collet series	D1	S10	L9
M3 & M3,15 & M3,5	0-#6 & 1/8	**1016413**	**LTC6**	L	.141	.110	.560
M4	8 & 5/32	**1016466**	**LTC8**	L	.168	.131	.560
M4,5 & M5	10 & 3/16	**1016469**	**LTC10**	L	.194	.152	.560
—	12 & 7/32	**1016472**	**LTC12**	L	.220	.165	.560
M6 & M6,3	14 & 1/4	**1016525**	**LTC025**	L	.255	.191	.560
M7 & M8	5/16	**1016531**	**LTC031**	L	.318	.238	.560
—	7/16	**1016584**	**LTC043**	L	.323	.242	.560
M12 & M12,5	1/2	**1016587**	**LTC050**	L	.367	.275	.560
M10	3/8	**1016591**	**LTC037**	L	.381	.286	.560
M14	9/16	**1016593**	**LTC056**	L	.429	.322	.560
M16	5/8	**1016658**	**LTC062**	L	.480	.360	.560
M18	11/16	**1016660**	**LTC069**	L	.542	.406	.560
—	3/4	**1016663**	**LTC075**	L	.590	.442	.560
M20	13/16	**1016705**	**LTC081**	L	.652	.489	.560
M22	7/8	**1016708**	**LTC087**	L	.697	.523	.560

NOTE: Full length of the gripping bore must be maintained to achieve maximum accuracy and safety.
Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers.
Never try to stretch the collets by clamping oversized cutting tools.

RC Rapid Quick-Change Tap Adapters • Tapping

Primary Application

ERICKSON RC Rapid Quick-Change Tap Adapters are convenient for hand changes with taps within seconds. No wrenches or locknuts are required. For this positive drive tap adapter, simply hold the tap in place with internal locking balls and drive on the tap square.

Features and Benefits

- Compact Rapid Change by hand design.
- Solid positive drive.
- Coolant through the tap design.



- Rapid-change style.
- Solid-positive drive.
- Coolant capability by using cutting tool with coolant feature.
- For taps with DIN, ISO, and ANSI specifications.



RCT1A025021M010

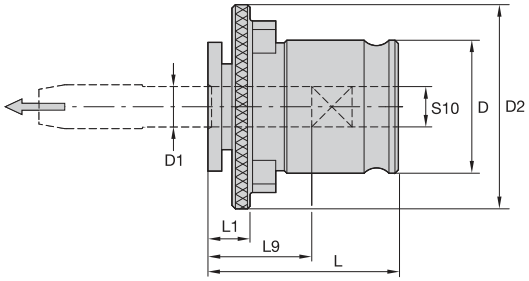
ERICKSON

RC1	TA	025	021	M	010
System Size	Collet Style	Collet Bore Size	Collet Drive Size	Identification Value	Tap Size
RC1 = RC1 **RC2** = RC2 **RC3** = RC3	**TA** = Tap Adapter	**metric (xx.x)** **025** = 2,5mm **110** = 11mm **245** = 24,5mm **inch (x.xxx)** **0125** = 1/8" **0500** = 1/2"	**metric (xx.x)** **010** = 1mm **160** = 16mm **245** = 24,5mm **inch (x.xxx)** **0125** = 1/8" **0500** = 1/2" **1000** = 1"	**M** = Sleeve bore size built to metric values **IN** = Sleeve bore size built to inch values	**metric (xx.x)** **010** = 1mm **160** = 16mm **245** = 24,5mm **inch (x.xxx)** **0125** = 1/8" **0500** = 1/2" **1000** = 1"



- Rapid Change style.
- Solid-positive drive.
- Coolant capability by using cutting tool with coolant feature.
- For taps with DIN, ISO, and ANSI specifications.







ERICKSON

RC Solid Tap Adapter • Metric DIN

tap size DIN	RC1 D = 19mm D2 = 30mm L = 28mm L1 = 7mm L9 = 17mm	RC2 D = 31mm D2 = 48mm L = 46mm L1 = 11mm L9 = 30mm	RC3 D = 48mm D2 = 70mm L = 70mm L1 = 14mm L9 = 44mm	D1	S10
M1 & M1.8 & M3 & M3.5	**RC1TA025021M010**	–	–	2,5	2,1
M2.5 & M4	**RC1TA028021M020**	–	–	2,8	2,1
M3 & M5	**RC1TA035027M030**	–	–	3,5	2,7
M3.5	**RC1TA040030M035**	–	–	4,0	3,0
M4 & M6	**RC1TA045034M040**	–	–	4,5	3,4
M4	–	**RC2TA045034M040**	–	4,5	3,4
M5 & M6 & M7 & M8	**RC1TA060049M050**	**RC2TA060049M050**	–	6,0	4,9
M10	**RC1TA070055M100**	**RC2TA070055M100**	–	7,0	5,5
M8	**RC1TA080062M080**	**RC2TA080062M080**	–	8,0	6,2
M12	**RC1TA090070M120**	**RC2TA090070M120**	–	9,0	7,0
M10	**RC1TA100080M100**	**RC2TA100080M100**	–	10,0	8,0
M14	**RC1TA110090M140**	**RC2TA110090M140**	**RC3TA110090M140**	11,0	9,0
M16	–	–	**RC3TA120090M160**	12,0	9,0
M16	–	**RC2TA120090M160**	–	12,9	9,0
M18	–	**RC2TA140110M180**	**RC3TA140110M180**	14,0	11,0
M20	–	**RC2TA160120M200**	**RC3TA160120M200**	16,0	12,0
M22 & M24	–	**RC2TA180145M220**	–	18,0	4,5
–	–	–	**RC3TA180140M240**	18,0	14,0
M22 & M24	–	–	**RC3TA180145M240**	18,0	14,5
M27	–	–	**RC3TA200160M300**	20,0	16,0
M30	–	–	**RC3TA220180M300**	22,0	18,0
M33	–	–	**RC3TA250200M360**	25,0	20,0
M36	–	–	**RC3TA280220M360**	28,0	22,0

(continued)

(RC-Style Solid Tap Adapters continued)

RC Solid Tap Adapter • Metric ISO

tap size	RC1 D = 19mm D2 = 30mm L = 28mm L1 = 7mm L9 = 17mm	RC2 D = 31mm D2 = 48mm L = 46mm L1 = 11mm L9 = 30mm	RC3 D = 48mm D2 = 70mm L = 70mm L1 = 14mm L9 = 44mm	D1	S10
M3	**RC1TA023018M030**	–	–	2,24	1,80
M2.2 & M2.5	**RC1TA028023M025**	–	–	2,80	2,24
M3 & M4	**RC1TA032025M030**	–	–	3,15	2,50
M3.5 & M4.5	**RC1TA036028M035**	–	–	3,55	2,80
M4 & M5	**RC1TA040032M040**	–	–	4,00	3,15
M4.5 & M6	**RC1TA045036M060**	**RC2TA045036M060**	–	4,50	3,55
M5	**RC1TA050040M050**	**RC2TA050040M050**	–	5,00	4,00
–	**RC1TA056045M000**	–	–	5,60	4,50
M6 & M8	**RC1TA063050M060**	**RC2TA063050M060**	–	6,30	5,00
M7	**RC1TA071056M070**	**RC2TA071056M070**	–	7,10	5,60
M8 & M10 & M11	**RC1TA080063M080**	**RC2TA080063M080**	–	8,00	6,30
M9 & M12	**RC1TA090071M090**	–	–	9,00	7,10
M9 & M12	–	**RC2TA090071M090**	–	9,00	7,10
M14	**RC1TA112090M140**	**RC2TA112090M140**	**RC3TA112090M140**	11,20	9,00
M16	–	**RC2TA125100M160**	–	12,50	10,00
M18 & M20	–	**RC2TA140112M180**	–	14,00	11,20
M22	–	**RC2TA160125M220**	**RC3TA160125M220**	16,00	12,50
M24	–	**RC2TA180140M240**	–	18,00	14,00
M33	–	–	**RC3TA224180M330**	22,40	18,00

(continued)

(RC-Style Solid Tap Adapters continued)

RC Solid Tap Adapter • Inch/Metric ANSI

tap size mm	tap size in	RC1 D = .750 D2 = 1.180 L = 1.100 L1 = .280	RC2 D = 1.220 D2 = 1.890 L = 1.810 L1 = .430	RC3 D = 1.890 D2 = 2.760 L = 2.760 L1 = .550	D1	S10
M3 & M3,18 & M3,5	#0 - #6 UNC/UNF	**T11006**	**–**	**–**	.141	.110
M4	#8 UNC/UNF	**T11007**	**–**	**–**	.168	.131
M4,5 & M5	#10 UNC/UNF	**T11008**	**–**	**–**	.194	.152
–	#12 UNC/UNF	**T11009**	**–**	**–**	.220	.165
M6 & M6,3	1/4 UNC/UNF	**T11010**	**–**	**–**	.255	.191
–	–	**T110166**	**–**	**–**	.313	.234
M7 & M8	5/16 UNC/UNF	**T11012**	**T21018**	**–**	.318	.238
–	7/16 UNC/UNF	**T11014**	**T21020**	**–**	.323	.242
M12 & M12,5	1/2 UNC/UNF	**T11015**	**T21021**	**–**	.367	.275
M10	3/8 UNC/UNF	**T11013**	**T21019**	**–**	.381	.286
M14	9/16 UNC/UNF	**T110155**	**T21022**	**–**	.429	.322
–	–	**T110177**		**–**	.438	.328
M16	5/8 UNC/UNF	**–**	**T21023**	**–**	.480	.360
M18	11/16 UNC/UNF	**–**	**T21024**	**–**	.542	.406
–	–	**–**	**T210288**	**–**	.563	.421
–	3/4 UNC/UNF	**–**	**T21025**	**–**	.590	.442
M20	13/16 UNC/UNF	**–**	**T21026**	**T31031**	.652	.489
–	–	**–**	**T210300**	**T310387**	.688	.515
M22	7/8 UNC/UNF	**–**	**T21027**	**T31032**	.697	.523
–	–	**–**	**T210299**		.700	.531
M24	15/16 UNC/UNF	**–**	**–**	**T31033**	.760	.570
M25	1 UNC/UNF	**–**	**–**	**T31034**	.800	.600
M27	1 1/8 UNC/UNF	**–**	**–**	**T31035**	.896	.672
–	–	**–**	**–**	**T310388**	.906	.679
–	1 1/4 UNC/UNF	**–**	**–**	**T31036**	1.021	.766
M30	1 3/8 UNC/UNF	**–**	**–**	**T31037**	1.108	.831
–	–	**–**	**–**	**T310389**	1.125	.843

- An economical way to purchase a set of RC tap adapters.
- Rapid Change style.
- Solid-positive drive.
- Coolant capability by using cutting tool with coolant feature.





ERICKSON

RC Solid Tap Adapter Set • Inch

catalog number	series	quantity	dimensional range
T1SET	RC1	10	#0 - 9/16
T2SET	RC2	10	5/16 - 7/8

KENNAMETAL

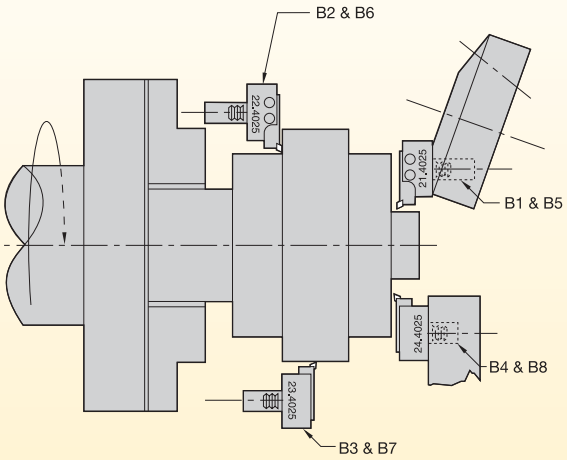


VDI Toolholders

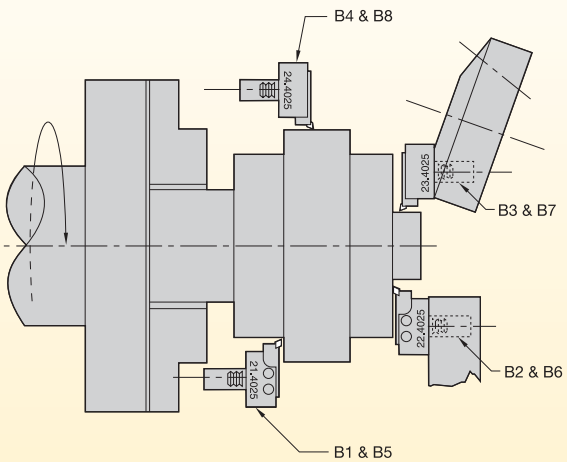
VDI Toolholders K1–K13
Tooling Selection Guide K2
VDI Form A1 • Rectangular Blank K3
VDI Form A2 • Round Blank K3
VDI Form B1 • Right-Hand Short K4
VDI Form B2 • Left-Hand Short K4
VDI Form B3 • Right-Hand Short Inverted K5
VDI Form B4 • Left-Hand Short Inverted K5
VDI Form B5 • Right-Hand Long K6
VDI Form B6 • Left-Hand Long K6
VDI Form B7 • Right-Hand Long Inverted K7
VDI Form B8 • Left-Hand Long Inverted K7
VDI Form C1 • Square Right Hand K8
VDI Form C2 • Square Left Hand K8
VDI Form C3 • Square Right-Hand Inverted K9
VDI Form C4 • Square Left-Hand Inverted K9
VDI Form E1 • Boring Bar Internal Coolant K10
VDI Form E2 • Boring Bar Dual Coolant K11
VDI Form E3 • Collet Chuck • DIN 6388 . . . . . K12
VDI Form E4 • Collet Chuck • ER K12
VDI Form Z2 • Steel Plug K13

Tooling Selection Guide

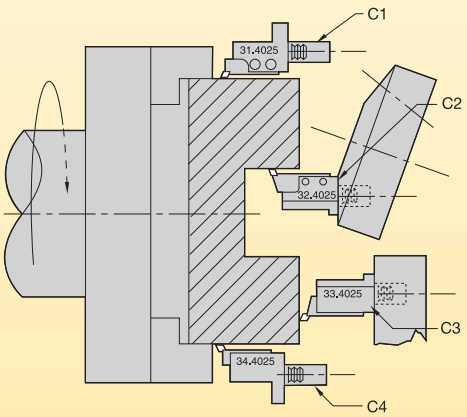
Left-Hand (Clockwise) Spindle Rotation



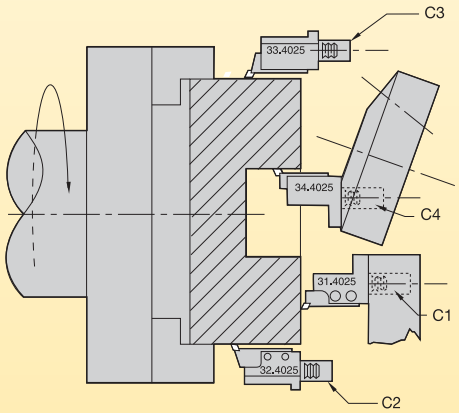
Right-Hand (Counter-Clockwise) Spindle Rotation



Left-Hand (Clockwise) Spindle Rotation



Right-Hand (Counter-Clockwise) Spindle Rotation



C1 — Right-hand form C1.

C2 — Left-hand form C2.

C3 — Right-hand inverted form C3.

C4 — Left-hand inverted form C4.

B1 — Right-hand short form B1.

B2 — Left-hand short form B2.

B3 — Right-hand short inverted form B3.

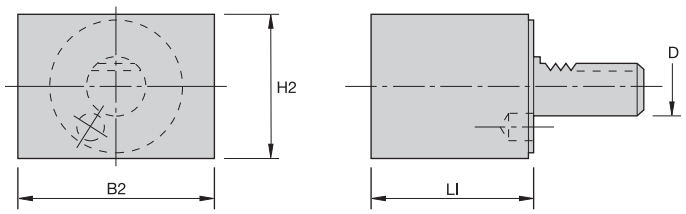
B4 — Left-hand short inverted form B4.

B5 — Right-hand long form B5.

B6 — Left-hand long form B6.

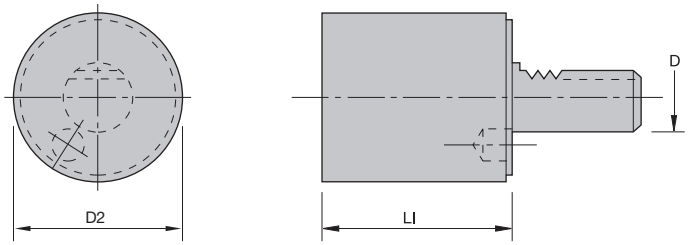
B7 — Right-hand long inverted form B7.

B8 — Left-hand long inverted form B8.



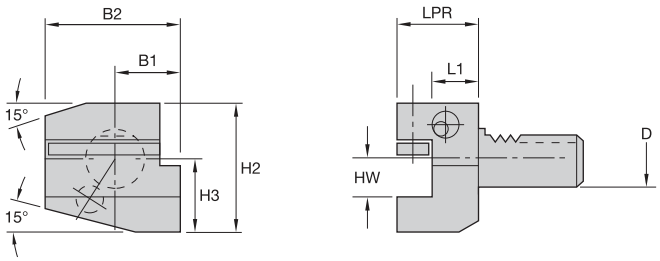
VDI Form A1 • Rectangular Blank

catalog number	D	L1	B2	H2
VDIA1M2065	20,00	65,00	100,00	60,00
VDIA1M3085	30,00	85,00	130,00	76,00
VDIA1M40100	40,00	100,00	151,00	96,00
VDIA1M50125	50,00	125,00	160,00	120,00
VDIA1M60160	60,00	160,00	165,00	125,00



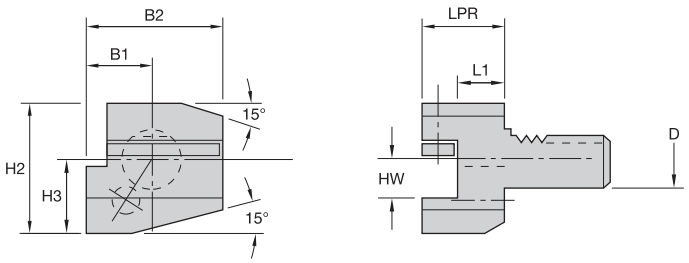
VDI Form A2 • Round Blank

catalog number	D	D2	L1
VDIA2M2070	20,00	50,00	70,00
VDIA2M30100	30,00	68,00	100,00
VDIA2M30240	30,00	68,00	240,00
VDIA2M40120	40,00	83,00	120,00
VDIA2M40320	40,00	83,00	320,00
VDIA2M50135	50,00	98,00	135,00
VDIA2M50400	50,00	98,00	400,00
VDIA2M60150	60,00	123,00	150,00
VDIA2M60480	60,00	123,00	480,00



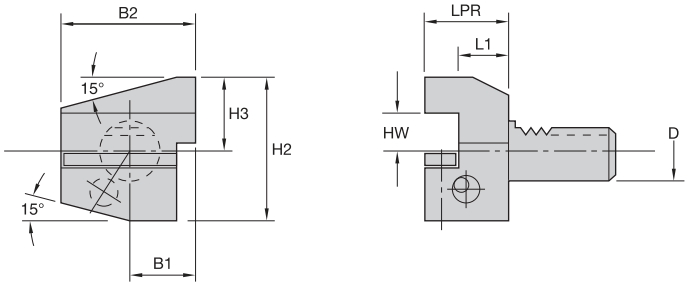
VDI Form B1 • Right-Hand Short

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB1M161224	16,00	42,00	23,00	12,00	42,00	22,00	13,00	24,00
VDIB1M161234	16,00	42,00	23,00	12,00	42,00	22,00	23,00	34,00
VDIB1M201630	20,00	55,00	30,00	16,00	55,00	30,00	16,00	30,00
VDIB1M201640	20,00	55,00	30,00	16,00	55,00	30,00	26,00	40,00
VDIB1M251630	25,00	55,00	30,00	16,00	55,00	30,00	16,00	30,00
VDIB1M302040	30,00	70,00	35,00	20,00	66,00	38,00	22,00	40,00
VDIB1M302060	30,00	70,00	35,00	20,00	66,00	38,00	42,00	60,00
VDIB1M402544	40,00	85,00	42,50	25,00	80,50	48,00	22,00	44,00
VDIB1M503255	50,00	100,00	50,00	32,00	95,00	60,00	30,00	55,00
VDIB1M603260	60,00	125,00	62,50	32,00	105,00	62,50	30,00	60,00



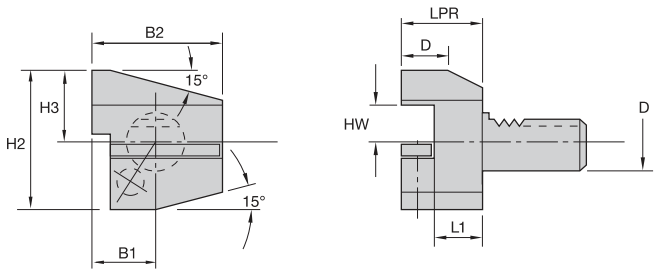
VDI Form B2 • Left-Hand Short

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB2M161224	16,00	42,00	23,00	12,00	42,00	22,00	13,00	24,000
VDIB2M161234	16,00	42,00	23,00	12,00	42,00	22,00	23,00	34,000
VDIB2M201630	20,00	55,00	30,00	16,00	55,00	30,00	16,00	30,000
VDIB2M201640	20,00	55,00	30,00	16,00	55,00	30,00	26,00	40,000
VDIB2M251630	25,00	55,00	30,00	16,00	55,00	30,00	16,00	30,000
VDIB2M302040	30,00	70,00	35,00	20,00	66,00	38,00	22,00	40,000
VDIB2M302060	30,00	70,00	35,00	20,00	66,00	38,00	42,00	60,000
VDIB2M402544	40,00	85,00	42,50	25,00	80,50	48,00	22,00	44,000
VDIB2M503255	50,00	100,00	50,00	32,00	95,00	60,00	30,00	55,000
VDIB2M603260	60,00	125,00	62,50	32,00	105,00	62,50	30,00	60,000



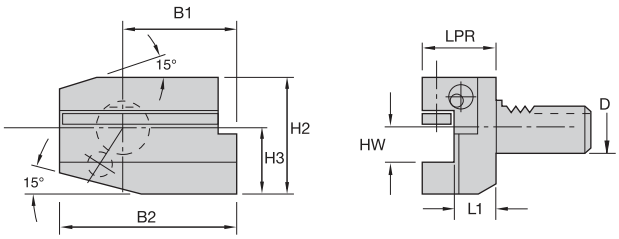
VDI Form B3 • Right-Hand Short Inverted

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB3M161224	16,00	42,00	23,00	12,00	42,00	22,00	13,00	24,000
VDIB3M161234	16,00	42,00	23,00	12,00	42,00	22,00	23,00	34,000
VDIB3M201630	20,00	55,00	30,00	16,00	55,00	30,00	16,00	30,000
VDIB3M201640	20,00	55,00	30,00	16,00	55,00	30,00	26,00	40,000
VDIB3M251630	25,00	55,00	30,00	16,00	55,00	30,00	16,00	30,000
VDIB3M302040	30,00	70,00	35,00	20,00	73,00	38,00	22,00	40,000
VDIB3M302060	30,00	70,00	35,00	20,00	73,00	38,00	42,00	60,000
VDIB3M402544	40,00	85,00	42,50	25,00	90,50	48,00	22,00	44,000
VDIB3M503255	50,00	100,00	50,00	32,00	110,00	60,00	30,00	55,000
VDIB3M603260	60,00	125,00	62,50	32,00	125,00	62,50	30,00	60,000



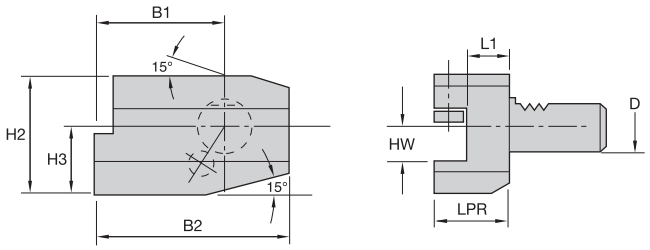
VDI Form B4 • Left-Hand Short Inverted

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB4M161224	16,00	42,00	23,00	12,00	42,00	22,00	13,00	24,000
VDIB4M161234	16,00	42,00	23,00	12,00	42,00	22,00	23,00	34,000
VDIB4M201630	20,00	55,00	30,00	16,00	55,00	30,00	16,00	30,000
VDIB4M201640	20,00	55,00	30,00	16,00	55,00	30,00	26,00	40,000
VDIB4M251630	25,00	55,00	30,00	16,00	55,00	30,00	16,00	30,000
VDIB4M302040	30,00	70,00	35,00	20,00	73,00	38,00	22,00	40,000
VDIB4M302060	30,00	70,00	35,00	20,00	73,00	38,00	42,00	60,000
VDIB4M402544	40,00	85,00	42,50	25,00	90,50	48,00	22,00	44,000
VDIB4M503255	50,00	100,00	50,00	32,00	110,00	60,00	30,00	55,000
VDIB4M603260	60,00	125,00	62,50	32,00	125,00	62,50	30,00	60,000



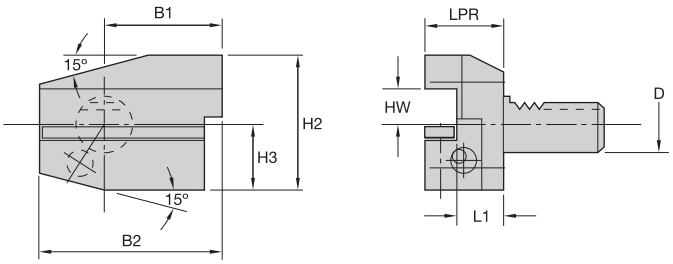
VDI Form B5 • Right-Hand Long

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB5M201630	20,00	75,00	50,00	16,00	55,00	30,00	16,00	30,00
VDIB5M201640	20,00	75,00	50,00	16,00	55,00	30,00	26,00	40,00
VDIB5M302040	30,00	100,00	65,00	20,00	66,00	38,00	22,00	40,00
VDIB5M402044	40,00	118,00	75,50	20,00	80,50	48,00	22,00	44,00
VDIB5M402544	40,00	118,00	75,50	25,00	80,50	48,00	22,00	44,00
VDIB5M503255	50,00	130,00	80,00	32,00	95,00	60,00	30,00	55,00
VDIB5M603260	60,00	145,00	82,50	32,00	105,00	62,50	30,00	60,00



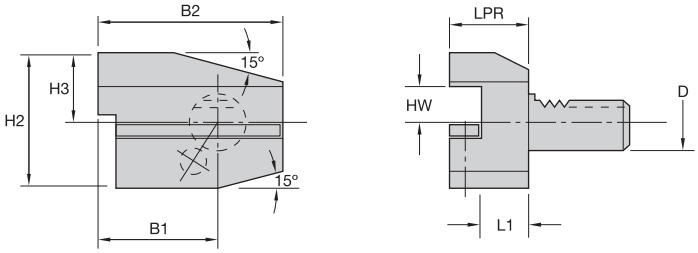
VDI Form B6 • Left-Hand Long

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB6M201630	20,00	75,00	50,00	16,00	55,00	30,00	16,00	30,00
VDIB6M201640	20,00	75,00	50,00	16,00	55,00	30,00	26,00	40,00
VDIB6M302040	30,00	100,00	65,00	20,00	66,00	38,00	22,00	40,00
VDIB6M402044	40,00	118,00	75,50	20,00	80,50	48,00	22,00	44,00
VDIB6M402544	40,00	118,00	75,50	25,00	80,50	48,00	22,00	44,00
VDIB6M503255	50,00	130,00	80,00	32,00	95,00	60,00	30,00	55,00
VDIB6M603260	60,00	145,00	82,50	32,00	105,00	62,50	30,00	60,00



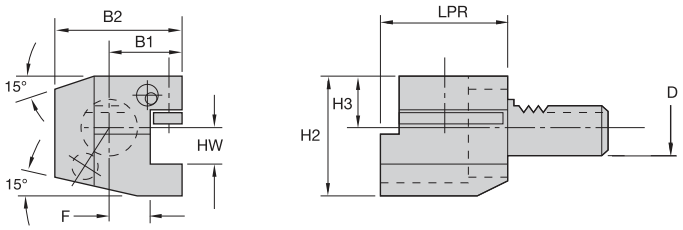
VDI Form B7 • Right-Hand Long Inverted

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB7M201630	20,00	75,00	50,00	16,00	55,00	30,00	16,00	30,00
VDIB7M201640	20,00	75,00	50,00	16,00	55,00	30,00	26,00	40,00
VDIB7M302040	30,00	100,00	65,00	20,00	73,00	38,00	22,00	40,00
VDIB7M402044	40,00	118,00	75,50	20,00	80,50	48,00	22,00	44,00
VDIB7M402544	40,00	118,00	75,50	25,00	80,50	48,00	22,00	44,00
VDIB7M503255	50,00	130,00	80,00	32,00	110,00	60,00	30,00	55,00
VDIB7M603260	60,00	145,00	82,50	32,00	125,00	62,50	30,00	60,00



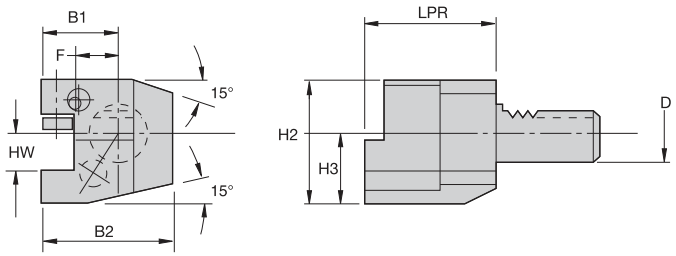
VDI Form B8 • Left-Hand Long Inverted

catalog number	D	B2	B1	HW	H2	H3	L1	LPR
VDIB8M201630	20,00	75,00	50,00	16,00	55,00	30,00	16,00	30,00
VDIB8M201640	20,00	75,00	50,00	16,00	55,00	30,00	26,00	40,00
VDIB8M302040	30,00	100,00	65,00	20,00	73,00	38,00	22,00	40,00
VDIB8M402044	40,00	118,00	75,50	20,00	80,50	48,00	22,00	44,00
VDIB8M402544	40,00	118,00	75,50	25,00	80,50	48,00	22,00	44,00
VDIB8M503255	50,00	130,00	80,00	32,00	110,00	60,00	30,00	55,00
VDIB8M603260	60,00	145,00	82,50	32,00	125,00	62,50	30,00	60,00



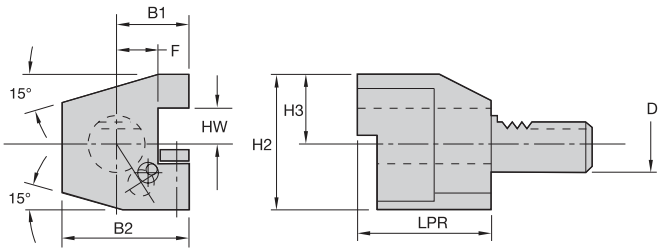
VDI Form C1 • Square Right Hand

catalog number	D	B2	B1	F	HW	H2	H3	LPR
VDIC1M201650	20,00	65,00	40,00	26,00	16,00	55,00	30,00	50,00
VDIC1M201655	20,00	52,00	27,00	13,00	16,00	55,00	30,00	55,00
VDIC1M302070	30,00	70,00	36,00	17,00	20,00	70,00	38,00	70,00
VDIC1M402585	40,00	85,00	42,50	21,00	25,00	80,50	48,00	85,00
VDIC1M5032100	50,00	100,00	50,00	26,00	32,00	95,00	60,00	100,00
VDIC1M6032125	60,00	125,00	62,50	33,00	32,00	105,00	62,50	125,00



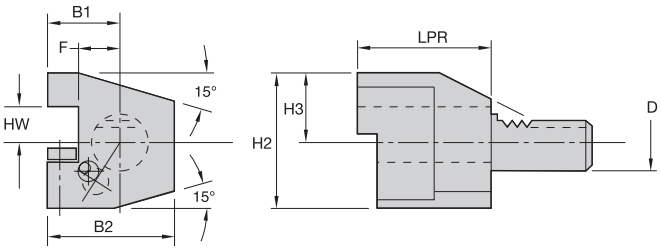
VDI Form C2 • Square Left Hand

catalog number	D	B2	B1	F	HW	H2	H3	LPR
VDIC2M201650	20,00	65,00	40,00	26,00	16,00	55,00	30,00	50,00
VDIC2M201655	20,00	65,00	40,00	26,00	16,00	55,00	30,00	55,00
VDIC2M302070	30,00	76,00	41,00	23,00	20,00	66,00	38,00	70,00
VDIC2M402585	40,00	90,00	47,50	25,50	25,00	80,50	48,00	85,00
VDIC2M5032100	50,00	105,00	55,00	30,50	32,00	95,00	60,00	100,00
VDIC2M6032125	60,00	125,00	62,50	33,00	32,00	105,00	62,50	125,00



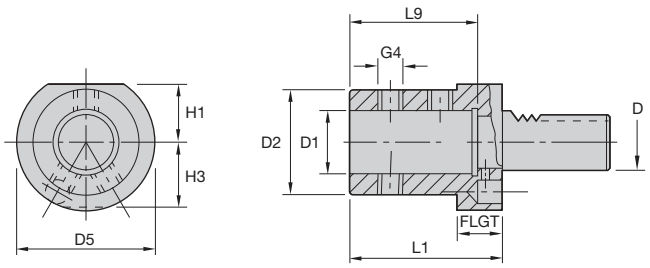
VDI Form C3 • Square Right-Hand Inverted

catalog number	D	B2	B1	F	HW	H2	H3	LPR
VDIC3M201650	20,00	65,00	40,00	26,00	16,00	55,00	30,00	50,00
VDIC3M201655	20,00	52,00	27,00	13,00	16,00	55,00	30,00	55,00
VDIC3M302070	30,00	70,00	35,00	17,00	20,00	73,00	38,00	70,00
VDIC3M402585	40,00	85,00	42,50	21,00	25,00	90,50	48,00	85,00
VDIC3M5032100	50,00	100,00	50,00	26,00	32,00	110,00	60,00	100,00
VDIC3M6032125	60,00	125,00	62,50	33,00	32,00	125,00	62,50	125,00



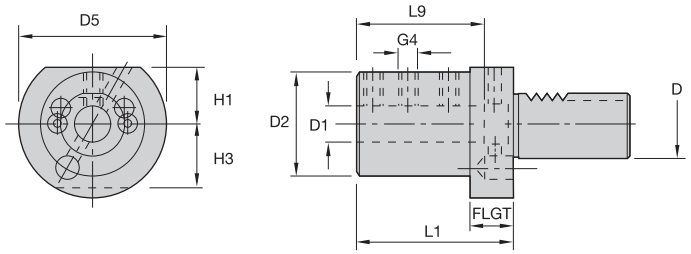
VDI Form C4 • Square Left-Hand Inverted

catalog number	D	B2	B1	F	HW	H2	H3	LPR
VDIC4M201650	20,00	65,00	40,00	26,00	16,00	55,00	30,00	50,00
VDIC4M201655	20,00	65,00	40,00	26,00	16,00	55,00	30,00	55,00
VDIC4M302070	30,00	76,00	41,00	23,00	20,00	73,00	38,00	70,00
VDIC4M402585	40,00	90,00	47,50	25,50	25,00	90,50	48,00	85,00
VDIC4M5032100	50,00	105,00	55,00	30,50	32,00	110,00	60,00	100,00
VDIC4M6032125	60,00	125,00	62,50	33,00	32,00	125,00	62,50	125,00



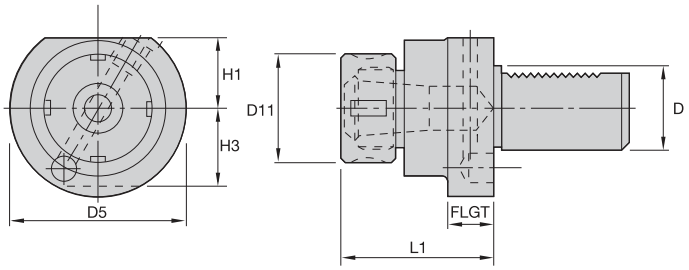
VDI Form E1 • Boring Bar Internal Coolant

catalog number	D	D1	D2	G4	D5	H1	H3	L1	L9	FLGT
VDIE1M2020	20,00	20,00	40,00	M10 X 1.0	50,00	25,00	23,00	67,00	54,00	18,00
VDIE1M2025	20,00	25,00	45,00	M12 X 1.0	50,00	25,00	23,00	71,00	59,00	18,00
VDIE1M3020	30,00	20,00	40,00	M10 X 1.0	68,00	28,00	30,00	67,00	54,00	22,00
VDIE1M3025	30,00	25,00	45,00	M12 X 1.0	68,00	28,00	30,00	71,00	59,00	22,00
VDIE1M3032	30,00	32,00	52,00	M12 X 1.0	68,00	28,00	30,00	75,00	63,00	22,00
VDIE1M3040	30,00	40,00	60,00	M16 X 1.0	68,00	28,00	30,00	85,00	75,00	22,00
VDIE1M4020	40,00	20,00	40,00	M10 X 1.0	83,00	32,50	41,50	67,00	55,00	22,00
VDIE1M4025	40,00	25,00	45,00	M12 X 1.0	83,00	32,50	41,50	75,00	59,00	22,00
VDIE1M4032	40,00	32,00	52,00	M12 X 1.0	83,00	32,50	41,50	75,00	63,00	22,00
VDIE1M4040	40,00	40,00	65,00	M16 X 1.0	83,00	32,50	41,50	90,00	73,00	22,00
VDIE1M5020	50,00	20,00	40,00	M10 X 1.0	98,00	35,00	49,00	67,00	54,00	30,00
VDIE1M5025	50,00	25,00	45,00	M12 X 1.0	98,00	35,00	49,00	80,00	59,00	30,00
VDIE1M5032	50,00	32,00	52,00	M12 X 1.0	98,00	35,00	49,00	80,00	63,00	30,00
VDIE1M5040	50,00	40,00	65,00	M16 X 1.0	98,00	35,00	49,00	90,00	75,00	30,00
VDIE1M5050	50,00	50,00	70,00	M16 X 1.0	98,00	35,00	49,00	100,00	83,00	30,00
VDIE1M6020	60,00	20,00	40,00	M10 X 1.0	123,00	42,50	61,50	66,00	54,00	30,00
VDIE1M6025	60,00	25,00	45,00	M12 X 1.0	123,00	42,50	61,50	71,00	59,00	30,00
VDIE1M6032	60,00	32,00	52,00	M12 X 1.0	123,00	42,50	61,50	75,00	63,00	30,00
VDIE1M6040	60,00	40,00	60,00	M16 X 1.0	123,00	42,50	61,50	85,00	73,00	30,00
VDIE1M6050	60,00	50,00	70,00	M16 X 1.0	123,00	42,50	61,50	95,00	83,00	30,00



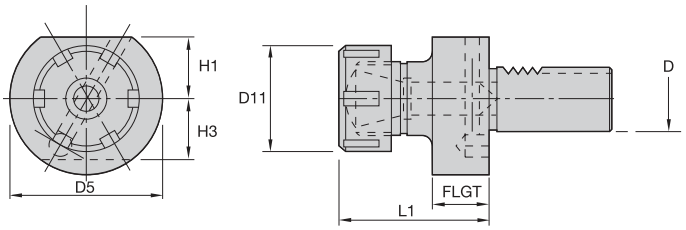
VDI Form E2 • Boring Bar Dual Coolant

catalog number	D	D1	D2	G4	D5	H1	H3	L1	L9	FLGT
VDIE2M2010	20,00	10,00	40,00	M6	50,00	25,00	23,00	50,00	41,00	18,00
VDIE2M2012	20,00	12,00	40,00	M8	50,00	25,00	23,00	50,00	41,00	18,00
VDIE2M2016	20,00	16,00	40,00	M8	50,00	25,00	23,00	50,00	41,00	18,00
VDIE2M2020	20,00	20,00	50,00	M8	50,00	25,00	23,00	50,00	41,00	18,00
VDIE2M2025	20,00	25,00	50,00	M8	50,00	25,00	23,00	60,00	51,00	18,00
VDIE2M208	20,00	8,00	40,00	M6	50,00	25,00	23,00	50,00	41,00	18,00
VDIE2M3010	30,00	10,00	55,00	M6	68,00	28,00	30,00	60,00	52,00	22,00
VDIE2M3012	30,00	12,00	55,00	M8	68,00	28,00	30,00	60,00	52,00	22,00
VDIE2M3016	30,00	16,00	55,00	M8	68,00	28,00	30,00	60,00	52,00	22,00
VDIE2M3020	30,00	20,00	55,00	M8	68,00	28,00	30,00	60,00	52,00	22,00
VDIE2M3025	30,00	25,00	55,00	M8	68,00	28,00	30,00	60,00	52,00	22,00
VDIE2M3032	30,00	32,00	68,00	M8	50,00	28,00	30,00	75,00	62,00	–
VDIE2M308	30,00	8,00	55,00	M6	68,00	28,00	30,00	60,00	52,00	22,00
VDIE2M4010	40,00	10,00	55,00	M8	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M4012	40,00	12,00	55,00	M8	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M4016	40,00	16,00	55,00	M10	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M4020	40,00	20,00	55,00	M10	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M4025	40,00	25,00	55,00	M10	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M4032	40,00	32,00	83,00	M10	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M4040	40,00	40,00	83,00	M10	83,00	32,50	41,50	90,00	77,00	22,00
VDIE2M408	40,00	8,00	55,00	M8	83,00	32,50	41,50	75,00	62,00	22,00
VDIE2M5010	50,00	10,00	55,00	M6	98,00	35,00	49,00	75,00	61,00	30,00
VDIE2M5012	50,00	12,00	55,00	M8	98,00	35,00	49,00	75,00	61,00	30,00
VDIE2M5016	50,00	16,00	68,00	M10	98,00	35,00	49,00	90,00	78,00	30,00
VDIE2M5020	50,00	20,00	68,00	M12	98,00	35,00	49,00	90,00	78,00	30,00
VDIE2M5025	50,00	25,00	68,00	M12	98,00	35,00	49,00	90,00	78,00	30,00
VDIE2M5032	50,00	32,00	68,00	M12	98,00	35,00	49,00	90,00	78,00	30,00
VDIE2M5040	50,00	40,00	98,00	M12	98,00	35,00	49,00	90,00	78,00	–
VDIE2M5050	50,00	50,00	98,00	M12	98,00	35,00	49,00	100,00	86,00	–
VDIE2M508	50,00	8,00	55,00	M6	98,00	35,00	49,00	80,00	61,00	30,00
VDIE2M6010	60,00	10,00	68,00	M8	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6012	60,00	12,00	68,00	M8	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6016	60,00	16,00	68,00	M10	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6020	60,00	20,00	68,00	M12	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6025	60,00	25,00	68,00	M12	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6032	60,00	32,00	68,00	M12	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6040	60,00	40,00	98,00	M12	123,00	42,50	61,50	90,00	76,00	30,00
VDIE2M6050	60,00	50,00	98,00	M12	123,00	42,50	61,50	100,00	86,00	30,00



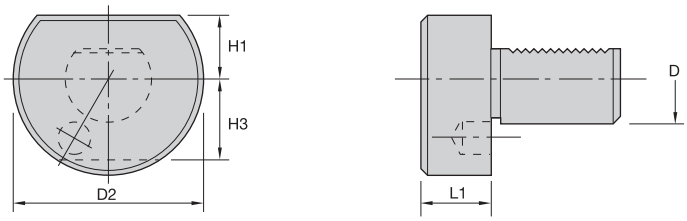
VDI Form E3 • Collet Chuck • DIN 6388

catalog number	D	D5	D11	H1	H3	FLGT	L1
VDIE3M2016	20,00	50,00	43,00	25,00	23,00	18,00	57,00
VDIE3M2020	20,00	50,00	50,00	25,00	23,00	18,00	62,00
VDIE3M3025	30,00	68,00	60,00	28,00	30,00	22,00	75,00
VDIE3M4025	40,00	83,00	60,00	32,50	41,50	22,00	75,00
VDIE3M4032	40,00	83,00	72,00	32,50	41,50	22,00	90,00
VDIE3M5025	50,00	98,00	60,00	35,00	49,00	30,00	75,00
VDIE3M5032	50,00	98,00	72,00	35,00	49,00	30,00	90,00
VDIE3M6032	60,00	123,00	72,00	42,50	61,50	30,00	90,00



VDI Form E4 • Collet Chuck • ER

catalog number	D	D5	D11	H1	H3	FLGT	L1
VDIE4M1616	16,00	40,00	32,00	18,00	20,00	13,00	36,00
VDIE4M2016	20,00	50,00	32,00	25,00	23,00	18,00	42,00
VDIE4M2025	20,00	68,00	42,00	25,00	23,00	18,00	50,00
VDIE4M3025	30,00	68,00	42,00	28,00	30,00	22,00	57,00
VDIE4M3032	30,00	68,00	50,00	28,00	30,00	22,00	62,00
VDIE4M3040	30,00	83,00	63,00	28,00	30,00	22,00	70,00
VDIE4M4025	40,00	83,00	42,00	32,50	41,50	22,00	57,00
VDIE4M4032	40,00	83,00	50,00	32,50	41,50	22,00	62,00
VDIE4M4040	40,00	83,00	63,00	32,50	41,50	22,00	75,00
VDIE4M5040	50,00	98,00	63,00	35,00	49,00	30,00	75,00
VDIE4M6040	60,00	123,00	63,00	42,50	61,50	30,00	75,00



VDI Form Z2 • Steel Plug

catalog number	D	D2	L1	H1	H3
VDIZ2M20	20,00	50,00	16,00	23,00	23,00
VDIZ2M30	30,00	68,00	16,00	28,00	30,00
VDIZ2M40	40,00	83,00	20,00	32,50	41,50
VDIZ2M50	50,00	98,00	20,00	35,00	49,00
VDIZ2M60	60,00	123,00	20,00	42,50	61,50



Accessories

Shrink Fit Unit Offering **L2**
Induction Shrink Fit Unit TTISG3400EU **L4–L7**
Induction Shrink Fit Unit TTISG3400NA **L4–L7**
Induction Shrink Fit Unit TTISG3400CCEU **L8–L11**
Induction Shrink Fit Unit TTISG3400CCNA **L8–L11**
Shrink Fit Axial Adjustment Gages **L12–L13**
Balance Screw Sets **L14**
HC Hydraulic Chuck Test Pins **L14**
HC Hydraulic Chuck Cleaning Brushes **L15**
Collet Extractors TG **L15**
TG Round Flush-Face Locknuts **L16**
TG Balanceable Round Locknuts **L16**
Coolant Disk Assemblies **L17**
TG Standard Round and Hex Locknuts **L18**
ER Standard Short and Slim Locknuts **L19**
ER Slim Coolant and Hex Locknuts **L20**
ER Coolant Hex and Standard Round Locknuts **L21**
ER Coolant Round Locknuts **L22**
Coolant Locknut Sealing Disks and Disk Sets **L23–L29**
ER16 . . . . . L23
ER20 . . . . . L24
ER25 . . . . . L25
ER32 . . . . . L26–L27
ER40 . . . . . L28–L29
DA 01 Double Angle Locknuts **L30**
DA 04 Double Angle Locknuts **L31**
DA 08 Double Angle Locknuts **L31**
Stop Screws **L32**
Coolant and Blank Caps **L34**
Extended Caps **L35**
Shell Mill Adapter Lock Screws **L36–L37**
Shell Mill Coolant Lock Screws **L38**
Tightening Fixtures **L38–L41**
KM Vise Mounts L38
KM4X and HSK Vise Mounts L39
HSK Universal Mounts and Sleeves L40
7/24 Steep Taper Vise and Universal Mounts L41
P-KM and HSK Spindle Plugs **L42**
KM, HSK, and 7/24 Steep Taper Spindle Wipers **L43**
HSK Coolant Supply Units and Wrenches **L44**
Retention Knobs **L45–L50**
Socket Wrenches **L51**
KM Manual Torque Wrenches **L52**
KM-LOC II and KM-LOC Wrenches **L53**
T-Handle Hex Wrench Sets **L54**
Universal Bit Drivers **L55**
Driver Bits **L55**
Open-Ended Wrenches **L56**
Pin Spanner and Hook Spanner Wrenches **L57**
Rapid and Rapid Plus Wrenches **L58**

ERICKSON





	EMEA, Asia, South America	TTISG3400EU	TTISG3400CCEU
	North America	TTISG3400NA	TTISG3400CCNA
input	generator power	10 kW	10 kW
	compressed air supply required	4 bar (58 psi)	4 bar (58 psi)
	supply power needed (3 phase)	3 x 400V/16A (EU) 3 x 480V/16A (NA)	3 x 400V/16A (EU) 3 x 480V/16A (NA)
	cooling process	water	water
capability	number of cooling stations	1	1
	HSS shank diameters range/capacity	6–32 (50mm) (1/4–1-1/4"[2"])	6–32 (50mm) (1/4–1-1/4"[2"])
	carbide shank diameters range/capacity	3–32 (50mm) (1/8–1-1/4"[2"])	3–32 (50mm) (1/8–1-1/4"[2"])
	process controlled	semi automated	fully automated
output	process time	45 sec	45 sec
	cost	high	highest
		best	top machine

** Unit needs transformer.

Accessories

*To learn more, **scan here**.*
For instructions on how to scan, please see page xxxiii.



Difficult-to-Cut Materials Are No Match for Kennametal's High Torque Shrink Fit System!

Two lines available to address all your High Torque (HT) and General Purpose (GP) requirements.

- HT line is ideal for heavy roughing operations that require higher clamping torque levels (30–50% higher than the GP line).
- Increase productivity and reduce costs with a shrinking and cooling process that takes 30 seconds or less!
- Precision engineered system ensures precise concentricity, greater balancing quality, optimized bore sizes, and superior metal removal rates.
- Increased accuracies when machining difficult to cut materials common to the aerospace industry.

SHRINKER®

Visit **www.kennametal.com** or contact your local Authorized Kennametal Distributor.

www.kennametal.com

KENNAMETAL®

Induction Shrink Fit Unit TTISG3400EU and TTISG3400NA

The TTISG3400EU and TTISG3400NA is a top of the line unit that Kennametal offers with manual processes and integral, enclosed water-cooling system. Built for Europe/ROW and the North American market, fully CE and FC approved for Europe/ROW and fully UL® and CSA approved for North America with direct 400V, 16A for Europe/ROW or with direct 480V, 16A for North America.
3-phase electrical supply capabillity - no transformer needed.



- 10 kW high-frequency generator — maximum 5 seconds heat cycle.
- 3 x 400V/16A Europe/ROW or 480/16A North America electrical supply needed.
- No air pressure supply needed.
- 560mm (22") D, 800mm (31.5") W, 950mm (37.5") H.
- Shrinking capacity carbide Ø 3–32mm (1/8–1-1/4") with supplied coil.
- Shrinking capacity HSS Ø 6–32mm (1/4–1-1/4") with supplied coil.
- Maximum toolholder gage length for cooling 160mm (6.3") for HSK63 toolholder.
- Maximum toolholder length for heating 400mm (15.75") for HSK63 toolholder.
- Shrink fit holder till outside geometry 65mm with extra Inver coil.
- Long life expectancy of toolholders while using pre-programmed parameters.
- Manual over-ride of pre-programmed parameters, time and power, to allow shrinking of special toolholder designs.
- Integrated coolant sprayer with coolant sleeve for consistent cooling down of the adapter within 25 seconds. (Complete toolchange process 30 seconds).
- Manual retreat of the toolholder after the cooling and cleaning process is finished.
- No drying action – no compressed air.

- One permanent induction coil Ø 6–32mm (1/8–1-1/4").
- Four heating coil stop plates covering range of Ø 3–32mm (1/8–1-1/4").
- One disk holding clip.
- One heating coil stop (optional).
- Operation manual.

Essential accessories:

- Electrical transformer, if 480V/16A 3-phase power not available for North America.
- Toolholder setting pot (V-flange, HSK, KM™).
- Liquid cooling; no cooling pots required.



ERICKSON

Shrink Fit Unit Complete

order number	catalog number	description
5275128	TTISG3400EU	induction shrink unit 400V/16A (CE and FC approved) for Europe/ROW
5275038	TTISG3400NA	induction shrink unit 480V/16A (UL and CSA approved) for North America

(continued)

(Induction Shrink Fit Unit TTISG3400EU and TTISG3400NA continued)

• These pots are essential to locate toolholder in Shrink Fit Units.



Toolholder Setting Pots (essential accessories)

order number	catalog number	description
3387728	TTISG3200LCPCCV30	30V flange adapter (BT, CV, DV, etc.)
3387729	TTISG3200LCPCCV40	40V flange adapter (BT, CV, DV, etc.)
3387730	TTISG3200LCPCCV50	50V flange adapter (BT, CV, DV, etc.)
3853186	TTISG3200LCPCCKM50	KM50™ flange adapters
3853187	TTISG3200LCPCCKM63	KM63™ flange adapters
3853188	TTISG3200LCPCCKM80	KM80™ flange adapters
3387731	TTISG3200LCPCCHSK32	32 HSK flange adapters
3387732	TTISG3200LCPCCHSK40	40 HSK flange adapters
3387763	TTISG3200LCPCCHSK50	50 HSK flange adapters
3387764	TTISG3200LCPCCHSK63	63 HSK flange adapters
3387765	TTISG3200LCPCCHSK80	80 HSK flange adapters
3387766	TTISG3200LCPCCHSK100	100 HSK flange adapters

NOTE: Retention knobs do not need to be removed on the V-flange design pots.

• Used on column to find edge at the front of extra slim/special toolholders for the coil positioning stop.



Shrink Fit • Coil Stop (not included, optional accessory)

order number	catalog number	description
1779396	TTCS	coil stop block

• Easy, quick connection from supplied coil to larger capacity coil.



Shrink Fit • Heating Coil (TTHC0332M included in TTISG3400CCEU and TTISG3400CCNA unit purchase)

order number	catalog number	description
2641533	TTHC0332M	induction coil Ø 3–32mm (1/8–1-1/4")

- Shields to protect cutting tool from heat soak and used as an automated stop for the coil.



Shrink Fit • Heating Coil Stop Plates (included with TTISG3400EU and TTISG3400NA)

order number	catalog number	description
3003874	TTHCSP0306M	coil stop plates Ø 3,0 to 5,9mm (.125" – .232")
3003875	TTHCSP0612M	coil stop plates Ø 6,0 to 12,0mm (.233" – .472")
2614114	TTHCSP1220M	coil stop plates Ø12,1 to 22,0mm (.473" – .866")
2613902	TTHCSP2032M	coil stop plates Ø 22,1 to 32,0mm (.867" – 1.260")

- Clip holds stop plates in position within the heating coil.



Heating Coil Holding Clip (included in TTISG3400EU and TTISG3400NA purchase)

order number	catalog number	description
3003876	TTHCHC0332M	holding clip

- Split shields can be used for cutting tools with larger cutting diameters than the holding/shrinking diameter.
- Shields to protect cutting tool from heat soak.
- Shields are designed for 400/480V version — will work in 208V version with manual alignment.



Shrink Fit • Heating Coil Split Stop Plates (not included — optional accessory)

order number	catalog number	description
3648695	TT3200HCSSP0306M	coil stop plates Ø 3,0 to 5,9mm (.125" – .232")
3648696	TT3200HCSSP0612M	coil stop plates Ø 6,0 to 12,0mm (.233" – .472")
3648697	TT3200HCSSP1220M	coil stop plates Ø12,1 to 22,0mm (.473" – .866")
3648698	TT3200HCSSP2032M	coil stop plates Ø 22,1 to 32,0mm (.867" – 1.260")

(continued)

(Induction Shrink Fit Unit TTISG3400EU and TTISG3400NA continued)

- Safe holding of stop plates, cutting tools — will have to be placed on a bench top.



Shrink Fit • Accessory Tray (not included — optional accessory)

order number	catalog number	description
3648699	**TT3200CCTRAY**	3200 CC accessory tray

- Safe holding of cutting tools.



Shrink Fit • Accessory Cutting Tool Tray (not included — optional accessory)

order number	catalog number	description
1850281	**TTCCTRAY**	3200 CC accessory tray

Induction Shrink Fit Unit TTTISG3400CCEU and TTISG3400CCNA

The TTISG3400CCEU and TTISG3400CCNA is a top of the line unit that Kennametal offers with fully automated processes and integral, enclosed water-cooling system. Built for Europe/ROW and the North American market, fully CE and FC approved for Europe/ROW and fully UL® and CSA approved for North America, with direct 400V, 16A for Europe/ROW or with direct 480V 16A for North America.
3-phase electrical supply capability — no transformer needed.



- 10kW high frequency generator – max. 5 second heat cycle.
- Europe/ROW: 3 x 400V/16A electrical supply needed.
- North America: 3 x 480V/16A electrical supply needed.
- 4 bar (90 psi) air pressure supply needed.
- 560mm (22") D, 800mm (31.5") W, 1950mm (77") H.
- Shrinking capacity carbide Ø 3–32mm (1/8–1-1/4") with supplied coil.
- Shrinking capacity HSS Ø 6–32mm (1/4–1-1/4") with supplied coil.
- Second coil available to extend range to Ø 50mm (2").
- Maximum toolholder length for cooling 400mm (15.75") for HSK63 toolholders.
- Maximum toolholder length for heating 680mm (26,78") for HSK63 toolholders.
- Virtually hands free automated system.
- Long life expectancy of toolholders while using pre-programmed parameters.
- Manual over-ride of pre-programmed parameters, time and power, to allow shrinking of special toolholder designs.
- Integrated coolant sprayer for consistent cooling down of the adapter within 25 seconds. (Complete toolchange process 30 seconds).
- Automatic retreat of the toolholder after the cooling and cleaning process is finished.

- One induction coil Ø 3–32mm (1/8–1-1/4").
- Four heating coil stop plates covering range of Ø 3–32mm (1/8–1-1/4").
- One disk holding clip.
- One heating coil stop (optional).
- Operating manual.

Essential accessories:

- Electrical transformer, if 480V/16A for North America 3-phase power not available.
- Toolholder setting pot (V-flange, HSK, KM™).
- Liquid cooling: no coolant pots required.



ERICKSON

Shrink Fit Unit Complete

order number	catalog number
5275129	TTISG3400CCEU
5275039	TTISG3400CCNA

NOTE: TTISG3400CCEU (for Europe/ROW): 400V/16A. Fully CE and FC approved.
TTISG3400CCNA (for North America): 480V/16A. Fully UL and CSA approved.

(continued)

(Induction Shrink Fit Unit TTISG3400CCEU and TTISG3400CCNA continued)

• These pots are essential to locate toolholder in Shrink Fit Units.



Toolholder Setting Pots (essential accessories)

order number	catalog number	description
3387728	TTISG3200LCPCCV30	30V flange adapter (BT, CV, DV, etc.)
3387729	TTISG3200LCPCCV40	40V flange adapter (BT, CV, DV, etc.)
3387730	TTISG3200LCPCCV50	50V flange adapter (BT, CV, DV, etc.)
3853186	TTISG3200LCPCCKM50	KM50™ flange adapters
3853187	TTISG3200LCPCCKM63	KM63™ flange adapters
3853188	TTISG3200LCPCCKM80	KM80™ flange adapters
3387731	TTISG3200LCPCCHSK32	32 HSK flange adapters
3387732	TTISG3200LCPCCHSK40	40 HSK flange adapters
3387763	TTISG3200LCPCCHSK50	50 HSK flange adapters
3387764	TTISG3200LCPCCHSK63	63 HSK flange adapters
3387765	TTISG3200LCPCCHSK80	80 HSK flange adapters
3387766	TTISG3200LCPCCHSK100	100 HSK flange adapters

NOTE: Retention knobs do not need to be removed on the V-flange design pots.

• Used on column to find edge at the front of extra slim/special toolholders for the coil positioning stop.



Shrink Fit • Coil Stop (not included, optional accessory)

order number	catalog number	description
1779396	TTCS	coil stop block

• Easy, quick connection from supplied coil to larger capacity coil.



Shrink Fit • Heating Coil (TTHC0332M included in TTISG3400CCEU and TTISG3400CCNA unit purchase)

order number	catalog number	description
2641533	TTHC0332M	induction coil Ø 3–32mm (1/8–1-1/4")
2229225	TTHC3250M	induction coil Ø 40–50mm (1-1/2–2")

(continued)

(Induction Shrink Fit Unit TTISG3400CCEU and TTISG3400CCNA continued)

- Shields to protect cutting tool from heat soak and used as an automated stop for the coil.



Shrink Fit • Heating Coil Stop Plates (included with TTISG3400CCEU and TTISG3400CCNA)

order number	catalog number	description
3003874	TTHCSP0306M	coil stop plates Ø 3,0 to 5,9mm (.125" – .232")
3003875	TTHCSP0612M	coil stop plates Ø 6,0 to 12,0mm (.233" – .472")
2614114	TTHCSP1220M	coil stop plates Ø12,1 to 22,0mm (.473" – .866")
2613902	TTHCSP2032M	coil stop plates Ø 22,1 to 32,0mm (.867" – 1.260")

- Clip holds stop plates in position within the heating coil.



Heating Coil Holding Clip (included in TTISG3400CCEU and TTISG3400CCNA purchase)

order number	catalog number	description
3003876	TTHCHC0332M	holding clip

- Split shields can be used for cutting tools with larger cutting diameters than the holding/shrinking diameter.
- Shields to protect cutting tool from heat soak.
- Shields are designed for 400/480V version — will work in 208V version with manual alignment.



Shrink Fit • Heating Coil Split Stop Plates (not included — optional accessory)

order number	catalog number	description
3648695	TT3200HCSSP0306M	coil stop plates Ø 3,0 to 5,9mm (.125" – .232")
3648696	TT3200HCSSP0612M	coil stop plates Ø 6,0 to 12,0mm (.233" – .472")
3648697	TT3200HCSSP1220M	coil stop plates Ø12,1 to 22,0mm (.473" – .866")
3648698	TT3200HCSSP2032M	coil stop plates Ø 22,1 to 32,0mm (.867" – 1.260")

(continued)

(Induction Shrink Fit Unit TTISG3400CCEU and TTISG3400CCNA continued)

- Safe holding of stop plates, cutting tools — will have to be placed on a bench top.



■ **Shrink Fit • Accessory Tray (not included — optional accessory)**

order number	catalog number	description
3648699	**TT3200CCTRAY**	3200 CC accessory tray

- Safe holding of cutting tools.



■ **Shrink Fit • Accessory Cutting Tool Tray (not included — optional accessory)**

order number	catalog number	description
1850281	**TTCCTRAY**	3200 CC accessory tray

Shrink Fit Axial Adjustment Gages

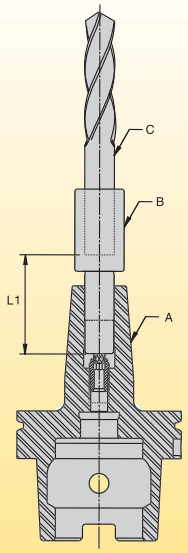
Cutting tool length adjustment is performed using a special axial adjusting gage (B) before shrinking the cutting tool into the toolholder.

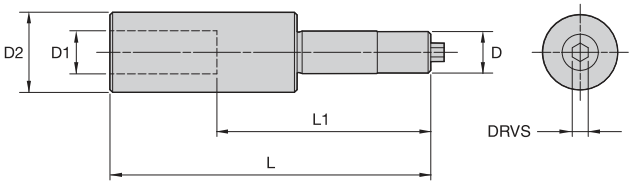
An axial adjustment gage is placed in the toolholder (A) along with the cutting tool (C). Length difference of the setting gage (L1) is calculated into the required tool assembly length.

The whole assembly then can be placed into a length presetter for adjustment.

Rotating the gage moves the axial stop screw and presets the assembled tool to the required length. Remove the gage; the cutting tool can then be shrunk into the toolholder.

In some cases, there are two different gage options for the D bore size. The only difference is the DRVS hex drive size to accommodate a recent DIN standard change.







ERICKSON

■ TTAAG • Metric

order number	catalog number	D	D1	D2	L	L1	DRVS
2441761	**TTAAG03M**	3	3	20	50	40	3mm
2456185	**TTAAG04M**	4	4	20	52	40	4mm
2456186	**TTAAG05M**	5	5	20	55	40	3mm
1801298	**TTAAG06M**	6	6	25	110	80	2,5mm
1775603	**TTAAG08M**	8	8	25	112	80	3mm
1775604	**TTAAG10M**	10	10	30	117	80	4mm
1775605	**TTAAG12M**	12	12	30	117	80	4mm
3110267	**TTAAG12MX1**	12	12	30	117	80	5mm
1775606	**TTAAG14M**	14	14	30	117	80	4mm
3110268	**TTAAG14MX1**	14	14	30	117	80	5mm
5086814	**TTAAG16MX1**	16	16	30	120	80	5mm
1775608	**TTAAG16M**	16	16	30	120	80	6mm
5086815	**TTAAG18MX1**	18	18	30	120	80	5mm
1775609	**TTAAG18M**	18	16	30	120	80	6mm
5086816	**TTAAG20MX1**	20	20	40	120	80	5mm
1775610	**TTAAG20M**	20	20	40	120	80	8mm
5086817	**TTAAG25MX1**	25	25	40	124	80	5mm
1784105	**TTAAG25M**	25	25	40	124	80	8mm
5086818	**TTAAG32MX1**	32	32	40	124	80	5mm
1775611	**TTAAG32M**	32	32	40	124	80	8mm

(continued)

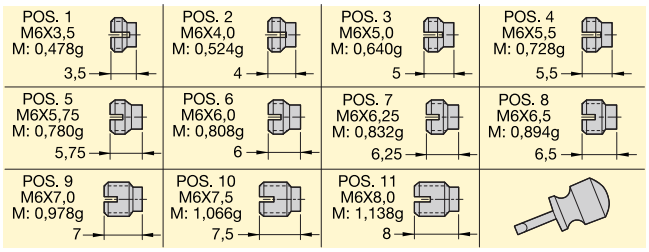
(TTAAG continued)



TTAAG • Inch

order number	catalog number	D	D1	D2	L	L1	DRVS
1765666	**TTAAG025**	1/4	.250	.984	4.33	3.15	2,5mm
1765669	**TTAAG031**	5/16	.313	.984	4.41	3.15	3mm
1765670	**TTAAG038**	3/8	.375	1.181	4.61	3.15	4mm
1765671	**TTAAG044**	7/16	.438	1.181	4.41	3.15	4mm
3110269	**TTAAG044X1**	7/16	.438	1.181	4.41	3.15	5mm
1765702	**TTAAG050**	1/2	.500	1.181	4.61	3.15	4mm
3110270	**TTAAG050X1**	1/2	.500	1.181	4.61	3.15	5mm
1765703	**TTAAG056**	9/16	.563	1.181	4.61	3.15	4mm
3110271	**TTAAG056X1**	9/16	.563	1.181	4.61	3.15	5mm
1765704	**TTAAG062**	5/8	.625	1.181	4.72	3.15	6mm
1765705	**TTAAG068**	11/16	.688	1.181	4.72	3.15	6mm
1765707	**TTAAG075**	3/4	.750	1.575	4.72	3.15	8mm
1765708	**TTAAG088**	7/8	.875	1.575	4.72	3.15	8mm
1765709	**TTAAG100**	1	1.000	1.575	4.88	3.15	8mm
1765710	**TTAAG125**	1 1/4	1.250	1.850	4.88	3.15	8mm

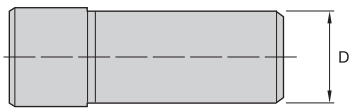
- Standard balance screw set is used on HPMC bearing milling chuck.
- Total number of screws in each set is 110.
- All are M6 screws.
- Eleven different lengths from 3,5–8mm.
- Eleven different weights, 10 of each, varying between 0,047–1,138 grams.
- Set comes complete in a divider box and screwdriver.
- For high-performance milling choices.



Balance Screw Set

order number	catalog number
3367391	HPMCBALSCREWSET

- It is important to periodically check the clamping function on a hydraulic chuck with a test pin for clamping clarity.
- The clamping grip can be checked quickly and easily by placing the correct test pin in the chuck bore and the turning the clamp screw to the limit stop. The chuck is functioning correctly if the testing pin cannot be moved by hand.



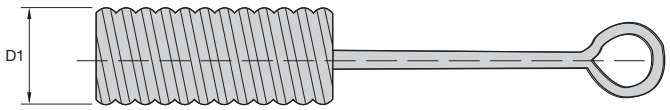
HC Test Pin • Metric

order number	catalog number	D
1191037	280.200	6
1191039	280.202	10
1191040	280.203	12
1245409	280.204	14
1191041	280.205	16
1245410	280.206	18
1191042	280.207	20
1245411	280.208	25
1191043	280.209	32

HC Test Pin • Inch

order number	catalog number	D
1247566	280.262	3/8
1247570	280.264	1/2
1247572	280.266	5/8
1247575	280.268	3/4
1247577	280.269	1

• Hydraulic chucks are maintenance-free and deliver a long service life.
A non-abrasive cleaning brush is recommended to help maintain the performance and accuracy of the clamping bore of the hydraulic chuck and reducing sleeves.

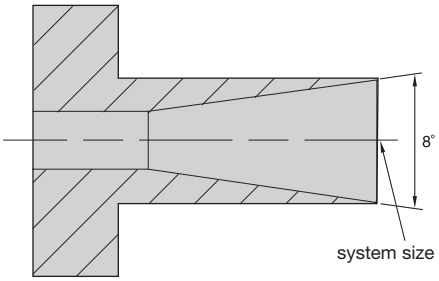


ERICKSON

■ Cleaning Brush

order number	catalog number	D1 mm	D1 in
1138729	**192.950**	6	1/4
1138736	**192.951**	8	5/16
1138744	**192.952**	10	3/8
1138752	**192.953**	12	1/2
1138759	**192.954**	14	9/16
1138766	**192.955**	16	5/8
1138914	**192.956**	18	11/16
1138853	**192.957**	20	3/4
1138922	**192.958**	25	1
1138930	**192.959**	32	1 1 /4

• Assists with collet extraction from locknut.

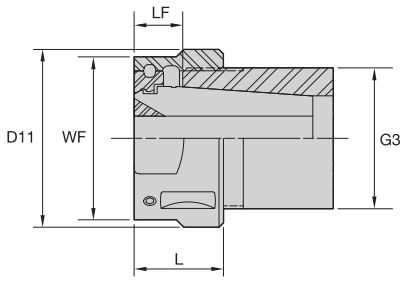


ERICKSON

■ TG • CE

order number	catalog number	system size
1106809	**50TGCE**	TG50
1106812	**75TGCE**	TG75
1106813	**100TGCE**	TG100
1106814	**150TGCE**	TG150

- TG flush mount, coolant-capable locknuts, and coolant disks/caps can be used on all standard TG collet chucks to seal standard TG collets.
- Face is completely flush.
- Includes the original ball bearing race design.
- External diameter is the same as existing global round TG locknut.
- Operated by a standard open-ended wrench or the original hook-style wrench.
- TG flush mount coolant capable locknuts and coolant disks/caps are interchangeable with existing designs.
- Utilizes standard TG collets.





ERICKSON

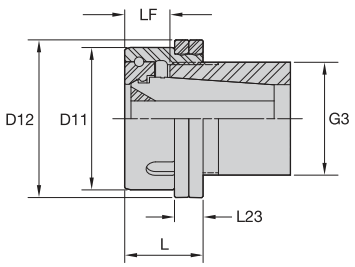
TG Locknut • Round Flush Face



order number	catalog number	D11 mm	D11 in	L mm	L in	LF mm	LF in	WF mm	WF in	G3	wrench size	Nm	ft. lbs.
2980879	**LNATGF050M**	38	1.50	18,3	.72	10,6	.42	34	1.34	15/16-20 UNEF	**HSW34M**	81	60
2980880	**LNATGF075M**	50	1.97	23,4	.92	13,0	.51	46	1.81	1 1/2-12 ACME	**HSW45M**	150	110
2980881	**LNATGF100M**	60	2.36	30,2	1.19	16,4	.65	55	2.17	1 7/8-12 ACME	**HSW58M**	203	150

NOTE: Locknut wrench must be ordered separately.
WF = Open-ended wrench size.

- Balanceable and interchangeable locknuts can be ordered separately as an option to the original standard locknut supplied on collet chucks.



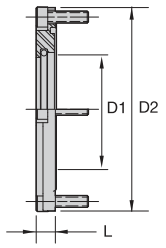
ERICKSON

TG Locknut Round • Balanceable

order number	catalog number	D11 mm	D11 in	D12 mm	D12 in	L mm	L in	L23 mm	L23 in	LF mm	LF in	G3	wrench size	Nm	ft. lbs.	balance ring set
1020465	**HPVLNA050G**	38,0	1.50	42,5	1.67	20,0	.79	10,05	.40	9,7	.38	15/16-20 UNEF	HSW34M	81	60	**SHVBR0325M**
1091592	**HPVLNA075G**	50,0	1.97	56,5	2.22	25,0	.98	12,05	.47	14,4	.57	1 1/2-12 ACME	HSW45M	150	110	**SHVBR0445M**
1020466	**HPVLNA100G**	60,0	2.36	66,5	2.62	33,0	1.30	12,05	.47	19,1	.75	1 7/8-12 ACME	HSW58M	203	150	**SHVBR0545M**

Note: Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten according to torque reccommendations.
Collet chuck technical section, see pages M98–M99.
Locknut wrench must be ordered separately.
Balance rings are supplied with locknut and adjustment directions.

- TG coolant disk cap assemblies are used in conjunction with the TG flush-style locknuts and collet chucks to seal standard TG collets.
- Utilizes the ER coolant disks.
- High-pressure coolant up to 150 bar (1,500 psi).
- Withstands most of today's coolants.
- Seals against chip packing and machined contaminants.





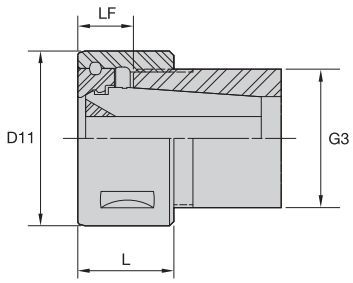
ERICKSON

TG Nut • Coolant Disk Assembly

order number	catalog number	D1 mm	D1 in	D2 mm	D2 in	L mm	L in	lock screw	locknut reference	ER coolant disk reference	Nm	ft. lbs.
2980882	**TG050CDA**	21,0	.827	40	1.6	5,7	.22	**MS311**	**LNATGF050M**	**ER25**	25	18
2980893	**TG075CDA**	27,0	1.063	50	2.0	5,7	.22	**MS1488**	**LNATGF075M**	**ER32**	25	18
2980894	**TG100CDA**	33,5	1.319	60	2.4	5,7	.22	**MS1488**	**LNATGF100M**	**ER40**	25	18

NOTE: Tighten the four assembly screws to the recommended tightening torque.
Assembly screws to locknuts are supplied with the appropriate wrench.
ER coolant disks must be ordered separately; see page L23.
Collet must be loaded into locknut first. Before loading into the chuck body, insert the cutting tool, then tighten to torque recommendations.
Collet chuck technical section, see page M98.
Locknut wrench must be ordered separately.

- Standard and replaceable locknuts are usually supplied as the standard option with the original collet chuck.



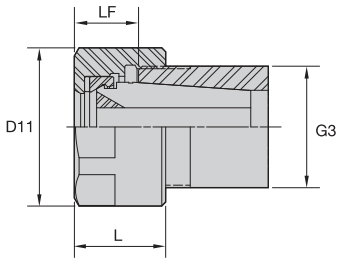
ERICKSON

TG Locknut • Round



order number	catalog number	D11 mm	D11 in	L mm	L in	LF mm	LF in	G3	locknut wrench	Nm	ft. lbs.
1013486	**LNA075M**	50,0	1.97	25,0	.98	14,4	.57	1 1/2-12 ACME	**HSW45M**	136	100
1013485	**LNA100M**	60,0	2.36	33,0	1.30	19,1	.75	1 7/8-12 ACME	**HSW58M**	203	150
1013484	**LNA150M**	85,0	3.35	37,0	1.46	18,0	.71	2 5/8-12 ACME	**HSW80M**	271	200
1020326	**NPA150**	88,3	3.48	34,9	1.38	18,6	.73	2 5/8-12 ACME	**PSW350**	271	200

NOTE: Locknut wrench must be ordered separately.



ERICKSON

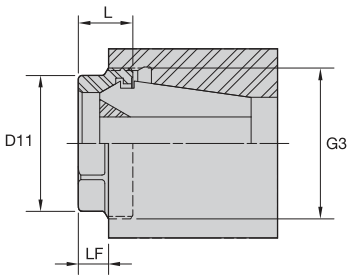
TG Locknut • Hex



order number	catalog number	D11 mm	D11 in	L mm	L in	LF mm	LF in	G3	locknut wrench	WF	Nm	ft. lbs.
1020290	**NPA050**	30,2	1.19	21,4	.84	14,6	.58	15/16-20 2B	**OEW106**	1 1/16	102	75
4134686	**LN050M**	34,0	1.34	19,0	.75	9,8	.38	15/16-20 UNEF	**OEW30M**	30mm	136	100
1020289	**NPA075**	53,2	2.09	28,4	1.12	19,7	.78	1 1/2-12 ACME	**OEW188**	1 7/8	136	100
1020331	**NPA100**	61,9	2.44	35,7	1.41	25,1	.99	1 7/8-12 ACME	**OEW225**	2 1/4	203	150

NOTE: Locknut wrench must be ordered separately.
WF = Open-ended wrench size.

- Standard and replaceable locknuts are supplied as the standard option with the original short-style collet chuck.

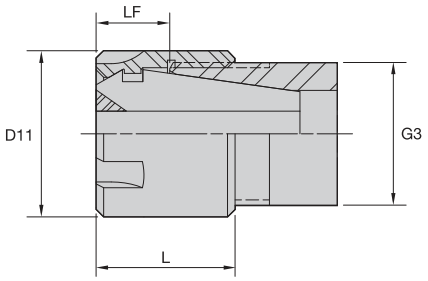


ERICKSON

ER Locknut • Short

order number	catalog number	collet series	D11 mm	D11 in	L mm	L in	LF mm	LF in	G3	locknut wrench	wrench size	Nm	ft. lbs.
2978768	**LNECSER32M**	ER32	35,9	1.41	14,4	.57	8	.32	M40 x 1.5	**OEW32M**	32	136	100
2978769	**LNECSER40M**	ER40	46,0	1.81	16,0	.63	8	.32	M50 x 1.5	**OEW168**	1 11/16	176	130

NOTE: Locknut wrench must be ordered separately.



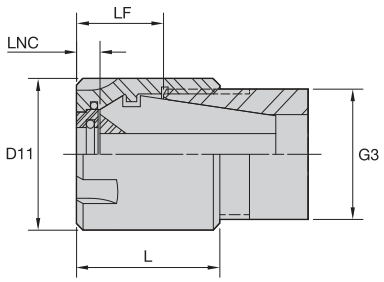
ERICKSON

ER Locknut • Slim

order number	catalog number	collet series	D11 mm	D11 in	L mm	L in	LF mm	LF in	G3	locknut wrench	counterbore collet torque (Nm)	straight collet torque (Nm)	counterbore collet torque (in. lbs.)	straight collet torque (in. lbs.)
1024642	**LER08M**	ER08	12	.47	10,8	.43	6,1	.24	M10 X .75	**ER08WEM**	5	5	42	42
1024643	**LER11M**	ER11	16	.63	12,0	.47	7,5	.30	M13 X .75	**ER11WEM**	12	16	106	142
1016342	**LER16M**	ER16	22	.87	18,4	.72	11,5	.45	M19 X 1	**ER16WEM**	24	24	212	212
1799219	**LER20M**	ER20	28	1.10	19,0	.75	11,5	.45	M24 X 1	**ER20WEM**	28	28	248	248

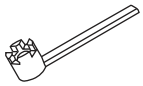
NOTE: Locknut wrench must be ordered separately.

- Interchangeable with slim locknuts.
- Must be ordered separately.
- Used in conjunction with ER coolant-sealing disks for high-pressure coolant applications up to 150 bar (2,000 psi). Must be ordered separately; see page L23.



ERICKSON

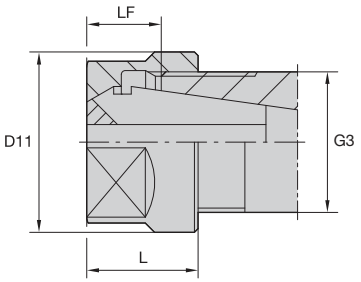
ER Locknut • Slim Coolant



order number	catalog number	collet series	D11 mm	D11 in	L mm	L in	LNC mm	LNC in	LF mm	LF in	G3	locknut wrench	Nm	in. lbs.
2255307	**LABER16M**	ER16	22	.87	22	.87	4,5	.18	11,5	.45	M19 X 1	**ER16WEM**	24	212
2398953	**LABER20M**	ER20	28	1.10	24	.94	5,0	.20	13,0	.51	M24 X 1	**ER20WEM**	28	248

NOTE: Locknut wrench must be ordered separately.

- Standard and replaceable locknuts are usually supplied as the standard option with the original collet chuck.



ERICKSON

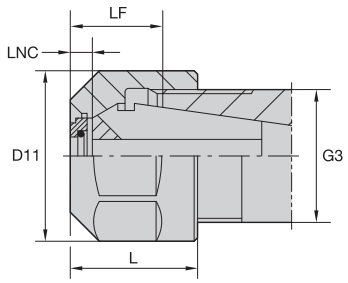
ER Locknut • Hex



order number	catalog number	collet series	D11 mm	D11 in	L mm	L in	LF mm	LF in	G3	locknut wrench	wrench size	Nm	ft. lbs.	counterbore collet torque (Nm)	straight collet torque (Nm)	counterbore collet torque (ft. lbs.)	straight collet torque (ft. lbs.)
3062811	**LNHSER16M**	ER16	28,0	1.10	17,5	.69	10,5	.41	M22 X 1.5	**OEW25M**	25mm	56	42	40	56	30	42
3062812	**LNHSER20M**	ER20	34,0	1.34	19,0	.75	11,5	.45	M25 X 1.5	**OEW30M**	30mm	80	59	32	80	24	59

NOTE: Locknut wrench must be ordered separately.

- Interchangeable with standard locknuts.
- Must be ordered separately.
- Used in conjunction with ER coolant-sealing disks for high-pressure coolant applications up to 150 bar (2,000 psi). Must be ordered separately; see page L23.



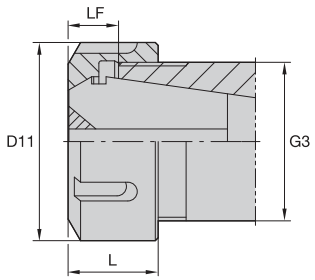
ERICKSON

ER Locknut Hex • Coolant

order number	catalog number	collet series	D11 mm	D11 in	L mm	L in	LNC mm	LNC in	LF mm	LF in	G3	locknut wrench	wrench size	counterbore collet torque (Nm)	straight collet torque (Nm)	counterbore collet torque (ft. lbs.)	straight collet torque (ft. lbs.)
1854738	**LNHABER16M**	ER16	28,0	1.10	22,5	.89	5,0	.20	15,5	.61	M22 X 1.5	**OEW25M**	25mm	40	56	30	42
1859410	**LNHABER20M**	ER20	34,0	1.34	24,0	.94	5,0	.20	16,5	.65	M25 X 1.5	**OEW30M**	30mm	32	80	24	59

NOTE: Locknut wrench must be ordered separately.

- Standard and replaceable locknuts are usually supplied as the standard option with the original collet chuck.



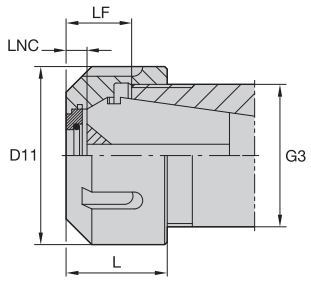
ERICKSON

ER Locknut • Round

order number	catalog number	collet series	D11 mm	D11 in	L mm	L in	LF mm	LF in	G3	locknut wrench	Nm	ft. lbs.
3063113	**LNSER25M**	ER25	42	1.65	20	.79	12	.47	M32 X 1.5	**ER25WM**	104	77
3063114	**LNSER32M**	ER32	50	1.97	23	.89	13	.51	M40 X 1.5	**ER32WM**	136	100
3063115	**LNSER40M**	ER40	63	2.48	26	1.00	15	.59	M50 X 1.5	**ER40WM**	176	130

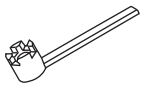
NOTE: Locknut wrench must be ordered separately.

- Interchangeable with standard locknuts; must be ordered separately.
- Used in conjunction with ER coolant-sealing disks for high-pressure coolant applications up to 150 bar (2,000 psi). Must be ordered separately; see page L23.



ERICKSON

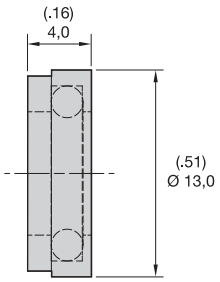
ER Locknut Round • Coolant



order number	catalog number	collet series	D11 mm	D11 in	L mm	L in	LNC mm	LNC in	LF mm	LF in	G3	locknut wrench	Nm	ft. lbs.
1127154	**LNABER25M**	ER25	42	1.65	25,0	.98	5	.20	17	.67	M32 X 1.5	**ER25WM**	104	77
1128857	**LNABER32M**	ER32	50	1.97	27,5	1.08	5	.20	18	.71	M40 X 1.5	**ER32WM**	136	100
1125692	**LNABER40M**	ER40	63	2.48	30,5	1.20	5	.20	20	.79	M50 X 1.5	**ER40WM**	176	130

NOTE: Locknut wrench must be ordered separately.

- 0,5mm (.020") range of sealing per disk.
- High-pressure coolant up to 150 bar (2,000 psi).
- Accommodates both metric- and inch-sized cutting tool shanks.
- Standard-sized replaceable O-rings.



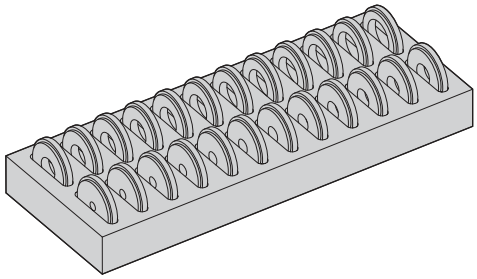


ERICKSON

ER16 Locknut Coolant Seal Disk

order number	catalog number	collet series	range metric	range inch	range fraction
1128244	**CDER16035M**	ER16	3,0–3,5	.1181–.1387	1/8
1122128	**CDER16040M**	ER16	3,5–4,0	.1378–.1575	5/32
1125973	**CDER16045M**	ER16	4,0–4,5	.1575–.1772	—
1125741	**CDER16050M**	ER16	4,5–5,0	.1772–.1969	3/16
1260100	**CDER16055M**	ER16	5,0–5,5	.1969–.2165	7/32
1130781	**CDER16060M**	ER16	5,5–6,0	.2165–.2362	—
1260101	**CDER16065M**	ER16	6,0–6,5	.2362 -.2559	1/4
1260102	**CDER16070M**	ER16	6,5–7,0	.2559–.2756	—
1260103	**CDER16075M**	ER16	7,0–7,5	.2756–.2953	9/32
1124948	**CDER16080M**	ER16	7,5–8,0	.3150–.3347	5/16
1254499	**CDER16085M**	ER16	8,0–8,5	.3150–.3347	—
1120977	**CDER16090M**	ER16	8,5–9,0	.3347–.3543	11/32
1260104	**CDER16095M**	ER16	9,0–9,5	.3543–.3740	3/8
1128201	**CDER16100M**	ER16	9,5–10,0	.3740–.3937	—

- An economical way to purchase a group of coolant disks.



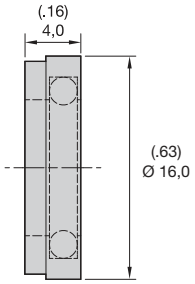
ERICKSON

ER16 Locknut Coolant Seal Disk Set

order number	catalog number	collet series	quantity	dimensional range	incremental division
1148501	**CDER16000M**	ER16	14	3,5mm–10mm	.5mm

NOTE: ER coolant disk sets come complete with wooden protective tray.

- 0,5mm (.020") range of sealing per disk.
- High-pressure coolant up to 150 bar (2,000 psi).
- Accommodates both metric- and inch-sized cutting tool shanks.
- Standard-sized, replaceable O-rings.



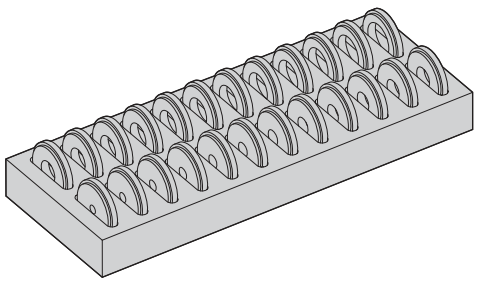


ERICKSON

ER20 Locknut Coolant Seal Disk

order number	catalog number	collet series	range metric	range inch	range fraction
1882862	**CDER20030M**	ER20	2,5–3,0	.0984–.1181	—
2046541	**CDER20035M**	ER20	3,0–3,5	.1181–.1387	1/8
2046542	**CDER20040M**	ER20	3,5–4,0	.1378–.1575	5/32
1785844	**CDER20045M**	ER20	4,0–4,5	.1575–.1772	—
2046613	**CDER20050M**	ER20	4,5–5,0	.1772–.1969	3/16
2046614	**CDER20055M**	ER20	5,0–5,5	.1969–.2165	7/32
1600448	**CDER20060M**	ER20	5,5–6,0	.2165–.2362	—
2046615	**CDER20065M**	ER20	6,0–6,5	.2362 -.2559	1/4
1821042	**CDER20070M**	ER20	6,5–7,0	.2559–.2756	—
2046616	**CDER20075M**	ER20	7,0–7,5	.2756–.2953	9/32
1568338	**CDER20080M**	ER20	7,5–8,0	.3150–.3347	5/16
2046617	**CDER20085M**	ER20	8,0–8,5	.3150–.3347	—
1567466	**CDER20090M**	ER20	8,5–9,0	.3347–.3543	11/32
2046618	**CDER20095M**	ER20	9,0–9,5	.3543–.3740	3/8
1747032	**CDER20100M**	ER20	9,5–10,0	.3740–.3937	—
2046619	**CDER20105M**	ER20	10,0–10,5	.3937–.4134	13/32
1923780	**CDER20110M**	ER20	10,5–11,0	.4314–.4330	—
2046620	**CDER20115M**	ER20	11,0–11,5	.4330–.4528	7/16
1883015	**CDER20120M**	ER20	11,5–12,0	.4528–.4724	15/32
2046621	**CDER20125M**	ER20	12,0–12,5	.4724–.4921	—
2046622	**CDER20130M**	ER20	12,5–13,0	.4921–.5118	1/2

- An economical way to purchase a group of coolant disks.



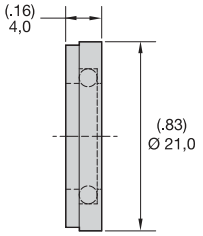
ERICKSON

ER20 Locknut Coolant Seal Disk Set

order number	catalog number	collet series	quantity	dimensional range	incremental division
1720848	**CDER20000M**	ER20	20	3,5mm–13mm	.5mm

NOTE: ER coolant disk sets come complete with wooden protective tray.

- 0,5mm (.020") range of sealing per disk.
- High-pressure coolant up to 150 bar (2,000 psi).
- Accommodates both metric- and inch-sized cutting tool shanks.
- Standard-sized, replaceable O-rings.



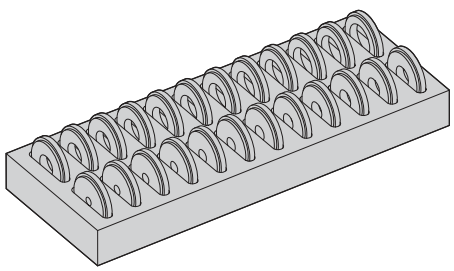


ERICKSON

ER25 Locknut Coolant Seal Disk

order number	catalog number	collet series	range metric	range inch	range fraction
1820323	CDER25035M	ER25	3,0 - 3,5	.1181 - .1387	1/8
1136043	CDER25040M	ER25	3,5 - 4,0	.1378 - .1575	5/32
1260105	CDER25045M	ER25	4,0 - 4,5	.1575 - .1772	—
1130194	CDER25050M	ER25	4,5 - 5,0	.1772 - .1969	3/16
1260106	CDER25055M	ER25	5,0 - 5,5	.1969 - .2165	7/32
1127146	CDER25060M	ER25	5,5 - 6,0	.2165 - .2362	—
1260107	CDER25065M	ER25	6,0 - 6,5	.2263 -.2559	1/4
1126670	CDER25070M	ER25	6,5 - 7,0	.2559 - .2756	—
1260108	CDER25075M	ER25	7,0 - 7,5	.2756 - .2953	9/32
1126607	CDER25085M	ER25	8,0 - 8,5	.3150 - .3347	—
1126599	CDER25080M	ER25	7,5 - 8,0	.3150 - .3347	—
1129478	CDER25090M	ER25	8,5 - 9,0	.3347 - .3543	11/32
1260109	CDER25095M	ER25	9,0 - 9,5	.3543 - .3740	3/8
1126613	CDER25100M	ER25	9,5 - 10,0	.3740 - .3937	—
1124966	CDER25105M	ER25	10,0 - 10,5	.3937 - .4134	13/32
1126677	CDER25110M	ER25	10,5 - 11,0	.4134 - .4330	—
1260110	CDER25115M	ER25	11,0 - 11,5	.4330 - .4528	7/16
1125474	CDER25120M	ER25	11,5 - 12,0	.4528 - .4724	15/32
1260111	CDER25125M	ER25	12,0 - 12,5	.4724 - .4921	—
1129141	CDER25130M	ER25	12,5 - 13,0	.4921 - .5118	1/2
1260112	CDER25135M	ER25	13,0 - 13,5	.5118 - .5315	17/32
1125481	CDER25140M	ER25	13,5 - 14,0	.5315 - .5512	—
1260113	CDER25145M	ER25	14,0 - 14,5	.5512 - .5709	9/16
1260114	CDER25150M	ER25	14,5 - 15,0	.5709 - .5906	37/64
1260115	CDER25155M	ER25	15,0 - 15,5	.5906 - .6102	19/32
1128486	CDER25160M	ER25	15,5 - 16,0	.6102 - .6300	5/8

- An economical way to purchase a group of coolant disks.



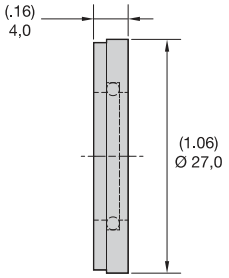
ERICKSON

ER25 Locknut Coolant Seal Disk Set

order number	catalog number	collet series	quantity	dimensional range	incremental division
1254501	CDER25000M	ER25	26	3,5mm–16mm	.5mm

NOTE: ER coolant disk sets come complete with wooden protective tray.

- 0,5mm (.020") range of sealing per disk.
- High-pressure coolant up to 150 bar (2,000 psi).
- Accommodates both metric- and inch-sized cutting tool shanks.
- Standard-sized, replaceable O-rings.



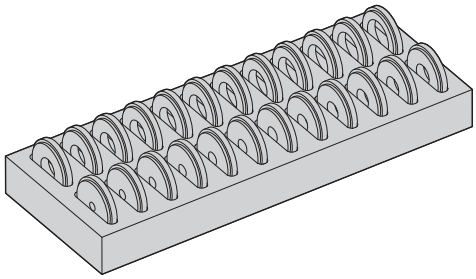


ERICKSON

ER32 Locknut Coolant Seal Disk

order number	catalog number	collet series	range metric	range inch	range fraction
1120969	**CDER32035M**	ER32	3,0–3,5	.1181–.1387	1/8
1125347	**CDER32040M**	ER32	3,5–4,0	.1378–.1575	5/32
1260116	**CDER32045M**	ER32	4,0–4,5	.1575–.1772	—
1148555	**CDER32050M**	ER32	4,5–5,0	.1772–.1969	3/16
1260117	**CDER32055M**	ER32	5,0–5,5	.1969–.2165	7/32
1121104	**CDER32060M**	ER32	5,5–6,0	.2165–.2362	—
1120661	**CDER32065M**	ER32	6,0–6,5	.2362 -.2559	1/4
1131561	**CDER32070M**	ER32	6,5–7,0	.2559–.2756	—
1260118	**CDER32075M**	ER32	7,0–7,5	.2756–.2953	9/32
1132831	**CDER32080M**	ER32	7,5–8,0	.3150–.3347	5/16
1260119	**CDER32085M**	ER32	8,0–8,5	.3150–.3347	—
1122258	**CDER32090M**	ER32	8,5–9,0	.3347–.3543	11/32
1260120	**CDER32095M**	ER32	9,0–9,5	.3543–.3740	3/8
1136052	**CDER32100M**	ER32	9,5–10,0	.3740–.3937	—
1260121	**CDER32105M**	ER32	10,0–10,5	.3937–.4134	13/32
1135241	**CDER32110M**	ER32	10,5–11,0	.4134–.4330	—
1260122	**CDER32115M**	ER32	11,0–11,5	.4330–.4528	7/16
1128840	**CDER32120M**	ER32	11,5–12,0	.4528–.4724	15/32
1125490	**CDER32125M**	ER32	12,0–12,5	.4724–4921	—
1126728	**CDER32130M**	ER32	12,5–13,0	.4921–.5118	1/2
1260123	**CDER32135M**	ER32	13,0–13,5	.5118–.5315	17/32
1132848	**CDER32140M**	ER32	13,5–14,0	.5315–.5512	—
1127692	**CDER32145M**	ER32	14,0–14,5	.5512–.5709	9/16
1232472	**CDER32150M**	ER32	14,5–15,0	.5709–.5905	—
1260124	**CDER32155M**	ER32	15,0–15,5	.5905–.6102	19/32
1125023	**CDER32160M**	ER32	15,5–16,0	.6102–.6300	5/8
1260125	**CDER32165M**	ER32	16,0–16,5	.6300–.6496	—
1260126	**CDER32170M**	ER32	16,5–17,0	.6496–.6693	21/32
1260127	**CDER32175M**	ER32	17,0–17,5	.6693–.6890	11/16
1126732	**CDER32180M**	ER32	17,5–18,0	.6890–.7087	—
1260128	**CDER32185M**	ER32	18,0–18,5	.7087–.7284	23/32
1155337	**CDER32190M**	ER32	18,5–19,0	.7284–.7480	3/4
1260129	**CDER32195M**	ER32	19,0–19,5	.7480–.7677	—
1124951	**CDER32200M**	ER32	19,5–20,0	.7677–.7874	25/32

• An economical way to purchase a group of coolant disks.



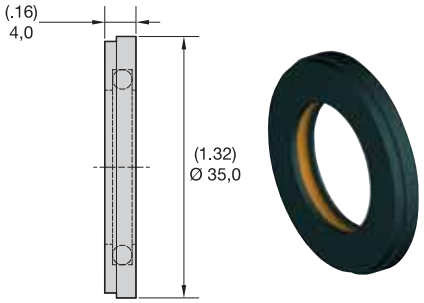
ERICKSON

ER32 Locknut Coolant Seal Disk Set

order number	catalog number	collet series	quantity	dimensional range	incremental division
1123496	**CDER32000M**	ER32	34	3,5mm–20mm	.5mm

NOTE: ER coolant disk sets come complete with wooden protective tray.

- 0,5mm (.020") range of sealing per disk.
- High-pressure coolant up to 150 bar (2,000 psi).
- Accommodates both metric- and inch-sized cutting tool shanks.
- Standard-sized, replaceable O-rings.



ERICKSON

ER40 Locknut Coolant Seal Disk

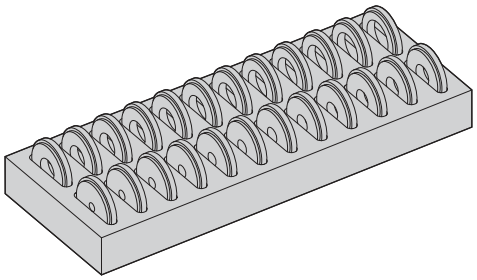
order number	catalog number	collet series	range metric	range inch	range fraction
1260131	**CDER40035M**	ER40	3,0–3,5	.1181–.1387	1/8
1260132	**CDER40040M**	ER40	3,5–4,0	.1378–.1575	5/32
1260133	**CDER40045M**	ER40	4,0–4,5	.1575–.1772	—
1260134	**CDER40050M**	ER40	4,5–5,0	.1772–.1969	3/16
1260135	**CDER40055M**	ER40	5,0–5,5	.1969–.2165	7/32
1128810	**CDER40060M**	ER40	5,5–6,0	.2165–.2362	—
1260136	**CDER40065M**	ER40	6,0–6,5	.2362 -.2559	1/4
1128828	**CDER40070M**	ER40	6,5–7,0	.2559–.2756	—
1260137	**CDER40075M**	ER40	7,0–7,5	.2756–.2953	9/32
1126684	**CDER40080M**	ER40	7,5–8,0	.3150–.3347	5/16
1260138	**CDER40085M**	ER40	8,0–8,5	.3150–.3347	—
1129486	**CDER40090M**	ER40	8,5–9,0	.3347–.3543	11/32
1260139	**CDER40095M**	ER40	9,0–9,5	.3543–.3740	3/8
1128834	**CDER40100M**	ER40	9,5–10,0	.3740–.3937	—
1260140	**CDER40105M**	ER40	10,0–10,5	.3937–.4134	13/32
1125622	**CDER40110M**	ER40	10,5–11,0	.4134–.4330	—
1260141	**CDER40115M**	ER40	11,0–11,5	.4330–.4528	7/16
1125678	**CDER40120M**	ER40	11,5–12,0	.4528–.2724	15/32
1260142	**CDER40125M**	ER40	12,0–12,5	.4724–.4921	—
1260143	**CDER40130M**	ER40	12,5–13,0	.4921–.5118	1/2
1260144	**CDER40135M**	ER40	13,0–13,5	.5118–.5315	17/32
1128841	**CDER40140M**	ER40	13,5–14,0	.5315–.5512	—
1260145	**CDER40145M**	ER40	14,0–14,5	.5512–.5709	9/16
1128848	**CDER40150M**	ER40	14,5–15,0	.5709–.5905	—
1260146	**CDER40155M**	ER40	15,0–15,5	.5905–.6102	19/32
1125686	**CDER40160M**	ER40	15,5–16,0	.6102–.6300	5/8
1260147	**CDER40165M**	ER40	16,0–16,5	.6300–.6496	—
1125623	**CDER40170M**	ER40	16,5–17,0	.6496–.6693	21/32

(continued)

(ER40 Locknut Coolant Seal Disk continued)

order number	catalog number	collet series	range metric	range inch	range fraction
1260148	**CDER40175M**	ER40	17,0–17,5	.6693–.6890	11/16
1128856	**CDER40180M**	ER40	17,5–18,0	.6890–.7087	—
1260149	**CDER40185M**	ER40	18,0–18,5	.7087–.7248	23/32
1260150	**CDER40190M**	ER40	18,5–19,0	.7284–.7480	3/4
1260151	**CDER40195M**	ER40	19,0–19,5	.7480–.7677	—
1128845	**CDER40200M**	ER40	19,5–20,0	.7677–.7874	25/32
1260152	**CDER40205M**	ER40	20,0–20,5	.7874–.8071	—
1260153	**CDER40215M**	ER40	21,0–21,5	.7874–.8465	27/32
1129413	**CDER40210M**	ER40	20,5–21,0	.8071–.8268	13/16
1121616	**CDER40220M**	ER40	21,5–22,0	.8465–.8661	—
1254500	**CDER40230M**	ER40	22,5–23,0	.8858–.9055	29/32
1260154	**CDER40225M**	ER40	23,0–23,5	.9055–.9252	—
1260155	**CDER40235M**	ER40	23,0–23,5	.9055–.9252	—
1260156	**CDER40240M**	ER40	23,5–24,0	.9252–.9449	15/16
1260157	**CDER40245M**	ER40	24,0–24,5	.9449–.9646	—
1128850	**CDER40250M**	ER40	24,5–25,0	.9646–.9843	31/32
1971143	**CDER40255M**	ER40	25,0–25,5	.9843–.1.0039	1
1124539	**CDER40260M**	ER40	25,5–26,0	1.0039–1.0236	—

• An economical way to purchase a group of coolant disks.

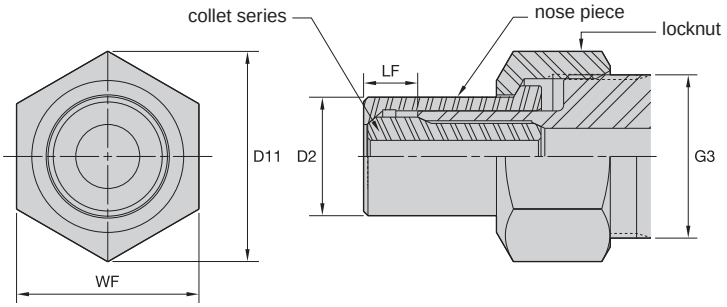


ERICKSON

ER40 Locknut Coolant Seal Disk Set

order number	catalog number	collet series	quantity	dimensional range	incremental division
1260130	**CDER40000M**	ER40	46	3,5mm–26mm	.5mm

NOTE: ER coolant disk sets come complete with wooden protective tray.





DA01 Locknut Hex

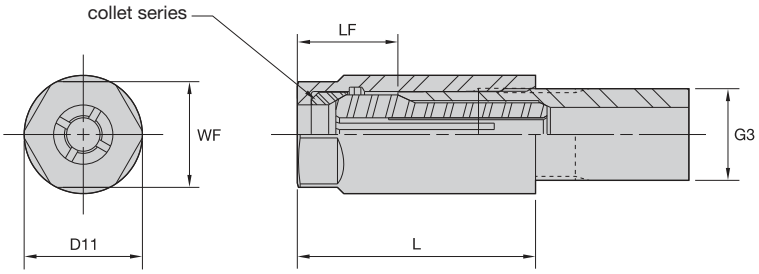
order number	catalog number	collet series	D11	WF	G3
1021948	**LN101**	DA100	1.73	1.50	1.375-12 UNF
1021950	**LN181**	DA180	2.02	1.75	1.625-12 UN
1022884	**LN201**	DA200	1.44	1.25	1.125-16 UN
1022886	**LN301**	DA300	.86	.75	.625-18 UNF

NOTE: Locknut and nose piece need to be ordered separately.
Locknut wrench to be ordered separately.

DA01 Nose Piece

order number	catalog number	collet series	D2	LF
1021918	**NP101**	DA100	1.06	.51
1022702	**NP181**	DA180	1.33	.35
1021920	**NP201**	DA200	.81	.37
1022726	**NP301**	DA300	.51	.35

NOTE: Locknut and nose piece need to be ordered separately.

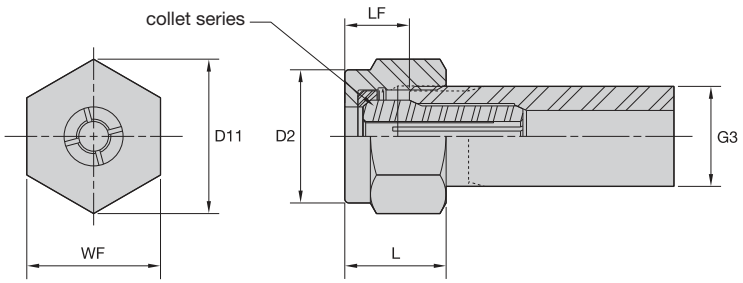




DA04 Double Angle Locknuts

order number	catalog number	collet series	D11	L	LF	WF	G3
1013469	**LNA104M**	DA100	1.06	1.51	.62	.94	.9375-20 UNEF
1013470	**LNA184M**	DA180	1.44	1.60	.49	1.18	1.250-16 UN
1013489	**LNAL04M**	L	1.50	1.28	.40	1.25	1.313-16 UN
1013488	**LNAK04M**	K	1.06	1.19	.37	.94	.9375-20 UNEF
1013472	**LNA304M**	DA300	.56	1.13	.48	.50	.4375-32 UN
1013471	**LNA204M**	DA200	.85	1.42	.47	.75	.6875-20 UN
1013440	**LN000M**	DA000	.40	.89	.18	.35	M9 X .9

NOTE: Locknut needs to be ordered separately.



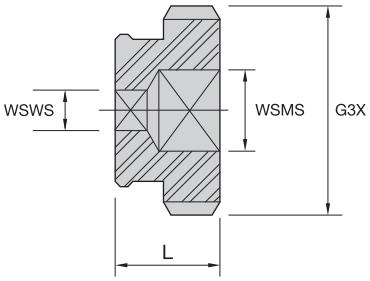


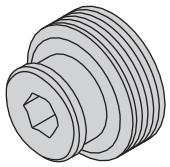
DA08 Double Angle Locknuts

order number	catalog number	collet series	D11	D2	L	LF	WF	G3
1013467	**LNA108M**	DA100	1.44	1.24	.91	.58	1.25	1.000-14 UNS
1013439	**LNA208M**	DA200	1.08	.93	.75	.48	.94	.750-16 UNF
1013468	**LNA308M**	DA300	.77	.66	.73	.43	.67	.5625-18 UNF

NOTE: Locknut needs to be ordered separately.

- Replacement stop screws.
- Coolant, blank, and extended caps are available for added capabilities.





ERICKSON

Stop Screw

order number	catalog number	L mm	L in	WSWS wrench size	WSMS wrench size	G3X
1019943	**SS031031G**	7,9	.31	4mm & 5/32	—	5/16-24UNF LH
1019975	**SS038031G**	7,9	.31	4mm & 5/32	—	3/8-24UNF LH
1019977	**SS044038G**	9,5	.38	4mm & 5/32	—	7/16-20UNF LH
1019979	**SS050038G**	9,5	.38	4mm & 5/32	—	1/2-20UNF LH
1019981	**SS056041G**	9,5	.38	4mm & 5/32	—	9/16-18UNF LH
1019983	**SS062041G**	9,5	.38	4mm & 5/32	—	5/8-18UNF LH
1019985	**SS075041G**	10,3	.41	4mm & 5/32	—	3/4-16UNF LH
1019987	**SS081041G**	10,3	.41	4mm & 5/32	8mm & 5/16	13/16-16UN LH
1019989	**SS094041G**	10,3	.41	4mm & 5/32	8mm & 5/16	15/16-16UN LH
1019991	**SS112041G**	10,3	.41	4mm & 5/32	8mm & 5/16	1 1/8-16UN LH
1020023	**SS125050G**	12,7	.50	4mm & 5/32	8mm & 5/16	1 1/4-12UNF LH
1020017	**SS162062G**	15,8	.62	4mm & 5/32	8mm & 5/16	1 5/8-12UN LH
1020049	**SS175062G**	15,8	.62	4mm & 5/32	8mm & 5/16	1 3/4-12UN LH



The Tunable Tooling

Internal dampening package eliminates chatter, vibration, and harmonics in all your deep-hole boring applications!

- Proprietary features provide superior surface finish and increased productivity.
- Wide product offering — from boring bars, extensions, and holders to rotating adapters and modular sections.
- Reduce setup time with KM™ Quick Change Tooling — now an ISO Standard!
- Customize Kennametal's pre-tuned boring bars — after they're on the machine — to optimize performance in your specific machining operations.

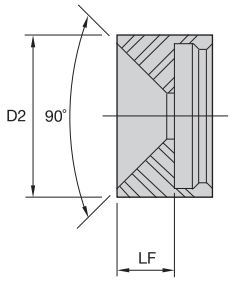
For tighter tolerances, reduced scrap rates, and improved tool life, you can rely on Kennametal Tunable Tooling!

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

- Stop screw caps can easily be snapped onto their respective stop screws, referenced in the first column in respective tables below, for added capabilities.



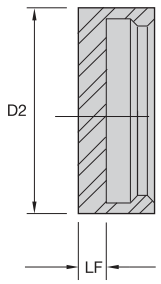
ERICKSON

Coolant Cap



order number	catalog number	D2 mm	D2 in	LF mm	LF in	stop screw reference
1021134	**SSCC031**	6,5	.25	2,4	.09	SS031031G
1021138	**SSCC044**	9,5	.37	3,0	.12	SS044038G
1021140	**SSCC050**	11,0	.43	3,0	.12	SS050038G
1021142	**SSCC056**	12,0	.47	4,0	.16	SS056041G
1092046	**SSCC062**	14,0	.55	4,5	.18	SS062041G
1021154	**SSCC075**	17,0	.67	6,0	.24	SS075041G
1021156	**SSCC081**	17,0	.67	6,0	.24	SS081041G
1021158	**SSCC094**	21,8	.86	8,5	.33	SS094041G
1021160	**SSCC112**	24,5	.97	9,8	.38	SS112041G
1021162	**SSCC125**	29,0	1.14	12,0	.47	SS125050G
1021176	**SSCC162**	37,0	1.46	15,5	.61	SS162062G
1021178	**SSCC175**	42,0	1.65	18,5	.73	SS175062G

NOTE: For use with through-coolant applications for improved sealing.



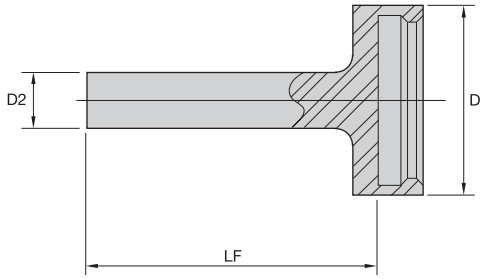
Blank Cap



order number	catalog number	D2 mm	D2 in	LF mm	LF in	stop screw reference
1021180	**SSC031**	6,5	.26	2,2	.09	SS031031G
1021204	**SSC044**	9,5	.37	2,2	.09	SS044038G,SS0500384
1021206	**SSC056**	12,0	.47	2,2	.09	SS075041G,SS056041G,SS062041G
1021208	**SSC081**	17,0	.67	2,2	.09	SS081041G,SS094041G

NOTE: A solid cap for small-diameter cutting tools with no through-coolant capability.

- Stop screw caps can easily be snapped onto their respective stop screws, referenced in the first column in respective tables below, for added capabilities.

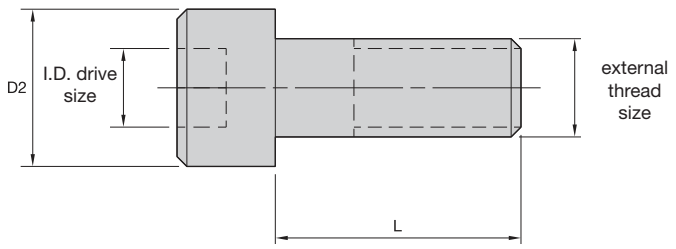


Extended Cap



order number	catalog number	D mm	D in	D2 mm	D2 in	LF mm	LF in	stop screw reference
1021216	**SSC038081**	8,1	.32	8,1	.32	20,5	.81	SS038031G
1021220	**SSC056066**	12,0	.47	5,0	.20	16,7	.66	SS094041G,SS075041G,SS056041G
1021222	**SSC081103**	17,0	.67	5,0	.20	26,2	1.03	SS094041G,SS081041G
1021254	**SSC112150**	24,5	.96	12,0	.47	38,1	1.50	SS150062G,SS125050G,SS112041G

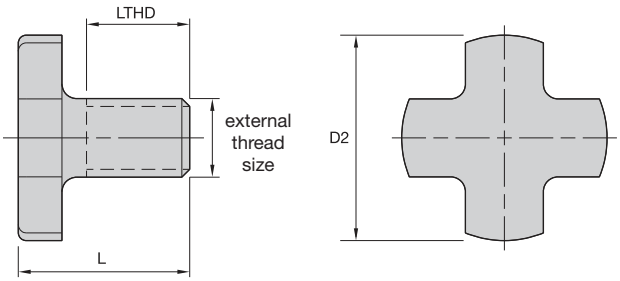
NOTE: For greater access and reaching inside collet cavities.





SM Cap Lock Screw • Metric

order number	catalog number	external thread size	D2	L	I.D. drive size
1905810	**MS1294**	M8X1.25	13,0	25,0	6mm
1129648	**MS1234**	M10X1.5	16,0	25,0	8mm



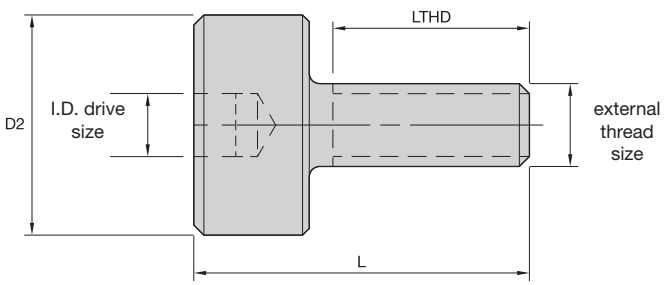


SM Lock Screw • Metric

order number	catalog number	external thread size	D2	L	LTHD
1147969	**KLS27MPKG**	M12X1.75	34,8	29,9	17,5
1736199	**KLS32M**	M16X2.0	41,8	34,9	20,5
1016374	**KLS40M**	M20X2.5	51,8	39,9	24,0
1178775	**KLS50M**	M24X3	62,8	47,9	28,5

(continued)

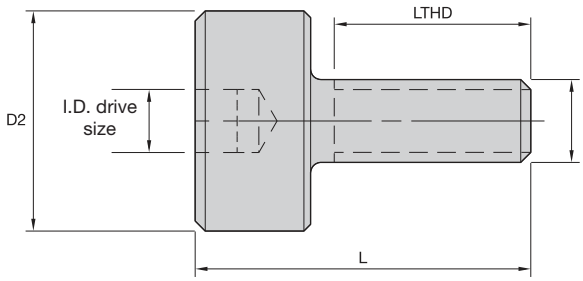
(SM Lock Screws continued)





SM Round Lock Screw • Metric

order number	catalog number	external thread size	D2	L	LTHD	I.D. drive size
4078806	**KLSS27M**	M12X1.75	35,0	30,9	22,0	10mm
4078807	**KLSS32M**	M16X2.0	42,0	37,9	26,0	14mm
4078808	**KLSS40M**	M20X2.5	52,0	44,9	30,0	17mm

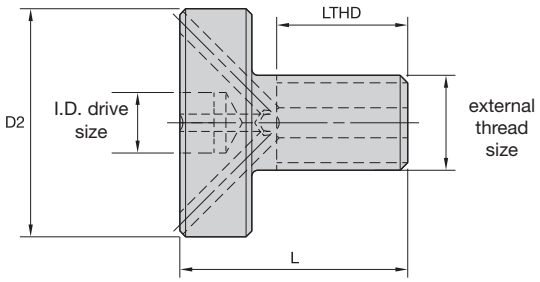




SM Lock Screw • Inch

order number	catalog number	external thread size	D2	L	LTHD	I.D. drive size
1020548	**KLS05**	.250-28 UNF	.656	1.000	.656	3/16
1020550	**KLS07**	.375 - 24 UNF	.875	1.062	.687	1/4
1020552	**KLS10**	.500 - 20 UNF	1.188	1.187	.812	5/16
1020574	**KLS12**	.625 - 18 UNF	1.500	1.535	1.040	5/16
1020576	**KLS15**	3/4 - 16 UNF	1.875	1.516	1.016	3/8
1020578	**KLS20**	1.000 - 14 UNS	—	—	—	9/16

- Coolant lock screw to convert a standard shell mill adapter into a through-coolant version.

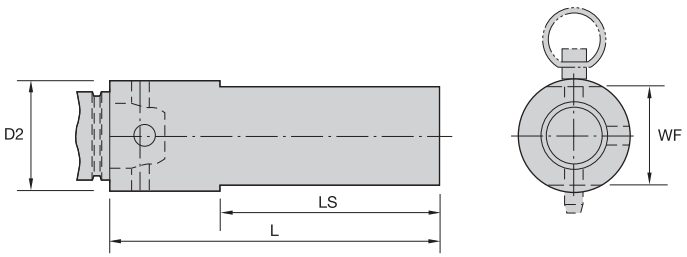




SM Lock Screw Coolant • Inch

order number	catalog number	external thread size	D2	L	LTHD	I.D. drive size
1151259	**KLSSH10**	.500-20 UNF	1.2	1.2	.8	5/16
1151260	**KLSSH12**	.625-18 UNF	1.5	1.5	1.0	5/16
1151261	**KLSSH15**	.750-16 UNF	1.9	1.5	1.0	3/8
1151262	**KLSSH20**	1.000-14 UNS	2.5	1.5	1.0	9/16
1151315	**KLSSH25**	1.000-14 UNS	3.1	2.0	1.5	9/16

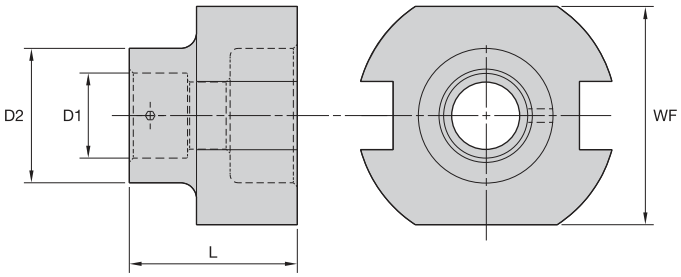
- Vise mount pot to hold KM toolholders for tightening/locking operations.



TF • KM Vise Mount

order number	catalog number	system size	D2		L		LS		WF	
			mm	in	mm	in	mm	in	mm	in
1021816	**KM40TF**	KM40	50,80	2.00	152,4	6.00	101,6	4.00	44,45	1.750
1021817	**KM50TF**	KM50	63,50	2.50	152,4	6.00	101,6	4.00	57,15	2.250
1021818	**KM63TF**	KM63	76,20	3.00	152,4	6.00	101,6	4.00	69,15	2.750
2606542	**KM80TF**	KM80	88,90	3.50	152,4	6.00	101,6	4.00	85,73	3.375

- Vise mount pot to hold HSK toolholders for tightening/locking operations.



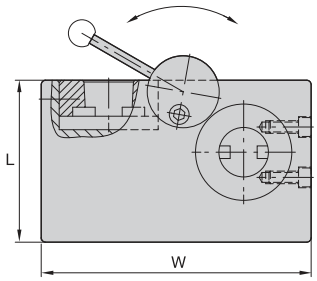


ERICKSON

TF • KM4X and HSK Vise Mount

order number	catalog number	D1 mm	D1 in	D2 mm	D2 in	L mm	L in	WF mm	WF in	wrench size clamp screw
1013573	**TFHSK32A**	32,0	1.26	50,8	2.00	63,5	2.50	82,5	3.25	3mm & 1/8
1013584	**TFHSK40A**	40,0	1.57	60,0	2.36	63,5	2.50	82,5	3.25	4mm & 5/32
1013586	**TFHSK63A**	63,0	2.48	98,4	98.41	69,9	2.75	82,5	3.25	8mm & 5/16
1013587	**TFHSK80A**	80,0	3.15	108,0	4.25	120,7	4.75	82,5	3.25	8mm & 5/16
1013588	**TFHSK100A**	100,0	3.94	135,0	5.31	139,7	5.50	82,5	3.25	8mm & 5/16

- Universal vise to hold HSK forms A, C, and E toolholders for tightening/locking operations.
- Permits simultaneous access to the rear and front end of the toolholders.
- Replaces up to 15 separate tightening fixtures.
- Holds tools in the horizontal or vertical position.
- Can be used either right or left handed.
- Rigid aluminum construction with bolt holes to secure to bench.

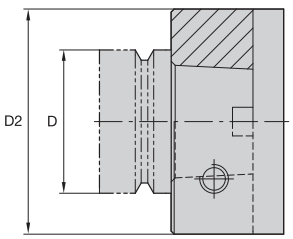


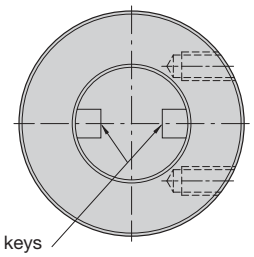
ERICKSON

TF • HSK Universal Mount

order number	catalog number	CSWS	L mm	L in	W mm	W in
1254135	UTAV	ALL	160	6.30	260	10.24

- For HSK forms A and C, insert sleeve into fixture.
- For HSK form E, remove the drive keys before inserting the sleeve adapter.
- Sleeve adapters are made from hardened steel with removable keys.
- For sizes HSK32 and HSK40, a larger cam disk must be ordered when used in a horizontal position.



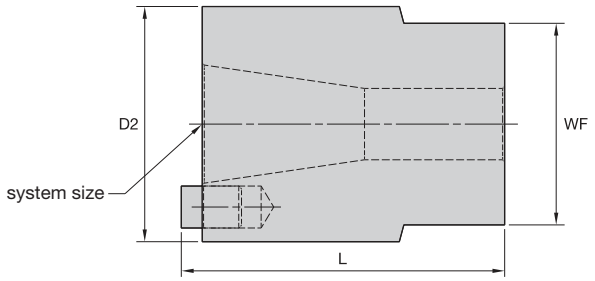


TF • HSK Universal Sleeve

order number	catalog number	system size	D mm	D in	D2 mm	D2 in
1254136	HSK32AS	32	32,0	1.26	98,0	3.86
1254137	HSK40AS	40	40,0	1.57	98,0	3.86
1254158	HSK50AS	50	50,0	1.97	98,0	3.86
1254159	HSK63AS	63	63,0	2.48	98,0	3.86
1254160	HSK80AS	80	80,0	3.15	98,0	3.86
1254161	HSK100AS	100	100,0	3.94	98,0	3.86

	cam disks needed to support HSK32 and HSK40		
catalog number • sleeve	size reference • HSK	order number • cam disk	catalog number • cam disk
HSK32AS	HSK32	2241080	536.150
HSK40AS	HSK40	2241080	536.150

- Vise mount pot to hold steep taper toolholders for tightening/locking operations.



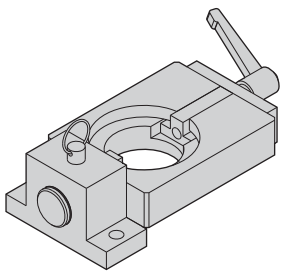


ERICKSON

TF • ST Vise Mount

order number	catalog number	system size	D2 mm	D2 in	L mm	L in	WF mm	WF in
1013620	**TF30**	30	88,9	3.50	109,5	4.31	76,2	3.00
1013636	**TF40**	40	88,9	3.50	122,2	4.81	76,2	3.00
1013638	**TF50**	50	133,4	5.25	165,1	6.50	114,3	4.50

- Universal vise to hold 30, 35, 40, 45, and 50 7/24 steep taper toolholders for tightening/locking operations.
- Permits simultaneous access to the retention knob and locknut.
- Replaces up to five separate tightening fixtures.
- Holds tools in the horizontal or vertical position.
- Can be used either right or left handed.
- Holds most 7/24 tapers including ANSI, ISO, DIN, V-flange, BT, and NMTB.
- Handle position is easily changed with a simple button push.
- No setups, bushings, or spare parts required.
- 400 Nm (300 ft. lbs.) maximum torque capacity.

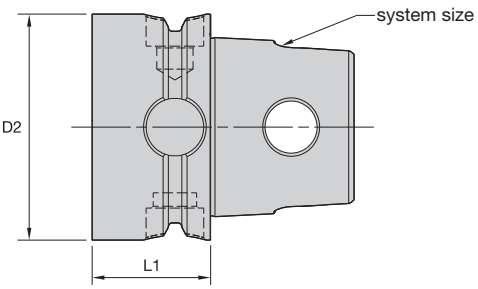


ERICKSON

TF • ST Universal Mount

order number	catalog number	system size
1013591	**UTV5030**	30, 35, 40, 45, & 50

- Prevents machine tool spindle from becoming contaminated when not in use.



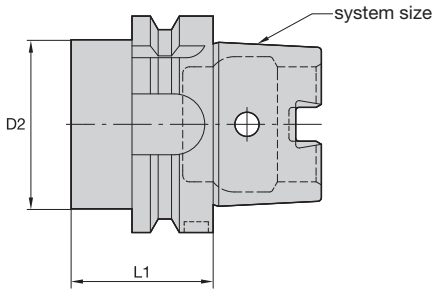


KM QUICK CHANGE

Spindle Plug • KM™

order number	catalog number	system size	D2 mm	D2 in	L1 mm	L1 in
1019237	**KM32P**	KM32	32	1.26	25	.98
1144452	**KM40P**	KM40	40	1.57	27	1.06
1144501	**KM50P**	KM50	50	1.97	31	1.22
1019945	**KM63TSP**	KM63TS	63	2.48	33	1.30
1144328	**KM80P**	KM80	80	3.15	37	1.46

- Prevents machine tool spindle from becoming contaminated when not in use.



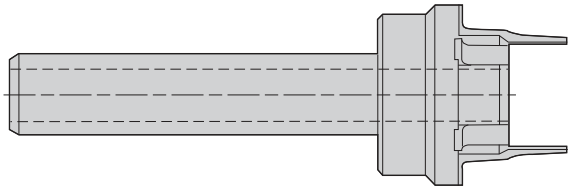


ERICKSON™

P-HSK • Form A

order number	catalog number	system size	D2 mm	D2 in	L1 mm	L1 in	kg
1256061	**HSK63AP**	63	50	1.97	42,3	1.66	0,7
1307767	**HSK100AP**	100	80	3.15	45,3	1.78	0,7

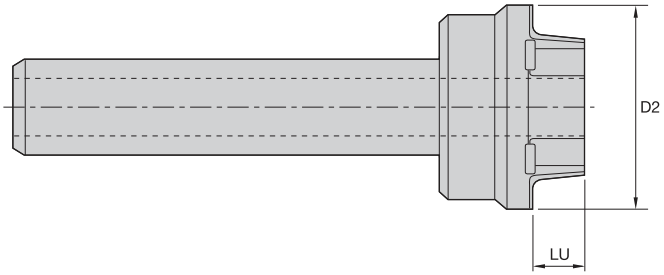
• Cleans taper and face of machine spindle and tool adapter.



SW-KM

order number	catalog number	system size
1727267	KMSW32	32
1606113	KMSW40	40
1612900	KMSW50	50
1612922	KMSW63	63
1612923	KMSW80	80

• Cleans taper and face of machine spindle and tool adapter.

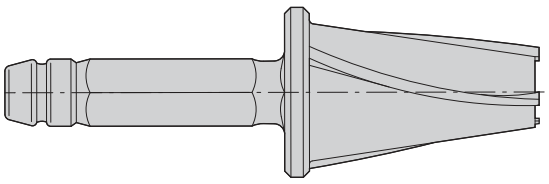


ERICKSON

SW-HSK

order number	catalog number	system size	D2 mm	D2 in	LU mm	LU in
1518662	HSK32SW	32	45	1.77	11	.43
1518630	HSK40SW	40	45	1.77	14	.55
1514497	HSK50SW	50	53	2.09	17	.67
1518677	HSK63SW	63	66	2.60	22	.87
1518681	HSK100SW	100	103	4.06	35	1.38

• Cleans taper of machine spindle and tool adapter.

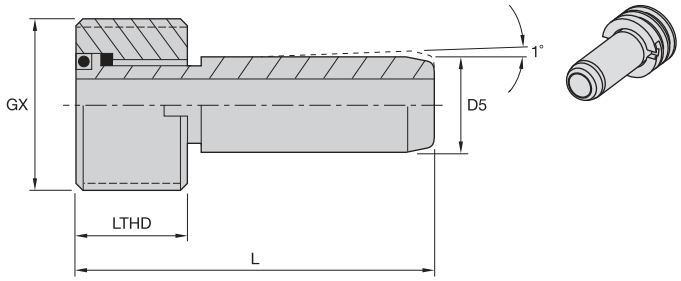


ERICKSON

SW-ST

order number	catalog number	system size
1288838	SW30	30
1288842	SW40	40
1192562	SW50	50

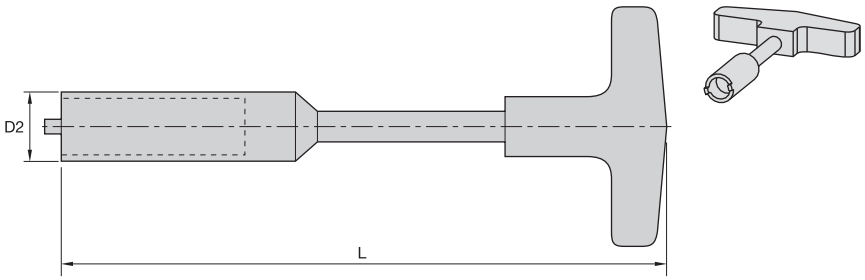
- Designed in accordance with DIN 69893.
- Withstand coolant pressure up to 80 bar (1,160 psi).
- Directs flow of coolant through the tool and avoids spindle mechanism contamination from flow-back.
- Standard-sized replaceable O-rings.



HSK Coolant Supply Unit • Assembly

order number	catalog number	system size	D5 mm	D5 in	L mm	L in	LTHD mm	LTHD in	GX	Nm	ft. lbs.
1132083	**193.158**	40A & 40E	8,0	.3	29,5	1.2	7,5	.30	M12 X 1	10	7
1132144	**193.159**	50A & 50E & 63F	10,0	.4	32,7	1.3	9,5	.37	M16 X 1	15	11
1132145	**193.160**	63A & 63T & 80F	12,0	.5	36,2	1.4	11,5	.45	M18 X 1	20	14
1132146	**193.161**	80A	14,0	.6	40,2	1.6	13,5	.53	M20 X 1.5	25	18
1132147	**193.162**	100A	16,0	.6	43,6	1.7	15,5	.61	M24 X 1.5	30	22

- Designed to lock and unlock the HSK coolant supply units.



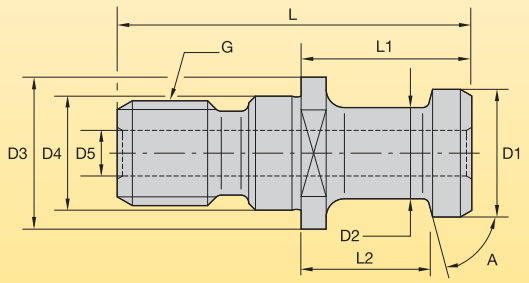
HSK Wrench

order number	catalog number	CSWS	D2 mm	D2 in	L mm	L in	Nm	ft. lbs.
1176487	**170.195**	40A & 40E	13,0	.51	120	4.72	10	7
1132992	**170.196**	50A & 50E & 63F	14,5	.57	114	4.49	15	11
1134161	**170.197**	63A & 63T & 80F	16,5	.65	122	4.80	20	14
1127524	**170.198**	80A	19,0	.75	130	5.12	25	18
1132993	**170.199**	100A	22,0	.87	141	5.55	30	22

WARNING

Retention knobs are available in various styles and are not always interchangeable because all are machine and spindle specific. The proper retention knob must be used at all times with the appropriate adapter, according to machine specifications as provided by the machine's original manufacturer. Failure to use the correct retention knob, or to adequately install and tighten the correct retention knob, may result in an adapter loosening. Using a combination of metric and non-metric components can result in an inadequate coupling of the adapter to the spindle during machining, causing the component to fail.

While Kennametal has endeavored to obtain accurate and up-to-date information regarding retention knob selection based on individual machine tool builder specifications, we cannot guarantee that the information and specifications contained in this catalog are complete and that they have not been modified or superseded by the manufacturer. **You, the machine tool operator, are ultimately responsible for proper selection and use of retention knobs.** The purchase of retention knobs from Kennametal is subject to Kennametal's Standard Terms and Conditions of Sale.





Machining center manufacturers use numerous types and styles of retention knobs. Kennametal has listed some of the most popular retention knobs in the industry on the next few pages.

If a retention knob is not shown, please contact your Kennametal Representative or call Kennametal Customer Service and have the following information available:

machine builder	machine builder's drawing and/or numbers		machine model number	
taper size	**G thread**		**A angle**	
D1	**D2**	**D3**	**D4**	**D5**
L	**L1**	**L2**	**through coolant needed?**	**O-ring needed?**

The machine builder should recommend the required tightening torque for the retention knobs. This information is not always available.

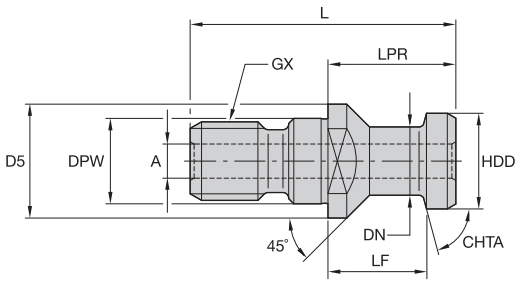
Kennametal has referenced a suggested maximum torque setting and offers a specialized socket just for retention knobs. Please see these socket wrench sizes listed against each knob.



taper size	suggested torque max (ft. lbs.)	suggested torque max (Nm)
30	40	54
40	85	115
50	110	149



- Metric thread.
- Piloted.
- Through coolant.



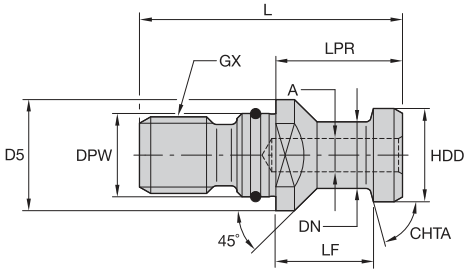
RK DIN 69872 Form A • Metric



order number	catalog number	system size	GX	A	CHTA	D5	DN	DPW	HDD	LF	LPR	L	wrench socket	Nm
1192424	**RK40DVM**	40	M16 X 2	7,05	75°	23	13,95	16,97	18,97	20,0	26,00	54	**RKW40**	115
1192430	**RK50DVM**	50	M24 X 3	11,55	75°	36	20,95	24,97	27,97	25,0	34,00	74	**RKW50M**	143

NOTE: WF = Width over flats for open-ended wrench or socket wrench.
For socket wrench, see page L51.

- Metric thread.
- Piloted with O-ring.
- No through coolant.



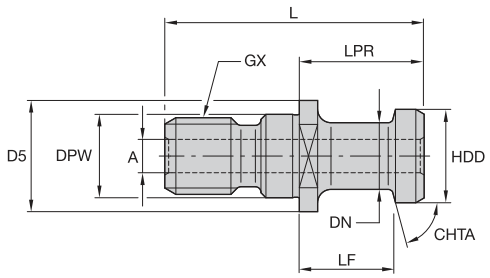
RK DIN 69872 Form B • Metric



order number	catalog number	system size	GX	A	CHTA	D5	DN	DPW	HDD	LF	LPR	L	wrench socket	Nm
1192423	**RK40DVBM**	40	M16 X 2	7,05	75°	22,9	13,95	16,97	18,97	20	26	54	**RKW40**	115
1192429	**RK50DVBM**	50	M24 X 3	11,55	75°	35,9	20,95	24,97	27,97	25	34	74	**RKW50M**	143

NOTE: WF = Width over flats for open-ended wrench or socket wrench.
For socket wrench, see page L51.

- Metric thread.
- Piloted.
- Through coolant.



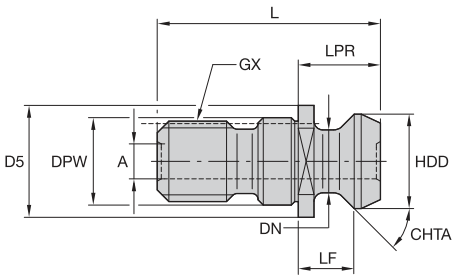
RK ISO 7388/2 Type A • Metric



order number	catalog number	system size	GX	A	CHTA	D5	DN	DPW	HDD	LF	LPR	L	wrench socket	Nm
1285460	**RK40ISAM**	40	M16 X 2	7,05	75°	22,9	13,95	16,99	18,95	20	26	54	**RKW40**	115
1285502	**RK50ISAM**	50	M24 X 3	11,55	75°	35,9	20,95	24,99	27,95	25	34	74	**RKW50M**	143

NOTE: WF = Width over flats for open-ended wrench or socket wrench.
For socket wrench, see page L51.

- Metric thread.
- Piloted.
- Through coolant.



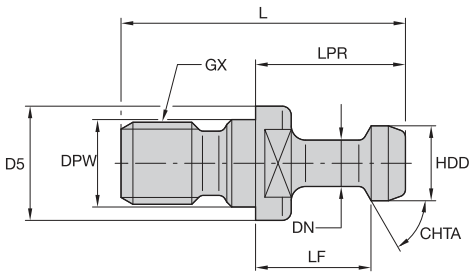
RK • ISO 7388/2 Type B • Metric



order number	catalog number	system size	GX	A	CHTA	D5	DN	DPW	HDD	LF	LPR	L	wrench socket	Nm
1192425	**RK40ISBM**	40	M16 X 2	7,5	45°	22	12,80	16,99	18,80	11,0	16,25	44,50	**RKW40**	115
1192431	**RK50ISBM**	50	M24 X 3	11,7	45°	36	19,45	24,99	28,95	17,8	25,40	65,50	**RKW50M**	143

NOTE: WF = Width over flats for open-ended wrench or socket wrench.
For socket wrench, see page L51.

- Metric thread.
- Piloted.
- No through coolant.



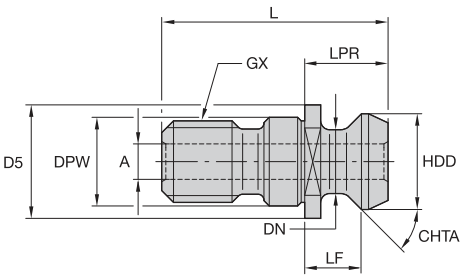
RK BT-MAS-Style with Pilot • Metric



order number	catalog number	system size	GX	CHTA	D5	DN	DPW	HDD	LF	LPR	L	wrench socket	Nm
1192417	**RK30BT1M**	30	M12 X 1.75	45°	16,4	6,95	12,49	10,95	17,95	22,95	43,0	**RKW30**	54
1285416	**RK30BT2M**	30	M12 X 1.75	60°	16,4	6,95	12,49	10,95	17,95	22,95	43,0	**RKW30**	54
1192419	**RK40BT1M**	40	M16 X 2	45°	22,9	9,95	16,99	14,95	27,95	34,95	60,0	**RKW40**	115
1192420	**RK40BT2M**	40	M16 X 2	60°	22,9	9,95	16,99	14,95	27,95	34,95	60,0	**RKW40**	115
1285441	**RK40BT3M**	40	M16 X 2	90°	22,9	9,95	16,99	14,95	27,95	34,95	60,0	**RKW40**	115
1192426	**RK50BT1M**	50	M24 X 3	45°	37,9	16,95	24,99	22,95	34,95	44,95	85,0	**RKW50M**	143
1192427	**RK50BT2M**	50	M24 X 3	60°	37,9	16,95	24,99	22,95	34,95	44,95	85,0	**RKW50M**	143
1285482	**RK50BT3M**	50	M24 X 3	90°	37,9	16,95	24,99	22,95	34,95	44,95	85,0	**RKW50M**	143

NOTE: WF = Width over flats for open-ended wrench or socket wrench.
For socket wrench, see page L51.

- Metric thread.
- Piloted.
- Through coolant.



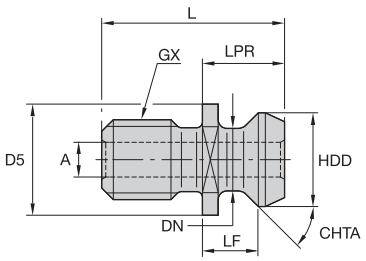
RK Short CV with Pilot • Metric



order number	catalog number	system size	GX	A	CHTA	D5	DN	DPW	HDD	LF	LPR	L	wrench socket	Nm
1192422	**RK40CV3M**	40	M16 X 2	7,14	45°	23,63	12,45	16,98	18,80	11,18	16,26	41,26	**RKW40**	115
1026734	**RK50HPCV**	50	M24 X 3	11,89	45°	36,32	20,83	24,99	28,96	17,78	25,40	65,41	**RKW50**	143

NOTE: WF = width over flats for open-ended wrench or socket wrench.
For socket wrench, see page L51.

- Metric thread.
- No pilot.
- Through coolant.



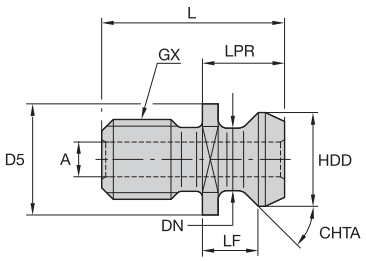
RK Short CV without Pilot • Metric



order number	catalog number	system size	GX	A	CHTA	D5	DN	HDD	LF	LPR	L	wrench socket	Nm
1192421	**RK40CV1M**	40	M16 X 2	6,95	45°	22,5	12,4	18,8	11,20	16,30	38,1	**RKW40**	115
1285478	**RK50AV1M**	50	M24 X 3	11,55	45°	37,0	19,6	29,1	17,95	25,55	60,0	**RKW50M**	143

NOTE: WF = width over flats for open-ended wrench or socket wrench.
For socket wrench, see page L51.

- Inch thread.
- No pilot.
- Through coolant.



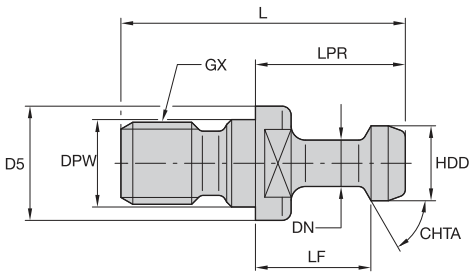
RK Short CV without Pilot • Inch



order number	catalog number	system size	GX	A	CHTA	D5	DN	HDD	LF	LPR	L	wrench socket	ft. lbs.
1026590	**RK40CV**	40	5/8 - 11	.281	45°	.900	.490	.740	.440	.640	1.500	**RKW40**	85
1026690	**RK50CV**	50	1 - 8	.500	45°	1.400	.820	1.140	.700	1.000	2.300	**RKW50**	110

NOTE: WF = width over flats for open-ended wrench or socket wrench.
For socket wrench, see page L51.

- Inch thread.
- Piloted.
- No through coolant.



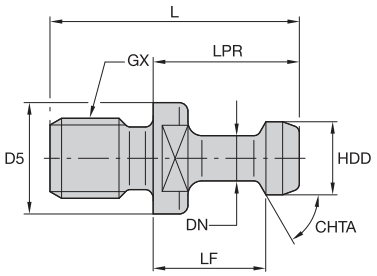
RK BT-MAS Style with Pilot • Inch



order number	catalog number	system size	GX	CHTA	D5	DN	DPW	HDD	LF	LPR	L	wrench socket	ft. lbs.
1026729	**RK31114**	40	5/8 - 11	45°	.938	.392	.636	.589	.988	1.264	2.250	**RKW40**	85
1025459	**RK31114B**	40	5/8 - 11	90°	.938	.392	.636	.589	.988	1.264	2.250	**RKW40**	85
1021844	**RK31118**	50	1 - 8	45°	1.438	.668	1.026	.903	1.384	1.778	3.355	**RKW50**	110
1021800	**RK31118B**	50	1 - 8	90°	1.438	.668	1.026	.903	1.384	1.778	3.355	**RKW50**	110

NOTE: WF = Width over flats for open-ended wrench or socket wrench.
For socket wrench, see page L51.

- Inch thread.
- Piloted.
- No through coolant.



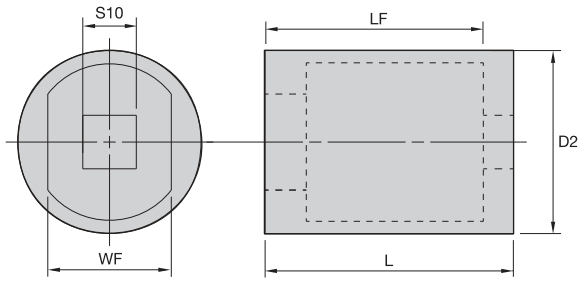
RK BT-MAS-Style without Pilot • Inch



order number	catalog number	system size	GX	CHTA	D5	DN	HDD	LF	LPR	L	wrench socket	ft. lbs.
1026730	**RK32114**	40	5/8 - 11	45°	.903	.392	.588	.990	1.266	2.125	**RKW40**	85

NOTE: WF = Width over flats for open-ended wrench or socket wrench.
For socket wrench, see page L51.

• Socket wrench with standard 1/2" drive to tighten retention knobs.





RK Socket • Metric

order number	catalog number	system size	D2	L	LF	S10 mm	S10 in	WF	Nm
2407089	**RKW40M**	40	31,8	31,8	19,0	12,7	.50	18,1	115
2407091	**RKW50M**	50	44,5	60,3	47,6	12,7	.50	30,2	150

RK Socket • Inch

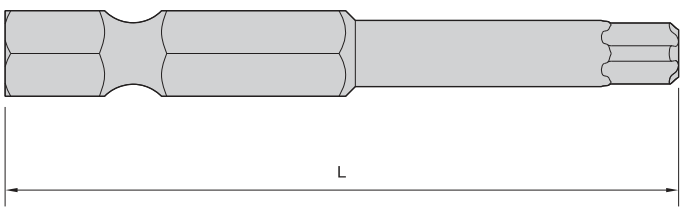
order number	catalog number	system size	D2	L	LF	S10	WF	ft. lbs.
2407087	**RKW30**	30	1.00	1.50	1.00	.50	.54	40
2407088	**RKW40**	40	1.25	1.94	1.44	.50	.76	85
2407090	**RKW50**	50	1.75	1.63	1.12	.50	1.26	110



KM Manual Torque Wrenches

order number	catalog number	KM size	wrench type	adapter	adapter drive size	drive bit	driver hex size	driver bit size	torque (ft. lbs.)	torque (Nm)
1930183	**TWT256R**	12 & 1612	ratchet	—	—	BTE25IP	1/4"	25IP	5 - 6	7 - 8
1851809	**TWT278R**	16 & 2016	ratchet	—	—	BTE27IP	1/4"	27IP	7 - 8	10 - 11
3663411	**TW515R**	20 & 2520	ratchet	30137	3/8"	301.361	5/16"	5mm	14 - 16	19 - 22
2432682	**TW628R**	25 & 3225	ratchet	30137	3/8"	301.362	5/16"	6mm	25 - 30	34 - 40
1291313	**TW58**	32	solid	—	—	301.361	5/16"	5mm	6 - 8	8 - 11
1099387	**TW610**	40	solid	—	—	301.362	5/16"	6mm	9 - 12	12 - 16
1291314	**TW58R**	32	ratchet	30137	3/8"	301.361	5/16"	5mm	6 - 8	8 - 11
1291316	**TW610R**	40	ratchet	30137	3/8"	301.362	5/16"	6mm	9 - 12	12 - 16
1291318	**TW623R**	50	ratchet	AHB375M10	3/8"	—	—	10mm	20 - 25	27 - 34
1291312	**TW1237R**	63	ratchet	AHB500M12	1/2"	—	—	12mm	35 - 40	47 - 54
1121108	**TW1460R**	80	ratchet	EBM14	1/2"	—	—	14mm	58 - 63	79 - 85

NOTE: All KM manual torque wrenches come complete with adapter and driver bit.





Drive Bits

order number	catalog number	KM size	L	driver hex size	driver bit size
2244316	**BT25IP**	12 & 1612	25	1/4"	25IP
2244318	**BTE25IP**	12 & 1612	50	1/4"	25IP
2244317	**BT27IP**	16 & 2016	25	1/4"	27IP
2244319	**BTE27IP**	16 & 2016	50	1/4"	27IP
3389747	**301.361**	20 & 2520	28,6	5/16"	5mm

(KM Manual Torque Wrenches continued)





Thumbwheels

order number	catalog number	KM size	driver	driver bit size
2906898	**TBWLT25IP**	12 & 1612	1/4" Hex	25IP
2906899	**TBWLT27IP**	16 & 2016	1/4" Hex	27IP
3746472	**TBWL5H**	20 & 2520	3/8" Square	5mm
3336459	**TBWL6H**	25 & 3225	3/8" Square	6mm



KM LOC and KM LOC II Wrench

wrench catalog number	drive hex bit			
	KM32	**KM40**	**KM50**	**KM63**
914-15	986-6 = hex size 6mm	986-8 = hex size 8mm	986-10 = hex size 10mm	986-10 = hex size 10mm



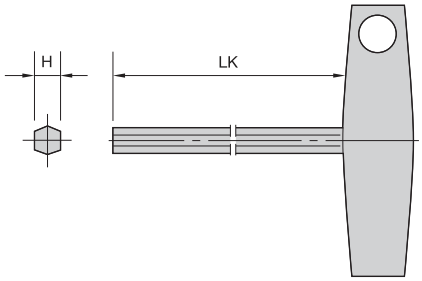
order number	drive hex bit catalog number
1863666	986-6
1131354	986-8
1131361	986-10

NOTE: Wrench and drive hex bit must be ordered separately.



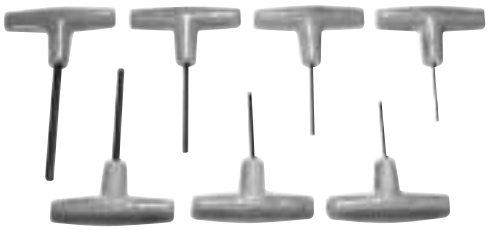
Hex Wrench Set • Metric

order number	catalog number	wrench set description
1192354	**MW-9**	set contains (mm) 1,27; 1,5; 2,0; 2,5; 3,0; 4,0; 5,0; 6,0; and 8,0



T-Handle Hex Wrench • Metric

order number	catalog number	hex size
1138748	**170.135**	5mm
1138755	**170.136**	6mm



T-Handle Wrench Set • Inch

order number	catalog number	wrench description
1192321	**KW-7A**	set contains sizes: 5/64, 3/32, 7/64, 1/8, 5/32, 3/16, and 7/32



Universal Bit Driver

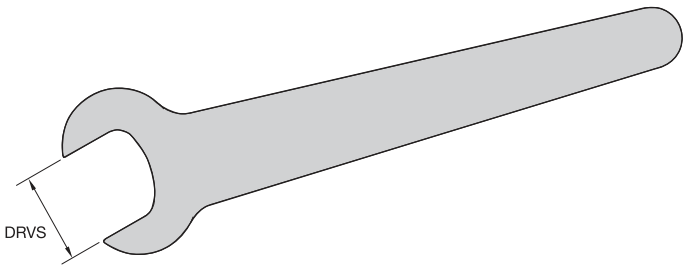
order number	catalog number
1963869	driver



Driver Bit

order number	catalog number	hex size	Torx size	Torx Plus size
1138851	170.179	2,5mm	–	–
1150198	170.180	3mm	–	–
1138857	170.181	4mm	–	–
1962981	BT6	–	6	–
1963853	BT7	–	7	–
1963855	BT8	–	8	–
1963854	BT9	–	9	–
1963856	BT10	–	10	–
1138814	170.175	–	15	–
1138822	170.176	–	20	–
1994654	170.258	–	25	–
1984243	170.256	–	27	–
2244316	BT25IP	–	–	25IP
2244317	BT27IP	–	–	27IP

• Standard open-ended wrenches.



ERICKSON™

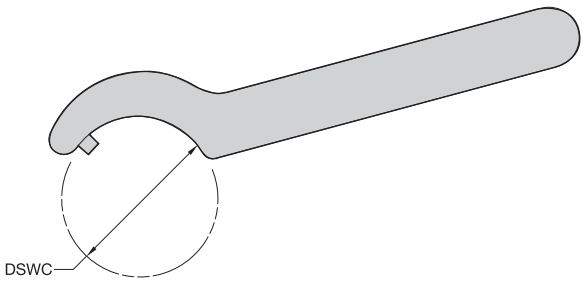
Wrench OEW • Metric

order number	catalog number	DRVS
1284020	OEW9M	9mm
1284011	OEW13M	13mm
1174217	OEW16M	16mm
1197387	OEW19M	19mm
1192371	OEW24M	24mm
1186649	OEW25M	25mm
1284014	OEW30M	30mm
1284015	OEW32M	32mm

Wrench OEW • Inch

order number	catalog number	DRVS
1025533	OEW044	7/16
1025544	OEW050	1/8
1025546	OEW062	5/8
1025547	OEW068	11/16
1025548	OEW075	3/4
1025550	OEW088	7/8
1025551	OEW094	15/16
1025552	OEW100	1
1025553	OEW106	1 1/16
1025574	OEW112	1 1/8
1025575	OEW119	1 3/16
1025576	OEW125	1 1/4
1025674	OEW138	1 3/8
1025581	OEW150	1 1/2
1025582	OEW162	1 5/8
1025583	OEW168	1 11/16
1025604	OEW175	1 3/4
1025605	OEW188	1 7/8
1025607	OEW225	2 1/4
1025608	OEW250	2 1/2

• Standard pin spanner wrenches.



ERICKSON

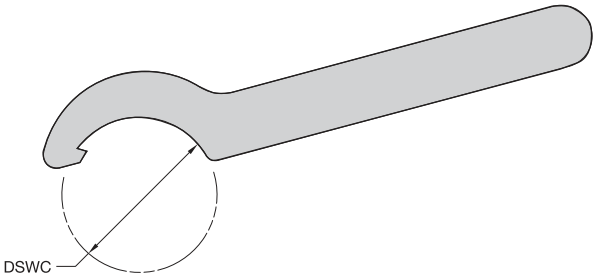
Wrench PSW • Metric

order number	catalog number	DSWC
3367387	PSW52M	58,0mm - 62,0mm
1284310	PSW58M	52,0mm - 55,0mm
1192392	PSW68M	68,0mm - 75,0mm
1284311	PSW80M	80,0mm - 90,0mm

Wrench PSW • Inch

order number	catalog number	DSWC
1013497	PSW350	3 1/2

• Standard hook spanner wrenches.



ERICKSON

Wrench HSW • Metric

order number	catalog number	DSWC
1273813	HSW25M	25,0mm - 28,0mm
1273814	HSW34M	34,0mm - 36,0mm
1192229	HSW45M	45,0mm - 50,0mm
1192230	HSW58M	58,0mm - 62,0mm
1273815	HSW68M	68,0mm - 75,0mm
1192231	HSW80M	80,0mm - 90,0mm



Rapid and Rapid Plus Wrenches

order number	catalog number	driver	length	Rapid KM size	Rapid Plus KM size
2030659	**12146032300**	3/8" Square	250	KM40™	—
2030660	**12146032400**	1/2" Square	250	KM50™	KM40 and KM50
2030661	**12146032500**	1/2" Square	400	KM63™	KM63

Drive Sockets

order number	catalog number	driver	hex size	Rapid KM size	Rapid Plus KM size
2031858	**12146032600**	3/8" Square	10	KM40	—
2031859	**12146032700**	1/2" Square	12	KM50	—
2031860	**12146032800**	1/2" Square	17	KM63	KM40
2067373	**12146033500**	1/2" Square	22	—	KM50 and KM63

NOTE: Wrench and drive socket must be ordered separately.



ERICKSON™ & KM™
Names You Can Trust

For hydraulic chucks — ERICKSON and KM — the industry names you can trust.

- Most accurate chuck, ≤3µm (.0001"), achieves maximum performance from your cutting edge.
- Inherent dampening design extends tool life and improves surface finish.
- Pre-balanced to high specifications.
- Versatile as a collet chuck with the use of reduction sleeves.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®



Technical Information

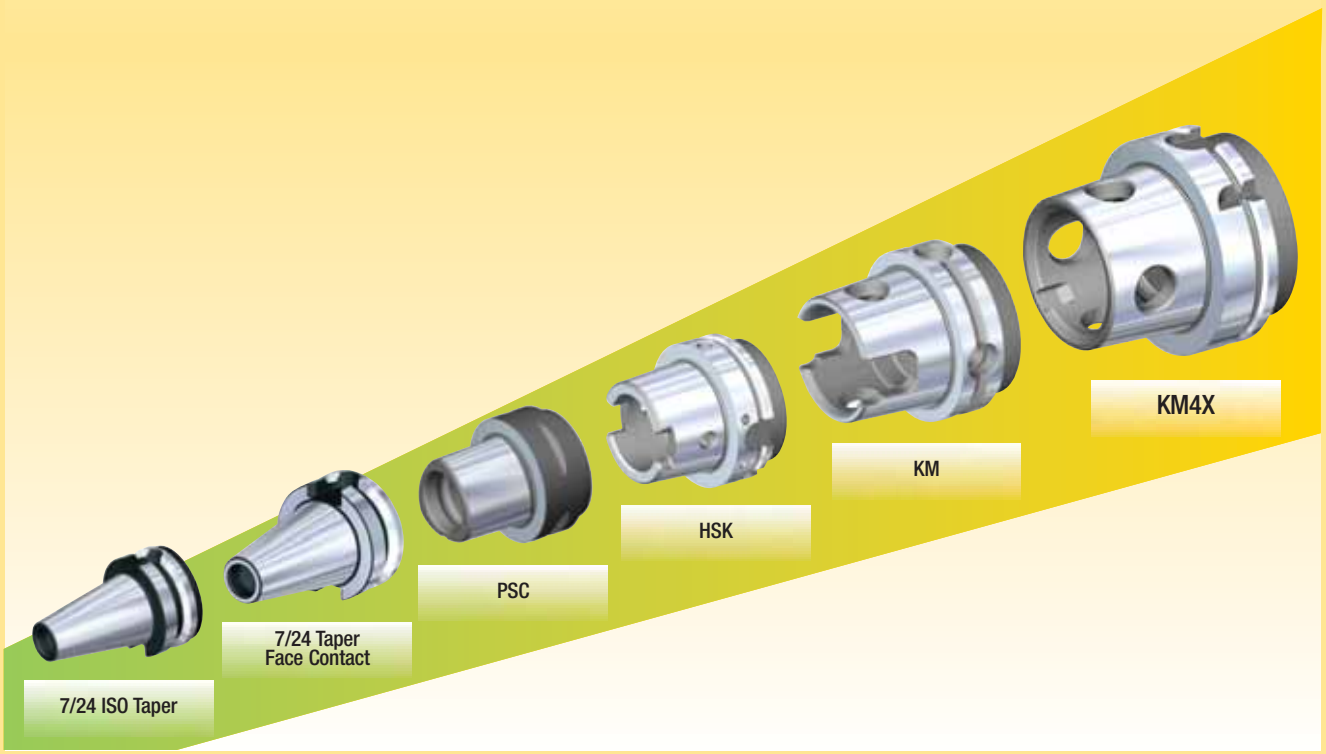
The Correct Spindle Connection and Application Guide M2
Shank Tools M3–M6
Spindle Connections M8–M19
KM4X M9–M11
KM M12–M13
HSK M14–M15
7/24 Face Contact M16–M17
7/24 ISO Taper M18–M19
Clamping Systems M20–M35
KM Introduction M20–M21
KM Manual M22–M29
KM-LOC M30–M31
KM-LOC II M32–M33
KM Rapid/Rapid Plus M34
KM Automatic M35
KM ATC Configurations M36
KM XMZ Configurations M37
KM Application Data M38–M51
KM Tooling Mounting Dimensions M52–M61
KM Micro/KM Mini M62–M72
Clamping Systems M62–M69
Mounting Dimensions M70–M72
Balancing M74–M77
Shrink Fit M78–M81
SAFE-LOCK M82
Hydraulic Chucks M84–M87
HPMC System M88–M89
Tunable Tooling System (TTS) M90–M91
Tunable Milling M92
Tunable Boring Bars M93–M95
Screw-On Adapters M96
Through-Coolant Shell Mill Adapters M97
Collet Chuck Styles M98–M99
Collets M100–M103
Gripping Strength Comparison Chart M104–M105

The Correct Spindle Connection and Application Guide

The Spindle Connection

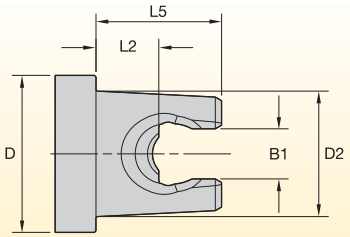
Several different types of spindle connection have been developed or optimized over the last few decades. The 7/24 ISO taper became one of the most popular systems in the market. It has been successfully used in many applications, but its accuracy and high-speed limitations prevent it from growing further due to only having one surface of contact around the gage diameter/uppermost cone. The recent combination of face contact with 7/24 solid taper provides higher accuracy in the Z-axis direction, but this also presents some disadvantages, namely the loss in stiffness at higher speeds or high side loads. Most of these tools on the market are solid and the spindles have relatively low clamping force.

In 1985, WIDIA™ (Krupp WIDIA) and Kennametal initiated a joint program to further develop the concept of taper and face contact interface and a universal quick-change system — now known as KM™ and recently standardized as ISO 26622. The KM system has a very strong design, utilizing three surfaces of contact, the flange face, and lower as well as upper ring of contact of the cone. The polygonal taper-face connection, known as PSC, is now also standardized as ISO 26623, and in the early 1990s, the HSK system started being employed on machines in Europe and later became DIN 69893 and later ISO 12164 with two rings of contact. KM4X™ is the next generation of KM targeted at heavy-duty machining due to the combination of high interference and high clamping forces.



Taper Specifications

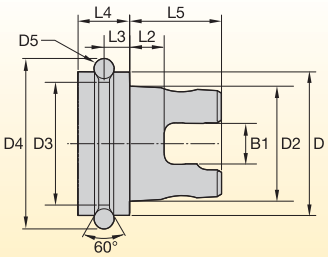
KM Micro™ and KM™ Mini



	D	D2	B1	L2	L5
KM12	12,0 .427	10,0 .394	4,2 .167	6,7 .264	13,0 .512
KM1612	16,0 .630	10,0 .394	4,2 .167	6,7 .264	13,0 .512
KM16	16,0 .630	12,0 .472	4,9 .193	7,11 .280	14,3 .562
KM2016	20,0 .787	12,0 .472	4,9 .193	7,1 .280	14,3 .562
KM20	20,0 .787	16,0 .630	6,6 .260	10,0 .394	18,0 .709
KM2520	25,0 .984	16,0 .630	6,6 .260	10,0 .394	18,0 .709
KM25	25,0 .984	20,0 .787	8,0 .314	10,0 .394	20,0 .787
KM3225	32,0 1.260	20,0 .787	8,0 .314	10,0 .394	20,0 .787

Taper Specifications

KM™ — ISO 26622-1

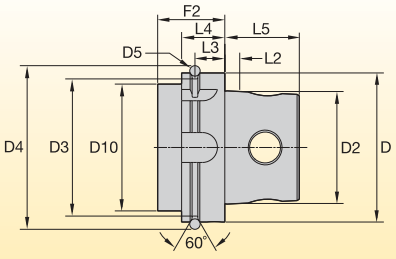


	D	D2	D3	D4	D5	L5	L2	L3	L4	B1
KM32TS	32,0 1.260	24,0 .945	29,0 1.142	36,45 1.435	3,5 0.138	20,0 0.787	8,0 1.102	4,9 0.193	10,0 0.394	9,0 0.354
KM40TS	40,0 1.575	30,0 1.181	37,0 1.457	44,45 1.750	3,5 0.138	25,0 0.984	11,0 0.433	5,89 0.232	12,0 0.472	10,1 0.398
KM50TS	50,0 1.969	40,0 1.575	42,7 1.681	59,4 2.339	7,0 0.276	32,0 1.260	12,0 0.472	8,9 0.350	16,0 .0630	14,1 0.555
KM63TS	63,0 2.480	50,0 1.969	55,7 2.193	72,4 2.850	7,0 0.276	40,0 1.575	18,0 0.709	9,9 0.390	18,0 0.709	16,1 0.634
KM80TS	80,0 3.150	64,0 2.520	72,7 2.862	89,4 3.520	7,0 .0276	45,0 1.772	18,5 0.728	11,0 0.433	22,0 0.866	20,1 0.791

NOTE: Valid for all KM styles including XMZ and ATC.

Taper Specifications

KM4X™

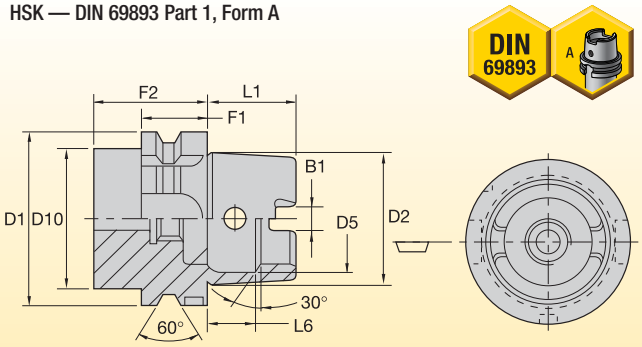


	D	D2	D3	D4	D5	D10 (max)	F2 (min)	L2	L3	L4	L5
KM4X63	63,0 2.480	48,0 1.890	55,0 2.165	72,2 2.843	7,0 .276	53,0 2.087	42,0 1.654	6,3 .248	18,0 .709	26,0 1.024	32,0 1.260
KM4X100	100,0 3.937	75,0 2.953	92,0 3.622	109,7 4.319	7,0 .276	85,0 3.346	45,0 1.772	10,0 .394	20,0 .787	29,0 1.142	50,0 1.969

NOTE: Valid for all KM styles including XMZ and ATC.

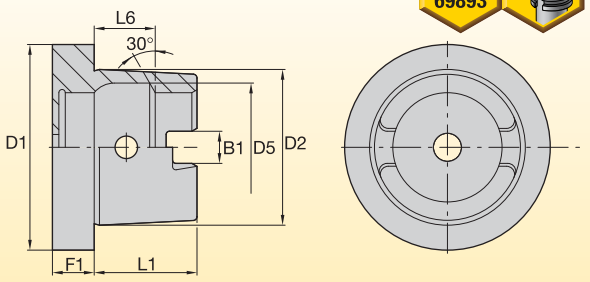
Taper Specifications

HSK — DIN 69893 Part 1, Form A



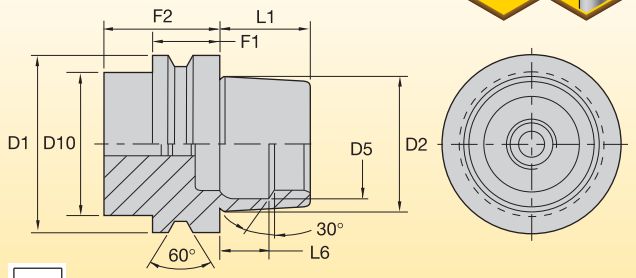
	D1 mm (h10)	D2 mm (ref)	D5 mm (h11)	D10 mm (max)	L1 mm (-0,2)	L6 mm (js10)	B1 mm (±0,04)	F1 mm (-0,1)	F2 mm (min)
40A	40	30	25,50	34	20	11,42	8,05	20	35
50A	50	38	32	42	25	14,13	10,53	26	42
63A	63	48	40	53	32	18,13	12,54	26	42
80A	80	60	50	67	40	22,85	16,04	26	42
100A	100	75	63	85	50	28,56	20,02	29	45

HSK — DIN 69893 Part 1, Form C



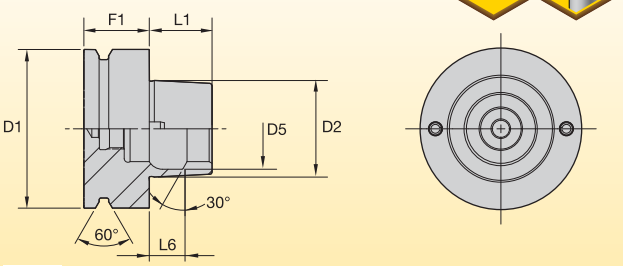
	D1 mm (h10)	D2 mm (ref)	D5 mm (h11)	L1 mm (-0,2)	L6 mm (js10)	B1 mm (±0,04)	F1 mm (-0,1)
32C	32	24	21	16	8,92	7,05	10
40C	40	30	25,50	20	11,42	8,05	10
50C	50	38	32	25	14,13	10,53	12,5
63C	63	48	40	32	18,13	12,54	12,5

HSK — DIN 69893 Part 5, Form E



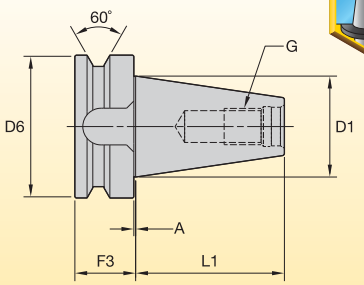
	D1 mm (h10)	D2 mm (ref)	D5 mm (h11)	D10 mm (max)	L1 mm (-0,2)	L6 mm (js10)	F1 mm (-0,1)	F2 mm (min)
40E	40	30	25,5	34	20	11,42	20	35
50E	50	38	32	42	25	14,13	26	42

HSK — DIN 69893 Part 1, Form F (with Pin)



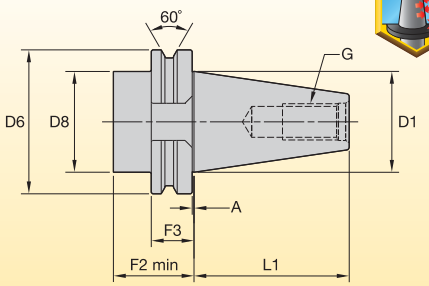
	D1 mm (h10)	D2 mm (ref)	D5 mm (h11)	L1 mm (-0,2)	L6 mm (js10)	F1 mm (-0,1)
63F (pin)	63	38	32	25	14,13	26
80F (pin)	80	48	40	32	18,13	26

BTKV — Taper Face



	D1	D6	L1	F3	A	G
40	44,45 (1.750)	63,00 (2.480)	65,40 (2.575)	27,00 (1.063)	1,00 (.039)	M16 thread
50	69,85 (2.750)	100,00 (3.937)	101,80 (4.008)	38,00 (1.496)	1,50 (.059)	M24 thread

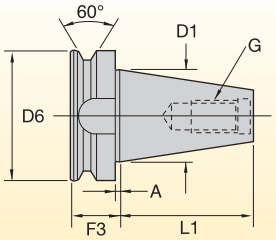
CVKV — Taper Face



	D1	D6	D8	L1	F2	F3	A	G
40	44,45 (1.750)	63,05 (2.500)	44,45 (1.750)	68,25 (2.687)	35,00 (1.375)	19,05 (.750)	1,00 (.039)	5/8-11 thread
50	69,85 (2.750)	98,41 (3.875)	69,85 (2.750)	101,60 (4.000)	35,00 (1.375)	35,00 (1.375)	1,50 (.059)	1-8 thread

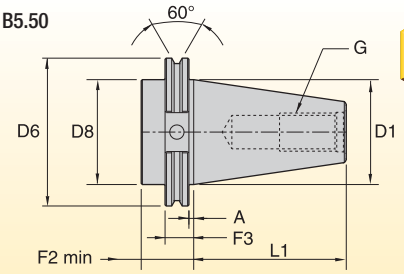
Taper Specifications

BT — JIS B6339



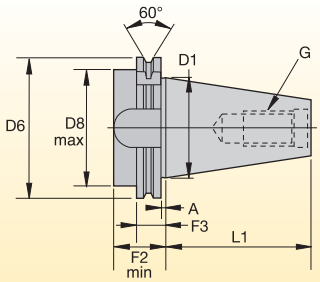
	D1	D6	L1	F3	A	G
30	31,75 (1.250)	46,00 (1.811)	48,40 (1.906)	22,00 (.866)	2,00 (.079)	M12 thread
35	38,10 (1.500)	53,00 (2.087)	56,50 (2.224)	24,00 (.945)	2,00 (.079)	M12 thread
40	44,45 (1.750)	63,00 (2.480)	65,40 (2.575)	27,00 (1.063)	2,00 (.079)	M16 thread
45	57,15 (2.250)	85,00 (3.346)	82,80 (3.260)	33,00 (1.299)	3,00 (.118)	M20 thread
50	69,85 (2.750)	100,00 (3.937)	101,80 (4.008)	38,00 (1.496)	3,00 (.118)	M24 thread

CAT (CV) — ANSI B5.50



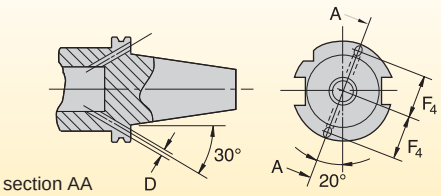
	D1	D6	D8	L1	F2	F3	A	G
30	31,75 (1.250)	46,02 (1.812)	31,75 (1.250)	47,63 (1.875)	35,00 (1.375)	19,05 (.750)	3,18 (.125)	1/2-13 thread
40	44,45 (1.750)	63,05 (2.500)	44,45 (1.750)	68,25 (2.687)	35,00 (1.375)	19,05 (.750)	3,18 (.125)	5/8-11 thread
45	57,15 (2.250)	82,50 (3.250)	57,15 (2.250)	82,55 (3.250)	35,00 (1.375)	19,05 (.750)	3,18 (.125)	3/4-10 thread
50	69,85 (2.750)	98,41 (3.875)	69,85 (2.750)	101,60 (4.000)	35,00 (1.375)	19,05 (.750)	3,18 (.125)	1-8 thread
60	107,95 (4.250)	139,70 (5.500)	107,95 (4.250)	161,93 (6.375)	38,10 (1.500)	19,05 (.750)	3,18 (.125)	1 1/-7 thread

DV — DIN 69871



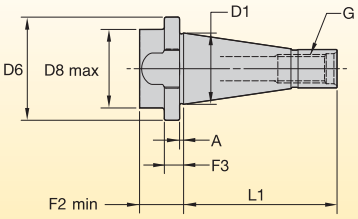
	D1	D6	D8 max	L1	F2 min	F3	A	G
30	31,75 (1.250)	49,95 (1.967)	45,00 (1.772)	47,65 (1.876)	35,00 (1.378)	19,05 (.750)	3,20 (.126)	M12 thread
40	44,45 (1.750)	63,00 (2.480)	50,00 (1.969)	68,25 (2.687)	35,00 (1.378)	19,05 (.750)	3,20 (.126)	M16 thread
45	57,15 (2.250)	82,00 (3.228)	63,00 (2.480)	82,55 (3.250)	35,00 (1.378)	19,05 (.750)	3,20 (.126)	M20 thread
50	69,85 (2.750)	97,45 (3.827)	80,00 (3.150)	101,60 (4.000)	35,00 (1.378)	19,05 (.750)	3,20 (.126)	M24 thread

Form B — Flange Coolant Entry Ports



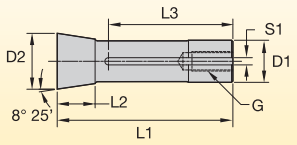
	D	F4 ±0.004
30	4,00 (.157)	21,00 (.827)
40	4,00 (.157)	27,00 (1.063)
45	5,00 (.197)	35,00 (1.378)
50	6,00 (.236)	42,00 (1.654)

QC — ERICKSON™ Quick Change



	D1	D6	D8 max	L1	F2 min	F3	A	G
30	31,75 (1.250)	46,03 (1.812)	35,05 (1.380)	68,33 (2.690)	19,81 (.780)	10,69 (.421)	1,96 (.077)	1/2" - 13 UNC - 2B
40	44,45 (1.750)	63,50 (2.500)	50,80 (2.000)	93,73 (3.690)	20,83 (.820)	9,88 (.389)	1,93 (.076)	5/8" - 11 UNC - 2B
50	69,85 (2.750)	88,90 (3.500)	73,66 (2.900)	127,00 (5.000)	30,73 (1.210)	15,09 (.594)	3,58 (.141)	1" - 8 UNC - 2B

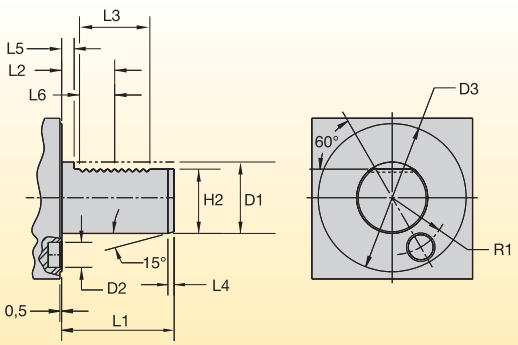
R8 — Bridgeport



	D1	D2	L1	L2	L3	S1	G
R8	.469	1.241	4.000	.938	2.750	.157	7/16-20 UNF - 2B

Shank Specifications

VDI — DIN 69880



	D1	D2	D3	L1	L2	L3	L4	L5	L6	H2	R1
30	30,00	14,00	68,00	55,00	29,70	40,00	2,00	7,00	20,00	27,00	25,00
	1.181	0.551	2.677	2.165	1.169	1.575	0.079	0.276	0.787	1.063	0.984
40	40,00	14,00	83,00	63,00	29,70	40,00	3,00	7,00	20,00	36,00	32,00
	1.575	0.551	3.268	2.480	1.169	1.575	0.118	0.276	0.787	1.417	1.260
50	50,00	16,00	98,00	78,00	35,70	48,00	3,00	8,00	24,00	45,00	37,00
	1.969	0.630	3.858	3.071	1.406	1.890	0.118	0.315	0.945	1.772	1.457
60	60,00	16,00	123,00	94,00	43,70	56,00	4,00	10,00	28,00	55,00	48,00
	2.362	0.630	4.843	3.701	1.720	2.205	0.157	0.394	1.102	2.165	1.890

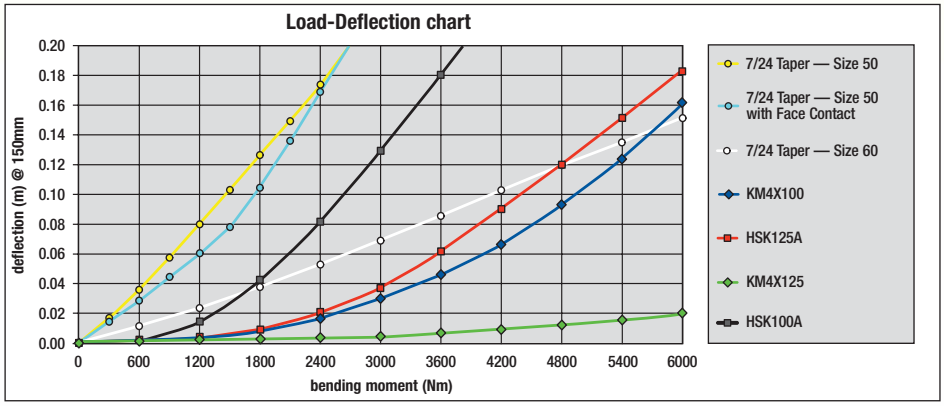


KM4X™

The Latest Innovation in Spindle Interface Technology!

Dramatically increase your metal removal rates when machining high-temperature alloys!

- Run jobs at significantly faster feeds and speeds than is achievable with other spindle interfaces.
- Unique use of clamping force and interference level increases clamping capability 2 to 3 times.
- You experience lower cost of ownership, increased throughput, and superior results.



To learn more, ***scan here****.*

For instructions on how to scan, please see page xxxiii.

Visit **www.kennametal.com** or contact your local Authorized Kennametal Distributor.

www.kennametal.com

KENNAMETAL®

The Importance of a Strong Connection

Many component materials are switching to lighter, high-strength materials, like titanium, to increase fuel efficiency. To save time and money, machinists are challenged to maximize metal removal rates at low cutting speeds and considerably higher cutting forces. Machine tool builders must also provide greater stiffness and damping in their spindles to minimize undesirable vibrations that deteriorate tool life and part quality.

Though these advances contribute to greater productivity, the weakest point is often the spindle connection itself, which needs high torque and must overcome high-bending applications.

Our response to this traditionally weak point has been the proven KM™ system, and now we are introducing the next generation KM4X™. The combination of the KM4X's high clamping force and interference level lead to a robust connection and extremely high stiffness and bending load capacity for unmatched performance in titanium machining.

Current Spindle Connections

To fulfill the increasing demand for high productivity, an important element to consider is the tool/spindle connection. This interface must be able to withstand high loads and maintain rigidity throughout the machining process. In most cases, the connection determines how much material can be removed on a given operation until high tool deflection or chatter result.

High-performance machining is accomplished using high feeds and depths of cut. Because of advances in cutting tools, there is a need for spindle connections that utilize available power.

Several different types of spindle connections were developed and/or optimized over the last few decades. Due to its strong cost/benefit position, the 7/24 ISO taper became one of the most popular systems on the market. It has been successfully used in many applications, but its accuracy and high-speed limitations prevent it from becoming a more advanced and productive system.

The advent of face contact represented a major step over the standard 7/24 taper. Combining face contact with a 7/24 solid taper provides higher accuracy. However, this also presents some disadvantages. Loss of stiffness at higher speeds or high side loads are some of the major flaws apparent in this system. Most of these tools are solid, and the spindles have relatively low clamping force.

This results in limited connection stiffness, as radial interference needs to be minimal. The required tolerances to achieve consistent face contact are thus very tight, leading to high manufacturing costs.

Choosing What's Right

With more materials that are tougher to machine and require considerably higher cutting forces from the machine tool, choosing the spindle interface wisely to maximize cutting edge performance is key to success.

The KM spindle connections greatly outperform the conventional 7/24 steep taper and its face taper contact derivatives HSK and PSC systems. KM4X is the best large, heavy-duty spindle connection for rigidity because it has superb balance between bending and torsion capabilities from the machine tool.

7/24 ISO Taper



- One surface contact.
- Relatively low stiffness.
- Possible runout due to taper fitment.
- Low axial accuracy.

7/24 Taper Face Contact



- Two surface contact.
- Higher static and dynamic stiffness.
- Higher axial and radial accuracy.
- Rigid system.

HSK



- Two surface contact.
- Higher axial and radial accuracy.
- Less mass — faster quick change and higher speeds.
- Higher stiffness than 7/24 tapers.

KMTS (ISO)



- Three surface contact.
- Superior static and dynamic stiffness.
- Static and rotating applications.
- Higher speed.
- Higher stiffness than HSK and 7/24 tapers.

KM4X

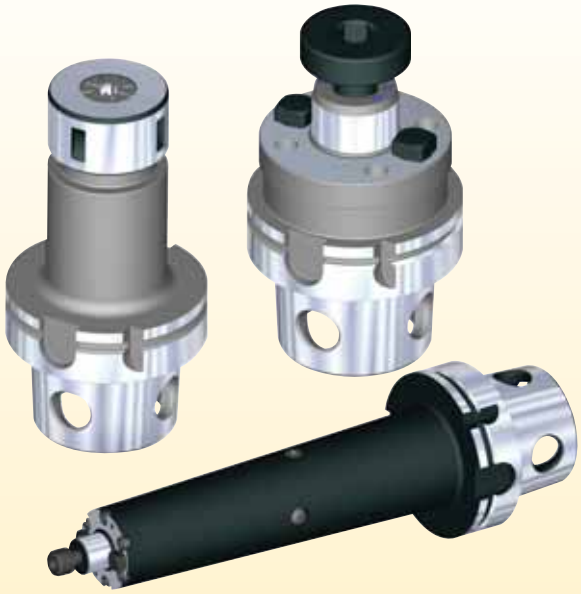


- Three surface contact.
- Superior static and dynamic stiffness.
- Static and rotating applications.
- Highest maximum speed.
- ISO (HSK) Gripper.

KM4X™ — The Next Generation Spindle Connection System

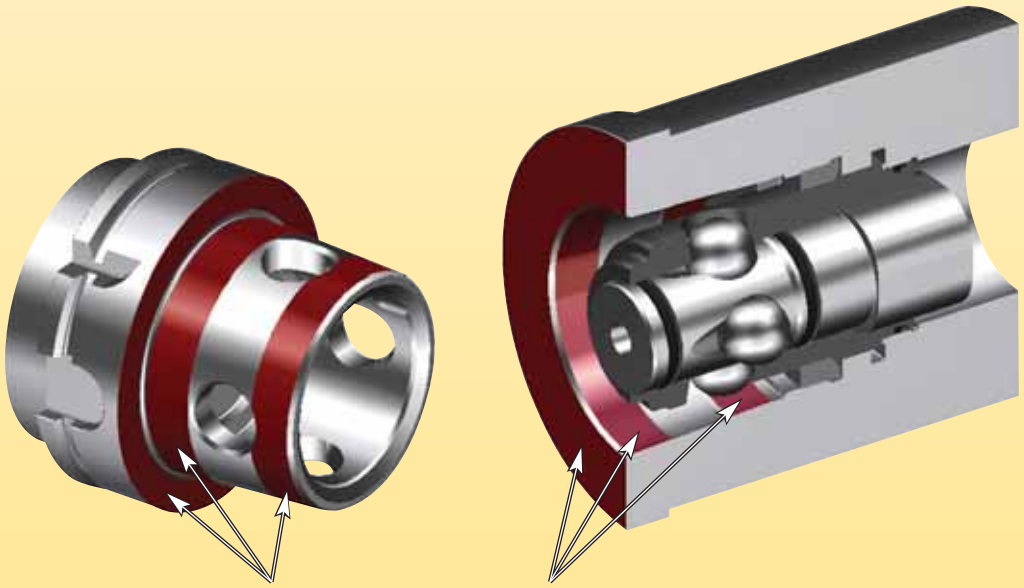
As a global tooling supplier and a true customer support partner, we recognize the need to offer tooling products for all spindle interfaces and make available solutions to provide the best cutting edges to gain maximum productivity at the spindle system connection.

KM4X is the latest version of the KM™ spindle interface targeted at heavy-duty machining operations and is a top choice for machining large, structural tough-to-machine materials like titanium for the aerospace industry.



The Latest Innovation in Spindle Interface Technology

- KM4X offers the most rigid connection able to withstand extremely high bending due to a combination of high interference and high clamping forces.
- KM4X provides 3x more bending capacity than comparable face contact systems.
- KM is the only connection that maintains stiffness at elevated rotational speeds and is suitable for a range of applications from low speeds with high torque to very high spindle speeds with low torque.
- KM4X maintains a better balance between bending and torsion capabilities.
- The ability to retrofit KM4X to an existing machine tool offers the added advantage of increasing throughput.
- Heavy-duty, rigid configuration with evenly distributed clamping force.
- Simple design enables front-loaded spindle configuration.
- Balanced-by-design for high spindle speed capacity.



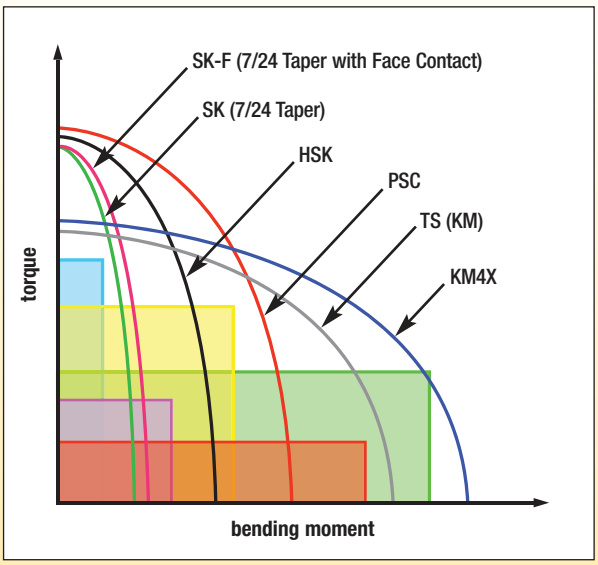
KM4X three-surface contact for improved stability and accuracy.
Optimized clamping force distribution and interference fit provides higher stiffness.

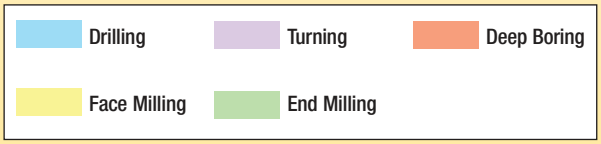
Why Bending Load Capacity Is Important

When machining tough materials like titanium, cutting speeds are relatively low due to thermal effects on cutting tools. Over the years, machine tool builders responded to this issue by improving stiffness and damping on spindles and machine structures. Spindles have been designed with abundant torque at low rotational speeds. Nevertheless, the spindle connection has remained the weak link in the system.

The spindle connection must provide torque and bending load capacity compatible with the machine tool specifications and the requirements for higher productivity. It becomes obvious that in end-milling applications where the projection lengths are typically greater, the limiting factor is the bending load capacity of the spindle interface.

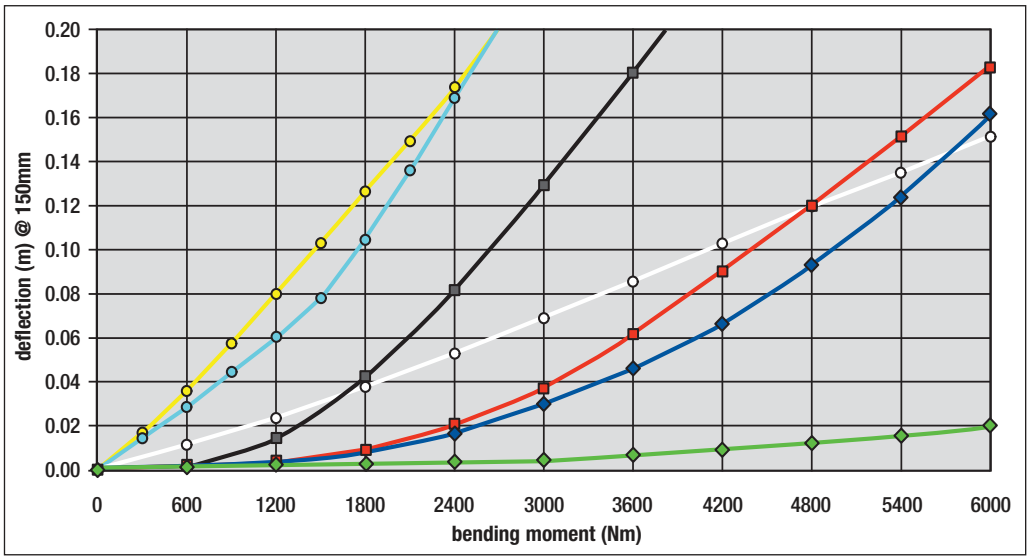
The lines on the chart to the right represent the load capacity of HSK, PSC, and KM4X. The shaded areas represent the typical requirements for heavy-duty applications in various machining processes. KM4X is the only system that can deliver the torque and bending capacity required for achieving high-performance machining. Some systems may be able to transmit considerable amounts of torque, but the cutting forces also generate bending moments that exceed the interface's limits before torque limits are exceeded.

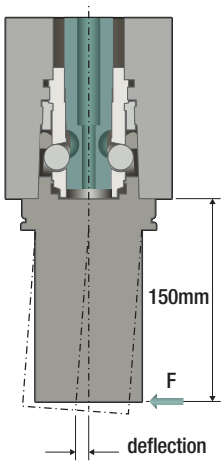


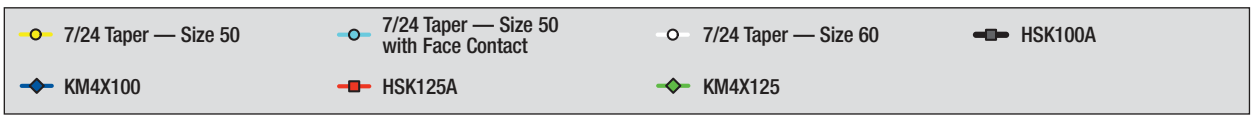


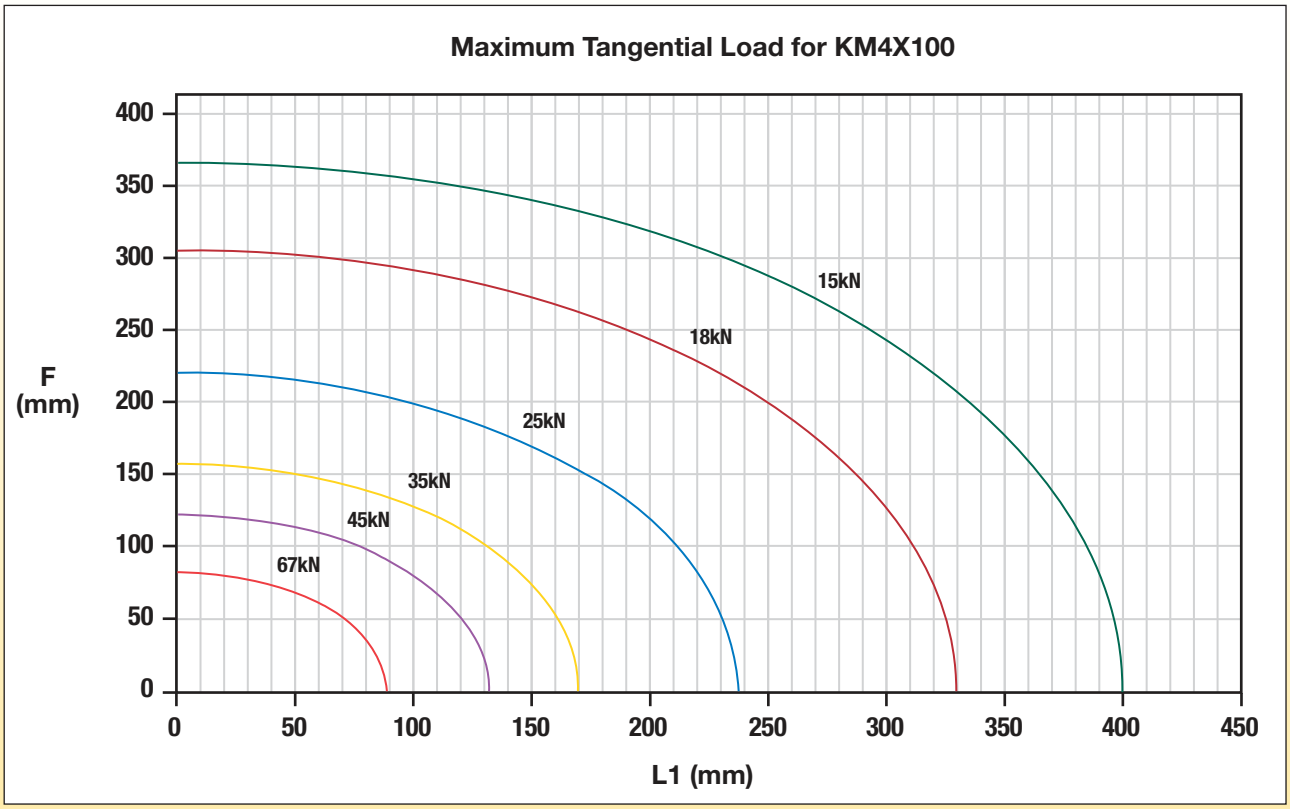
IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.

Chart shows load-deflection comparison of steep taper with and without face contact — HSK and KM4X.









The KM4X system is the best large, heavy-duty connection. A weak connection can fail to deliver the desired cutting edge performance. KM4X superior rigidity equals maximum productivity.

IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.



The KM Coupling

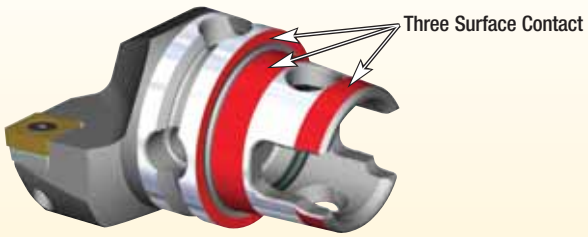
The KM Quick Change Clamping System is the first step in achieving maximum machine output. Please refer to the Kennametal Machine Utilization Strategy for more information on how we can help you increase your machine throughput. The KM joint achieves rigidity and stiffness by combining unique design elements in both the shank of the tool and the clamping mechanism. The KM joint was developed as a system and takes full advantage of both the tool shank and the mechanism to obtain maximum benefits from the space utilized.

Rigidity

All KM tooling is designed around a short 10:1 tapered shank. Extensive testing of many different lengths, angles, and interference levels provided the optimum combination of dimensions with regard to maximum stiffness. The taper is self-centering, promoting easy tool loading in both manual and automatic applications.

The three-zone contact and the ball track clamping mechanism produces a coupling that closely approaches the ultimate rigidity of a solid piece.

Face and Taper Contact



KM tooling is designed to have simultaneous taper and face contact. Previous efforts to achieve this were concentrated on steep taper applications. However, due to the relatively large angle of the taper, extremely tight tolerances are required on the gage diameters of both the tool and receptacle. The KM taper was designed to avoid these tight tolerances by selecting shallower taper angles that enable elastic deformation of both the taper shank and receptacle during clamping. It also permits larger interference levels* to be used while still achieving taper and face contact during clamping. These interference levels, when combined with the proper clamping force, provide superior static and dynamic stiffness. The system's interference capability enables the use of lower tolerance levels for gage diameters.

The taper and face contact feature provides a radial and axial repeatability of ±2,5 µm (±.0001") for a specific cutting unit in a specific clamping unit. When more than one unit is utilized, the manufacturing and component tolerances of each must be considered. Pre-gaging cutting units before they are used enables the deviations of each tool tip location to be recorded. These deviations can be compensated for by the machine tool control offsets. Checking for deviations prior to use means the first part manufactured will be a good part.

*The difference between the gage diameters of the receptacle and the taper shank.

Clamping Mechanism

The KM clamping mechanism is housed inside of the taper shank, which contains two angled holes that function as ball tracks. A cylindrical ball canister fits inside of the taper shank, where wedge shaped forms on a central lock rod force two hardened steel balls outward. The steel balls interact with the angled holes in the tapered shank to produce clamping force. The combination of the angle in the taper shank, the angle of the canister holes, and the lock rod angle produce a measured mechanical advantage that varies between 3.5:1–7:1. The standard manual side activation mechanism has a mechanical advantage of 3.5:1 and fits into the system size diameter.

Locking Sequence

The clamping sequence starts by inserting the cutting unit into the female taper of the clamping unit. The cutting unit first makes contact at a standoff from the face of approximately 0,25mm (.010"). The cutting unit advances until the gage face makes contact with the clamping unit face, where a small amount of elastic deformation takes place at the front of the female taper as locking force is applied. The final amount of torque applied enables the tail of the cutting unit to clamp securely between the steel balls and the clamping unit inside diameter.

Sealed Coolant

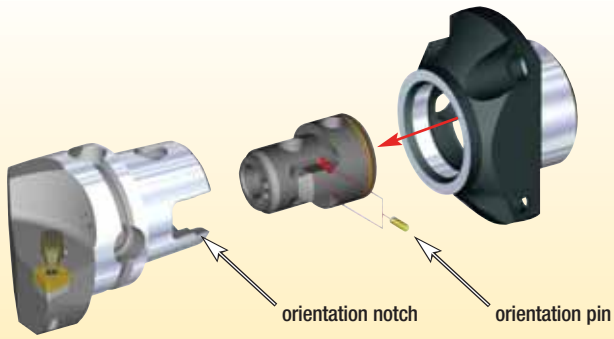
Sealed through-the-tool coolant is offered on all standard KM tooling and clamping units. The coolant is sealed using O-rings in both the cutting units and clamping units. This feature ensures that coolant is directed as close as possible to the cutting edge while preventing contaminants from entering the clamping mechanism. Standard Viton® O-rings are utilized on KM.

Fail-Safe Tool Orientation

A unique feature of KM clamping is the ability to ensure that the KM cutting unit can only be installed in one orientation. The direction of this orientation feature can be changed within the clamping unit. To allow greater flexibility, standard KM clamping units are shipped without this feature installed. For more details on this feature, refer to the KM operating instructions section.

Metric Slotted Pins:

- KM32TS — 2,5mm x 4mm Long
- KM40TS — 3mm x 6mm Long
- KM50TS — 4mm x 8mm Long
- KM63TS — 5mm x 10mm Long
- KM80TS — 5mm x 10mm Long
- KM63XMZ — 5mm x 10mm Long
- KM80ATC — 5mm x 10mm Long



Accuracy and Repeatability

Accuracy and repeatability of the coupling are shown in the table below. Accuracy is measured over a gage insert in different cutting units changed in and out of a clamping unit. Accuracy will decrease with inserts of varying tolerances and nose radii. Station-to-station accuracy on a turret requires that all clamping units be set in the same position on the machine tool mechanically or that variations are recorded as offsets in the machine control. Repeatability is measured over the nose radius of a cutting unit through many cycles of changing the cutting unit in and out of a clamping unit.

	accuracy	repeatability
axial	0,13mm (+/- .005")	0,0025mm (+/- .0001")
radial	0,13mm (+/- .005")	0,0025mm (+/- .0001")
cutting edge height	0,4mm (+/- .016")	0,025mm (+/- .001")

Summary

KM coupling offers a very rigid joint with a high degree of repeatability while maintaining a compact envelope. This permits a high degree of versatility without sacrificing cutting performance.

HSK Quick-Reference Identification

HSK hollow-stub taper shanks are a widely used DIN standard for machine tools. HSK tools have a simultaneous 1:10 taper, which generates two surface contact areas: face and taper. Compared with traditional steep-taper shanks, HSK shanks are shorter, hollow, and clamp from the inside. They also incorporate drive keys that engage milled key-slots in machine spindles and offer higher static and dynamic stiffness than standard steep taper tooling.

HSK tooling includes seven toolholder shank forms: A, B, C, D, E, F, and T. Various machine-spindle receivers are available for each. However, the choice of form depends on application requirements such as torque and spindle speed.







HSK-A
for general-machining service



HSK-B
greater flange support than form A for heavier work

Form A

Form A for automatic tool change is the most common shank, typically used on new machining centers and for general service. Form A has a drive slot in the small end of the tapered shank and features coolant through the center, using a coolant tube thread mount inside the shank cavity. In many applications, wrench access holes are provided through the taper as an option for manual clamping and automatic tool change shanks. Form A shanks have mounting holes for an electronic chip.

There are eight different sizes of form A ranging from 32–160mm (1.260–6.299") flange diameter.

Form B

Form B is also for automatic tool change. It is similar in appearance to form A but dimensionally different. Form B provides greater flange support for heavy machining, even though its taper shank size is smaller than form A. This style of shanks have drive slots in the flange and drive keys in the taper. Coolant for form B is fed through ports in the flange. Mounting holes for an electronic chip are also a feature of form B.

For form B there are seven different shank sizes from 40–160mm (1.575–6.299") flange diameter.





HSK-C
similar to form A but for manual tool change applications



HSK-D
similar to form B but for manual tool change applications

Forms C and D

Forms C and D for manual tool changes are variations of forms A and B, but the gripper groove and chip holes are eliminated. These two forms always have their access holes through the taper for manual clamping. These manual forms are typically used on transfer lines and non-rotating applications for NC lathes.

There are six different shank sizes for form C ranging from 32–100mm (1.260–3.937") flange diameter. Form D has five different shank sizes from 40–100mm (1.575–3.937") flange diameter.

(continued)

HSK Quick-Reference Identification *(continued)*





HSK-E
balanced-by-design for higher speeds





HSK-F
balanced-by-design with greater flange support for higher speeds





HSK-T

Forms E and F

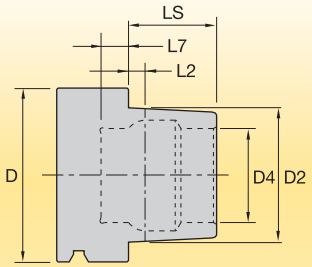
Forms E and F with automatic tool change are also variations of forms A and B. These forms are intended for high-speed machining. Design features, such as drive slots, the orientation notch, and chip holes, have been removed to help eliminate imbalance. As a result, these forms are driven by the locking taper and are suitable only for light machining applications such as high-speed metalcutting and woodworking machines.

Form E offers five different shank sizes ranging from 25–63mm (.984–2.480") flange diameter. There are three shank sizes for form F from 50–80mm (1.969–3.150") diameter on the flange.

Form T

Form T shanks are similar to form A, but with tighter key ways for turning. This gives form T improved repeatability over form A. These shanks have new centerline technology for variance and high productivity. They are also available in a wide range of standard toolholders.

HSK Primary Offering



flange diameter D										
forms A and T	form B	form C	form D	form E	form F	D2 mm	D4 mm	LS mm	L2 mm	L7 mm
-	-	-	-	25	-	19	14	13	2,5	6
32	40	32	40	32	-	24	17	16	3,2	8
40	50	40	50	40	50	30	21	20	4	8
50	63	50	63	50	63	38	26	25	5	10
63	80	63	80	63	80	48	34	32	6,3	10
80	100	80	100	-	-	60	42	40	8	12,5
100	125	100	-	-	-	75	53	50	10	12,5
125	160	-	-	-	-	95	67	63	12,5	16
160	-	-	-	-	-	120	85	80	16	16

Kennametal primary offering

Secondary styles available upon request

7/24 Taper Face Contact V-Flange — Tooling to Fit the BIG-PLUS™ Spindle

The 7/24 Taper Face Contact Spindle Interface, is being found on machining centers and multitasking machines. The basic principle of this system takes the standard 7/24 steep-taper tool and adds material to the back face of the toolholder flange as well as to the front face of the spindle. This is controlled so that the two parts have both face and taper contact when locked into position. The distinctive features of the system are the lead-in chamfers on the drive slots and ground back V-flange. The surface contact creates a system with higher static and dynamic stiffness compared to a regular 7/24 taper and increased axial and radial accuracy.

Capable of being utilized in a variety of machining applications ranging from low-speed, heavy milling applications to high speeds greater than 20,000 RPM. The systems accuracy, repeatability, and stability should be equal or greater to the performance of current equivalent Taper Face tooling on the market in all applications.

Technology

With the Taper Face System, toolholders are axially supported on the taper and flange face, which brings about higher rigidity and precision than a conventional 7/24 toolholder. The system utilizes elastic deformation of the machine spindle to achieve simultaneous fitting of both the taper and flange face. Although the tapers are fit prior to clamping the mechanism, the faces are not yet secured because of a small amount of clearance between them. When the toolholder is pulled in by the drawbar mechanism, the machine spindle expands by elastic deformation and the faces are fit, completing the simultaneous fit between both taper and face. This synchronized fit prevents additional axial displacement of the taper providing high accuracy and superior surface finish in operations such as face milling, compared to the industry standard 7/24 V-flange.



Taper face tool's axial position is maintained even at high rotational speed.

Offering

Kennametal supports both the CAT (CV) ANSI B5.50 and BT JIS B6339 versions in 40 and 50 taper sizes:

- Two surface contact.
- Higher static and dynamic stiffness.
- Higher axial and radial accuracy.
- Rigid system.



- CVKV40
- CVKV50



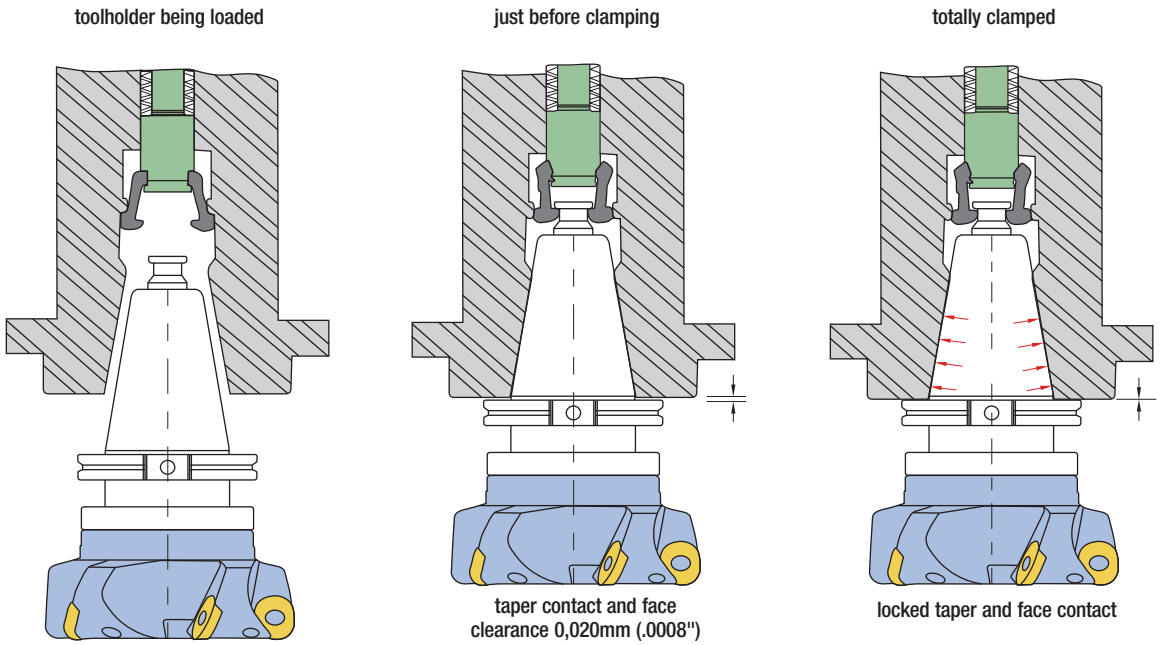
- BTKV40
- BTKV50

Clamping Mechanism

In some cases, standard 7/24 steep-taper tooling can be used in a face contact 7/24 taper spindle. However, the combination does not offer the same stability or advantages of face contact. As a caution, some spindles have a safety switch that shuts the spindle down if face contact is not achieved. In these cases, tools will need taper face contact for the spindle to operate.

Similar to all interfaces with face contact, special care should be taken regarding the cleanliness of the mating faces as high contact pressures are present. Adequate filtration systems for coolant must be used.

Locking Principle



Steep Taper V-Flange



Steep taper Form B coolant

Taper Size

Taper size should be chosen with realistic considerations. When selecting cutting parameters, keep in mind that a machine with a 30 taper spindle will not achieve the same heavy cuts or use cutters as large those on a 50 taper machine.

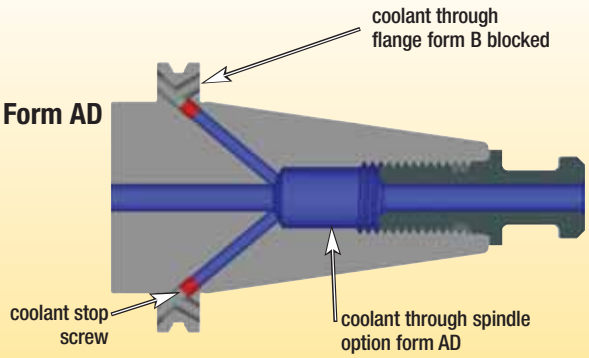
Pull-Back System

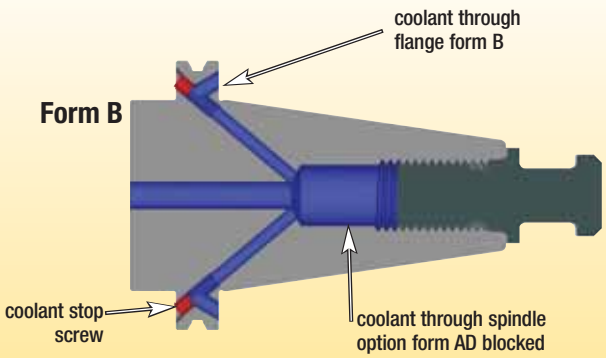
When troubleshooting a problem, assume that the toolholder is at fault is not the correct course of action. The spring pack, drawbar, gripper, and retention knob are major components for the successful operation of a machine tool because wear or breakage of these parts is a major concern.

- **Spring pack —** Can become weak or out of adjustment. This can cause chatter during a milling operation, which causes damage to the adapter taper, spindle taper, cutter, or workpiece.
- **Gripper fingers —** If worn, they may not grip the retention knob correctly, enabling the adapter to move, resulting in chatter and damage to the adapter.
- **Retention knob —** A worn or incorrect retention knob will not enable proper gripping for pull back on the taper. This is a very serious safety hazard due to the movement of the adapter. Using an improper knob may result in a lack of any detectable gripping force.

Form B Coolant

Spindles are now running at higher rates — quickly burning seals, making it difficult to seal coolant as it passes through the drawbar. One option is to direct the coolant around the spindle bearings and enter through the spindle face and toolholder flange.



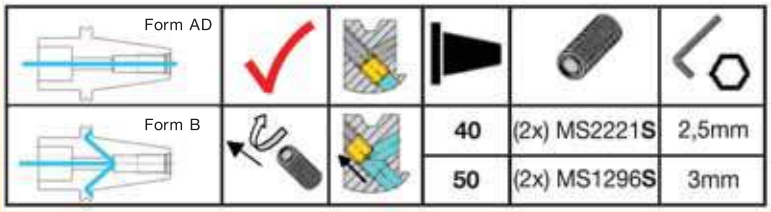


Kennametal™ toolholders are positioned in the AD coolant form with self-sealing, nylon-coated screws. The coolant screws are designed to completely seal the tool and prevent coolant leakage under pressures up to 1500 psi. However, if form B coolant is desired, the coolant stop screws must be backed out into the form B position.

IMPORTANT
When choosing a desired coolant form, the correct retention knob should be used in conjunction with the coolant form applied.

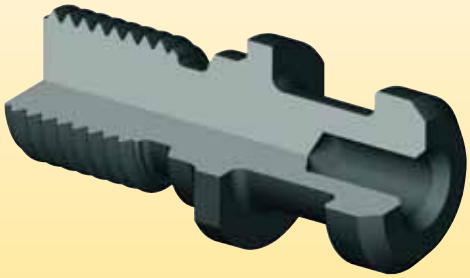
Form B toolholders can be converted back through the drawbar form AD by simply threading the coolant stop screw and stopping below the flange coolant entry hole. Changing coolant form can be achieved many times before it is necessary to replace the coolant stop screw.

All form B capable tooling is supplied with a label designating the required screw components for each steep taper size and information necessary for selecting a wrench to adjust the coolant stop screws.





Form AD
(through-coolant hole)

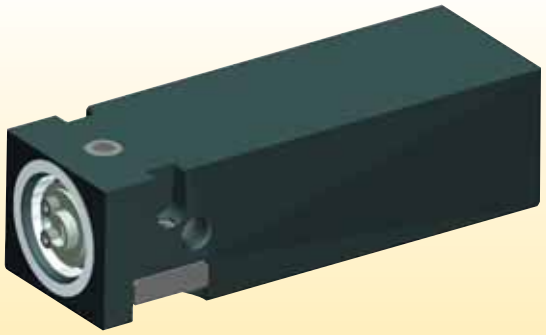


Form B
(no hole through or half hole)

Manual Clamping System

Characteristics

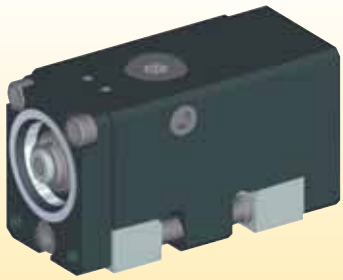
- KM Manual Quick Change tooling is the most economical way to reduce downtime for setup and tool change and is an important first step toward further automation. The machine tool builder or the customer can easily install KM Manual Quick Change tooling.
- All KM manual clamping units require approximately three turns of the activation screw and a specified amount of torque to lock the cutting tool.
- The KM Manual Quick Change clamping mechanism is rigid and compact, with an easily accessible activation screw. The high mechanical advantage of the ball track makes it simple to apply the required locking force.
- All KM Manual Quick Change clamping units accept external and internal cutting tools. Right- or left-hand tooling can be used interchangeably, and cutting tools can be inverted if required. KM Manual Quick Change clamping units support through-the-tool coolant.



- The KM Manual Quick Change clamping mechanism can adapt to a wide variety of machine tool mounting configurations including flange mounts, square, round, and VDI shanks.

KM-LOC™ Clamping System

KM-LOC is an evolutionary step from the conventional KM manual clamping system, the KM-LOC device employs a cam and a pre-loaded disk spring pack to provide positive, stop-to-stop locking and unlocking in only 140º of movement. The spring pack supplies the correct clamping force while the cam permits quick and easy clamping/unclamping in less than one turn, and without using a torque wrench. The KM-LOC clamping device is compact to adapt to a wide variety of machine tool mounting configurations, including flange mounts, square, round, and VDI shanks. The new KM-LOC clamping device offers all the features and benefits of our industry-proven modular KM Quick Change Tooling System and reduces the time required for manual tool changes.

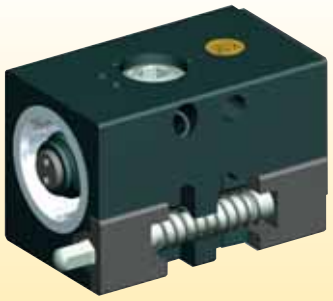


KM-LOC II™ Clamping System

The KM-LOC II clamping device is the latest addition to the Kennametal KM modular quick-change tooling family. An evolutionary step from the conventional KM manual clamping system, the KM-LOC II employs a cam and a preloaded disk spring pack to provide positive, stop-to-stop locking and unlocking in only 145° of movement.

The spring pack supplies the correct clamping force without using a torque wrench, while the cam permits quick and easy clamping/unclamping in less than one half of a turn. The KM-LOC II clamping device is compact to adapt to a wide variety of machine tool mounting configurations including flange mounts, square, round, and VDI shanks.

The KM-LOC II is capable of handling through-the-tool coolant pressure of 100 bar (1500 psi), and the design permits lubrication of internal components without disassembly. The design also enables the external installation of an orientation screw that restricts the cutting tool to a single orientation.



The latest KM-LOC II clamping device offers all of the features and benefits of our industry-proven modular KM Quick Change Tooling System and reduces the time required for manual tool changes.

Rapid Clamping System

Characteristics

KM Rapid is a compact quick-change clamping system providing outstanding repeatability while, at the same time, allowing fast manual locking and unlocking. KM cutting units are locked and unlocked with only a 115º turn of the actuation cam with no torque wrench required for clamping and unclamping. A stop pin limits the angle of rotation, and actuation is available from the side only.

The KM Rapid, with internal through-the-tool coolant capabilities, is best used in stationary applications on turning centers in high-volume production.

KM Rapid permits the external installation of an orientation screw to restrict the clamping unit to accept the cutting unit in only one orientation.



KM Rapid offers two main standard styles:

- Flange mount holders, fastening with four socket head cap screws and an additional orientation pin, can be used on turrets axially or radially.
- VDI shank tool holders, according to DIN 69880, in axial and right-angle styles for I.D. and O.D. turning applications.

Rapid Plus Clamping System

Characteristics

The KM Rapid Plus clamping system provides approximately 20% more locating face force versus the KM Rapid. It is designed for retrofitting in dedicated applications enabling cutting units to be locked and unlocked with only a 180º turn of the actuation cam. Actuation is available from the top only.

The Rapid Plus cartridge design allows use in smaller but slightly longer receivers, such as Multifix™ and Parat™ adapters.



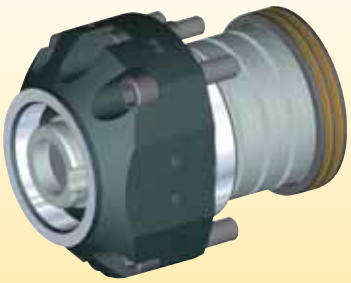
Automatic Clamping System • Spring-Pack Activated

Characteristics

Automatic KM clamping systems enable tools to be locked or unlocked with the push of a button by the machine operator or changed automatically by the machine tool. These units also allow tools to be changed quickly and provide a high level of automation at a moderate cost.

Operation

The pull on the lock rod for the automatic KM clamping unit is provided by disk springs that are an integral part of the clamping unit. Release is accomplished by pushing on the back of the clamping unit with a hydraulic cylinder mounted on the turret assembly. Many machine tool builders design and build the turrets for their machines to be equipped with the KM Automatic Clamping Units.



KM™ Manual Clamping Units

KM Manual clamping units require a torque wrench to operate. Using the proper torque wrench value is critical. Tighter is not better because over tightening can cause damage.

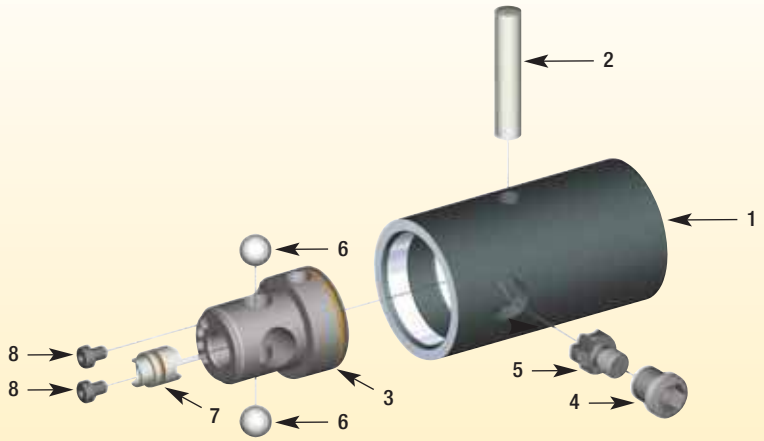
The specific operating torque of the KM manual clamping units is listed on each unit.

The KM connection must be kept clean and free from nicks and burrs. KM plugs are available to ensure cleanliness when a cutting unit is not engaged in the clamping unit.

When a KM head is unlocked, the head will bump-off. KM's 10:1 taper is self-locking, and therefore, requires a mechanical release. This is accomplished within the design of the KM System and does not require operator intervention.

After the head has been released, you will need to turn the torque screw another 3/4–1-1/2 turns. This rotation will feel free of resistance. When the free turning motion stops, the head can be pulled from the clamping unit. Do not turn the torque screw further, as damage can occur to the lockrod and/or bump-off pin.

KM Manual Clamping System • Single-Pin Design



KM Manual Clamping Components • Functional Definitions

1. Clamping Unit Body
- Primary component of the clamping unit assembly, less additional hardware.

2. Canister Pin
- Secures ball canister to clamping unit body.

3. Pin Canister
- Main component of KM clamping mechanism holds and locates the locking balls and bump-off pin.

4. Torque Screw
- Rotation moves the lockrod:
  a. Clockwise rotation advances lockrod, securing cutting unit (not shown).
  b. Counterclockwise rotation retracts lockrod, releasing cutting unit (not shown).

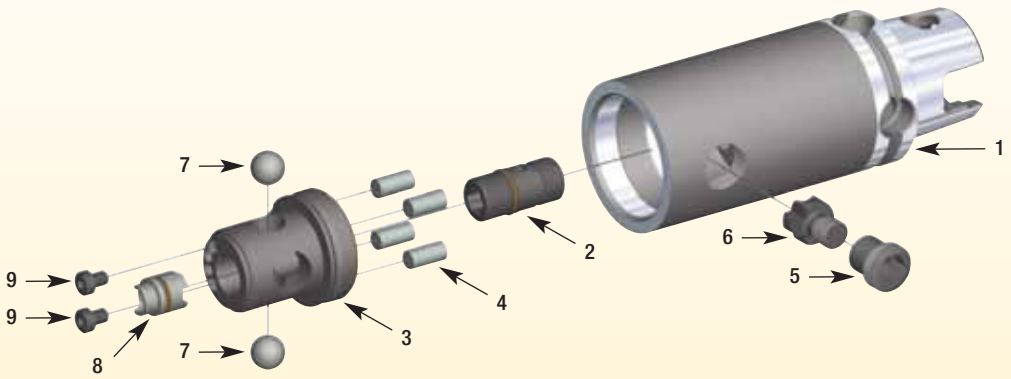
5. Lockrod
- Dual function:
  a. Acts as a wedge when advanced between locking balls, causing them to move outward in the ball canister and pushing the locking balls into the ball tracks of the cutting unit (not shown).
  b. Acts as a wedge when retracted using a raised, tapered key to force the bump-off pin against the cutting unit (not shown).

6. Locking Balls (2)
- Precision, chrome alloy-steel hardened balls used to transmit pull-back force to the cutting unit.

7. Bump-Off Pin
- Dual function:
  a. Releases cutting unit from the clamping mechanism.
  b. Prevents lockrod from rotating.

8. Bump-Off Pin Retention Screws (2)
- Secures bump-off pin in ball canister.

KM™ Manual Clamping System • Four-Pin Design



KM Manual Clamping Components • Functional Definitions

1. Clamping Unit Body
- Primary component of the clamping unit assembly, less additional hardware.

2. Canister Screw
- Secures screw canister to clamping unit body.

3. Screw Canister
- Main component of KM clamping mechanism holds and locates the locking balls and bump-off pin.

4. Canister Pins (4)
- Prevents canister from rotating.

5. Torque Screw
- Rotation moves the lockrod:
  a. Clockwise rotation advances lockrod, securing cutting unit (not shown).
  b. Counterclockwise rotation retracts lockrod, releasing cutting unit (not shown).

6. Lockrod
- Dual function:
  a. Acts as a wedge when advanced between locking balls, causing them to move outward in the ball canister and pushing the locking balls into the ball tracks of the cutting unit (not shown).
  b. Acts as a wedge when retracted using a raised, tapered key to force the bump-off pin against the cutting unit (not shown).

7. Locking Balls (2)
- Precision, chrome alloy-steel hardened balls used to transmit pull-back force to the cutting unit.

8. Bump-Off Pin
- Dual function:
  a. Releases cutting unit from the clamping mechanism.
  b. Prevents lockrod from rotating.

9. Bump-Off Pin Retention Screws (2)
- Secures bump-off pin in ball canister.

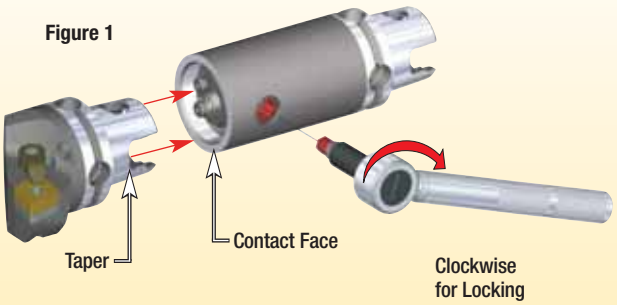
KM Manual Clamping Operating Instructions (KM32–KM80)

Locking

Before inserting the KM cutting unit into the clamping mechanism (Figure 1), clean the contact face and taper.

KM Manual clamping units require a torque wrench for proper operation. Turning the torque screw clockwise locks the cutting unit in position. For maximum safety, tighten the torque screw to the specified torque. Using a torque wrench ensures that the proper clamping forces are exerted.

Figure 1



KM Manual Clamping System • Operating Torque

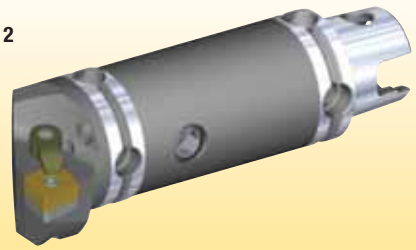
KM size	torque (ft. lbs.)	torque (Nm)	actuation drive size
KM32	7–9	10–12	5mm
KM40	9–12	12–16	6mm
KM50	20–25	27–34	10mm
KM63	35–40	47–54	12mm
KM80	58–63	79–85	14mm

CAUTION
Over tightening can cause damage to the clamping mechanism.

Operating Position

With the balls locked in position, and the face and self-locking taper fully engaged, the cutting unit and clamping unit are rigidly secured together (Figure 2).

Figure 2

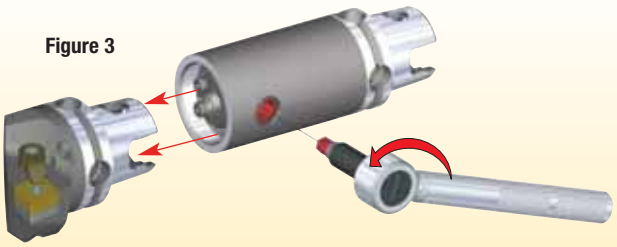


Unlocking

Rotate the torque screw counterclockwise until initial resistance is felt. In this position, the locking balls are free of the cutting unit, but the taper interference is still holding the KM unit in the clamping unit. At this point, the bump-off pin is in position to free the cutting unit from the interference fit.

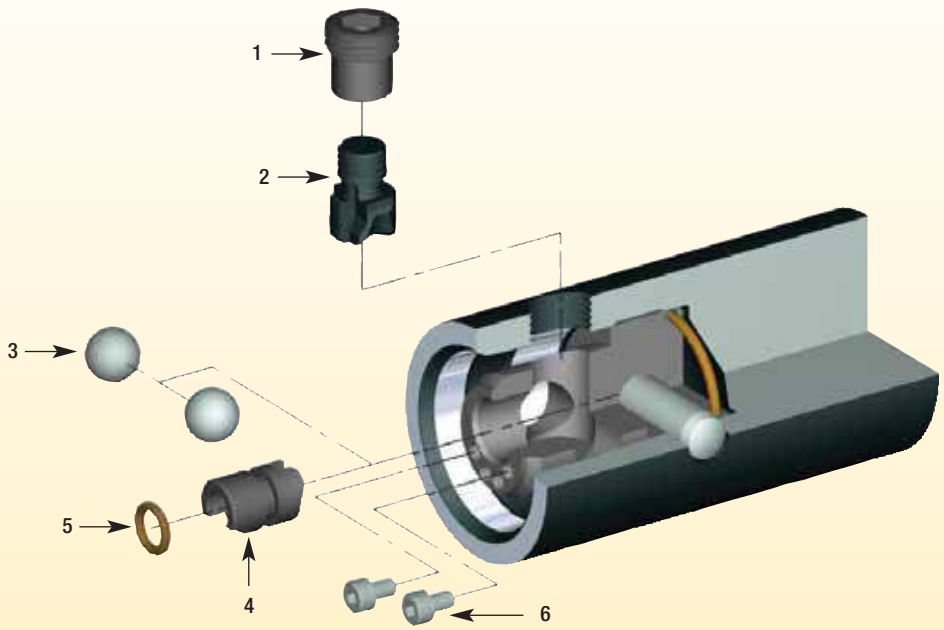
Continue to rotate the torque screw slowly until the cutting unit is no longer making face contact (Figure 3) and is released from the taper. The torque screw will stop rotating and more resistance will be felt. Do not turn the torque screw any further.

Figure 3



CAUTION
Continuing to rotate the torque screw may damage the clamping components.

KM Manual Repair Package Components (KM32–KM80)



KM Manual Repair Package Components • Functional Definitions

1. Torque Screw
2. Lockrod
3. Locking Balls (2x)
4. Bump-Off Pin
5. O-Ring
6. Bump-Off Pin Retention Screws (2x)

Operator Maintenance:
All KM Clamping Units showing damage must be replaced or rebuilt. Burrs and nicks should be removed by stoning and/or polishing.

- Use KM Plugs to protect clamping units when not in use.
- Use KM spindle wipers to clean clamping units.

KM Manual Repair Packages

catalog number	3S order number	3L order number
KM32-PKG 3S or 3L	1023697	1023698
KM40-PKG 3S or 3L	1023699	1023700
KM50-PKG 3S or 3L	1023726	1023725
KM63-PKG 3S or 3L	1013701	1013702
KM80-PKG 3S or 3L.	1144980	1023701

KM™ Manual Clamping Unit • Disassembly Procedures

1. Remove the two socket-head cap screws that retain the bump-off pin (see Frame 1).
2. Grip the exposed end of the bump-off pin with pliers and pull straight out. Some resistance may be felt due to the O-ring seal around the bump-off pin (see Frame 2).
3. Using the appropriate metric hex wrench, remove the torque screw. The lockrod should come out with the torque screw. Separate the torque screw from the lockrod, remembering the lockrod has left-hand threads (see Frame 3 on next page).
4. Remove the locking balls from within the canister. Grease can cause them to stick inside. Pushing the balls one at a time towards the center of the canister then turning the clamping unit upside down and tapping it against your palm will usually dislodge them. If you must hit the clamping unit harder, be certain you do not damage the gage or locking face of the unit. A small magnetic screwdriver also works well (see Frame 4 on next page).
5. Normally, no further disassembly should be attempted. If the clamping unit body or canister has been damaged, it should be replaced with a new unit. You can also contact your Kennametal Sales office for instructions on how to send the unit to a Kennametal Repair facility.

Tools Required

- Hex wrenches.
- Pliers.
- Kennametal recommends and uses GLEITMO™ 805.
- Clean towels or shop rags.
- Solvent or degreaser that does not leave residue (used to clean inside the taper and canister). Should the unit become contaminated, you can use a degreasing agent or something similar to clean the surfaces.

KM size	hex size
KM32	2mm
KM40	2,5mm
KM50	3mm
KM63	5mm
KM80	5mm

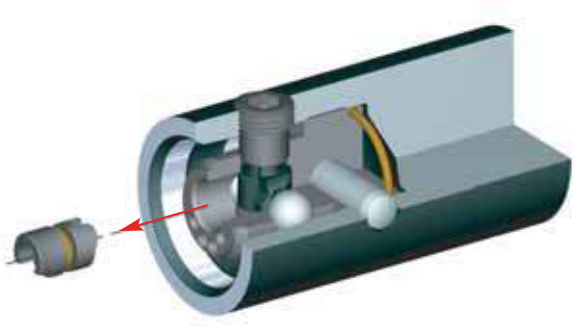
CAUTION
DO NOT USE silicone cleaner or WD-40™-type lubricants.

lubricant	order number	size
GLEITMO 805 grease	**1567575**	500g cartridge
GLEITMO 805 grease	**1567577**	1000g tin

Frame 1



Frame 2



(continued)

KM™ Manual Clamping Unit • Disassembly Procedures *(continued)*

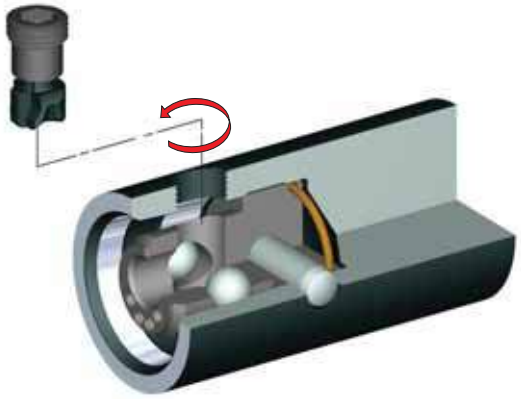
6. Clean locking balls, torque screw, lockrod, and bump-off pin of all grease and inspect for wear, burrs, or obvious damage. If rebuilding the unit with a repair parts package, we recommend using all new components contained in the kit. If you are not using the repair package, but are retiming or adjusting the unit, inspect the external threads on the torque screw and lockrod, the locking ball contact surfaces on the lockrod, and the mating surfaces between the lockrod and bump-off pin. Discard any components of questionable condition and replace with new ones. Note the condition of the raised taper key on the lockrod as you will need this later.

7. Inspect inside the KM taper for damage and/or contamination. Clean the taper and canister with solvent. Allow the unit to dry before reassembling. Inspect the torque screw threads in the body for damage.

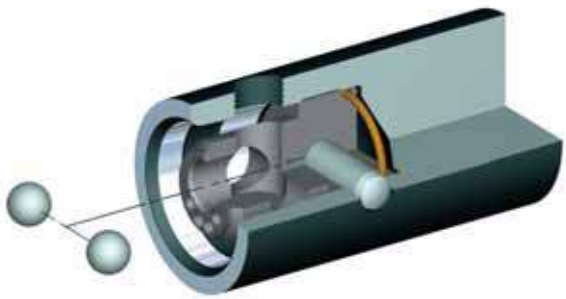
8. If the unit is equipped for through-coolant capability, you may want to verify that the coolant passages are clear. Clean if required.

KM size	torque screw hex size
KM32	5mm
KM40	6mm
KM50	10mm
KM63	12mm
KM80	14mm

Frame 3



Frame 4



KM™ Manual Clamping Unit • Assembly/Timing Procedures

1. Place a small amount of GLEITMO™ 805 grease into the canister where the locking balls make contact, paying particular attention to the inner top surface of the locking ball bores.
2. Lightly coat both locking balls with grease. Insert the balls, one at a time, into the canister's central bore until it bottoms, then move the ball outward into the locking ball bores, not the torque screw hole (see Frame 5).
3. Lightly coat the threads of the lockrod and torque screw with grease and thread them together finger tight (left-hand threads). The torque screw and lockrod must remain tightly together during the reassembly procedure and rotated as one piece throughout (see Frame 6).
4. Make sure the balls are pushed radially into the bores. Using the metric Allen or T-handle wrench, thread the torque screw lockrod assembly into the body until it makes soft contact with the balls. Be certain the torque screw and lockrod rotate together by looking down into the canister as you thread them. If the lockrod and torque screw become unthreaded, you should remove them, re-tighten, and start Step 4 again.
5. Look into the canister through the bump-off pin bore and note the raised key on the lockrod. Position the key facing outward through the bump-off pin bore, centering it in the bore by backing out the torque screw only enough to properly align the key.
6. Place a KM cutting unit into the clamping unit. If cutting unit does not drop into place, go to Step 7. If the cutting unit drops into place, remove it, push the balls radially back out into the ball bores, and turn the torque screw/lockrod assembly inward a full turn (360°). Repeat Step 6 as many times as necessary until the unit does not drop into the taper.

Tools Required

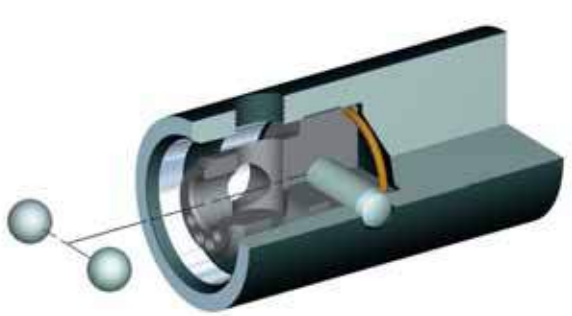
- Hex wrenches.
- Pliers.
- Kennametal recommends and uses GLEITMO™ 805.
- Clean towels or shop rags.

CAUTION
DO NOT USE silicone cleaner or WD-40™-type lubricants.

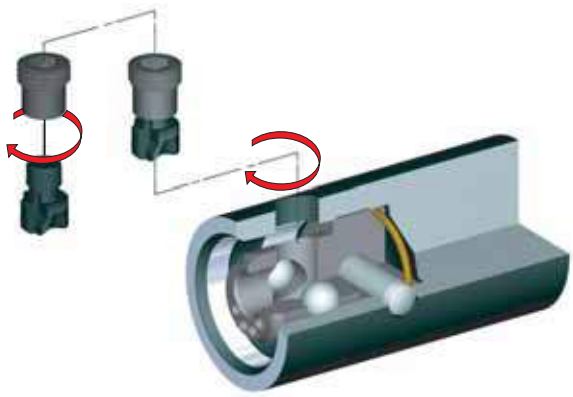
lubricant	order number	size
GLEITMO 805 grease	**1567575**	500g cartridge
GLEITMO 805 grease	**1567577**	1000g tin

KM size	torque screw hex size
KM32	5mm
KM40	6mm
KM50	10mm
KM63	12mm
KM80	14mm

Frame 5



Frame 6



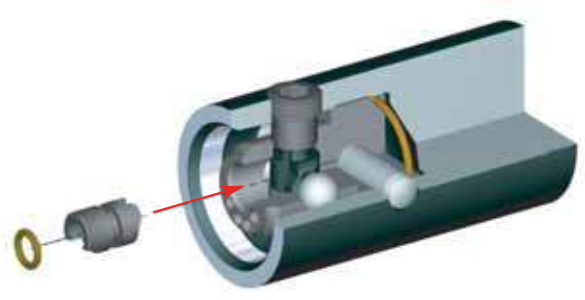
(continued)

KM™ Manual Clamping Unit • Assembly/Timing Procedures *(continued)*

7. Thread the torque screw/lockrod assembly outward one full turn (360°), making sure the raised key faces outward. Place a KM cutting unit into the clamping unit. It should drop into the taper easily. If it does not, repeat Step 7.
8. Insert the bump-off pin without its O-ring into the bore, being certain the angled surface of the bump-off pin will ride on the angled surface of the lockrod (see Frame 7).
9. When the bump-off pin is properly seated, its largest diameter should be below the end of the canister — it should not rotate. The pin is rotationally restrained by the lockrod key, in the bump-off pin keyway.
10. If all is correct, remove the bump-off pin, install its O-ring, lightly coat with grease paying particular attention to the slot, and reinstall into the bore.
11. Reinstall the socket-head cap screws that retain the bump-off pin (see Frame 8). Check for proper operation of the unit by pushing down on the end of the bump-off pin with your finger while tightening and loosening the torque screw through its full travel. You should feel the bump-off pin move in and out as the direction of the torque screw changes.
12. As a final check, rotate the torque screw outward until it stops. Install a KM cutting unit and tighten the torque screw to the proper torque required for locking. Ensure that there is no air gap between the locking faces of the cutting unit and the clamping unit. Loosen the torque screw. Initially, resistance will be felt while loosening the screw, and again when bumping off the tool from the taper. Only use light force to loosen the screw after the tool has been bumped off. Do not force the torque screw loose after tool bump-off or damage may result. Remove the cutting unit and install protective plastic or steel plug.

KM size	hex size
KM32	2mm
KM40	2,5mm
KM50	3mm
KM63	5mm
KM80	5mm

Frame 7



Frame 8



KM-LOC™ Clamping Units

Operating Instructions

All KM-LOC Clamping Units utilize disk springs to develop the correct clamping force. This clamping system does not require a torque wrench to achieve proper clamping force. The KM-LOC System provides consistent clamping forces designed to last 50,000 cycles.

KM-LOC Locking Sequence

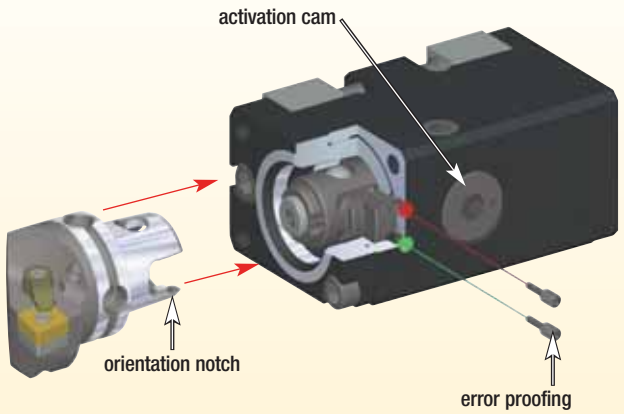
Always ensure that the KM cutting unit and clamping unit are free of dirt and contaminants. When installing the cutting head into the clamping unit, note the key relations of the male and female tapers. The flange face will have about 1mm (.040") standoff from the gage face before lock up. If the amount of standoff is greater than this, the unit is either error proofed or the tapers are contaminated. Rotate the head 180° for correct, free-state standoff.

Next, insert a wrench with the properly sized metric bit into the cam socket. Rotating the cam socket clockwise 140° (where it will stop) locks the head into the clamping unit. The dimples on both the cam and clamping unit body are aligned when a positive stop is reached.

KM-LOC Unlocking Sequence

Remove chips or foreign material from around the cutting unit flange and clamping body. Insert the metric bit into the cam and rotate counterclockwise to unlock the unit. During this procedure, the lockrod will make contact with the inside of the cutting unit (this could feel like a positive stop), continue the counterclockwise turn until the head moves apart from the gage face.

When unlocked, a KM head will bump off. The KM System utilizes a 10:1 self-locking taper that requires a mechanical release.



KM-LOC Activation Drive Size

KM system size	drive size
KM32	6mm
KM40	8mm
KM50	10mm
KM63	10mm

(continued)

KM-LOC™ Clamping Units *(continued)*

The KM-LOC

Under normal use, the KM-LOC unit is designed to last 50,000 cycles. The KM-LOC units are greased at the factory during assembly. To keep the unit functioning properly, it should be periodically greased and, if operating under normal conditions, done regularly every six months.

How to Grease the KM-LOC

Remove the M6 sealing screw from the front face of the lockrod and thread the grease fitting into the tapped hole. A grease fitting is in the spare parts package included with every KM-LOC clamping unit.

Approximate grease amounts are as follows:

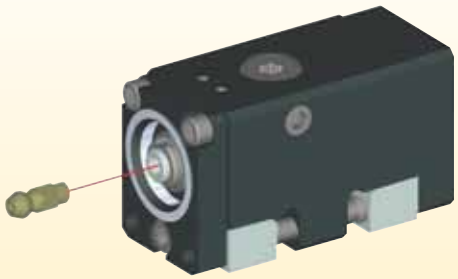
KM32™.....0.2–0.3 fl. oz

KM40™.....0.3–0.4 fl. oz.

KM50™.....0.5–0.6 fl .oz.

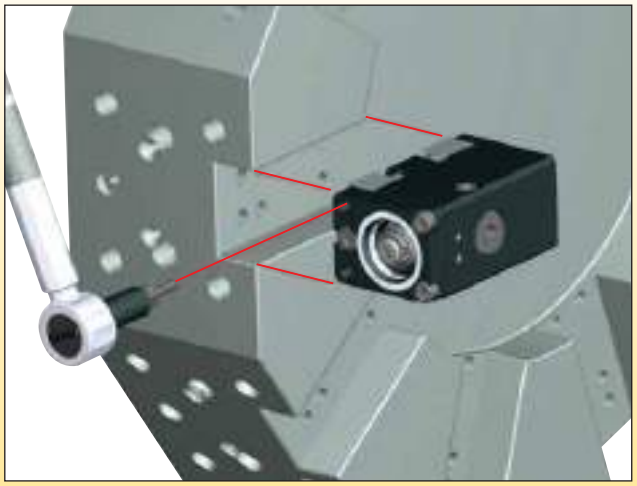
KM63™.....0.5–0.6 fl. oz.

Kennametal uses and recommends GLEITMO™ 805, a white, high-performance grease paste.



lubricant	order number	size
GLEITMO 805 grease	**1567575**	500g cartridge
GLEITMO 805 grease	**1567577**	1000g tin

KM-LOC™ Mounting Wedges • Tightening Torque



NOTE: Use a hex bit socket.

catalog number	wedge screw hex size	ft. lbs.	Nm
KM32CLSR/L2050K	4mm	10–14	14–18
KM32CLSR/L1250B	4mm	10–14	14–18
KM32CLSR/L1250C	4mm	10–14	14–18
KM32CLSR/L1650C	4mm	10–14	14–18

KM-LOC II Clamping Units

Operating Instructions

The KM-LOC II clamping system employs a cam and a pre-loaded disk spring pack to provide positive, stop-to-stop locking/unlocking in only 145° of movement. This clamping system does not require a torque wrench to achieve proper clamping force. The KM-LOC II clamping system provides consistent clamping forces designed to last 50,000 cycles.

KM-LOC II Locking Sequence

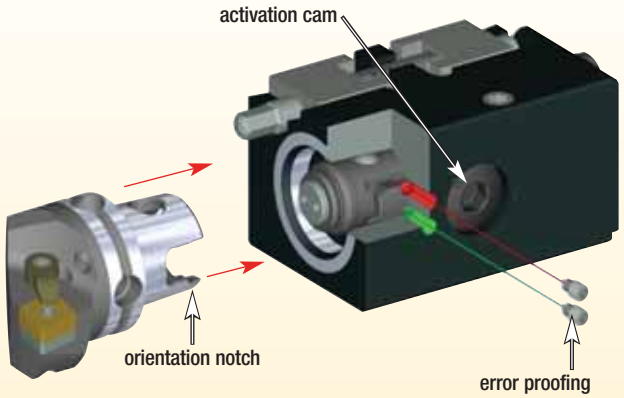
Always ensure that the KM cutting unit and clamping unit are free of dirt and contaminants. When installing the cutting head into the clamping unit, note the key relations of the male and female tapers. The flange face will have about 1mm (.040") standoff from the gage face before lock up. If the amount of standoff is greater than this, the unit is either error proofed or the tapers are contaminated. Rotate the head 180° for correct, free-state standoff.

Next, insert a wrench with the properly sized metric bit into the cam socket. Rotating the cam socket clockwise 145° (where it will stop) locks the head into the clamping unit. The dimples on both the cam and clamping unit body are aligned when a positive stop is reached.

KM-LOC II Unlocking Sequence

Remove chips or foreign material from around the cutting unit flange and clamping body. Insert the metric bit into the cam and rotate counterclockwise to unlock the unit. During this procedure, the lockrod will make contact with the inside of the cutting unit (this could feel like a positive stop), continue the counterclockwise turn until the head moves apart from the gage face.

When unlocked, a KM head will bump off. The KM System utilizes a 10:1 self-locking taper that requires a mechanical release.



KM-LOC II Activation Drive Size

KM system size	drive size
KM32	6mm
KM40	8mm
KM50	10mm
KM63	10mm

(continued)

KM-LOC II Clamping Units *(continued)*

The KM-LOC II

Under normal use, the KM-LOC II unit is designed to last 50,000 cycles. The KM-LOC II units are greased at the factory during assembly. To keep the unit functioning properly, it should be periodically greased and, if operating under normal conditions, done regularly every six months.

How to Grease the KM-LOC II

Remove the standard M4 socket-set screw from the bottom of the cam hex, and thread the grease assembly into the tapped hole. An assembled grease fitting and adapter are in the spare parts package included with every clamping unit.

Approximate grease amounts are as follows:

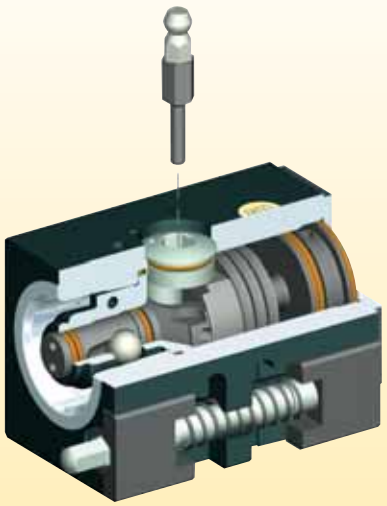
KM32™.....0.2–0.3 fl. oz

KM40™.....0.3–0.4 fl. oz.

KM50™.....0.5–0.6 fl .oz.

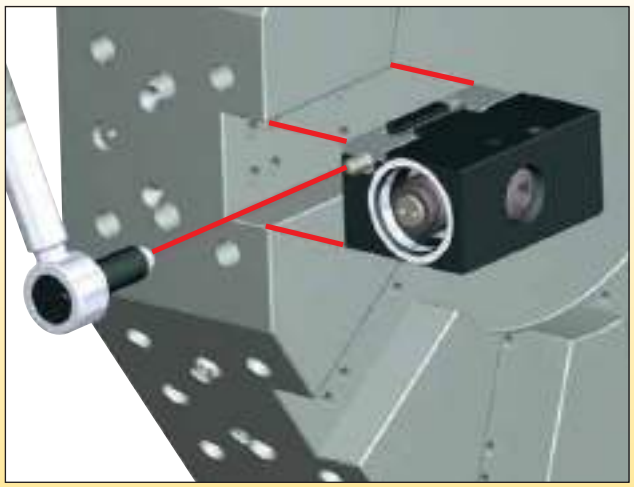
KM63™.....0.5–0.6 fl. oz.

Kennametal uses and recommends GLEITMO™ 805, a white, high-performance grease paste.



lubricant	order number	size
GLEITMO 805 grease	**1567575**	500g cartridge
GLEITMO 805 grease	**1567577**	1000g tin

KM-LOC II Mounting Wedges • Tightening Torque



NOTE: Use a six-point socket.

catalog number	wedge screw hex size	ft. lbs.	Nm
KM40 CL2SR/L 1260B	6	30–34	41–46
KM40 CL2SR/L 1660C	7	43–47	58–64
KM40 CL2SR/L 1660D	7	43–47	58–64
KM40 CL2SR/L 2060D	7	43–47	58–64
KM40 CL2SR/L 2560M	7	43–47	58–64
KM40 CL2SR/L 3260P	7	43–47	58–64
KM50 CL2SR/L 1675D	7	43–47	58–64
KM50 CL2SR/L 2075D	8	58–62	79–84
KM50 CL2SR/L 2575M	7	43–47	58–64
KM50 CL2SR/L 2575P	7	43–47	58–64
KM63 CL2SR/L 2090E	8	58–62	79–84
KM63 CL2SR/L 3290P	8	58–62	79–84

KM Rapid Clamping Units

Operating Instructions

The KM Rapid clamping system is a compact quick-change tooling system that does not require a torque wrench to achieve proper clamping force. The KM Rapid clamping unit spring pack supplies the correct clamping force while the cam permits quick and easy locking/unlocking of the KM cutting unit.



KM Rapid Locking Sequence

At the "unlock" position, which is marked on the housing, the cutting unit can be removed or fitted in the clamping unit. By moving the cam clockwise, the locking balls are pushed outwards and the face stand-off gets closed. Moving the cam further pushes the locking balls further outward and generates clamping force at the locating face. The handling force moves past the maximum position, then slightly back, to reach the "lock" position.

KM Rapid Unlocking Sequence

To unlock the cutting unit, turn the cam counterclockwise. In this position, the locking balls are free of the cutting unit, but the taper interference is still holding the KM cutting unit in the clamping unit. By turning the cam further to overcome the interference, the cutting unit will be released and can be removed. In any case, do not try to push too hard against the unlocking point because it will result in damage to the locating pin and the cam.

The entire locking and unlocking sequence takes a few seconds.

KM Rapid Plus Clamping Units

Operating Instructions

The KM Rapid Plus clamping system is a compact cartridge quick-change tooling system that does not require a torque wrench to achieve proper clamping force. The KM Rapid Plus clamping unit spring pack supplies the correct clamping force while the cam permits quick and easy locking/unlocking of the KM cutting unit.



KM Rapid Plus Locking Sequence

At the "unlock" position, the cutting head can be removed or fitted in the clamping unit. By moving the eccentric shaft clockwise, the axial lockrod is moving, the clamping balls are pushed outward, and the face stand-off is closed. Moving the eccentric shaft further pushes the locking ball over the axial lockrod further outward and generates clamping force at the locating face. The handling force moves past the maximum position, then slightly back, to reach the "lock" position. Do not move the cam further at this position.

KM Rapid Plus Unlocking Sequence

To unlock the cutting unit, turn the eccentric shaft counterclockwise. In this position, the locking balls are free of the clamping unit, but the taper interfence is still holding the cutting unit in the clamping unit. By turning the eccentric shaft further to overcome the interference, the cutting head will be released and can be removed.

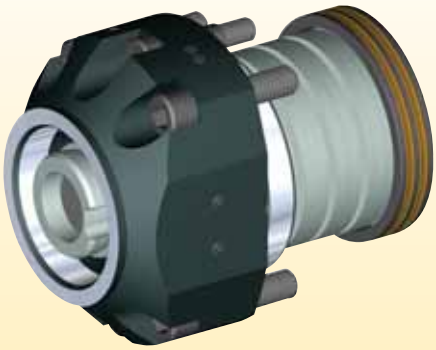
The entire locking and unlocking sequence takes a few seconds.

Automatic Clamping System

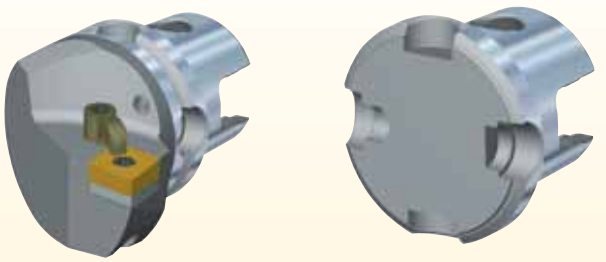
Operating Instructions

The KM automatic clamping system uses a disk spring package to supply force to the lock rod — driving the locking balls and providing clamping force to the cutting unit. The mechanical advantage of the clamping mechanism is designed specifically for a given spring force to supply proper clamping force. Once the cutting unit is clamped in the KM automatic clamping unit, it is securely held in place until released by applying force to the end of the spring end cap. In most cases, this is accomplished using a hydraulic cylinder. KM automatic clamping units contain sealed coolant ports as well as a system for distributing air through the unit.

Air serves two functions: (1) air is used to clean the taper and face area during tool change; (2) it is also used to detect improper tool change. Air is routed to the intersection of the taper and the face. If the faces of the cutting unit and the clamping unit do not totally seal after a tool change, air will continue to escape and can be used to detect a tool change fault. KM automatic clamping units are available in several configurations for application on a wide variety of machines.



KM-TS™ • Kennametal Modular Tool Changing



Automatic tool changer configuration

KM-TS is engineered to provide machine tool builders the capability to design a machine around a very rigid and proven system while maintaining full automation. It is the ultimate in flexible tooling systems and is equipped with four holes in the V-groove.

The next generation of multifunction mill-turn machines demand flexible and high-tech tooling systems. Previously, the V-groove in the KM system permitted automatic tool changing but without the capability for tool identification chips.

Tool Changing Location Features

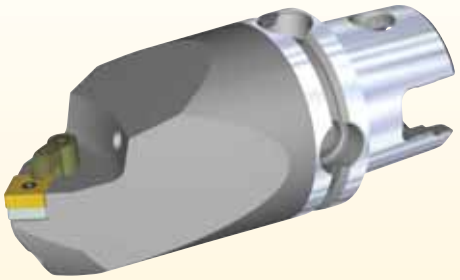
- Two horizontally opposed holes in the V-groove for the tool changer and storage in the tool magazine. Within these two holes are counterbored holes that can be used for tool orientation.
- Two vertically oriented holes in the V-groove for tool identification chip and balancing.

Additional New Features

- A standard hardness of 50–54 HRC makes the tool durable enough to withstand the forces generated during high-speed tool changes and enables long-term use.
- Optimal toughness from the taper to the insert pocket seat ensures maximum protection against wear at all contact points and the highest stability under high cutting loads.
- The KM-TS tools have a silver, satin-finished surface that provides durability and long-lasting appearance.

O-ring		
KM size	catalog number	order number
KM32TS	**OR00614070V90**	1850414
KM40TS	**OR00739070V90**	1179959
KM50TS	**OR00987103V90**	1284041
KM63TS	**OR01234139V90**	1608616
KM80TS	**OR01734139V90**	1586813

Summary of Benefits

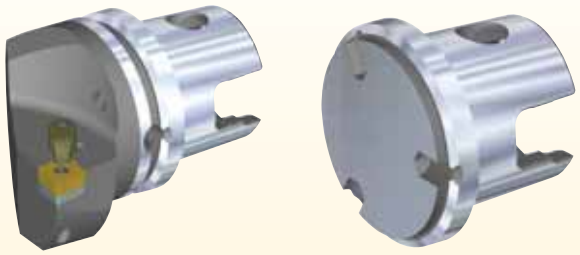


- A proven spindle interface for Daewoo®, Nakamura-Tome™, Takisawa™, and many other builders.
- Full compatibility with KM63™ and Kennametal UT63™ tools and adapters.
- Use with manual and fully automatic tool changing on lathes and modern mill/turn machines.
- Precision-ground tool taper and locating face.
- Optimal coolant supplied directly onto the cutting point, guaranteeing the highest-level of performance (see chart below).
- For dry machining, the coolant hole can be easily closed with a screw.

order number	description
1975161	M5 Coolant Nozzle



KM63XMZ™



Automatic tool changer configuration

KM63XMZ has been engineered to work specifically on Mazak® INTEGREX® Mark IV Series of Integrex machines. The Mazak INTEGREX combines a high-powered turning center and a full-function machining center to produce parts in a single setup. KM63XMZ is an integral part of the success and ingenuity of these machines.

A standard hardness of 50–54 HRC enables long-term use and durability to withstand the forces generated during high-speed tool changes. KM63XMZ standard material provides optimal toughness from the taper to the insert pocket seat. This ensures maximum protection against wear at all contact points and the highest stability under high cutting loads. The tools have a silver, satin-finished surface that provides a durable and long-lasting appearance.

Conventional machine tools require multiple setups, extra manpower for part handling, in-process inventory, larger floor space, and increased tooling and workholding expenses.

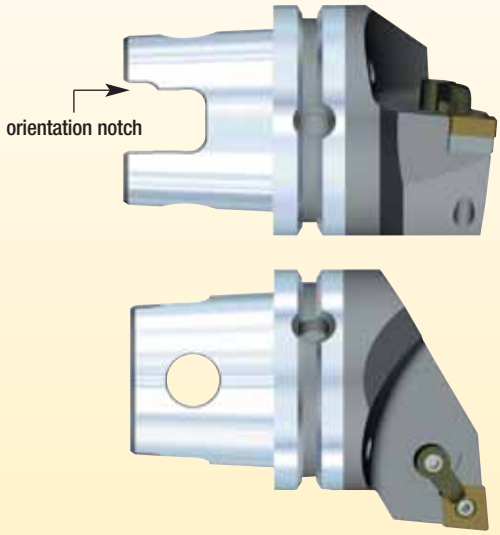
- KM63XMZ will help reduce your overall manufacturing cost with multitask piece part processing.
- KM63XMZ will optimize your machining operations — however challenging your particular application!
- The world's most economical, rigid, and accurate modular quick-change tooling!
- Dramatically reduce your machine downtime and increase productivity!
- Large product selection for your machining needs!
- Special design tools available for unique applications!
- A proven tooling system for multitasking machines like the Mazak INTEGREX Machine Tool System!

O-ring		
KM size	catalog number	order number
KM63XMZ	**OR01237103V90**	1979353

KM63XMZ Tool Orientation Specification

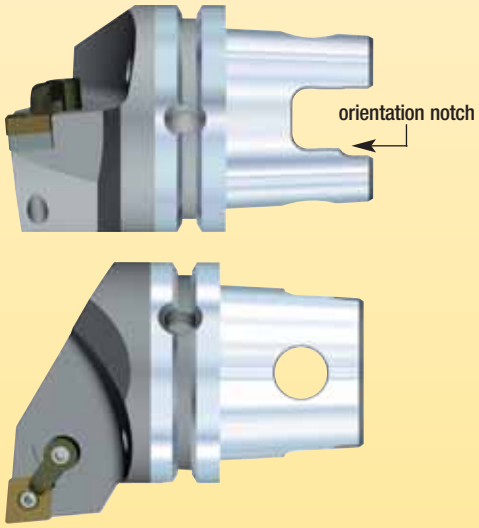
Left-Hand Orientation

For turning clockwise toward the main spindle.
Catalog Number: KM63XMZMCLNLF12Y



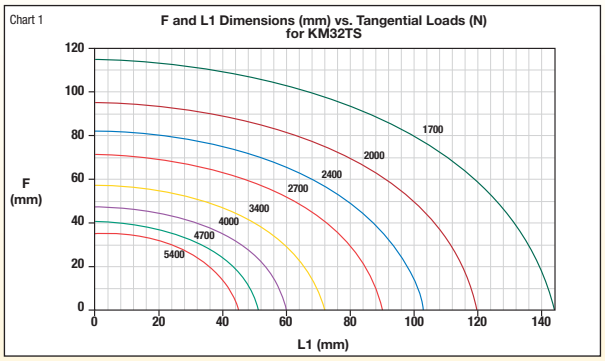
Right-Hand Orientation

For turning counterclockwise toward the main spindle.
Catalog Number: KM63XMZMCLNR12Y



Operating Conditions

The KM tooling joint is an extremely rigid and stable system that is specifically designed to supply consistent results. As with any mechanical coupling, KM has limits that, if exceeded, could result in mechanical damage to the joint and/or its components. To help you stay within these limits, Kennametal has established maximum safe tangential loads for each system size. These loads are described as a certain amount of force at the standard "F" and "L1" dimensions for each given system size.



Example

IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.

Example of Calculation:

Where: **P** = rated tangential load

K = empirical coefficient depending on KM system size and the units of measure

KM32™ K=190200
KM40™ K=383600
KM50™ K=887400
KM63™ K=1718000
KM80™ K=3085800

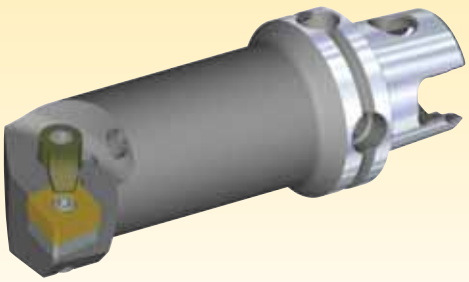
$$P = \frac{K}{\sqrt{(0.8\ L1)^2 + F^2}}$$

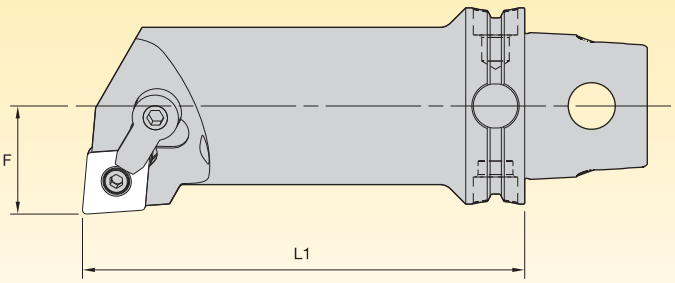
Given: The KM integral shank boring bar, ordering code KM40TS S32G-MCLNR12

Dimensions: **L1** = 90mm (3.543")
F = 22mm (0.866")

Required: What is maximum permissible tangential load?

$$P = \frac{383600}{\sqrt{(0.8 \times 90)^2 + 22^2}} = 5095\ N$$





(continued)

Operating Conditions *(continued)*

IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.

The following example illustrates how to use Charts 1, 3, 5, 7, and 9

Given: KM40™ integral shank boring bar, ordering code KM40TS-S32G-MCLNR12

Dimensions: KM40 integral shank boring bar, ordering code KM40TS-S32G-MCLNR12 — **L1** = 90mm, **F** = 22mm

Required: What is maximum permissible tangential load?

Solution: To determine the tangential load:

a) Determine the correct chart to use. (This is a KM40 tool, so use Chart 3).
b) Find the intersection point of the two lines that correspond to the dimensions L1 = 90mm, F = 22mm. These two lines intersect just above the 6670 N (1500 lbs) curve.
c) The permissible tangential load is the approximate load at the point of intersection. The point of intersection is at approximately 6890 N (1550 lbs).

As you can see from the calculation, the actual value is 6790 N (1528 lbs). Small variations are to be expected from reading the approximate location on the chart but should be inconsequential.

Safe cutting conditions are achieved when the actual tangential load that is being put on the KM tooling does not exceed the maximum permissible tangential force. To help you determine the approximate value of your actual tangential force, Charts 2, 4, 6, and 8 have been developed (pages K26–K35). They show the relationship between depth of cut and feed rate at various tangential forces.

They are recommended when using standard CNMG and TNMG insert geometries to machine plain carbon steels (AISI 1000 series), most alloy steels (AISI 4000 series), and some tool and stainless steels (H11, 316).

The following example illustrates how to use Charts 2, 4, 6, 8, and 10

Given: KM40 integral shank boring bar, ordering code KM40TS-S32G-MCLNR12
feed rate: 0.016 IPR
depth of cut: .200" (doc)

Required: What is approximate tangential force?

Solution: To determine the tangential force:

a) Determine the correct chart to use. (This is a KM40 tool, so use Chart 4).
b) Find the intersection point of the two lines that correspond to the 0.016 IPR feed rate and the .200" doc.
c) The approximate tangential force is the force at the point of intersection. The point of intersection is at approximately 4450 N (1000 lbs).

Please remember that these are approximate values and should be used only as a reference. If there is any doubt whether these charts are accurate enough, the actual cutting force should be calculated.

These charts were designed to determine conditions within the limits of the various KM tooling system sizes. However, in actual cutting conditions, there are many other limitations, such as insert strength or excessive overhangs, that may limit the cutting forces to values far lower than those represented in the charts.

Operating Conditions • KM32TS™ • Metric

IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.

Chart 1

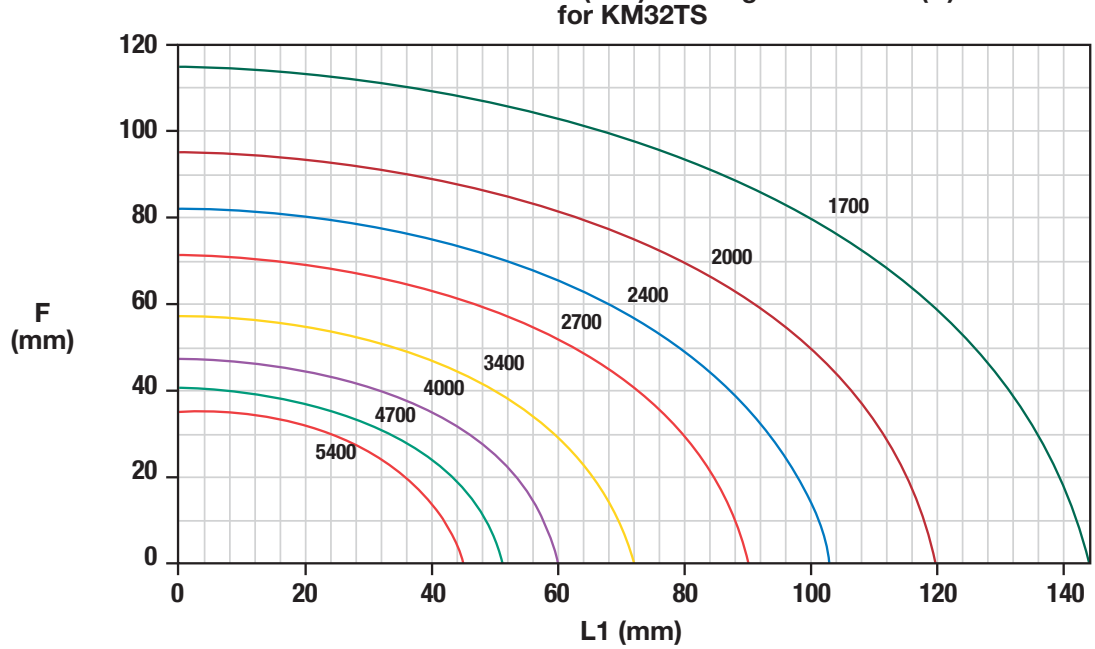
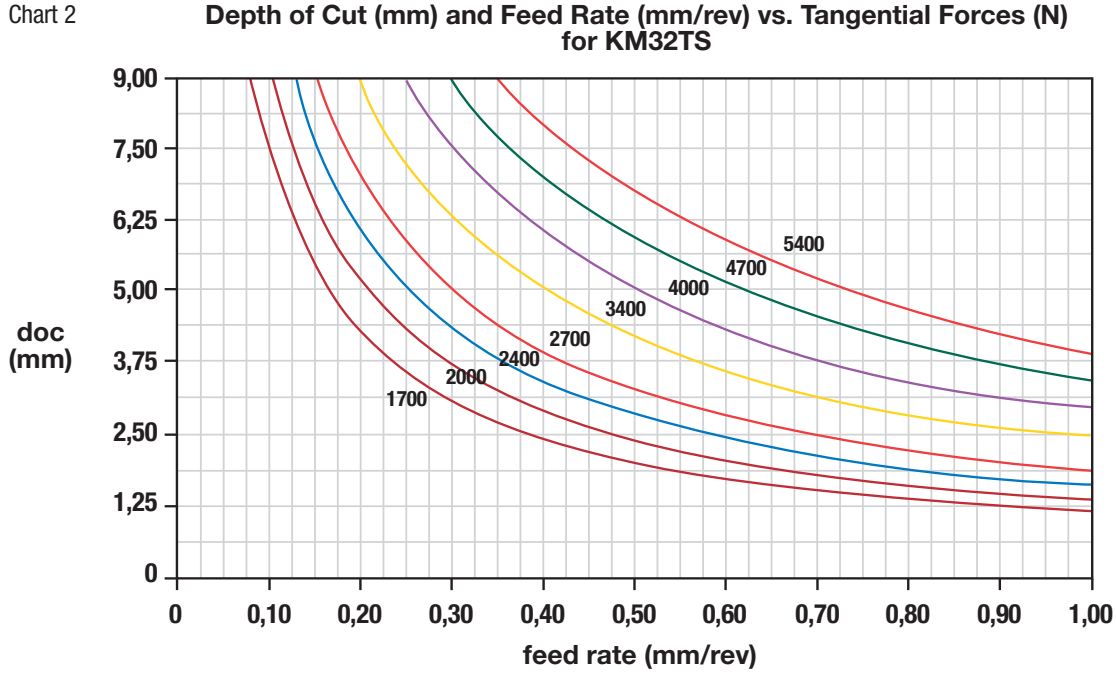


Chart 2



Operating Conditions • KM32TS™ • Inch

IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.

Chart 1

F and L1 Dimensions (inch) vs. Tangential Loads (lbs) for KM32TS

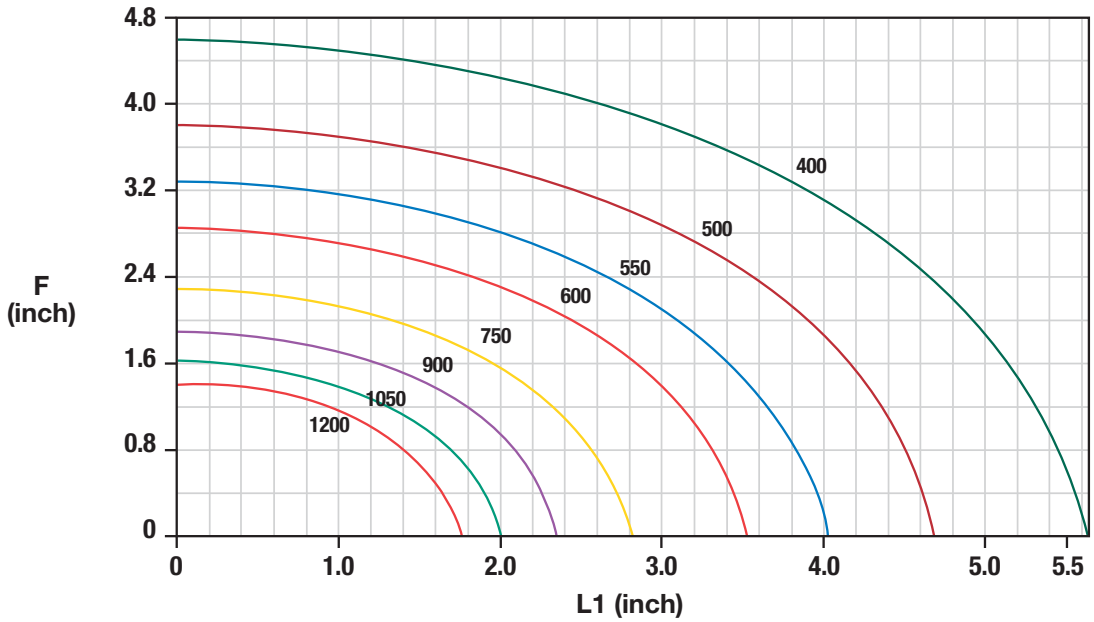
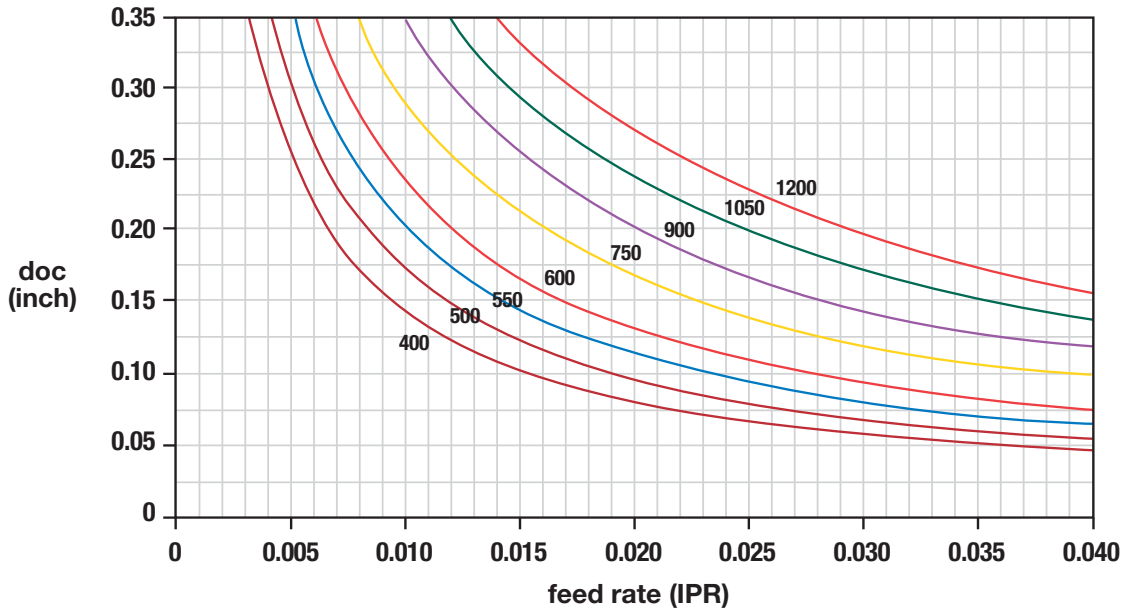


Chart 2

Depth of Cut (inch) and Feed Rate (IPR) vs. Tangential Forces (lbs) for KM32TS



Operating Conditions • KM40TS™ • Metric

IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.

Chart 3

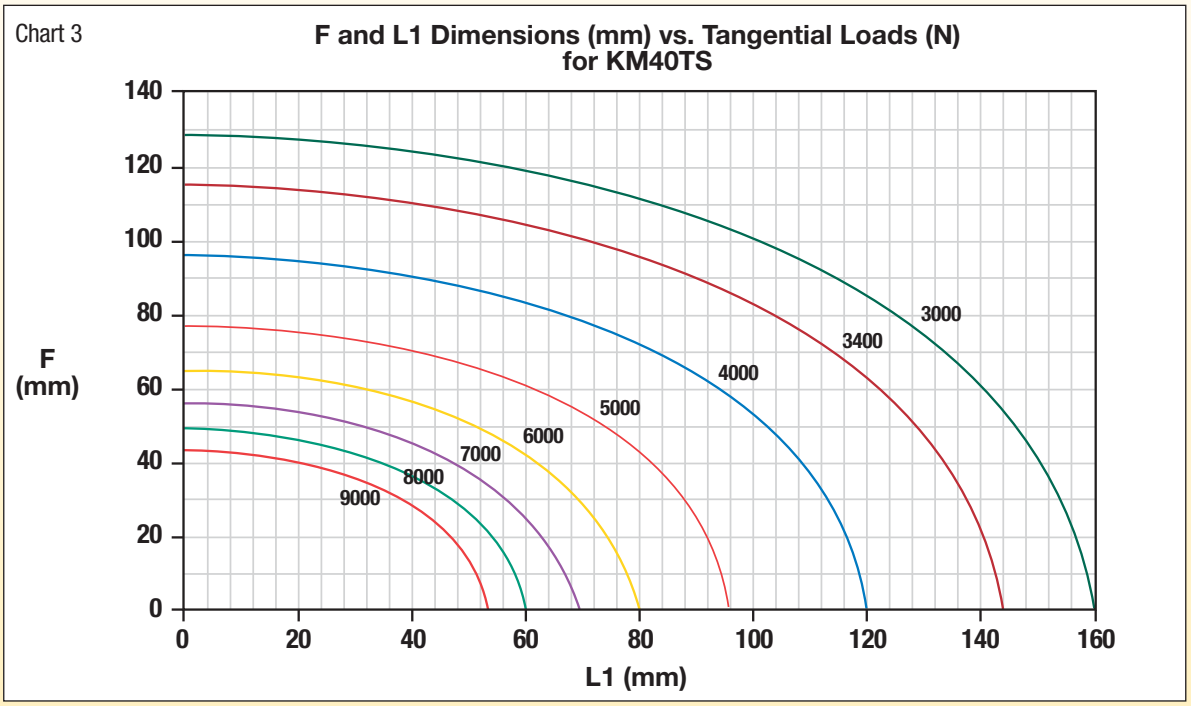
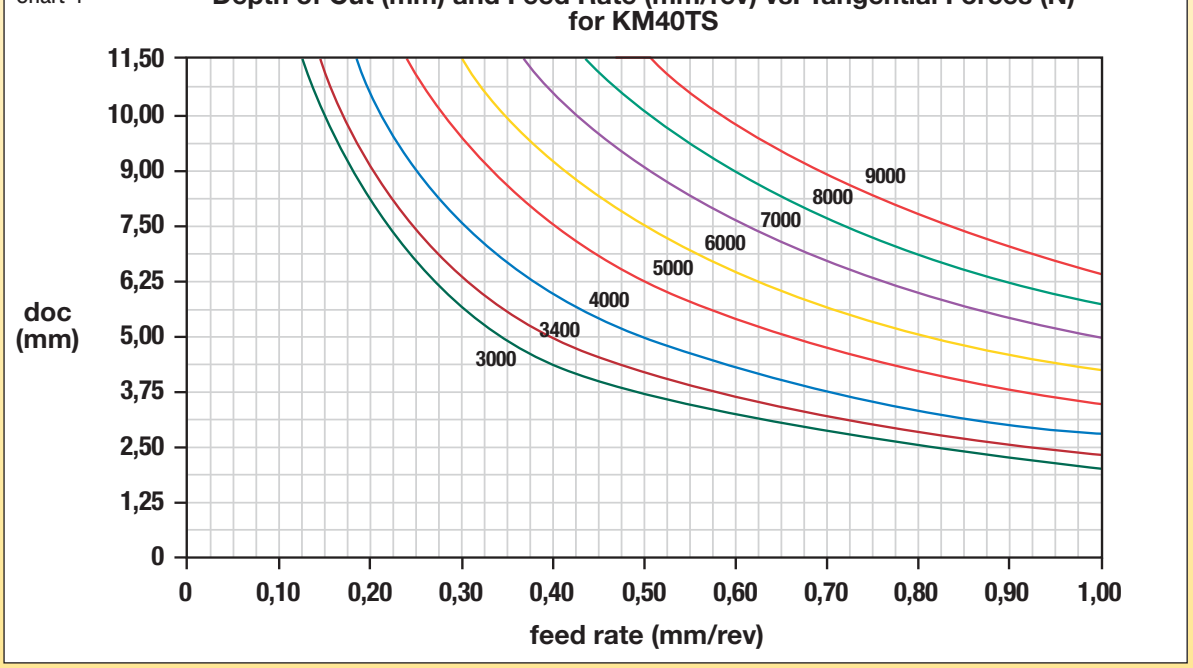


Chart 4



Operating Conditions • KM40TS™ • Inch

IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.

Chart 3

F and L1 Dimensions (inch) vs. Tangential Loads (lbs) for KM40TS

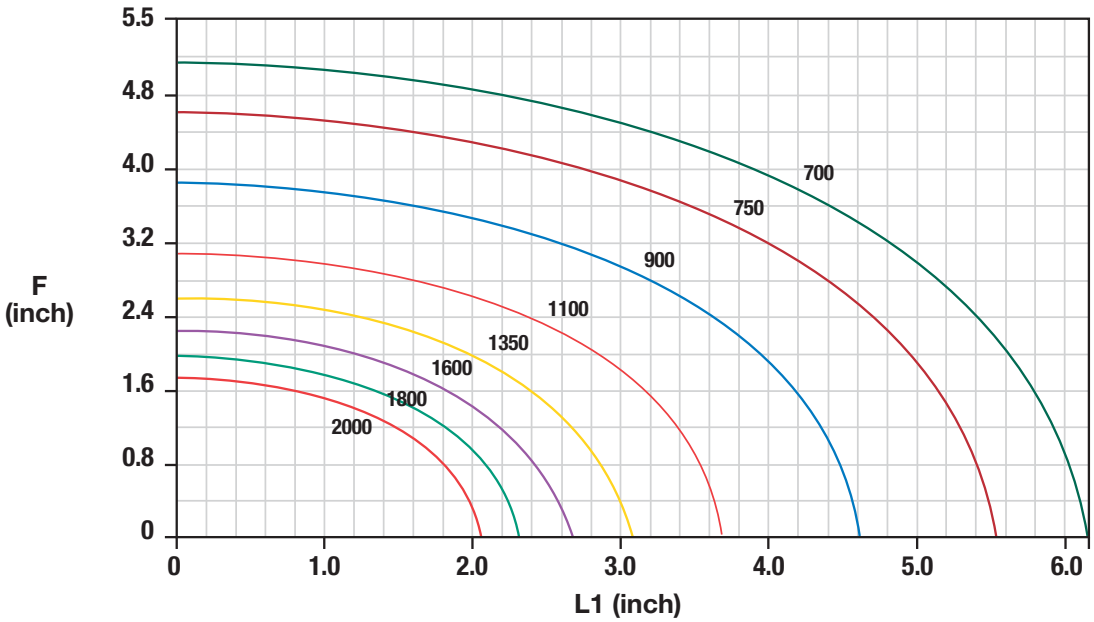
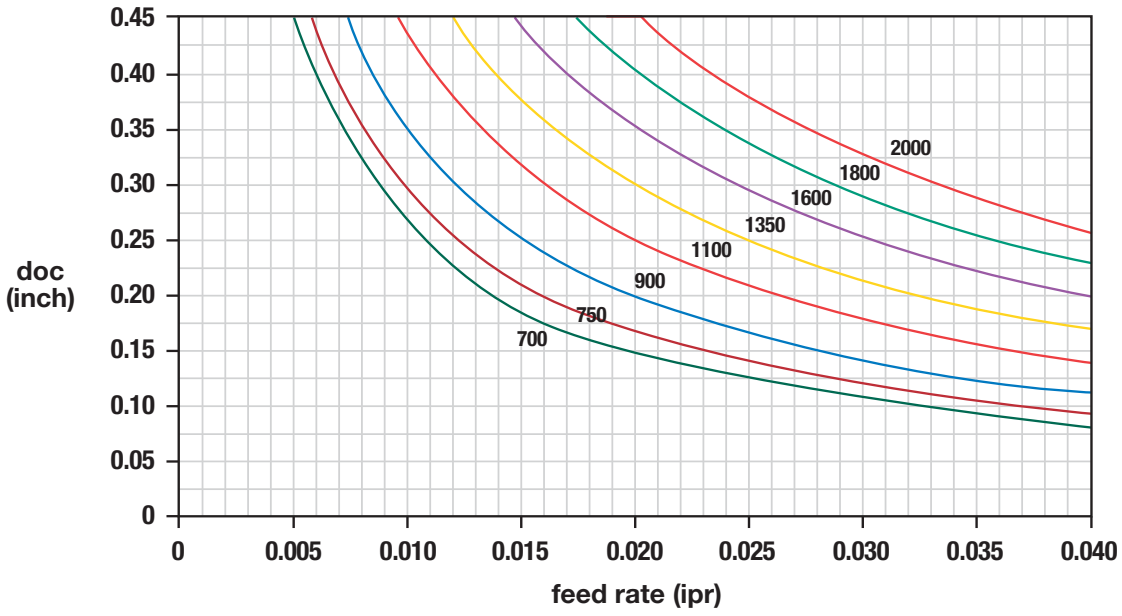


Chart 4

Depth of Cut (inch) and Feed Rate (IPR) vs. Tangential Forces (lbs) for KM40TS



Operating Conditions • KM50TS™ • Metric

IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.

Chart 5

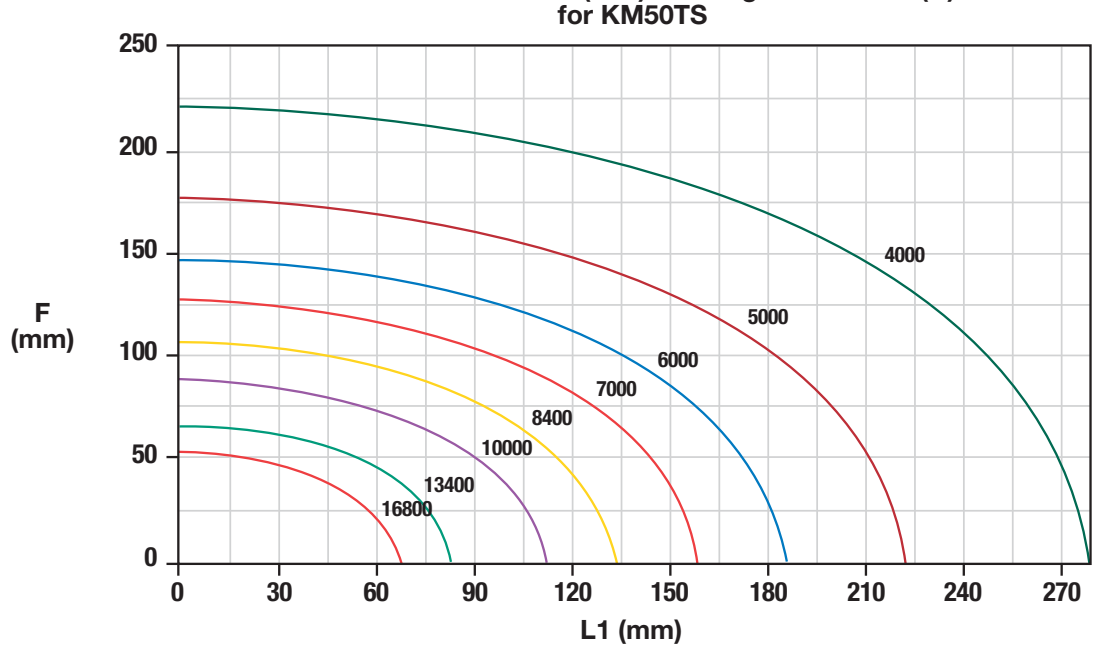
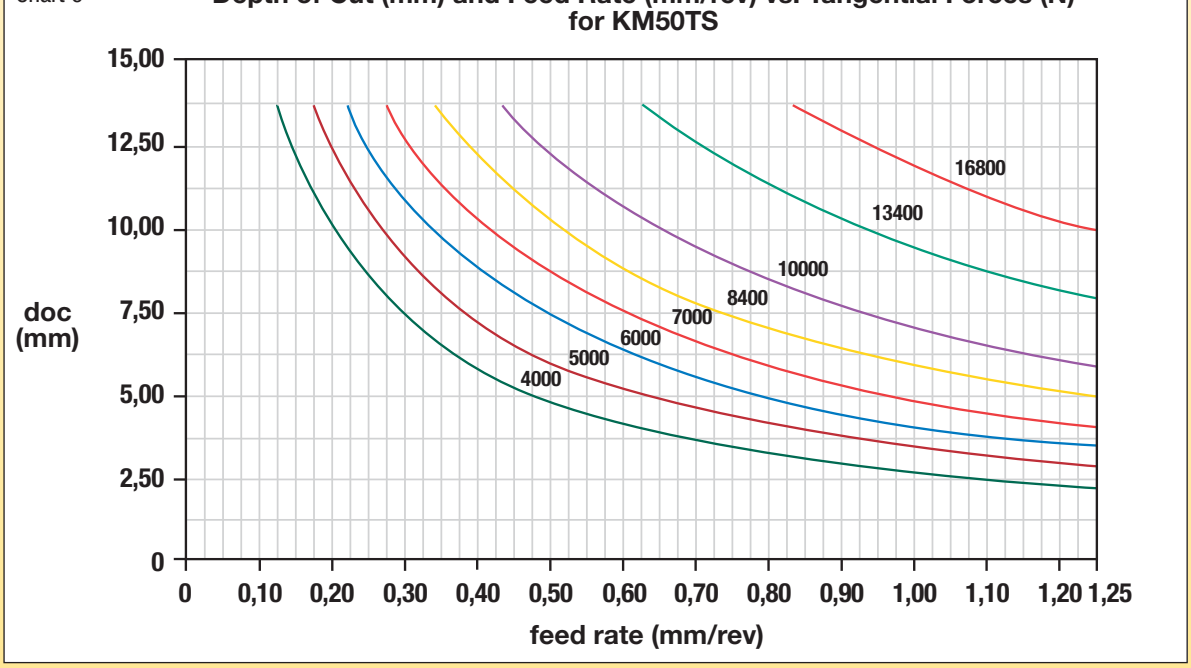


Chart 6



Operating Conditions • KM50TS™ • Inch

IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.

Chart 5

F and L1 Dimensions (inch) vs. Tangential Loads (lbs) for KM50TS

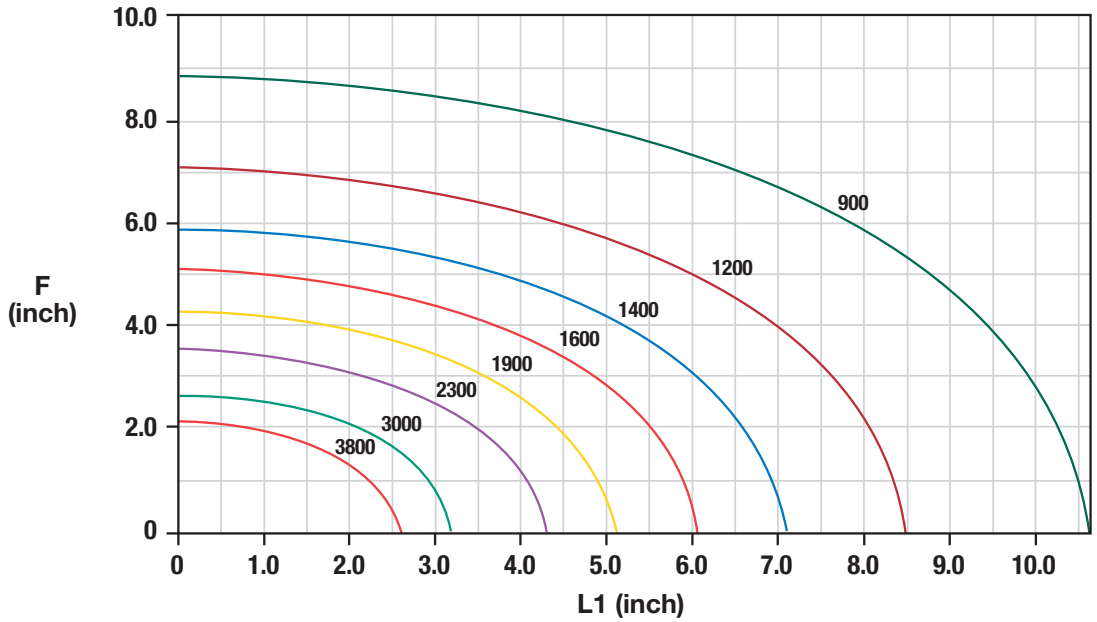
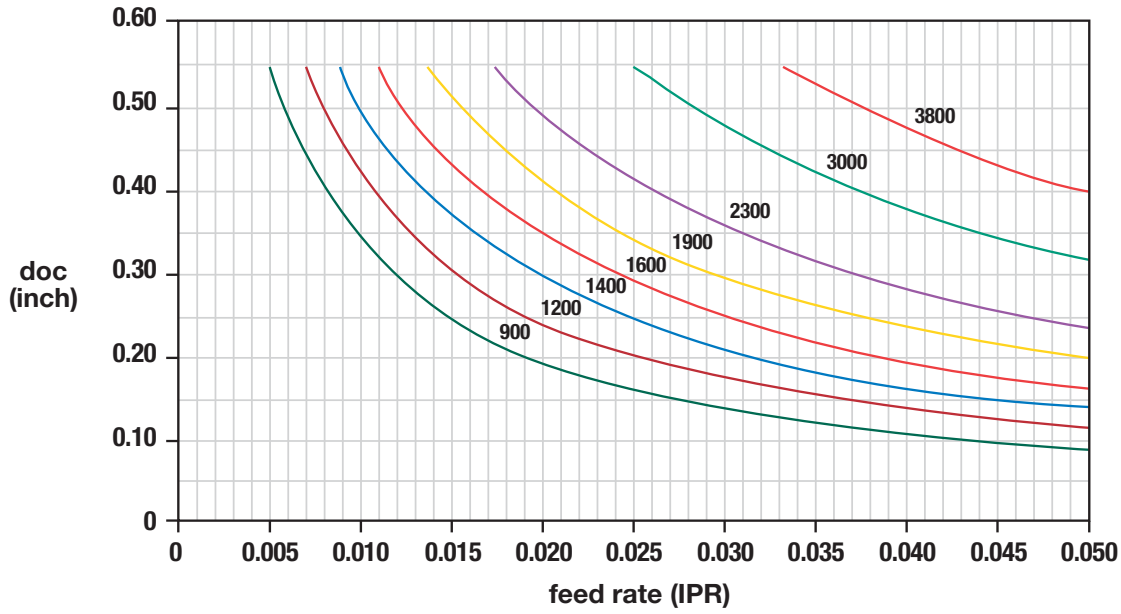


Chart 6

Depth of Cut (inch) and Feed Rate (IPR) vs. Tangential Forces (lbs) for KM50TS



Operating Conditions • KM63TS™ and KM63XMZ™ • Metric

IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.

Chart 7

F and L1 Dimensions (mm) vs. Tangential Loads (N) for KM63TS and KM63XMZ

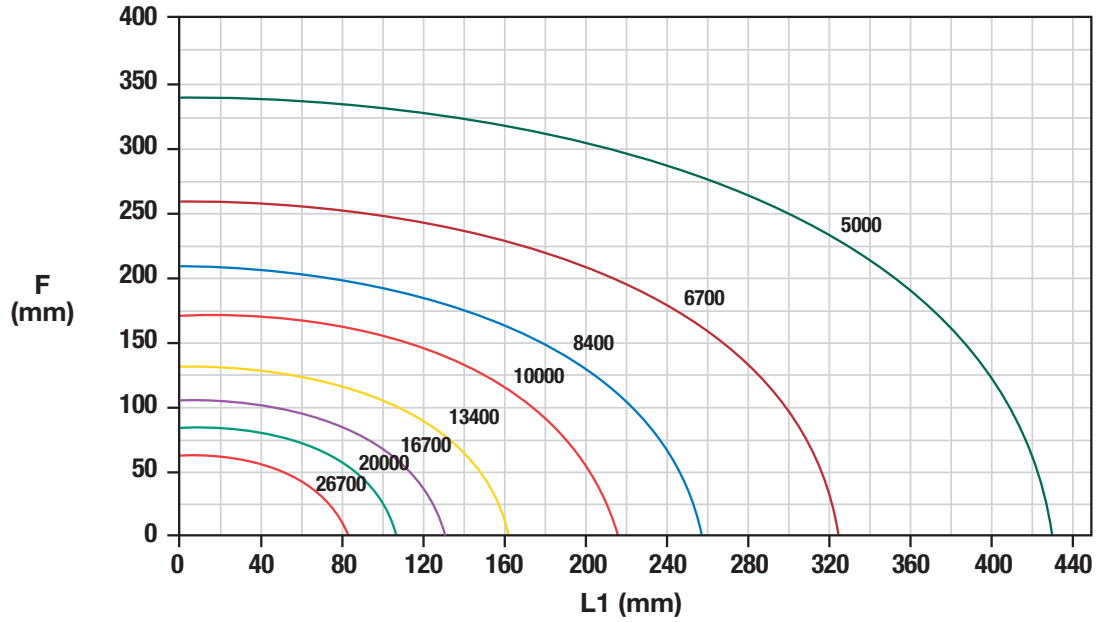
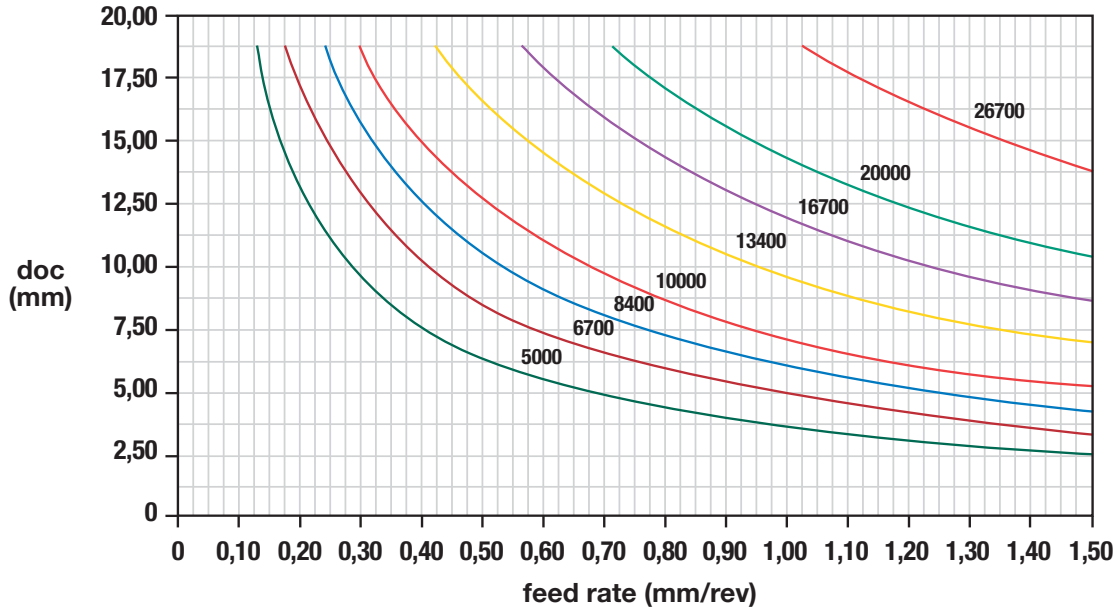


Chart 8

Depth of Cut (mm) and Feed Rate (mm/rev) vs. Tangential Forces (N) for KM63TS and KM63XMZ



Operating Conditions • KM63TS™ and KM63XMZ™ • Inch

IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.

Chart 7

F and L1 Dimensions (inch) vs. Tangential Loads (lbs) for KM63TS and KM63XMZ

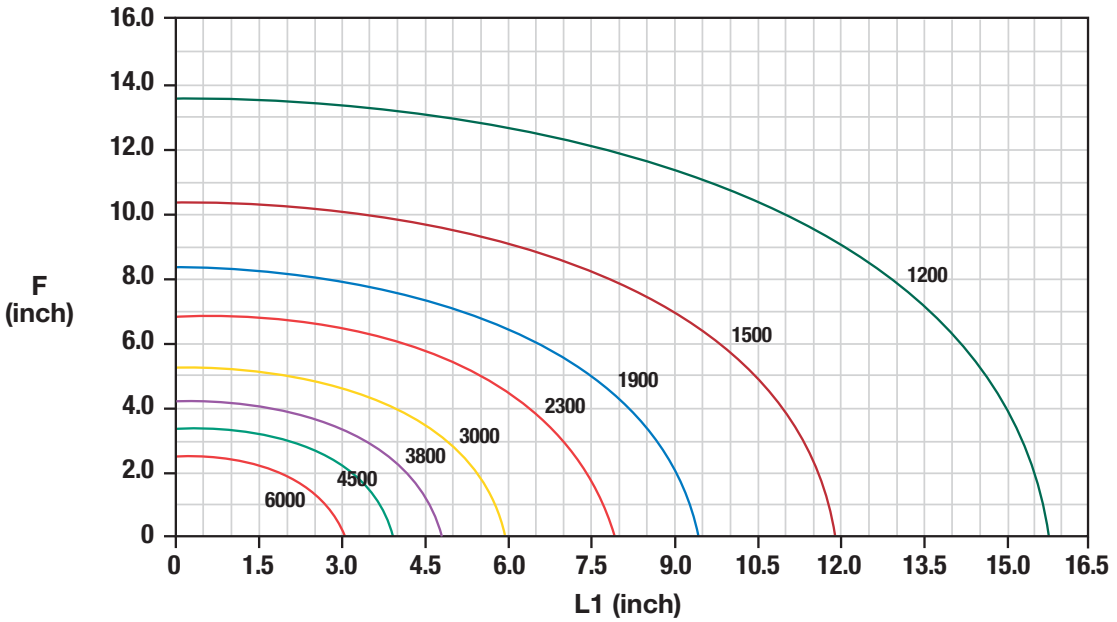
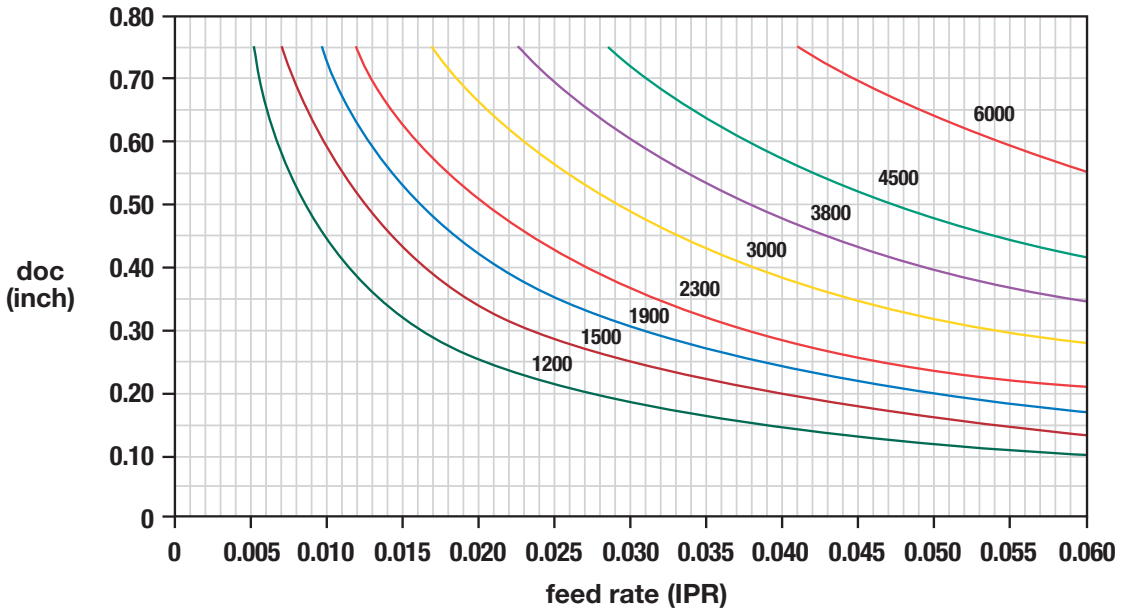


Chart 8

Depth of Cut (inch) and Feed Rate (IPR) vs. Tangential Forces (lbs) for KM63TS and KM63XMZ



Operating Conditions • KM80TS™ and KM80ATC™ • Metric

IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.

Chart 9

F and L1 Dimensions (mm) vs. Tangential Loads (N) for KM80TS and KM80ATC

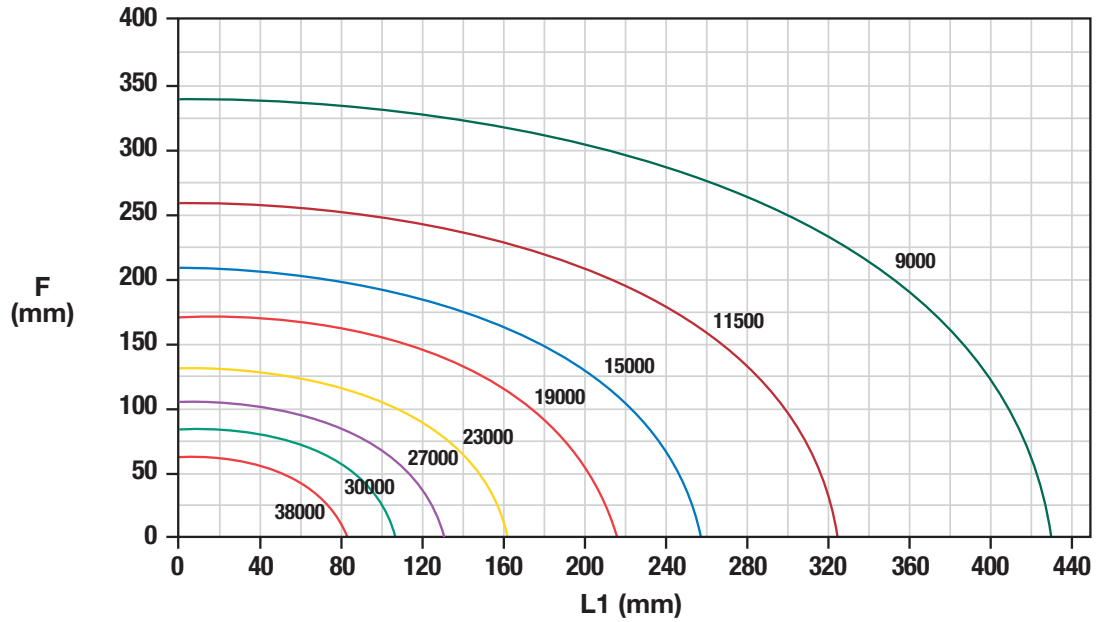
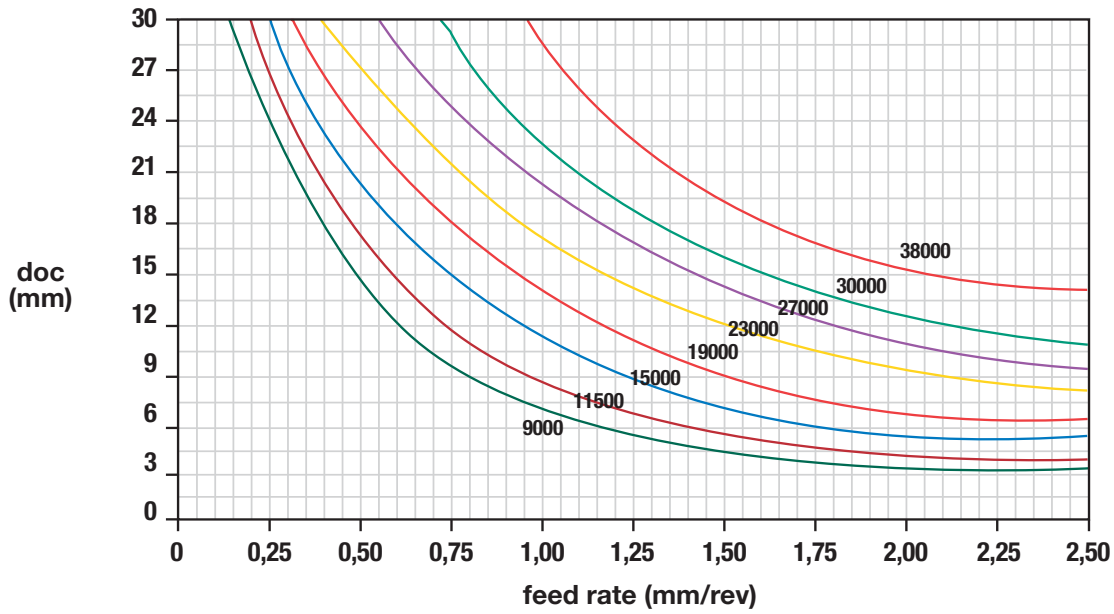


Chart 10

Depth of Cut (mm) and Feed Rate (mm/rev) vs. Tangential Forces (N) for KM80TS and KM80ATC



Operating Conditions • KM80TS™ and KM80ATC™ • Inch

IMPORTANT
Information shown on the following charts was developed exclusively for use with KM tooling in static conditions. Do not use for any other tooling system because the results will not apply. To account for cutting force fluctuations in dynamic conditions, a reduction of 20–30% should be applied to the loads shown in charts.

Chart 9

F and L1 Dimensions (inch) vs. Tangential Loads (lbs) for KM80TS and KM80ATC

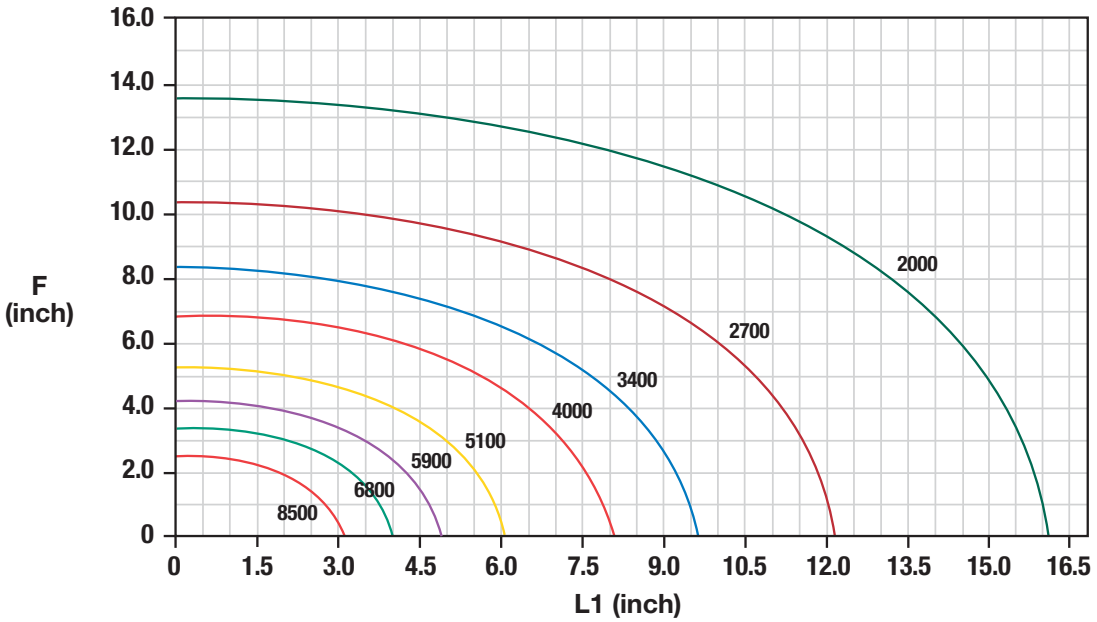
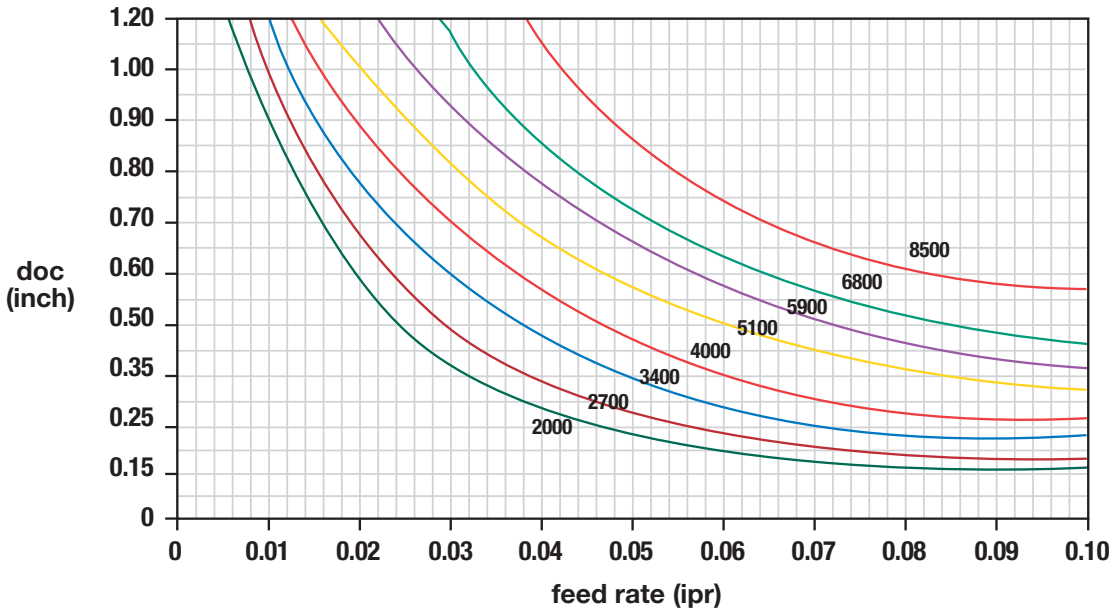


Chart 10

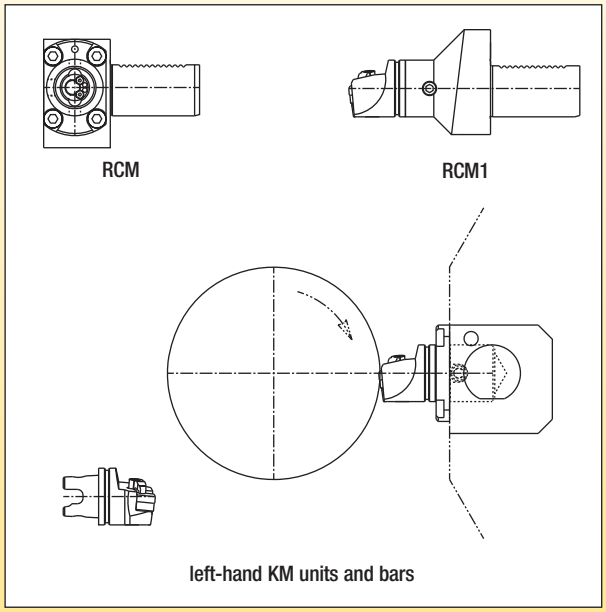
Depth of Cut (inch) and Feed Rate (IPR) vs. Tangential Forces (lbs) for KM80TS and KM80ATC



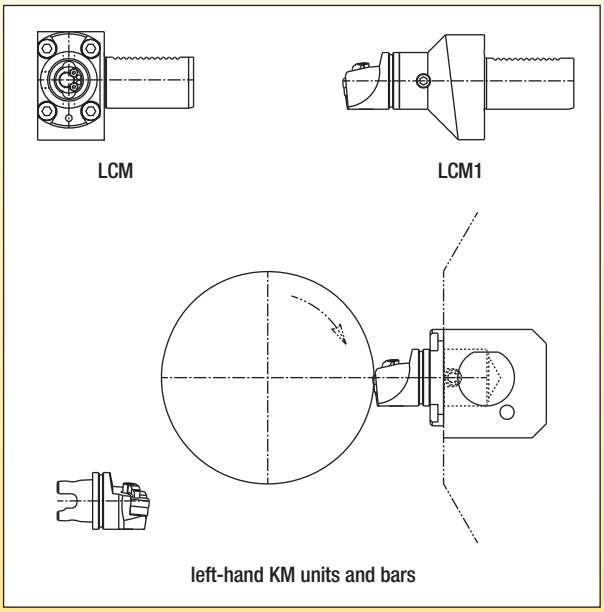
VDI Application Guide

Clockwise Spindle Rotation

VDI Clamp Wedge • Top

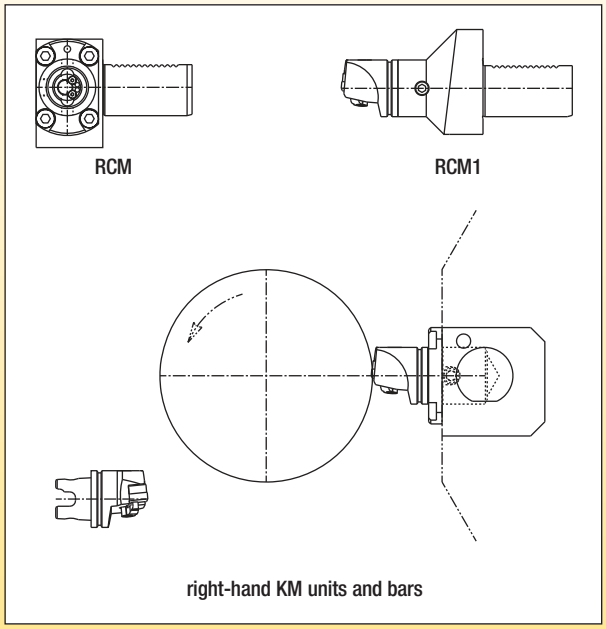


VDI Clamp Wedge • Bottom

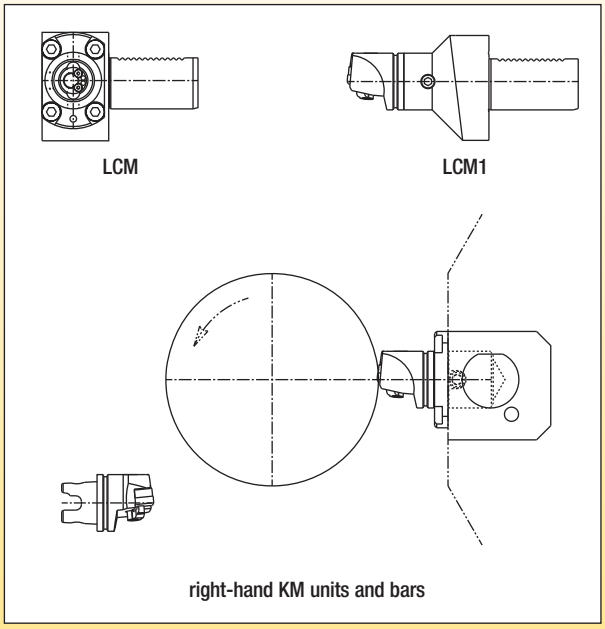


Counterclockwise Spindle Rotation

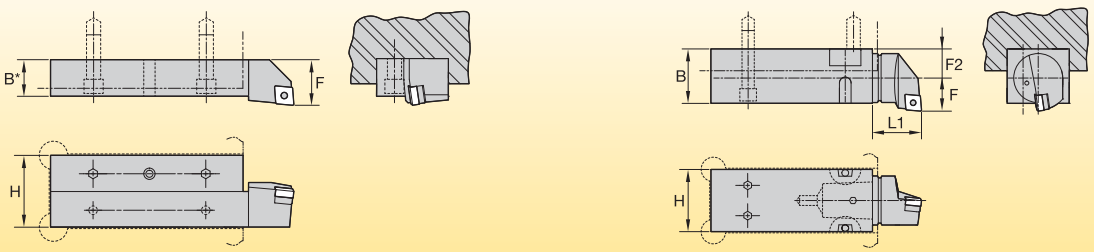
VDI Clamp Wedge • Top



VDI Clamp Wedge • Bottom



Mounting Details • NCM Square Shank Conversion



KM Toolholder Replacement — Square Shank Toolholder — Style MCLNL shown

Toolholder Replacements • Metric

KM replacement unit	square shank equivalent	B*	B	H	L1	F	F2
KM32-NCM4040	20 x 20	20	40	40	45	22	23
KM32-NCM5040	25 x 25	25	40	50	45	22	23
KM40-NCM5044	25 x 25	25	44	50	40	27	23
KM40-NCM6444	32 x 32	32	44	64	40	27	23
KM50-NCM6454	32 x 32	32	54	64	50	35	28

*For MCLNR/L holders.

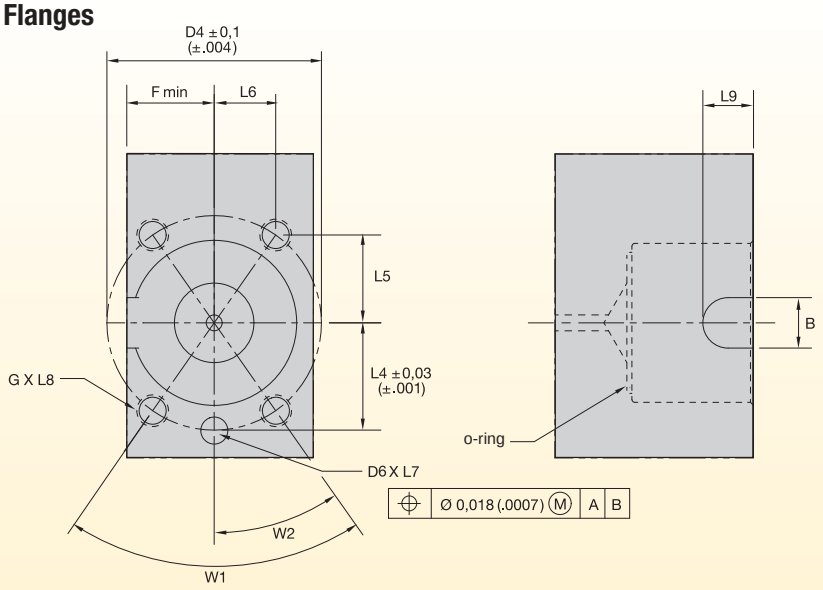
Toolholder Replacements • Inch

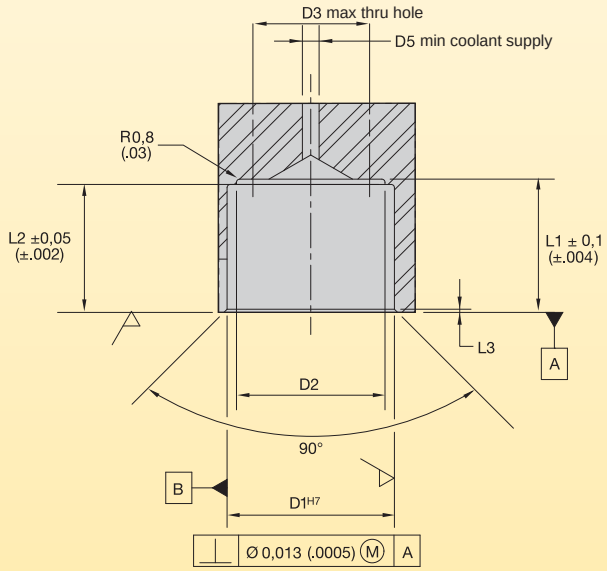
KM replacement unit	square shank equivalent	B*	B	H	L1	F	F2
KM32-NCM2425	3/4 x 3/4	3/4	1.562	1.500	1.378	0.866	0.884
KM32-NCM3225	1 x 1	1	1.562	2.000	1.378	0.866	0.884
KM40-NCM3228	1 x 1	1	1.750	2.000	1.575	1.063	0.937
KM40-NCM4028	1-1/4 x 1-1/4	1-1/4	1.750	2.500	1.575	1.063	0.937
KM50-NCM4034	1-1/4 x 1-1/4	1-1/4	2.125	2.500	1.969	1.378	1.122

*For MCLNR/L holders.

NOTE: F equals the dimension from the centerline of the KM cutting unit over the nose radius of the gage insert.
F2 equals the dimension from the back of the clamping unit to the centerline of the KM cutting unit (see column F2 above).
The offset is identical with most KM cutting units, except for positive lead angle units and neutral units.

KM Manual NCM-F Flanges



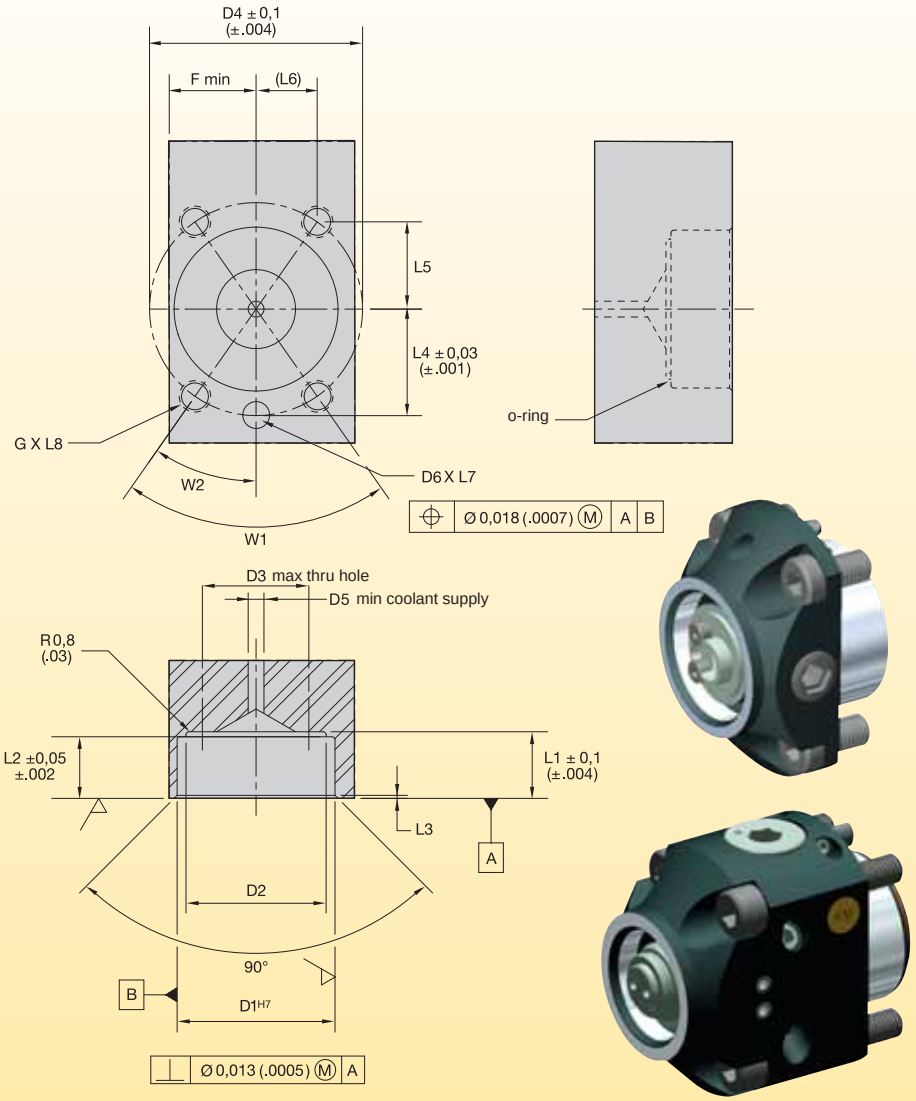




KM size	D1	D2	D3	D4	D5	D6	F	L1	L2	L3	L4	L5	L6	L7	L8	L9	B	G	W1	W2	O-ring
KM32	32,02 1.261	30,30 1.193	24,00 0.945	43,00 1.693	4,00 0.157	6,370/ 6,348 .2508/ .2499	18,01 0.709	26,37 1.038	25,20 0.992	0,50 0.020	21,50 0.847	17,61 0.693	12,33 0.486	11,18 0.440	11,00 0.433	11,51 0.453	11,00 0.433	M6	70°	35°	OR00987103V75
KM40	40,02 1.575	35,51 1.398	29,01 1.142	54,00 2.126	5,00 0.197	6,370/ 6,348 .2508/ .2499	22,00 0.866	31,88 1.255	30,61 1.205	0,80 0.031	27,00 1.063	22,12 0.871	15,49 0.610	11,18 0.440	18,01 0.709	12,75 0.502	12,70 0.500	M8	70°	35°	OR01174103V75
KM50	50,03 1.970	42,80 1.685	37,01 1.457	67,01 2.638	6,50 0.256	7,958/ 7,935 .3133/ .3124	27,51 1.083	39,88 1.570	38,61 1.070	1,00 0.039	33,50 1.319	27,44 1.080	19,22 0.757	12,70 0.500	18,01 0.709	18,24 0.718	17,50 0.689	M10	70°	35°	OR1487103V75
KM63	63,03 2.481	53,90 2.122	48,01 1.890	81,99 3.228	8,00 0.315	14,079/ 14,054 .5543/ .5533	35,99 1.417	46,89 1.846	45,62 1.796	1,50 0.059	41,00 1.614	31,70 1.248	25,99 1.023	19,99 0.787	35,00 1.378	23,50 0.925	21,49 0.846	M12	78°42'	39°21'	OR01925103V75
KM80	80,03 3.151	66,60 2.622	60,00 2.362	105,00 4.134	9,00 0.354	16,079/ 16,054 .6330/ .6320	45,00 1.772	58,39 2.300	57,12 2.249	1,50 0.059	52,50 2.067	41,61 1.638	32,01 1.260	25,00 0.984	50,00 1.969	23,50 0.925	23,00 0.906	M16	75°8'	37°34'	OR02425103V75

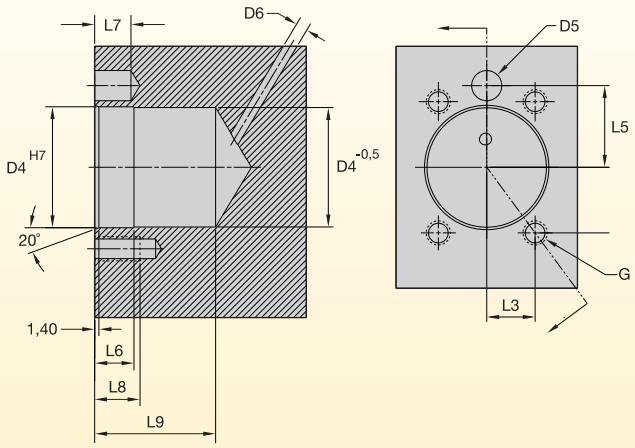
NOTE: Contact Kennametal for the latest dimensional data.

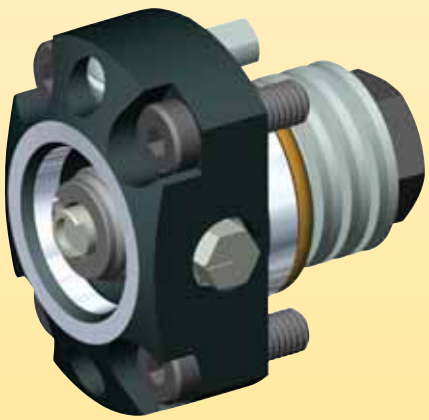
KM LOC-II™ CL2NS/T-EF Flanges • KM Manual NCM-EF Flanges



KM size	D1	D2	D3	D4	D5	D6	F	L1	L2	L3	L4	L5	L6	L7	L8	G	W1	W2	O-ring
KM32	32,02 1.261	30,30 1.193	24,00 0.945	43,00 1.693	4,00 0.157	6,370/6,348 .2508/.2499	18,01 0.709	13,87 0.546	12,70 0.500	0,50 0.020	21,50 0.847	17,61 0.693	12,33 0.486	11,18 0.440	11,00 0.433	M6	70°	35°	OR00987103V75
KM40	40,02 1.575	35,51 1.398	29,01 1.142	54,00 2.126	5,00 0.197	6,370/6,348 .2508/.2499	22,00 0.866	16,89 0.665	15,62 0.615	0,80 0.031	27,00 1.063	22,12 0.871	15,49 0.610	11,18 0.440	18,01 0.709	M8	70°	35°	OR01174103V75
KM50	50,03 1.97	42,80 1.685	37,01 1.457	67,01 2.638	6,50 0.256	7,958/7,935 .3133/.3124	27,51 1.083	21,87 0.861	20,60 0.811	1,00 0.039	33,50 1.319	27,44 1.080	19,22 0.757	12,70 0.500	18,01 0.709	M10	70°	35°	OR1487103V75
KM63	63,03 2.481	53,90 2.122	48,01 1.890	81,99 3.228	8,00 0.315	14,079/14,054 .5543/.5533	35,99 1.417	21,87 0.861	20,60 0.811	1,50 0.059	41,00 1.614	31,70 1.248	25,99 1.023	19,99 0.787	30,00 1.181	M12	78°42'	39°21'	OR01925103V75
KM80	80,03 3.151	66,60 2.622	60,00 2.362	105,00 4.134	9,00 0.354	16,079/16,054 .6330/.6320	45,00 1.772	26,89 1.059	25,62 1.009	1,50 0.059	52,50 2.067	41,61 1.638	32,01 1.260	25,00 0.984	50,00 1.969	M16	75°8'	37°34'	OR02425103V75

KM Rapid RNS-EF

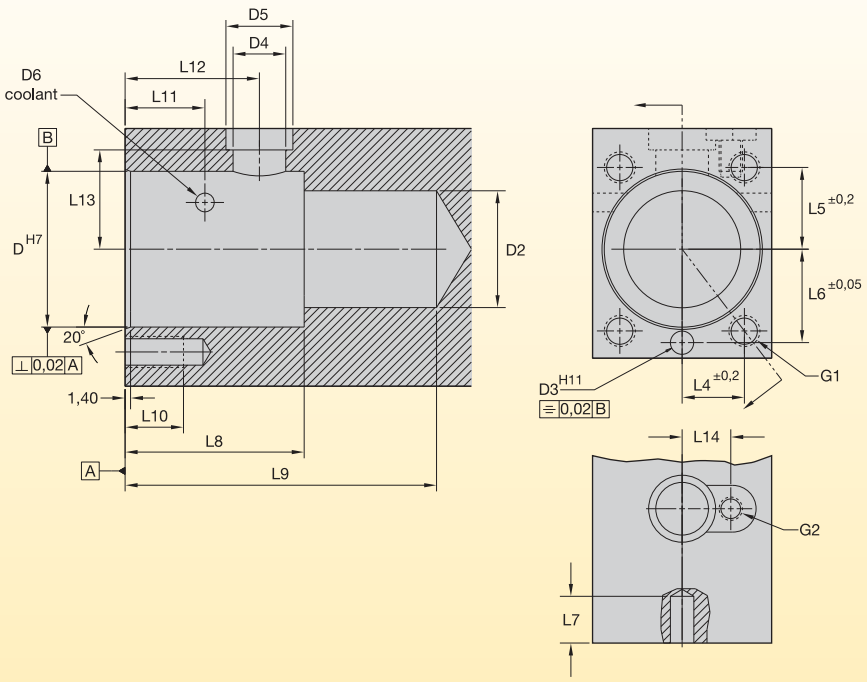


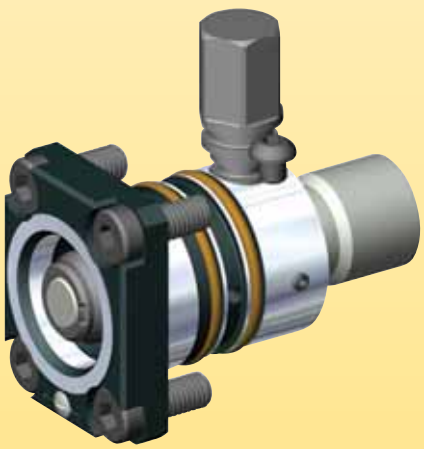


KM size	D4	D5 H11	D6	L3	L4	L5	L6	L7	L8	L9 min	G
KM40	40	10	5	16	21,7	27	13	12	15	44	M8
KM50	50	12	6,5	20	28,7	35	16	14	20	46	M10
KM63	63	14	8	26	31,7	41	20	16	24	52	M12

NOTE: Chart values shown are metric.

KM Rapid Plus RPNT-F

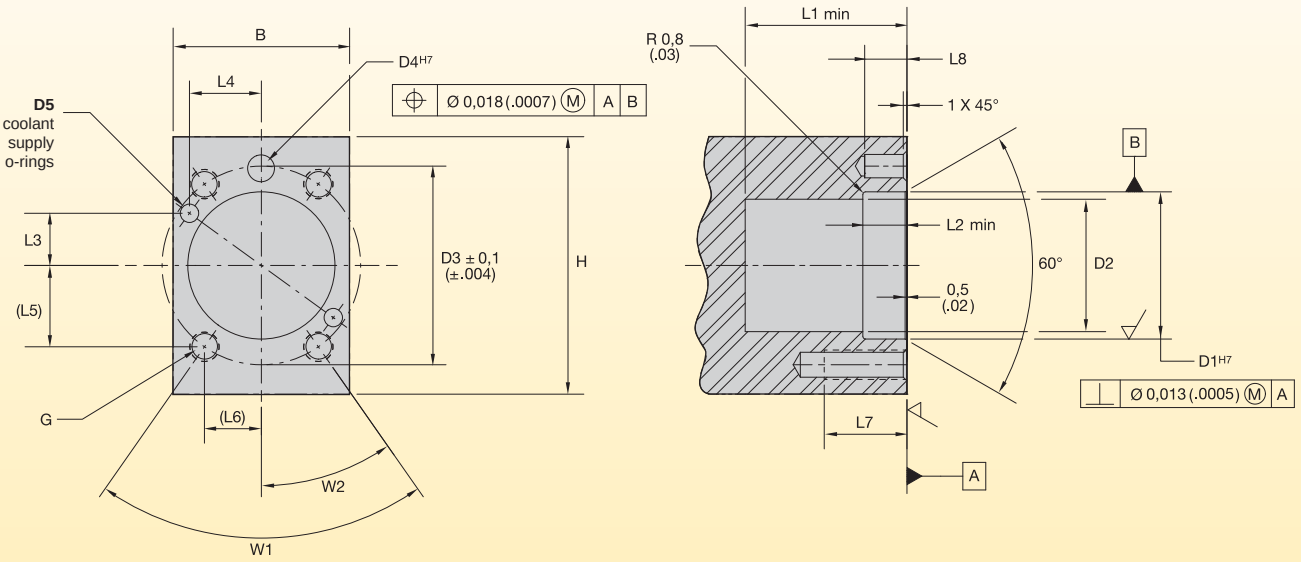




KM size	D	D2	D3	D4	D5	D6	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	G1	G2	screw DIN-ISO 7380
KM40	40	30	6	13.5	17.2	5	16	21	24	12	46	80	15	20.5	34.5	25.5	12.5	M8	M6	M6x6
KM50	50	40	6	18.5	22.2	8	20	25.5	29.2	12	59	105	25	26	43.8	33.5	16.5	M10	M8	M8x10
KM63	63	45	10	24.5	28.5	8	26	31.7	38.5	20	18	120	30	35	58.5	41.3	19.5	M12	M8	M8x10

NOTE: Chart values shown are metric.

KM-LOC™ CLNS/T-EF

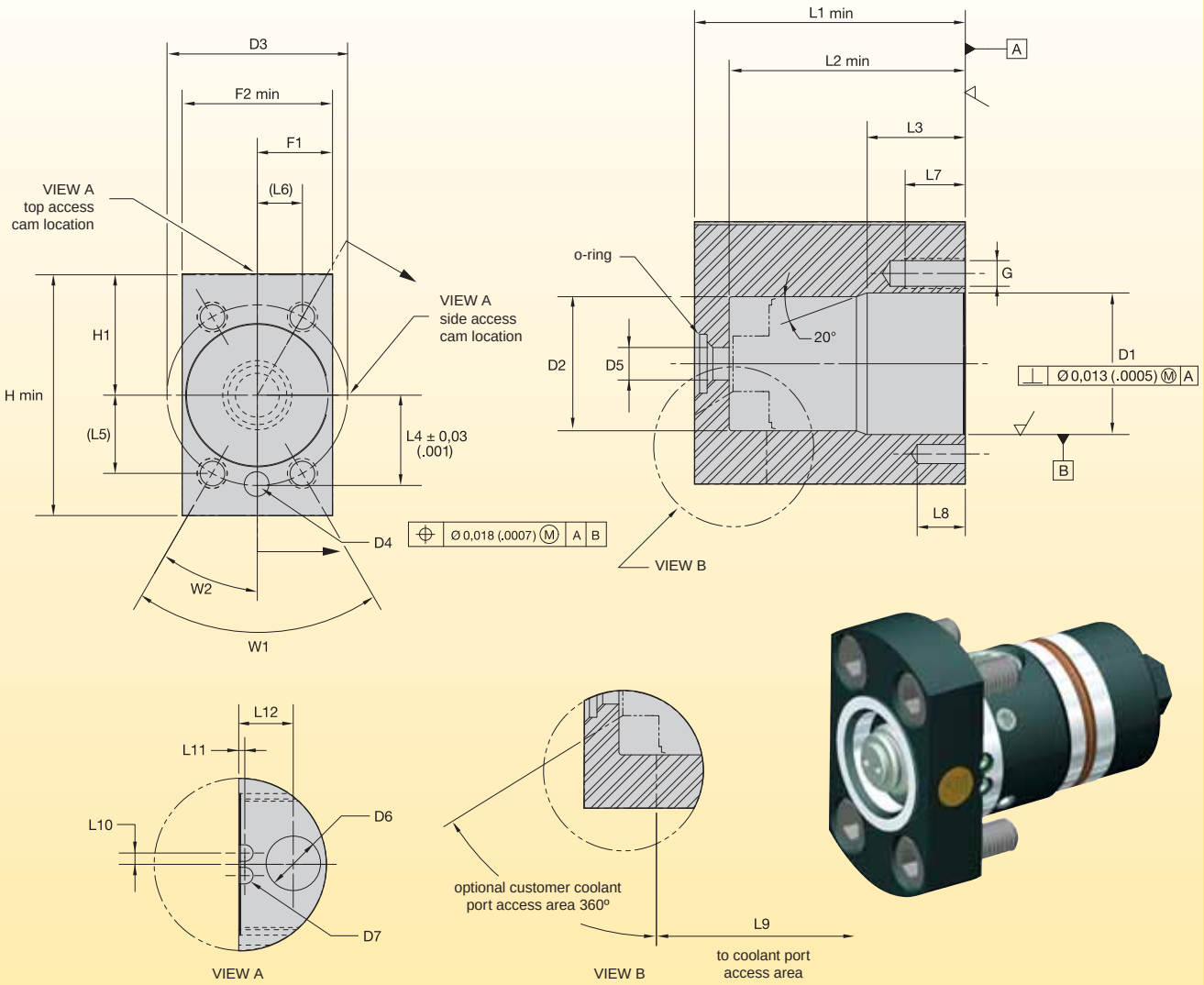






KM size	D1	D2	D3	D4	L1	L2	L3	L4	L5	L6	L7	L8	B	G	H	W1	W2	O-ring
KM32	32,00 1.260	30,00 1.181	43,00 1.693	6,35 0.250	30,00 1.181	10,00 0.394	11,30 0.445	16,15 0.646	17,6 0.693	12,30 0.484	19,50 0.768	11,50 0.453	40,00 1.575	M6	60,00	70°	35°	OR00145070V75
KM40	40,00 1.575	36,00 1.417	54,00 2.126	6,35 0.250	44,00 1.732	12,00 0.472	14,18 0,558	19,56 0,770	22,10 0.870	15,50 0.610	22,50 0.886	11,50 0.453	48,00 1.890	M8	70,00	70°	35°	OR00176070V75
KM50	50,00 1.969	47,00 1.850	67,00 2.638	7,95 0.313	49,00 1.929	14,00 0.551	18,25 0.719	23,90 0.941	27,40 1.079	19,20 0.756	25,50 1.004	13,00 0.512	58,00 2.283	M10	85,00	70°	35°	OR00208070V75

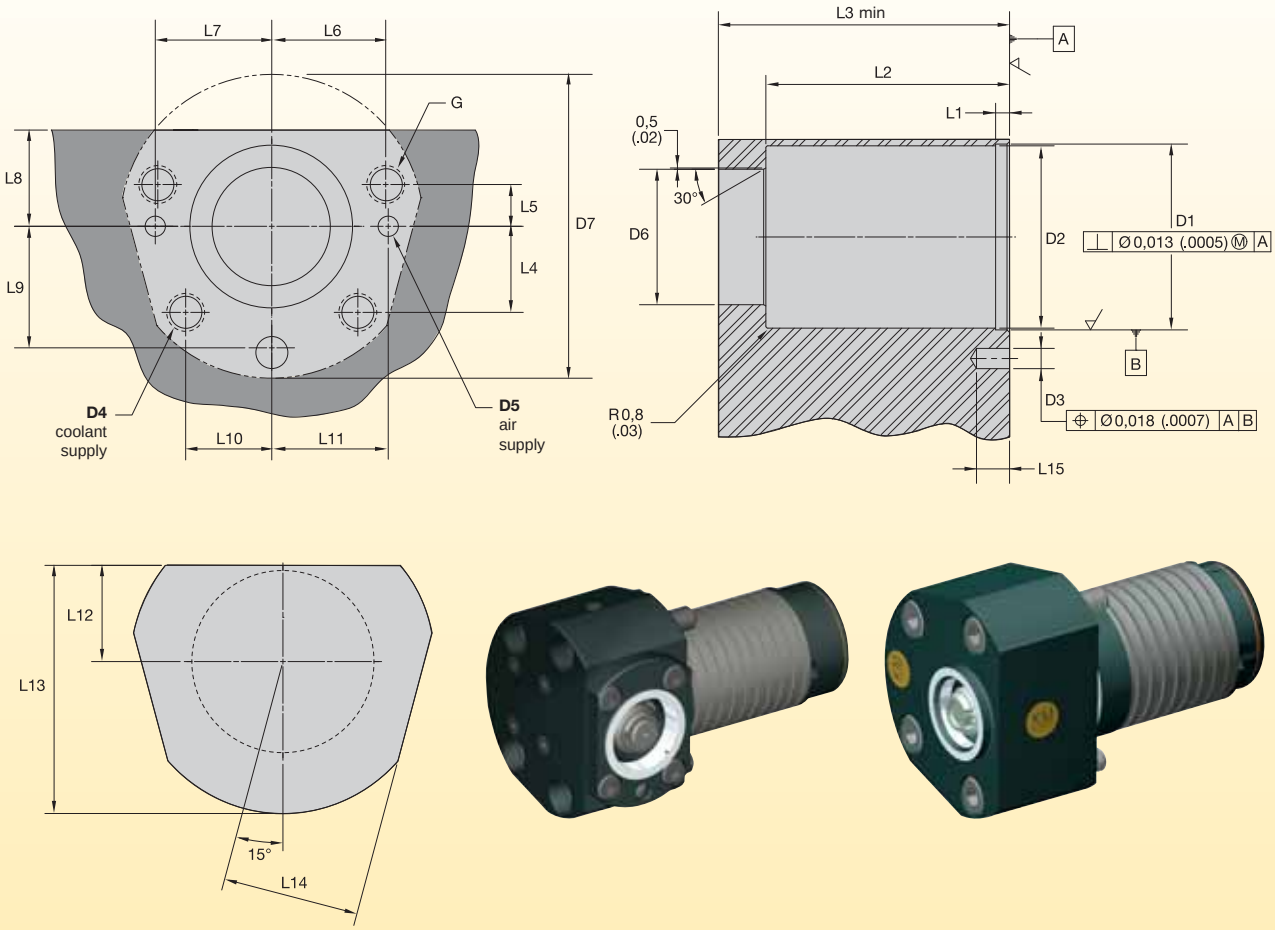
KM LOC-II™ CL2NS/T-BC Boring Cartridge



KM size	D1	D2	D3	D4	D5	D6	D7	F	F1	H	H1	L1	L2
KM40	47,04 1.852	44,54 1.754	60,00 2.362	6,36 0.250	10,80 0.425	15,00 0.591	5,50 0.217	50,00 1.969	25,00 0.984	80,00 3.150	40,00 1.575	90,00 3.543	78,50 3.091
KM50	58,29 2.295	54,10 2.130	74,00 2.913	7,94 0.313	10,80 0.425	18,00 0.709	6,50 0.256	64,00 2.520	32,00 1.260	96,00 3.780	48,00 1.890	100,00 3.937	88,00 3.465
KM63	74,04 2.915	69,92 2.753	94,00 3.701	14,04 0.553	12,80 0.504	20,00 0.787	6,50 0.256	78,00 3.071	39,00 1.535	122,00 4.803	61,00 2.402	115,00 4.528	100,80 1.535

KM size	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	G	W1	W2	O-ring
KM40	32,75 1.289	30,00 1.181	25,98 1.023	15,00 0.591	20,00 0.787	16,00 0.630	65,50 2.579	3,75 0.148	2,00 0.079	18,10 0.713	M10	60	30	OR00614070V90
KM50	38,00 1.496	37,00 1.457	32,04 1.261	18,50 0.728	21,00 0.827	16,00 0.630	75,75 2.982	5,30 0.209	6,75 0.266	24,25 0.955	M12	60	30	OR00614070V90
KM63	47,20 1.858	47,00 1.850	40,70 1.602	23,50 0.925	20,00 0.787	16,00 0.630	87,50 3.445	6,45 0.254	5,00 0.197	26,00 1.024	M16	60	30	OR00739070V90

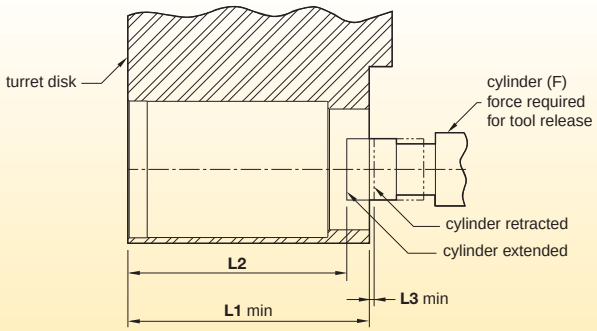
KM RACA and NAC



KM size	D1	D2	D3	D4	D5	D6	D7	L1	L2	L3	L4
KM32	52,00 2.047	51,60 2.032	10,08 0.397	5,00 0.196	5,00 0.196	47,08 1.853	85,00 3.346	9,00 0.354	72,00 2.835	85,00 3.346	24,00 0.945
KM40	62,00 2.441	61,70 2.421	10,08 0.397	7,70 0.303	7,70 0.303	55,08 2.168	100,00 3.937	10,00 0.394	78,50 3.091	95,00 3.74	30,00 1.181
KM50	72,00 2.835	71,70 2.815	12,08 0.475	8,00 0.315	8,00 0.315	65,08 2.562	120,00 4.724	10,00 0.394	97,00 3.819	115,00 4.528	34,00 1.339
KM63	85,00 3.346	84,60 3.327	16,08 0.633	9,50 0.374	9,50 0.374	75,08 2.956	140,00 5.512	12,00 0.472	124,50 4.902	145,00 5.709	35,35 1.392

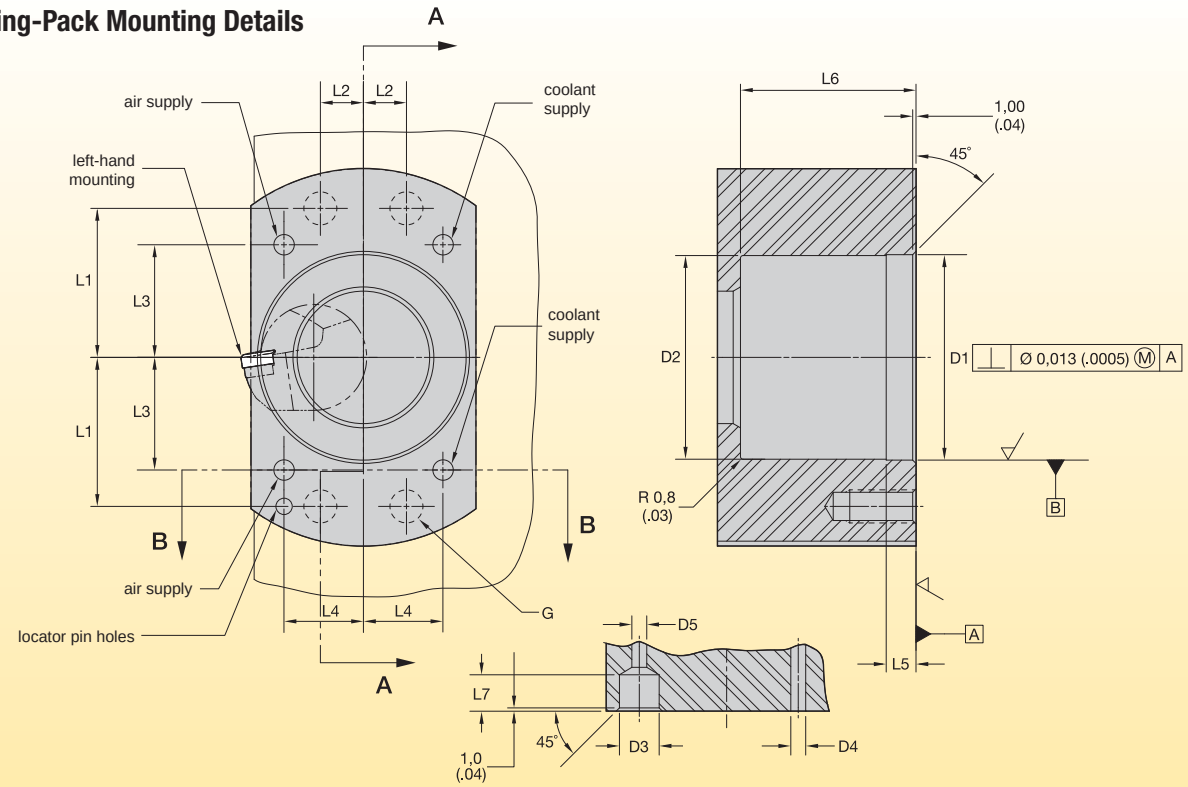
KM size	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	G
KM32	11,50 0.453	32,00 1.260	32,00 1.260	27,50 1.083	34,00 1.339	24,00 0.945	32,00 0.945	27,50 1.083	70,00 2.756	38,00 1.496	14.50 0.571	M8-1,25x20 (.79) deep
KM40	15,00 0.591	37,00 1.457	39,50 1.555	33,00 1.299	40,00 1.575	26,50 1.043	39,50 1.043	34,00 1.339	84,00 3.307	46,00 1.811	22.00 0.866	M10-1,5x25 (.98) deep
KM50	16,50 0.650	45,00 1.772	46,00 1.811	42,00 1.654	48,00 1.890	34,00 1.339	46,00 1.339	42,00 1.654	102,00 4.016	54,00 2.126	22.00 0.866	M12-1,75x25 (.98) deep
KM63	18,80 0.740	51,70 2.035	55,00 2.165	46,00 1.811	55,00 2.165	42,15 1.659	55,00 1.659	47,00 1.850	117,00 4.606	65,00 2.559	24.00 0.945	M16-2,0x30 (1.18) deep

KM RACA and NACA Spring-Pack Cylinder



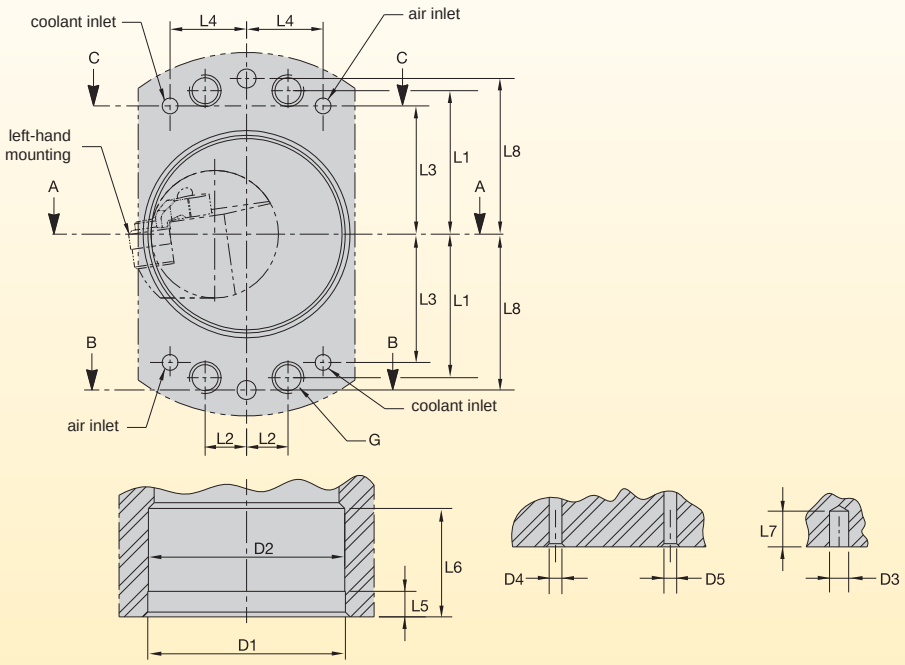
KM size	L1	L2	L3
KM32	85,00 3.346	76,50 3.012	3,00 0.118
KM40	95,00 3.740	83,20 3.276	3,00 0.118
KM50	115,00 4.528	103,00 4.055	3,00 0.118
KM63	145,00 5.709	131,00 5.157	3,00 0.118

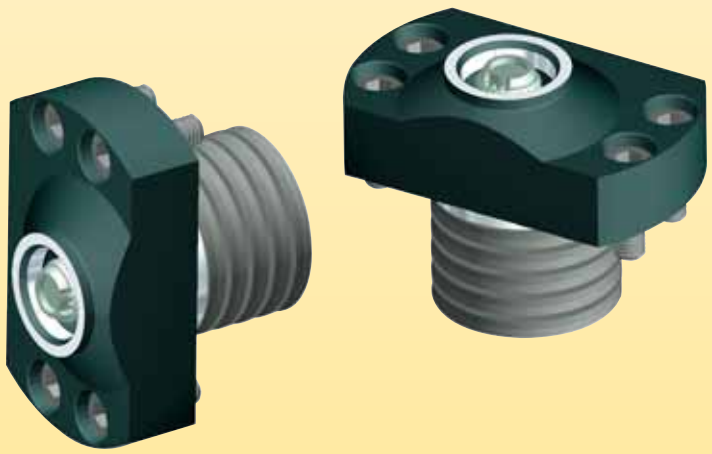
NCA Spring-Pack Mounting Details



KM size	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	G
KM32-NCA-DS31	51,00 2.008	50,50 1.988	8,00 0.315	3,20 0.126	3,20 0.126	36,00 1.417	10,50 0.413	27,50 1.083	19,50 0.768	6,00 0.236	44,00 1.732	9,00 0.354	M8-1,25x20 (.79) deep
KM40-NCA-DS40	62,00 2.441	61,50 2.421	12,00 0.472	4,50 0.177	4,50 0.177	45,00 1.772	13,00 0.512	34,01 1.339	24,00 0.945	9,00 0.354	53,01 2.087	11,00 0.433	M10-1,5x20 (.79) deep
KM50-NCA-DS50	78,00 3.071	71,50 2.815	15,00 0.591	5,50 0.217	5,50 0.217	56,00 2.205	16,00 0.630	42,00 1.654	28,00 1.102	6,00 0.236	74,00 2.913	12,00 0.472	M12-1,75x30 (1.18) deep

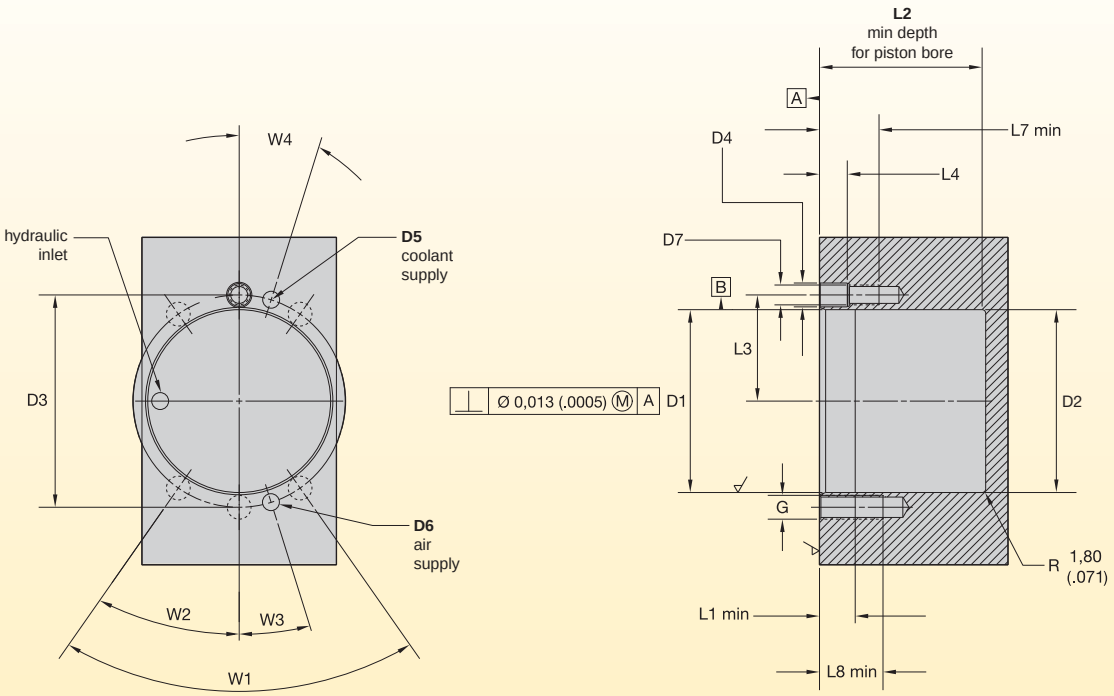
KM32 NCA





KM size	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	L8	G
KM32-NCA-DS16	51,00 2.008	50,80 2.000	6,04 0.238	5,00 0.197	5,00 0.197	29,37 1.156	10,69 0.421	23,93 0.942	20,09 0.791	20,00 0.787	65,00 2.559	11,20 0.441	32,25 1.270	M8-1,25x15 (.59) deep

XGL – Static







KM size	D1	D2	D3	D4	D5	D6	D7	G	L1	L2	L3	L4	L7	L8	W1	W2	W3	W4
KM80	92,177 3.629	92,177 3.629	107,00 4.213	12,045 .4742	6,35 0.25	6,35 0.25	M10	M12	18,00 0.709	81,95 3.226	53,525 2.107	14,00 0.551	30,00 1.181	32,00 1.26	70°	35°	17"30'	17"30'

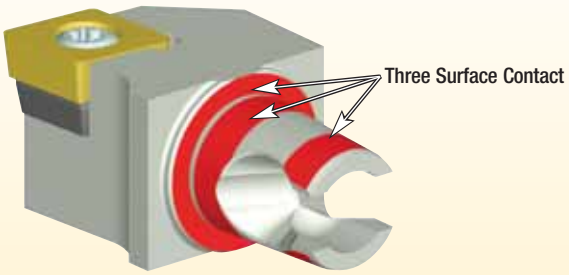
The KM Micro/KM Mini Coupling

The rigidity and stiffness of the patented KM Micro/KM Mini joint is achieved through a combination of unique design elements incorporated in both the shank of the tool and the clamping mechanism. The KM Micro/KM Mini joint was developed as a system and takes full advantage of both the tool shank and the mechanism to obtain maximum benefit from the space utilized.

Taper Shank

All KM Micro/KM Mini tooling is designed around a short 10:1 tapered shank. Extensive testing of many different lengths and angles proves this combination provides the maximum stiffness and input forces required for locking/unlocking. The taper is self-centering to promote easy tool loading and unloading.

Face and Taper Contact



KM Micro/KM Mini tooling is designed to have simultaneous taper and face contact. Two alternate methods provide metal-to-metal contact. One method is to manufacture both halves of the coupling holding very close tolerances. The other is to design a small amount of elastic deformation into the assembly. With KM Micro/KM Mini tooling, elastic deformation takes the form of expansion of the female taper (on the clamping unit) as the larger male taper (on the cutting unit) is pulled back during lockup.

Our testing proved that an optimum combination of pull-back force and elastic deformation (rather than a close tolerance) provides greater static and dynamic stiffness and achieves a metal-to-metal fit.

Clamping Mechanism

The mechanism design consists of two components: the torque screw and the wedge nut. This simple, yet highly effective clamping mechanism allows the user to lock and unlock the cutting unit by simply using a preset torque wrench. This KM Micro/KM Mini clamping mechanism fits inside the taper shank of the KM Micro/KM Mini cutting unit and utilizes a coincidental cone design that maximizes the contact area between the clamping mechanism and the cutting unit. As a result, the cutting unit and clamping mechanism are on a shared axis and provide accurate axial and radial repeatability of ±.00008" (± 2 micron) for a specific cutting unit in a specific clamping unit.

When more than one cutting unit is used, the accuracy of each cutting unit must be considered. Pre-gaging (when changing tools) measures the deviations of each tool from the nominal. These deviations can then be compensated for by the machine tool control offsets.

Locking Sequence

The clamping sequence starts with the insertion of the cutting unit into the female taper of the clamping unit. The cutting unit first makes contact at a stand-off from the gage face of approximately .010" (0,25mm). The torque screw is then activated by a preset torque wrench at a right angle to the centerline of the cutting tool, located behind the gage face of the clamping unit. A small amount of elastic deformation takes place at the front of the female taper as the locking force is applied. As the torque screw is further tightened to the preset torque of 25–30 ft. lbs. (34–40 Nm), (4-1/4 turns), the cutting unit advances until the gage face makes contact with the face of the clamping unit. The final amount of torque applied allows the tail of the cutting unit to spread to clamp securely between the clamping mechanism and the clamping unit inside diameter. Once the proper operational torque is achieved, continuing to rotate the torque screw may damage the clamping components.

Installation

When initially clamping the KM Micro/KM Mini shank in a machine tool slot, it is recommended to have a cutting unit in the shank.

Lubrication

Using the appropriate wrench, back out the torque screw against the positive stop and generously apply grease to the threads and conical surface of the component hardware. Also, apply grease to the female taper surface. This should be done periodically. Recommended grease: GLEITMO™ 805.

lubricant	order number	size
GLEITMO 805 grease	1567575	500g cartridge
GLEITMO 805 grease	1567577	1000g tin

CAUTION
DO NOT USE silicone cleaner or WD-40™-type lubricants.

Summary

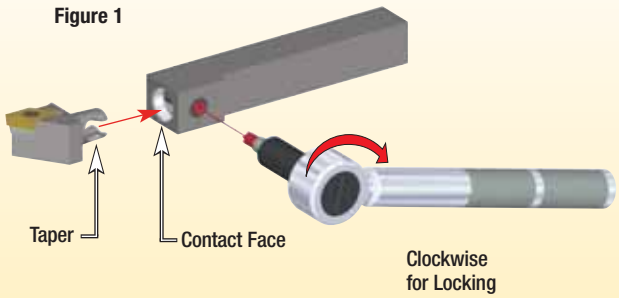
The KM Micro/KM Mini coupling offers a very rigid joint with a high degree of repeatability while maintaining a very compact envelope. This permits a high degree of versatility without sacrificing cutting performance.

KM Micro/KM Mini Clamping Operating Instructions (KM12–KM25)

Locking

Before inserting the KM Micro and KM Mini unit into the clamping mechanism (Figure 1), clean the contact face and taper. KM Micro and KM Mini manual clamping units require a torque wrench for proper operation. Turning the torque screw clockwise locks the cutting unit in position. For maximum safety, tighten the torque screw to the specified torque. Using a torque wrench ensures that the proper clamping forces are exerted.

Figure 1



KM Micro/KM Mini Manual Clamping System • Operating Torque

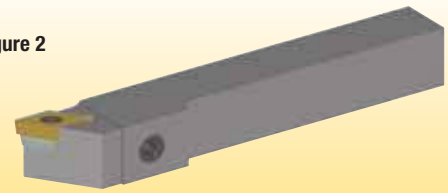
KM size	torque (ft. lbs.)	torque (Nm)	actuation drive size
KM12	5–6	7–8	25IP
KM1612	5–6	7–8	25IP
KM16	7–8	10–11	27IP
KM2016	7–8	10–11	27IP
KM20	14–16	19–22	5mm
KM2520	14–16	19–22	5mm
KM25	25–30	34–40	6mm
KM3225	25–30	34–40	6mm

CAUTION
Over tightening can cause damage to the clamping mechanism.

Operating Position

With the torque screw and nut to the proper torque, coincidental cones locked in position, and the face and self-locking taper fully engaged, the cutting unit and clamping unit are rigidly secured together (Figure 2).

Figure 2

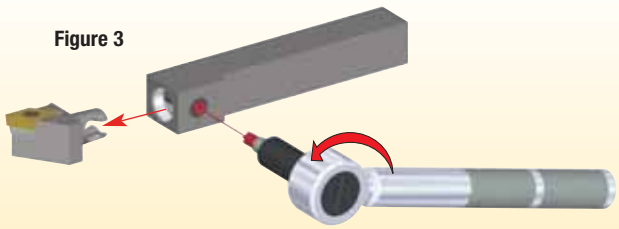


Unlocking

Rotate the torque screw counterclockwise until initial resistance is felt. In this position, the locking cones are free of the cutting unit, but the taper interference is still holding the KM™ unit in the clamping unit. At this point, the bump-off angle is in position to free the cutting unit from the interference fit.

Continue to rotate the torque screw slowly until the cutting unit is no longer making face contact (Figure 3) and is released from the taper. The torque screw will stop rotating and more resistance will be felt. Do not turn the torque screw any further.

Figure 3

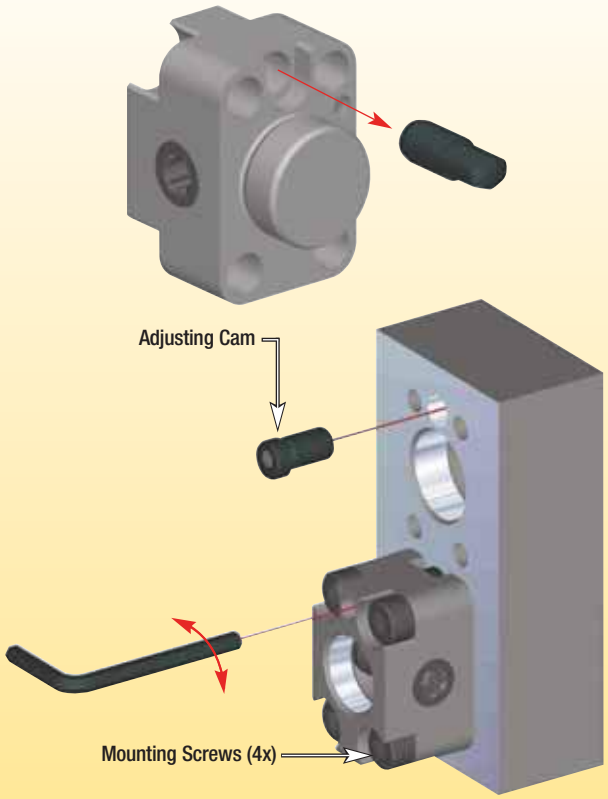


CAUTION
Continuing to rotate the torque screw may damage the clamping components.

KM Micro/KM Mini Center Height Adjustment Feature for Flange Clamping Units

KM Micro flange mounts can adjust insert center height via a cam pin to be purchased separately. To do this:

1. Remove the locating pin that is installed in the flange mount clamping unit.
2. Install the adjusting cam in the toolblock-locating pin hole.
3. Install the flange mount clamping unit to the toolblock, ensuring the cam portion of the adjusting pin locates within the slot on the back side of the flange.
4. To adjust, simply access the hex through the locating pin hole of the flange unit and rotate to set center height with mounting screws loose.
5. Tighten the mounting bolts to the required torque for the specific bolt size.

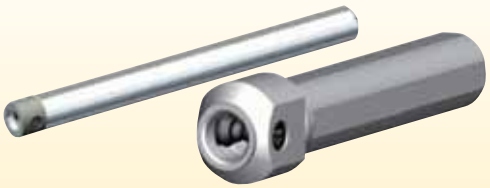


KM size	order number	catalog number
12	1925860	**MICROCAM12**
16, 25, 3225	1851803	**MICROCAM16**

What is KM1612/KM2016/KM2520/KM3225 for ID Machining?

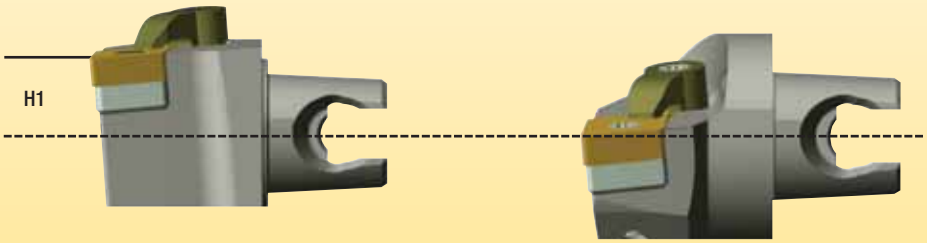
The KM1612/KM2016/KM2520/KM3225 is the ID endworking tooling product line to complement the KM12/KM16/KM20/KM25 OD turning tooling product line.

- Products are through-coolant capable.
- External tapers are the same as KM12/KM16/KM20/KM25.



Round shank clamping units

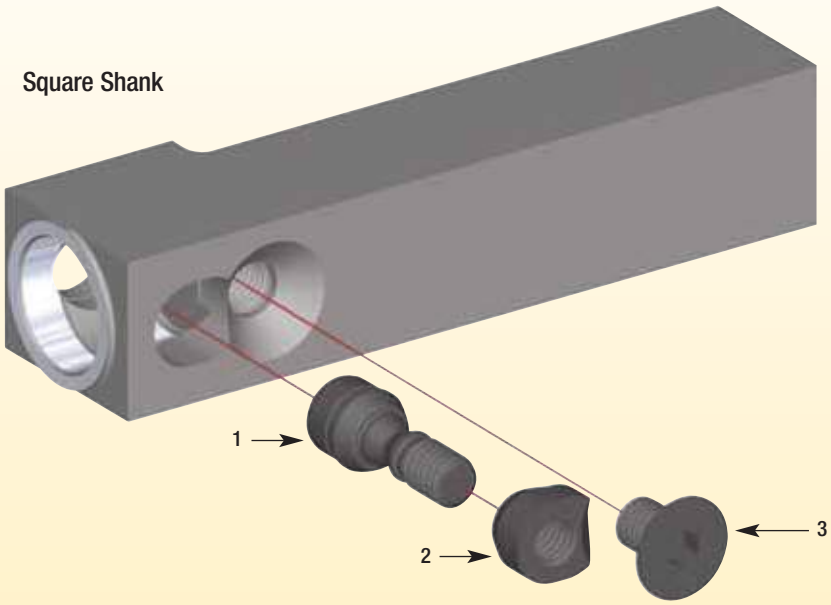
Major difference is center height location of the insert.



KM12/KM16/KM20/KM25
Square shank cutting units
Insert is above centerline

KM1612/KM2016/KM2520/KM3225
Centerline cutting units
Insert is on centerline

KM Micro/KM Mini Manual Clamping Repair Package Components



KM Manual Clamping Components • Functional Definitions

1. Torque Screw
- Rotation moves the locking cones.
  - Clockwise rotation secures cutting unit.
  - Counterclockwise rotation releases cutting unit.
- Provides bump-off angle.

2. Wedge Nut
- Contains anti-rotation feature.

3. Containment Screw
- Provides unlocking positive stop.
- Provides anchor for wedge nut anti-rotation feature.

Operator Maintenance
All KM Micro/KM Mini clamping units showing damage must be replaced or rebuilt. Burrs and nicks should be removed by stoning and/or polishing.

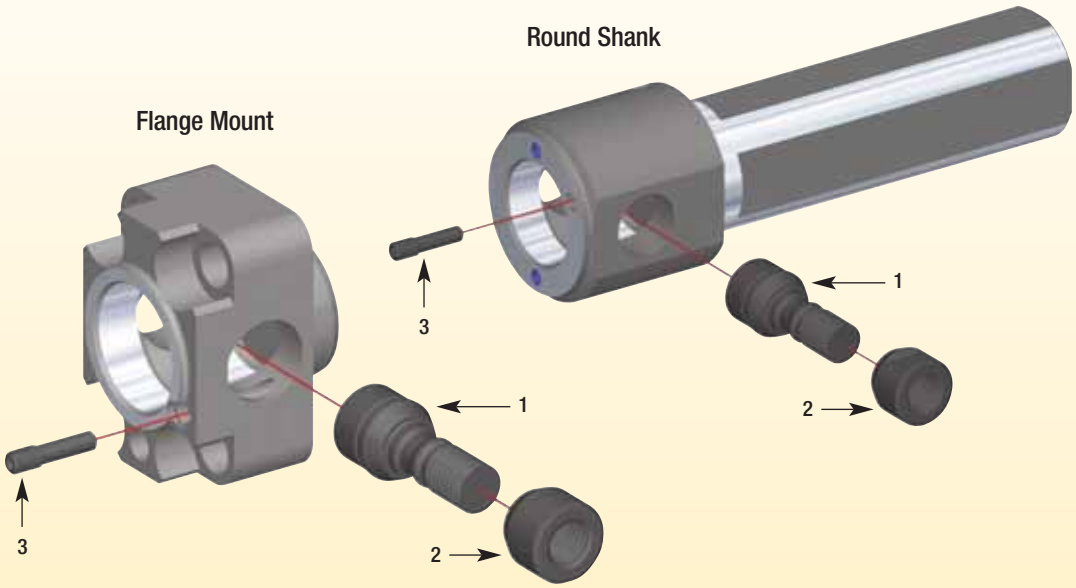
- Use KM Micro/KM Mini Plugs to protect clamping units when they are not in use.

For KM Micro Plugs, see page A117.
For KM Mini Plugs, see page A186.

KM Micro/KM Mini Manual Clamping Repair Packages

KM size	catalog number	order number
KM12	**KM12NAPKG**	**3953388**
KM16	**KM16NAPKG**	**3953386**
KM20	**KM20NAPKG**	**3645146**
KM25	**KM25NAPKG**	**3645145**

KM Micro/KM Mini Manual Clamping Repair Package Components



KM Manual Clamping Components • Functional Definitions

1. **Torque Screw**
   - Rotation moves the locking cones.
     - Clockwise rotation secures cutting unit.
     - Counterclockwise rotation releases cutting unit.
   - Provides bump-off angle.

2. **Wedge Nut**
   - Contains anti-rotation feature.

3. **Containment Pin**
   - Provides unlocking positive stop.
   - Provides anchor for wedge nut anti-rotation feature.

Operator Maintenance:
All KM Micro/KM Mini Clamping Units showing damage must be replaced or rebuilt.
Burrs and nicks should be removed by stoning and/or polishing.

- Use KM Micro/KM Mini Plugs to protect clamping units when they are not in use.

For KM Micro Plugs, see page A117.
For KM Mini Plugs, see page A186.

KM Micro/KM Mini Manual Clamping Repair Packages

KM size	catalog number	order number
KM12	KM12NRPKG	1925858
KM1612		
KM16	KM16NRPKG	1851801
KM2016		
KM20	KM2520NRPKG	3645148
KM2520		
KM25	KM25NAPKG	2386037
KM3225	KM3225NRPKG	2656552

KM Micro/KM Mini • Assembly/Disassembly Instructions

1. Apply GLEITMO™ 805 grease generously to threads, cones on torque screw and nut, and bump-off area (behind threads) of the torque screw. Also, apply grease generously to the female taper on the shank.
2. Screw the torque screw and the nut together.
3. Insert the torque screw and nut into the shank (as one unit) as shown in (Frame 1).
4. Install the containment screw as shown (Frame 2).
5. When initially clamping the KM Micro shank in a machine tool slot, it is recommended that a cutting unit be in the shank.
6. Disassembly is the reverse of assembly procedure.

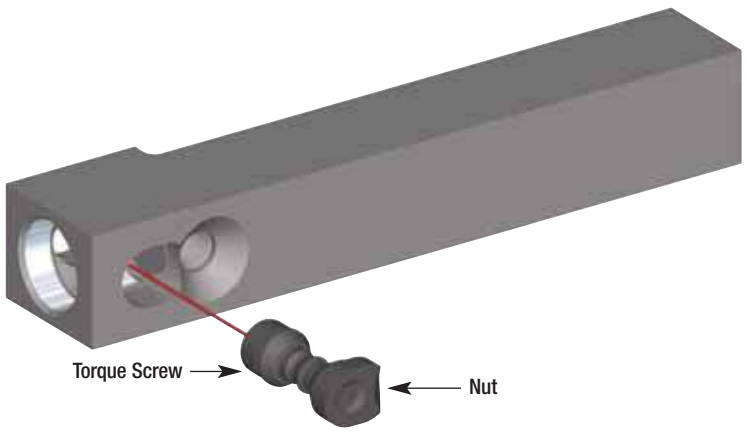
Tools Required

- Hex wrenches.
- Pliers.
- Kennametal recommends and uses GLEITMO™ 805.
- Clean towels or shop rags.
- Solvent or degreaser that does not leave residue (used to clean inside the taper and canister). Should the unit become contaminated, you can use a degreasing agent or something similar to clean the surfaces.

CAUTION
DO NOT USE silicone cleaner or WD-40™-type lubricants.

lubricant	order number	size
GLEITMO 805 grease	**1567575**	500g cartridge
GLEITMO 805 grease	**1567577**	1000g tin

Frame 1



(continued)

KM Micro/KM Mini • Assembly/Disassembly Instructions *(continued)*

Maintenance Schedule

Disassemble the shanks once a month and re-apply new grease. Grease should also be applied 1 or 2 times per week to the torquw screw, nut, and both tapers (internal and external) in the release position without the need to disassemble.

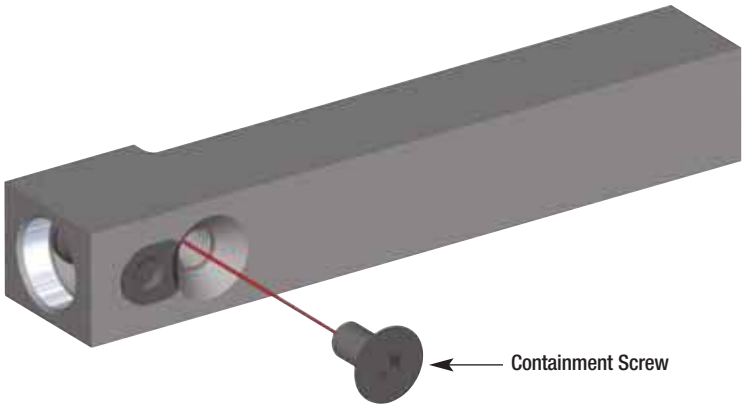
Before re-applying grease, shop air should be used to blow out oil coolant.

If contamination of the grease is evident, then the old grease should be immediately removed and the shank cleaned. Then new grease should be re-applied acording to procedure.

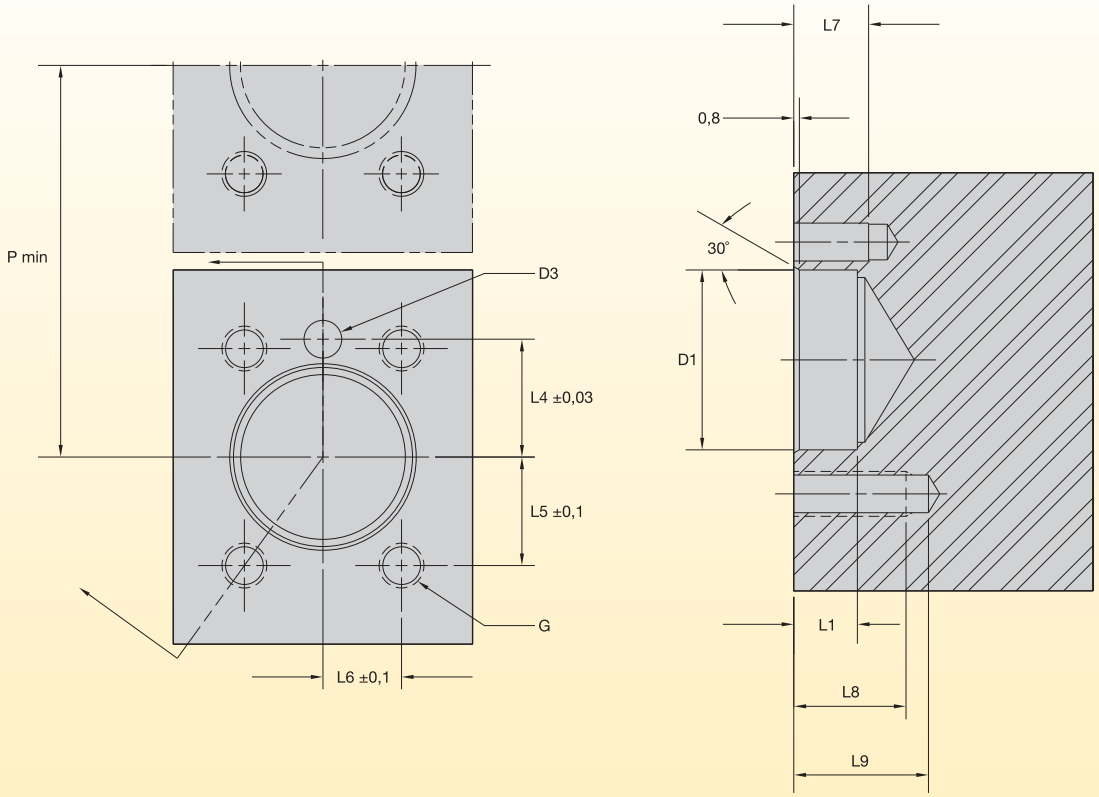
NOTE: Apply grease with a coarse bristle brush to prevent shedding of bristles.

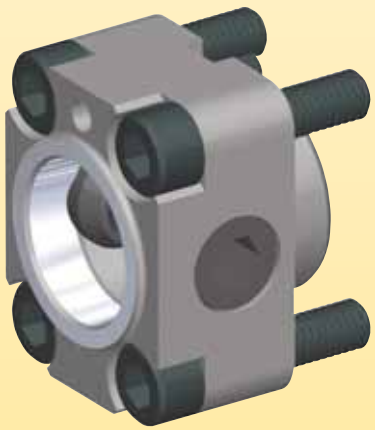
KM size	hex size
KM12	2,5mm
KM16	3mm
KM20	4mm
KM25	5mm

Frame 2



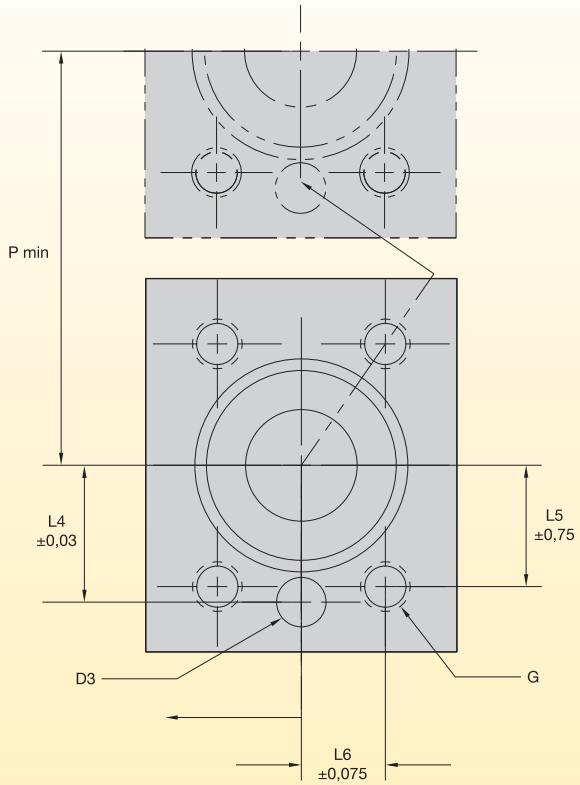
KM Micro/KM Mini NCM-SF

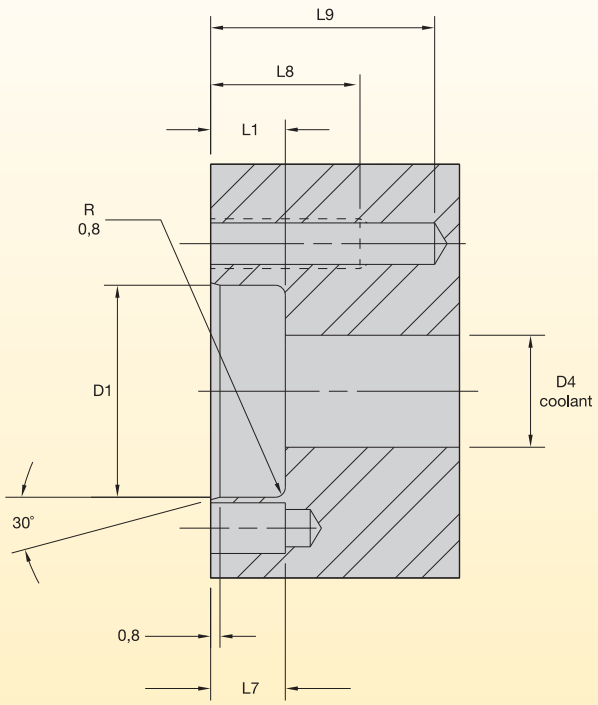


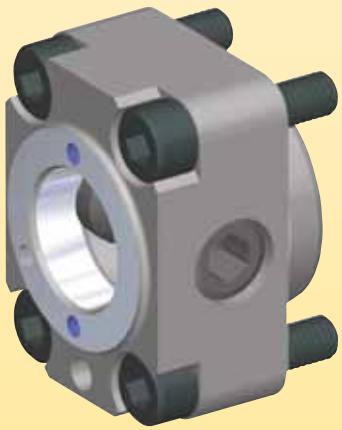


KM size	D1	D3	G	L1	L4	L5	L6	L7	L8	L9	P
KM12	10,025/ 10,050	4,064/ 4,077	M3	5,0	8,25	8,00	5,13	6	8	10,0	22
KM16	14,025/ 14,050	5,055 5,075	M4	6,5	10,75	10,25	6,00	10	12	15,0	28
KM20	18,025/ 18,050	5,055/ 5,075	M5	8,0	13,00	12,25	7,75	10	12	15,0	34
KM25	24,025/ 24,050	5,055/ 5,075	M6	8,5	15,75	14,50	10,50	10	15	18,0	40

KM Micro/KM Mini NCM-SF with Coolant

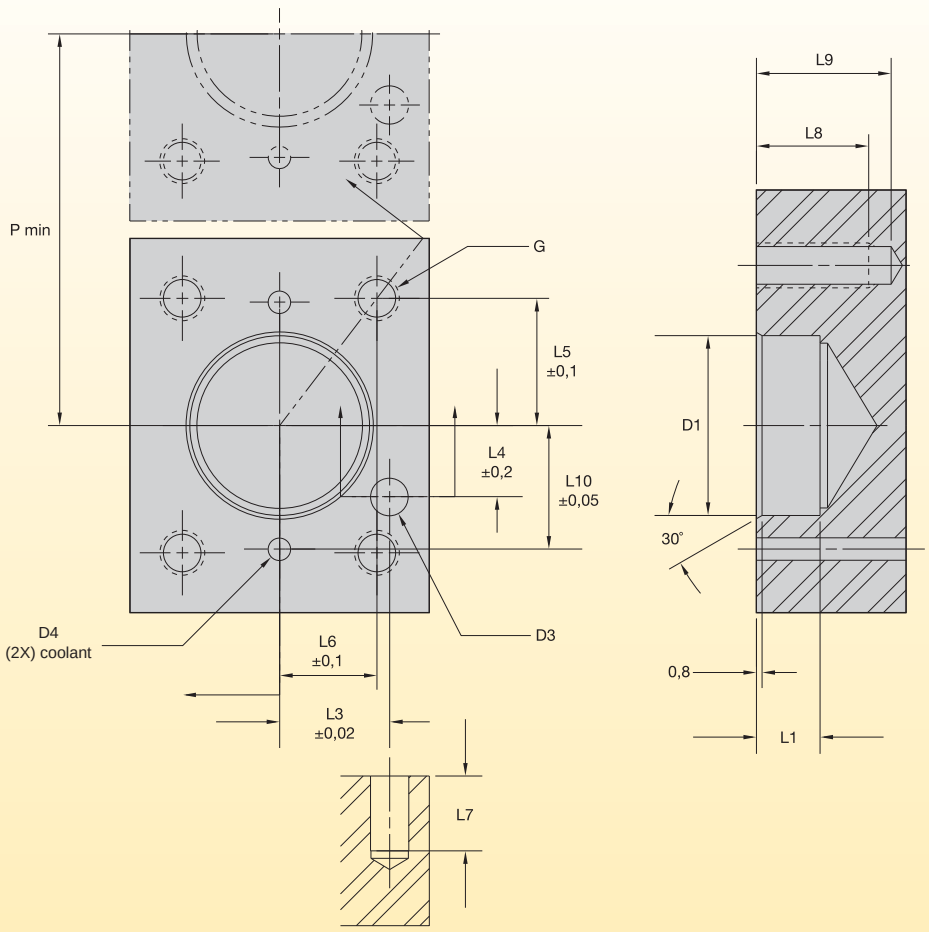


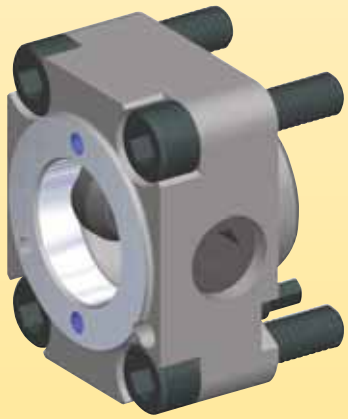




KM size	D1	D3	D4	G	L1	L4	L5	L6	L7	L8	L9	P
KM1612	17,025/ 17,050	4,060/ 4,080	6 - 12	M4	6	11,00	9,75	6,75	6	12	18	27,5
KM2016	20,025/ 20,050	5,055/ 5,075	6 - 16	M5	8	13,25	12,00	8,00	7	13	18	34,0
KM2520	26,025/ 26,050	5,055/ 5,075	6 - 22	24.5	8	16,15	14,50	10,00	10	12	18	39,0

KM Mini NCM-SF with Coolant





KM size	D1	D3	D4	G	L1	L3	L4	L5	L6	L7	L8	L9	L10	P
KM3225	24,025/ 24,050	5,106/ 5,126	3	M6	8,5	14,7	9,5	17	13	10	15	18	16,5	45



KM Micro™ Quick Change Tooling System

A smaller, more compact version of the internationally renowned KM™ system.

- Quick-change cutter heads reduce indexing and set-up times by 66%.
- Specially designed for use with automatic and smaller universal lathes.
- Unique flange attachment system increases machine tool capacity.
- KM Micro square shank adapters can be installed quickly and easily in existing tool block adapters.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

Balancing

Kennametal offers a range of balanced and balanced-by-design toolholders capable of extending spindle and tool life and improving part quality at higher machining speeds.



Definitions for Balance

Standard Toolholder

A toolholder that may contain uncorrected features (unbalanced drive slots, notches, locking screws, etc.). Standard toolholders have no compensating features added to correct balance, used in basic, low-speed applications.

Balanceable

A toolholder with a built-in mechanism that can adjust to correct any unbalance inaccuracies incurred during normal manufacturing. The fully assembled tool (toolholder and cutting tool) can be balanced as a system using a balancing device.

Balanced-by-Design

A toolholder designed with compensating features to correct any unbalance caused by uneven drive slots, notches, locking screws, etc. The balanced toolholder is capable of being used in high-speed applications. Small, residual unbalance may result due to normal manufacturing tolerances within the shank standards.

Balanced

A toolholder has been balanced to predetermined specification after manufacture by checking the balance condition with a balancing device. This may be followed by physically removing material from the toolholder, such as holes and/or slots.

When machining at higher speeds, responsible machining practices must be observed. Unbalance is caused by uneven mass distribution in the tool or toolholder. Potential sources of unbalance are movable parts (adjustable cartridges, set screws, spindle spring pack, and clamping mechanisms), manufacturing tolerances, and design.

Forces caused by unbalance increase with the rotational speed squared. Excessive unbalance can cause premature wear to the tool and spindle bearing, which can adversely affect surface finish and accuracy.

(continued)

Balancing *(continued)*

The balance quality is usually specified by the balance grade G, according to ISO 1940-1 and ANSI S2.19 standards.

The balance quality grade (G) was derived from practical experience, which is expressed in millimeters per second (mm/s) and ranges from 0,16–4000. For rotating tooling and general machinery parts, it is usually specified to be G 2.5 or G 6.3. A lower number designates better balance quality.

The permissible residual unbalance can be calculated by the following equation:

$$U_{per} = \frac{9549 \times G \times M}{n}$$

Where:

- U_{per} = permissible unbalance, expressed in gram millimeters (gmm)
- **G** = desired balance grade
- **M** = rotor mass in kilograms (kg)
- **n** = operating speed in rotations per minute (RPM)

Example:

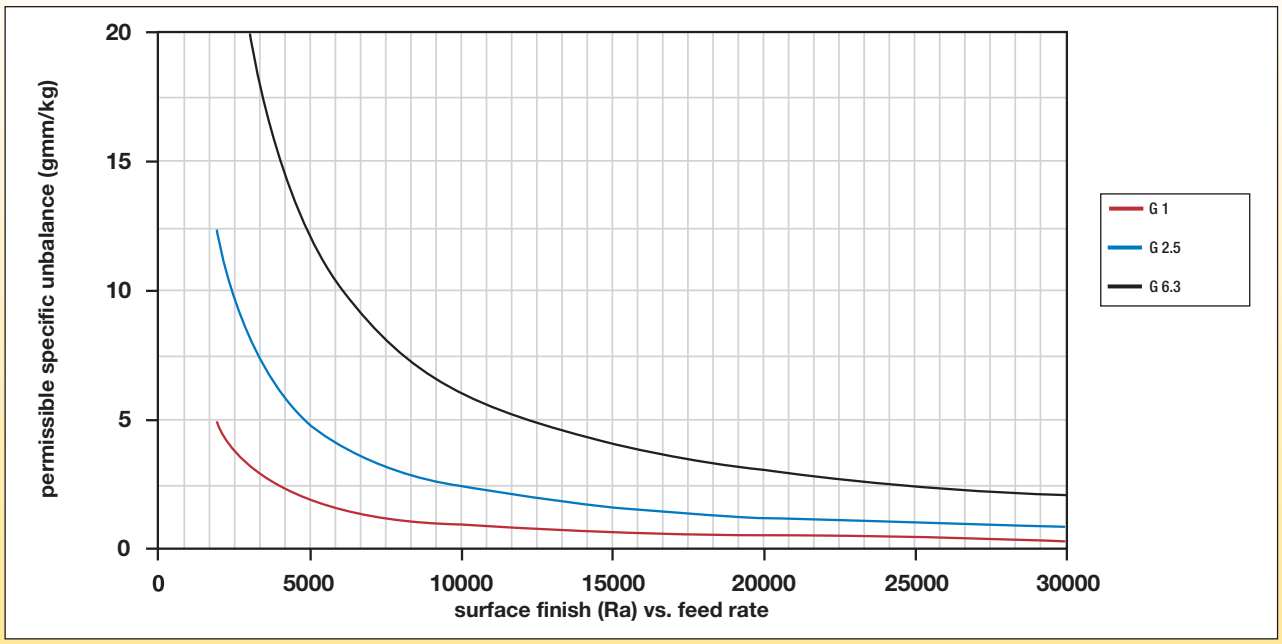
- **Rotor mass** = 2 kg
- **n** = 10,000 RPM
- **Desired balancing grade** = G 6.3

$$U_{per} = \frac{9549 \times 6.3 \times 2}{10{,}000} = 12 \text{ gmm}$$

The same value can be obtained from the chart on the following page. It gives the permissible specific unbalance in gram millimeters (gmm) as a function of the rotational speed and the balance quality (G). For the example above, at 10,000 RPM and for grade G 6.3, the maximum residual unbalance would be 6 gmm/kg. The toolholder assembly (including the tool) has a mass equal to 2 kg, the permissible unbalance is [(6 gmm/kg) x 2 kg], which equals 12 gmm.

(continued)

Balancing *(continued)*



From the approach described in ISO 1940-1, the requirements for maximum residual unbalance become very strict as speed increases. For example, a G 2.5 balancing grade can become unpractical at 25,000 RPM for a tool with a mass of 1 kg. The chart shows that the maximum residual unbalance would be 1 gmm, which could be very time consuming to be achieved or even beyond the accuracy of the balancing machine.

Comparing the cutting forces can provide a reference for the balancing requirements. Generally, finishing operations generate lower cutting forces and require a better balance quality. Though rotating components should always be balanced, in most cases it is sufficient to keep the unbalance forces to 5–10% of the cutting forces.

(continued)

Balancing *(continued)*

The permissible residual unbalance can be calculated by the following equation:

$$F = U \times (n/9{,}549)^2 \text{ (Newtons)}$$

Where:

U = unbalance in gram millimeters (gmm)

N = rotational speed (RPM)

In this particular case, the unbalanced induced force would be F = 1 x (25,000/9,549)2 = 6,9 N. The cutting forces generated are likely to be orders of magnitude greater than that.

Good balancing quality does not necessarily guarantee safe operation at higher speeds. Other variables (spindle connection, type of operation, cutting parameters, machine stiffness, bearing condition, etc.) should always be considered.

Unbalance can be corrected by material removal (drilling, milling, grinding), material addition (set screws), and material redistribution (balancing rings or set screws).

For a given unbalance, the following formula can be used to determine the hole depth (L) necessary to correct for the unbalance*:

* Formula for steel components only.

$$L = \frac{D - \sqrt{D^2 - U \times 1300/d^2}}{2}$$

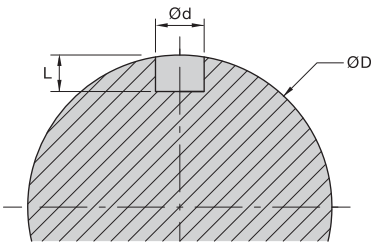
Where:

U = unbalance (gmm)

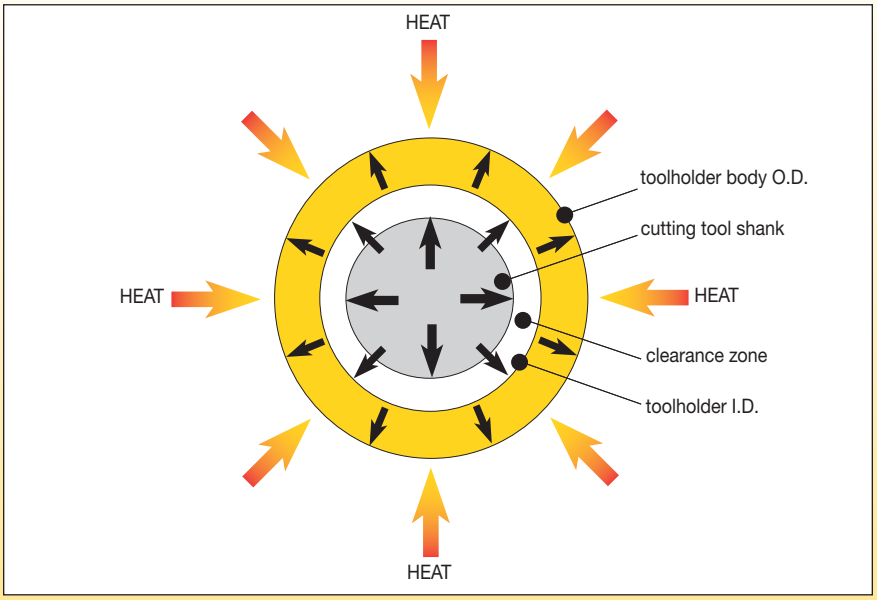
D = diameter of placement (mm)

d = hole diameter (flat bottom) (mm)

L = hole depth (mm)



Shrink Fit



The Concept

Heat shrinking is not a new process in the machine tool industry. However, the concept was only recently implemented as a quick-change toolholding mechanism for clamping cylindrical cutting tools for high-speed machining applications.

The Shrink Fit process begins by applying a quick and precise heat to the holding end of a toolholder. This causes the internal bore, which is slightly smaller than the shank of a cutting tool, to expand, allowing a tool to be inserted. As the toolholder cools, the bore shrinks to create 360° of uniform pressure along the entire length of the bore, resulting in an evenly distributed clamping force that mechanical toolholding cannot beat.

Due to the design, flatted-style, Weldon®, and Whistle Notch™ cutting tool shanks can employ Shrink Fit technology. To gain full benefits of the technology, fully cylindrical tool shanks are recommended. As long as the heating processes are kept within the elastic range of the toolholder material, this clamping operation can be repeated for several thousand cycles.

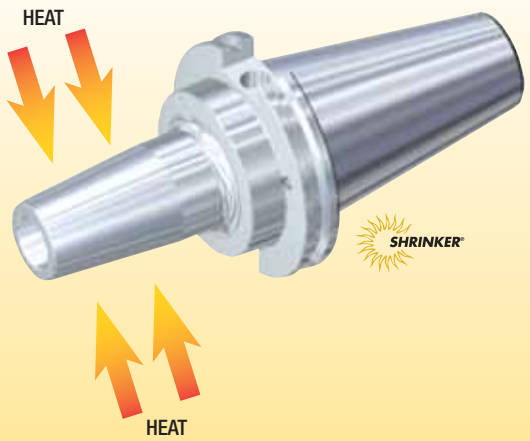
Shrink Fit Tooling Advantages:

- Low runout — cutting tools are gripped 360° along the entire length of the cutting tool shank for an evenly distributed clamping force.
- Clamping forces are greater than collets or hydraulic chucks.
- During testing, tool material properties break down and shear before slippage occurs.
- Slim and short toolholder profile designs are achievable because no moving parts are used.
- Well suited for high-speed operations because their symmetry provides the best possible balance.
- Sealing stop screws are not required — designed interference between the cutting tool and toolholder forms a seal that enables coolant to flow only through designated passages.

These advantages enable Shrink Fit technology to work at greater speeds and feeds, produce better finishes, deliver increased tool and spindle life, and generate more productivity.

Heat-Activating Systems

Shorter cycle time, less cooling downtime, localized heating, and integrated cooling systems are essential for a safe and simple heating system. Shrink Fit heating systems include induction, hot-air, and open-flame methods, with induction being the easiest and fastest of these systems.



Toolholders

- Slim design.
- Balanced.
- Flatted-style, Weldon®, and Whistle Notch™ shanks can be gripped. Optimal results are obtained with smooth, cylindrical shank cutting tools — without flats and/or notches.
- Avoid using carbide tools with polished shanks. This will reduce torque values by 60%.



HT (High Torque) Shrink Fit Toolholders

HT Shrink Fit holders have a high interference level that offers 30–50% greater torque than competitive systems. This line is only to be used with carbide tools because of their low thermal expansion coefficient. These toolholders require a machine with at least 10 kW of power to apply heat quick enough to avoid heating the tool.

GP (General Purpose) Shrink Fit Toolholders

GP toolholders enable the use of all materials and extensions because they have lower interference levels. Operators should use this style if not generating high cutting forces.

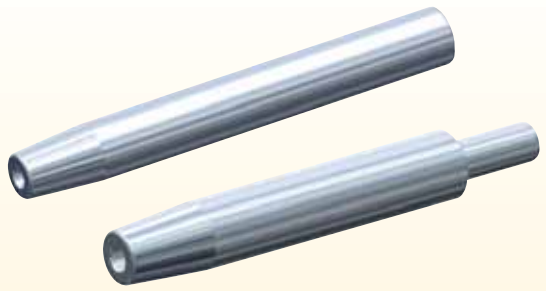
Ideal Surface Quality

- Metric (ISO standard) Ra ≥0,8 µm surface finish.
- Inch (industry standard) Ra ≥32 µin surface finish.

(continued)

Shrink Fit *(continued)*

Straight shank toolholder extensions are a great complement to the Shrink Fit system. Use caution and do not overheat Slim Line products. Overheating can cause warping or other permanent damage. Toolholder life drastically reduces if activating heat is not properly controlled.



Cutting Tool Requirements

metric (ISO standard)

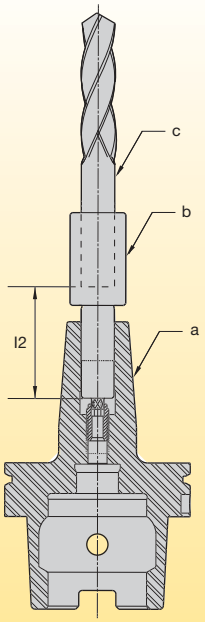
cutting tool shank diameters			tolerance	
3mm	2,997	3,000	h4	0.000/-0.003
4mm	3,996	4,000		0.000/-0.004
5mm	4,995	5,000	h5	0.000/-0.005
6mm	5,992	6,000	h6	0.000/-0.008
8mm	7,991	8,000		0.000/-0.009
10mm	9,991	10,000		0.000/-0.009
12mm	11,989	12,000		0.000/-0.011
14mm	13,989	14,000		0.000/-0.011
16mm	15,989	16,000		0.000/-0.011
18mm	17,989	18,000		0.000/-0.011
20mm	19,987	20,000		0.000/-0.013
25mm	24,987	25,000		0.000/-0.013
32mm	31,984	32,000		0.000/-0.016
40mm	39,984	40,000		0.000/-0.016
50mm	49,984	50,000		0.000/-0.003

inch (industry standard)

cutting tool shank diameters			tolerance
1/8	.1249	.1247	-0.0001/-0.0003
3/16	.1874	.1872	-0.0001/-0.0003
1/4	.2499	.2496	-0.0001/-0.0004
5/16	.3124	.3121	-0.0001/-0.0004
3/8	.3749	.3746	-0.0001/-0.0004
7/16	.4375	.4371	0.0000/-0.0004
1/2	.5000	.4996	0.0000/-0.0004
9/16	.5625	.5621	0.0000/-0.0004
5/8	.6250	.6246	0.0000/-0.0004
11/16	.6875	.6871	0.0000/-0.0004
3/4	.7500	.7495	0.0000/-0.0005
7/8	.8750	.8745	0.0000/-0.0005
1	1.0000	.9995	0.0000/-0.0005
1-1/4	1.2500	1.2495	0.0000/-0.0005
1-1/2	1.5000	1.4995	0.0000/-0.0005
2	2.0000	1.9995	0.0000/-0.0005

Axial Adjustment Gages

Cutting tool length adjustment is performed using a special axial adjusting gage (b) before shrinking the cutting tool into the toolholder. This gage **(b)** is placed on the toolholder **(a)** along with the cutting tool **(c)**. The length difference of the setting gage **(l2)** is calculated into the required tool assembly length. The whole assembly can then be placed into a length presetter for adjustment. Rotating the gage moves the axial stop screw and presets the assembled tool to the required length. After removing the gage, the cutting tool can then be shrunk into the toolholder.





SAFE-LOCK™



SAFE-LOCK™ is a pull-out protection system for high-performance machining, in particular for heavy-duty cutting. This is achieved by helical grooves that are ground into the tool shank. These, together with the respective pin drivers in a shrink fit holder, prevent the tool from being pulled out, even during extreme machining conditions.

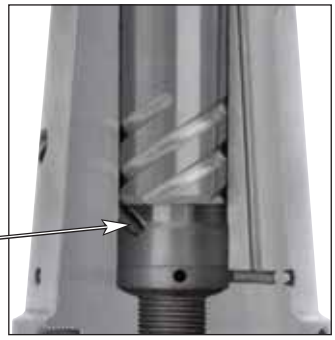
By locking the cutting tool in the holder, this pull-out security ensures optimum process reliability in conjuction with shrink fit runout accuracies and rigidity for longer tool life and maintains higher productivity and part accuracies for our customers.

SAFE-λOCK™
by HAIMER



SAFE-LOCK™ Spiral grooves ground in cutting tool shank





SAFE-LOCK™ feature in the chuck



High-Performance Milling Chucks

- Heavy- and fine-milling capabilities.
- Prebalanced G6.3 @ 20,000 RPM — six threaded M6 holes to accept set screws for fine balancing.
- Heavy milling — tighten locknut until O-ring on back face of locknut just touches the flange on the chuck body to achieve runout .0004" 3 x D1.
- Fine milling — tighten as above, then back the locknut off 1/8–1/4 turn to achieve runout .0002" 3 x D1.
- Sub-zero heat treatment for material stability.
- Through-the-toolholder coolant capability using stop screw as sealing device.
- 3/8" axial adjustment stop screw.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

Standard Styles

Kennametal hydraulic chucks provide optimum performance for clamping full-cylindrical straight shanks, such as solid carbide drills and end mills. Activation of the chuck is achieved by turning the piston screw, which pressurizes the hydraulic fluid and exerts force on a thin-walled membrane along the length of the clamping bore. This highly concentric clamping force not only holds the tool shank more securely, but also produces a dampening effect that reduces vibration and helps eliminate microcracking on cutting edges.

A safety stop prevents chuck damage caused by over-tightening either with or without the cutting tool in place. Another unique feature is the special spiral wiper groove in the chuck's clamping bore that securely grips oily tool shanks. All Kennametal hydraulic chucks utilize a range of sealed, cutting-tool-reducing sleeves to maximize chuck versatility. Reducing sleeves can also be used for converting bores from inch to metric and vice versa.



Slim Line

Slim Line hydraulic chucks have a sophisticated shape for universal application and maximum precision. After the chucking process, safety is guaranteed if a minimum clamping force or a transmittable torque (determined according to the clamping diameter) is reached. This is achieved through the clamping screw operation and the stroke of the clamping piston that force the hydraulic oil into the thin-walled expansion chamber with high pressure.



Standard/HP Line

Our proven Standard Line hydraulic chucks have an external adjustment screw for radial alteration up to 3/8" of the cutting-tool length. This feature eliminates the need to remove the cutting tool or retention knob to make fine adjustments. Standard Line chucks are prebalanced and can also be used with SEFAS™ chamfering rings. Please see the toolholder sections of this catalog for information regarding balancing quality.



Trend Line

New Trend Line hydraulic chucks offer maximum precision at an attractive price. This system provides the same accuracy specifications as the Standard Line except with an axial back-up screw through the chuck bore to achieve the 3/8" radial adjustment of the cutting tool length. SEFAS chamfering rings also can be used with our Trend Line chucks.



Basic Line

Basic Line hydraulic chucks have a high-quality runout specification of .0001. These chucks are balanced-by-design for speeds up to 10,000 RPM. Like the Trend Line, Basic Line chucks utilize an axial back-up screw through the chuck bore to achieve a 3/8" radial adjustment. Larger body diameters give this chuck a higher torque transmission (grip) of 220 ft. lbs. Please note that the standard SEFAS chamfering ring cannot be used in this chuck design.

*To learn more, **scan here**.*
For instructions on how to scan, please see page xxxiii.

General Design

Function

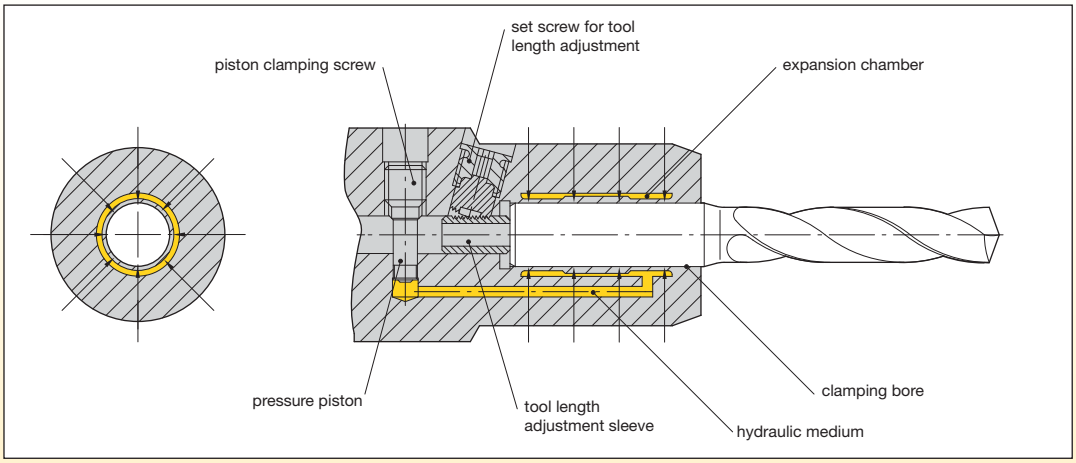
Tightening the piston clamping screw exerts force on the pressure piston, which presses the hydraulic fluid, exerting force on the thin-walled expansion sleeve. This pressure causes the sleeve to compress around the tool shank, creating a highly concentric clamping force.

Effect

The hydraulic clamping system has a dampening effect. Vibration in a mechanical clamping system can cause microcracking on insert cutting edges. This is prevented by the hydraulic expansion chuck and results in higher production quality and up to 4x better tool life.

Accuracy

The accuracy shown is based on a round shank (no flats) with h6 tolerance and no reducing sleeve.



Features

- Turning the external set screw adjusts axial tool length. There is no need to remove the cutting tool or coolant supply unit for standard designs.
- Maintained contact with the tool-length adjusting sleeve ensures that the tool is safely held. 10mm of adjustment is provided.
- A sealed bore and a large hole through the tool-length adjusting screw enable maximum coolant to flow through coolant-fed cutting tools.
- A uniquely designed piston clamping screw prevents damage from overtightening and accidentally actuating the hydraulic mechanism without a tool in the chuck.
- High-performance balanced chucks can be converted to balanceable chucks by adding a set of Kennametal balance rings that compensate for cutter imbalance and optimize performance.
- Wiper grooves inside the bore safely grip oily shanks, sealing the bore to eliminate contamination from chips, dirt, or coolant.
- SEFAS™ chamfering rings can be added to chucks, reducing the need for step drills and secondary chamfering operations.
- A wide assortment of reducer sleeves are available to increase the application range of hydraulic chucks. When using a bushing, the runout could be up to twice as high as the example shown.

(continued)

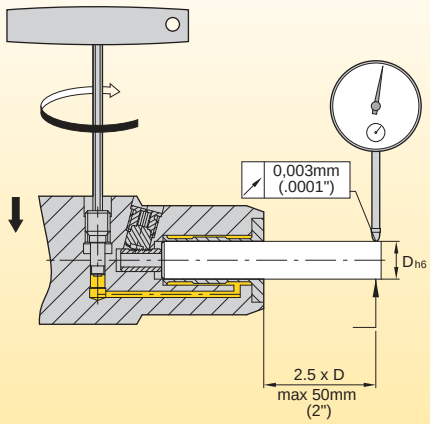
General Design *(continued)*

≤3µm

Application

Hydraulic expansion chucks work best when clamping these style shanks:

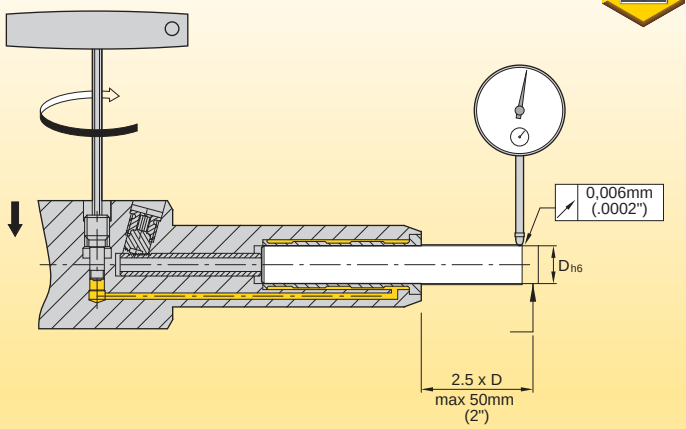
- Shanks to DIN-6535 — forms HA, HB, and HE.
- Shanks to DIN-1835 — forms A and B (with shank tolerance h6 and Ra minimum of 0,3 µm).
- Forms HA and A — plain cylindrical shank, 6–32mm diameter.
- Forms HB and B — Whistle Notch™ shank, 6–20mm maximum diameter.
- Form HE — Whistle Notch shank, 6–20mm maximum diameter. (Kennametal suggests the use of a reducer collet).
- Inch straight shanks:
  - 1/4–5/8" (.0004 under nominal diameter maximum).
  - 3/4–1-1/4" (.0005 under nominal diameter maximum).



Slim Line Design

≤6µm

Weldon® shanks with a maximum diameter of 20mm (3/4") can be gripped without reducer collets. However, Kennametal recommends using reducer collets for all flatted shanks. Highest accuracy is obtained with plain, cylindrical shanks.



Using a sleeve gives higher grip torque:

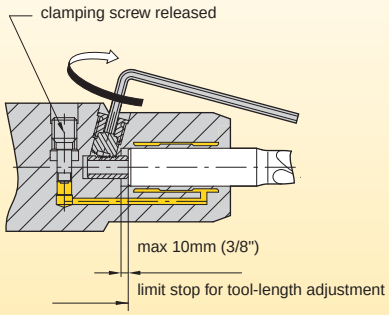
Formula: $\frac{\text{sleeve bore}}{\text{chuck bore}} \times \text{chuck torque} = \text{assembled torque}$

Example: $\frac{\text{12mm (sleeve bore)}}{\text{20mm (chuck bore)}} \times 220\ \text{Nm} = 132\ \text{Nm}$

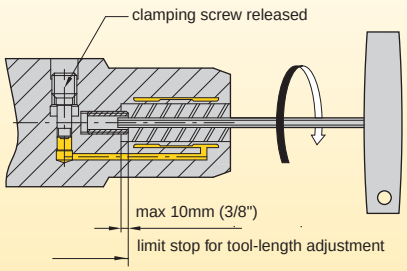
While chart shows for a 12mm Hydraulic Chuck = 70 Nm approx.
2x grip advantage

Setting Up New Hydraulic Chucks

Length adjustment for:
Standard/HP Line and Slim/Standard Line



Length adjustment for:
Trend Line, Basic Line, and Slim/Trend Line

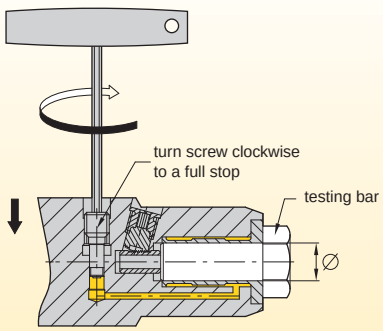


1. Remove all grease from the hydraulic chuck before using.
2. Insert the cutting tool into the clamping bore as far as the stop pin/stop screw will allow.
3. Adjust the cutting tool length with a hex wrench.
4. Always tighten the clamping screw with a hex wrench as far as the limit stop by hand tightening. Never try to adjust the stop pin when the hydraulic chuck is in the clamped position.
5. The tool is now clamped and ready for use.

Maintenance

Kennametal hydraulic chucks are maintenance-free and deliver long service life. It is important that the clamping function be checked with a test pin on a regular basis. Any dirt in the bore can be removed with a nylon cleaning brush.

- The clamping function can be tested quickly and easily using the test pin.
- Insert the test pin into the clamping bore as far as the stop pin/stop screw allow.
- Tighten the clamping screw with a hex wrench as far as the limit stop by hand tightening.
- The chuck is functioning correctly if the test pin cannot be moved by normal hand pressure.



Reducing sleeves are available; see page J4.



Cleaning brushes are available; see page L15.



Test pins are available; see page L14.



IMPORTANT
Never tamper with the oil-loading orifice (sealed with a cap) as this could destroy the clamping ability of the hydraulic chuck and require it to be sent to Kennametal for service.

In the event of small tool crashes or misuse of the chuck, please contact your local Kennametal Service and Repair Department to have your Kennametal hydraulic chuck serviced or repaired by qualified Kennametal service technicians.

The HPMC (High-Performance Milling Chuck) System

Application

The HPMC System is ideal for holding round shank cutting tools and extensions on various applications because it offers greater versatility. This makes it an excellent choice for end mills, reamers, indexable cutters, drills, straight shank extensions, and boring systems. The HPMC System, with its powerful gripping torque, provides the maximum performance for tough roughing and high metal removal applications, as well as delivering first-rate accuracy for finishing applications — all with the same chuck.

These toolholders are through-coolant capable with the use of supplied backup screws. Threaded holes in the chucks accept set screws for fine balancing, and reducing sleeves allow the same holder to be converted for smaller gripping sizes.



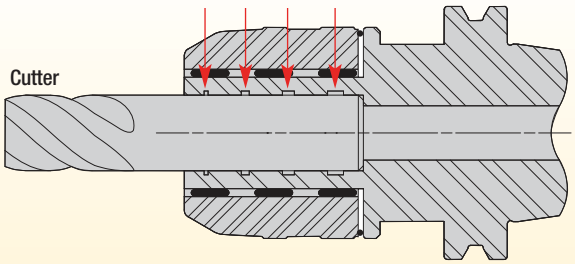
Design

The HPMC System is comprised of an inner chuck body, a needle roller bearing assembly, and a thick-walled outer locknut. The inner chuck body, with radial and axial grooves at the inside bore, acts as a master collet by compressing around the cutting tool, exerting a very strong grip. The chuck bore is compressed by roller bearings as they track up a taper of approximately 4°. The roller bearings are held in a retainer (four per window to maximize contact) at an angle slightly skewed from that of the chuck taper angle. The locknut bearing retainer's wall thickness is greater than that of the chuck body nose. Therefore, as the locknut is rotated clockwise, the roller bearings track in a helical movement, gradually climbing the shallow taper.

There are no threads in the HPMC System. As the two tapers are forced together, a tremendously high, uniform force is created. This squeezes the chuck body inward, conforming it to the cutting tool shank. Radial grooves assist the internal diameter by evenly collapsing inward, which improves gripping torque, accuracy, and prevents fretting. Force continues to be applied until the locknut's back face bottoms out on the chuck's body face. This is the maximum gripping torque position. Oil residue left on cutting tool shanks can cause slippage, but axial grooves minimize this by draining contaminants.

Shallow contact angles produce a self-locking effect, so the chuck will not release during operation. Because of this strong grip, no torque wrench is required. Also, the high gripping force of the HPMC enhances its ability to transmit energy to the machine tool, so vibration, deflection, and runout are minimized. The cutting tool shank offers an advantage over collet chucks because there is no axial drawback as the locknut is tightened.

A single toolholder provides 5–10% more gripping torque for heavy milling, and the same chuck is versatile enough to do finishing work, too.



To get the maximum accuracy out of the HPMC System, tighten the locknut to the face stop and then back off half a turn. As this is done, be sure the O-ring on the back face of the locknut stays in contact with the chuck face.

Stop screws are included with all HPMC Systems for length adjustment or coolant feed. These screws are designed with a cone face and reversible flat face and an O-ring for coolant sealing options.

HPMC Systems are subjected to sub-zero treatment to stabilize the material and prevent pitting on the bearing contact surface. This helps to ensure long, worry-free tool life.

(continued)

The HPMC (High-Performance Milling Chuck) System *(continued)*

Cutting Tool Requirements

The outside diameter of the cutting tool shank and the inside diameter of the HPMC System must be wiped with a clean dry cloth before assembly. Any contamination will increase runout and reduce gripping force.

Carefully monitor the cutting tools used in these chucks so they do not exceed h6 (nominal to -.0005") on the shank diameter. Use tools as close to nominal as possible. Cutting tool shank roundness should be within 0,003mm (.0001"). Undersized tools cause excessive stress and may cause chuck failure.

Optimal chuck performance is attained when the cutting tool shank is round, without flats. Cutting tools with small flats may be held, but they will increase runout. Whistle and flatted cutting tool shanks are recommended in conjunction with reducing sleeves. For best performance, keep shank flats to a minimum.

The minimum length of engagement is 2x the diameter of the cutting tool shank. Short holding length may cause the tool and/or chuck to break. This could dislodge the cutting tool and result in serious injury to the operator.

The milling chuck should never be tightened without a cutting tool inside the bore. High gripping forces will cause permanent deformation to the inside diameter.

Maintenance Operations

Greasing the needle bearing is the only required maintenance. Follow the procedure below to ensure maintenance is properly performed:

1. Tighten the locknut clockwise to obtain clearance from the retaining ring.
2. Remove the retaining ring from the chuck.
3. Unlock the locknut counterclockwise, and lift the nut assembly from the chuck.
4. Wipe off old grease from the milling chuck and all other components.
5. Recoat the needle bearings in the locknut liberally with a quality, water-resistant grease.
6. Regrease the outside diameter of the milling chuck where the locknut is housed.
7. Reinstall the locknut on the milling chuck body and tighten to gain clearance for reinserting the retaining ring.
8. Tighten and loosen the locknut several times. Recheck the retaining ring for correct fitting.
9. Wipe away any excess grease.

Please contact the Kennametal Service and Repair Department to have your Kennametal products serviced or repaired by qualified Kennametal service technicians.

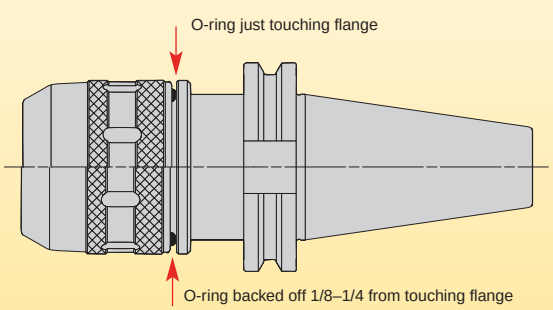
Setting the Accuracy of the Milling Chuck

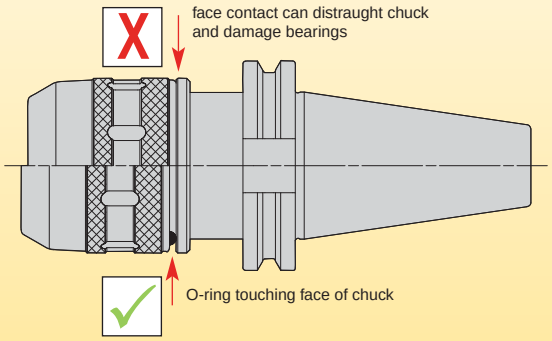
Heavy Milling

- Tighten the locknut all the way down with a milling chuck wrench until the O-ring on the locknut just touches the flange of the milling chuck body (O-ring should not be compressed).
- Accuracy 10–20 µm (.0004–.0008") at 3x diameter up to 50mm (2").

Finish Cut

- Back the locknut off 1/8–1/4 of a turn from above position.
- Best accuracy — 5 µm (.0002") at 3x diameter up to 50mm (2").





CAUTION
DO NOT over tighten the milling chuck without a tool shank inserted. This may cause serious damage to the milling chuck or loss of performance.

Tunable Tooling System (TTS)



Overview

When machining with extended length setups, undesirable regenerative vibrations (chatter) can arise, causing poor surface finish, dimensional control issues, and tool breakage. To avoid chatter, machine operators are generally forced to reduce cutting parameters, which decreases metal removal rates and diminishes productivity.

Cutting force fluctuates when chip thickness varies. This is caused by waves left on the workpiece from the previous pass. These waves may create chatter when the cutting tool and workpiece interact. Continued chatter can further produce variation in cutting force, leading to more vibration. If not addressed, the amplitude of vibration may eventually reach levels that cause the tool to bounce out of the workpiece or even result in catastrophic failure.

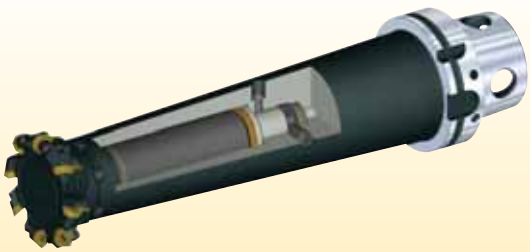
This problem can be approached in many different ways. Chatter can be avoided by drastically reducing cutting speeds to increase process damping (friction between flank face and workpiece), which dissipates energy to reduce vibrations. Another approach utilizes milling cutters that have inserts with differential spacing. This minimizes the regenerative effect by creating a disturbance on the wave pattern left on the workpiece. However, this approach provides limited success as chip loads are no longer evenly distributed over the cutting edges and may require the feed rate to be restricted. Also, because the spacing is not even, the surface quality could be negatively affected.

The problem with these solutions is that they do not allow high metal removal rates to be maintained. To uphold high rates, the dynamic stiffness of the system must be increased. Dynamic stiffness is proportional to the product of static stiffness and damping ratio. Static stiffness can be increased through using shorter setups or larger toolholder diameters. Materials with a higher modulus of elasticity can also increase static stiffness.

The Kennametal Tunable Tooling System (TTS) provides a means for maximizing the dynamic stiffness of boring bars and milling adapters by suppressing vibrations with a passive dynamic absorber. TTS is designed with an internal mass that vibrates close to the natural frequency of the most dominant vibration mode in the system. The motion of the internal mass will dissipate energy and prevent chatter. The overall result depends on a machine's dynamic characteristics* and the rigidity of the connection between tool and machine tool. Manufacturing tolerances, preload, and wear may change the dynamic response of a machine and adversely affect overall results.

*Machines from same builder and model are not dynamically identical.

While passive dampening improves the dynamic stiffness of an extended reach tool, the damping mechanism will not perform the same with every machine. Not only does the natural frequency of the tool affect its dynamic stiffness, frequencies inherent to the machine do as well. Because machine tools have their own dynamic signature, a tool that is tuned on one machine may not be tuned on another. Unlike other products on the market that are pretuned, Kennametal tunable boring bars and milling adapters are tunable. They allow users to adjust the passive damper, optimally tuning the tool for a specific machine or setup. This enables extended reach tooling to be retuned to match a machine's dynamic signature, even as it changes over time. A key benefit of Kennametal's tunable boring bars and milling adapters is that they can be optimally tuned for any given setup. While Kennametal standard tunable products come pretuned from the factory, it may be beneficial to further optimize them once installed.

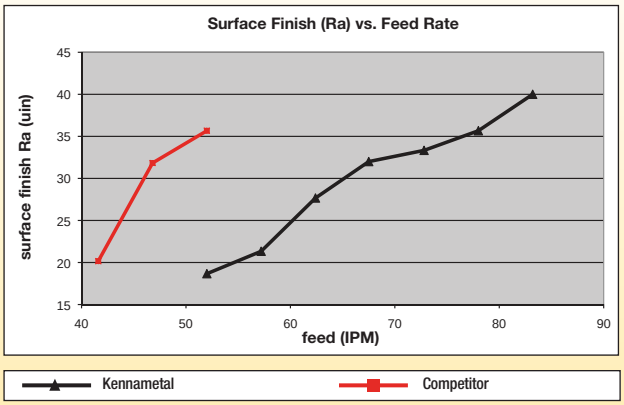


(continued)

Tunable Tooling System (TTS) *(continued)*

With the Kennametal TTS System, longer L:D ratio toolholders can be used for larger DOC, better surface finishes, and longer tool life. When TTS is applied to milling adapters, using greater insert density on milling cutters or increasing ADOC or WOC enables higher MRR. Better surface finishes and tool life can also be expected from these adjustments.

The benefits of using Kennametal's Tunable Systems go beyond increased metal removal rates. In metalcutting tests, a good correlation between dynamic stiffness and vibration levels were measured at the spindle. Vibrations can not only cause premature tool life, but also limit spindle bearing life. Preventing vibration from propagating through the machine promotes longer life for spindle-related components and maintains machine accuracy over time.



Surface finish measurements comparing a pretuned milling adapter from a competitor and a Kennametal's optimally tuned adapter on the spindle. An increase of up to 50% in feed rate for similar surface finish values can be noticed.

Dynamic Stiffness

Figure 1 shows the relative dynamic stiffness of a tunable boring bar as a function of adjusting screw tightness — loose to tightened (left to right).

The chart shows that for the given bar, optimal tuning occurs at about 70% or when the relative performance equals 1.

It is also important to note that performance decreases more severely when the tool is over-tuned, compared to when it is under-tuned. For this reason, it is best to slightly under-tune the system.

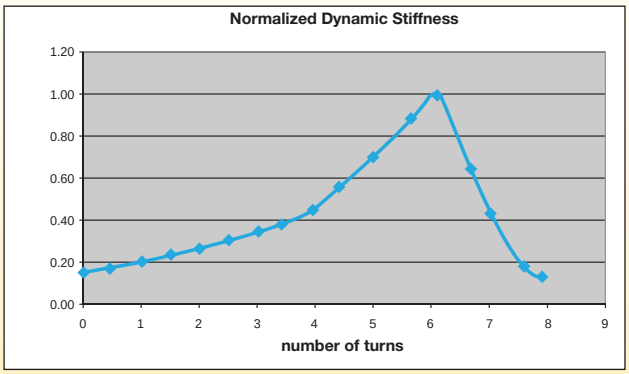
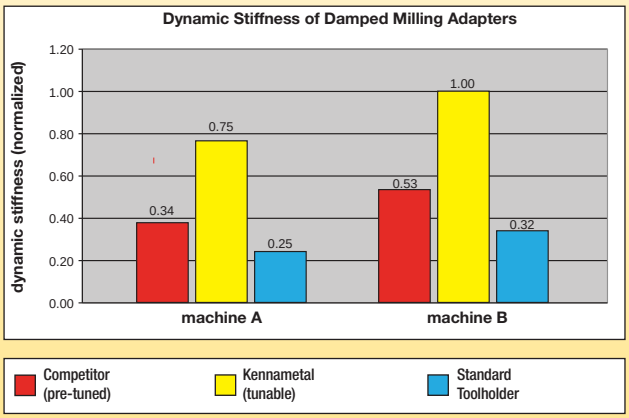


Fig. 1



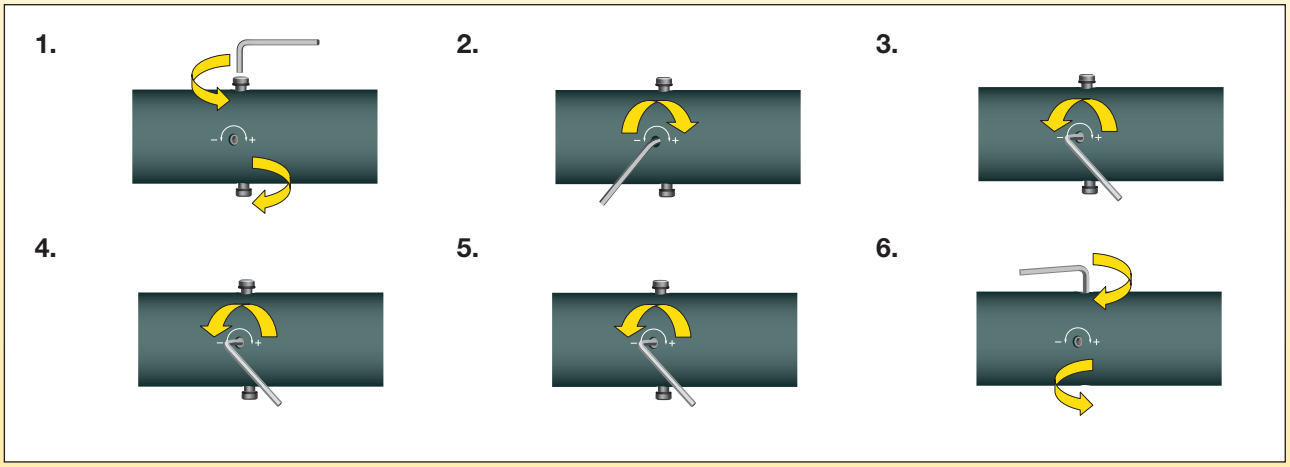
Technical Information

Tunable Milling Adapters

The Kennametal Tuned Tooling System offers a full line of tunable milling adapters capable of performing at maximum output without the hindrance of vibration. Tunable milling adapters are through-coolant capable, and, because the internal damper can be adjusted to alleviate chatter, they provide optimum surface finish and longer tool life.

General Guidelines for Milling with Extended Reach Adapters

1. Loosen both clamping screws.
2. Turn the adjusting screw in the positive direction until it becomes snug. The adjusting screw becomes snug when it locks the tuner mass.
3. Turn the screw one complete turn in the negative direction and take a test cut.
4. Repeat Step 3 until good surface finish is achieved. You may need to use small increments to find an optimal position.
5. Back the adjusting screw off a 1/4–1/2 turn in the negative direction.
6. Tighten both clamping screws and take a test cut to confirm desired results.



*The TTS Milling Adapters will need to be re-tuned if the milling cutter is replaced with another with different mass.

Tunable Boring Bars

The Kennametal complete portfolio of Tunable Boring Bars helps prevent chatter and other problems associated with an internal dampening package designed for deep-hole boring applications.

Advantages

Optimal Rigidity

Eliminates vibration to improve surface quality and tolerance.

Increased Productivity

Larger depth of cut and better chip removal by up to 10:1 (steel) and 15:1 (carbide) length-to-diameter ratio.

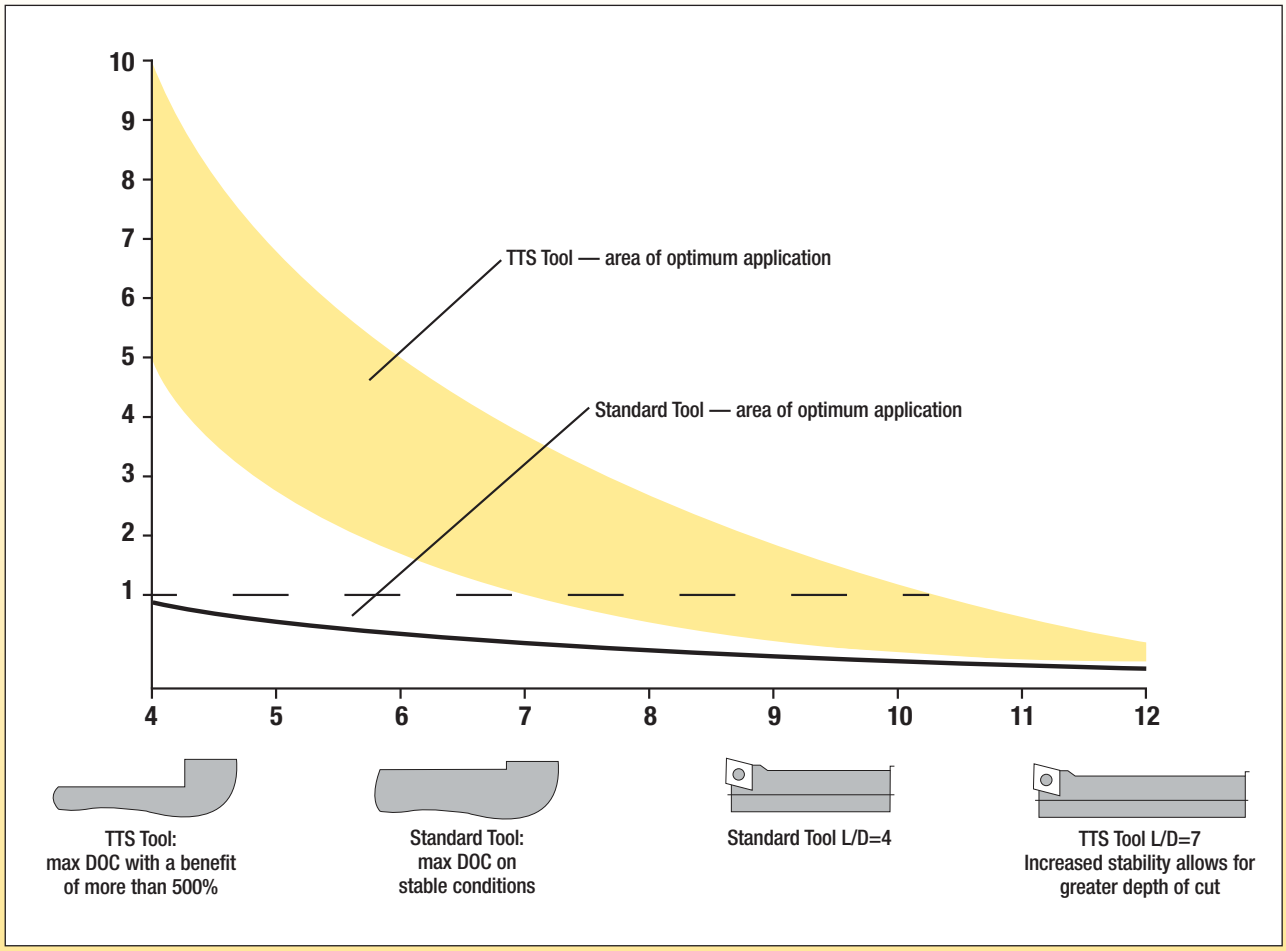
Machining without Chatter or Vibration

Less noise exposure and improved results.

Tunable Damping Mechanism

To account for different vibration behavior, bars can be tuned on the machine, and tools can be adjusted.

Relative Stability



Note: This chart illustrates how KM™ Tunable Boring Bars proivde greater stability than standard toolholders, even in larger tool length-to-diameter ratios. Increased stablilty enables greater depth of cut.

General Guidelines for Boring with Extended Reach Bars

1. Select the largest boring bar diameter possible. Larger diameter bars are stiffer and more stable. Remember to leave enough space for chip evacuation.
2. While larger diameters are more stable, the diameter may also be too large, preventing proper chip evacuation, affecting surface finish, or damaging the bar. Ensure the bar diameter is not so large that it will interfere with chip evacuation.
3. Keep the overhang length of the tunable boring bar as short as possible. For Tunable Boring Bars, select the shortest bar possible.
4. Balance machining parameters to prevent the occurrence of uncontrolled vibrations and resonance.
5. The tool setting angle should be as close as possible to 90°.
6. Make sure the insert is in the correct center position.
7. By choosing a small corner radius you can reduce forces on the workpiece.
8. Use cutting heads with a negative back-rake angle that is as small as possible.
9. Using inserts with a positive chip former is preferred.
10. Change inserts when any flank wear is detected because radial back forces will increase in proportion to wear.

Selecting the Correct Bar

Kennametal offers TTS Boring Bars with KM™ back-ends or straight shanks, KM front-ends, or bolt-on head connections, and they are available in either steel or carbide.

To find the appropriate boring bar, first consider that the length-to-diameter ratio (L:D) should always be kept as small as possible. The smaller the L:D ratio, the greater the stiffness and stability of the bar.

The L:D ratios of Tunable Boring Bars are fixed, where straight shank tunable bar L:D ratios are not. When using straight shank bars, the overhang length should be kept as small as possible.

Please note that only standard pretuned straight shank tunable bars are pretuned at the factory for 10:1 L:D. If the straight shank bar is mounted with less than 10:1 L:D, it may be necessary to retune the bar. This is discussed in more detail in the “Tuning the Bar” section.

Holding Method

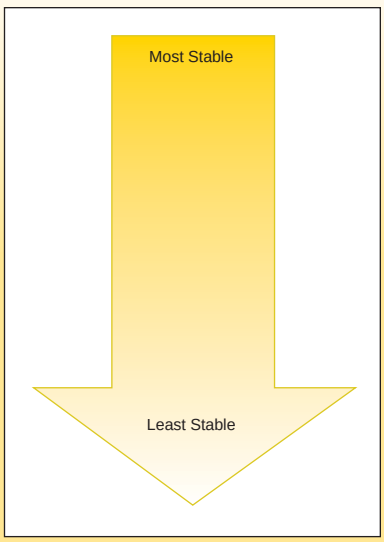
The holding method is as critical to performance as selecting and tuning the boring bar. The connection between the boring bar and the machine should be as rigid as possible. Rigid connections enable the tuner mass to function more effectively. The minimum holding length of the bar should be 2.5x the diameter of the bar.

Various connection methods are shown below and listed from most stable to least stable:

Face and Taper Contact with Interference Fit
Example: KM Tunable Boring Bar clamped with short overhang
KM clamping unit on turret

Split Sleeve/Full Cylindrical Contact
Example: Straight Shank Tunable Boring Bar with split sleeve

Screw Clamping
Example: Straight Shank Tunable Boring Bar with screw clamping on bar flat



Tuning the Bar

Standard tunable boring bars are pretuned at our factory. Though they may work right out of the box on some machines, for others, they may chatter because of differences in dynamic response. Chatter can be eliminated by optimally tuning the boring bar for a given setup, and the key benefit of our tunable boring bars is that they can be adjusted for any application. Therefore, corrections can be made to put the tool in tune with your machine, optimizing dynamic stiffness and negating chatter.

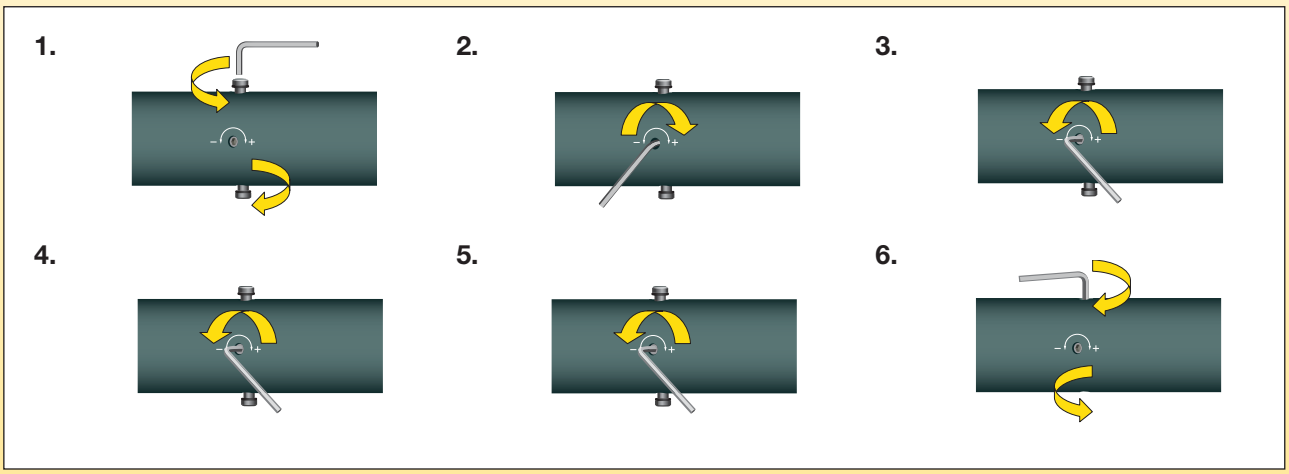
Several factors influence the required adjusting screw setting on tunable boring bars, including:

- Overhang and L:D ratio.
- Depth of cut.
- Overall dynamics and rigidity of the machine.

When retuning, it is best to slightly under-tune the bar. For this reason, the tuning process focuses on identifying the adjusting screw setting where chatter starts, and then backing off the screw by a 1/2 turn in the negative direction.

Retuning a Tunable Boring Bar

1. Loosen both clamping screws.
2. Turn the adjusting screw in the positive direction until it becomes snug. The adjusting screw becomes snug when it locks the tuner mass.
3. Turn the screw one complete turn in the negative direction and take a test cut.
4. Repeat Step 3 until chatter is eliminated.
5. (A) Once chatter is eliminated, note that it starts between the current screw setting and one turn in the positive direction. Make 1/4 turn adjustments within this range, taking test cuts for each setting, until you can identify the adjusting screw setting that causes chatter to start. (B) Once the adjusting screw setting that causes chatter is determined, back the adjusting screw off a 1/2 turn in the negative direction.
6. Tighten both clamping screws and take a test cut to confirm desired results.



Screw-On Adapters

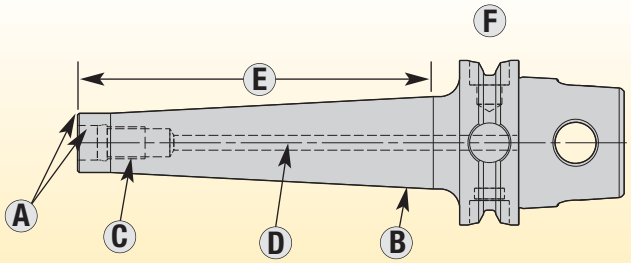
The universal design of Kennametal Screw-On Milling Cutter Adapters enables old and new tool styles to be used interchangeably yet maintain a rigid connection. All adapters offer superior runout accuracy, high metal removal rates, and through-coolant capability. Screw-On Milling Cutter Adapters can be used with Kennametal's wide range of best-in-class inserts to guarantee excellent cutting results, performance, and productivity.

Screw-On products can also be used with a variety of machining applications ranging from low-speed milling applications to rates greater than 20,000 RPM, with the added feature of coolant directed to the cutting edge. The system's accuracy, repeatability, and stability should be equal or greater to the performance of any similar systems on the market today in all applications.



Features, Functions, and Benefits

- All adapters have through-coolant capability.
- All products are stock standard products.
- High accuracy — low runout.
- Stable system for helix, pocket milling, contour cutting, and ramping.
- KM™, HSK, and steep taper prebalanced to G6.3 at 16,000 RPM.
- Extensions and reducers are designed with through-coolant prevision.
- The fine-tuned Screw-On indexable end mill cutters and the KM/ERICKSON™ toolholders together with a wide range of best-in-class inserts ensure excellence in cutting results, performance, and productivity.



A. Ground pilot and face for high rigidity and accuracy.
B. Extended shanks have slow taper for added rigidity.
C. Thread locking system.
D. Through coolant on all adapters.
E. Designed for long reach.
F. Balanced.

Applying Screw-On Adapters

Heavy-Metal Adapters

- Devibration extensions with heavy metal (Densimet™ D176).
- Internal threads with accurate mating surface for best possible concentric and axial runout with the extended tools.
- Through-coolant capability.

Extensions with Weldon® Shank

- Screw-On type extension with Weldon shank, as per DIN 1835-B.
- Shank manufactured as per DIN 1835-B, internal-coolant capability.

Reducers

- Adapter uses Screw-On tools with smaller size.
- Through-coolant capability.
- Mating surface helps generate accurate concentric and axial runout.

Extensions

- Adapter uses Screw-On tools with larger thread size.
- Through-coolant capability.
- Mating surface helps generate accurate concentric and axial runout.

*To learn more, **scan here**.*
For instructions on how to scan, please see page xxxiii.

Tightening Torque Milling Head

Connecting thread size	Tightening torque	Mounting key size (mm)
M10	40 Nm	15
M12	60 Nm	17
M16	80 Nm	24

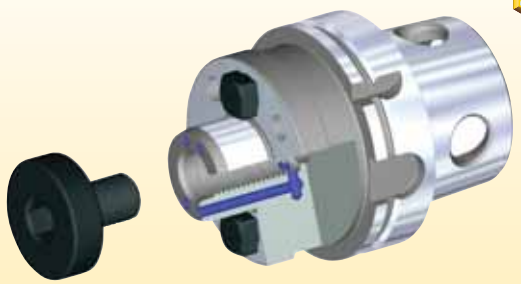


Through-Coolant Shell Mill Adapters



Shell mill adapters with high-pressure and high-volume through-coolant capability are now available as standard offerings. Their unique design enables maximum coolant flow to be channeled directly to a tool's cutting edge.

These latest shell mill adapters with through coolant are ideal for holding indexable milling cutters. Together, the toolholder and cutter ensure excellence in tool life, surface quality, and productivity. With this combination, high-pressure or high-volume coolant can dramatically improve surface finishes, reduce tool wear, decrease cutting force, and control chip shape and evacuation. This makes through-coolant shell mill adapters perfect for machining hardened steels and other difficult-to-cut materials like titanium.



Options

- Extended lengths available in standard stocked offering.
- Drive keys upgraded to high-strength material, allowing for high-torque capability.
- Adapters are set for form AD coolant and can be converted to form B flange coolant using adjusting screws.
- No extra components necessary to buy for standard tools.

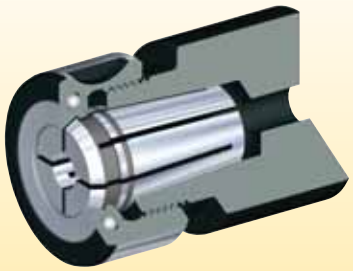
Coolant Flow Options

- Through holes in the face of the pilot.
- Through the center.

Collet Chuck Styles

TG Collet Chucks

Primarily for gripping straight shanks, TG collet chucks are the ERICKSON™ industry standard. These chucks offer flexibility for drilling, milling, and tapping applications and are also capable of gripping Whistle Notch™ cutters. TG collet chucks should be used for medium to light operations.

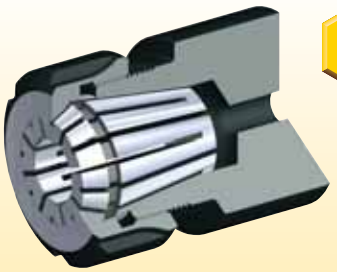


TG collet chucks have a range of dedicated milling and tap collets available. Balanceable locknuts are offered for operating at relatively high speeds. Sealing/coolant locknuts and bonded collets are also available for chucks utilizing through coolant.

- Clamping range of 0,3mm (.016").
- Good rigidity and gripping power of 3:1.
- Good concentricity.

ER Collet Chucks

As the DIN 6499 industry standard, ER collet chucks are designed to grip straight shanks. They are flexible for drilling, light milling, and tapping applications. ER collet chucks are used for medium to light applications at medium speeds.



DIN 6499

Dedicated tap collets are available for this style collet chuck. For ER collet chucks using through coolant, sealing and coolant locknuts are available.

- Wide clamping range of 1mm (.040").
- Fair rigidity and gripping power of 2:1.
- Good concentricity.

(continued)

Collet Chuck Styles *(continued)*

DA Collet Chucks

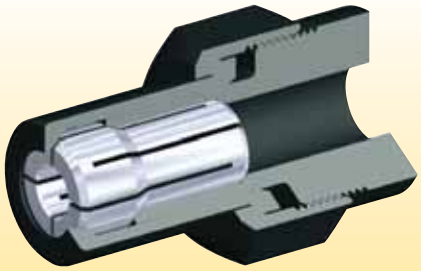
DA collet chucks are an ERICKSON™ industry standard. They are intended for gripping straight shanks, but the DA style also has the ability to grip drill margins. This eliminates center drilling by shortening the drill. DA collet chucks also offer flexibility for drilling, milling, and tapping.

Milling and tap collet styles dedicated to the DA style are available. These chucks can also make use of bonded collets when employing through coolant. DA collet chucks can utilize three styles of locknuts.

- Clamping range of 0,8mm (.031").
- Fair rigidity and gripping power of 1:1.
- Concentricity >0,025mm (.001").

DA — 01 Series
Extended Nose Style

Long nosepiece bearing and compensating locknut delivery offer proper axial position and prevent twisting. This style is ideal when extreme accuracy is required.



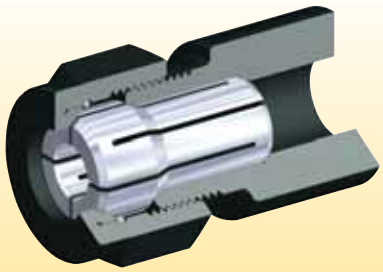
DA — 04 Series
Close Center Style

Designed at the minimum safe outside diameter to solve close center problems. This style should be used where reach and close proximity of workpiece problems are encountered.



DA — 08 Series
Stub Nose Style

This DA style has a compensating nose ring with the locknut that allows collets to find their own axial position and prevent twisting. They should be used when better rigidity is required.



TG • Tremendous Grip

ERICKSON

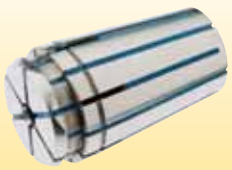
- Provides Tremendous Grip and accuracy for all drilling applications.
- 0,4mm [1/64" (.016")] range of collapse.
- Grips on back taper and margin of drill for maximum feed rates and more accurate holes.
- Manufactured to DIN 6499 Class 2 accuracy.



TGC • Tremendous Grip Coolant

ERICKSON

- Rubber-filled slots seal collet for coolant-fed tool applications.
- Suitable for coolant pressure up to 100 bar (1500 psi).
- Unique design features permit easy entry into nosepiece.
- Available from stock in all popular sizes.
- Fits all standard TG-style collet chucks.
- 0,13mm (.005") range collapse.
- Design enables flutes of drills to enter collet, unlike competitive designs.



TGHP • Tremendous Grip High Precision

ERICKSON

- Twice as accurate as standard TG- and ER-style collets.
- Available from stock in all popular sizes.
- Can be used in all standard TG-style collet chucks.
- 0,25mm (.010") range of collapse.
- Manufactured to DIN 6499 Class 1 accuracy.



TGCHP • Tremendous Grip Coolant High Precision

ERICKSON

- Rubber-filled slots seal collet for coolant-fed tool applications.
- Suitable for coolant pressure up to 100 bar (1500 psi).
- Unique design features permit easy entry into nosepiece.
- Available from stock in all popular sizes.
- Fits all standard TG-style collet chucks.
- 0,13mm (.005") range of collapse.
- Manufactured to DIN 6499 Class 1 accuracy.



TGNP • Tremendous Grip Non-Pullout, Weldon® Style

ERICKSON

- Positive retention and drive provided by drive wedge in collet.
- Eliminates inaccuracy created by solid end mill holders.
- 0,13mm (.005") range of collapse.
- Fits all standard TG-style collet chucks.



TGST • Tremendous Grip Single-Angle Tap Collet

ERICKSON

- Designed to grip the tap on the shank and square.
- Fits all standard TG-style collet chucks.
- 0,13mm (.005") range of collapse.



TGSTC • Tremendous Grip Single-Angle Tap Collet, Coolant Style

ERICKSON

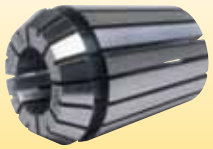
- Rubber-filled slots seal collet for coolant-fed tool applications.
- Suitable for coolant pressure up to 70 bar (1000 psi).
- Designed to grip the tap on the shank and square.
- Fits all standard TG-style collet chucks.
- 0,13mm (.005") range of collapse.



ER • Single Angle

ERICKSON

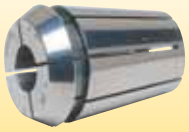
- Provides good grip and accuracy for all drilling applications.
- Wide clamping range.
- Available in both inch and metric bores.
- 1mm (.040") range of collapse.
- Manufactured to DIN 6499 Class 2 accuracy.



ERTC • Single-Angle Tap Collet

ERICKSON

- Designed to grip taps on shank and square to eliminate slippage.
- Fits all standard ER-style collet chucks.
- 0,13mm (.005") range of collapse.



ERTCT • Single-Angle Tap Collet with Axial Compensation

ERICKSON

- Designed to grip taps on shank and square to eliminate slippage.
- Tension only, cost-effective solution for machines that require axial compensation for tapping.
- Fits all standard ER-style collet chucks.



DA • Double-Angle

ERICKSON

- 0,8mm [1/32" (.031")] range of collapse.



DAC • Double-Angle Coolant

ERICKSON

- Rubber-filled slots seal coolant-fed tool applications.
- Suitable for coolant pressure up to 70 bar (1000 psi).
- Fits all standard DA-style collet chucks.
- 0,13mm (.005") range of collapse.



DANP • Double-Angle Non-Pullout — Weldon® Style

ERICKSON

- Designed to grip end mills with Weldon-style shanks.
- Positive retention and drive provided by drive wedge in collet.
- Eliminates inaccuracy created by solid end mill adapters.
- Fits all standard DA-style collet chucks.
- 0,13mm (.005") range of collapse.



TG Collet Series

The TG collet series is the first choice when high precision, gripping torque, and versatility are required. These single-angle collet chucks grip at approximately 3:1 for grip torque versus tightening torque without a stop screw.

The taper's slow angle produces a sticking action, so collets must be snapped into the locknut before assembling the locknut onto the chuck. Follow the procedure on page M103 for assembly/disassembly instructions.

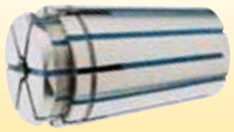
Standard Collet

- 0,40mm (.016") maximum collapse.



Bonded Seal Collet

- 0,13mm (.005") maximum collapse.
- 100 bar (1,500 psi) coolant pressure.



DA Collet Series

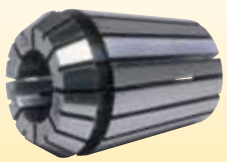
DA-style collet chucks have a grip of approximately 1:1 tightening torque versus grip torque.



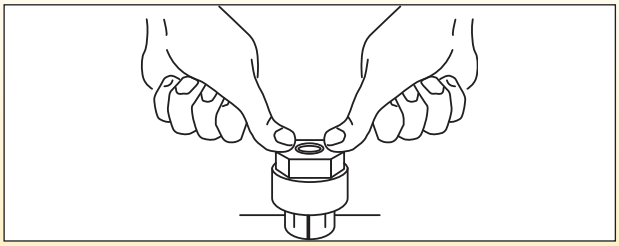
ER Collet Series

The ER collet series is an international standard style used for many applications. Collets from this series are ideal for boring, milling, reaming, tapping, and grinding.

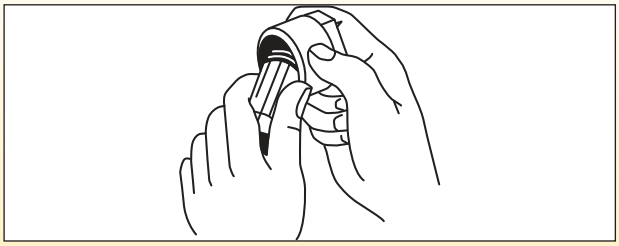
ER collets are manufactured from alloy steel and hardened for long life. They offer a grip of approximately 2:1 tightening torque versus grip torque. See page M103 for assembly/disassembly instructions.



TG and ER Collet Assembly/Disassembly Instructions

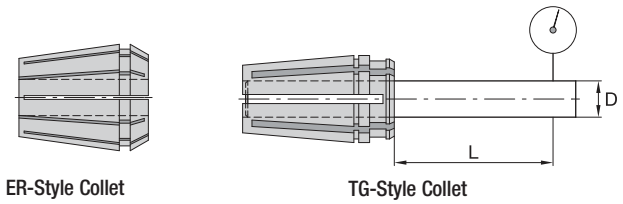


- First, place the locknut with nose ring over collet nose. Apply force on the locknut until it snaps into place. The nose ring is now seated into the collet undercut and should turn freely.



- To remove the collet from the locknut, hold the nut firmly in one hand and apply a bending action on the collet with the other hand until the collet snaps free from the nose ring.

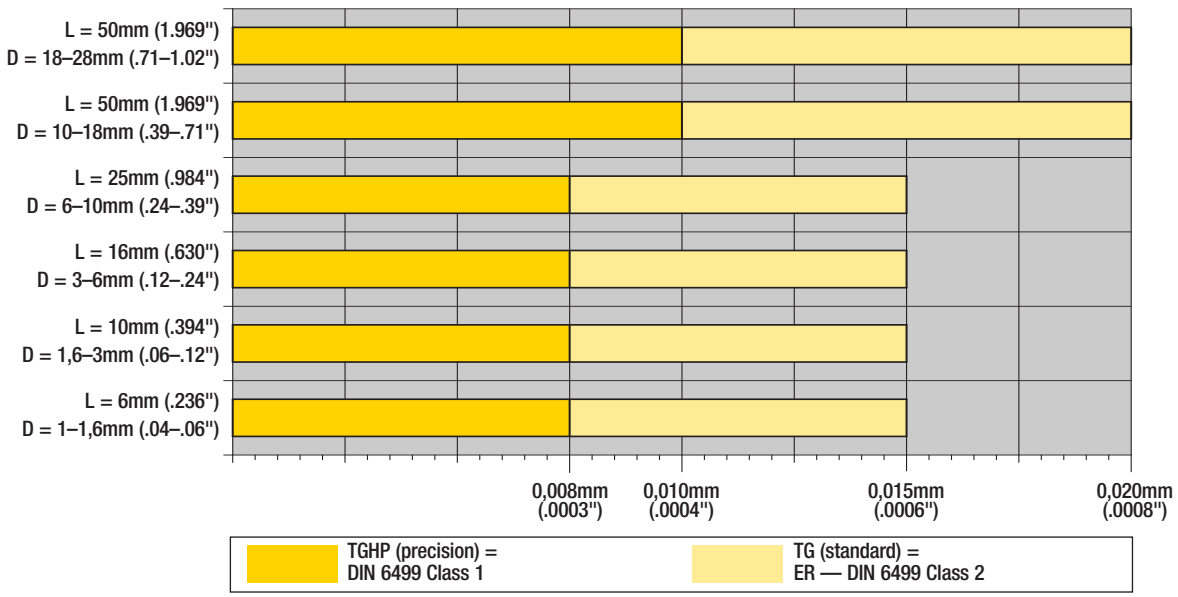
NOTE
Inserting the cutting tool less than 2/3 the gripping length into the collet can permanently damage the collet. The full length of the gripping bore needs to be maintained to achieve maximum accuracy and safety. Collet accuracies are based on size-for-size conditions. Using the collapsible range can influence the accuracy and gripping powers. Never try to stretch collets by clamping oversized cutting tools.



ER-Style Collet

TG-Style Collet

Maximum Runout Error



Gripping Strength Comparison Chart • Metric

ER collet chuck based on ER40		TG collet chuck based on TG100		standard hydraulic		Slim Line hydraulic	
mm	Nm	mm	Nm	mm	Nm	mm	Nm
3	—	3	—	3	—	3	—
4	—	4	—	4	—	4	—
5	—	5	—	5	—	5	—
6	38	6	—	6	12	6	26
8	52	8	115	8	30	8	50
10	70	10	144	10	40	10	80
12	103	12	300	12	70	12	115
14	108	14	312	14	100	14	160
16	118	16	325	16	135	16	200
18	156	18	339	18	180	18	250
20	206	20	384	20	220	20	230
25	255	25	536	25	500	25	—
32	—	32	569	32	700	32	—
40	—	40	—	40	—	40	—
50	—	50	—	50	—	50	—

Gripping Strength Comparison Chart • Inch

ER collet chuck based on ER40		TG collet chuck based on TG100		standard hydraulic		Slim Line hydraulic	
in	ft. lbs.	in	ft. lbs.	in	ft. lbs.	in	ft. lbs.
1/8	—	1/8	—	1/8	—	1/8	—
3/16	—	3/16	—	3/16	—	3/16	—
1/4	28	1/4	—	1/4	9	1/4	19.2
5/16	38	5/16	85	5/16	22	5/16	—
3/8	52	3/8	106	3/8	30	3/8	59
7/16	—	7/16	—	7/16	—	7/16	—
1/2	76	1/2	221	1/2	55	1/2	89
9/16	80	9/16	230	9/16	74	9/16	—
5/8	87	5/8	240	5/8	100	5/8	148
11/16	115	11/16	250	11/16	129	11/16	—
3/4	152	3/4	283	3/4	148	3/4	155
7/8	—	7/8	—	7/8	—	7/8	—
1	188	1	395	1	369	1	—
1 1/4	—	1 1/4	420	1 1/4	516	1 1/4	—
1 1/2	—	1 1/2	—	1 1/2	—	1 1/2	—
2	—	2	—	2	—	2	—

NOTE: Torque values in in. lbs.
Minimum values calculated for maximum bore size and minimum shank size.
Maximum values calculated for minimum bore size and maximum shank size.

Gripping Strength Comparison Chart • Metric

	milling chuck		Shrink Fit			
			standard (Nm)		high torque (Nm)	
	mm	Nm	min	max	min	max
	3	—	3.3	11	—	—
	4	—	5.2	16	—	—
	5	—	6.8	20	—	—
	6	—	19	116	—	—
	8	—	26	176	—	—
	10	—	91	312	—	—
	12	—	132	445	269	582
	14	—	169	546	346	723
	16	—	253	587	444	779
	18	—	304	865	540	1101
	20	1127	412	1049	654	1292
	25	1666	901	1896	1233	2227
	32	2347	1033	2079	1338	2384
	40	—	1907	3482	2432	4007
	50	—	2651	4465	3029	4843

Gripping Strength Comparison Chart • Inch

	milling chuck		Shrink Fit			
			standard (ft. lbs.)		high torque (ft. lbs.)	
	in	ft. lbs.	min	max	min	max
	1/8	—	3.2	13	—	—
	3/16	—	4.6	19	—	—
	1/4	—	13	86	—	—
	5/16	—	18	117	—	—
	3/8	—	53	196	—	—
	7/16	—	65	269	—	—
	1/2	—	111	340	225	455
	9/16	—	160	410	285	535
	5/8	—	172	442	307	576
	11/16	—	262	648	427	814
	3/4	831	336	797	509	970
	7/8	—	363	791	524	951
	1	1229	674	1382	939	1647
	1 1/4	1731	784	1445	1115	1775
	1 1/2	—	1132	1818	1389	2075
	2	—	1942	3049	2357	3465

NOTE: Torque values in in. lbs.
Minimum values calculated for maximum bore size and minimum shank size.
Maximum values calculated for minimum bore size and maximum shank size.

Order No.	Catalog No.	Page(s)
1013350	CV40EM038450	F28
1013351	CV40EM038650	F28
1013352	CV40ZEM044175	F28
1013353	CV40EM044450	F28
1013374	CV40EM050462	F28
1013375	CV40EM050662	F28
1013376	CV40EM062575	F28
1013377	CV40EM075575	F28
1013378	CV40ZEM088175	F28
1013379	CV50EM018250	F70
1013380	CV50EM025250	F70
1013381	CV50EM031250	F70
1013382	CV50EM038850	F70
1013383	CV50EM044250	F70
1013404	CV50EM050850	F70
1013405	CV50EM0751000	F70
1013406	CV50EM1001000	F71
1013407	CV50EM1251000	F71
1013408	CV50EM018450	F70
1013409	CV50EM018650	F70
1013410	CV50EM025450	F70
1013411	CV50EM025650	F70
1013412	CV50EM031450	F70
1013413	CV50EM031650	F70
1013424	CV40EM088600	F28
1013425	CV40EM100600	F28
1013426	CV40ZEM125200	F28
1013427	CV40EM125625	F28
1013428	CV40EM150662	F28
1013439	LNA208M	E12, E38, G24, L31
1013440	LN000M	I14, L31
1013441	LNA404M	I15
1013467	LNA108M	E38, G24, H5, H12, I17, L31
1013468	LNA308M	H5, H12, I17, L31
1013469	LNA104M	I14–15, L31
1013470	LNA184M	I15, L31
1013471	LNA204M	G22, G60, I14–15, I19–20, L31
1013472	LNA304M	I14–15, L31
1013484	LNA150M	A542, A610, A626, C105, D8, D26, E34, E76, G17, G56, L18
1013485	LNA100M	A328, A412, A502, A542, A578, A610, A626, C57, C82, C105, D8, D26, D45, D58, E34, E76, F19, F59–60, G16–17, G55–56, I7, L18
1013486	LNA075M	A252, A328, A412, A542, A578, A610, A626, C16, C27, C57, C82, C105, D8, D45, D58, E9, E34, F19, F59–60, G17, I7, L18
1013487	LNA188M	A256, A332, A416–417, E13, E39, E80, G25, G61
1013488	LNAK04M	I19–20, L31
1013489	LNAL04M	I18–20, L31
1013497	PSW350	F20, H11, H19, L57
1013502	SS200FC188888	I22
1013514	KM32TSST1040M	A259
1013520	KM32TSER16036M	A255
1013521	KM32TSER25045M	A254
1013522	KM32ER3251	A254
1013525	QC40TG150450	H11
1013526	QC50TG150284	H19
1013532	CV40TG150488	F20
1013573	TFHSK32A	L39
1013584	TFHSK40A	L39
1013586	TFHSK63A	L39
1013587	TFHSK80A	L39
1013588	TFHSK100A	L39
1013591	UTV5030	L41
1013620	TF30	L41
1013636	TF40	L41
1013638	TF50	L41
1013658	BT30KM3240	E18
1013675	KM40NCMF	A208
1013686	50TG0125	J18
1013687	50TG0156	J18
1013688	75TG0156	J25
1013689	50TG0188	J18
1013690	50TG0219	J18
1013691	50TG0250	J18
1013692	50TG0281	J18
1013693	75TG0312	J25
1013701	KM63PKG3S	A206–208, A210, A212–213, A514, A550, A588, A617–619, C72, C120, D36, D66, E94, F82, G75
1013702	KM63PKG3L	A205, A209, A214, C41, D66, E94, F82
1013714	50TG0438	J18
1013715	50TG0469	J18
1013716	75TG0734	J26
1013717	75TG0062	J24
1013718	75TG0078	J24
1013719	50TG0094	J18
1013720	75TG0094	J24
1013721	100TG0094	J34
1013722	50TG0109	J18
1013723	75TG0109	J24
1013744	100TG0109	J34
1013745	75TG0125	J25
1013746	100TG0125	J34
1013747	50TG0141	J18
1013748	75TG0141	J25
1013749	100TG0141	J34
1013750	100TG0156	J34
1013751	50TG0172	J18
1013752	75TG0172	J25
1013753	100TG0172	J34
1013774	75TG0188	J25
1013775	100TG0188	J34
1013776	50TG0203	J18
1013777	75TG0203	J25
1013778	100TG0203	J34
1013779	75TG0219	J25
1013780	100TG0219	J35
1013781	50TG0234	J18
1013782	75TG0234	J25
1013783	100TG0234	J35
1013794	75TG0250	J25
1013795	100TG0250	J35
1013796	50TG0266	J18
1013797	75TG0266	J25
1013798	100TG0266	J35
1013799	75TG0281	J25
1013800	100TG0281	J35
1013801	50TG0297	J18
1013802	75TG0297	J25
1013803	100TG0297	J35
1013834	50TG0312	J18
1013835	100TG0312	J35
1013836	50TG0328	J18
1013837	75TG0328	J25
1013838	100TG0328	J35
1013839	50TG0344	J18
1013840	75TG0344	J25
1013841	100TG0344	J35
1013842	50TG0359	J18
1013843	75TG0359	J25
1013854	100TG0359	J35
1013855	75TG0375	J25
1013856	100TG0375	J35
1013857	150TG0375	J44
1013858	50TG0391	J18
1013859	75TG0391	J25
1013860	100TG0391	J35
1013861	50TG0406	J18
1013862	75TG0406	J25
1013863	100TG0406	J35
1013874	50TG0422	J18
1013875	75TG0422	J25
1013876	100TG0422	J35
1013877	75TG0438	J25
1013878	100TG0438	J35
1013879	50TG0453	J18
1013880	75TG0453	J25
1013881	100TG0453	J35
1013882	75TG0469	J25
1013883	100TG0469	J35
1013914	50TG0484	J18
1013915	75TG0484	J25
1013916	100TG0484	J35
1013917	75TG0500	J26
1013918	100TG0500	J35
1013919	150TG0500	J44
1013920	50TG0516	J18
1013921	75TG0516	J26
1013922	100TG0516	J36
1013923	150TG0516	J44
1013934	75TG0531	J26
1013935	100TG0531	J36
1013936	150TG0531	J44
1013937	75TG0547	J26
1013938	100TG0547	J36
1013939	150TG0547	J45
1013940	75TG0562	J26
1013941	100TG0562	J36
1013942	150TG0562	J45
1013943	75TG0578	J26
1013974	100TG0578	J36
1013975	75TG0594	J26
1013976	100TG0594	J36
1013977	150TG0594	J45
1013978	75TG0609	J26
1013979	100TG0609	J36
1013980	75TG0625	J26
1013981	100TG0625	J36
1013982	150TG0625	J45
1013983	75TG0641	J26
1013994	100TG0641	J36
1013995	75TG0656	J26
1013996	100TG0656	J36
1013997	150TG0656	J45
1013998	75TG0672	J26
1013999	100TG0672	J36
1014000	75TG0688	J26
1014001	100TG0688	J36
1014002	150TG0688	J45
1014003	75TG0703	J26
1014019	100TGNP160M	J31
1014023	150TGNP250M	J43
1014024	100TG0703	J36
1014025	75TG0719	J26
1014026	100TG0719	J36
1014027	150TG0719	J45
1014028	100TG0734	J36
1014029	150TG0734	J45
1014030	75TG0750	J26
1014031	100TG0750	J36
1014032	150TG0750	J45
1014033	100TG0766	J36
1014044	100TG0781	J36
1014045	150TG0781	J45
1014046	100TG0797	J36
1014047	100TG0812	J36
1014048	150TG0812	J45
1014049	100TG0828	J37
1014050	100TG0844	J37
1014051	150TG0844	J45
1014052	100TG0859	J37
1014053	100TG0875	J37
1014074	150TG0875	J45
1014075	100TG0891	J37
1014076	100TG0906	J37
1014077	150TG0906	J45
1014078	100TG0922	J37
1014079	100TG0938	J37
1014080	150TG0938	J45
1014081	100TG0953	J37
1014082	100TG0969	J37
1014083	150TG0969	J45
1014084	150TGNP320M	J43
1014086	100TGST100080M	J40
1014087	100TGST110090M	J40
1014088	100TGST120090M	J40
1014089	100TGST140110M	J40
1014090	100TGST160120M	J40
1014091	100TGST180145M	J40
1014092	100TGST090071M	J40
1014093	100DA100M	J66
1014104	100TG0984	J37
1014105	100TG1000	J37
1014106	150TG1000	J45
1014108	150TG1031	J45
1014109	150TG1062	J45
1014110	150TG1078	J45
1014111	150TG1094	J45
1014112	150TG1125	J45
1014113	150TG1156	J45
1014124	100DA035M	J66
1014125	100DA040M	J66
1014126	100DA045M	J66
1014127	100DA050M	J66
1014128	100DA055M	J66
1014129	100DA060M	J66
1014130	100DA065M	J66
1014131	100DA070M	J66
1014132	100DA075M	J66
1014133	100DA080M	J66
1014134	150TG1187	J45
1014135	150TG1219	J46
1014136	150TG1234	J46
1014137	150TG1250	J46
1014139	150TG1266	J46
1014140	150TG1281	J46
1014141	150TG1312	J46
1014142	150TG1344	J46
1014143	150TG1375	J46
1014164	150TG1406	J46
1014165	150TG1422	J46
1014166	150TG1438	J46
1014167	150TG1453	J46
1014168	150TG1469	J46
1014169	150TG1484	J46
1014170	150TG1500	J46
1014174	100DA085M	J66
1014175	100DA090M	J66
1014176	100DA095M	J66
1014177	100DA105M	J66
1014178	100DA110M	J66
1014179	100DA115M	J66
1014180	100DA120M	J66
1014181	100DA125M	J66
1014182	100DA130M	J66
1014183	100DA135M	J66
1014195	75TGNP0375	J25
1014196	100TGNP0375	J35
1014197	75TGNP0500	J26
1014198	100TGNP0500	J35
1014199	150TGNP0500	J44
1014200	75TGNP0625	J26
1014201	100TGNP0625	J36
1014202	150TGNP0625	J45
1014203	75TGNP0750	J26
1014214	100DA140M	J66
1014215	200DA035M	J66
1014216	200DA040M	J66
1014217	200DA045M	J66
1014218	200DA050M	J66
1014219	200DA055M	J66
1014220	200DA060M	J66
1014221	200DA065M	J66
1014222	200DA070M	J66
1014223	200DA075M	J66
1014224	100TGNP0750	J36
1014225	150TGNP0750	J45
1014226	100TGNP0875	J37
1014227	150TGNP0875	J45
1014228	100TGNP1000	J37
1014229	150TGNP1000	J45
1014230	150TGNP1250	J46
1014231	150TGNP1500	J46
1014232	50TG0500	J18
1014233	150TG1203	J45
1014244	200DA080M	J66
1014245	200DA085M	J66
1014246	200DA090M	J66
1014247	200DA095M	J66
1014248	200DA100M	J66
1014249	300DA035M	J66
1014250	300DA040M	J66
1014251	300DA045M	J66
1014252	300DA050M	J66
1014253	300DA055M	J66
1014264	150TG1109	J45
1014265	150TG1047	J45
1014266	50TG0047	J18
1014267	50TG0078	J18

Order No.	Catalog No.	Page(s)
1014268	50TG0375	J18
1014269	50TG0062	J18
1014272	50TG0531	J18
1014273	150TG0703	J45
1014285	150TG0828	J45
1014286	150TG1016	J45
1014287	150TG1172	J45
1014288	150TG0797	J45
1014289	150TG0984	J45
1014290	150TG0578	J45
1014291	150TG0609	J45
1014292	150TG0641	J45
1014293	150TG0672	J45
1014294	300DA060M	J66
1014314	150TG0766	J45
1014315	150TG0859	J45
1014316	150TG0891	J45
1014317	150TG0922	J45
1014318	150TG0953	J45
1014319	150TG1141	J45
1014320	150TG1297	J46
1014321	150TG1328	J46
1014322	150TG1359	J46
1014323	150TG1391	J46
1014355	75TGHP0250	J25
1014356	75TGHP0312	J25
1014357	75TGHP0375	J25
1014358	75TGHP0438	J25
1014359	75TGHP0500	J26
1014360	75TGHP0562	J26
1014361	75TGHP0625	J26
1014362	75TGHP0750	J26
1014363	75TGHP0125	J25
1014384	75TGHP0188	J25
1014385	50TGHP0125	J18
1014386	50TGHP0188	J18
1014387	50TGHP0250	J18
1014388	50TGHP0312	J18
1014389	50TGHP0375	J18
1014390	50TGHP0438	J18
1014391	50TGHP0500	J18
1014392	50TGHP040M	J14
1014393	50TGHP060M	J14
1014424	50TGHP080M	J15
1014425	50TGHP100M	J15
1014426	50TGHP120M	J15
1014427	100TGHP0125	J34
1014428	100TGHP0188	J34
1014429	100TGHP0250	J35
1014430	100TGHP0312	J35
1014431	100TGHP0375	J35
1014432	100TGHP0438	J35
1014433	100TGHP0500	J35
1014435	180DA100M	J66
1014436	180DA035M	J66
1014437	180DA040M	J66
1014438	180DA045M	J66
1014439	180DA050M	J66
1014440	180DA055M	J66
1014441	180DA060M	J66
1014442	180DA065M	J66
1014443	180DA070M	J66
1014454	100TGHP0562	J36
1014455	100TGHP0625	J36
1014456	100TGHP0688	J36
1014457	100TGHP0750	J36
1014458	100TGHP0875	J37
1014459	100TGHP1000	J37
1014461	100TGHP060M	J30
1014462	100TGHP080M	J31
1014463	100TGHP100M	J31
1014474	180DA075M	J66
1014475	180DA080M	J66
1014476	180DA085M	J66
1014477	180DA090M	J66
1014478	180DA095M	J66
1014479	180DA105M	J66
1014480	180DA110M	J66
1014481	180DA115M	J66
1014482	180DA120M	J66
1014483	180DA125M	J66
1014494	180DA130M	J66
1014495	180DA135M	J66
1014496	180DA140M	J66
1014497	180DA145M	J66
1014498	180DA150M	J66
1014499	180DA155M	J66
1014500	180DA160M	J66
1014501	180DA165M	J66
1014502	180DA170M	J66
1014503	180DA175M	J66
1014505	100TGHP140M	J31
1014507	100TGHP180M	J32
1014508	100TGHP200M	J32
1014509	100TGHP250M	J31
1014511	300DA0031	J67
1014512	180DA0047	J67
1014513	200DA0047	J67
1014524	180DA180M	J66
1014525	180DA185M	J66
1014526	180DA190M	J66
1014527	180DA195M	J66
1014528	180DA200M	J66
1014529	180DANP100M	J66
1014530	180DANP160M	J66
1014532	180DANP120M	J66
1014533	75TG100M	J23
1014534	300DA0047	J67
1014535	180DA0062	J67
1014536	200DA0062	J67
1014537	300DA0062	J67
1014538	100DA0078	J67
1014539	180DA0078	J67
1014540	200DA0078	J67
1014541	300DA0078	J67
1014542	180DA0094	J67
1014543	200DA0094	J67
1014554	75TG030M	J22
1014555	75TG035M	J22
1014556	75TG040M	J22
1014557	75TG045M	J22
1014558	75TG050M	J22
1014559	75TG055M	J22
1014560	75TG060M	J22
1014561	75TG065M	J22
1014562	75TG070M	J22
1014563	75TG075M	J22
1014574	300DA0094	J67
1014576	180DA0109	J67
1014577	200DA0109	J67
1014578	300DA0109	J67
1014579	180DA0125	J67
1014580	200DA0125	J67
1014581	300DA0125	J67
1014583	100DA0141	J67
1014594	75TG080M	J23
1014595	75TG085M	J23
1014596	75TG090M	J23
1014597	75TG095M	J23
1014598	75TG105M	J23
1014599	75TG110M	J23
1014600	75TG115M	J23
1014601	75TG120M	J23
1014602	75TG125M	J23
1014603	75TG130M	J23
1014604	180DA0141	J67
1014605	200DA0141	J67
1014606	300DA0141	J67
1014608	100DA0156	J67
1014609	180DA0156	J67
1014610	200DA0156	J67
1014611	300DA0156	J67
1014613	180DA0172	J67
1014624	75TG135M	J23
1014625	75TG140M	J23
1014626	75TG145M	J23
1014627	75TG150M	J23
1014628	75TG155M	J23
1014629	75TG160M	J23
1014630	75TG165M	J23
1014631	75TG170M	J23
1014632	75TG175M	J23
1014633	75TG180M	J23
1014644	200DA0172	J67
1014645	300DA0172	J67
1014646	100DA0188	J67
1014647	180DA0188	J67
1014648	200DA0188	J67
1014649	300DA0188	J67
1014651	180DA0203	J67
1014652	200DA0203	J67
1014653	300DA0203	J67
1014655	75TG190M	J23
1014656	75TG195M	J23
1014657	75TG200M	J23
1014659	100TG030M	J30
1014660	100TG035M	J30
1014661	100TG040M	J30
1014662	100TG045M	J30
1014663	100TG050M	J30
1014675	100DA0219	J67
1014676	180DA0219	J67
1014677	200DA0219	J67
1014678	300DA0219	J67
1014680	100DA0234	J67
1014681	180DA0234	J67
1014682	200DA0234	J67
1014683	300DA0234	J67
1014694	100TG055M	J30
1014695	100TG060M	J30
1014696	100TG065M	J31
1014697	100TG070M	J31
1014698	100TG075M	J31
1014699	100TG080M	J31
1014700	100TG085M	J31
1014701	100TG090M	J31
1014702	100TG095M	J31
1014703	100TG100M	J31
1014714	100TG105M	J31
1014716	100TG115M	J31
1014717	100TG120M	J31
1014718	100TG125M	J31
1014719	100TG130M	J31
1014720	100TG135M	J31
1014721	100TG140M	J31
1014722	100TG145M	J31
1014723	100TG150M	J31
1014725	100DA0250	J67
1014726	180DA0250	J67
1014727	200DA0250	J67
1014728	300DA0250	J67
1014730	100DA0266	J67
1014731	180DA0266	J67
1014732	200DA0266	J67
1014733	100DA0281	J67
1014744	100TG155M	J31
1014745	100TG160M	J31
1014746	100TG165M	J31
1014747	100TG170M	J31
1014748	100TG175M	J31
1014749	100TG180M	J32
1014750	100TG185M	J32
1014751	100TG190M	J32
1014752	100TG195M	J32
1014753	100TG200M	J32
1014754	180DA0281	J67
1014755	200DA0281	J67
1014757	100DA0297	J67
1014758	180DA0297	J67
1014759	200DA0297	J67
1014760	100DA0312	J67
1014761	180DA0312	J67
1014762	200DA0312	J67
1014774	100TG205M	J32
1014775	100TG210M	J32
1014777	100TG220M	J32
1014778	100TG225M	J32
1014779	100TG230M	J31
1014780	100TG235M	J31
1014781	100TG240M	J31
1014782	100TG245M	J31
1014783	100TG250M	J31
1014794	100DA0328	J67
1014795	180DA0328	J67
1014796	200DA0328	J67
1014798	100DA0344	J67
1014799	180DA0344	J67
1014800	200DA0344	J67
1014802	100DA0359	J67
1014803	180DA0359	J67
1014814	100TG255M	J31
1014815	150TG120M	J42
1014817	150TG130M	J42
1014819	150TG140M	J42
1014820	150TG145M	J42
1014821	150TG150M	J42
1014823	150TG160M	J42
1014824	200DA0359	J67
1014826	100DA0375	J67
1014827	180DA0375	J67
1014828	200DA0375	J67
1014831	100DA0391	J67
1014832	180DA0391	J67
1014833	200DA0391	J67
1014847	150TG180M	J42
1014849	150TG190M	J42
1014851	150TG200M	J42
1014853	150TG210M	J42
1014865	100DA0406	J67
1014866	180DA0406	J67
1014868	100DA0422	J67
1014869	180DA0422	J67
1014871	100DA0438	J67
1014872	180DA0438	J67
1014875	150TG220M	J43
1014881	150TG250M	J43
1014882	150TG255M	J43
1014883	150TG260M	J43
1014895	100DA0453	J67
1014896	180DA0453	J67
1014898	100DA0469	J67
1014899	180DA0469	J67
1014901	100DA0484	J67
1014902	180DA0484	J68
1014915	150TG270M	J43
1014917	150TG280M	J43
1014921	150TG300M	J43
1014934	100DA0500	J68
1014935	180DA0500	J68
1014938	100DA0516	J68
1014939	180DA0516	J68
1014941	100DA0531	J68
1014942	180DA0531	J68
1014945	150TG320M	J43
1014949	150TG340M	J43
1014951	150TG350M	J43
1014953	150TG360M	J43
1014967	150TG380M	J43
1014971	150TG400M	J43
1014972	75TGHP040M	J22
1014973	75TGHP060M	J22
1014975	100DA0547	J68
1014976	180DA0547	J68
1014978	100DA0562	J68
1014979	180DA0562	J68
1014982	180DA0578	J68
1014983	180DA0594	J68
1015004	75TGHP080M	J22
1015005	75TGHP100M	J23
1015006	75TGHP120M	J23
1015007	75TGHP140M	J23
1015008	75TGHP160M	J23
1015009	75TGHP180M	J23
1015010	75TGHP200M	J23
1015011	SS250DA104122M	I14
1015012	SS250DA104186M	I14
1015013	SS190DA204181M	I14
1015016	180DA0609	J68
1015018	180DA0625	J68
1015021	180DA0641	J68
1015023	180DA0656	J68
1015034	SS190DA204117M	I14
1015035	SS200DA204117M	I14
1015036	SS200DA204181M	I14
1015037	SS125DA304109M	I14
1015038	SS125DA304173M	I14
1015043	SS080DA000132M	I14
1015046	180DA0672	J68

Order No.	Catalog No.	Page(s)
1015048	180DA0688	J68
1015051	180DA0703	J68
1015053	180DA0719	J68
1015086	180DA0734	J68
1015088	180DA0750	J68
1015191	HSK63AEM025300	C62
1015192	HSK63AEM038300	C62
1015193	HSK63AEM050300	C62
1015224	HSK63AEM062375	C62
1015225	HSK63AEM075375	C62
1015226	HSK63AEM100375	C62
1015227	HSK63AEM125425	C62
1015228	HSK100AEM025300	C110
1015229	HSK100AEM038300	C110
1015230	HSK100AEM050325	C110
1015231	HSK100AEM062375	C110
1015232	HSK100AEM075375	C110
1015233	HSK100AEM100425	C110
1015254	HSK100AEM125425	C110
1015255	HSK100AEM150450	C110
1015264	180DANP0375	J67
1015265	180DANP0500	J68
1015266	180DANP0625	J68
1015267	180DANP0750	J68
1015285	HSK100AEM200550	C110
1015286	HSK100AEM250575	C110
1015288	HSK63ABB080250M	C73
1015289	HSK63ABB115150M	C73
1015290	HSK100ABB200175M	C121
1015304	CV40DA188600	F24
1015305	CV40DA208500	F24
1015306	CV50DA188300	F64
1015307	CV50DA188600	F64
1015308	SS050DA304438	I15
1015309	SS050DA301544	I12–13
1015310	SS050DA308516	I16–17
1015311	SS050DA304681	I15
1015312	SS062DA301319	I12–13
1015313	SS062DA301544	I12–13
1015334	SS075DA204469	I15
1015335	SS075DA208531	I16–17
1015336	SS075DA308516	I16–17
1015337	SS075DA204712	I15
1015338	SS100DA104488	I15
1015339	SS100DA188638	I16–17
1015340	SS100DA201600	I12–13
1015341	SS100DA208531	I16–17
1015342	SS100DA104731	I15
1015343	SS125DA108556	I16–17
1015362	SS125SA125075	I27
1015363	SS150SA150100	I27
1015374	SS125DA108756	I16–17
1015375	SS125DA181838	I12–13
1015376	SS125DA188762	I16–17
1015378	SS150DA201600	I12–13
1015379	SS150DA208531	I16–17
1015380	SS150DA108756	I16–17
1015381	SS150DA188762	I16–17
1015384	SS200SA200100	I27
1015404	SS175DA188762	I16–17
1015405	SS200DA188762	I16–17
1015410	QC40DA108200	H12
1015411	QC40DA188206	H12
1015412	QC40DA208181	H12
1015413	QC40DA308163	H12
1015483	SS075DA301344	I12–13
1015515	CV40DA208300	F24
1015517	SS125DA184738	I15
1015518	SS075DA108588	I16–17
1015519	SS062DA308516	I16–17
1015520	SS100DA101650	I12–13
1015522	SS062DA201600	I12–13
1015544	QC30DA108200	H5
1015545	SS150DA404791	I15
1015546	QC30DA208181	H5
1015548	R8DA188181	H26
1015552	QC30DA308162	H5
1015594	SS125DA184988	I15
1015595	QC30DA188206	H5
1015596	CV40DA188300	F24
1015597	SS150DA181838	I12–13
1015601	SS075DA101650	I12–13
1015625	SS100DA181638	I12–13
1015629	SS150DA208731	I16–17
1015631	SS200DA181838	I12–13
1015666	SS100DA301544	I12–13
1015669	SS075DA201600	I12–13
1015694	SS062DA208569	I16–17
1015695	SS075DA301544	I12–13
1015696	SS100DA308516	I16–17
1015698	SS100DA108556	I16–17
1015703	SS125DA208531	I16–17
1015734	SS100DA208431	I16–17
1015736	SS062DA201325	I12–13
1015737	SS150DA404104	I15
1015764	SS200DA201800	I12–13
1015765	SS200DA101850	I12–13
1015905	SS050DP308403	I21
1015906	SS075DP308403	I21
1015910	SS125FC188888	I22
1015944	SS125DP188696	I21
1015947	SS150FC188888	I22
1015949	SS100DP308403	I21
1015952	SS150FC188688	I22
1015975	SS075FC188688	I22
1015976	SS175FC188888	I22
1015979	SS100DP108562	I21
1015980	SS075DP208448	I21
1015981	SS100DP208448	I21
1015982	SS100FC188688	I22
1016342	LER16M	A112–113, A183, I8, I10, L19
1016366	LNER25M	A183
1016368	LNER32M	C17
1016374	KLS40M	A509, A548, C67, C89, C116, E53, E89, G34, G70, L36
1016376	CDK22M	A337, A421, C67, C89, C116, E53, E89, G34
1016411	JTC6	J71
1016412	KTC6	J73
1016413	LTC6	J75
1016464	JTC8	J71
1016465	KTC8	J73
1016466	LTC8	J75
1016467	JTC10	J71
1016468	KTC10	J73
1016469	LTC10	J75
1016470	JTC12	J71
1016471	KTC12	J73
1016472	LTC12	J75
1016473	JTC025	J71
1016524	KTC025	J73
1016525	LTC025	J75
1016529	JTC031	J71
1016530	KTC031	J73
1016531	LTC031	J75
1016532	JTC043	J71
1016533	KTC043	J73
1016536	SM812 K9	A234–235, A404, A473–476
1016552	SM871 K9	A403
1016574	SM872 K9	A403
1016576	SM885 K9	A232–233
1016578	SM886 K9	A232–233
1016580	SM891 K9	A232
1016584	LTC043	J75
1016585	JTC050	J71
1016586	KTC050	J73
1016587	LTC050	J75
1016589	JTC037	J71
1016590	KTC037	J73
1016591	LTC037	J75
1016592	KTC056	J73
1016593	LTC056	J75
1016602	SKTP343 K9	A80–81, A150–151, A301–302, A467–468, A492
1016624	SKCP343 K9	A78–80, A145–148, A229–231, A297–299, A376, A399, A466, A491, C37
1016644	IWSN433 K9	A142, A174, A226, A277, A288, A316, A368, A370, A396, A456, A458, A527, A561
1016648	ITSN323 K9	A139–140, A173
1016658	LTC062	J75
1016660	LTC069	J75
1016663	LTC075	J75
1016674	ISSN433 K9	A137–139
1016678	ICSN433 K9	A134–135, A265, A360
1016680	IDSN433 K9	A267–269, A347–349, A436–438, A519–520, A594–596
1016682	IDSN443 K9	A267–269, A347–349, A436–438, A519–520, A594–596
1016705	LTC081	J75
1016708	LTC087	J75
1016963	50TGST6	J21
1017014	50TGST8	J21
1017015	50TGST10	J21
1017016	50TGST12	J21
1017017	50TGST025	J21
1017018	50TGST031	J21
1017019	50TGST037	J21
1017020	50TGST043	J21
1017021	50TGST050	J21
1017022	50TGST056	J21
1017023	50TGST062	J21
1017074	50TGST006P	J21
1017075	50TGST012P	J21
1017083	50TGST025021M	J20
1017134	50TGST028021M	J20
1017135	50TGST035027M	J20
1017137	50TGST040032M	J20
1017139	50TGST045034M	J20
1017140	50TGST060049M	J20
1017142	50TGST070055M	J20
1017174	SMYE3 K9	A91, A97, A155, A178, A237–238, A248, A309–310, A323, A386–388, A408, A478, C40
1017176	SMYI3 K9	A91, A97, A155, A178, A237–238, A248, A309–310, A323, A386–388, A408, A478, C40
1017178	SMYE4 K9	A155, A178, A309–310, A323, A387–388, A408, A478, C40
1017180	SMYI4 K9	A155, A178, A309–310, A323, A387, A408, A478, C40
1017204	50TGST080062M	J20
1017208	50TGST090070M	J20
1017209	50TGST100080M	J20
1017210	50TGST110090M	J20
1017218	IDSN532 K9	A360
1017220	ITSN322 K9	A85, A140, A224, A284–285, A365–366
1017222	ISSN332 K9	A85
1017224	IRSN33 K9	A137
1017226	IVSN322 K9	A141–142, A174, A225–226, A286–287, A366–367, A369, A454–455, A457, A526–527, A559–560, A600
1017228	SKVN343 K9	A152, A302, A377, A468, A562, C37
1017230	IDSN432 K9	A135, A169–171, A221–223, A279–281, A315, A360–362, A369, A395, A448–450, A487, A522–524, A560
1017232	IDSN442 K9	A135–136, A221–222, A279–281, A360–362, A369, A448–450, A457, A470, A522–524, A558, A560
1017244	IRSN42 K9	A378, A470
1017246	IRSN43 K9	A137, A281, A362, A450
1017252	ICSN432 K9	A84, A134, A166–168, A221, A278–279, A314, A358, A368, A393, A447, A456, A485, A521, A558–559, C34
1017264	75TGST6	J28
1017265	75TGST8	J28
1017266	75TGST10	J28
1017267	75TGST12	J28
1017268	75TGST025	J28
1017269	75TGST031	J28
1017270	75TGST037	J29
1017271	75TGST043	J28
1017272	75TGST050	J29
1017273	75TGST056	J29
1017274	ICSN442 K9	A378, A469
1017276	ITSN433 K9	A139–140, A173, A274, A284–285, A365, A453, A472
1017278	ISSN432 K9	A172, A223, A282–283, A363–364, A451–452
1017280	ISSN442 K9	A471–472
1017296	ISSN533 K9	A283, A363–364, A451–452, A471–472
1017298	ICSN533 K9	A278, A358, A360, A393, A447–448, A469, A521–522, A558
1017300	ISSN633 K9	A363–364, A451–452, A524–525, A598–599
1017324	75TGST062	J29
1017325	75TGST068	J29
1017326	75TGST075	J29
1017327	75TGST081	J29
1017328	75TGST087	J29
1017329	75TGST006P	J28
1017330	75TGST012P	J29
1017331	75TGST025P	J29
1017332	75TGST037P	J29
1017333	75TGST050P	J29
1017334	ICSN633 K9	A358, A360, A447–448, A521–522, A597–598
1017384	100TGST6	J40
1017385	100TGST8	J40
1017386	100TGST10	J40
1017387	100TGST12	J40
1017388	100TGST025	J40
1017389	100TGST031	J40
1017390	100TGST037	J40
1017391	100TGST043	J40
1017392	100TGST050	J40
1017393	100TGST056	J40
1017454	100TGST062	J40
1017455	100TGST068	J40
1017456	100TGST075	J41
1017457	100TGST081	J41
1017458	100TGST087	J41
1017459	100TGST094	J41
1017460	100TGST100	J41
1017461	100TGST112	J41
1017462	100TGST006P	J40
1017463	100TGST012P	J40
1017504	100TGST025P	J41
1017505	100TGST037P	J41
1017506	100TGST050P	J41
1017507	100TGST075P	J41
1017508	150TGST100	J48
1017509	150TGST112	J48
1017510	150TGST125	J48
1017511	150TGST137	J48
1017512	150TGST150	J48
1017513	150TGST162	J48
1017544	KM32TSBN52100M	A263
1017574	150TGST175	J48
1017575	150TGST075P	J48
1017576	150TGST100P	J48
1017577	150TGST125P	J48
1017578	150TGST150P	J48
1017580	SS100TCL769	I19
1017581	SS075TCJ731	I19
1017625	SS150TCTG100756	I7
1017627	SS075TOJ712	I20
1017629	SS100TOK700	I20
1017631	SS100TOL750	I20
1017748	SS100TCK719	I19
1017937	BT40TA1106	E42
1017938	CV40TA1137	F27
1017939	BT50TA1187	E82
1017941	SS100STL169	I18
1017943	QC40TA1137	H13
1017996	CV50TA15200	F69
1018054	CV40TA7137	F27
1018139	MS1109	A570
1018159	SA50CLNS5012	A195
1018160	SA50CLNT5012	A195
1018161	SA40CLNS4008	A195
1018162	SA40CLNT4008	A195
1018163	SA50CLNS5008	A195
1018167	MS1081	A324
1018214	SA50CLNT5008	A195

Order No.	Catalog No.	Page(s)
1018242	QC30EM025175	H6
1018311	CV50SS100400	F73
1018312	CV50SS100600	F73
1018313	CV50SS100800	F73
1018354	CV50SS125400	F73
1018355	CV50SS125600	F73
1018356	CV50SS125800	F73
1018357	CV50SS150400	F73
1018358	CV50SS150600	F73
1018359	CV50SS150800	F73
1018360	CV50SS175400	F73
1018361	CV50SS200562	F73
1018362	CV50SS200762	F73
1018424	CV50SS225650	F73
1018425	CV50SS250800	F73
1018426	CV40SS100400	F30
1018427	CV40EM025250	F28
1018525	CM66	A403
1018527	CM68	A233
1018529	CM71	A232
1018531	CM72	A236, A307–308, A321, A385–386, A407, A477, A492, A531, A601
1018533	CM73	A235–236, A307–308, A321, A385–386, A407, A477, A492, A531, A601
1018567	CM79	A232
1018569	CM80	A477, A531, A601
1018571	CM81	A477, A531, A601
1018614	MS1213	A324–325, A410
1018667	QC40EM025138	H14
1018668	QC30EM018175	H6
1018669	QC30EM038175	H6
1018670	QC30EM050175	H6
1018671	QC30EM062175	H6
1018672	QC30EM075213	H6
1018714	QC30EM100269	H6
1018715	QC30EM125363	H6
1018716	QC30SM050125	H7
1018717	QC30SM075131	H7
1018718	QC30SM100131	H7
1018719	QC30SM125144	H7
1018720	QC30SM150156	H7
1018721	QC30MT1100	H8
1018722	QC30MT2212	H8
1018723	QC30MT3281	H8
1018774	QC30JT1159	H9
1018775	QC30JT2181	H9
1018776	QC30JT3219	H9
1018777	QC30JT4262	H9
1018778	QC30JT6197	H9
1018779	QC30JT33197	H9
1018781	QC40EM018231	H14
1018782	QC40EM038231	H14
1018783	QC40EM050231	H14
1018844	QC40EM062231	H14
1018845	QC40EM075231	H14
1018846	QC40EM088294	H14
1018847	QC40EM100338	H14
1018848	QC40EM125369	H14
1018849	QC40SM050088	H15
1018850	QC40SM075088	H15
1018851	QC40SM100131	H15
1018852	QC40SM125150	H15
1018853	QC40SM150163	H15
1018904	QC40SM200163	H15
1018905	QC40MT1094	H16
1018906	QC40MT2206	H16
1018907	QC40MT3225	H16
1018908	QC40MT4306	H16
1018909	QC40JT2188	H17
1018910	QC40JT3225	H17
1018911	QC40JT4269	H17
1018912	QC40JT6194	H17
1018913	QC40JT33194	H17
1018979	QC50EM050275	H20
1018980	QC50EM088200	H20
1018981	QC50EM100306	H20
1018982	QC50EM200475	H20
1018983	QC50SM075125	H21
1019024	QC50SM100188	H21
1019025	QC50SM125188	H21
1019026	QC50SM250200	H21
1019027	QC50MT2188	H22
1019028	QC50MT3238	H22
1019029	QC50MT4325	H22
1019030	QC50MT5462	H22
1019095	QC50SM200188	H21
1019096	QC50EM038275	H20
1019097	QC40MT5700	H16
1019099	QC40EM150395	H14
1019100	QC50EM075275	H20
1019101	QC50EM062275	H20
1019102	QC50EM125306	H20
1019145	QC50EM150350	H20
1019146	QC50SM150188	H21
1019161	WC4	A296
1019237	KM32P	L42
1019273	QC50SM075600	H21
1019298	KM32TSLSSR16	A238
1019299	KM32TSLSSL16	A238
1019334	QC50SM100600	H21
1019335	QC50SM100800	H21
1019336	QC50SM125600	H21
1019337	QC50SM1251000	H21
1019406	KM32TSNER2	A235
1019407	KM32TSNSR2	A236
1019409	KM32TSNSL2	A236
1019410	KM32TSNER3	A235
1019411	KM32TSNSR3	A236
1019413	KM32TSNSL3	A236
1019443	MS–1879	A184, A570
1019508	KM32TSNKJCR11	A232
1019509	KM32TSNKUCR11	A233
1019564	KM32TSNVUCL16	A235
1019565	KM32TSNKJCL11	A232
1019566	KM32TSNKUCL11	A233
1019567	KM32TSNKXCL11	A233
1019867	MS1935	A495
1019892	S327	A494
1019924	S330	A494
1019943	SS031031G	H5, H12, I10, I13–15, I17, L32
1019945	KM63TSP	L42
1019975	SS038031G	A256–257, A333, A416–417, E12, E38, G22, G24, G60, I13, I17, L32
1019977	SS044038G	A504, A581, A627, C28, C58, C83, C106, C131, C143, D10, D28, D46, D60, E10, E36, E78, F22, F24, F62, G20, G58, H5, H12, I10, I13–15, I17, L32
1019979	SS050038G	I13, I17, L32
1019981	SS056041G	A543, A626–627, C16, C27–28, C57–58, C83, C105–106, D10, D28, D46, D60, E10, E13, E36, E38, E78, F18–19, F22, F56, F58, F62, G24, H5, H12, I11, L32
1019983	SS062041G	H26, I6, I13–15, I17, L32
1019985	SS075041G	A505, A544, A580, A627, C29, C59, C84, C107, C131, C138, C143, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59, I11, I13, I17, L32
1019987	SS081041G	A252–253, A257, A328–329, A332–333, A412–413, A416–417, A542, A610, A626, C16, C27, C57, C82, C105, D8, D45, D58, E9, E34, E39, E80, F18–20, F24, F56, F59–60, F64, G16–17, G25, G61, H4–5, H11–12, I6, I13, I15, I17, L32
1019989	SS094041G	A505, A544, A580, A627, C29, C59, C84, C107, C131, C138, C143, C160, C164, D11, D29, D47, D61, E11, E35, E37, E77, E79, F19, F21, F23, F61, F63, G18, G21, G57, G59, L32
1019991	SS112041G	A328–329, A412–413, A502, A544, A626–627, C57, C59, C82, C84, C105, C107, C143, D8, D11, D26, D29, D45, D47, D58, D61, E11, E34, E37, E76–77, E79, F18, F20, F23, F56, F59–61, F63, G17, G21, G55–57, G59, H11, H19, I6, I15, L32
1020017	SS162062G	A626, C105, D26, E76, G56, H19, L32
1020018	S337	A494
1020022	S339	A494
1020023	SS125050G	F20, H11, L32
1020044	S340	A494
1020049	SS175062G	L32
1020056	S350	A494
1020060	S353	A494
1020175	KM32TSBA06217	A249
1020176	KM32TSBA08236	A249
1020177	KM32TSBA10256	A249
1020178	KM32TSBA12276	A249
1020289	NPA075	A253, A329, A413, F20, H4, H11, I6, L18
1020290	NPA050	I6–7, L18
1020294	S863	A495
1020322	ELS100062	F73
1020326	NPA150	F20, H11, H19, L18
1020330	LNA138	I21
1020331	NPA100	A329, A413, F20, H4, H11, H19, I6, L18
1020374	NPA139	I21
1020376	LNA050M	A578, A626, C16, C27, C57, C105, I6
1020382	NPA208	A257, A333, F24, H5, H12, I17
1020415	NPA338	I21
1020417	NPA188	A257, A333, F24, F64, H5, H12, H26, I17, I22
1020420	NPA238	I21
1020454	KM32TSS10CLSER11	A248
1020456	KM32TSS12DLSER11	A248
1020458	KM32TSS20FLSER16	A248
1020461	KM32TSS25GLSEL16	A248
1020465	HPVLNA050G	L16
1020466	HPVLNA100G	L16
1020548	KLS05	A336, A420, A508, A586, C20, C30, C66, C152, D17, D50, E17, E52, E88, F32, F76, H7, H15, H21, H27, L37
1020550	KLS07	A336, A420–421, A508, A586, A631, A633, C20, C64, C66, C68, C88, C113, C115, C117, C152, C165, D15, D17, D33, D35, D49–50, D64–65, E17, E49, E52, E85, E88, F31–33, F75–77, H7, H15, H21, H27, I27, L37
1020552	KLS10	A336, A420–421, A508, A547, A586, A616, A631, A633, C20, C30, C64, C66, C68, C88, C113, C115, C117, D15, D17, D33, D35, D49–50, D64–65, E17, E49, E52, E54, E85, E88, F31–33, F75–77, H7, H15, H21, H27, I27, L37
1020558	CV50BB400600	F83
1020559	CV50BB600600	F83
1020560	CV50BB600120	F83
1020563	CV40BB400600	F39
1020574	KLS12	A420, A508, A547, A586, A616, A631, A633, C66, C68, C88, C113, C115, C117, D17, D33, D35, D50, D64–65, E52, E54, E85, E88, E90, F32–33, F75–77, H7, H15, H21–22, H27, I27, L37
1020576	KLS15	A508, A547, A586, A616, A633, C66, C88, C115, C117, D17, D35, D50, D65, E52, E88, E90, F32, F76–77, H7, H15, H21–22, I27, L37
1020578	KLS20	A547, A616, A633, C88, C115, C117, D35, D65, E88, F76–77, H15, H21–22, I27, L37
1020579	CKM7LP	A134–137, A140–142, A168–171, A173–174, A224, A284–285, A365–366
1020580	KLS25	C88, C115, D35, E88
1020582	KDK04	A336, A420, A508, A586, C20, C30, C66, C152, D17, D50, E17, E52, E88, F32, F76, H7, H15, H21, H27
1020594	KDK05	A336, A420, A508, A586, C20, C64, C66, C88, C113, C115, C152, C165, D15, D17, D33, D35, D49–50, D64–65, E17, E49, E52, E85, E88, F31–32, F75–76, H7, H15, H21, H27
1020595	CKM12	A521–522, A524–525, A597–599
1020596	KDK06	A336, A420–421, A508, A547, A586, A616, C20, C30, C64, C66, C88, C113, C115, D15, D17, D33, D35, D49–50, D64–65, E17, E49, E52, E85, E88, F31–32, F75–76, H7, H15, H21, H27
1020597	CKM13	A447–448, A451–452
1020598	KDK08	A420, A508, A547, A586, A616, C66, C88, C113, C115, D17, D33, D35, D50, D64–65, E52, E85, E88, F32, F75–76, H7, H15, H21, H27
1020599	CKM13LP	A358, A360, A363–364
1020600	KDK10	A508, A547, A586, A616, C66, C88, C115, D17, D35, D50, D65, E52, E88, F32, F76, H7, H15, H21
1020602	KDK12	A547, A616, C88, C115, D35, D65, E88, F76–77, H15, H21
1020603	CKM20	A368–369, A378, A447–448, A450–452, A456, A458, A469–472, A521–522, A527, A558–559, A561, C34
1020604	KDK16	A547, A616, C88, C115, D35, D65, E88, F77, H21
1020606	KDK16M	A336, A586, C20, C30, C65, C114, C152, D16, D34, E16, E50, E86, G32, G68
1020607	CKM22	A600
1020609	CKM23	A361, A378, A448–450, A453–455, A457, A470, A472, A522–524, A526–527, A558–560
1020611	CKM24	A521–522, A524–526, A597–599
1020634	CV40BB400120	F39
1020647	CKM23LP	A135, A169, A222–223, A225–226, A279–281, A284–287, A315, A360–362, A365–367, A395, A487
1020649	CKM20LP	A134–142, A166–168, A170–174, A221–223, A226, A240–241, A278–283, A285–288, A314–316, A358, A360, A362–364, A368–370, A393, A395–396, A485, A487
1020682	KM32TSS12DSDUPR07	A245
1020683	KM32TSS12DSDUPL07	A245
1020724	KM32TSS16ESDUPR07	A245
1020725	KM32TSS16ESDUPL07	A245
1020727	KM32TSS12DNER2	A247
1020728	KM32TSS12DNEL2	A247
1020872	11ERS000M	J57
1020917	SRS3	A78–81, A83, A145–153, A229–231, A297–302, A377, A467–468, A491–492, A562, C37
1020919	SRS4	A145–147, A150, A229, A297–298, A300–301, A376, A399, A466, A491, C37
1020923	SSY3T	A91, A97, A155, A178, A237–238, A248, A309–310, A323, A386–388, A408, A478, C40
1020935	SSY4T	A155, A178, A309–310, A323, A387–388, A408, A478, C40
1020941	SSN2T	A248, A323
1020943	SSA3T	A91, A97, A155, A178, A237–238, A248, A309–310, A323, A386–388, A408, A478, C40
1020965	SSA4T	A155, A178, A309–310, A323, A387–388, A408, A478, C40
1020967	MS109	A232
1020971	MS111	A403
1021011	MS524	A153–154
1021045	MS1252	A197–198
1021072	KM32TSBN52048M	A263
1021073	KM32TSBN75048M	A263
1021077	S75TGNPSET	J27
1021078	S100TGNPSET	J38
1021079	S150TGNPSET	J47
1021108	100DA0047	J67
1021109	100DA0062	J67
1021110	100DA0094	J67
1021111	100DA0109	J67
1021112	100DA0125	J67

Order No.	Catalog No.	Page(s)
1021113	100DA0172	J67
1021122	KM32TSBAI16276	A250
1021134	SSCC031	L34
1021135	MS959	A232–235, A404, A473–476
1021138	SSCC044	C28, C58, C83, C106, L34
1021140	SSCC050	L34
1021142	SSCC056	C27–28, C57–58, C83, C105–106, L34
1021144	100DA0203	J67
1021154	SSCC075	C29, C59, C84, C107, L34
1021156	SSCC081	A610, C27, C57, C82, C105, L34
1021158	SSCC094	C29, C59, C84, C107, L34
1021160	SSCC112	C57, C59, C82, C84, C105, C107, L34
1021161	MS1430	A517–518, A554, A556, A591, C33–34
1021162	SSCC125	L34
1021167	KM32TSHDB6126	A251
1021176	SSCC162	C105, L34
1021178	SSCC175	L34
1021180	SSC031	L34
1021183	MS1375	A234
1021204	SSC044	L34
1021206	SSC056	L34
1021208	SSC081	L34
1021216	SSC038081	L35
1021220	SSC056066	L35
1021221	MS311	L17
1021222	SSC081103	L35
1021254	SSC112150	L35
1021296	BT30ER20060M	E10
1021339	MS1153	A80–83, A96, A101, A152, A244–246, A299, A400–402, C37
1021341	MS1155	A78–80, A82–83, A94–96, A100–101, A244–245, A400
1021343	MS1156	A78–81, A83, A86, A145–153, A157, A181, A229–231, A297–302, A377, A467–468, A491–492, A562, C37
1021375	MS1158	A145–147, A150, A229, A297–298, A300–301, A376, A399, A466, A491, C37
1021387	MS1220	A89, A232–233
1021389	MS1221	A403
1021421	STCM9	A134–135, A140–142, A224, A284–285, A365–366
1021423	STCM11	A134–135, A172, A221–223, A225–226, A232, A240–241, A278–288, A314–316, A358, A360–370, A378, A393, A395–396, A447–458, A469–472, A485, A487, A521–524, A526–527, A558–561, C34
1021451	STCM4	A521–522, A524–525, A597–599
1021455	STCM8	A358, A360, A363–364, A447–448, A451–452
1021460	SS038ER08500	I10
1021461	STCM19	A521–522, A524–526, A597–599
1021462	SS050ER11700	I10
1021463	STCM20	A600
1021467	KM32TSJT1	A259
1021494	SS075ER16700	I10
1021496	SS100ER20700	I11
1021498	SS100ER25750	I11
1021507	STCM38	A168, A171, A173–174
1021524	KM63RACADS60DT	A217
1021525	KM63NCMS60U	A206
1021526	KM63ECMS80W	A207
1021527	KM63ECMS48	A207
1021528	KM63NCMS40	A206
1021529	KM63NACADS85DT	A216
1021530	KM32NCMS20	A206
1021531	KM32NCM2425	A204
1021532	KM32NCM3225	A204
1021533	KM32NCMS32P	A206
1021535	KLM43	A168, A171–172, A174, A240–241, A314–316, A393, A395–396, A485, A487
1021537	KLM46	A84, A134, A142, A221, A223, A226, A278–279, A281–285, A288, A314–316, A358, A360, A362–365, A368, A370, A393, A395–396, A447, A449–453, A456, A458, A485, A487, A521, A527, A558–559, A561, C34
1021539	KLM58	A278, A283, A358, A360, A363–364, A393, A447–448, A451–452, A521–522, A558
1021541	KLM68	A358, A360, A363–364, A447–448, A451–452, A521–522, A524–525, A597–599
1021543	KLM33L	A171, A173–174
1021565	KLM34L	A84–85, A134–135, A140–142, A224–226, A284–287, A365–367, A369, A454–455, A457, A526–527, A559–560, A600
1021567	KLM46L	A135, A221–223, A279–281, A360–362, A369, A448–450, A457, A522–524, A558, A560
1021574	KM32NCM4040	A204
1021575	KM32NCM5040	A204
1021576	KM32NCMEF	A209
1021578	KM32NCMS32R	A206
1021579	KM32NCADS16T	A215
1021585	KMS4	A378, A469–472
1021587	KMS5	A469, A471–472
1021635	KM40NCMS40S	A206
1021636	KM40NCMS24	A206
1021637	KM40NCM3228	A204
1021638	KM40NCM4028	A204
1021640	KM40NCM6444	A204
1021641	KM40NCM5044	A204
1021642	KM40NCMEF	A209
1021657	CM113	A234–235, A303–305, A383–384, A404, A473–476
1021659	CM114	A234–235, A303–305, A383–384, A404, A473–476
1021679	CM120	A531, A601
1021681	CM121	A531, A601
1021697	KM40NCADS40	A215
1021698	KM40ECMS32	A207
1021699	KM40ECMS50S	A207
1021700	KM40NACADS55	A216
1021701	KM40RACADS40DT	A217
1021702	KM40NACADS55DT	A216
1021703	KM50ECMS40	A207
1021744	KM50NCMS50T	A206
1021745	KM50ECMS60U	A207
1021746	KM50NCM4034	A204
1021747	KM50NCMS32	A206
1021748	KM50NCM6454	A204
1021749	KM50NCMEF	A209
1021750	KM50NCADS50	A215
1021752	KM50NACADS70DT	A216
1021753	KM63NCMEF	A209
1021755	CM168	A89
1021757	CM169	A89
1021783	KLC46L	A222
1021800	RK31118B	L50
1021816	KM40TF	L38
1021817	KM50TF	L38
1021818	KM63TF	L38
1021844	RK31118	L50
1021918	NP101	I13, L30
1021920	NP201	I13, L30
1021948	LN101	I13, L30
1021950	LN181	I13, L30
1022071	CM158	A234, A303, A305–306
1022073	CM159	A303, A305
1022436	CKM37	A232
1022560	KM32TSMDPNN1506	A222
1022702	NP181	I13, L30
1022726	NP301	I13, L30
1022827	S1045PKG	D48, D63, E15, F28, F70, H6, H14, H27
1022884	LN201	I13, L30
1022886	LN301	I13, L30
1022897	S836PKG	A250
1023224	KM32TSMCLNR12	A221
1023228	KM32TSMCLNL12	A221
1023232	KM32TSMDJNR1506	A221
1023233	KM32TSMDQNR1506	A222
1023274	KM32TSMDUNR1506	A223
1023275	KM32TSMDJNL1506	A221
1023276	KM32TSMDQNL1506	A222
1023277	KM32TSMDUNL1506	A223
1023280	KM32TSMVJNR16	A225
1023281	KM32TSMTFNL16	A224
1023283	KM32TSMVJNL16	A225
1023476	T1SET	J81
1023697	KM32PKG3S	A204, A206, A208, A210, A212–213, A262, A342, A428, A515, A588, C72, C120, D18, D36, D51, E59, E94, F38, F82, G39, G75
1023698	KM32PKG3L	A205, A209, A214, D51, D66, E18, E59, E94, F38, F82, G39
1023699	KM40PKG3S	A204, A206–208, A210, A212–213, A342, A428, A515, A550, A588–589, A617, A619, C72, C120, D18, D36, D51, D66, E59, E94, F38, F82, G39, G75
1023700	KM40PKG3L	A205, A209–210, A214, C41, D66, E59, E94, F38, F82, G39, G75
1023701	KM80PKG3L	A209
1023725	KM50PKG3L	A205, A209, A214, A515, A588, C41, D66, E94, F82
1023726	KM50PKG3S	A204, A206–208, A210, A212–213, A427, A515, A550, A588–589, A617, A619, C72, C120, D18, D36, D51, D66, E59, E94, F38, F82, G39, G75
1023729	KM32TSS25EMCLNR12	A240
1023730	KM32TSS25EMDUNR15	A241
1023735	S843	A249, A324, A409, A495
1023737	S850	A184
1023740	S852	A249, A324, A409, A495
1023754	S862	A249–250, A324, A409, A495
1023761	S884	A495
1023841	KM32TSS25EMCLNL12	A240
1023866	KM32TSS25GMCLNR12	A240
1023868	KM32TSS25GMCLNL12	A240
1023938	KM32TSS25GMDUNR15	A241
1024232	KM32TSTGB075316	A253
1024263	KM32TSEM050197	A258
1024325	KM32TSDA208236	A257
1024326	KM32TSDA188295	A257
1024639	ER08WEM	A112–113, I10
1024640	ER11WEM	A112–113, A580, I8, I10
1024642	LER08M	A112–113, I10, L19
1024643	LER11M	A112–113, A580, I8, I10, L19
1024646	KM50CLNSEF	A191
1024677	SA40CLNS4012	A195
1024678	SA40CLNT4012	A195
1024679	KM40CLNSEF	A191
1024680	KM50CLNTEF	A192
1024681	KM40CLNTEF	A192
1024682	KM32CLSR1250B	A190
1024714	KM32CLSR1250C	A190
1024716	KM32CLSR1650C	A190
1024718	KM32CLSR2050K	A190
1024719	KM32CLSL2050K	A190
1024980	ELS025025PKG	A630, C19, C62, C110, D13, D48, D63, E15, E45, F28, F70, H6, H14
1024981	ELS038031PKG	A258, A335, A419, A630, C19, C62, C86, C110, D13, D48, D63, E15, E42, E45, F27–28, F70, H6, H14, H20, H27
1024982	ELS044038PKG	A258, A335, A419, A507, A546, A584, A630, C19, C62, C86, C110, D13, D31, D48, D63, E15, E45, E83, F28–29, F70, F72, H6, H14, H20, H27
1024983	ELS056050PKG	A335, A419, A507, A546, A584, A630, C19, C62, C86, C110, D13, D48, D63, E15, E45, F28–29, F70, F72, H14, H20, H27
1025014	ELS062050PKG	A335, A419, A507, A546, A549, A584, A615, A630, C62, C86, C110, D13, D31, D48, D63, E15, E45–46, E82–83, F28–30, F69–70, F72, F74, H6, H14, H20, H27
1025015	ELS075069PKG	A507, A614, A630, C110, D31, D48, D63, F28, F71–73, H20
1025016	ELS100088PKG	A546, A549, A584, A614–615, A630, C110, D31, D63, E83, F71, F73–74, H20
1025017	ELS031031PKG	D13, D48, D63, E15, E45, F28, F70
1025051	S841PKG	A184, A250
1025177	ELS075056PKG	A419, A507, A546, A549, A584, A614–615, A630, C62–63, C86, C110, D13, D31, D48, D63, E45–46, E83, F28–30, F70–72, F74, H6, H14, H20, H27
1025217	CSS112175PKG	F73
1025459	RK31114B	L50
1025533	OEW044	L56
1025540	ELS050050PKG	F69
1025543	ELS075062PKG	A507, A584, A614, A630, C62, C86, C110, D13, D31, D48, D63, E45, E83, F28–30, F71–73, H6, H14, H20
1025544	OEW050	I15, L56
1025546	OEW062	I21, L56
1025547	OEW068	I17, L56
1025548	OEW075	I13, I15, I19–20, L56
1025550	OEW088	I21, L56
1025551	OEW094	I15, I19–20, L56
1025552	OEW100	A257, A333, F24, H5, H12, I17, L56
1025553	OEW106	I6–7, L56
1025567	SHVBR0325M	L16
1025568	SHVBR0445M	L16
1025570	SHVBR0545M	L16
1025574	OEW112	L56
1025575	OEW119	I15, L56
1025576	OEW125	I13, I17–20, L56
1025581	OEW150	A257, A333, F24, F64, H5, H12, H26, I13, I17, I22, L56
1025582	OEW162	L56
1025583	OEW168	E77, F61, G57, I15, L56
1025600	CV40TG075600	F20
1025603	CV50TG075279G	F60
1025604	OEW175	I13, L56
1025605	OEW188	A253, A329, A413, F20, H4, H11, I6, L56
1025607	OEW225	A257, A329, A413, F20, H4, H11, H19, I6, L56
1025608	OEW250	L56
1025635	CV50TG075579G	F60
1025637	SS100TG050698G	I6
1025638	SS150TG100925	I6
1025640	QC30TG075253	H4
1025641	QC30TG100394	H4
1025642	QC40TG075211	H11
1025643	QC40TG100255	H11
1025674	OEW138	I21, L56
1025749	8ER010M	J54
1025750	8ER015M	J54
1025751	8ER020M	J54
1025752	8ER025M	J54
1025753	8ER030M	J54
1025771	CV40TG100300	F20
1025772	CV40TG100600	F20
1025773	CV40TG100400	F20
1025774	8ER035M	J54
1025775	8ER040M	J54
1025776	8ER045M	J54
1025777	8ER050M	J54
1025778	11ER010M	J54
1025779	11ER015M	J54
1025780	11ER020M	J54
1025781	11ER025M	J54
1025782	11ER030M	J54
1025783	11ER035M	J54
1025794	SS125TG075850	I6

Order No.	Catalog No.	Page(s)
1025795	SS200TG100819	I6
1025796	SS175TG100819	I6
1025797	SS150TG075775	I6
1025798	QC50TG100272	H19
1025799	CV40TG075275	F20
1025804	11ER040M	J54
1025805	11ER045M	J54
1025806	11ER050M	J54
1025807	11ER055M	J54
1025808	11ER060M	J54
1025809	11ER065M	J54
1025810	11ER070M	J54
1025811	20ER010M	J54
1025812	20ER020M	J54
1025813	20ER030M	J54
1025834	20ER040M	J54
1025835	20ER050M	J54
1025836	20ER060M	J54
1025837	20ER070M	J54
1025838	20ER080M	J54
1025839	20ER090M	J55
1025840	20ER100M	J55
1025841	20ER110M	J55
1025842	20ER120M	J55
1025843	20ER130M	J55
1025864	8ERS000M	J57
1025865	20ERS000M	J57
1025914	CV50TG075800G	F60
1025915	CV50TG0751000G	F60
1025916	CV50TG0751200G	F60
1025921	CV40EM018250	F28
1025922	CV40EM050262	F28
1025923	CV40EM062375	F28
1025944	CV40EM075375	F28
1025945	CV40EM088400	F28
1025946	CV40EM100400	F28
1025947	CV40EM125425	F28
1025948	CV40MT1175	F36
1025949	CV40MT2244	F36
1025950	CV40MT3300	F36
1025951	CV40JT2244	F37
1025952	CV40JT33256	F37
1025953	CV40JT3278	F37
1025986	CV40EM150462	F28
1025987	CV40MT4388	F36
1026020	CV50EM038250	F70
1026021	CV50EM050262	F70
1026022	CV50EM062375	F70
1026023	CV50EM088375	F70
1026044	CV50EM100400	F70
1026045	CV50EM125400	F71
1026046	CV50EM200562	F71
1026049	CV50MT1150	F80
1026050	CV50MT2200	F80
1026051	CV50MT3250	F80
1026052	CV50MT4338	F80
1026091	CV50MT5375	F80
1026093	CV50EM038650	F70
1026114	CV50EM050462	F70
1026115	CV50EM050662	F70
1026116	CV50EM062575	F70
1026117	CV50EM062775	F70
1026118	CV50EM075575	F70
1026119	CV50EM075775	F70
1026120	CV50EM088575	F70
1026121	CV50EM088775	F70
1026122	CV50EM100800	F71
1026123	CV50EM125600	F71
1026144	CV50EM150800	F71
1026145	CV50EM200762	F71
1026215	CV40SA100400	F33
1026216	CV40SA125400	F33
1026217	CV50SA100400	F77
1026218	CV50SA125600	F77
1026219	BT40SA100400	E54
1026220	BT40SA125400	E54
1026221	BT50SA125600	E90
1026222	QC50SA200600	H22
1026223	CV50SA150600	F77
1026244	CV50SA200600	F77
1026250	CV50EM075375	F70
1026284	CV50EM150400	F71
1026286	CV50EM038450	F70
1026287	CV50EM100600	F70
1026288	CV50EM125800	F71
1026289	CV50EM150600	F71
1026290	CV50EM200962	F71
1026338	CV40EM038250	F28
1026340	BT50SA150600	E90
1026342	QC50SA125600	H22
1026343	QC50SA150600	H22
1026379	CV50JT3268	F81
1026380	CV40ZEM050175	F28
1026381	CV40ZEM062175	F28
1026382	CV40ZEM075175	F28
1026383	CV40ZEM100175	F28
1026400	16ERTC8	J59
1026401	16ERTC10	J59
1026402	16ERTC12	J59
1026403	16ERTC025	J59
1026404	CV40ZEM012138	F28
1026405	CV40EM012450	F28
1026406	CV40ZEM018138	F28
1026407	CV40EM018450	F28
1026408	CV40ZEM025138	F28
1026409	CV40EM025450	F28
1026410	CV40ZEM031138	F28
1026411	CV40EM031450	F28
1026412	CV40ZEM038138	F28
1026424	20ERTC8	J59
1026425	20ERTC10	J59
1026426	20ERTC12	J59
1026427	20ERTC025	J59
1026428	20ERTC031	J59
1026429	20ERTC043	J59
1026430	20ERTC050	J59
1026431	20ERTC037	J59
1026432	25ERTC8	J59
1026433	25ERTC10	J59
1026444	25ERTC12	J59
1026445	25ERTC025	J59
1026446	25ERTC031	J59
1026447	25ERTC043	J59
1026448	25ERTC050	J59
1026449	25ERTC037	J59
1026450	25ERTC056	J59
1026451	25ERTC062	J59
1026452	32ERTC8	J59
1026453	32ERTC10	J59
1026454	32ERTC12	J59
1026455	32ERTC025	J59
1026456	32ERTC031	J59
1026457	32ERTC043	J59
1026458	32ERTC050	J59
1026459	32ERTC037	J59
1026460	32ERTC056	J59
1026461	32ERTC062	J59
1026462	32ERTC069	J59
1026463	32ERTC075	J59
1026474	32ERTC081	J59
1026475	40ERTC025	J59
1026476	40ERTC031	J59
1026477	40ERTC043	J59
1026478	40ERTC050	J59
1026479	40ERTC037	J59
1026480	40ERTC056	J59
1026481	40ERTC062	J59
1026482	40ERTC069	J59
1026483	40ERTC075	J59
1026494	40ERTC081	J59
1026495	40ERTC087	J59
1026496	40ERTC093	J59
1026497	40ERTC100	J59
1026590	RK40CV	L49
1026620	BT40EM050255	E45
1026681	HSK100ABB100300M	C121
1026690	RK50CV	L49
1026729	RK31114	L50
1026730	RK32114	L50
1026734	RK50HPCV	L49
1029094	150TG0391	J44
1029095	150TG0406	J44
1029096	150TG0422	J44
1029099	150TG0484	J44
1050556	100TGCHP0750	J36
1056234	SKSP453 K9	A150, A300–301
1056236	SM290 K9	A296
1058528	KLM810	A521–522, A524–526, A597–599
1059670	MS1161	A181
1059818	MS1936	A191–192
1064539	CV50TA1137	F69
1064863	BT40EM050400	E45
1064864	BT40EM100500	E45
1065951	CV50BB400120	F83
1067609	CKC3	A155, A178, A237–238, A248, A309–310, A323, A386–388, A408, A478, C40
1067610	CKC4	A155, A178, A309–310, A323, A387–388, A408, A478
1067613	CM74	A153–154, A177, A236, A247, A307–308, A321, A407
1067614	CM75	A153–154, A177, A235–236, A307–308, A321, A407
1067630	CM146	A88–89, A97, A247, A321–322, A407
1067631	CM147	A88–89, A97, A247, A321–322, A407
1080298	180DAC0312	J67
1080473	100TGC0250	J35
1080494	100TGC0266	J35
1080495	100TGC0281	J35
1080496	100TGC0297	J35
1080497	100TGC0312	J35
1080498	100TGC0328	J35
1080499	100TGC0344	J35
1080500	100TGC0359	J35
1080501	100TGC0375	J35
1080502	100TGC0391	J35
1080503	100TGC0406	J35
1080504	100TGC0422	J35
1080505	100TGC0438	J35
1080506	100TGC0453	J35
1080507	100TGC0469	J35
1080508	100TGC0484	J35
1080509	100TGC0500	J35
1080510	100TGC0516	J36
1080511	100TGC0531	J36
1080512	100TGC0547	J36
1080513	100TGC0562	J36
1080514	100TGC0578	J36
1080515	100TGC0594	J36
1080516	100TGC0609	J36
1080517	100TGC0625	J36
1080518	100TGC0641	J36
1080519	100TGC0656	J36
1080520	100TGC0672	J36
1080521	100TGC0688	J36
1080522	100TGC0703	J36
1080523	100TGC0719	J36
1080524	100TGC0734	J36
1080525	100TGC0750	J36
1080526	100TGC0766	J36
1080527	100TGC0781	J36
1080528	100TGC0797	J36
1080529	100TGC0812	J36
1080530	100TGC0828	J37
1080531	100TGC0844	J37
1080533	100TGC0875	J37
1080534	100TGC0891	J37
1080535	100TGC0906	J37
1080536	100TGC0922	J37
1080537	100TGC0938	J37
1080538	100TGC0953	J37
1080539	100TGC0969	J37
1080540	100TGC0984	J37
1080541	100TGC1000	J37
1080542	100TGC060M	J30
1080543	100TGC080M	J31
1080544	100TGC100M	J31
1080545	100TGC120M	J31
1080546	100TGC140M	J31
1080547	100TGC160M	J31
1080548	100TGC180M	J32
1080549	100TGC200M	J32
1080550	100TGC250M	J31
1080551	100TGCHP0375	J35
1080552	100TGCHP0438	J35
1080553	100TGCHP0500	J35
1080554	100TGCHP0562	J36
1080555	100TGCHP0625	J36
1080557	100TGCHP0875	J37
1080559	100TGCHP100M	J31
1080560	100TGCHP120M	J31
1080561	100TGCHP140M	J31
1080562	100TGCHP160M	J31
1080563	100TGCHP180M	J32
1080564	100TGCHP200M	J32
1080565	100TGCHP250M	J31
1080566	100DAC0125	J67
1080567	100DAC0141	J67
1080568	100DAC0156	J67
1080569	100DAC0172	J67
1080570	100DAC0188	J67
1080571	100DAC0219	J67
1080572	100DAC0234	J67
1080573	100DAC0250	J67
1080574	100DAC0266	J67
1080575	100DAC0281	J67
1080576	100DAC0297	J67
1080577	100DAC0312	J67
1080578	100DAC0328	J67
1080579	100DAC0344	J67
1080580	100DAC0359	J67
1080581	100DAC0375	J67
1080582	100DAC0391	J67
1080583	100DAC0406	J67
1080584	100DAC0422	J67
1080585	100DAC0438	J67
1080586	100DAC0453	J67
1080587	100DAC0469	J67
1080588	100DAC0484	J67
1080589	100DAC0500	J68
1080590	100DAC0516	J68
1080591	100DAC0531	J68
1080592	100DAC0547	J68
1080593	100DAC0562	J68
1080594	180DAC0250	J67
1080595	180DAC0266	J67
1080596	180DAC0281	J67
1080597	180DAC0297	J67
1080599	180DAC0328	J67
1080600	180DAC0344	J67
1080601	180DAC0359	J67
1080602	180DAC0375	J67
1080603	180DAC0391	J67
1080604	180DAC0406	J67
1080605	180DAC0422	J67
1080606	180DAC0438	J67
1080607	180DAC0453	J67
1080608	180DAC0469	J67
1080609	180DAC0484	J68
1080610	180DAC0500	J68
1080611	180DAC0516	J68
1080612	180DAC0531	J68
1080613	180DAC0547	J68
1080614	180DAC0562	J68
1080615	180DAC0578	J68
1080616	180DAC0594	J68
1080617	180DAC0609	J68
1080618	180DAC0625	J68
1080619	180DAC0641	J68
1080620	180DAC0656	J68
1080621	180DAC0672	J68
1080622	180DAC0688	J68
1080623	180DAC0703	J68
1080624	180DAC0719	J68
1080625	180DAC0734	J68
1080626	180DAC0750	J68
1082537	SS100TG050719	I6
1082772	100TGNP200M	J32
1082859	100TGNP250M	J31
1082885	100TGNP120M	J31
1082891	100TGNP060M	J30
1083003	150TG0468	J44
1083014	100DAC0203	J67
1083015	KM63NCMF	A208
1084368	50TGSTC050	J21

Order No.	Catalog No.	Page(s)
1084369	50TGSTC037	J21
1084370	50TGSTC025	J21
1084492	50TGSTC031	J21
1084493	50TGSTC043	J21
1084514	50TGSTC056	J21
1084589	BT40EM075150	E45
1084590	BT40EM100162	E45
1084591	BT40EM125250	E45
1084749	32ER110M	J55
1084750	32ER080M	J54
1084801	DWG MS1494	A197–198
1085040	HSK100ATG075120M	C105
1085675	KM50NCMSS32125	A205
1086087	200DAC100M	J66
1086425	HSK63AER16100M	C58
1086426	HSK63AER16160M	C58
1086427	HSK63AER20100M	C58
1086524	75TGSTC025	J28
1086525	75TGSTC031	J28
1086526	75TGSTC037	J29
1086527	75TGSTC043	J28
1086528	75TGSTC050	J29
1086530	75TGSTC062	J29
1086531	75TGSTC068	J29
1086532	75TGSTC075	J29
1086544	75TGSTC087	J29
1086547	100TGSTC031	J40
1086548	100TGSTC037	J40
1086549	100TGSTC043	J40
1086550	100TGSTC050	J40
1086552	100TGSTC062	J40
1086559	HSK63ATG100135M	C57
1086560	HSK100AER16100M	C106
1086561	HSK100AER16160M	C106
1086562	HSK100AER20100M	C106
1086563	HSK100AER25100M	C107
1086566	HSK63AER32100M	C59
1086567	HSK63ATG050160M	C57
1086568	HSK63ATG075115M	C57
1086569	50TGCHP0188	J18
1086570	50TGCHP0250	J18
1086571	50TGCHP0312	J18
1086573	75TGCHP0375	J25
1086574	100TGSTC075	J41
1086576	100TGSTC087	J41
1086578	100TGSTC100	J41
1086583	300DAC0156	J67
1086584	HSK100AER32100M	C107
1086585	HSK100AER40120M	C107
1086586	HSK100ATG050105M	C105
1086587	HSK100ATG050160M	C105
1086588	HSK100ATG100140M	C105
1086589	HSK100ATG150165M	C105
1086595	50TGCHP0125	J18
1086596	50TGCHP0375	J18
1086597	50TGCHP0438	J18
1086598	50TGCHP0500	J18
1086599	50TGCHP060M	J14
1086600	50TGCHP080M	J15
1086601	50TGCHP100M	J15
1086602	50TGCHP120M	J15
1086603	75TGCHP0250	J25
1086613	200DAC0125	J67
1086614	200DAC0141	J67
1086615	200DAC0156	J67
1086616	200DAC0172	J67
1086617	200DAC0188	J67
1086620	200DAC0234	J67
1086621	200DAC0250	J67
1086622	200DAC0266	J67
1086623	200DAC0281	J67
1086625	200DAC0312	J67
1086626	200DAC0328	J67
1086628	200DAC0375	J67
1086629	200DAC0344	J67
1086630	300DAC0141	J67
1086631	300DAC0125	J67
1086632	300DAC0188	J67
1086633	300DAC0172	J67
1086654	75TGCHP0438	J25
1086655	75TGCHP0500	J26
1086656	75TGCHP0562	J26
1086657	75TGCHP0625	J26
1086659	75TGCHP0750	J26
1086665	75TGCHP060M	J22
1086666	75TGCHP080M	J22
1086667	75TGCHP100M	J23
1086674	75TGCHP120M	J23
1086675	75TGCHP140M	J23
1086676	75TGCHP160M	J23
1086677	75TGCHP180M	J23
1086678	75TGCHP200M	J23
1086684	300DAC0234	J67
1086685	300DAC0219	J67
1086686	300DAC0203	J67
1086687	300DAC0250	J67
1086688	200DAC0391	J67
1086689	100TGCHP1000	J37
1086796	200DAC080M	J66
1086855	HSK63AER25100M	C59
1086856	HSK63AER40120M	C59
1087255	DWG ELS056038	F28, H6
1088102	DWG ELS075050	E46, F28, F30, F74
1091592	HPVLNA075G	L16
1091617	KM32TSCCLPL12	A232
1091627	KM32TSNVUCR16	A235
1092017	SA32CLNS2812	A195
1092019	SA32CLNT2812	A195
1092020	SA32CLNT2818	A195
1092046	SSCC062	L34
1092064	STCC11	A222
1092070	STCM35	A168
1092179	100DAC060M	J66
1092180	100DAC080M	J66
1092181	100DAC100M	J66
1092182	100DAC120M	J66
1092183	100DAC140M	J66
1092283	150TG0453	J44
1092287	180DAC060M	J66
1092288	180DAC080M	J66
1092289	180DAC100M	J66
1092290	180DAC120M	J66
1092291	180DAC140M	J66
1092292	180DAC160M	J66
1092293	180DAC180M	J66
1092294	180DAC200M	J66
1092302	200DAC060M	J66
1092699	50TGST032025M	J20
1092702	50TGST050040M	J20
1092704	50TGST063050M	J20
1092705	50TGST071056M	J20
1092708	50TGST120090M	J20
1093268	75HC0500	J5
1093269	75HC0562	J5
1093270	75HC0625	J5
1093271	75HC060M	J5
1093272	75HC080M	J5
1093273	75HC100M	J5
1093496	75HC0188	J5
1093497	75HC0250	J5
1093498	75HC0312	J5
1093500	75HC0375	J5
1093501	75HC0438	J5
1093519	32ER130M	J55
1093524	75HC120M	J5
1093525	75HC140M	J5
1093526	75HC160M	J5
1093527	12HC0500	J5
1093528	12HC0562	J5
1093529	12HC0625	J5
1093530	12HC0688	J5
1093533	12HC0750	J5
1093535	12HC0875	J5
1093536	12HC1000	J5
1093538	12HC160M	J5
1093539	12HC180M	J5
1093540	12HC200M	J5
1093541	12HC250M	J5
1093566	20HCM0188	J5
1093567	20HCM0250	J5
1093568	20HCM0312	J5
1093569	20HCM0375	J5
1093570	20HCM0438	J5
1093571	20HCM0500	J5
1093572	20HCM0562	J5
1093573	20HCM0625	J5
1093594	32HCM0500	J5
1093595	32HCM0562	J5
1093596	32HCM0625	J5
1093597	32HCM0688	J5
1093598	32HCM0750	J5
1093599	32HCM0875	J5
1093600	32HCM1000	J5
1093758	LTC090071M	J74
1094300	MS1595	A159, A312, A391, A481–482, A564, C39
1099381	CM182	A102
1099382	CM183	A102
1099385	CGS4	A312, A391, A481–482, A564, C39
1099386	CGS5	A482, A564, C39
1099387	TW610	L52
1099427	SM813 K9	A234
1099444	SKDP453 K9	A146–147, A297–298, C37
1099446	SKRN100300 K9	A149, A299–300
1099447	SKRN160400 K9	A467
1099448	SKWP343 K9	A83, A153
1099451	ICSN332 K9	A84, A134, A168
1099452	IDSN322 K9	A84, A135–136, A169–171
1099469	ITSN443 K9	A275–276, A354–356, A443–445
1099615	MS1939	A400
1099619	FP4	A296
1099631	SRS5	A467
1099633	MS988	A296
1099634	MS319	A114
1099643	MS1154	A149, A299
1099645	MS1160	A86, A157, A181, A467
1099646	MS1200	A88–89, A97, A102, A153–154
1099647	MRA5	A296
1099649	KLM33	A168, A174
1105066	50TGC0156	J18
1105067	50TGC0172	J18
1105068	50TGC0188	J18
1105069	50TGC0203	J18
1105070	50TGC0219	J18
1105072	50TGC0250	J18
1105073	50TGC0266	J18
1105084	50TGC0141	J18
1105085	50TGC0328	J18
1105086	50TGC0344	J18
1105087	50TGC0359	J18
1105088	50TGC0375	J18
1105089	50TGC0391	J18
1105090	50TGC0406	J18
1105091	50TGC0422	J18
1105092	50TGC0438	J18
1105094	50TGC0281	J18
1105096	50TGC0312	J18
1105097	50TGC0453	J18
1105098	50TGC0469	J18
1105099	50TGC0484	J18
1105100	50TGC0500	J18
1105101	50TGC0516	J18
1105102	50TGC0531	J18
1105103	50TGC060M	J14
1105105	75TGC0250	J25
1105107	75TGC0266	J25
1105108	75TGC0297	J25
1105109	75TGC0312	J25
1105111	75TGC0328	J25
1105112	75TGC0344	J25
1105113	75TGC0359	J25
1105124	50TGC080M	J15
1105125	50TGC100M	J15
1105126	50TGC120M	J15
1105127	50TG025M	J14
1105128	50TG030M	J14
1105129	50TG035M	J14
1105130	50TG040M	J14
1105131	50TG050M	J14
1105132	50TG055M	J14
1105133	50TG060M	J14
1105134	75TGC0375	J25
1105135	75TGC0391	J25
1105136	75TGC0406	J25
1105137	75TGC0422	J25
1105138	75TGC0438	J25
1105139	75TGC0453	J25
1105140	75TGC0469	J25
1105142	75TGC0484	J26
1105143	75TGC0500	J26
1105144	75TGC0516	J26
1105145	75TGC0531	J26
1105146	75TGC0547	J26
1105147	75TGC0562	J26
1105148	75TGC0578	J26
1105149	75TGC0594	J26
1105150	75TGC0609	J26
1105151	75TGC0625	J26
1105152	75TGC0641	J26
1105153	75TGC0656	J26
1105154	75TGC0672	J26
1105155	75TGC0688	J26
1105156	75TGC0703	J26
1105157	75TGC0719	J26
1105158	75TGC0734	J26
1105159	75TGC0750	J26
1105160	75TGC060M	J22
1105161	75TGC080M	J22
1105162	75TGC100M	J23
1105164	75TGC120M	J23
1105165	75TGC140M	J23
1105166	75TGC160M	J23
1105167	75TGC180M	J23
1105168	75TGC200M	J23
1105172	75TGC0281	J25
1105225	50TG015M	J14
1105226	50TG020M	J14
1105228	50TG070M	J14
1105229	50TG075M	J15
1105231	50TG080M	J15
1105232	50TG085M	J15
1105233	50TG090M	J15
1105234	50TG065M	J14
1105244	50TG095M	J15
1105245	50TG100M	J15
1105246	50TG105M	J15
1105247	50TG110M	J15
1105248	50TG115M	J15
1105249	50TG120M	J15
1105251	50TG125M	J15
1105252	50TG130M	J15
1105253	50TG135M	J15
1105334	50TG045M	J14
1105988	32ER070M	J54
1105989	32ER160M	J55
1106008	32ER060M	J54
1106809	50TGCE	L15
1106812	75TGCE	L15
1106813	100TGCE	L15
1106814	150TGCE	L15
1107148	16ER050M	J54
1107188	HSK100AKR50085M	C119
1108062	515.018	A143–144, A175–176, A227–229, A288–295, A317, A370–376, A397–398, A458–466, A488–490, A528, A561–562, C35–36
1108063	513.023	A143, A175–176, A227, A288–295, A317, A370–376, A397–398, A458–466, A488–490, A528, A561–562, C35–36
1108065	511.023	A143, A175–176, A227, A288–289, A292–295, A317, A370–371, A374–376, A397–398, A458–459, A462–466, A488, A490, A528, A561, C35
1108066	514.023	A561
1108068	512.112	A143, A175, A227, A288–289, A317, A370–371, A397, A458–459, A488, A528, A561, C35
1108138	100DA030M	J65
1108458	16ER035M	J54
1108459	16ER065M	J54

Order No.	Catalog No.	Page(s)
1109134	S100TG2SET	J38
1109574	LTC180145M	J74
1109575	LTC070055M	J74
1110458	100DA025M	J65
1110557	16ER055M	J54
1110558	16ER045M	J54
1110559	16ER075M	J54
1117705	KM40NCMSS32100	A205
1117802	LTC080063M	J74
1117803	LTC100080M	J74
1119347	HSK63ATG050100M	C57
1120623	HSK63CWN20080M	C144
1120659	HSK50CER25070M	C138
1120661	CDER32065M	L26
1120808	RC1TA070055M100	J78
1120816	32ERTC120090M	J58
1120969	CDER32035M	L26
1120977	CDER16090M	L23
1121104	CDER32060M	L26
1121108	TW1460R	L52
1121176	RC2TA045036M060	J79
1121205	552.232	A380–382
1121232	552.221	A379
1121265	552.225	A379
1121346	554.252	A381
1121362	554.254	A379
1121413	RC1TA023018M030	J79
1121580	32ERTC055043M	J58
1121616	CDER40220M	L29
1121672	HSK63AKM50095M	C72
1121716	880.252.550	A425, A513
1122009	512.111	A289
1122128	CDER16040M	L23
1122258	CDER32090M	L26
1122637	32ERTC060049M	J58
1122657	40ERTC090070M	J58
1123137	HSK40CWN16075M	C132
1123496	CDER32000M	L27
1123671	40ER230M	J55
1123676	25ERTC110090M	J58
1123683	16ER020M	J54
1123690	25ER100M	J55
1123699	40ER180M	J55
1123715	25ERTC060049M	J58
1123722	32ER090M	J55
1123730	16ER100M	J55
1123738	40ER210M	J55
1123744	25ERTC080062M	J58
1123753	32ER040M	J54
1123759	16ER070M	J54
1123786	40ER100M	J55
1123793	25ER030M	J54
1123829	16ER060M	J54
1123833	32ER200M	J55
1123840	32ER120M	J55
1123858	25ERS000M	J57
1123865	32ER100M	J55
1123871	25ER070M	J54
1123879	32ER190M	J55
1123885	40ER260M	J55
1123892	25ER040M	J54
1123901	32ER050M	J54
1123909	32ER180M	J55
1123924	40ER200M	J55
1123931	16ER090M	J55
1123939	40ER080M	J54
1123945	16ER080M	J54
1123951	40ER250M	J55
1123960	40ERTC110090M	J58
1123978	16ER040M	J54
1123987	DV50BB134250M	G77
1124054	32ERTC110090M	J58
1124104	MS1163	A389–390, A479–480, A532, A535, A563, A603
1124323	HSK63CWN25095M	C144
1124343	DV50BHSK50065M	G76
1124519	16ERTC060049M	J58
1124539	CDER40260M	L29
1124663	RC3TA180145M240	J78
1124752	SB09530PWZ1012	A536, A556–557, A563, A569, A604, C41–42
1124946	MS1205	A184, A495
1124948	CDER16080M	L23
1124951	CDER32200M	L26
1124966	CDER25105M	L25
1124997	32ER150M	J55
1125005	16ER010M	J54
1125015	SS200ER16182M	I8
1125023	CDER32160M	L26
1125101	16ERTC045034M	J58
1125162	HSK100ACS16060M	C116
1125347	CDER32040M	L26
1125453	32ER170M	J55
1125471	32ER140M	J55
1125474	CDER25120M	L25
1125478	32ER030M	J54
1125481	CDER25140M	L25
1125486	25ER020M	J54
1125490	CDER32125M	L26
1125523	DV50BTG100085M	G55
1125543	HSK63AMT1100M	C70
1125622	CDER40110M	L28
1125623	CDER40170M	L28
1125645	HSK40CER32075M	C131
1125678	CDER40120M	L28
1125686	CDER40160M	L28
1125692	LNABER40M	L22
1125741	CDER16050M	L23
1125812	BT40RC2094M	E56
1125829	BT40RC1067M	E56
1125852	RC1TA045036M060	J79
1125882	RC3TA200160M300	J78
1125890	RC2TA070055M100	J78
1125896	RC2TA090071M090	J79
1125914	HSK63AEM06065M	C62
1125924	HSK63AEM08065M	C62
1125931	HSK63AEM10065M	C62
1125940	HSK63AEM12080M	C62
1125951	HSK63AEM14080M	C62
1125958	HSK63AEM16080M	C62
1125973	CDER16045M	L23
1125987	HSK63AEM18080M	C62
1125997	HSK63AEM20080M	C62
1126005	HSK63AEM25110M	C62
1126012	HSK63AEM32110M	C62
1126142	HSK63AWN06080M	C60
1126151	HSK63AWN08080M	C60
1126161	HSK63AWN10080M	C60
1126168	HSK63AWN12090M	C60
1126170	MS1489PKG	A234
1126178	HSK63AWN14090M	C60
1126187	HSK63AWN16100M	C60
1126202	DV50BHSK63075M	G76
1126205	HSK63AWN20100M	C60
1126220	HSK63AWN25110M	C60
1126230	HSK63AWN32110M	C60
1126238	RC2TA180145M220	J78
1126240	HSK100AWN18100M	C108
1126244	32ERTC070055M	J58
1126252	40ERS000M	J57
1126258	25ER140M	J55
1126271	KM63TSTC2095M	A511
1126272	KM63TSTC3147M	A511
1126304	HSK100AEM32100M	C110
1126316	MS1575PKG	A195
1126421	HSK100AEM20100M	C110
1126478	BT40BEM25090M	E43
1126479	BT40BSWN25075M	E42
1126480	BT40BSWN32075M	E42
1126481	BT40BWN06050M	E41
1126482	BT40BWN08050M	E41
1126483	BT40BWN12063M	E41
1126599	CDER25080M	L25
1126607	CDER25085M	L25
1126613	CDER25100M	L25
1126646	RC1TA063050M060	J79
1126670	CDER25070M	L25
1126677	CDER25110M	L25
1126684	CDER40080M	L28
1126728	CDER32130M	L26
1126732	CDER32180M	L26
1126799	HSK63ACS16060M	C67
1126808	HSK63ACS22060M	C67
1126816	HSK63ACS27060M	C67
1126823	HSK63ACS32060M	C67
1126829	HSK63ACS40070M	C67
1126832	16ER025M	J54
1126837	HSK80ACS50080M	C89
1126844	BT40BWN14063M	E41
1126845	BT40BWN16063M	E41
1126846	BT40BWN18063M	E41
1126847	BT40BWN20063M	E41
1126848	BT40BWN25090M	E41
1126849	BT40BWN32100M	E41
1126850	BT40BWN10063M	E41
1126851	BT40BEM06050M	E43
1126852	BT40BEM08050M	E43
1126853	BT40BEM10063M	E43
1126855	MS1085PKG	A195, A200
1126856	HSK100ACS27060M	C116
1126865	HSK100ACS32060M	C116
1126873	HSK100ACS40070M	C116
1126914	BT40BEM14063M	E43
1126915	BT40BEM16063M	E43
1126916	BT40BEM18063M	E43
1126917	BT40BEM20063M	E43
1126932	HSK50CER32075M	C138
1127007	RC1TA080063M080	J79
1127019	MS1162	A182, A311, A389–390, A479–480, A563, A532, A534, A602–603, C38
1127021	RC1TA040030M035	J78
1127030	RC3TA280220M360	J78
1127044	RC3TA140110M180	J78
1127094	40ER070M	J54
1127102	40ER060M	J54
1127110	40ER190M	J55
1127114	25ERTC045034M	J58
1127120	40ER050M	J54
1127139	25ERTC070055M	J58
1127146	CDER25060M	L25
1127154	LNABER25M	L22
1127184	PKG7001	A341, A426
1127275	BT40BEM12063M	E43
1127318	HSK63AMT2120M	C70
1127524	170.198	L44
1127692	CDER32145M	L26
1127868	40ER160M	J55
1127889	BT50RC2102M	E91
1127899	RC2TA125100M160	J79
1127903	RC1TA035027M030	J78
1127911	RC1TA040032M040	J79
1128100	RC1TA025021M010	J78
1128193	16ERTC070055M	J58
1128201	CDER16100M	L23
1128237	40ER150M	J55
1128244	CDER16035M	L23
1128251	RC3TA160125M220	J79
1128371	RC1TA028023M025	J79
1128372	RC1TA056045M000	J79
1128404	25ERTC055043M	J58
1128485	32ERTC140110M	J58
1128486	CDER25160M	L25
1128546	RC1TA060049M050	J78
1128553	RC2TA045034M040	J78
1128578	RC1TA045034M040	J78
1128586	RC2TA120090M160	J78
1128590	RC2TA160120M200	J78
1128599	RC2TA180140M240	J79
1128606	RC1TA090070M120	J78
1128789	25ERTC090070M	J58
1128795	32ERTC160120M	J58
1128802	40ERTC180145M	J58
1128808	40ER040M	J54
1128810	CDER40060M	L28
1128825	40ER120M	J55
1128828	CDER40070M	L28
1128832	40ER130M	J55
1128834	CDER40100M	L28
1128840	CDER32120M	L26
1128841	CDER40140M	L28
1128845	CDER40200M	L29
1128848	CDER40150M	L28
1128850	CDER40250M	L29
1128856	CDER40180M	L29
1128857	LNABER32M	L22
1128863	32ERTC080062M	J58
1129141	CDER25130M	L25
1129413	CDER40210M	L29
1129478	CDER25090M	L25
1129486	CDER40090M	L28
1129582	RC1TA036028M035	J79
1129583	32ERTC100080M	J58
1129648	MS1234	A200, A336–337, A420–421, A508, A586–587, A616, A632, C20, C30, C64–65, C67, C87, C89, C112, C114, C116, C152, D14, D16, D32, D34, E16, E48, E50, E53, E84, E86, E89, G31–32, G34, G67–68, L36
1129714	40ERTC120090M	J58
1129723	40ER110M	J55
1129731	32ERTC090070M	J58
1129818	RC2TA112090M140	J79
1130128	40ERTC100080M	J58
1130133	40ER240M	J55
1130140	25ERTC120090M	J58
1130155	40ERTC200160M	J58
1130194	CDER25050M	L25
1130396	HSK63AWN18100M	C60
1130401	40ER220M	J55
1130406	40ER170M	J55
1130414	40ER140M	J55
1130521	40ERTC080062M	J58
1130781	CDER16060M	L23
1131111	KM40FBH01660	A341
1131214	25ER150M	J55
1131226	RC2TA090070M120	J78
1131235	RC1TA100080M100	J78
1131266	HSK50CWN12075M	C139
1131275	HSK50CWN10065M	C139
1131459	MS1488	A177, A235–236, A247, A307–308, A321–322, A407, L17
1131545	512.135	A176, A295, A376, A398, A466, A490
1131561	CDER32070M	L26
1131652	RC2TA080062M080	J78
1131888	571.060	A334, A418, A582–583, A613, A628, C18, C60, C85, C108, C139, E14, E28, E41, E81, F26, F66, G27
1131991	SS03M012	A258, A334–335, A418, A582–584, A613, A628, A630, C18–19, C60, C62, C85–86, C108, C110, C139, D12, D30, E14–15, E41, E43, E81, E83, F26, F66, G27, G29, G66
1132000	SS03M014	A258, A334–335, A418, A582–584, A613, A628, A630, C18–19, C60, C62, C85–86, C108, C110, C139, D12, D30, E14–15, E41, E43, E81, E83, F26, F66, G27, G29, G66
1132007	SS03M018	A258, A334–335, A418–419, A582–584, A613, A628, A630, C18–19, C60, C62, C85–86, C108, C110, C139, D12, D30, E14–15, E41, E43, E81, E83, F26, F66, G27, G29, G66
1132026	SS03M023	A258, A334–335, A418–419, A507, A545–546, A582–584, A612–613, A628, A630, C18–19, C60–62, C85–86, C108–110, C139, C144, D12, D30, E14–15, E41, E43, E81, E83, F26–27, F66, F68, G27, G29, G66
1132034	SS03M025	A334–335, A418–419, A507, A546, A582–584, A613, A628, A630, C18–19, C60, C62, C85–86, C108, C110, C139, C144,D12, D30, E14–15, E41, E43, E81,E83, F26, F66, G27, G29, G65–66

Order No.	Catalog No.	Page(s)
1132036	KM50FBHO1670	A426
1132041	SS03M026	A334–335, A418–419, A506–507, A545–546, A582–585, A613, A628, A630, C60–62, C85–86, C108–110, C139, C144, D12, D30, E15, E41, E43, E81, E83, F26, F66, G27, G29, G65–66
1132048	SS03M027	A418–419, A506–507, A545–546, A582–584, A613, A628, A630, C60, C62, C85–86, C108, C110, C144, D12, D30, E41–43, E81–83, F26, F66, G27–29, G64–65
1132054	SS03M029	A418–419, A506–507, A511, A545–546, A582–585, A613, A628, A630, C60, C62, C85–86, C108, C110, D30, E41–42, E44, E81–83, F26, F66, G27–29, G64–65
1132083	193.158	L44
1132144	193.159	L44
1132145	193.160	L44
1132146	193.161	L44
1132147	193.162	L44
1132318	25ERTC100080M	J58
1132337	RC1TA080062M080	J78
1132345	RC1TA028021M020	J78
1132352	RC2TA110090M140	J78
1132599	ISSN846 K9	A524–526, A598–599
1132831	CDER32080M	L26
1132848	CDER32140M	L26
1132992	170.196	L44
1132993	170.199	L44
1133349	SN3TPKG	A323
1134129	840.142.550	A424
1134161	170.197	L44
1134534	HSK50AER32100M	C29
1134537	DV40BSWN25075M	G28
1134538	DV40BSWN32075M	G28
1134539	DV50BSWN25070M	G64
1134540	DV50BSWN32070M	G64
1134607	BT50BSWN25075M	E82
1134608	BT50BSWN32075M	E82
1135194	DV40BWN06050M	G27
1135203	DV40BWN08050M	G27
1135210	DV40BWN10050M	G27
1135219	DV40BWN12050M	G27
1135227	DV40BWN14050M	G27
1135241	CDER32110M	L26
1135245	DV40BWN16063M	G27
1135255	DV40BWN18063M	G27
1135265	DV40BWN20063M	G27
1135273	DV40BWN25100M	G27
1135282	DV40BWN32100M	G27
1135392	512.134	A144, A229, A295, A466
1135468	KM32TSPCLNL12	A227
1135617	840.142.720	A424, A512
1135623	840.142.940	A512
1135816	BT50RC3141M	E91
1135885	25ER090M	J55
1135892	16ERS000M	J57
1135900	25ER120M	J55
1135911	32ERS000M	J57
1135918	25ER080M	J54
1135935	25ER060M	J54
1135945	25ER110M	J55
1135954	25ER050M	J54
1135962	25ER160M	J55
1135972	25ER130M	J55
1135979	40ERTC140110M	J58
1135985	40ERTC160120M	J58
1136014	16ER030M	J54
1136034	40ER090M	J55
1136043	CDER25040M	L25
1136052	CDER32100M	L26
1136087	ER32WM	A254, A331, A414, A505, A544, A580, A611, A627, C17, C29, C59, C84, C107, C131, C138, C143, C151, C160, C164, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59, I9
1136096	ER40WM	A414, A505, A544, A580, A611, A627, C59, C84, C107, C143, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59
1136113	ER25WM	A183, A254, A331, A414, A505, A544, A580, A627, C17, C29, C59, C84, C107, C131, C138, C143, C151, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59, I9, I11
1136302	118.404	A528–529, A600
1136352	119.073	A528, A600
1136423	121.030	A529, A600
1136718	121.820	A528–529, A600
1136750	121.830	A556
1136821	DV50DA188200M	G61
1136937	125.316	A114
1137321	511.018	A144, A229, A289, A292, A294–295, A464–466
1137331	511.024	A290–292, A371–373, A460–462, A489, A562, C35–36
1137339	511.025	A371, A374–375, A458–459, A462–464, A528
1137346	511.028	A464–465
1137353	511.030	A176, A243, A319
1137382	511.033	A458–459, A462–464, A528–530
1137395	MS1217	A208–209
1137396	511.038	A528–530
1137452	511.060	A144, A175, A227–228, A290–291, A371–372, A460–461
1137509	512.013	A294–295, A464–465
1137510	BT50BWN10063M	E81
1137518	BT50BWN12080M	E81
1137526	BT50BWN14080M	E81
1137533	512.023	A465
1137535	BT50BWN16080M	E81
1137541	512.025	A374–375, A462–464
1137543	BT50BWN18080M	E81
1137550	BT50BWN20080M	E81
1137558	BT50BWN25100M	E81
1137576	BT50BWN32105M	E81
1137585	512.031	A464–465
1137600	512.053	A292
1137610	512.060	A144, A175, A227–228, A290–291, A371–372, A460–461
1137616	512.063	A292–294, A374–375, A462–464
1137650	512.083	A462–464, A529–530
1137670	512.092	A529–530
1137710	512.117	A371, A458–459, A528
1137736	512.123	A458–459, A528
1137789	512.153	A290–292, A371–373, A460–462, A489, A562, C35–36
1137987	513.018	A144, A229, A294–295, A464–466
1137996	513.019	A289, A292
1138029	513.025	A371, A374–375, A458–459, A462–465, A528
1138057	513.033	A458–459, A462–464, A528–530
1138064	513.038	A528–530
1138071	513.060	A144, A175, A227–228, A290–291, A371–372, A460–461
1138100	169.333	A528, A600
1138108	169.337	A528–529, A600
1138118	169.339	A529, A600
1138159	514.011	A242
1138170	514.012	A566
1138229	514.022	A565
1138260	514.028	A562
1138297	170.002	A326, A411, A500–501, A577, C12, C14, C26, C52–54, C80, C100–102, C124, C128, C130, C136, E28–30, E70–72, F10–13, F48–50, G10–12, G50–52
1138307	170.003	A411, A500–501, A576–577, C13, C15, C52, C54, C80, C100, C102–103, C124, C129, C136, C150, E7, E28, E30–31, E70, E72–73, F10, F12–15, F48, F50, F52–53, G10, G12–13, G50, G52
1138315	170.004	A500, A576, C54, C80, C102, E30, E72, F12–13, F50, G12, G52
1138319	515.022	A371, A374, A458–459, A463–465, A528–530
1138323	170.005	C13, C103, C129, C150, E7, E31, E73–74, F14–16, F52–54, G13, G53
1138328	515.028	A462, A528–530
1138470	RC3TA250200M360	J78
1138499	RC2TA140110M180	J78
1138531	RC3TA160120M200	J78
1138564	RC2TA060049M050	J78
1138585	RC3TA224180M330	J79
1138600	RC2TA140112M180	J79
1138609	RC2TA063050M060	J79
1138618	RC2TA050040M050	J79
1138641	RC2TA160125M220	J79
1138653	RC2TA080063M080	J79
1138660	RC1TA090071M090	J79
1138664	RC1TA050040M050	J79
1138672	RC3TA180140M240	J78
1138680	RC1TA110090M140	J78
1138687	RC3TA220180M300	J78
1138729	192.950	L15
1138732	RC2TA100080M100	J78
1138736	192.951	L15
1138744	192.952	L15
1138748	170.135	A326, A411, A500–501, A576–577, C12–15, C26, C52–55, C80–81, C100–103, C128–130, C136–137, C141–142, C150, C156, E7, E28–32, E70–74, F10–16, F48–50, F52–54, G10–14, G50–53
1138752	192.953	L15
1138755	170.136	A500, A576, C54–55, C80–81, C102–103, C141–142, E30–31, E72–73, F12–15, F50, F52–53, G12, G52
1138759	192.954	L15
1138766	192.955	L15
1138853	192.957	L15
1138914	192.956	L15
1138922	192.958	L15
1138930	192.959	L15
1139068	HSK32CER16060M	C125
1139074	HSK50CER16060M	C138
1139503	HSK63CWN16080M	C144
1139877	HSK100AKM32075M	C120
1140134	571.061	C156, E7, E28, E31, F14–15
1140141	571.062	C17, C151, E14
1140145	571.063	A506, C15, C137, C156, E7, E14, E31, F14–15
1140171	571.066	E42, E82, G28
1140176	571.067	A334, A418, A582–583, A613, A628, C18, C60, C85, C108, C139, E14, E41, E81, F26, F66, G27
1140179	571.068	A334, A418, A582–583, A613, A628, C17–18, C60, C85, C108, C125, C139, C151, E41, E81, F26, F66, G27
1140182	571.069	A506, A628, C60, C108, E14
1140193	571.071	C137
1140647	HSK100AKM40080M	C120
1140651	HSK100AKM50100M	C120
1140655	HSK100AKM63115M	C120
1144184	KM32TSDA208060M	A256
1144185	KM32TSTGB075075M	A252
1144187	KM32TSEM06040M	A258
1144188	KM32TSEM08040M	A258
1144189	KM32TSEM12050M	A258
1144190	KM32TSDA188056M	A256
1144191	KM32TSEM10045M	A258
1144258	KM32TSS32050M	A262
1144259	KM32TSS32070M	A262
1144274	LNA208RM	A256, A416–417
1144328	KM80P	L42
1144357	KM32TSLSER16N	A237
1144372	KM32TSLSEL16E	A237
1144416	KM32TSSCLCR09	A229
1144417	KM32TSSCLCL09	A229
1144421	KM32TSNVHBR11	A234
1144422	KM32TSSDJCR11	A230
1144423	KM32TSSDQCR11	A231
1144424	KM32TSSDNCN11	A230
1144425	KM32TSSDUCR11	A231
1144427	KM32TSSDJCL11	A230
1144428	KM32TSSDQCL11	A231
1144429	KM32TSSDUCL11	A231
1144430	KM32TSSCLCR12	A229
1144434	KM32TSSCLCL12	A229
1144437	KM32TSNVJCR16	A234
1144440	KM32TSNVJCL16	A234
1144452	KM40P	L42
1144501	KM50P	L42
1144544	KM32TSBA10055M	A249
1144545	KM32TSBA12060M	A249
1144546	KM32TSBA16065M	A249
1144547	KM32TSBA20070M	A249
1144559	KM32TSGB32070M	A261
1144562	KM63TSGB63120M	A514
1144614	KM32TSS10CSCLPR06	A244
1144615	KM32TSS10CSCLPL06	A244
1144616	KM32TSS12DSCLPR06	A244
1144617	KM32TSS12DSCLPL06	A244
1144618	KM32TSS16ESCLPR09	A244
1144619	KM32TSS16ESCLPL09	A244
1144626	KM32TSS10CSTFPR11	A246
1144627	KM32TSS10CSTFPL11	A246
1144629	KM32TSS16ESTFPR11	A246
1144645	KM32TSS20FSCLPR09	A244
1144646	KM32TSS20FSCLPL09	A244
1144647	KM32TSS25GSCLPR09	A244
1144657	KM32TSS20FSDUPR07	A245
1144658	KM32TSS20FSDUPL07	A245
1144713	KM32TSS20FNEL2	A247
1144724	KM32TSS16ELSER16	A248
1144729	KM32TSBA06045M	A249
1144730	KM32TSBA08045M	A249
1144743	KM32TSS25ESDUPR11	A245
1144745	KM32TSS25ESCLPL09	A244
1144746	KM32TSS25ESDUPL11	A245
1144797	KM50LCMIVDI40140	A212–213
1144798	KM63NCMSS40162	A205
1144799	KM80NCMEF	A209
1144800	KM80NCMF	A208
1144801	KM32RCMVDI3035	A210
1144807	KM63RCMIVDI5080	A212–213
1144808	KM63LCMIVDI5080	A212–213
1144809	KM63RCMIVDI50160	A212–213
1144810	KM63LCMIVDI50160	A212–213
1144814	KM32NCMF	A208
1144815	KM32NCMSS20100	A205
1144816	KM32NCMSS24100	A205
1144817	KM32NCMSS3225	A205
1144818	KM32NCMSS4025	A205
1144820	KM32LCMIVDI4050	A212–213
1144821	KM32RCMIVDI3050	A212–213
1144822	KM32RCMIVDI4050	A212–213
1144823	KM32RCMIVDI40100	A212–213
1144824	KM40RCMVDI4040	A210
1144825	KM40RCMVDI5040	A210
1144827	KM40LCMVDI4040	A210
1144828	KM40LCMVDI5040	A210
1144829	KM40NCMSS24100	A205
1144830	KM40NCMSS4025	A205
1144831	KM40NCMSS5025	A205
1144833	KM40LCMIVDI4060	A212–213
1144834	KM40LCMIVDI5060	A212–213
1144835	KM40LCMIVDI50120	A212–213
1144836	KM40LCMIVDI40120	A212–213
1144837	KM40RCMIVDI4060	A212–213
1144838	KM40RCMIVDI5060	A212–213
1144839	KM40RCMIVDI50120	A212–213
1144840	KM40RCMIVDI40120	A212–213
1144841	KM50RCMVDI5050	A210
1144842	KM50RCMVDI4050	A210
1144843	KM50LCMVDI5050	A210
1144844	KM50LCMVDI4050	A210
1144845	KM50NCMF	A208

Order No.	Catalog No.	Page(s)
1144846	KM50NCMSS40125	A205
1144847	KM50NCMSS6032	A205
1144848	KM50NCMSS5032	A205
1144849	KM50LCMIVDI5070	A212–213
1144850	KM50LCMIVDI4070	A212–213
1144851	KM50RCMIVDI40140	A212–213
1144852	KM50RCMIVDI5070	A212–213
1144853	KM50RCMIVDI4070	A212–213
1144854	KM50RCMIVDI50140	A212–213
1144856	KM63RCMVDI6060	A210
1144857	KM63LCMVDI6060	A210
1144858	KM63RCMIVDI6080	A212–213
1144859	KM63RCMIVDI60160	A212–213
1144860	KM63LCMIVDI6080	A212–213
1144861	KM63LCMIVDI60160	A212–213
1144875	KM32TSMSDNN12	A223
1144903	KM32TSMTUNR16	A224
1144909	KM32TSMVHNR16	A225
1144910	KM32TSMVHNL16	A225
1144911	KM32TSMVUNR16	A226
1144912	KM32TSMVUNL16	A226
1144914	KM32TSMWLNR08	A226
1144915	KM32TSMWLNL08	A226
1144980	KM80PKG3S	A208, A549, A617, A619, C120, D36, D66, E94, F82, G75
1145045	KM32TSDA188220	A257
1145046	KM32TSEM038177	A258
1145067	KM50CLANVDI5080	A194
1145068	KM50CLAVVDI5080	A194
1145069	KM50CLRRVDI5050	A193
1145070	KM50CLRLVDI5050	A193
1145072	KM50CLNSS40316	A191
1145073	KM50CLNSS5080	A191
1145074	KM40CLANVDI4070	A194
1145075	KM40CLAVVDI4070	A194
1145076	KM40CLRRVDI4040	A193
1145077	KM40CLRLVDI4040	A193
1145079	KM40CLNSS32274	A191
1145081	KM40CLNSS5070	A191
1145084	KM63CLNSS40630	A191
1145086	KM63CLNSS48630	A191
1145087	KM63CLNSS6090	A191
1145088	KM63CLNSS60160	A191
1145089	KM63CLRRVDI6060	A193
1145091	KM63CLRLVDI6060	A193
1145092	KM63CLANVDI6090	A194
1145093	KM63CLANVDI60160	A194
1145094	KM63CLAVVDI6090	A194
1145095	KM63CLAVVDI60160	A194
1146697	CDR22M	A337, A421, C67, C89, C116, E53, E89, G34
1147002	ICSN846 K9	A521–522, A597–598
1147628	118.604	A529, A600
1147828	511.022	A175, A317, A319, A397, A488, A490, A565
1147885	CDR27M	A421, A509, C67, C89, C116, E53, G34, G70
1147886	CDR32M	A421, A509, A548, C67, C89, C116, E53, E89, G34, G70
1147887	CDK16M	A337, C67, C89, C116, E53, E89, G34
1147888	CDK27M	A421, A509, C67, C89, C116, E53, G34, G70
1147889	CDK32M	A421, A509, A548, C67, C89, C116, E53, E89, G34, G70
1147890	CDK40M	A509, A548, C67, C89, C116, E53, E89, G34, G70
1147969	KLS27MPKG	A509, C89, C116, E53, G34, G70, L36
1148349	KM40NCMSS28100	A205
1148501	CDER16000M	L23
1148555	CDER32050M	L26
1148578	HSK63AKM63105M	C72
1149696	HSK100AEM25100M	C110
1150162	SA63CLNS5012	A195
1150163	SA63CLNS6008	A195
1150164	SA63CLNS6012	A195
1150166	SA63CLNT6008	A195
1150875	BT40EM100374	E45
1151259	KLSSH10	L38
1151260	KLSSH12	L38
1151261	KLSSH15	L38
1151262	KLSSH20	L38
1151315	KLSSH25	L38
1151595	HSK100ACS22060M	C116
1151763	HSK63AKM40080M	C72
1152158	32ERTC045034M	J58
1152193	DV50EM20150M	G66
1152347	HSK63AMT3140M	C70
1152394	20ERTC100080M	J58
1153403	HSK63AKR32075M	C71
1153604	HSK63AKR50080M	C71
1153606	HSK100AKR32075M	C119
1153612	HSK100AKR80090M	C119
1154644	16ER085M	J55
1154645	16ER095M	J55
1155335	40ERTC070055M	J58
1155337	CDER32190M	L26
1155346	BT30EM12060M	E15
1155899	HSK100AEM12080M	C110
1155900	HSK100AEM16100M	C110
1155902	HSK100AWN06090M	C108
1155903	HSK100AWN08090M	C108
1155904	HSK100AWN10090M	C108
1155905	HSK100AWN12100M	C108
1155906	HSK100AWN14100M	C108
1155909	HSK100AWN16100M	C108
1155911	HSK100AWN20110M	C108
1156328	DWG MS1365	A191–192
1156350	BT30ER32070M	E11
1156351	BT30TG075075M	E9
1156359	BT40EM32110M	E44
1156363	BT40JT33045M	E57
1156364	BT40MT1050M	E57
1156366	BT40TG075070M	E34
1156367	BT40TG100080M	E34
1156369	BT50EM32105M	E83
1156372	BT50TG100090M	E76
1156378	DV40BEM25100M	G29
1156379	DV40CS27055M	G34
1156380	DV40DA188070M	G25
1156381	DV40DA204100M	G22
1156382	DV40DA208070M	G24
1156384	DV40MT2050M	G37
1156385	DV40TG100080M	G17
1156387	DV50BEM25080M	G65
1156388	DV50BEM32100M	G65
1156389	DV50DA188150M	G61
1156402	DV50TG100085M	G56
1156403	DV50TG100150M	G56
1173988	HSK100AKR63100M	C119
1174153	180DA030M	J65
1174217	OEW16M	L56
1175468	BT50BWN06063M	E81
1175962	20ERTC060049M	J58
1176388	SA63CLNT6012	A195
1176487	170.195	L44
1178773	CDR50M	C89, C116, E89, G70
1178774	CDK50M	C89, C116, E89, G70
1178775	KLS50M	A547, A616, A632, C87, C89, C114, C116, E89, G70, L36
1179207	RC3TA110090M140	J78
1179333	DV50DA188070M	G61
1180077	RC1TA032025M030	J79
1185973	RC3TA120090M160	J78
1186648	LNHER16M	C125
1186649	OEW25M	A255, A330, A504, A581, A627, C17, C28, C58, C83, C106, C125, C131, C138, C143, C151, D10, D28, D46, D60, E10, E36, E78, F22, F62, G20, G58, L56
1187371	BT50BER40150M	E79
1188027	HSK63AHSK63120M	C72
1188038	HSK63AHSK63080M	C72
1188172	BT50TG100200M	E76
1188173	BT50TG100150M	E76
1188682	HSK100ACS50080M	C116
1188700	HSK100ASM50070M	A631–633
1188810	HSK100AEM06080M	C110
1188811	HSK100AEM10080M	C110
1188812	HSK100AEM14080M	C110
1188813	HSK100AEM18100M	C110
1188814	HSK100AEM40120M	C110
1188828	HSK100AWN25120M	C108
1188829	HSK100AWN32120M	C108
1189415	HSK63AHSK40080M	C72
1189666	DV50EM16150M	G66
1191011	180DAS000M	J69
1191013	DV40BHC20082M	G12
1191014	DV50BHC10077M	G52
1191015	DV50BHC12077M	G52
1191016	DV50BHC20082M	G52
1191019	HSK63AHC20100M	C54
1191022	HSK63CHC32100M	C141
1191023	200DA010M	J65
1191024	200DA015M	J65
1191025	200DA020M	J65
1191026	200DA025M	J65
1191027	200DA030M	J65
1191037	280.200	L14
1191039	280.202	L14
1191040	280.203	L14
1191041	280.205	L14
1191042	280.207	L14
1191043	280.209	L14
1191712	BT30DA188060M	E13
1191713	BT40CS16055M	E53
1191714	BT40CS16100M	E53
1191715	BT40CS22055M	E53
1191716	BT40CS22150M	E53
1191717	BT40CS27055M	E53
1191718	BT40CS27150M	E53
1191719	BT40CS32060M	E53
1191720	BT40CS32150M	E53
1191721	BT40CS40080M	E53
1191722	BT40DA108070M	E38
1191723	BT40DA188070M	E39
1191724	BT40DA188150M	E39
1191725	BT40DA208070M	E38
1191735	BT40MT2050M	E57
1191736	BT40MT3070M	E57
1191737	BT40MT4095M	E57
1191754	BT40TG100100M	E34
1191755	BT40TG100150M	E34
1191756	BT40TG150110M	E34
1191760	BT50CS22070M	E89
1191761	BT50CS22200M	E89
1191763	BT50CS32070M	E89
1191764	BT50CS40070M	E89
1191765	BT50CS40150M	E89
1191766	BT50CS50150M	E89
1191767	BT50DA188070M	E80
1191769	BT50EM06063M	E83
1191770	BT50EM08063M	E83
1191771	BT50EM10080M	E83
1191772	BT50EM12080M	E83
1191773	BT50EM16080M	E83
1191774	BT50EM20080M	E83
1191776	BT50EM25105M	E83
1191777	BT50EM40120M	E83
1191785	BT50MT5105M	E92
1191801	BT50TG150100M	E76
1191920	DV40CS16100M	G34
1191921	DV40CS22100M	G34
1191922	DV40CS32060M	G34
1191923	DV40CS40060M	G34
1191924	DV40DA108070M	G24
1191925	DV40DA188100M	G25
1191926	DV40DA188150M	G25
1191927	DV40DA204150M	G22
1191946	DV40MT1050M	G37
1191947	DV40MT3070M	G37
1191948	DV40MT4095M	G37
1191962	DV40TG075070M	G17
1191963	DV40TG100150M	G17
1191964	DV40TG150125M	G17
1191971	DV50BKR50040M	G74
1191973	DV50CS27055M	G70
1191974	DV50CS32055M	G70
1191975	DV50EM12063M	G66
1191989	DV50MT5105M	G73
1192226	HSK63AHC32125M	C54
1192229	HSW45M	A252, A256, A328, A332, A412, A416–417, A542, A578, A610, A626, C16, C27, C57, C82, C105, D8, D45, D58, E9, E13, E34, E39, E80, F18–19, F25, F56, F59–60, F65, G17, G25, G61, I7, L57
1192230	HSW58M	A328, A412, A502, A542, A578, A610, A626, C57, C82, C105, D8, D26, D45, D58, E34, E76, F18–19, F56, F59–60, G16–17, G55–56, I7, I22, L57
1192231	HSW80M	A542, A610, A626, C105, D8, D26, E34, E76, G17, G56, L57
1192295	KRDCKR32M	C71, C119, E58, E93, F37, F81, G38, G74
1192296	KRDCKR50M	C71, C119, E58, E93, F37, F81, G38, G74
1192306	KTC036028M	J72
1192307	KTC040032M	J72
1192308	KTC045036M	J72
1192309	KTC050040M	J72
1192312	KTC071056M	J72
1192313	KTC080063M	J72
1192314	KTC090071M	J72
1192315	KTC100080M	J72
1192316	KTC112090M	J72
1192328	LTC060049M	J74
1192329	LTC063050M	J74
1192330	LTC071056M	J74
1192331	LTC109082M	J74
1192332	LTC111085M	J74
1192333	LTC125100M	J74
1192335	LTC140112M	J74
1192336	LTC143107M	J74
1192337	LTC160125M	J74
1192338	LTC180140M	J74
1192371	OEW24M	E12, E38, G24, I14, L56
1192392	PSW68M	C56, C104, E33, E75, F17, F55, G15, L57
1192400	RC1TA071056M070	J79
1192401	RC2TA071056M070	J79
1192417	RK30BT1M	L48
1192419	RK40BT1M	L48
1192420	RK40BT2M	L48
1192421	RK40CV1M	L49
1192422	RK40CV3M	L49
1192423	RK40DVBM	L46
1192424	RK40DVM	L46
1192425	RK40ISBM	L47
1192426	RK50BT1M	L48
1192427	RK50BT2M	L48
1192429	RK50DVBM	L46
1192430	RK50DVM	L46
1192431	RK50ISBM	L47
1192476	SMW27M	A587, C67, C89, C116, E53, G34, G70
1192477	SMW32M	A587, C67, C89, C116, E53, E89, G34, G70
1192478	SMW40M	C67, C89, C116, E53, E89, G34
1192562	SW50	L43
1196249	DWG SDK062088	C68, C117, F33, F77, I27
1197387	OEW19M	G22, G60, I14, L56
1197514	DV50BHC32117M	G52
1197722	BT50DA188150M	E80
1228270	DV50TG150150M	G56
1228288	HSK63AGB40346M	C73
1228680	KM32CLANVDI3060	A194
1228728	JTC028022M	J71
1228729	JTC032025M	J71
1228730	JTC040032M	J71
1228732	JTC080063M	J71
1228733	JTC090071M	J71
1228923	MS1361	A208–209
1229174	R8EM075262	H27
1230267	MS1211	A249, A324, A409, A495
1230318	MS1212	A249–250, A409, A495
1230360	HSK63AMT4160M	C70
1232372	KM32TSPWLNR06	A229
1232374	KM32TSPWLNL06	A229

Order No.	Catalog No.	Page(s)
1232375	KM32TSPDUNR11	A228
1232376	KM32TSPDUNL11	A228
1232377	KM32TSPDJNR11	A227
1232378	KM32TSPDJNL11	A227
1232393	BT50EM200531	E83
1232471	ER16WEM	A112–113, A183, I8, I10
1232472	CDER32150M	L26
1232559	DV50CS40100M	G70
1236436	DV40CS22055M	G34
1237204	DV40BTG100080M	G16
1237451	DV40BHC12077M	G12
1237452	DV40BHC16082M	G12
1237816	DV40BEM32100M	G29
1243417	KDK22M	A336, A420, A508, A586, A616, C20, C30, C64–65, C87, C112, C114, C152, D14, D16, D32, D34, E16–17, E48, E50–51, E84, E86, G31–32, G67–68
1243904	511.013	A242
1245409	280.204	L14
1245410	280.206	L14
1245411	280.208	L14
1245412	HSK32CHC06060M	C124
1245413	HSK32CHC08060M	C124
1245414	HSK32CHC10065M	C124
1245415	HSK32CHC12070M	C124
1245440	HSK63AHC06080M	C54
1245441	HSK63AHC08080M	C54
1245443	DV40BHC06072M	G12
1245444	DV40BHC08072M	G12
1245445	DV40BHC10077M	G12
1245446	DV40BHC14082M	G12
1245447	DV40BHC18082M	G12
1245448	DV40BHC25117M	G12
1245449	DV40BHC32117M	G12
1245450	DV50BHC06072M	G52
1245451	DV50BHC08072M	G52
1245452	DV50BHC14082M	G52
1245453	DV50BHC16082M	G52
1245454	DV50BHC18082M	G52
1245455	DV50BHC25117M	G52
1245473	HSK50AHC06080M	C26
1245474	HSK50AHC08080M	C26
1245475	HSK50AHC10085M	C26
1245476	HSK50AHC12090M	C26
1245477	HSK63AHC10085M	C54
1245478	HSK63AHC12090M	C54
1245479	HSK63AHC14090M	C54
1245480	HSK63AHC16095M	C54
1245481	HSK63AHC18095M	C54
1245482	HSK63AHC25120M	C54
1245483	HSK100AHC06085M	C102
1245484	HSK100AHC08085M	C102
1245485	HSK100AHC10090M	C102
1245486	HSK100AHC12095M	C102
1245487	HSK100AHC14095M	C102
1245488	HSK100AHC16100M	C102
1245489	HSK100AHC18100M	C102
1245490	HSK100AHC20105M	C102
1245491	HSK100AHC25115M	C102
1245492	HSK100AHC32120M	C102
1245493	HSK40CHC06060M	C130
1245494	HSK40CHC08060M	C130
1245495	HSK40CHC10065M	C130
1245496	HSK40CHC12070M	C130
1245497	HSK50CHC06060M	C136
1245498	HSK50CHC08060M	C136
1245499	HSK50CHC10065M	C136
1245500	HSK50CHC12075M	C136
1245501	HSK50CHC14075M	C136
1245502	HSK50CHC16080M	C136
1245503	HSK50CHC18080M	C136
1245504	HSK50CHC20080M	C136
1245505	HSK63CHC06060M	C141
1245506	HSK63CHC08060M	C141
1245507	HSK63CHC10065M	C141
1245508	HSK63CHC12075M	C141
1245509	HSK63CHC14075M	C141
1245510	HSK63CHC16080M	C141
1245511	HSK63CHC18080M	C141
1245512	HSK63CHC20080M	C141
1245513	HSK63CHC25095M	C141
1245641	571.074	A334, A418, A545, A582–583, A613, A628, C18, C60, C85, C108, C139, C144, E41, E81, F26, F66, G27
1245642	571.075	A334, A418, A582, A613, C18, C85, C132, C139, C144, E41, E81, F26, F66, G27
1245643	571.076	A334, A418, A545, A613, A628, C60, C85, C108, C139, C144, E41, E81, F26, F66, G27
1245644	571.077	A418, A545, A613, A628, C60, C85, C108, C144, E41, F26, F66
1246521	HSK63AHC025325	C54
1246525	HSK63AHC038338	C54
1246528	HSK63AHC050350	C54
1246532	HSK63AHC062375	C54
1246534	HSK63AHC075400	C54
1246536	HSK63AHC100475	C54
1246540	HSK63AHC125500	C54
1246557	HSK100AHC038350	C102
1246560	HSK100AHC050375	C102
1246563	HSK100AHC062400	C102
1246567	HSK100AHC075425	C102
1246569	HSK100AHC100475	C102
1246573	HSK100AHC125500	C102
1247566	280.262	L14
1247570	280.264	L14
1247572	280.266	L14
1247575	280.268	L14
1247577	280.269	L14
1252592	DV50TG150090M	G56
1253864	HSK40CER16060M	C131
1253865	HSK63CER16060M	C143
1253866	HSK40CER25070M	C131
1253908	HSK63CER25070M	C143
1253910	HSK63CER32075M	C143
1253911	HSK63CER40080M	C143
1254119	HSK63ASWN20075M	C61
1254120	HSK63ASWN25080M	C61
1254121	HSK63ASWN32090M	C61
1254122	HSK100ASWN20085M	C109
1254123	HSK100ASWN25085M	C109
1254124	HSK100ASWN32100M	C109
1254125	HSK100ASWN40110M	C109
1254126	HSK100ASWN50110M	C109
1254135	UTAV	L40
1254136	HSK32AS	L40
1254137	HSK40AS	L40
1254158	HSK50AS	L40
1254159	HSK63AS	L40
1254160	HSK80AS	L40
1254161	HSK100AS	L40
1254499	CDER16085M	L23
1254500	CDER40230M	L29
1254501	CDER25000M	L25
1255022	T11012	J80
1255791	HSK100AKM80125M	C120
1256059	HSK50ABB063200M	C31
1256060	HSK50ABB100125M	C31
1256061	HSK63AP	L42
1256067	HSK100ASA062400	C117
1256068	HSK100ASA100400	C117
1256069	HSK100ASA125600	C117
1256070	HSK100ASA150600	C117
1256071	HSK100ASA200600	C117
1258011	BT30DA208060M	E12
1258012	BT30EM025236	E15
1258013	BT30EM038236	E15
1258014	BT30EM050236	E15
1258015	BT30EM06050M	E15
1258016	BT30EM062236	E15
1258017	BT30EM075236	E15
1258018	BT30EM08060M	E15
1258019	BT30EM10060M	E15
1258020	BT30EM16060M	E15
1258021	BT30EM20080M	E15
1258023	BT30ER16060M	E10
1258025	BT30ER25060M	E11
1258120	BT40BB063280M	E60
1258122	BT40BB104200M	E60
1258159	BT40DA188100M	E39
1258164	BT40EM025255	E45
1258165	BT40EM031255	E45
1258166	BT40EM038255	E45
1258176	BT40EM062255	E45
1258177	BT40EM075255	E45
1258184	BT40EM088335	E45
1258194	BT40EM125335	E45
1258384	BT50BB104350M	E95
1258386	BT50BB134250M	E95
1258428	BT50CS16070M	E89
1258431	BT50CS16150M	E89
1258433	BT50CS22150M	E89
1258437	BT50CS32150M	E89
1258438	BT50CS40200M	E89
1258439	BT50CS50075M	E89
1258441	BT50DA188200M	E80
1258444	BT50EM050295	E83
1258446	BT50EM06150M	E83
1258447	BT50EM075295	E83
1258450	BT50EM100413	E83
1258451	BT50EM100600	E83
1258453	BT50EM10100M	E83
1258456	BT50EM125413	E83
1258457	BT50EM125600	E83
1258459	BT50EM150413	E83
1258473	BT50EM50130M	E83
1258492	BT50JT33041M	E92
1258570	BT50TG150150M	E76
1260086	CC09	A103
1260087	CC11	A103, A110
1260100	CDER16055M	L23
1260101	CDER16065M	L23
1260102	CDER16070M	L23
1260103	CDER16075M	L23
1260104	CDER16095M	L23
1260105	CDER25045M	L25
1260106	CDER25055M	L25
1260107	CDER25065M	L25
1260108	CDER25075M	L25
1260109	CDER25095M	L25
1260110	CDER25115M	L25
1260111	CDER25125M	L25
1260112	CDER25135M	L25
1260113	CDER25145M	L25
1260114	CDER25150M	L25
1260115	CDER25155M	L25
1260116	CDER32045M	L26
1260117	CDER32055M	L26
1260118	CDER32075M	L26
1260119	CDER32085M	L26
1260120	CDER32095M	L26
1260121	CDER32105M	L26
1260122	CDER32115M	L26
1260123	CDER32135M	L26
1260124	CDER32155M	L26
1260125	CDER32165M	L26
1260126	CDER32170M	L26
1260127	CDER32175M	L26
1260128	CDER32185M	L26
1260129	CDER32195M	L26
1260130	CDER40000M	L29
1260131	CDER40035M	L28
1260132	CDER40040M	L28
1260133	CDER40045M	L28
1260134	CDER40050M	L28
1260135	CDER40055M	L28
1260136	CDER40065M	L28
1260137	CDER40075M	L28
1260138	CDER40085M	L28
1260139	CDER40095M	L28
1260140	CDER40105M	L28
1260141	CDER40115M	L28
1260142	CDER40125M	L28
1260143	CDER40130M	L28
1260144	CDER40135M	L28
1260145	CDER40145M	L28
1260146	CDER40155M	L28
1260147	CDER40165M	L28
1260148	CDER40175M	L29
1260149	CDER40185M	L29
1260150	CDER40190M	L29
1260151	CDER40195M	L29
1260152	CDER40205M	L29
1260153	CDER40215M	L29
1260154	CDER40225M	L29
1260155	CDER40235M	L29
1260156	CDER40240M	L29
1260157	CDER40245M	L29
1260182	CDR16M	A337, C67, C89, C116, E53, E89, G34
1260191	CDR40M	A509, A548, C67, C89, C116, E53, E89, G34, G70
1261383	CSS0615M	I8
1261613	CV40BEM050262	F29
1261614	CV40BEM062375	F29
1261615	CV40BEM075375	F29
1261616	CV40BEM100400	F29
1261617	CV40BEM125425	F29
1261618	CV40BER20250	F22
1261619	CV40BER32275	F23
1261621	CV40BTG075275G	F19
1261622	CV40BTG075600G	F19
1261623	CV40BTG100300G	F19
1261624	CV40BTG100600G	F19
1261699	CV40SA062400	F33
1261776	CV50BEM050462	F72
1261777	CV50BEM062375	F72
1261778	CV50BEM075375	F72
1261779	CV50BEM100400	F72
1261780	CV50BEM125400	F72
1261781	CV50BEM150400	F72
1261782	CV50BER20400	F62
1261783	CV50BER32400	F63
1261786	CV50BTG075300G	F59
1261787	CV50BTG075600G	F59
1261788	CV50BTG100300G	F59
1261789	CV50BTG100750G	F59
1261878	CV50SA062400	F77
1263773	DV40BB063280M	G41
1263774	DV40BB082280M	G41
1263775	DV40BB104200M	G41
1263781	DV40BEM06050M	G29
1263784	DV40BEM08050M	G29
1263787	DV40BEM10050M	G29
1263790	DV40BEM12050M	G29
1263796	DV40BEM16063M	G29
1263799	DV40BEM20063M	G29
1263807	DV40BER25065M	G21
1263808	DV40BER25120M	G21
1263809	DV40BER32070M	G21
1263810	DV40BER32120M	G21
1263811	DV40BER40080M	G21
1263812	DV40BER40120M	G21
1263816	DV40BKR50060M	G38
1263821	DV40BSEM25045M	G30
1263822	DV40BSEM32070M	G30
1263828	DV40CS16055M	G34
1263832	DV40CS27100M	G34
1263833	DV40CS27150M	G34
1263835	DV40CS32100M	G34
1263986	DV40TG100100M	G17
1264076	DV50BB104350M	G77
1264102	DV50BEM16063M	G65
1264107	DV50BEM20063M	G65
1264122	DV50BEM40110M	G65
1264125	DV50BEM50120M	G65
1264126	DV50BER25070M	G59
1264127	DV50BER25150M	G59
1264128	DV50BER32070M	G59
1264129	DV50BER32150M	G59
1264130	DV50BER40080M	G59
1264132	DV50BER40150M	G59
1264135	DV50BKR63060M	G74
1264136	DV50BKR80070M	G74
1264147	DV50BTG100150M	G55
1264197	DV50DA204100M	G60
1264198	DV50DA204150M	G60
1264207	DV50EM06063M	G66
1264208	DV50EM06150M	G66
1264210	DV50EM08063M	G66
1264212	DV50EM08150M	G66
1264214	DV50EM10063M	G66
1264216	DV50EM10150M	G66

Order No.	Catalog No.	Page(s)
1264219	DV50EM12150M	G66
1264353	DV50TG100200M	G56
1264185	DV50CS27100M	G70
1264186	DV50CS27150M	G70
1264188	DV50CS32100M	G70
1264189	DV50CS32150M	G70
1264192	DV50CS40150M	G70
1264194	DV50CS50075M	G70
1264195	DV50CS50150M	G70
1271092	FC11	A108
1272797	HDB6250	A251
1272798	HDB6375	A251
1272799	HDB6500	A251
1272800	HDB6625	A251
1273813	HSW25M	A256, L57
1273814	HSW34M	A578, A626, C16, C27, C57, C105, F18, F56, I6, L57
1273815	HSW68M	L57
1274800	ISSN443 K9	A270–273, A350–353, A439–442
1274924	JTC025021M	J71
1274925	JTC028021M	J71
1274926	JTC035027M	J71
1274927	JTC036028M	J71
1274928	JTC045034M	J71
1274929	JTC045036M	J71
1274930	JTC056045M	J71
1274931	JTC060049M	J71
1274932	JTC070055M	J71
1274933	JTC071056M	J71
1275135	KDK40M	A508, A547, A616, C65, C87, C114, D34, E51, E87, G33, G69
1279245	KM32TSBAI25070M	A250
1279247	KM32CLNSS3255	A191
1279733	KRDCKR63M	C119, E93, F81, G74
1279734	KRDCKR80M	C119, E93, F81, G74
1280271	KTC025021M	J72
1280272	KTC028021M	J72
1280273	KTC035027M	J72
1280274	KTC045034M	J72
1280275	KTC060049M	J72
1280277	KTC070055M	J72
1280279	KTC110090M	J72
1280280	KTC120090M	J72
1281835	LTC110090M	J74
1281836	LTC112090M	J74
1281837	LTC120090M	J74
1281838	LTC140110M	J74
1281839	LTC160120M	J74
1282852	MS1347	A208–209
1282857	MS1561	A536, A569
1282860	MS1878	A570
1282864	MS1898PKG	A87, A161
1282867	MS1969PKG	A89–90
1284011	OEW13M	I14, L56
1284014	OEW30M	A543, A627, C28, C58, C83, C106, D10, D28, D46, D60, E10, E36, E78, F19, F22, F58, F62, I11, L56
1284015	OEW32M	E35, E38, E77, F21, F61, G18, G24, G57, H5, H12, L56
1284020	OEW9M	I14, L56
1284310	PSW58M	C56, C104, E33, E75, F17, F55, G15, L57
1284311	PSW80M	L57
1284427	PWZ1008	A556
1284998	RC1TA112090M140	J79
1285008	RC3TA112090M140	J79
1285416	RK30BT2M	L48
1285441	RK40BT3M	L48
1285460	RK40ISAM	L47
1285478	RK50AV1M	L49
1285482	RK50BT3M	L48
1285502	RK50ISAM	L47
1286048	R8EM018112	H27
1286049	R8EM038100	H27
1286050	R8EM050112	H27
1286051	R8EM062150	H27
1286052	R8EM088306	H27
1286053	R8EM100306	H27
1286054	R8EM125306	H27
1286058	R8SM050102	H27
1286059	R8SM075102	H27
1286060	R8SM100102	H27
1286061	R8SM125102	H27
1287104	SMW50M	C87, C89, C116, E89, G70
1288221	SS075TCTG050	I7
1288235	SS100SA062050	I27
1288256	SS100TCTG075	I7
1288261	SS120ER11107M	I8
1288264	SS125SA100075	I27
1288285	SS160ER11132M	I8
1288303	SS200ER25146M	I9
1288304	SS200ER32154M	I9
1288321	SS250ER20190M	I8
1288838	SW30	L43
1288842	SW40	L43
1288917	S100TG1SET	J38
1288918	S100TG3SET	J38
1288919	S100TG4SET	J38
1288923	S103SET	J69
1288925	S104SET	J69
1288940	S150TG1SET	J47
1288941	S150TG2SET	J47
1288943	S150TG4SET	J47
1288963	S183SET	J69
1288964	S184SET	J69
1288983	S203SET	J69
1288984	S204SET	J69
1289026	S303SET	J69
1289027	S304SET	J69
1289028	S305SET	J69
1289158	S75TG1SET	J27
1289160	S75TG2SET	J27
1289161	S75TG3SET	J27
1289162	S75TG4SET	J27
1291312	TW1237R	L52
1291313	TW58	L52
1291314	TW58R	L52
1291316	TW610R	L52
1291318	TW623R	L52
1291352	T11006	J80
1291353	T11007	J80
1291354	T11008	J80
1291355	T11009	J80
1291356	T11010	J80
1291357	T11013	J80
1291358	T11014	J80
1291359	T11015	J80
1291360	T110155	J80
1291361	T110166	J80
1291362	T110177	J80
1291408	T2SET	J81
1291412	T21018	J80
1291413	T21019	J80
1291414	T21020	J80
1291415	T21021	J80
1291416	T21022	J80
1291417	T21023	J80
1291419	T21024	J80
1291420	T21025	J80
1291421	T21026	J80
1291422	T21027	J80
1291423	T210288	J80
1291424	T210299	J80
1291425	T210300	J80
1291553	T31031	J80
1291554	T31032	J80
1291555	T31033	J80
1291556	T31034	J80
1291557	T31035	J80
1291558	T31036	J80
1291559	T31037	J80
1291560	T310387	J80
1291561	T310388	J80
1291562	T310389	J80
1293409	000DAS000M	J69
1293410	000DA010M	J65
1293411	000DA012M	J65
1293412	000DA015M	J65
1293413	000DA017M	J65
1293414	000DA020M	J65
1293415	000DA022M	J65
1293416	000DA025M	J65
1293417	000DA027M	J65
1293418	000DA030M	J65
1293419	000DA032M	J65
1293420	000DA035M	J66
1293421	000DA037M	J66
1293422	000DA040M	J66
1294736	100DAS000M	J69
1295468	150TGS000M	J47
1295593	16ERTC055043M	J58
1295604	16ER015M	J54
1296078	200DAS000M	J69
1297410	300DAS000M	J69
1297411	300DA010M	J65
1297412	300DA015M	J65
1297413	300DA020M	J65
1297414	300DA025M	J65
1297415	300DA030M	J65
1300426	BT50BWN08063M	E81
1307508	20ERTC070055M	J58
1307509	20ERTC090070M	J58
1307767	HSK100AP	L42
1307789	HSK50AER16100M	C28
1307790	HSK50AER16160M	C28
1307791	HSK50AER20100M	C28
1307792	HSK50AER25100M	C29
1307819	HSK50ATG050100M	C27
1307821	HSK50ATG075115M	C27
1307823	HSK63ASA062400	C68
1307824	HSK63ASA100400	C68
1307825	HSK63ASA125400	C68
1307929	HSK63AKM32070M	C72
1309008	DWG MS1277	A197–198
1312285	KM32LCMIVDI40100	A212–213
1312947	HSK100AHSK63100M	C120
1315341	BT40BHC06080M	E30
1315342	BT40BHC08080M	E30
1315343	BT40BHC10085M	E30
1315344	BT40BHC12090M	E30
1315345	BT40BHC14090M	E30
1315347	BT40BHC16090M	E30
1315348	BT40BHC18090M	E30
1315349	BT40BHC20095M	E30
1315350	BT40BHC25115M	E30
1315351	BT40BHC32120M	E30
1315352	BT50BHC06090M	E72
1315353	BT50BHC08090M	E72
1315354	BT50BHC10095M	E72
1315355	BT50BHC12100M	E72
1315356	BT50BHC14100M	E72
1315357	BT50BHC16100M	E72
1315358	BT50BHC18100M	E72
1315359	BT50BHC20105M	E72
1315360	BT50BHC25115M	E72
1315660	BT40BER16060M	E36
1315778	BT50BHC32120M	E72
1315965	MS1489	A177, A235–236, A303–305, A307–308, A321, A383–386, A404, A407, A473–477, A492, A531, A601
1316356	HSK100AGB40349M	C121
1318666	DWG MS1585	A191–192
1318870	HSK100AHSK50080M	C120
1319470	IWSN322 K9	A142
1319536	KM63XMZS6380Y	A588
1320682	HSK100AHSK100140M	C120
1320683	DV40BHSK63075M	G40
1322073	ER20WEM	A112–113, A183, I8
1322096	HSK100AEM50130M	C110
1323373	HSK100AMT2120M	C118
1323375	HSK100AMT3150M	C118
1324044	DWG ELS075044	E45, F28
1324688	KM32CLRRVDI3035	A193
1329141	KM32RCMIVDI30100	A212–213
1330758	KM32CLNSS20217	A191
1330759	KM32CLNSS24217	A191
1330776	KM32CLRLVDI3035	A193
1330780	KM32CLNSEF	A191
1330781	KM32CLNTEF	A192
1333701	HSK100AEM08080M	C110
1340094	SS025031PKG	I10
1499750	BT40BHSK50070M	E60
1504983	KM63XMZER2560Y	A580
1506498	KM63XMZSTALF2525Y	A554
1506739	KDK32M	A420, A508, A547, A586, A616, C65, C87, C112, C114, D16, D32, D34, E51, E84, E87, G33, G67, G69,
1507601	HSK100AMT4170M	C118
1509861	KM63XMZS50100Y	A588
1510191	KM63XMZEM1255Y	A584
1510611	KM63XMZBA40105Y	A569
1510763	BT50BHSK63075M	E95
1511879	KM63XMZEM1660Y	A584
1511880	KM63XMZEM2065Y	A584
1511923	KM63XMZS63120Y	A588
1511925	KM63XMZS4080Y	A588
1512091	KM63XMZEM2580Y	A584
1512243	KM63XMZS3270Y	A588
1514497	HSK50SW	L43
1514514	KM63XMZHC075335Y	A576
1514515	KM63XMZHC125394Y	A576
1514516	KM63XMZHC2085Y	A576
1514517	KM63XMZHC32100Y	A576
1514567	KM63XMZSTAR2525Y	A554
1516667	KM63XMZEM062236Y	A584
1516669	KM63XMZEM075256Y	A584
1516672	KM63XMZEM100315Y	A584
1516673	KM63XMZEM125335Y	A584
1516675	KM63XMZTG07575Y	A578
1516677	KM63XMZTG100100Y	A578
1516678	KM63XMZBA150413Y	A569
1516683	KM63XMZSTAR16Y	A554
1516687	KM63XMZSTALF16Y	A554
1516808	KM63XMZER1660Y	A581
1516809	KM63XMZER3260Y	A580
1516811	KM63XMZDAI3270Y	A585
1516812	KM63XMZDAI40100Y	A585
1516814	KM63XMZES50100Y	A589
1517218	CSS081125	F30, F73
1518630	HSK40SW	L43
1518662	HSK32SW	L43
1518677	HSK63SW	L43
1518681	HSK100SW	L43
1518711	HSK100AMT5200M	C118
1518850	SDK200169	C117, F77, H22, I27
1519638	HSK50CWN16080M	C139
1519639	HSK50CWN18080M	C139
1519665	DV40BHSK40060M	G40
1519668	DV40BHSK50065M	G40
1519669	DV50BHSK32055M	G76
1519670	DV50BHSK40060M	G76
1519684	BT40BHSK32050M	E60
1519685	BT40BHSK40060M	E60
1519688	BT40BHSK63075M	E60
1519708	BT50BHSK40060M	E95
1519709	BT50BHSK50065M	E95
1519723	HSK32CBB034100M	C125
1519724	HSK32CBB034200M	C125
1519725	HSK32CBB053150M	C125
1519726	HSK40CBB040100M	C133
1519727	HSK40CBB040200M	C133
1519729	HSK40CBB063150M	C133
1519733	HSK50CBB053100M	C139
1519745	HSK50CBB053200M	C139
1519750	HSK50CBB083175M	C139
1519755	HSK63CBB063100M	C145
1519756	HSK63CBB063200M	C145
1519757	HSK63CBB102175M	C145
1519772	HSK50CWN06060M	C139
1519774	HSK50CWN08060M	C139
1519777	HSK50CWN14075M	C139
1519791	HSK50CWN20080M	C139
1519797	HSK63CWN12075M	C144
1519798	HSK63CWN14075M	C144
1519800	HSK63CWN18080M	C144
1520596	HSK100AHSK100200M	C120
1520609	HSK63AHSK32070M	C72
1520612	HSK63AHSK50080M	C72
1520613	HSK40CHSK32050M	C132
1520637	HSK63ACHRC1105M	C70
1520639	HSK63ACHRC2140M	C70
1520641	HSK63ACHRC3203M	C70
1520643	HSK100ACHRC1112M	C118

Order No.	Catalog No.	Page(s)
1520644	HSK100ACHRC2144M	C118
1520645	HSK100ACHRC3210M	C118
1521853	KM63XMZBR4008Y	A570
1521854	KM63XMZBR4010Y	A570
1521856	KM63XMZBR4032Y	A570
1521857	KM63XMZBR4012Y	A570
1521858	KM63XMZBR4025Y	A570
1521859	KM63XMZBR4016Y	A570
1521860	KM63XMZBR4020Y	A570
1528328	DV50BKR32041M	G74
1532048	KM63XMZER16120Y	A581
1533057	CV40BHSK63295	F39
1533058	CV50BHSK50197	F83
1533059	CV50BHSK63236	F83
1538985	BT40BER32070M	E37
1538986	BT40BER32120M	E37
1539005	DV40BKR32041M	G38
1542809	MS1460	A208–209
1543065	551.326	A379–382
1543077	554.260	A379–382
1546392	SMYE5 K9	A309–310, A386–388, A478
1546393	SMYI5 K9	A309–310, A386–388, A478
1547284	CSS1020M	I8
1547285	CSS1225M	I8–9
1549300	CV40BWN06M244	F26
1549315	CV40BWN08M244	F26
1549317	CV40BWN10M244	F26
1549320	CV40BWN12M260	F26
1549326	CV40BWN14M260	F26
1549328	CV40BWN16M275	F26
1549329	CV40BWN18M275	F26
1549330	CV40BWN25M375	F26
1549341	CV40BWN32M388	F26
1549342	CV40BWN20M275	F26
1549343	CV50BWN06M244	F66
1549344	CV50BWN08M244	F66
1549345	CV50BWN12M264	F66
1549346	CV50BWN14M264	F66
1549352	CV50BWN16M275	F66
1549353	CV50BWN18M275	F66
1549354	CV50BWN25M375	F66
1549355	CV50BWN32M388	F66
1549362	CV50BWN20M275	F66
1549378	CV50BWN10M244	F66
1551134	20ERTC045034M	J58
1551135	20ERTC055043M	J58
1551813	KM63XMZMCLNR12Y	A558
1556433	BT50BER40080M	E79
1564095	280.034	E32
1566078	KM63XMZBR150038Y	A570
1566079	KM63XMZBR150050Y	A570
1566080	KM63XMZBR150062Y	A570
1566093	KM63XMZBR150031Y	A570
1566211	KM63XMZBR150075Y	A570
1566212	KM63XMZBR150100Y	A570
1566213	KM63XMZBR150125Y	A570
1566225	KM63XMZTG05050Y	A578
1567466	CDER20090M	L24
1568338	CDER20080M	L24
1581657	40ERTC220180M	J58
1586520	BT50BER16100M	E78
1587031	BT50BER32070M	E79
1599399	DV40BHCB20082M	G14
1599686	DV50BHCB20082M	G53
1599687	BT40BHCB20095M	E32
1599688	BT50BHCB20105M	E74
1600448	CDER20060M	L24
1603738	KM63XMZMCLNR16Y	A558
1605101	CV40BHC025350	F13
1605102	CV40BHC038375	F13
1605103	CV40BHC050375	F13
1605104	CV40BHC062400	F13
1605105	CV40BHC075400	F13
1605106	CV40BHC100462	F13
1605107	CV40BHC125462	F13
1605143	CV50BHC100462	F50
1605144	CV50BHC125462	F50
1605145	CV40BHC06M350	F12
1605149	CV40BHC08M350	F12
1605150	CV40BHC10M375	F12
1605216	CV40BHC25M462	F12
1605217	CV40BHC32M462	F12
1605226	CV50BHC25M462	F50
1605227	CV50BHC32M462	F50
1606046	50HC0188	J5
1606047	50HC0250	J5
1606048	50HC0312	J5
1606049	50HC0375	J5
1606050	50HC040M	J5
1606061	50HC060M	J5
1606062	50HC080M	J5
1606064	50HC100M	J5
1606078	150TGST075	J48
1606102	150TGST037P	J48
1606103	150TGST050P	J48
1606109	75TGCHP0688	J26
1606113	KMSW40	L43
1606131	100TGCHP0688	J36
1606132	150TGCHP1000	J45
1606133	150TGCHP1250	J46
1606134	150TGCHP1500	J46
1610709	BT40BER25120M	E37
1612900	KMSW50	L43
1612922	KMSW63	L43
1612923	KMSW80	L43
1615969	CV40CSTRC1290	F36
1615971	CV40CSTRC2350	F36
1615973	CV50CSTRC1290	F80
1615974	CV50CSTRC2350	F80
1615976	CV50CSTRC3481	F80
1615978	CV40TCRC1297	F35
1615979	CV40TCRC2393	F35
1615981	CV50TCRC1297	F79
1615982	CV50TCRC2393	F79
1615983	CV50TCRC3516	F79
1615986	CV40CHTCRC1382	F35
1615987	CV40CHTCRC2524	F35
1615989	CV50CHTCRC1382	F79
1615990	CV50CHTCRC2524	F79
1616001	CV50CHTCRC3717	F79
1618283	MS1947	A536, A604, C41–42
1621006	KM63XMZEM06100Y	A584
1621010	KM63XMZEM08100Y	A584
1621054	KM63XMZEM10100Y	A584
1621087	MS2002	A311, A389–390, A479–480, A532, A534, A563, A602–603, C38
1623345	BT40BER16120M	E36
1624632	KM32TSPCLNR12	A227
1661912	KM63XMZGB60150Y	A587
1671515	KM32TSPDQNR11	A228
1671735	KM32TSS25GPCLNR09	A242
1671736	KM32TSS25GPCLNL09	A242
1695783	KM32TSS25GPWLNR06	A243
1695784	KM32TSS25GPWLNL06	A243
1712545	840.142.250	A260
1712546	840.142.320	A339
1712547	840.142.420	A424
1713402	840.142.200	A260
1714887	KM63XMZWN2080Y	A582
1714888	KM63XMZWN2585Y	A582
1714889	KM63XMZWN3295Y	A582
1714890	KM63XMZEM3290Y	A584
1714892	KM63XMZER25120Y	A580
1714893	KM63XMZER4090Y	A580
1715530	841.142.250	A260
1718315	BT40BER25070M	E37
1720848	CDER20000M	L24
1721881	S50TG2SET	J19
1721885	S50TG1SET	J19
1722930	KM32TSBAI04126	A250
1723301	KM32TSBAI06126	A250
1723302	KM32TSBAI08157	A250
1723303	KM32TSBAI10185	A250
1723304	KM63XMZEM050216Y	A584
1724543	HSK63AHCT06080M	C55
1724544	HSK63AHCT08080M	C55
1724545	HSK63AHCT10085M	C55
1724546	HSK63AHCT12090M	C55
1724547	HSK63AHCT14090M	C55
1724548	HSK63AHCT16095M	C55
1724550	HSK63AHCT18095M	C55
1724611	HSK63AHCT20100M	C55
1724612	HSK63AHCT25120M	C55
1724613	HSK63AHCT32125M	C55
1724615	HSK63AHCT06150M	C55
1724657	HSK63AHCT08150M	C55
1724658	HSK63AHCT10150M	C55
1724660	HSK63AHCT12150M	C55
1724761	HSK63AHCT14150M	C55
1724763	HSK63AHCT16150M	C55
1724764	HSK63AHCT18150M	C55
1724765	HSK63AHCT20150M	C55
1725301	KM63XMZ4XSTAR2020Y	A556
1727097	DWG SDK100106	C68, C117, E54, F33, F77, I27
1727202	HSK80AEM06080M	C86
1727203	HSK80AEM08080M	C86
1727204	HSK80AEM10080M	C86
1727205	HSK80AEM12080M	C86
1727209	HSK80AEM32110M	C86
1727216	HSK80AER16100M	C83
1727217	HSK80AER32100M	C84
1727218	HSK80AER40120M	C84
1727267	KMSW32	L43
1729444	HSK80AWN12100M	C85
1729816	16ER0125	J56
1729817	16ER0188	J56
1729818	16ER0250	J56
1729819	16ER0312	J56
1729820	16ER0375	J56
1729831	20ER0125	J56
1729833	20ER0188	J56
1729834	20ER0250	J56
1729836	20ER0312	J56
1729837	20ER0375	J56
1729838	20ER0438	J56
1729839	20ER0500	J56
1729852	25ER0125	J56
1729855	25ER0188	J56
1729857	25ER0250	J56
1729859	25ER0375	J56
1729862	25ER0500	J56
1729881	BT50BER32150M	E79
1729902	25ER0625	J56
1729903	32ER0125	J56
1729904	32ER0188	J56
1729905	32ER0250	J56
1729906	32ER0375	J56
1729908	32ER0500	J56
1729909	32ER0625	J56
1729910	32ER0750	J56
1729932	40ER0188	J56
1729933	40ER0250	J56
1729934	40ER0375	J56
1729936	40ER0500	J56
1729938	40ER0625	J56
1729939	40ER0750	J56
1729940	40ER1000	J56
1730386	HSK80ACS27060M	C89
1730387	HSK80ACS32060M	C89
1730388	HSK80AWN25110M	C85
1730499	16ER0062	J56
1730500	20ER0062	J56
1730699	HSK80AWN32120M	C85
1732924	MS1944	A86, A88, A159
1736199	KLS32M	A509, A548, A587, C67, C89, C116, E53, E89, G34, G70, L36
1746797	20ERTC080062M	J58
1747032	CDER20100M	L24
1748235	DV50BER16100M	G58
1748577	HSK80AWN20110M	C85
1749209	CV50BSSF200550	F74
1749276	CV40BWD32M343	F27
1749279	CV50BWD32M343	F68
1749283	CV50BWD40M343	F68
1749284	CV50BWD50M343	F68
1749289	BT40BSSF075325	E46
1749290	BT40BSSF100425	E46
1749292	BT40BSSF125500	E46
1749368	CV40BSSF075275	F30
1749369	CV40BSSF100450	F30
1749370	CV40BSSF125475	F30
1749471	CV40BSSF150575	F30
1749472	CV50BSSF075275	F74
1749473	CV50BSSF100400	F74
1749474	CV50BSSF125400	F74
1749475	CV50BSSF150450	F74
1749601	HSK100AHCT06085M	C103
1749602	HSK100AHCT08085M	C103
1749603	HSK100AHCT10090M	C103
1749604	HSK100AHCT12095M	C103
1749605	HSK100AHCT14095M	C103
1749606	HSK100AHCT16100M	C103
1749608	HSK100AHCT18100M	C103
1749609	HSK100AHCT20105M	C103
1749611	HSK100AHCT25115M	C103
1749612	HSK100AHCT32120M	C103
1749613	HSK80AHCT06085M	C81
1749614	HSK80AHCT08085M	C81
1749615	HSK80AHCT10090M	C81
1749616	HSK80AHCT12095M	C81
1749617	HSK80AHCT14095M	C81
1749618	HSK80AHCT16100M	C81
1749619	HSK80AHCT18100M	C81
1749620	HSK80AHCT20105M	C81
1749621	HSK80AHCT25115M	C81
1749622	HSK80AHCT32125M	C81
1750661	HSK80AWN10090M	C85
1751709	HSK80AER25100M	C84
1752838	DWG SDK125119	C68, C117, E54, E90, F33, F77, H22, I27
1756550	KM63XMZKGMSR50Y	A563
1756574	KM63XMZKGMSLF50Y	A563
1765666	TTAAG025	L13
1765669	TTAAG031	L13
1765670	TTAAG038	L13
1765671	TTAAG044	L13
1765702	TTAAG050	L13
1765703	TTAAG056	L13
1765704	TTAAG062	L13
1765705	TTAAG068	L13
1765707	TTAAG075	L13
1765708	TTAAG088	L13
1765709	TTAAG100	L13
1765710	TTAAG125	L13
1770957	DV40BER16070M	G20
1770958	DV40BER16120M	G20
1775478	CM72LP	A153–154, A177
1775479	CM73LP	A153–154, A177
1775603	TTAAG08M	L12
1775604	TTAAG10M	L12
1775605	TTAAG12M	L12
1775606	TTAAG14M	L12
1775608	TTAAG16M	L12
1775609	TTAAG18M	L12
1775610	TTAAG20M	L12
1775611	TTAAG32M	L12
1777380	DV40RC2098M	G36
1777381	DV40RC3150M	G36
1777397	DV40RC1060M	G36
1777453	DV50RC1075M	G72
1777455	DV50RC2084M	G72
1777540	DV50RC3139M	G72
1777541	DV40STRC1074M	G36
1778007	CSTB4SDPKG	A90
1778012	DV40STRC2089M	G36
1778182	HSK80AEM20100M	C86
1778220	CSTB25PKG	A95
1778235	HSK80ACS22060M	C89
1778237	HSK80AER16160M	C83
1778243	DV50STRC1074M	G73
1778244	DV50STRC2089M	G73
1778908	BT50RC1075M	E91
1778911	BT40STRC1074M	E56
1778973	BT40STRC2089M	E56
1778974	BT50STRC1074M	E91
1778975	BT50STRC2089M	E91
1779396	TTCS	L5, L9
1784105	TTAAG25M	L12
1785032	KM40CL2NTEF	A198
1785153	KM40CL2NSEF	A197
1785154	KM40CL2NTBC3216B	A200
1785155	KM40CL2NSBC3216B	A200

Order No.	Catalog No.	Page(s)
1785156	KM40CL2SR1260B	A196
1785157	KM40CL2SR1660C	A196
1785158	KM40CL2SR1660D	A196
1785159	KM40CL2SR2060D	A196
1785161	KM40CL2SL1260B	A196
1785162	KM40CL2SL1660C	A196
1785183	KM40CL2SL1660D	A196
1785184	KM40CL2SL2060D	A196
1785185	KM40CL2NSS24236	A197
1785187	KM40CL2SR2560M	A196
1785188	KM40CL2SR3260P	A196
1785189	KM40CL2SL2560M	A196
1785190	KM40CL2SL3260P	A196
1785191	KM40CL2NSS4060	A197
1785233	KM40CL2RRVDI4040	A199
1785234	KM40CL2RLVDI4040	A199
1785236	KM40CL2RRVDI5040	A199
1785240	KM40CL2RLVDI5040	A199
1785241	KM40CL2ANVDI4060	A199
1785844	CDER20045M	L24
1789223	MS1210	A249, A324, A409
1794109	SS050TT012600	I5
1794110	SS050TT018600	I5
1794111	SS075TT025600	I5
1794112	SS075TT031600	I5
1794233	SS075TT038600	I5
1794234	SS075TT044600	I5
1794235	SS075TT050600	I5
1794236	SS100TT056700	I5
1794237	SS100TT062700	I5
1795995	HSK40EER25080M	C151
1797483	KM63XMZGB50200Y	A587
1798651	KM63XMZER32120Y	A580
1799219	LER20M	A112–113, A183, I8, L19
1801298	TTAAG06M	L12
1801299	SS200TT04150M	I4
1801300	SS200TT05150M	I4
1801301	SS200TT06150M	I4
1801302	SS200TT08150M	I4
1801413	SS200TT10150M	I4
1801414	SS200TT12150M	I4
1801547	TTSS05018M	C155
1801548	TTSS06020M	C155
1801549	TTSS08020M	C155
1801550	TTSS12020M	C155
1801551	TTSS16020M	C155
1804514	CV50BWN20M600	F66
1804515	CV50BWN25M600	F66
1804516	CV50BWN32M600	F66
1805036	DWG SDK150175	C117, E90, F77, H22, I27
1808884	HSK63ASSF125500	C63
1809016	HSK63ASSF150550	C63
1809973	DV40BHCT06150M	G13
1809974	DV40BHCT08150M	G13
1809975	DV40BHCT10150M	G13
1809976	DV40BHCT12150M	G13
1809977	DV40BHCT14150M	G13
1809978	DV40BHCT16150M	G13
1809979	DV40BHCT18150M	G13
1809980	DV40BHCT20150M	G13
1809981	HSK32CHCT06060M	C124
1809982	HSK32CHCT08060M	C124
1809983	HSK32CHCT10065M	C124
1809984	HSK32CHCT12070M	C124
1809985	HSK40CHCT06060M	C130
1809986	HSK40CHCT08060M	C130
1809987	HSK40CHCT10065M	C130
1809988	HSK40CHCT12070M	C130
1809989	HSK50CHCT06060M	C137
1809990	HSK50CHCT08060M	C137
1809991	HSK50CHCT10065M	C137
1809992	HSK50CHCT12075M	C137
1810013	HSK50CHCT14075M	C137
1810014	HSK50CHCT16080M	C137
1810015	HSK50CHCT18080M	C137
1810016	HSK50CHCT20080M	C137
1810017	HSK63CHCT06060M	C142
1810018	HSK63CHCT08060M	C142
1810019	HSK63CHCT10065M	C142
1810020	HSK63CHCT12075M	C142
1810021	HSK63CHCT14075M	C142
1810022	HSK63CHCT16080M	C142
1810023	HSK63CHCT18080M	C142
1810024	HSK63CHCT20080M	C142
1810025	HSK63CHCT25095M	C142
1810026	HSK63CHCT32100M	C142
1820323	CDER25035M	L25
1821042	CDER20070M	L24
1822413	KM63XMZER1190Y	A580
1826220	BT30ER16100M	E10
1826221	BT30ER25100M	E11
1826965	KM63XMZER1160Y	A580
1830508	MS734	A184
1831203	KM16NSR220	A89
1831204	KM16NSR330	A89
1831206	KM16SCLCR0920	A78
1831207	KM16SCGCR0920	A78
1831208	KM16SDACR1120	A79
1831209	KM16SDJCR1120	A79
1831211	KM16STGCR1120	A80
1831212	KM16STGCR1620	A80
1831213	KM16STJCR1120	A81
1831214	KM16STJCR1620	A81
1831215	KM16SVGBR1630	A82
1831216	KM16SVJBR1630	A83
1831217	KM16BSR	A87
1831218	KM16A3SR41130	A88
1831439	841.142.200	A260, A424
1831441	841.142.320	A339
1831586	KM63XMZBN115200Y	A589
1831587	KM63XMZES40110Y	A589
1831589	KM63XMZKR6375Y	A585
1831590	KM63XMZKR5060Y	A585
1831634	KM63XMZBSLF5Y	A564
1831638	KM63XMZBSR5Y	A564
1831639	KM63XMZS5058Y	A588
1831641	KM63XMZBA200512Y	A569
1831642	KM63XMZWN0865Y	A582
1831703	KM63XMZWN1070Y	A582
1831704	KM63XMZWN1275Y	A582
1831705	KM63XMZWN1475Y	A582
1831706	KM63XMZWN1680Y	A582
1831838	KM63XMZEM200492Y	A584
1833498	HSK40AER25080M	C17
1835938	16ERTC080062M	J58
1839882	HSK80ACS16060M	C89
1841860	MS1239	A200
1844636	KM63XMZEM1860Y	A584
1846446	KM16NSL220	A89
1846447	KM16SCGCL0920	A78
1847363	KM63XMZ2XSTAR2525Y	A556
1848655	ICSN443 K9	A266
1848655	ICSN443 K9	A345–346
1848655	ICSN443 K9	A434–435
1848655	ICSN443 K9	A519, A593
1850241	KM63XMZSTAR2020Y	A554
1850281	TTCCTRAY	L11
1850281	TTCCTRAY	L7
1851739	KM16BN3740	A115
1851741	KM16P	A117
1851748	KM16NSL330	A89
1851750	KM16SCLCL0920	A78
1851752	KM16SDACL1120	A79
1851763	KM16SDJCL1120	A79
1851764	KM16STGCL1120	A80
1851765	KM16STGCL1620	A80
1851766	KM16STJCL1120	A81
1851767	KM16STJCL1620	A81
1851768	KM16SVGBL1630	A82
1851770	KM16SVJBL1630	A83
1851771	KM16SWLCR0620	A83
1851772	KM16SWLCL0620	A83
1851793	KM16BSL	A87
1851798	KM16A3SL41130	A88
1851799	A2BHSN19X0216	A162
1851800	A2BHSN19X0211	A162
1851801	KM16NRPKG	A65–68, A114, A117
1851801	KM16NRPKG	A185
1851806	KLM34LT9PKG	A135–137, A168–171
1851808	STCM9T9	A135–137, A168–171
1851809	TWT278R	L52
1852320	HSK40AEM16075M	C19
1854738	LNHABER16M	L21
1855652	KM63XMZSTALF2020Y	A554
1855665	KM63XMZ45TAR2020Y	A557
1855669	KM63XMZ45TALF2020Y	A557
1855683	KM63XMZSTAR12Y	A554
1855684	KM63XMZSTALF12Y	A554
1855685	KM63XMZ45TAR12Y	A557
1855686	KM63XMZ45TALF12Y	A557
1855688	KM63XMZBA3278Y	A569
1855692	KM63XMZBA125307Y	A569
1859410	LNHABER20M	L21
1860140	HSK80ATG075120M	C82
1860141	HSK80ATG100140M	C82
1860166	HSK80AEM038300	C86
1860167	HSK80AEM050325	C86
1860168	HSK80AEM062375	C86
1860169	HSK80AEM075375	C86
1860170	HSK80AEM100425	C86
1860171	HSK80AEM125425	C86
1860172	HSK80ABB100250M	C90
1860203	HSK80ABB150150M	C90
1861102	BT30WN06050M	E14
1861123	BT30WN08050M	E14
1861681	S1990	A82
1867212	SSP025016M	A265–277, A345–357, A434–446, A519–520, A593–596
1867278	KMSP415IP	A265–277, A345–357, A434–446, A519–520, A593–596
1867314	KMSP515IP	A265, A345, A434, A519, A593
1867319	STCM1115IP	A134–140, A142, A166–174
1867321	KLM46L15IP	A135–136
1867333	KLM4615IP	A134–135, A137–140, A142, A166–174
1868533	KM63XMZ2XSTALF2525Y	A556
1871535	BT40BER40080M	E37
1871538	BT40BER40120M	E37
1871539	BT50BER16150M	E78
1871540	BT50BER25070M	E79
1871541	BT50BER25150M	E79
1872409	ICSN543 K9	A265, A345, A434, A519, A593
1876644	25ERTC160120M	J58
1878181	HSK80ACS40070M	C89
1882862	CDER20030M	L24
1883015	CDER20120M	L24
1884683	KM16SVJBR1120	A83
1884833	KM16STJNR11	A82
1884834	KM16NER220	A88
1885322	HSK80AWN06090M	C85
1885325	HSK80AER20100M	C83
1885443	HSK80AWN08090M	C85
1885444	HSK80AWN14100M	C85
1885445	HSK80AWN16100M	C85
1885446	HSK80AWN18100M	C85
1885447	HSK80AEM14080M	C86
1885448	HSK80AEM16100M	C86
1885449	HSK80AEM18100M	C86
1885450	HSK80AEM25100M	C86
1886608	DV40BEM14050M	G29
1886774	KM16TIM1420	A116
1887781	CV40KM16TRA	A114
1892495	KM16STGR1620	A90
1895373	KM63TSGB50350M	A514
1897967	25ERTC140110M	J58
1898043	KM16NCMSF1928	A65
1898048	KM2016NCMSS12063	A66
1898049	KM2016NCMSS16063	A66
1898050	KM2016NCMSS2016	A66
1898051	KM2016NCMSS2216	A66
1898053	KM16NEL220	A88
1898054	KM16STJNL11	A82
1898055	KM16STGL1620	A90
1898056	KM16SVJBL1120	A83
1898057	KM2016ER11020	A112
1898058	KM2016ER16032	A112
1901019	CV40BER16250	F22
1901045	CV40BER32600	F23
1901046	CV40BER16500	F22
1905810	MS1294	A336–337, A586–587, C20, C30, C65, C67, C89, C114, C116, C152, D16, D34, E16, E50, E53, E86, E89, G32, G34, G68, L36
1908331	KM50CL2NSBC4010B	A200
1915368	881.252.320	A340
1917367	KM16A3SR31130	A88
1920380	KM12RCM08400	A64
1920381	KM12SVJBR1120	A83
1920382	KM12SCGCR0915	A78
1920413	KM12SCLCR0915	A78
1920414	KM12SDACR1120	A79
1920416	KM12NSR220	A89
1920417	KM63CL2NSBC5010B	A200
1921511	KM63XMZRDC1390Y	A582
1922492	KM12NCM1212100	A64
1923779	20ERTC110090M	J58
1923780	CDER20110M	L24
1925520	QC50SM050125	H21
1925738	KM1612NCMSS12055	A66
1925739	KM1612NCMSS1914	A66
1925740	KM12LCM08400	A64
1925741	KM12NCMSF1522	A65
1925742	KM12SCGCL0915	A78
1925805	KM12SCLCL0915	A78
1925809	KM12SDACL1120	A79
1925810	KM12SDJCR1120	A79
1925811	KM12SDJCL1120	A79
1925814	KM12STGCL1115	A80
1925817	KM12STJCR1115	A81
1925821	KM12SVGBR1120	A82
1925822	KM12SVGBL1120	A82
1925823	KM12SVJBL1120	A83
1925824	KM12SWLCR0615	A83
1925825	KM12SWLCL0615	A83
1925830	KM12NSL220	A89
1925831	KM12STGR1620	A90
1925832	KM12STGL1620	A90
1925837	KM12A3SR31130	A88
1925842	KM12BSR	A87
1925843	KM12BSL	A87
1925844	KM1612ER11020	A112
1925845	KM1612ER16032	A112
1925846	CV40KM12TRA	A114
1925847	KM12TIM0915	A116
1925848	KM12P	A117
1925849	KM12BN3133	A115
1925856	KM16A3SL31130	A88
1925857	KM2016ER20035	A112
1925858	KM12NRPKG	A65–66, A68, A114, A117, A185
1925861	KM12A3SL31130	A88
1926291	HSK63ATTMD05080M	C50
1926292	HSK63ATTMD06080M	C50
1926293	HSK63ATTMD08080M	C50
1926294	HSK63ATTMD10085M	C50
1926295	HSK63ATTMD12090M	C50
1926296	HSK63ATTMD16095M	C50
1926297	HSK63ATTMD20100M	C50
1926298	HSK63ATTMD25115M	C50
1930183	TWT256R	L52
1931147	MS2091	A157–158, A601
1937870	75HC0125	J5
1939520	KM1612NCMSS10055	A66
1939713	190.228	A536
1949805	25ER0062	J56
1949806	40ER0125	J56
1949904	16ER0094	J56
1949905	16ER0156	J56
1950125	16ER0219	J56
1950126	16ER0281	J56
1950127	16ER0344	J56
1950128	16ER0406	J56
1950129	25ER0312	J56
1950130	25ER0438	J56
1950131	25ER0562	J56
1950132	32ER0312	J56
1950154	32ER0438	J56
1950155	32ER0562	J56
1950156	32ER0688	J56
1950157	32ER0812	J56
1950158	40ER0312	J56

Order No.	Catalog No.	Page(s)
1950162	40ER0438	J56
1950203	40ER0562	J56
1950204	40ER0688	J56
1950205	40ER0812	J56
1950206	40ER0875	J56
1950207	40ER0938	J56
1953471	KM80ATCER3265	A611
1954766	KM80XGL1064593	A218
1958408	KM80ATCMCLNL19	A597
1958411	KM80ATCMCLNL25	A597
1960118	HSK40AHC06080M	C14
1960119	HSK40AHC08080M	C14
1960120	HSK40AHC10085M	C14
1960121	HSK40AHC12090M	C14
1960122	HSK80AHC06085M	C80
1960133	HSK80AHC08085M	C80
1960134	HSK80AHC10090M	C80
1960135	HSK80AHC12095M	C80
1960136	HSK80AHC14095M	C80
1960137	HSK80AHC16100M	C80
1960138	HSK80AHC18100M	C80
1960139	HSK80AHC20105M	C80
1960140	HSK80AHC25115M	C80
1960141	HSK80AHC32125M	C80
1960915	KM80ATCNEL4	A601
1960916	KM80ATCMCRNL19	A598
1960917	KM80ATCMSKNL25	A599
1961291	KM80ATCMCKNL19	A597
1961333	KM80ATCNEL3	A601
1961335	KM80ATCMVUNL16	A600
1961336	KM80ATCEM150382	A614
1961339	KM80ATCKGMEL50	A602
1961340	KM80ATCPRGCL20	A600
1961718	KM80ATCMSRNL25	A599
1962610	KM63CL2NTBC5010B	A200
1962982	CT15	A104–106
1963863	QC21	A109
1963865	QC15	A111
1971143	CDER40255M	L29
1972537	DV50BER16150M	G58
1974735	DV40BKM32040M	G39
1974736	DV40BKM32090M	G39
1974737	DV40BKM40040M	G39
1974738	DV40BKM40100M	G39
1974739	DV40BKM50060M	G39
1974740	DV40BKM50120M	G39
1974741	DV50BKM32040M	G75
1974742	DV50BKM32090M	G75
1974813	DV50BKM40040M	G75
1974814	DV50BKM40100M	G75
1974815	DV50BKM50060M	G75
1974816	DV50BKM50120M	G75
1974817	DV50BKM63060M	G75
1974818	DV50BKM63140M	G75
1974819	DV50BKM80080M	G75
1982384	KM63XMZWN0660Y	A582
1982385	KM63XMZWN1880Y	A582
1982386	KM63XMZBSR4Y	A564
1982387	KM63XMZBSLF4Y	A564
1984998	A2BHSN19X0116	A162
1985751	KLM34L9IP	A139–142, A173–174
2001975	CV40BHCB20M400	F16
2001976	CV40BHCB075400	F16
2001977	CV50BHCB20M400	F54
2001978	CV50BHCB075400	F54
2012922	KM40RNSEF	A201
2012945	KM40RRLVDI4040	A203
2012947	KM40RALVDI4060	A202
2012949	KM40RRRVDI4040	A203
2012950	KM40RRRVDI4060	A203
2012951	KM40RARVDI4060	A202
2012987	KM40RRRVDI5040	A203
2012989	KM40RARVDI5060	A202
2013052	KM40RCMLVDI3050	A214
2013075	KM40RCMLVDI4060	A214
2013076	KM40RCMLVDI40120	A214
2013079	KM40RCMLVDI5060	A214
2013887	KM50RARVDI4070	A202
2013892	KM50RRRVDI5050	A203
2018139	KM40RPNTF	A201
2018140	KM50RPNTF	A201
2019051	12148562500 W	A528
2022194	KM80ATCTG100394	A610
2022195	KM80ATCTG150492	A610
2022196	KM80ATCER4090	A611
2022197	KM80ATCEM100354	A614
2022198	KM80ATCEM125354	A614
2022199	KM80ATCEM200492	A614
2024394	KM80ATCS80120	A617
2024395	KM80ATCS80160	A617
2024396	KM80ATCS4060	A617
2024397	KM80ATCS5080	A617
2024398	KM80ATCS6380	A617
2024399	KM80ATCBA100276	A604
2024400	KM80ATCBA125295	A604
2024401	KM80ATCBA150413	A604
2024402	KM80ATCBA200512	A604
2024413	KM80ATCSSF075350	A615
2024414	KM80ATCSSF100450	A615
2024415	KM80ATCSSF125500	A615
2024416	KM80ATCSSF150550	A615
2024417	KM80ATCSSF200650	A615
2029226	12146021100 W	A201
2029360	12147625400 W	A201
2029391	12147658400 W	A201
2030659	12146032300 W	L58
2030660	12146032400 W	L58
2030661	12146032500 W	L58
2031858	12146032600 W	L58
2031859	12146032700 W	L58
2031860	12146032800 W	L58
2032697	KM32RCMLVDI2050	A214
2032703	KM32RCMLVDI4060	A214
2032759	KM40RRLVDI4060	A203
2032762	KM40RCMLVDI50120	A214
2032763	KM40RCMLVDI6080	A214
2032936	KM50RNSEF	A201
2032938	KM50RALVDI4070 W	A202
2032951	KM50RCMLVDI4060	A214
2032952	KM50RCMLVDI40120	A214
2032953	KM50RCMLVDI5070	A214
2032954	KM50RCMLVDI50140	A214
2033075	KM63RNSEF	A201
2033080	KM63RARVDI5080	A202
2033100	KM63RCMLVDI60160	A214
2033465	KM63RPNTF	A201
2033887	KM80ATCMCRNL25	A598
2036330	KM80ATCDCLNR12KC04	A593
2036331	KM80ATCDCLNL12KC04	A593
2036332	KM80ATCDCLNR16KC06	A593
2036373	KM80ATCMCLNR19	A597
2036374	KM80ATCMCLNR25	A597
2036375	KM80ATCMCRNR19	A598
2036376	KM80ATCMCRNR25	A598
2036377	KM80ATCDDJNR15KC06	A594
2036378	KM80ATCDDJNL15KC06	A594
2036379	KM80ATCDDQNR15KC06	A595
2036380	KM80ATCDDQNL15KC06	A595
2036381	KM80ATCDDUNR15KC06	A596
2036382	KM80ATCDDUNL15KC06	A596
2036383	KM80ATCMSDNN19	A598
2036384	KM80ATCMSDNN25	A598
2036385	KM80ATCMSKNR19	A599
2036386	KM80ATCMSKNL19	A599
2036387	KM80ATCMSKNR25	A599
2036388	KM80ATCMSRNR19	A599
2036389	KM80ATCMSRNL19	A599
2036390	KM80ATCMSRNR25	A599
2036391	KM80ATCMVUNR16	A600
2036392	KM80ATCKGMER50	A602
2036393	KM80ATCMCKNR19	A597
2036394	KM80ATCNER3	A601
2036395	KM80ATCNER4	A601
2036396	KM80ATCNER5	A601
2036397	KM80ATCNER6	A601
2036398	KM80ATCNEL6	A601
2036400	KM80ATCNEL5	A601
2036406	KM80ATCDCLNL16KC06	A593
2037871	KDK27M	A336, A420, A508, A547, A586, A616, C20, C30, C65, C87, C114, D16, D34, E87, G33, G69
2044321	KM80ATCNSL4	A601
2044919	KM50CL2NTBC4010B	A200
2044920	KM50CL2SR1675D	A196
2044921	KM50CL2SL1675D	A196
2044922	KM50CL2SR2075D	A196
2044923	KM50CL2SL2075D	A196
2044924	KM50CL2NSS32295	A197
2044926	KM50CL2NSEF	A197
2044927	KM50CL2NTEF	A198
2044928	KM50CL2SR2575M	A196
2044929	KM50CL2SL2575M	A196
2044930	KM50CL2SR3275P	A196
2044931	KM50CL2SL3275P	A196
2044932	KM50CL2NSS5075	A197
2044936	KM63CL2NSEF	A197
2044937	KM63CL2NTEF	A198
2044938	KM63CL2SR2090E	A196
2044939	KM63CL2SL2090E	A196
2044940	KM63CL2NSS40335	A197
2044942	KM63CL2SR3290P	A196
2044943	KM63CL2SL3290P	A196
2044944	KM63CL2NSS6085	A197
2046058	IWSN443 K9	A357, A446
2046537	16ERTC090070M	J58
2046538	32ERTC180145M	J58
2046539	32ERTC200160M	J58
2046541	CDER20035M	L24
2046542	CDER20040M	L24
2046613	CDER20050M	L24
2046614	CDER20055M	L24
2046615	CDER20065M	L24
2046616	CDER20075M	L24
2046617	CDER20085M	L24
2046618	CDER20095M	L24
2046619	CDER20105M	L24
2046620	CDER20115M	L24
2046621	CDER20125M	L24
2046622	CDER20130M	L24
2048377	KM80ATCESR63105	A618
2050081	MS2111	A153–154, A177
2054184	12146021000 W	A201
2067373	12146033500 W	L58
2079279	CV40BHC12M375	F12
2079280	CV40BHC14M400	F12
2079281	CV40BHC16M400	F12
2079282	CV40BHC18M400	F12
2079523	CV40BHC20M400	F12
2079524	CV50BHC025350	F50
2079525	CV50BHC038375	F50
2079526	CV50BHC050375	F50
2079527	CV50BHC062400	F50
2079528	CV50BHC075400	F50
2079529	CV50BHC06M350	F50
2079530	CV50BHC08M350	F50
2079531	CV50BHC10M375	F50
2079532	CV50BHC12M375	F50
2079563	CV50BHC14M400	F50
2079564	CV50BHC16M400	F50
2079565	CV50BHC18M400	F50
2079566	CV50BHC20M400	F50
2099661	12148781500	A201
2147218	12649910800	A312, A391, A481–482, C39
2147219	12649910900	A312, A391, A481–482, C39
2203618	KM80ATCETAR20	A592
2203619	KM80ATCETAL20	A592
2203620	KM80ATCESL63105	A618
2203621	KM80ATCPRGCR20	A600
2203622	KM80ATCNSR4	A601
2213872	CV40KM12ECTRA	A114
2213903	CV40KM16ECTRA	A114
2215823	HSK100AHC08150M	C102
2220270	KM80ATCDDJNR15KC04	A594
2220271	KM80ATCDDJNL15KC04	A594
2220278	KM80ATCDDQNR15KC04	A595
2220279	KM80ATCDDQNL15KC04	A595
2220286	KM80ATCDDUNR15KC04	A596
2220287	KM80ATCDDUNL15KC04	A596
2226229	KM12SCGCR0920	A78
2226230	KM12SCGCL0920	A78
2226231	KM12SCLCR0920	A78
2226232	KM12SCLCL0920	A78
2226253	KM12SDPCN1120	A80
2226254	KM16SDPCN1120	A80
2226255	KM12STGCR1120	A80
2226256	KM12STGCL1120	A80
2226257	KM12STJCR1120	A81
2226258	KM12STJCL1120	A81
2226259	KM16SVGBR1120	A82
2226260	KM16SVGBL1120	A82
2226261	KM12SWLCR0620	A83
2226262	KM12SWLCL0620	A83
2226263	KM16MCLNR0920	A84
2226264	KM16MCLNL0920	A84
2226265	KM16MCLNR1220	A84
2226266	KM16MCLNL1220	A84
2226267	KM16MDJNR1120	A84
2226268	KM16MDJNL1120	A84
2226269	KM16MSDNN0920	A85
2226270	KM16MTGNR1620	A85
2226271	KM16MTGNL1620	A85
2226280	KM12LSSR1620	A91
2226281	KM12LSSL1620	A91
2226282	KM16A4SCR031630	A86
2226283	KM16A4SCL031630	A86
2226288	KM12A4SCR031630	A86
2226289	KM12A4SCL031630	A86
2226290	KM16LSSR1620	A91
2226291	KM16LSSL1620	A91
2229193	HSK100AHC06150M	C102
2229194	HSK100AHC10150M	C102
2229195	HSK100AHC12150M	C102
2229196	HSK100AHC14150M	C102
2229197	HSK100AHC16150M	C102
2229198	HSK100AHC18150M	C102
2229199	HSK100AHC20150M	C102
2229200	HSK100AHC25200M	C102
2229201	HSK100AHC32200M	C102
2229225	TTHC3250M	L9
2231263	KM63XMZPCLNR12Y	A561
2231264	KM63XMZPCLNLF12Y	A561
2231265	KM63XMZPDJNR15Y	A562
2231270	KM63XMZSVJBLF16Y	A562
2231271	KM63XMZS25KPCLNR12Y	A565
2231272	KM63XMZS25KPCLNLF12Y	A565
2231273	KM63XMZS25KPDUNR11Y	A566
2231274	KM63XMZS25KPDUNLF11Y	A566
2231550	KM63XMZWNEM0680Y	A583
2231551	KM63XMZWNEM0880Y	A583
2231552	KM63XMZWNEM1080Y	A583
2231593	KM63XMZWNEM1280Y	A583
2231594	KM63XMZWNEM1480Y	A583
2231595	KM63XMZWNEM1680Y	A583
2231596	KM63XMZWNEM1880Y	A583
2231597	KM63XMZWNEM2080Y	A583
2231598	KM63XMZWNEM2580Y	A583
2231599	KM63XMZWNEM3280Y	A583
2231600	KM63XMZWNEM4095Y	A583
2231601	KM63XMZCS2228Y	A587
2231602	KM63XMZCS2732Y	A587
2231603	KM63XMZCS3240Y	A587
2231604	KM63XMZCS1663Y	A587
2231605	KM63XMZCS2263Y	A587
2231606	KM63XMZCS22110Y	A587
2231607	KM63XMZCS2763Y	A587
2231608	KM63XMZCS27110Y	A587
2231609	KM63XMZCS3263Y	A587
2231610	KM63XMZCS32110Y	A587
2233132	HSK40AHCT025315	C15
2233273	HSK40AHCT038335	C15
2233274	HSK40AHCT050354	C15
2233588	DWG MS1430	A592
2238505	KM16NCM1616100	A64
2238506	KM16NCM10400	A64
2244316	BT25IP	L52
2244317	BT27IP	L52
2244318	BTE25IP	L52
2244319	BTE27IP	L52
2247834	KM80XGL1062756	A218
2248951	50HC0125	J5
2248952	12HC0812	J5
2248993	50HC030M	J5
2248994	50HC050M	J5
2248995	75HC030M	J5
2248996	75HC040M	J5

Order No.	Catalog No.	Page(s)
2248997	75HC050M	J5
2249258	HSK40AEM025250	C19
2249259	HSK40AEM038250	C19
2249260	HSK40AEM050275	C19
2249261	HSK40AEM062300	C19
2249531	CV40BER20600	F22
2249532	CV40BER25250	F23
2249689	BT30EM012236	E15
2249690	BT30EM018236	E15
2249691	BT30EM031236	E15
2249703	CV40BER25600	F23
2249704	CV40BER40300	F23
2249705	CV40BER40600	F23
2249706	CV50BER16250	F62
2249707	CV50BER16400	F62
2249708	CV50BER16600	F62
2249709	CV50BER20250	F62
2249710	CV50BER20600	F62
2249711	CV50BER25250	F63
2249712	CV50BER25400	F63
2249713	CV50BER25600	F63
2249714	CV50BER32275	F63
2249715	CV50BER32600	F63
2249716	CV50BER40300	F63
2249717	CV50BER40600	F63
2250037	KM1612S0529SCXDRT	A110
2250038	KM1612S0633SCXDRT	A110
2250039	KM1612S1046SCXPRS	A111
2250040	KM1612S1046SCXPLS	A111
2250041	KM2016S1046SCXPRS	A111
2250042	KM2016S1046SCXPLS	A111
2250063	KM1612S1046SCXPRT	A111
2250064	KM1612S1046SCXPLT	A111
2250065	KM2016S1046SCXPRT	A111
2250066	KM2016S1046SCXPLT	A111
2250067	KM1612S1046STLPR11T	A109
2250068	KM1612S1046STLPL11T	A109
2250069	KM2016S1046STLPR11T	A109
2250070	KM2016S1046STLPL11T	A109
2250071	KM2016S1358STLPR11T	A109
2250072	KM2016S1358STLPL11T	A109
2250073	KM1612S0529SCXDRS	A110
2250074	KM1612S0633SCXDRS	A110
2251521	SSP025018M	A265, A345, A519, A593
2252465	KM63TSDCLNL12KC04	A434
2252467	KM63TSDCLNR12KC04	A434
2253213	KM1612S0424SCLDRS4S	A103
2253214	KM1612S0424SCLDLS4S	A103
2253215	KM1612S0528SCLDRS4S	A103
2253216	KM1612S0528SCLDLS4S	A103
2253217	KM1612S0633SCLDRS4S	A103
2253218	KM1612S0633SCLDLS4S	A103
2253219	KM1612S0424SCLDRS4T	A103
2253220	KM1612S0424SCLDLS4T	A103
2253221	KM1612S0528SCLDRS4T	A103
2253222	KM1612S0528SCLDLS4T	A103
2253223	KM1612S0633SCLDRS4T	A103
2253224	KM1612S0633SCLDLS4T	A103
2253225	KM1612S0633SGFPR05S	A104
2253226	KM1612S0633SGFPL05S	A104
2253227	KM1612S0840SGFPR05S	A104
2253228	KM1612S0840SGFPL05S	A104
2253229	KM1612S0633SGFPR05T	A104
2253230	KM1612S0633SGFPL05T	A104
2253231	KM1612S0840SGFPR05T	A104
2253232	KM1612S0840SGFPL05T	A104
2253233	KM1612S0633SGLPR05S	A105
2253234	KM1612S0633SGLPL05S	A105
2253235	KM1612S0840SGLPR05S	A105
2253236	KM1612S0840SGLPL05S	A105
2253237	KM1612S0633SGLPR05T	A105
2253238	KM1612S0633SGLPL05T	A105
2253239	KM1612S0840SGLPR05T	A105
2253240	KM1612S0840SGLPL05T	A105
2253241	KM1612S0633SGXPR05T	A106
2253242	KM1612S0633SGXPL05T	A106
2253243	KM1612S0840SGJPR05S	A107
2253244	KM1612S0840SGJPL05S	A107
2253247	KM1612S0945SGJPR05S	A107
2253248	KM1612S0945SGJPL05S	A107
2253249	KM1612S0840SGJPR05T	A107
2253250	KM1612S0840SGJPL05T	A107
2253251	KM1612S0945SGJPR05T	A107
2253252	KM1612S0945SGJPL05T	A107
2253253	KM1612S0633STLDR07S	A108
2253254	KM1612S0633STLDL07S	A108
2253255	KM1612S0840STLDR07S	A108
2253256	KM1612S0840STLDL07S	A108
2253257	KM1612S0633STLDR07T	A108
2253258	KM1612S0633STLDL07T	A108
2253259	KM1612S0840STLDR07T	A108
2253260	KM1612S0840STLDL07T	A108
2253261	KM1612S1046STLPR11S	A109
2253262	KM1612S1046STLPL11S	A109
2253263	KM2016S1046STLPR11S	A109
2253264	KM2016S1046STLPL11S	A109
2253265	KM2016S1358STLPR11S	A109
2253266	KM2016S1358STLPL11S	A109
2253288	KM1612S0633SGXPR05S	A106
2253289	KM1612S0633SGXPL05S	A106
2253676	KM63TSEM16060M	A507
2253808	KM63TSS63080M	A514
2253809	KM63TSWN20080M	A506
2253810	KM63TSWN25085M	A506
2253812	KM63TSER32120M	A505
2253905	KM63TSWN32095M	A506
2253906	KM63TSS50100M	A515
2253907	KM63TSS40080M	A515
2253910	KM63TSEM12055M	A507
2255038	KM63TSEM32090M	A507
2255039	KM63TSER16060M	A504
2255041	KM63TSER16120M	A504
2255042	KM63TSER25065M	A505
2255053	KM63TSER25120M	A505
2255056	KM63TSER40065M	A505
2255307	LABER16M	L20
2255463	BT30HCT06075M	E7
2255464	BT30HCT08075M	E7
2255465	BT30HCT10080M	E7
2255466	BT30HCT12085M	E7
2255467	BT30HCT14100M	E7
2255468	BT30HCT16100M	E7
2255469	BT30HCT18100M	E7
2255470	BT30HCT20100M	E7
2255511	PMT04526 COOLANT NOZZLE SPRAY	A390, A432–433, A517–518, A554–555, A591–592, A602–603, C33–34
2255543	KM63TSKGMSL50	A480
2255544	KM63TSSTAL2525M	A432
2255545	KM63TSSTAR2525M	A432
2255546	KM63TSETAL2525M	A433
2255547	KM63TSETAR2525M	A433
2255549	KM63TSBA40105M	A495
2255551	KM63TSER32065M	A505
2255556	BT30WN10055M	E14
2255557	BT30WN12055M	E14
2255558	BT30WN14055M	E14
2255559	BT30WN16055M	E14
2255742	PMP08350	A389, C33–34
2255824	KM63TSKGMSR50	A480
2256001	KM63TSDAI40100M	A511
2257147	KM63TSS25KPDUNL11	A489
2257149	KM63TSPCLNR12	A459
2257151	KM63TSSVJBL16	A468
2258495	KM63TSEM25080M	A507
2259953	BT30HCT025295	E7
2259954	BT30HCT038315	E7
2259955	BT30HCT050335	E7
2259956	BT30HCT062394	E7
2259957	BT30HCT075413	E7
2260223	HSK40EHCT025315	C150
2260224	HSK40EHCT038335	C150
2260225	HSK40EHCT050354	C150
2260343	HSK40AER16080M	C17
2260344	HSK40AER32090M	C17
2260348	HSK40AWN06080M	C18
2260349	HSK40AWN08080M	C18
2260350	HSK40AWN10080M	C18
2260351	HSK40AWN12090M	C18
2260352	HSK40AWN14090M	C18
2260353	HSK40AWN16090M	C18
2260355	HSK40EER16080M	C151
2260357	HSK40AEM06060M	C19
2260358	HSK40AEM08060M	C19
2260359	HSK40AEM10060M	C19
2260360	HSK40AEM12070M	C19
2260361	HSK40AEM14075M	C19
2260649	HSK40ABB040120M	C21
2260650	HSK40EBB040120M	C153
2262967	CV40DC13M421	F25
2262968	CV50DC13M421	F65
2263074	BT40BHCB075374	E32
2263075	BT40BHCT025315	E31
2263076	BT40BHCT038335	E31
2263077	BT40BHCT050354	E31
2263078	BT40BHCT062354	E31
2263079	BT40BHCT075374	E31
2263080	BT40BHCT100453	E31
2263081	BT40BHCT125472	E31
2263082	BT50BHCB075413	E74
2263123	BT50BHCT025354	E73
2263124	BT50BHCT038374	E73
2263125	BT50BHCT050394	E73
2263126	BT50BHCT062394	E73
2263127	BT50BHCT075413	E73
2263128	BT50BHCT100453	E73
2263129	BT50BHCT125472	E73
2263299	MS1490	A477, A531, A601
2264458	SS160TT03110M	I4
2265024	KM63TSMCKNR12	A447
2265025	KM63TSMCKNL12	A447
2265026	KM63TSMCKNR16	A447
2265027	KM63TSMCKNL16	A447
2265028	KM63TSMCKNR19	A447
2265029	KM63TSMCKNL19	A447
2265030	KM63TSMCLNR12	A447
2265031	KM63TSMCLNL12	A447
2265032	KM63TSMCLNR16	A447
2265206	KM25LCM16482	A122
2265207	KM25MCLNR1230	A134
2265273	KM63TSMCLNL16	A447
2265274	KM63TSMCLNR19	A447
2265275	KM63TSMCLNL19	A447
2265276	KM63TSMCRNR16	A448
2265277	KM63TSMCRNL16	A448
2265278	KM63TSMCRNR19	A448
2265279	KM63TSMCRNL19	A448
2265280	KM63TSMDJNR1506	A448
2265281	KM63TSMDJNL1506	A448
2265282	KM63TSMDPNN1506	A449
2265283	KM63TSMDQNR1506	A449
2265284	KM63TSMDQNL1506	A449
2265285	KM63TSMDUNR1506	A450
2265286	KM63TSMDUNL1506	A450
2265287	KM63TSMRGNR12	A450
2265288	KM63TSMRGNL12	A450
2265289	KM63TSMSDNN12	A451
2265290	KM63TSMSDNN15	A451
2265291	KM63TSMSDNN19	A451
2265292	KM63TSMSKNR12	A451
2265293	KM63TSMSKNL12	A451
2265294	KM63TSMSKNR19	A451
2265295	KM63TSMSKNL19	A451
2265296	KM63TSMSRNR12	A452
2265297	KM63TSMSRNL12	A452
2265298	KM63TSMSRNR19	A452
2265299	KM63TSMSRNL19	A452
2265300	KM63TSMSSNR12	A452
2265301	KM63TSMSSNL12	A452
2265302	KM63TSMSSNR15	A452
2265303	KM63TSMSSNL15	A452
2265304	KM63TSMSSNR19	A452
2265305	KM63TSMSSNL19	A452
2265306	KM63TSMTJNR22	A453
2265307	KM63TSMTJNL22	A453
2265308	KM63TSMTUNR22	A453
2265309	KM63TSMTUNL22	A453
2265310	KM63TSMVHNR16	A454
2265311	KM63TSMVHNL16	A454
2265312	KM63TSMVJNR16	A454
2265313	KM63TSMVJNL16	A454
2265314	KM63TSMVUNR16	A455
2265315	KM63TSMVUNL16	A455
2265316	KM63TSMVVNN16	A455
2265317	KM63TSMWLNR08	A456
2265318	KM63TSMWLNL08	A456
2265319	KM63TSNVHCR16	A473
2265320	KM63TSNVHCL16	A473
2265321	KM63TSNVJCR16	A474
2265322	KM63TSNVJCL16	A474
2265323	KM63TSNVQCR16	A475
2265324	KM63TSNVQCL16	A475
2265325	KM63TSNVUCR16	A476
2265326	KM63TSNVUCL16	A476
2265327	KM63TSS25KMCLNR12	A484–485
2265328	KM63TSS25KMCLNL12	A484–485
2265329	KM63TSS25FMCLNR12	A484–485
2265330	KM63TSS25FMCLNL12	A484–485
2265331	KM63TSS32LMCLNR12	A484–485
2265332	KM63TSS32LMCLNL12	A484–485
2265343	KM63TSS32GMCLNR12	A484–485
2265344	KM63TSS32GMCLNL12	A484–485
2265345	KM63TSS40LMCLNR12	A484–485
2265346	KM63TSS40LMCLNL12	A484–485
2265347	KM63TSS40HMCLNR12	A484–485
2265348	KM63TSS40HMCLNL12	A484–485
2265349	KM63TSS50PMCLNR12	A484–485
2265350	KM63TSS50PMCLNL12	A484–485
2265351	KM63TSS50KMCLNR12	A484–485
2265352	KM63TSS50KMCLNL12	A484–485
2265353	KM63TSS25KMDUNR15	A486–487
2265354	KM63TSS25KMDUNL15	A486–487
2265355	KM63TSS25FMDUNR15	A486–487
2265356	KM63TSS25FMDUNL15	A486–487
2265357	KM63TSS32LMDUNR15	A486–487
2265358	KM63TSS32LMDUNL15	A486–487
2265359	KM63TSS32GMDUNR15	A486–487
2265360	KM63TSS32GMDUNL15	A486–487
2265361	KM63TSS40LMDUNR15	A486–487
2265362	KM63TSS40LMDUNL15	A486–487
2265363	KM63TSS40HMDUNR15	A486–487
2265364	KM63TSS40HMDUNL15	A486–487
2265365	KM63TSS50PMDUNR15	A486–487
2265366	KM63TSS50PMDUNL15	A486–487
2265367	KM63TSS50KMDUNR15	A486–487
2265368	KM63TSS50KMDUNL15	A486–487
2265369	KM63TSS32LNER3	A492
2265370	KM63TSS32LNEL3	A492
2265372	KM63TSBER4	A481
2265393	KM63TSBEL4	A481
2265394	KM63TSBSR4	A482
2265395	KM63TSBSL4	A482
2265396	KM63TSBSR5	A482
2265397	KM63TSBSL5	A482
2265404	KM63TSKGMER50	A479
2265405	KM63TSKGMEL50	A479
2265406	KM63TSNER3	A477
2265407	KM63TSNEL3	A477
2265408	KM63TSNER4	A477
2265409	KM63TSNEL4	A477
2265410	KM63TSNER5	A477
2265411	KM63TSNEL5	A477
2265412	KM63TSNSR3	A477
2265413	KM63TSNSL3	A477
2265414	KM63TSNSR4	A477
2265415	KM63TSNSL4	A477
2265416	KM63TSLSER16N	A478
2265417	KM63TSLSEL16N	A478
2265418	KM63TSLSER22N	A478
2265419	KM63TSLSEL22N	A478
2265420	KM63TSLSSR16	A478
2265421	KM63TSLSSL16	A478
2265422	KM63TSLSSR22	A478
2265423	KM63TSLSSL22	A478
2265432	KM63TSDCLNR16KC06	A434
2265433	KM63TSDCLNL16KC06	A434
2265434	KM63TSDCRNR12KC04	A435
2265435	KM63TSDCRNL12KC04	A435
2265436	KM63TSDDJNR15KC06	A436
2265437	KM63TSDDJNL15KC06	A436
2265438	KM63TSDDJNR15KC04	A436
2265439	KM63TSDDJNL15KC04	A436
2265440	KM63TSDDQNR15KC04	A437
2265441	KM63TSDDQNL15KC04	A437
2265442	KM63TSDDQNR15KC06	A437
2265443	KM63TSDDQNL15KC06	A437
2265444	KM63TSDDUNR15KC04	A438

Order No.	Catalog No.	Page(s)
2265445	KM63TSDDUNL15KC04	A438
2265446	KM63TSDDUNR15KC06	A438
2265447	KM63UTDDUNL15KC06	A438
2265448	KM63TSDSDNN12KC04	A439
2265449	KM63TSDSKNR12KC04	A440
2265450	KM63TSDSKNL12KC04	A440
2265451	KM63TSDSRNR12KC04	A441
2265452	KM63TSDSRNL12KC04	A441
2265453	KM63TSDSSNR12KC04	A442
2265454	KM63TSDSSNL12KC04	A442
2265455	KM63TSDTFNR22KC04	A443
2265456	KM63TSDTFNL22KC04	A443
2265457	KM63TSDTGNR22KC04	A444
2265458	KM63TSDTGNL22KC04	A444
2265459	KM63TSDTJNR22KC04	A445
2265460	KM63TSDTJNL22KC04	A445
2265461	KM63TSDWLNR08KC04	A446
2265462	KM63TSDWLNL08KC04	A446
2268116	512.024	A528
2269891	KM63TSBA06217	A495
2269892	KM63TSBA08236	A495
2269893	KM63TSBA10256	A495
2269894	KM63TSBA12276	A495
2269895	KM63TSBA16276	A495
2269896	KM63TSBA20295	A495
2269897	KM63TSBA24413	A495
2269898	KM63TSBA10055M	A495
2269899	KM63TSBA12060M	A495
2269900	KM63TSBA16065M	A495
2269901	KM63TSBA20070M	A495
2269902	KM63TSBA25070M	A495
2269903	KM63TSBA32075M	A495
2269904	KM63TSEM050216	A507
2269905	KM63TSEM062236	A507
2269906	KM63TSEM075236	A507
2269907	KM63TSEM088236	A507
2269908	KM63TSEM100315	A507
2269909	KM63TSEM125354	A507
2269910	KM63TSEM150374	A507
2269911	KM63TSEM20060M	A507
2269912	KM63TSEM40095M	A507
2269917	20ER0094	J56
2269918	20ER0156	J56
2269919	20ER0219	J56
2269920	20ER0281	J56
2269921	20ER0344	J56
2269922	20ER0406	J56
2269933	20ER0469	J56
2269934	25ER0094	J56
2269935	25ER0156	J56
2269936	25ER0219	J56
2269937	25ER0281	J56
2269938	25ER0344	J56
2269939	25ER0406	J56
2269940	25ER0469	J56
2269941	25ER0531	J56
2269942	25ER0594	J56
2269943	32ER0156	J56
2269944	32ER0219	J56
2269945	32ER0281	J56
2269946	32ER0344	J56
2269947	32ER0406	J56
2269948	32ER0469	J56
2269949	32ER0531	J56
2269950	32ER0594	J56
2269951	32ER0656	J56
2269952	32ER0719	J56
2269953	32ER0781	J56
2269954	40ER0156	J56
2269955	40ER0219	J56
2269956	40ER0281	J56
2269957	40ER0344	J56
2269958	40ER0406	J56
2269959	40ER0469	J56
2269960	40ER0531	J56
2269961	40ER0594	J56
2269962	40ER0656	J56
2269963	40ER0719	J56
2269964	40ER0781	J56
2269965	40ER0844	J56
2269966	40ER0906	J56
2269967	40ER0969	J56
2269968	16ERS000SET2	J57
2269969	20ERS000SET1	J57
2269970	20ERS000SET2	J57
2269971	25ERS000SET1	J57
2269972	25ERS000SET2	J57
2269973	32ERS000SET1	J57
2269974	32ERS000SET2	J57
2269975	40ERS000SET1	J57
2269976	40ERS000SET2	J57
2277879	KM25NCM2525120	A123
2288133	HSK40EHCT06080M	C150
2288134	HSK40EHCT08080M	C150
2288135	HSK40EHCT10085M	C150
2288136	HSK40EHCT12090M	C150
2288137	HSK50EHCT06080M	C156
2288138	HSK50EHCT08080M	C156
2288139	HSK50EHCT10085M	C156
2288140	HSK50EHCT12090M	C156
2288141	HSK50EHCT14105M	C156
2288142	HSK50EHCT16105M	C156
2288143	HSK50EHCT18105M	C156
2288144	HSK50EHCT20105M	C156
2361335	511.015	A318, A489, A566
2384711	KM63TSTG100100M	A502
2384735	KM63TSCS27040M	A509
2384736	KM63TSCS32050M	A509
2384737	KM63TSCS40050M	A509
2384740	KM63TSSTAR16	A432
2384741	KM63TSSTAL16	A432
2384742	KM63TSETAR16	A433
2384743	KM63TSETAL16	A433
2385942	KM25RCM16382	A122
2386033	KM25LCM16382	A122
2386034	KM25RCM16482	A122
2386035	KM25NCMSF3140	A127
2386037	KM25NRPKG	A127, A188, A553
2386931	HSK40AHCT14100M	C15
2386932	HSK40AHCT16100M	C15
2386935	HSK40AER32100M	C17
2386938	HSK50ETTMD03080M	C155
2386939	HSK50ETTMD04080M	C155
2386940	HSK50ETTMD05080M	C155
2386941	HSK50ETTMD06080M	C155
2386942	HSK50ETTMD08080M	C155
2386943	HSK50ETTMD10085M	C155
2386944	HSK50ETTMD12090M	C155
2386945	HSK50ETTMD14090M	C155
2386946	HSK50ETTMD16095M	C155
2386947	HSK50ETTMD18095M	C155
2386948	HSK50ETTMD20100M	C155
2386949	HSK40EER32100M	C151
2387463	HSK40AHCT18100M	C15
2387464	HSK40AHCT20100M	C15
2387465	HSK40AHCT062394	C15
2387466	HSK40AHCT075394	C15
2387467	HSK40EHCT14100M	C150
2387468	HSK40EHCT16100M	C150
2387469	HSK40EHCT18100M	C150
2387470	HSK40EHCT20100M	C150
2387471	HSK40EHCT062394	C150
2387472	HSK40EHCT075394	C150
2387557	KM3225NER330	A177
2388643	KM63TSHC025288	A500
2388644	KM63TSHC038300	A500
2388645	KM63TSHC050325	A500
2388646	KM63TSHC062325	A500
2388647	KM63TSHC075338	A500
2388648	KM63TSHC100375	A500
2388649	KM63TSHC125400	A500
2388650	KM63TSHC06070M	A500
2388651	KM63TSHC08070M	A500
2388652	KM63TSHC10075M	A500
2388653	KM63TSHC12080M	A500
2388654	KM63TSHC14080M	A500
2388655	KM63TSHC16080M	A500
2388656	KM63TSHC18080M	A500
2388657	KM63TSHC20085M	A500
2388658	KM63TSHC25095M	A500
2388659	KM63TSHC32100M	A500
2388660	SKRN1203M0 K9	A300, A377
2389802	PMT04525	A389–390, A479–480, A532, A534–535, A563, A602–603
2392647	PMT08430	A311
2397712	KM63TSMDJNR1504	A448
2397713	KM63TSMDJNL1504	A448
2397714	KM63TSMDPNN1504	A449
2397715	KM63TSMDQNR1504	A449
2397716	KM63TSMDQNL1504	A449
2397717	KM63TSMDUNR1504	A450
2397718	KM63TSMDUNL1504	A450
2397719	KM63TSS32070M	A515
2397720	KM63TSS63120M	A514
2397721	KM63TSBN115150M	A515
2397722	KM63TSBN65200M	A515
2397769	STCM119IP	A139–141, A173–174
2398753	KM80ATCNSL3	A601
2398793	KM25MCKNR1230	A134
2398794	KM25MCKNL1230	A134
2398795	KM25MCLNL1230	A134
2398796	KM25MCRNR1230	A135
2398797	KM25MCRNL1230	A135
2398798	KM25MDJNR150430	A135
2398799	KM25MDJNL150430	A135
2398800	KM25MDPNN1130	A136
2398801	KM25MDQNR150430	A136
2398802	KM25MDQNL150430	A136
2398803	KM25MRGNR1230	A137
2398804	KM25MRGNL1230	A137
2398805	KM25MSDNN1230	A137
2398806	KM25MSKNR1230	A138
2398807	KM25MSKNL1230	A138
2398808	KM25MSRNR1230	A138
2398809	KM25MSRNL1230	A138
2398810	KM25MSSNR1230	A139
2398811	KM25MSSNL1230	A139
2398812	KM25MTFNR2230	A139
2398813	KM25MTFNL2230	A139
2398814	KM25MTGNR2230	A140
2398815	KM25MTGNL2230	A140
2398816	KM25MTJNR2230	A140
2398817	KM25MTJNL2230	A140
2398818	KM25MVJNR1630	A141
2398819	KM25MVJNL1630	A141
2398820	KM25MVUNR1630	A141
2398821	KM25MVUNL1630	A141
2398822	KM25MVVNN1630	A142
2398823	KM25MWLNR0830	A142
2398824	KM25MWLNL0830	A142
2398953	LABER20M	L20
2399462	KM25NER230	A153
2399464	KM25A4SMR031430	A156–157
2399465	KM25A4SML031430	A156–157
2399466	KM25A4SMR041430	A156–157
2399467	KM25A4SML041430	A156–157
2399468	KM25A4SMR051935	A156–157
2399469	KM25A4SML051935	A156–157
2399470	KM25A4ENN040730	A158
2399471	KM25A4ENN050930	A158
2399472	KM25SCLCR0930	A145
2399473	KM25SCLCL0930	A145
2399474	KM25SCLCR1230	A145
2399475	KM25SCLCL1230	A145
2399476	KM25SDJCR1130	A146
2399477	KM25SDJCL1130	A146
2399478	KM25SDPCN1130	A146
2399479	KM25SDQCR1130	A147
2399480	KM25SDQCL1130	A147
2399481	KM25SDUCR1130	A148
2399482	KM25SDUCL1130	A148
2399483	KM25SRDCN0830	A149
2399484	KM25SRGCR1030	A149
2399485	KM25SRGCL1030	A149
2399486	KM25SSDCN1230	A150
2399487	KM25STFCR1630	A150
2399488	KM25STFCL1630	A150
2399489	KM25STGCR1630	A151
2399490	KM25STGCL1630	A151
2399491	KM25STJCR1630	A151
2399492	KM25STJCL1630	A151
2399493	KM25NEL230	A153
2399494	KM25NER330	A153
2399495	KM25NEL330	A153
2399496	KM25NER430	A153
2399497	KM25NEL430	A153
2399498	KM25NSR230	A154
2399499	KM25NSL230	A154
2399500	KM25NSR330	A154
2399501	KM25NSL330	A154
2399502	KM25NSR430	A154
2399503	KM25NSL430	A154
2399504	KM25LSSR1630	A155
2399505	KM25LSSL1630	A155
2399506	KM25LSER1630	A155
2399507	KM25LSEL1630	A155
2399513	KM25A3SSR031635	A159
2399514	KM25A3SSL031635	A159
2399515	KM25A3SSR041635	A159
2399516	KM25A3SSL041635	A159
2399517	KM25A3SSR042645	A159
2399518	KM25A3SSL042645	A159
2399519	KM25A3SSR051635	A159
2399520	KM25A3SSL051635	A159
2399521	KM25A3SSR052645	A159
2399522	KM25A3SSL052645	A159
2401489	MS1272	A184
2407087	RKW30	L51
2407088	RKW40	L51
2407089	RKW40M	L51
2407090	RKW50	L51
2407091	RKW50M	L51
2407450	KM63TSPCKNR12	A458
2407451	KM63TSPCKNL12	A458
2407452	KM63TSPCKNR16	A458
2407953	KM63TSPCKNL16	A458
2407954	KM63TSPCKNR19	A458
2407955	KM63TSPCKNL19	A458
2407956	KM63TSPCLNL12	A459
2407957	KM63TSPCLNR16	A459
2407958	KM63TSPCLNL16	A459
2407959	KM63TSPCLNR19	A459
2407960	KM63TSPCLNL19	A459
2407961	KM63TSS25KPCLNR12	A488
2407962	KM63TSS25KPCLNL12	A488
2407963	KM63TSS32LPCLNR12	A488
2407964	KM63TSS32LPCLNL12	A488
2407965	KM63TSS40LPCLNR12	A488
2407966	KM63TSS40LPCLNL12	A488
2407967	KM63TSS50PPCLNR12	A488
2407968	KM63TSS50PPCLNL12	A488
2407969	KM63TSPDJNR11	A460
2407970	KM63TSPDJNL11	A460
2407971	KM63TSPDJNR15	A460
2407972	KM63TSPDJNL15	A460
2407973	KM63TSPDNNR11	A460
2407974	KM63TSPDNNL11	A460
2407975	KM63TSPDNNR15	A460
2407976	KM63TSPDNNL15	A460
2407977	KM63TSPDQNR11	A461
2407978	KM63TSPDQNL11	A461
2407979	KM63TSPDQNR15	A461
2407980	KM63TSPDQNL15	A461
2407981	KM63TSPDUNR11	A461
2407982	KM63TSPDUNL11	A461
2407983	KM63TSPDUNR15	A461
2407984	KM63TSPDUNL15	A461
2407985	KM63TSS25KPDUNR11	A489
2407986	KM63TSS32LPDUNR15	A489
2407987	KM63TSS32LPDUNL15	A489
2407988	KM63TSS40LPDUNR15	A489
2407989	KM63TSS40LPDUNL15	A489
2407990	KM63TSS50PPDUNR15	A489
2407991	KM63TSS50PPDUNL15	A489
2407992	KM63TSPDXNR15	A462
2407993	KM63TSPDXNL15	A462
2407994	KM63TSPSBNR12	A462
2407995	KM63TSPSBNL12	A462
2407996	KM63TSPSBNR15	A462
2407997	KM63TSPSBNL15	A462
2407998	KM63TSPSBNR19	A462
2407999	KM63TSPSBNL19	A462
2408000	KM63TSPSDNN12	A463
2408001	KM63TSPSDNN15	A463
2408002	KM63TSPSDNN19	A463
2408003	KM63TSPCLNR162W	A459
2408004	KM63TSPCLNL162W	A459
2408005	KM63TSPSKNR12	A463

Order No.	Catalog No.	Page(s)
2408006	KM63TSPSKNL12	A463
2408007	KM63TSPSKNR15	A463
2408008	KM63TSPSKNL15	A463
2408009	KM63TSPSKNR19	A463
2408010	KM63TSPSKNL19	A463
2408011	KM63TSPSSNR12	A464
2408012	KM63TSPSSNL12	A464
2408013	KM63TSPSSNR15	A464
2408015	KM63TSPSSNR19	A464
2408016	KM63TSPSSNL19	A464
2408017	KM63TSPTFNR16	A464
2408018	KM63TSPTFNL16	A464
2408022	KM63TSPTFNL27	A464
2408023	KM63TSPTGNR16	A465
2408024	KM63TSPTGNL16	A465
2408025	KM63TSPTGNR22	A465
2408026	KM63TSPTGNL22	A465
2408027	KM63TSPTGNR27	A465
2408028	KM63TSPTGNL27	A465
2408029	KM63TSPTJNR16	A465
2408030	KM63TSPTJNL16	A465
2408031	KM63TSPTJNR22	A465
2408032	KM63TSPTJNL22	A465
2408033	KM63TSPTJNR27	A465
2408034	KM63TSPTJNL27	A465
2408035	KM63TSPWLNR06	A466
2408036	KM63TSPWLNL06	A466
2408037	KM63TSPWLNR08	A466
2408038	KM63TSPWLNL08	A466
2408039	KM63TSS25KPWLNR08	A490
2408040	KM63TSS25KPWLNL08	A490
2408041	KM63TSS32LPWLNR08	A490
2408042	KM63TSS32LPWLNL08	A490
2408043	KM63TSS40LPWLNR08	A490
2408044	KM63TSS40LPWLNL08	A490
2408045	KM63TSS50PPWLNR08	A490
2408046	KM63TSS50PPWLNL08	A490
2414894	KM63TSS32LSDUCR11	A491
2414895	KM63TSS32LSDUCL11	A491
2414896	KM63TSSRDCN16	A467
2414899	KM63TSSTFCR16	A467
2414900	KM63TSSTFCL16	A467
2414901	KM63TSS40LSTFCR16	A492
2414902	KM63TSS40LSTFCL16	A492
2414903	KM63TSSTGCR16	A468
2414904	KM63TSSTGCL16	A468
2414905	KM63TSSVJBR16	A468
2414906	KM63TSSCLCR12	A466
2414907	KM63TSSCLCL12	A466
2414908	KM63TSS40LSCLCR12	A491
2414909	KM63TSS40LSCLCL12	A491
2416912	PMT08420 COOLANT NOZZLE SPRAY	A431, A433, A553
2417676	KM16GB2020	A115
2417677	KM12GB1620	A115
2420208	150TG0438	J44
2420312	KM40RCMVDI3035	A210
2420363	KM40LCMVDI3035	A210
2420364	KM40RCMIVDI3050	A212–213
2420366	KM100NCMEF	A209
2420370	KM40LCMVDI4060	A210
2421384	SSY5T K9	A309–310, A386–388, A478
2421386	SSA5T	A309–310, A386–388, A478
2426880	KM25BSR	A161
2426881	KM25BSL	A161
2426882	KM25BER	A161
2427293	KM25BEL	A161
2427294	CV50KM25ECTRA	A188
2427295	KM25P	A186
2427296	KM25BN5050	A186
2427297	KM25GB3230	A187
2429601	514.112	A176, A243, A318–319, A489
2429602	514.118	A144, A175, A227–229, A289–292, A294–295, A371–372, A460–461, A464–466
2429633	514.122	A175, A317, A319, A397, A488, A490
2429634	514.123	A143, A175–176, A227, A288–289, A292–295, A317, A370–371, A374–376, A397–398, A458–459, A462–466, A488, A490, A528, C35
2429636	514.125	A371, A374–375, A458–459, A462–464, A528
2429637	514.128	A290–292, A371–373, A460–462, A464–465, A489, C35–36
2429638	514.133	A458–459, A462–464, A528–530
2429639	514.138	A529–530
2429804	CM212LP	A154
2429805	CM213LP	A154
2430343	CV50KM12ECTRA	A114
2430344	CV50KM16ECTRA	A114
2430347	KM12TB	A117
2430348	KM16TB	A117
2432682	TW628R	L52
2439977	KM1612NCMSS1614	A66
2439978	KM1612NCMSS2514	A66
2439979	KM2016NCMSS1616	A66
2439980	KM2016NCMSS2516	A66
2439981	KM1612NCMSS2014	A66
2439982	KM1612NCMSS08055	A66
2440003	KM2016NCMSS08063	A66
2440004	KM2016NCMSS10063	A66
2441761	TTAAG03M	L12
2447405	170.254	C14, C124
2452210	CV50BHCT025600	F53
2452550	KM80XGL1560573	A218
2452774	CV50BHCT038600	F53
2452775	CV50BHCT050600	F53
2452776	CV50BHCT062600	F53
2452777	CV50BHCT075600	F53
2452778	CV50BHCT06M600	F52
2452779	CV50BHCT08M600	F52
2452780	CV50BHCT10M600	F52
2452781	CV50BHCT12M600	F52
2452782	CV50BHCT14M600	F52
2453233	CV50BHCT16M600	F52
2453234	CV50BHCT18M600	F52
2453235	CV50BHCT20M600	F52
2453786	MS1858	A569
2455912	HSK40ATG050080M	C16
2455993	HSK40ATG075090M	C16
2456185	TTAAG04M	L12
2456186	TTAAG05M	L12
2456194	SS160TT04110M	I4
2458200	HSK63AHCSL12170M	C52–53
2458202	HSK63AHCSL16170M	C52–53
2458203	HSK63AHCSL20170M	C52–53
2461123	CV50SA100600	F77
2461124	CV50SA125400	F77
2461125	CV50SA150400	F77
2488677	MS2049	A554, A557
2495136	CV40BHCSL12M669	F11
2495141	CV40BHCSL20M669	F11
2500998	KM80XGL1555011	A218
2508153	CV40BHCSL050669	F11
2508154	CV40BHCSL075669	F11
2508155	CV50BHCSL12M787	F49
2508156	CV50BHCSL20M787	F49
2508157	CV50BHCSL050787	F49
2508158	CV50BHCSL075787	F49
2508159	HSK63AHCSL050669	C53
2508160	HSK63AHCSL075669	C53
2527431	KM3225MCFNR1230	A166
2527432	KM3225MCFNL1230	A166
2527433	KM3225MCKNR1230	A167
2527434	KM3225MCKNL1230	A167
2527435	KM3225MCLNR0930	A168
2527436	KM3225MCLNL0930	A168
2527437	KM3225MCLNR1230	A168
2527438	KM3225MCLNL1230	A168
2527439	KM3225MDPNR150430	A169
2527440	KM3225MDPNL150430	A169
2527441	KM3225MDPNR1130	A169
2527442	KM3225MDPNL1130	A169
2527443	KM3225MDQNR150430	A170
2527444	KM3225MDQNL150430	A170
2527445	KM3225MDQNR1130	A170
2527446	KM3225MDQNL1130	A170
2527447	KM3225MDUNR150430	A171
2527448	KM3225MDUNL150430	A171
2527449	KM3225MDUNR1130	A171
2527450	KM3225MDUNL1130	A171
2527451	KM3225MSKNR1230	A172
2527452	KM3225MSKNL1230	A172
2527453	KM3225MTFNR1630	A173
2527454	KM3225MTFNL1630	A173
2527455	KM3225MTFNR2230	A173
2527456	KM3225MTFNL2230	A173
2527457	KM3225MVUNR1630	A174
2527458	KM3225MVUNL1630	A174
2527459	KM3225MWLNR0830	A174
2527460	KM3225MWLNL0830	A174
2527461	KM3225PCLNR1230	A175
2527462	KM3225PCLNL1230	A175
2527463	KM3225PDUNR1130	A175
2527464	KM3225PDUNL1130	A175
2527465	KM3225PWLNR0830	A176
2527466	KM3225PWLNL0830	A176
2527467	KM3225NER230	A177
2527468	KM3225NEL230	A177
2527469	KM3225NEL330	A177
2527470	KM3225NER430	A177
2527471	KM3225NEL430	A177
2527472	KM3225LSER2230	A178
2527473	KM3225LSEL2230	A178
2527474	KM3225LSER1630	A178
2527475	KM3225LSEL1630	A178
2527476	KM3225A3ESR0305M30	A182
2527477	KM3225A3ESL0305M30	A182
2527478	KM3225A3ESR0408M30	A182
2527479	KM3225A3ESL0408M30	A182
2527480	KM3225A3ESR0510M30	A182
2527481	KM3225A3ESL0510M30	A182
2527482	KM3225A4EMR0310M30	A180–181
2527483	KM3225A4EML0310M30	A180–181
2527484	KM3225A4EMR0410M30	A180–181
2527485	KM3225A4EML0410M30	A180–181
2527488	KM3225A4EMR0510M30	A180–181
2527489	KM3225A4EML0510M30	A180–181
2527490	KM3225BA06217	A184
2527491	KM3225BA08236	A184
2527492	KM3225BA10256	A184
2527503	KM3225BA12276	A184
2527505	KM3225BA0645M	A184
2527506	KM3225BA0845M	A184
2527507	KM3225BA1055M	A184
2527508	KM3225BA1260M	A184
2527509	KM3225BA1665M	A184
2527510	KM3225BA2070M	A184
2527514	KM3225ER1635	A183
2527515	KM3225ER2545	A183
2527516	KM3225ER2040	A183
2541730	KM3225ECMS24	A126
2541833	HSK63AHCSL14170M	C52–53
2541834	HSK63AHCSL18170M	C52–53
2541835	KM3225NCMS20	A125
2541836	KM3225ECMS40	A126
2541837	KM3225NCMS32	A125
2541964	KM3225S3240	A185
2541965	KM3225S3260	A185
2544562	S–1820	F67
2594729	KM3225NCMSS16098	A124
2594730	KM3225NCMSS2525	A124
2601528	KM80ATCSTAR24	A591
2601530	KM80ATCSTAL24	A591
2606542	KM80TF	L38
2607067	KM1612ER08017	A112
2607068	KM2016ER08017	A112
2613902	TTHCSP2032M	L6, L10
2614114	TTHCSP1220M	L6, L10
2614687	KM63XMZ4XSTALFKM25Y	A553
2614688	KM63TS4XSTALKM25	A431
2628561	KM80ATCSTAL20	A591
2629139	KM25MRGNR0930	A137
2629140	KM25MRGNL0930	A137
2634420	DV50BHCSL12200M	G51
2634421	DV50BHCSL14200M	G51
2634422	DV50BHCSL16200M	G51
2634533	DV50BHCSL18200M	G51
2634534	DV50BHCSL20200M	G51
2634535	DV40BHCSL12170M	G11
2634536	DV40BHCSL14170M	G11
2634537	DV40BHCSL16170M	G11
2634538	DV40BHCSL18170M	G11
2634539	DV40BHCSL20170M	G11
2634540	BT50BHCSL12200M	E71
2634541	BT50BHCSL14200M	E71
2634542	BT50BHCSL16200M	E71
2634573	BT50BHCSL18200M	E71
2634574	BT50BHCSL20200M	E71
2634575	BT40BHCSL12170M	E29
2634576	BT40BHCSL14170M	E29
2634577	BT40BHCSL16170M	E29
2634578	BT40BHCSL18170M	E29
2634579	BT40BHCSL20170M	E29
2636451	HSK63ADC13117M	C60
2636452	HSK63ADC16117M	C60
2636755	HSK63FPTTHT025300	C159
2636757	HSK63FPTTHT038300	C159
2636758	HSK63FPTTHT050325	C159
2636759	HSK63FPTTHT062325	C159
2636761	HSK63FPTTHT075325	C159
2636762	HSK63FPTTHT100325	C159
2636767	CV50TG100276G	F60
2636768	CV50TG100326G	F60
2636769	CV50TG100526G	F60
2636770	CV50TG100726G	F60
2636807	SS125TG100925	I6
2637153	HSK100ADC13125M	C108
2637154	HSK100ADC16125M	C108
2637758	MS2062	A182
2637760	MS2064	A182
2637763	MS2069	A181
2638477	HSK63AHCSLT10160M	C52
2639015	HSK63AHCSLT06160M	C52
2641533	TTHC0332M	L5, L9
2647737	KM40TSMCLNR12	A278
2648238	PMT04510	A480
2655560	KM25MTFNR1630	A139
2655561	KM25MTFNL1630	A139
2655562	KM25MTGNR1630	A140
2655593	KM25MTGNL1630	A140
2655594	KM25MTJNR1630	A140
2655595	KM25MTJNL1630	A140
2656547	KM3225NCMSS20098	A124
2656548	KM3225NCMSS24098	A124
2656549	KM3225NCMSS3225	A124
2656550	KM3225NCMSS4025	A124
2656551	KM3225BN5050	A186
2656552	KM3225NRPKG	A124–126, A185, A188–189, A431
2657176	HSK63FPER32080M	C160
2832635	CT11 WG	A107
2868501	HSK63AHCSLT08160M	C52
2873209	KM80ATCBN125075M	A618
2879350	KM80ATCBN140130M	A618
2906898	TBWLT25IP	L53
2906899	TBWLT27IP	L53
2906995	KM3225P	A186
2952216	HSK80FPER32085M	C164
2952218	HSK80FPTTHT025325	C163
2952219	HSK80FPTTHT038325	C163
2952220	HSK80FPTTHT050325	C163
2952221	HSK80FPTTHT062325	C163
2952222	HSK80FPTTHT075325	C163
2952223	HSK80FPTTHT100350	C163
2952224	HSK80FPTTHT125350	C163
2969220	S861	A184, A325, A410
2970342	DWG MS1599	A208–209
2977683	CV50BHCT025350	F53
2977684	CV50BHCT038375	F53
2977685	CV50BHCT050375	F53
2977686	CV50BHCT062400	F53
2977687	CV50BHCT075400	F53
2977688	CV50BHCT100462	F53
2977689	CV50BHCT125462	F53
2977690	CV50BHCT06M350	F52
2977691	CV50BHCT08M350	F52
2977692	CV50BHCT10M375	F52
2977693	CV50BHCT12M375	F52
2977694	CV50BHCT14M400	F52
2977695	CV50BHCT16M400	F52

Order No.	Catalog No.	Page(s)
2977696	CV50BHCT18M400	F52
2977697	CV50BHCT20M400	F52
2977698	CV50BHCT25M462	F52
2977699	CV50BHCT32M462	F52
2978739	CV40ZSER32106	F21
2978740	CV40SER32169	F21
2978741	CV50ZSER32106	F61
2978742	CV50SER32169	F61
2978763	CV50ZSER40106	F61
2978764	CV50SER40169	F61
2978765	BT40SER32035M	E35
2978766	BT50SER32046M	E77
2978767	BT50SER40046M	E77
2978768	LNECSER32M	E35, E77, F21, F61, G18, G57, L19
2978769	LNECSER40M	E77, F61, G57, L19
2979021	QNB–80617B	I27
2979230	CV40BHCT025350	F15
2979231	CV40BHCT038375	F15
2979232	CV40BHCT050375	F15
2979253	CV40BHCT062400	F15
2979254	CV40BHCT075400	F15
2979255	CV40BHCT100462	F15
2979256	CV40BHCT125462	F15
2979257	CV40BHCT06M350	F14
2979258	CV40BHCT08M350	F14
2979259	CV40BHCT10M375	F14
2979260	CV40BHCT12M375	F14
2979261	CV40BHCT14M400	F14
2979262	CV40BHCT16M400	F14
2979263	CV40BHCT18M400	F14
2979264	CV40BHCT20M400	F14
2979265	CV40BHCT25M462	F14
2979266	CV40BHCT32M462	F14
2980879	LNATGF050M	F18, F56, L16
2980880	LNATGF075M	F18, F56, L16
2980881	LNATGF100M	F18, F56, L16
2980882	TG050CDA	L17
2980893	TG075CDA	L17
2980894	TG100CDA	L17
2982155	CV40BHCT025600	F15
2982156	CV40BHCT038600	F15
2982157	CV40BHCT050600	F15
2982158	CV40BHCT062600	F15
2982159	CV40BHCT075600	F15
2982160	CV40BHCT06M600	F14
2982161	CV40BHCT08M600	F14
2982162	CV40BHCT10M600	F14
2982163	CV40BHCT12M600	F14
2982164	CV40BHCT14M600	F14
2982165	CV40BHCT16M600	F14
2982166	CV40BHCT18M600	F14
2982167	CV40BHCT20M600	F14
2987290	CV40BTGF050250	F18
2987291	CV40BTGF050400	F18
2987292	CV40BTGF050600	F18
2987303	CV40BTGF075250	F18
2987304	CV40BTGF075400	F18
2987305	CV40BTGF075600	F18
2987306	CV40BTGF100275	F18
2987307	CV40BTGF100400	F18
2987308	CV40BTGF100600	F18
2992433	CV40BKM32157	F38
2992434	CV40BKM32354	F38
2992435	CV40BKM40157	F38
2992436	CV40BKM40394	F38
2992437	CV40BKM50354	F38
2992438	CV40BKM50472	F38
2992484	CV50BKM32157	F82
2992485	CV50BKM32354	F82
2992486	CV50BKM40157	F82
2992487	CV50BKM40394	F82
2992488	CV50BKM50236	F82
2992489	CV50BKM50472	F82
2992490	CV50BKM50630	F82
2992491	CV50BKM63236	F82
2992492	CV50BKM63551	F82
2992493	CV50BKM63709	F82
2992494	CV50BKM80319	F82
2993247	CV50BTGF050275	F56
2993248	CV50BTGF050400	F56
2993249	CV50BTGF050600	F56
2993250	CV50BTGF050800	F56
2993251	CV50BTGF075275	F56
2993252	CV50BTGF075400	F56
2993253	CV50BTGF075600	F56
2993254	CV50BTGF075800	F56
2993255	CV50BTGF100275	F56
2993256	CV50BTGF100400	F56
2993257	CV50BTGF100600	F56
2993258	CV50BTGF100800	F56
3003874	TTHCSP0306M	L6, L10
3003875	TTHCSP0612M	L6, L10
3003876	TTHCHC0332M	L6, L10
3005662	DWG 249618–23R05	A555
3016721	KM2016NCME12	A67
3016743	KM2016NCMS12	A67
3016744	KM2016NCMS20	A67
3016745	KM2016SCLPR0920	A100
3016746	KM2016SCLPL0920	A100
3016747	KM2016SDUPR1120	A100
3016748	KM2016SDUPL1120	A100
3016749	KM2016SVUBR1120	A101
3016750	KM2016SVUBL1120	A101
3016751	KM2016NER220	A102
3016752	KM2016NEL220	A102
3016753	KM2016STLPR1620	A101
3016754	KM2016STLPL1620	A101
3019233	DV40BHCSLT06170M	G10
3019234	DV40BHCSLT08170M	G10
3019235	DV40BHCSLT10170M	G10
3019236	BT40BHCSLT06170M	E28
3019237	BT40BHCSLT08170M	E28
3019238	BT40BHCSLT10170M	E28
3019239	DV50BHCSLT06200M	G50
3019240	DV50BHCSLT08200M	G50
3019241	DV50BHCSLT10200M	G50
3019242	BT50BHCSLT06200M	E70
3019243	BT50BHCSLT08200M	E70
3019244	BT50BHCSLT10200M	E70
3019245	CV40BHCSLT06M669	F10
3019246	CV40BHCSLT08M669	F10
3019247	CV40BHCSLT10M669	F10
3019248	CV40BHCSL14M669	F11
3019249	CV40BHCSL16M669	F11
3019250	CV40BHCSL18M669	F11
3019251	CV50BHCSLT06M787	F48
3019252	CV50BHCSLT08M787	F48
3019253	CV50BHCSLT10M787	F48
3019254	CV50BHCSL14M787	F49
3019255	CV50BHCSL16M787	F49
3019256	CV50BHCSL18M787	F49
3019257	CV40BHCSLT025669	F10
3019258	CV40BHCSLT038669	F10
3019259	CV40BHCSL062669	F11
3019260	CV50BHCSLT025787	F48
3019261	CV50BHCSLT038787	F48
3019262	CV50BHCSL062787	F49
3021639	KLS27M	C67
3026450	12MHC030M	J4
3026451	12MHC040M	J4
3026452	12MHC050M	J4
3026643	12MHC060M	J4
3026644	12MHC070M	J4
3026645	12MHC080M	J4
3026646	12MHC090M	J4
3026647	12MHC100M	J4
3026648	20MHC030M	J4
3026649	20MHC040M	J4
3026650	20MHC050M	J4
3026651	20MHC060M	J4
3026652	20MHC070M	J4
3026653	20MHC080M	J4
3026654	20MHC090M	J4
3026655	20MHC100M	J4
3026656	20MHC110M	J4
3026657	20MHC120M	J4
3026658	20MHC130M	J4
3026659	20MHC140M	J4
3026660	20MHC150M	J4
3026661	20MHC160M	J4
3026662	25MHC030M	J4
3026663	25MHC040M	J4
3026664	25MHC050M	J4
3026665	25MHC060M	J4
3026666	25MHC070M	J4
3026667	25MHC080M	J4
3026668	25MHC090M	J4
3026669	25MHC100M	J4
3026670	25MHC120M	J4
3026671	25MHC140M	J4
3026672	25MHC160M	J4
3026673	25MHC180M	J4
3026674	25MHC200M	J4
3026675	32MHC060M	J4
3026676	32MHC070M	J4
3026677	32MHC080M	J4
3026678	32MHC090M	J4
3026679	32MHC100M	J4
3026680	32MHC110M	J4
3026681	32MHC120M	J4
3026682	32MHC130M	J4
3026683	32MHC140M	J4
3026684	32MHC150M	J4
3026685	32MHC160M	J4
3026686	32MHC170M	J4
3026687	32MHC180M	J4
3026688	32MHC200M	J4
3026689	32MHC220M	J4
3026690	32MHC250M	J4
3026691	32MHC190M	J4
3030148	TTSS20014M	A538–539, A606–607, C76–79, C97, C99, D55, F45
3035366	KLS27M W	A421, A587
3035367	KLS32M W	A421
3049855	KM63XMZRDC1690Y	A582
3055503	KM63TSHCSLT06160M	A501
3055504	KM63TSHCSLT08160M	A501
3055505	KM63TSHCSLT10160M	A501
3055506	KM63TSHCSL12170M	A501
3055507	KM63TSHCSL14170M	A501
3055508	KM63TSHCSL16170M	A501
3055509	KM63TSHCSL18170M	A501
3055510	KM63TSHCSL20170M	A501
3055511	KM63XMZHCSLT06160MY	A577
3055512	KM63XMZHCSLT08160MY	A577
3055513	KM63XMZHCSLT10160MY	A577
3055514	KM63XMZHCSL12170MY	A577
3055515	KM63XMZHCSL14170MY	A577
3055516	KM63XMZHCSL16170MY	A577
3055517	KM63XMZHCSL18170MY	A577
3055518	KM63XMZHCSL20170MY	A577
3061086	HSK100AHCSLT06200M	C100
3061087	HSK100AHCSLT08200M	C100
3061088	HSK100AHCSLT10200M	C100
3061089	HSK100AHCSL12200M	C101
3061090	HSK100AHCSL14200M	C101
3061091	HSK100AHCSL16200M	C101
3061092	HSK100AHCSL18200M	C101
3061263	HSK100AHCSL20200M	C101
3061264	HSK40AHCSLT06160M	C12
3061265	HSK40AHCSLT08160M	C12
3061266	HSK40AHCSLT10160M	C13
3061267	HSK40AHCSLT12170M	C13
3061268	HSK40AHCSLT14170M	C13
3061269	HSK40AHCSLT16170M	C13
3061270	HSK40AHCSLT18170M	C13
3061271	HSK40AHCSLT20170M	C13
3061272	HSK40CHCSLT06140M	C128
3061273	HSK40CHCSLT08140M	C128
3061275	HSK40CHCSLT12150M	C129
3061276	HSK40CHCSLT14150M	C129
3061277	HSK40CHCSLT16150M	C129
3061278	HSK40CHCSLT18150M	C129
3061279	HSK40CHCSLT20150M	C129
3062811	LNHSER16M	A255, A330, A504, A581, C17, C28, C58, C83, C106, C131, C138, C143, C151, D10, D28, D46, D60, E10, E36, E78, F22, F62, G20, G58, L20
3062812	LNHSER20M	A543, C28, C58, C83, C106, D10, D28, D46, D60, E10, E36, E78, F22, F62, I11, L20,
3063113	LNSER25M	A254, A331, A414, A505, A544, A580, C17, C29, C59, C84, C107, C131, C138, C143, C151, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59, I9, I11, L21
3063114	LNSER32M	A254, A331, A414, A505, A544, A580, A611, C17, C29, C59, C84, C107, C131, C138, C143, C151, C160, C164, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59, I9, L21
3063115	LNSER40M	A414, A505, A544, A580, A611, C59, C84, C107, C131, C143, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59, L21
3065820	KM63TSCCLNL12	A469
3065821	KM63TSCCLNR12	A469
3065822	KM63TSCCLNL16	A469
3065883	KM63TSCCLNR16	A469
3065884	KM63TSCCRNR12	A469
3065885	KM63TSCCRNL12	A469
3065886	KM63TSCCRNL16	A469
3065887	KM63TSCDJNR1504	A470
3065888	KM63TSCDJNL1504	A470
3065889	KM63TSCSDNN12	A471
3065890	KM63TSCSDNN15	A471
3065891	KM63TSCSRNR12	A472
3065892	KM63TSCSRNL12	A472
3065893	KM63TSCSRNR15	A472
3065894	KM63TSCSRNL15	A472
3065895	KM63TSCSKNR12	A471
3065896	KM63TSCSKNL12	A471
3065897	KM63TSCTGNR22	A472
3065898	KM63TSCTGNL22	A472
3065899	KM63TSCRGNL12	A470
3065900	KM63TSCRGNR12	A470
3095643	KM32TSMDJNL1504	A221
3095644	KM32TSMDJNR1504	A221
3095645	KM32TSMDPNN1504	A222
3100356	CV40BHPMC075335	F17
3100358	CV40BHPMC075591	F17
3100359	CV40BHPMC100374	F17
3100360	CV40BHPMC100591	F17
3100361	CV40BHPMC125591	F17
3100362	CV40BHPMC125472	F17
3100403	CV50BHPMC075354	F55
3100404	CV50BHPMC075650	F55
3100405	CV50BHPMC100354	F55
3100406	CV50BHPMC100531	F55
3100407	CV50BHPMC100650	F55
3100408	CV50BHPMC125354	F55
3100409	CV50BHPMC125531	F55
3100410	CV50BHPMC125650	F55
3100411	BT30HPMC075335	E8
3100412	BT40BHPMC075295	E33
3100413	BT40BHPMC075472	E33
3100414	BT40BHPMC100335	E33
3100415	BT40BHPMC100472	E33
3100416	BT40BHPMC125354	E33
3100417	BT40BHPMC125472	E33
3100418	BT50BHPMC075413	E75
3100419	BT50BHPMC100413	E75
3100420	BT50BHPMC125413	E75
3100539	HSK100AHPMC075453	C104
3100540	HSK100AHPMC100512	C104
3100541	HSK100AHPMC125531	C104
3100542	HSK100AHPMC20115M	C104
3100543	HSK100AHPMC32135M	C104
3100544	HSK63AHPMC075433	C56
3100545	HSK63AHPMC100472	C56
3100546	HSK63AHPMC125472	C56
3100547	HSK63AHPMC20110M	C56
3100548	HSK63AHPMC32120M	C56
3101010	75SMC0125	J9
3101012	75SMC0250	J9
3101073	75SMC0188	J9
3101074	75SMC0312	J9
3101075	75SMC0375	J9
3101076	75SMC0438	J9
3101077	75SMC0500	J9
3101078	75SMC0563	J9

Order No.	Catalog No.	Page(s)
3101079	75SMC0625	J9
3101080	75SMC060M	J8
3101081	75SMC080M	J8
3101082	75SMC100M	J8
3101083	75SMC120M	J8
3101084	75SMC140M	J8
3101085	75SMC160M	J8
3101086	10SMC0125	J9
3101087	10SMC0188	J9
3101088	10SMC0250	J9
3101089	10SMC0312	J9
3101090	10SMC0375	J9
3101091	10SMC0438	J9
3101092	10SMC0500	J9
3101093	10SMC0563	J9
3101094	10SMC0625	J9
3101095	10SMC0750	J9
3101096	10SMC0875	J9
3101097	10SMC060M	J8
3101098	10SMC080M	J8
3101099	10SMC100M	J8
3101100	10SMC120M	J8
3101101	10SMC140M	J8
3101102	10SMC160M	J8
3101103	10SMC180M	J9
3101104	10SMC200M	J9
3101105	12SMC0125	J9
3101106	12SMC0188	J9
3101107	12SMC0250	J9
3101108	12SMC0312	J9
3101109	12SMC0375	J9
3101110	12SMC0438	J9
3101111	12SMC0500	J9
3101112	12SMC0563	J9
3101113	12SMC0625	J9
3101114	12SMC0750	J9
3101115	12SMC0875	J9
3101116	12SMC1000	J9
3101117	12SMC060M	J8
3101118	12SMC080M	J8
3101119	12SMC100M	J8
3101120	12SMC120M	J8
3101121	12SMC140M	J8
3101122	12SMC160M	J8
3101123	12SMC180M	J9
3101124	12SMC200M	J9
3101125	12SMC220M	J9
3101126	12SMC250M	J9
3103485	KM63XMZMCLNLF12Y	A558
3103486	KM63XMZMCLNLF16Y	A558
3103487	KM63XMZMDJNR1504Y	A558
3103488	KM63XMZMDJNLF1504Y	A558
3103489	KM63XMZMVJNR16Y	A559
3103490	KM63XMZMVJNLF16Y	A559
3103491	KM63XMZETAR16Y	A555
3103492	KM63XMZETALF16Y	A555
3110267	TTAAG12MX1	L12
3110268	TTAAG14MX1	L12
3110269	TTAAG044X1	L13
3110270	TTAAG050X1	L13
3110271	TTAAG056X1	L13
3134823	KM16RCM10400HPC	A65
3134824	KM16LCM10400HPC	A65
3138896	KM80ATCWD50110M	A612
3138941	KM80ATCKGMSL50	A603
3138942	KM80ATCKGMSR50	A603
3138953	KM80ATCTG075160	A610
3176217	KM25MDJNR1130	A135
3176218	KM25MDJNL1130	A135
3176219	KM25LSSR2230	A155
3176220	KM25LSSL2230	A155
3176692	KM16SDJCR1120HPC	A94
3180556	KM63XMZMCMNNF12115Y	A559
3180663	KM16SDJCL1120HPC	A94
3180664	KM16SSPR0620HPC	A95
3180665	KM16SSPL0620HPC	A95
3180666	KM16STJCR1620HPC	A95
3180667	KM16STJCL1620HPC	A95
3180668	KM16SWLCR0620HPC	A96
3180669	KM16SWLCL0620HPC	A96
3180670	KM16SCLCR0920HPC	A94
3180671	KM16SCLCL0920HPC	A94
3180672	KM16SVJBR1120HPC	A96
3180673	KM16SVJBL1120HPC	A96
3180674	KM16NSR220HPC	A97
3180675	KM16NSL220HPC	A97
3180676	KM16LSSR1620HPC	A97
3180677	KM16LSSL1620HPC	A97
3273853	20SMC060M	J8
3273854	20SMC080M	J8
3273855	20SMC100M	J8
3273856	20SMC120M	J8
3273857	20SMC160M	J8
3273858	32SMC060M	J8
3273859	32SMC080M	J8
3273860	32SMC100M	J8
3273861	32SMC120M	J8
3273862	32SMC160M	J8
3273863	32SMC200M	J8
3273864	32SMC250M	J8
3306139	KM63XMZS5065Y	A588
3330949	KM80ATCNSR3	A601
3336459	TBWL6H	L53
3352074	881.252.720	A425, A513
3353311	CKC5	A309–310, A386–388, A478
3362163	881.252.550	A425
3365589	KM25SVJBR1630	A152
3365590	KM25SVJBL1630	A152
3367387	PSW52M	C56, C104, E8, E33, E75, F17, F55, G15, L57
3367388	MCSS12030M	E8
3367389	MCSS16040M	E33, E75, F17, F55, G15
3367390	MCSS16018M	C56, C104
3367391	HPMCBALSCREWSET	L14
3377199	KM16A4SCL2B1630	A86
3377200	KM16A4SCR2B1630	A86
3377201	KM16A4SCL021630	A86
3377202	KM16A4SCR021630	A86
3377242	HSK63TSTAR2525M	C33
3377283	KM16A4SCL011330	A86
3377284	KM16A4SCR011330	A86
3377288	KM25A4SML2B1430	A156–157
3377289	KM25A4SMR2B1430	A156–157
3377290	KM25A4SML021430	A156–157
3377291	KM25A4SMR021430	A156–157
3377292	KM25A4SML011330	A156–157
3377313	HSK63TSTAL2525M	C33
3377359	KM12A4SCL021630	A86
3377360	KM12A4SCR021630	A86
3377361	KM12A4SCL011330	A86
3377362	KM12A4SCR011330	A86
3377363	KM25A4SMR011330	A156–157
3377385	KM25NCMSF3140MST	A431, A553
3387620	HSK63TKM40070M	C41
3387728	TTISG3200LCPCCV30	L5, L9
3387729	TTISG3200LCPCCV40	L5, L9
3387730	TTISG3200LCPCCV50	L5, L9
3387731	TTISG3200LCPCCHSK32	L5, L9
3387732	TTISG3200LCPCCHSK40	L5, L9
3387763	TTISG3200LCPCCHSK50	L5, L9
3387764	TTISG3200LCPCCHSK63	L5, L9
3387765	TTISG3200LCPCCHSK80	L5, L9
3387766	TTISG3200LCPCCHSK100	L5, L9
3389747	301.361	L52
3397168	KM20PCLNL1225	A143
3397169	KM20PCLNR1225	A143
3397170	KM20PCKNL1225	A143
3397171	KM20PCKNR1225	A143
3397172	KM20PDJNL1125	A144
3397213	KM20PDJNR1125	A144
3397214	KM20PWLNL0625	A144
3397215	KM20PWLNR0625	A144
3397219	KM2016P	A117
3397220	KM1612P	A117
3397255	KM16RCM1616100HPC	A65
3397256	KM16LCM1616100HPC	A65
3397261	KM25SVJBL1130	A152
3397262	KM25SVJBR1130	A152
3397311	KM25MDJNL150630	A135
3397312	KM25MDJNR150630	A135
3397323	KM3225S252030	A185
3397324	KM3225S201630	A185
3397325	KM3225S161230	A185
3449331	CV50KM3225TRA	A188
3449332	DV40KM3225TRA	A188
3449353	KM3225TB	A189
3449440	KM80XGL1724179	A218
3479819	DV40SER32027M	G18
3479820	DV50SER32027M	G57
3479821	DV50SER40027M	G57
3480215	KM80ATCSTAR20	A591
3482924	KM20A3SCL031635	A160
3482925	KM20A3SCR031635	A160
3482926	KM20A3SCL041635	A160
3482927	KM20A3SCR041635	A160
3482928	KM20A4SML011330	A156–157
3482929	KM20A4SMR011330	A156–157
3482930	KM20A4SML021430	A156–157
3482931	KM20A4SMR021430	A156–157
3482932	KM20A4SML2B1430	A156–157
3482933	KM20A4SMR2B1430	A156–157
3482934	KM20A4SML031430	A156–157
3482935	KM20A4SMR031430	A156–157
3482936	KM20A4SML041430	A156–157
3482937	KM20A4SMR041430	A156–157
3482938	KM20RCM2020100	A122
3482939	KM20LCM2020100	A122
3482940	KM20NCM12352	A123
3482941	KM20NCMSF2434	A127
3482965	KM20LSEL1625	A155
3482966	KM20LSER1625	A155
3482967	KM20LSSL1625	A155
3482968	KM20LSSR1625	A155
3482969	KM2520PCLNL1225	A175
3482970	KM2520PCLNR1225	A175
3482971	KM2520PDUNL1125	A175
3482972	KM2520PDUNR1125	A175
3483023	KM2520PWLNL0625	A176
3483024	KM2520PWLNR0625	A176
3483027	KM20NSL330	A154
3483028	KM20NSR330	A154
3483029	KM20NSL230	A154
3483030	KM20NSR230	A154
3483033	KM20NEL325	A153
3483034	KM20NER325	A153
3483035	KM20NEL225	A153
3483036	KM20NER225	A153
3483037	KM2520NCMS25	A125
3483038	KM2520NCMS16	A125
3483039	KM2520NCMSS2025	A124
3483040	KM2520NCMSS12098	A124
3483042	KM2520S2525	A185
3483043	KM2520S2550	A185
3483044	KM2520S201630	A185
3487458	KM63XMZMDMNLF1504115Y	A560
3487459	KM63XMZMDMNLF1506115Y	A560
3487460	KM63XMZMVMNLF16115Y	A560
3487461	KM63XMZMDMNR1504115Y	A560
3487462	KM63XMZMDMNR1506115Y	A560
3487473	KM63XMZMVMNR16115Y	A560
3487474	KM63TSMCMNN12115	A456
3487475	KM63TSMDMNL1504115	A457
3487476	KM63TSMDMNL1506115	A457
3487477	KM63TSMVMNL16115	A457
3487478	KM63TSMDMNR1504115	A457
3487479	KM63TSMDMNR1506115	A457
3487480	KM63TSMVMNR16115	A457
3487494	KM20SDJCL1125	A146
3487495	KM20SDJCR1125	A146
3487496	KM20SDJCL1525	A146
3487497	KM20SDJCR1525	A146
3487498	KM20SDQCL1125	A147
3487499	KM20SDQCR1125	A147
3487500	KM20SDQCL1525	A147
3487501	KM20SDQCR1525	A147
3487506	KM20SDNCN1125	A147
3487507	KM20SDNCN1530	A147
3487508	KM20SDPCN1530	A146
3487512	KM20SCACL0925	A145
3487519	KM20MCLNL0925	A134
3487520	KM20MCLNR0925	A134
3487521	KM20MCLNL1225	A134
3487522	KM20MCLNR1225	A134
3487533	KM20MCKNL1225	A134
3487534	KM20MCKNR1225	A134
3487535	KM20MDJNL1125	A135
3487536	KM20MDJNR1125	A135
3487537	KM20MDJNL150425	A135
3487538	KM20MDJNR150425	A135
3487539	KM20MDJNL150625	A135
3487540	KM20MDJNR150625	A135
3487541	KM20MTGNL1625	A140
3487542	KM20MTGNR1625	A140
3487543	KM20MWLNL0625	A142
3487544	KM20MWLNR0625	A142
3487547	KM20MVJNL1630	A141
3487548	KM20MVJNR1630	A141
3487549	KM20MWLNL0825	A142
3487550	KM20MWLNR0825	A142
3487553	KM20SCACR0925	A145
3487554	KM20SCLCL0925	A145
3487555	KM20SCLCR0925	A145
3487556	KM20SCLCL1225	A145
3487557	KM20SCLCR1225	A145
3487558	KM20STGCL1625	A151
3487559	KM20STGCR1625	A151
3487560	KM20STJCL1625	A151
3487561	KM20STJCR1625	A151
3487562	KM20SVABL1630	A152
3487563	KM20SVABR1630	A152
3487564	KM20SVJBL1125	A152
3487565	KM20SVJBR1125	A152
3487566	KM20SVJBL1630	A152
3487567	KM20SVJBR1630	A152
3487568	KM20SWLCL0625	A153
3487569	KM20SWLCR0625	A153
3487571	KM63XMZMWMNLF08115Y	A561
3487572	KM63XMZMWMNR08115Y	A561
3487603	KM63TSMWMNL08115	A458
3487604	KM63TSMWMNR08115	A458
3503748	KM63TSS50065M	A515
3503779	KM2520MCLNL0925	A168
3503780	KM2520MCLNR0925	A168
3503781	KM2520MCLNL1225	A168
3503782	KM2520MCLNR1225	A168
3503813	KM2520MDUNL1125	A171
3503814	KM2520MDUNR1125	A171
3503815	KM2520MDUNL1525	A171
3503816	KM2520MDUNR1525	A171
3503817	KM2520MSKNL1225	A172
3503818	KM2520MSKNR1225	A172
3503819	KM2520MTFNL1625	A173
3503820	KM2520MTFNR1625	A173
3503821	KM2520MVUNL1625	A174
3503822	KM2520MVUNR1625	A174
3503823	KM2520MWLNL0625	A174
3503824	KM2520MWLNR0625	A174
3503825	KM2520MWLNL0825	A174
3503826	KM2520MWLNR0825	A174
3503868	KM2520A4EML0408M25	A180–181
3503869	KM2520A4EMR0408M25	A180–181
3503870	KM2520A4EML0308M25	A180–181
3503871	KM2520A4EMR0308M25	A180–181
3503872	KM2520A4EML2B08M25	A180–181
3503883	KM2520A4EMR2B08M25	A180–181
3503884	KM2520A4EML0208M25	A180–181
3503885	KM2520A4EMR0208M25	A180–181
3503886	KM2520A4EML0108M25	A180–181
3503887	KM2520A4EMR0108M25	A180–181
3503888	KM2520A3ESL0510M25	A182
3503889	KM2520A3ESR0510M25	A182
3503890	KM2520A3ESL0408M25	A182
3503891	KM2520A3ESR0408M25	A182
3503892	KM2520A3ESL0308M25	A182
3503893	KM2520A3ESR0308M25	A182
3503896	KM2520BN5050	A186
3503897	KM2520TB	A189
3503898	DV40KM2520TRA	A188
3505967	KM2520LSEL1625	A178
3505968	KM2520LSER1625	A178
3505969	KM2520LSEL2225	A178
3505970	KM2520LSER2225	A178
3505971	KM2520BA1260M	A184
3505972	KM2520BA1055M	A184
3507963	KM2520BA0845M	A184
3507964	KM2520BA0645M	A184
3507965	KM2520BA08236	A184

Order No.	Catalog No.	Page(s)
3507966	KM2520BA06217	A184
3507967	KM2520BA04217	A184
3518531	KM20BN4040	A186
3518633	DV40KM20ECTRA	A188
3518634	CV50KM20ECTRA	A188
3518635	KM20GB2525	A187
3522574	KM16WSJ15EL20	A89
3522575	KM16WSJ15ER20	A89
3522576	KM16WSK15EL20	A90
3522577	KM16WSK15ER20	A90
3523084	DV40BHPMC20085M	G15
3523085	DV40BHPMC20150M	G15
3523086	DV40BHPMC25095M	G15
3523087	DV40BHPMC25150M	G15
3523088	DV40BHPMC32120M	G15
3523089	DV40BHPMC32150M	G15
3545087	KM80ATCSTAR2525	A591
3545088	KM80ATCSTAL2525	A591
3545089	KM80ATCSTAR3232	A591
3545090	KM80ATCSTAL3232	A591
3546331	KM2520NEL230	A177
3546332	KM2520NER230	A177
3546643	KM2520NEL330	A177
3546644	KM2520NER330	A177
3554366	CV40BKR32157	F37
3554367	CV40BKR50236	F37
3554368	CV50BKR32157	F81
3554369	CV50BKR50157	F81
3554370	CV50BKR63236	F81
3554371	CV50BKR80275	F81
3554372	BT40BKR32030M	E58
3554373	BT40BKR50050M	E58
3554374	BT50BKR32040M	E93
3554375	BT50BKR50040M	E93
3554376	BT50BKR63060M	E93
3554377	BT50BKR80060M	E93
3575690	HSK63TPCMNN12115	C35
3575691	HSK63TPDMNL15115	C35
3578486	BT30HPMC20085M	E8
3578487	BT40BHPMC20075M	E33
3578488	BT40BHPMC20120M	E33
3578489	BT40BHPMC25085M	E33
3578490	BT40BHPMC25120M	E33
3578491	BT40BHPMC32090M	E33
3578492	BT40BHPMC32120M	E33
3578563	BT50BHPMC20105M	E75
3578564	BT50BHPMC20165M	E75
3578565	BT50BHPMC25105M	E75
3578566	BT50BHPMC25165M	E75
3578567	BT50BHPMC32105M	E75
3578568	BT50BHPMC32165M	E75
3582592	BT30DC08092M	E14
3583293	BT40DC13096M	E40
3583294	BT50DC13110M	E80
3583505	DV40DC13090M	G26
3583506	DV50DC13090M	G62
3586519	KM32RBHT24	A260
3586520	KM32RBHT30	A260
3586521	KM40RBHT40	A339
3586522	KM50RBHT50	A424
3586543	KM50RBHT66	A424
3586544	KM50RBHT87	A424
3586545	KM63UTRBHT87	A512
3586546	KM63UTRBHT115	A512
3586572	KM32FBHS24	A261
3586573	KM32FBHS31	A261
3586574	KM40FBHS40	A340
3586575	KM50FBHS51	A425
3586576	KM50FBHS67	A425
3586577	KM50FBHS87	A425
3586578	KM63UTFBHS87	A513
3586579	KM63UTFBHS116	A513
3587695	880.252.320	A340
3587698	881.252.420	A425
3587699	880.252.420	A425
3587703	881.252.940	A513
3587704	841.342.200	A260, A339
3587711	841.342.420	A424, A512
3587714	841.142.550	A424
3587722	841.142.720	A424, A512
3587729	841.142.940	A512
3588680	KM63XMZKGMSLF65Y	A563
3588790	KM80ATCKGMSR65	A603
3588795	KM80ATCKGMSL65	A603
3588800	KM80ATCKGMER65	A602
3588804	KM80ATCKGMEL65	A602
3590203	KM63TSKGMSR65	A480
3590204	KM63TSKGMSL65	A480
3590205	KM63TSKGMER65	A479
3590206	KM63TSKGMEL65	A479
3594191	KM80ATCHPVTT056374	A607
3594313	KM80ATCHPVTT125472	A607
3594314	KM80ATCHPVTT150512	A607
3594315	KM80ATCHPVTT100453	A607
3594316	KM80ATCHPVTT075413	A607
3594317	KM80ATCHPVTT062850	A607
3594645	CV50WNA038282	F67
3594646	CV50WNA038469	F67
3594647	CV50WNA038669	F67
3594648	CV50WNA050273	F67
3594649	CV50WNA050460	F67
3594650	CV50WNA050660	F67
3594651	CV50WNA062266	F67
3594652	CV50WNA062453	F67
3594653	CV50WNA062653	F67
3594654	CV50WNA075263	F67
3594655	CV50WNA075450	F67
3594656	CV50WNA075650	F67
3594657	CV50WNA088263	F67
3594658	CV50WNA088450	F67
3594659	CV50WNA088650	F67
3594660	CV50WNA100300	F67
3594661	CV50WNA100450	F67
3594662	CV50WNA100650	F67
3594663	CV50WNA125300	F67
3594664	CV50WNA125450	F67
3594665	CV50WNA125650	F67
3594666	CV50WNA150400	F67
3594667	CV50WNA200535	F67
3594668	CV50WNA200735	F67
3594669	CV50WNA250535	F67
3594670	CV50WNA250735	F67
3594671	CV50ZWNA200375	F67
3598813	KM80ATCHPVTTHT050374	A609
3598814	KM80ATCHPVTTHT056374	A609
3598815	KM80ATCHPVTTHT062394	A609
3598816	KM80ATCHPVTTHT062850	A609
3598817	KM80ATCHPVTTHT075413	A609
3598818	KM80ATCHPVTTHT075630	A609
3598819	KM80ATCHPVTTHT088413	A609
3598820	KM80ATCHPVTTHT100453	A609
3598821	KM80ATCHPVTTHT125472	A609
3599304	KM80ATCHPVTT050374	A607
3599305	KM80ATCHPVTT062394	A607
3599306	KM80ATCHPVTT075630	A607
3599307	KM80ATCHPVTT088413	A607
3599308	KM80ATCHPVTT200551	A607
3599309	KM80ATCHPVTT031335	A607
3599310	KM80ATCHPVTT038630	A607
3599311	KM80ATCHPVTT044374	A607
3615175	CV40BHPVTT050375	F7
3615176	CV40BHPVTT050600	F7
3615177	CV40BHPVTT056375	F7
3615178	CV40BHPVTT062375	F7
3615179	CV40BHPVTT062600	F7
3615180	CV40BHPVTT068400	F7
3615181	CV40BHPVTT075400	F7
3615182	CV40BHPVTT075600	F7
3615183	CV40BHPVTT088400	F7
3615184	CV40BHPVTT088600	F7
3615185	CV40BHPVTT100400	F7
3615186	CV40BHPVTT100600	F7
3615187	CV40BHPVTT125400	F7
3615188	CV40BHPVTT125600	F7
3615189	CV50BHPVTT050375	F45
3615190	CV50BHPVTT050800	F45
3615191	CV50BHPVTT056375	F45
3615192	CV50BHPVTT062375	F45
3615193	CV50BHPVTT062800	F45
3615194	CV50BHPVTT068400	F45
3615195	CV50BHPVTT075400	F45
3615196	CV50BHPVTT075800	F45
3615197	CV50BHPVTT088400	F45
3615198	CV50BHPVTT088800	F45
3615199	CV50BHPVTT100400	F45
3615200	CV50BHPVTT100800	F45
3615201	CV50BHPVTT125400	F45
3615202	CV50BHPVTT125800	F45
3615213	CV40BHPVTT12M375	F6
3615214	CV40BHPVTT12M600	F6
3615215	CV40BHPVTT14M375	F6
3615216	CV40BHPVTT14M600	F6
3615217	CV40BHPVTT16M375	F6
3615218	CV40BHPVTT16M600	F6
3615219	CV40BHPVTT18M400	F6
3615220	CV40BHPVTT18M600	F6
3615221	CV40BHPVTT20M400	F6
3615222	CV40BHPVTT20M600	F6
3615223	CV40BHPVTT25M400	F6
3615224	CV40BHPVTT25M600	F6
3615225	CV40BHPVTT32M400	F6
3615226	CV40BHPVTT32M600	F6
3615227	CV50BHPVTT12M375	F44
3615228	CV50BHPVTT12M800	F44
3615229	CV50BHPVTT14M375	F44
3615230	CV50BHPVTT14M800	F44
3615231	CV50BHPVTT16M375	F44
3615232	CV50BHPVTT16M800	F44
3615233	CV50BHPVTT18M400	F44
3615234	CV50BHPVTT18M800	F44
3615235	CV50BHPVTT20M400	F44
3615236	CV50BHPVTT20M800	F44
3615237	CV50BHPVTT25M400	F44
3615238	CV50BHPVTT25M800	F44
3615239	CV50BHPVTT32M400	F44
3615240	CV50BHPVTT32M800	F44
3615343	BT30HPVTT050295	E5
3615344	BT30HPVTT056295	E5
3615345	BT30HPVTT062295	E5
3615346	BT30HPVTT068354	E5
3615347	BT30HPVTT075354	E5
3615348	BT30HPVTT12075M	E4
3615349	BT30HPVTT14075M	E4
3615350	BT30HPVTT16075M	E4
3615351	BT30HPVTT18090M	E4
3615352	BT30HPVTT20090M	E4
3615353	BT40BHPVTT050354	E25
3615354	BT40BHPVTT050630	E25
3615355	BT40BHPVTT062354	E25
3615356	BT40BHPVTT062630	E25
3615357	BT40BHPVTT075354	E25
3615358	BT40BHPVTT075630	E25
3615359	BT40BHPVTT088354	E25
3615360	BT40BHPVTT088630	E25
3615361	BT40BHPVTT100394	E25
3615362	BT40BHPVTT100630	E25
3615363	BT40BHPVTT125413	E25
3615364	BT40BHPVTT125630	E25
3615365	BT40BHPVTT12090M	E24
3615366	BT40BHPVTT12120M	E24
3615367	BT40BHPVTT12160M	E24
3615368	BT40BHPVTT14090M	E24
3615369	BT40BHPVTT14120M	E24
3615370	BT40BHPVTT14160M	E24
3615371	BT40BHPVTT16090M	E24
3615372	BT40BHPVTT16120M	E24
3615373	BT40BHPVTT16160M	E24
3615374	BT40BHPVTT18090M	E24
3615375	BT40BHPVTT18120M	E24
3615376	BT40BHPVTT18160M	E24
3615377	BT40BHPVTT20090M	E24
3615378	BT40BHPVTT20120M	E24
3615379	BT40BHPVTT20160M	E24
3615380	BT40BHPVTT25100M	E24
3615381	BT40BHPVTT32105M	E24
3615382	BT50BHPVTT050394	E67
3615383	BT50BHPVTT050787	E67
3615384	BT50BHPVTT062394	E67
3615385	BT50BHPVTT062787	E67
3615386	BT50BHPVTT075394	E67
3615387	BT50BHPVTT075787	E67
3615388	BT50BHPVTT088394	E67
3615389	BT50BHPVTT088787	E67
3615390	BT50BHPVTT100394	E67
3615391	BT50BHPVTT100787	E67
3615392	BT50BHPVTT125394	E67
3615393	BT50BHPVTT125787	E67
3615394	BT50BHPVTT12100M	E66
3615395	BT50BHPVTT12160M	E66
3615396	BT50BHPVTT14100M	E66
3615397	BT50BHPVTT14160M	E66
3615398	BT50BHPVTT16100M	E66
3615399	BT50BHPVTT16160M	E66
3615400	BT50BHPVTT18100M	E66
3615401	BT50BHPVTT18160M	E66
3615402	BT50BHPVTT20100M	E66
3615403	BT50BHPVTT20160M	E66
3615404	BT50BHPVTT25100M	E66
3615405	BT50BHPVTT32100M	E66
3615434	BT30HPVTTHT050295	E6
3615435	BT30HPVTTHT056295	E6
3615436	BT30HPVTTHT062295	E6
3615437	BT30HPVTTHT068354	E6
3615438	BT30HPVTTHT075354	E6
3615439	BT30HPVTTHT12075M	E6
3615440	BT30HPVTTHT14075M	E6
3615441	BT30HPVTTHT16075M	E6
3615442	BT30HPVTTHT18090M	E6
3615443	BT30HPVTTHT20090M	E6
3615444	BT40BHPVTTHT050354	E27
3615445	BT40BHPVTTHT050630	E27
3615446	BT40BHPVTTHT062354	E27
3615447	BT40BHPVTTHT062630	E27
3615448	BT40BHPVTTHT075354	E27
3615450	BT40BHPVTTHT075630	E27
3615451	BT40BHPVTTHT088354	E27
3615452	BT40BHPVTTHT088630	E27
3615453	BT40BHPVTTHT100394	E27
3615454	BT40BHPVTTHT100630	E27
3615455	BT40BHPVTTHT125413	E27
3615456	BT40BHPVTTHT125630	E27
3615457	BT40BHPVTTHT12090M	E26
3615458	BT40BHPVTTHT12120M	E26
3615459	BT40BHPVTTHT12160M	E26
3615460	BT40BHPVTTHT14090M	E26
3615461	BT40BHPVTTHT14120M	E26
3615462	BT40BHPVTTHT14160M	E26
3615463	BT40BHPVTTHT16090M	E26
3615464	BT40BHPVTTHT16120M	E26
3615465	BT40BHPVTTHT16160M	E26
3615466	BT40BHPVTTHT18090M	E26
3615467	BT40BHPVTTHT18120M	E26
3615468	BT40BHPVTTHT18160M	E26
3615469	BT40BHPVTTHT20090M	E26
3615470	BT40BHPVTTHT20120M	E26
3615471	BT40BHPVTTHT20160M	E26
3615472	BT40BHPVTTHT25100M	E26
3615473	BT40BHPVTTHT32105M	E26
3615474	BT50BHPVTTHT050394	E69
3615475	BT50BHPVTTHT050787	E69
3615476	BT50BHPVTTHT062394	E69
3615477	BT50BHPVTTHT062787	E69
3615479	BT50BHPVTTHT075394	E69
3615480	BT50BHPVTTHT075787	E69
3615481	BT50BHPVTTHT088394	E69
3615482	BT50BHPVTTHT088787	E69
3615483	BT50BHPVTTHT100394	E69
3615484	BT50BHPVTTHT100787	E69
3615485	BT50BHPVTTHT125394	E69
3615486	BT50BHPVTTHT125787	E69
3615487	BT50BHPVTTHT12100M	E68
3615488	BT50BHPVTTHT12160M	E68
3615489	BT50BHPVTTHT14100M	E68
3615490	BT50BHPVTTHT14160M	E68
3615491	BT50BHPVTTHT16100M	E68
3615492	BT50BHPVTTHT16160M	E68
3615493	BT50BHPVTTHT18100M	E68
3615494	BT50BHPVTTHT18160M	E68
3615495	BT50BHPVTTHT20100M	E68
3615496	BT50BHPVTTHT20160M	E68
3615497	BT50BHPVTTHT25100M	E68
3615498	BT50BHPVTTHT32100M	E68
3617591	DV40BHPVTTHT12080M	G8
3617592	DV40BHPVTTHT12120M	G8
3617605	DV40BHPVTTHT12160M	G8
3617606	DV40BHPVTTHT14080M	G8
3617607	DV40BHPVTTHT14120M	G8
3617608	DV40BHPVTTHT14160M	G8

Order No.	Catalog No.	Page(s)
3617609	DV40BHPVTTHT16080M	G8
3617610	DV40BHPVTTHT16120M	G8
3617611	DV40BHPVTTHT16160M	G8
3617612	DV40BHPVTTHT18080M	G8
3617613	DV40BHPVTTHT18120M	G8
3617614	DV40BHPVTTHT18160M	G8
3617615	DV40BHPVTTHT20080M	G8
3617616	DV40BHPVTTHT20120M	G8
3617617	DV40BHPVTT12080M	G6
3617618	DV40BHPVTTHT20160M	G9
3617619	DV40BHPVTTHT25100M	G9
3617620	DV40BHPVTTHT25160M	G9
3617621	DV40BHPVTTHT32100M	G9
3617622	DV40BHPVTTHT32160M	G9
3617623	DV50BHPVTTHT12080M	G48
3617624	DV50BHPVTTHT12120M	G48
3617625	DV50BHPVTTHT12160M	G48
3617626	DV50BHPVTTHT14080M	G48
3617627	DV50BHPVTTHT14120M	G48
3617628	DV50BHPVTTHT14160M	G48
3617629	DV50BHPVTTHT16080M	G48
3617630	DV50BHPVTTHT16120M	G48
3617631	DV50BHPVTTHT16160M	G48
3617632	DV50BHPVTTHT18080M	G48
3617633	DV50BHPVTTHT18120M	G48
3617634	DV50BHPVTTHT18160M	G48
3617635	DV50BHPVTTHT20080M	G49
3617636	DV50BHPVTTHT20120M	G49
3617637	DV50BHPVTTHT20160M	G49
3617638	DV50BHPVTTHT25100M	G49
3617639	DV50BHPVTTHT25160M	G49
3617640	DV50BHPVTTHT32100M	G49
3617641	DV50BHPVTTHT32160M	G49
3617642	DV40BHPVTT12120M	G6
3617643	DV40BHPVTT12160M	G6
3617644	DV40BHPVTT14080M	G6
3617645	DV40BHPVTT14120M	G6
3617646	DV40BHPVTT14160M	G7
3617647	DV40BHPVTT16080M	G7
3617648	DV40BHPVTT16120M	G7
3617649	DV40BHPVTT16160M	G7
3617650	DV40BHPVTT18080M	G7
3617651	DV40BHPVTT18120M	G7
3617652	DV40BHPVTT18160M	G7
3617653	DV40BHPVTT20080M	G7
3617654	DV40BHPVTT20120M	G7
3617655	DV40BHPVTT20160M	G7
3617656	DV40BHPVTT25100M	G7
3617657	DV40BHPVTT25160M	G7
3617658	DV40BHPVTT32100M	G7
3617659	DV40BHPVTT32160M	G7
3617660	DV50BHPVTT12080M	G46
3617661	DV50BHPVTT12120M	G46
3617662	DV50BHPVTT12160M	G46
3617663	DV50BHPVTT14080M	G46
3617664	DV50BHPVTT14120M	G46
3617665	DV50BHPVTT14160M	G47
3617666	DV50BHPVTT16080M	G47
3617667	DV50BHPVTT16120M	G47
3617668	DV50BHPVTT16160M	G47
3617669	DV50BHPVTT18080M	G47
3617670	DV50BHPVTT18120M	G47
3617671	DV50BHPVTT18160M	G47
3617672	DV50BHPVTT20080M	G47
3617673	DV50BHPVTT20120M	G47
3617674	DV50BHPVTT20160M	G47
3617675	DV50BHPVTT25100M	G47
3617676	DV50BHPVTT25160M	G47
3617677	DV50BHPVTT32100M	G47
3617678	DV50BHPVTT32160M	G47
3617952	CV40BHPVTTHT050375	F9
3618003	CV40BHPVTTHT050600	F9
3618004	CV40BHPVTTHT056375	F9
3618005	CV40BHPVTTHT062375	F9
3618006	CV40BHPVTTHT062600	F9
3618007	CV40BHPVTTHT068400	F9
3618008	CV40BHPVTTHT075400	F9
3618009	CV40BHPVTTHT075600	F9
3618010	CV40BHPVTTHT088400	F9
3618011	CV40BHPVTTHT088600	F9
3618012	CV40BHPVTTHT100400	F9
3618013	CV40BHPVTTHT100600	F9
3618014	CV40BHPVTTHT125400	F9
3618015	CV40BHPVTTHT125600	F9
3618016	CV50BHPVTTHT050375	F47
3618017	CV50BHPVTTHT050800	F47
3618018	CV50BHPVTTHT056375	F47
3618019	CV50BHPVTTHT062375	F47
3618020	CV50BHPVTTHT062800	F47
3618021	CV50BHPVTTHT068400	F47
3618022	CV50BHPVTTHT075400	F47
3618023	CV50BHPVTTHT075800	F47
3618024	CV50BHPVTTHT088400	F47
3618025	CV50BHPVTTHT088800	F47
3618026	CV50BHPVTTHT100400	F47
3618027	CV50BHPVTTHT100800	F47
3618028	CV50BHPVTTHT125400	F47
3618029	CV50BHPVTTHT125800	F47
3618030	CV40BHPVTTHT12M375	F8
3618031	CV40BHPVTTHT12M600	F8
3618032	CV40BHPVTTHT14M375	F8
3618033	CV40BHPVTTHT14M600	F8
3618034	CV40BHPVTTHT16M375	F8
3618035	CV40BHPVTTHT16M600	F8
3618036	CV40BHPVTTHT18M400	F8
3618037	CV40BHPVTTHT18M600	F8
3618038	CV40BHPVTTHT20M400	F8
3618039	CV40BHPVTTHT20M600	F8
3618040	CV40BHPVTTHT25M400	F8
3618041	CV40BHPVTTHT25M600	F8
3618042	CV40BHPVTTHT32M400	F8
3618043	CV40BHPVTTHT32M600	F8
3618044	CV50BHPVTTHT12M375	F46
3618045	CV50BHPVTTHT12M800	F46
3618046	CV50BHPVTTHT14M375	F46
3618047	CV50BHPVTTHT14M800	F46
3618048	CV50BHPVTTHT16M375	F46
3618049	CV50BHPVTTHT16M800	F46
3618050	CV50BHPVTTHT18M400	F46
3618051	CV50BHPVTTHT18M800	F46
3618052	CV50BHPVTTHT20M400	F46
3618053	CV50BHPVTTHT20M800	F46
3618054	CV50BHPVTTHT25M400	F46
3618055	CV50BHPVTTHT25M800	F46
3618056	CV50BHPVTTHT32M400	F46
3618057	CV50BHPVTTHT32M800	F46
3636438	KM80TSDCLNR12KC04	A519
3636439	KM80TSDCLNL12KC04	A519
3636440	KM80TSDCLNR16KC06	A519
3636441	KM80TSDCLNL16KC06	A519
3636442	KM80TSDDJNR15KC06	A519
3636523	KM80TSDDJNL15KC06	A519
3636525	KM80TSDDJNR15KC04	A519
3636526	KM80TSDDJNL15KC04	A519
3636527	KM80TSDDQNR15KC04	A520
3636528	KM80TSDDQNL15KC04	A520
3636530	KM80TSDDQNR15KC06	A520
3636531	KM80TSDDQNL15KC06	A520
3636533	KM80TSDDUNR15KC04	A520
3636535	KM80TSDDUNL15KC04	A520
3636537	KM80TSDDUNR15KC06	A520
3636538	KM80TSDDUNL15KC06	A520
3640129	CV50BSMC050150	F76
3640130	CV50BSM2C050150	F76
3640131	CV50BSMC050350	F76
3640132	CV50BSM2C050350	F76
3640193	CV50BSMC050550	F76
3640194	CV50BSM2C050550	F76
3640195	CV50BSMC075150	F76
3640196	CV50BSM2C075150	F76
3640197	CV50BSMC075350	F76
3640198	CV50BSM2C075350	F76
3640199	CV50BSMC075550	F76
3640200	CV50BSM2C075550	F76
3640201	CV50BSMC075700	F76
3640202	CV50BSMC075900	F76
3640203	CV50BSMC100200	F76
3640204	CV50BSM2C100200	F76
3640205	CV50BSMC100400	F76
3640206	CV50BSM2C100400	F76
3640207	CV50BSMC100600	F76
3640208	CV50BSM2C100600	F76
3640209	CV50BSMC100800	F76
3640210	CV50BSMC1001000	F76
3640211	CV50BSMC125150	F76
3640212	CV50BSMC125350	F76
3640213	CV50BSMC125550	F76
3640214	CV50BSMC125700	F76
3640215	CV50BSMC125900	F76
3640216	CV50BSMC150240	F76
3640217	CV50BSMC150400	F76
3640218	CV50BSMC150600	F76
3640219	CV50BSMC150800	F76
3640220	CV50BSMC200240	F76
3640221	CV50BSMC200400	F77
3640222	CV50BSMC200600	F77
3640223	CV50BSMC200800	F77
3640224	CV50BSMC250240	F77
3640225	CV50BSMC250400	F77
3641489	CV40BSMC050138	F32
3641490	CV40BSMC050350	F32
3641491	CV40BSM2C050350	F32
3641492	CV40BSMC075138	F32
3641513	CV40BSMC075350	F32
3641514	CV40BSM2C075350	F32
3641515	CV40BSMC075600	F32
3641516	CV40BSM2C075600	F32
3641517	CV40ZBSMC100100	F32
3641518	CV40ZBSM2C100100	F32
3641519	CV40BSMC100206	F32
3641520	CV40BSM2C100206	F32
3641521	CV40BSMC100400	F32
3641522	CV40BSM2C100400	F32
3641523	CV40BSMC100600	F32
3641524	CV40BSM2C100600	F32
3641525	CV40BSMC125212	F32
3641526	CV40BSMC125400	F32
3641527	CV40BSMC150241	F32
3641528	CV40BSMC150400	F32
3645145	KM25NAPKG	A122–123
3645146	KM20NAPKG	A122–123
3645148	KM2520NRPKG	A124–125, A127, A185, A188–189
3647202	VDIA1M2065	K3
3647973	VDIA1M3085	K3
3647974	VDIA1M40100	K3
3647975	VDIA1M50125	K3
3647976	VDIA1M60160	K3
3647977	VDIA2M2070	K3
3647978	VDIA2M30100	K3
3647979	VDIA2M30240	K3
3647980	VDIA2M40120	K3
3647981	VDIA2M40320	K3
3647982	VDIA2M50135	K3
3648063	VDIA2M50400	K3
3648064	VDIA2M60150	K3
3648065	VDIA2M60480	K3
3648066	VDIB1M161224	K4
3648067	VDIB1M161234	K4
3648068	VDIB1M201630	K4
3648069	VDIB2M161224	K4
3648070	VDIB1M201640	K4
3648071	VDIB2M161234	K4
3648072	VDIB1M251630	K4
3648113	VDIB1M302040	K4
3648114	VDIB2M201630	K4
3648115	VDIB1M302060	K4
3648116	VDIB2M201640	K4
3648117	VDIB1M402544	K4
3648118	VDIB2M251630	K4
3648119	VDIB2M302040	K4
3648120	VDIB1M503255	K4
3648121	VDIB3M161224	K5
3648122	VDIB3M161234	K5
3648123	VDIB1M603260	K4
3648124	VDIB2M302060	K4
3648125	VDIB3M201630	K5
3648126	VDIB2M402544	K4
3648127	VDIB3M201640	K5
3648128	VDIB2M503255	K4
3648129	VDIB3M251630	K5
3648130	VDIB2M603260	K4
3648131	VDIB3M302040	K5
3648132	VDIB3M302060	K5
3648133	VDIB3M402544	K5
3648134	VDIB3M503255	K5
3648135	VDIB4M161224	K5
3648136	VDIB3M603260	K5
3648137	VDIB4M161234	K5
3648138	VDIB4M201630	K5
3648139	VDIB4M201640	K5
3648140	VDIB4M251630	K5
3648141	VDIB4M302040	K5
3648142	VDIB4M302060	K5
3648143	VDIB5M201630	K6
3648144	VDIB4M402544	K5
3648145	VDIB5M201640	K6
3648146	VDIB4M503255	K5
3648147	VDIB5M302040	K6
3648148	VDIB4M603260	K5
3648149	VDIB5M402044	K6
3648150	VDIB5M402544	K6
3648151	VDIB5M503255	K6
3648152	VDIB5M603260	K6
3648170	VDIB7M201630	K7
3648171	VDIB7M201640	K7
3648172	VDIB7M302040	K7
3648193	VDIB7M402044	K7
3648194	VDIB7M402544	K7
3648195	VDIB7M503255	K7
3648196	VDIB7M603260	K7
3648201	VDIC1M201655	K8
3648202	VDIC1M201650	K8
3648204	VDIB6M201630	K6
3648205	VDIB6M201640	K6
3648206	VDIB6M302040	K6
3648207	VDIB6M402044	K6
3648208	VDIB6M402544	K6
3648209	VDIB6M503255	K6
3648210	VDIB6M603260	K6
3648214	VDIB8M201630	K7
3648215	VDIB8M201640	K7
3648216	VDIB8M302040	K7
3648217	VDIB8M402044	K7
3648218	VDIB8M402544	K7
3648219	VDIB8M503255	K7
3648220	VDIB8M603260	K7
3648223	VDIC1M302070	K8
3648224	VDIC1M402585	K8
3648225	VDIC1M5032100	K8
3648226	VDIC1M6032125	K8
3648227	VDIC2M201655	K8
3648228	VDIC2M201650	K8
3648229	VDIC2M302070	K8
3648230	VDIC2M402585	K8
3648231	VDIC2M5032100	K8
3648232	VDIC2M6032125	K8
3648233	VDIC3M201655	K9
3648234	VDIC3M201650	K9
3648235	VDIC3M302070	K9
3648236	VDIC3M402585	K9
3648237	VDIC3M5032100	K9
3648238	VDIC3M6032125	K9
3648239	VDIC4M201655	K9
3648240	VDIC4M201650	K9
3648241	VDIC4M302070	K9
3648242	VDIC4M402585	K9
3648243	VDIC4M5032100	K9
3648244	VDIC4M6032125	K9
3648265	VDIE2M208	K11
3648266	VDIE2M2010	K11
3648267	VDIE2M2012	K11
3648268	VDIE2M2016	K11
3648269	VDIE2M2020	K11
3648270	VDIE2M2025	K11
3648271	VDIE2M308	K11
3648272	VDIE2M3010	K11
3648273	VDIE2M3012	K11
3648274	VDIE2M3016	K11
3648275	VDIE2M3020	K11
3648276	VDIE2M3025	K11
3648277	VDIE2M3032	K11
3648278	VDIE2M408	K11
3648279	VDIE2M4010	K11
3648280	VDIE2M4012	K11
3648281	VDIE2M4016	K11
3648282	VDIE2M4020	K11
3648283	VDIE2M4025	K11

Order No.	Catalog No.	Page(s)
3648284	VDIE2M4032	K11
3648285	VDIE2M4040	K11
3648286	VDIE2M508	K11
3648287	VDIE2M5010	K11
3648288	VDIE2M5012	K11
3648289	VDIE2M5016	K11
3648290	VDIE2M5020	K11
3648291	VDIE2M5025	K11
3648292	VDIE2M5032	K11
3648293	VDIE2M5040	K11
3648294	VDIE2M5050	K11
3648296	VDIE2M6010	K11
3648297	VDIE2M6012	K11
3648298	VDIE2M6016	K11
3648299	VDIE2M6020	K11
3648300	VDIE2M6025	K11
3648301	VDIE2M6032	K11
3648302	VDIE2M6040	K11
3648303	VDIE2M6050	K11
3648304	VDIE1M2020	K10
3648305	VDIE1M2025	K10
3648306	VDIE1M3020	K10
3648307	VDIE1M3025	K10
3648308	VDIE1M3032	K10
3648309	VDIE1M3040	K10
3648310	VDIE1M4020	K10
3648311	VDIE1M4025	K10
3648312	VDIE1M4032	K10
3648313	VDIE1M4040	K10
3648314	VDIE1M5020	K10
3648315	VDIE1M5025	K10
3648316	VDIE1M5032	K10
3648317	VDIE1M5040	K10
3648318	VDIE1M5050	K10
3648319	VDIE1M6020	K10
3648320	VDIE1M6025	K10
3648321	VDIE1M6032	K10
3648322	VDIE1M6040	K10
3648323	VDIE1M6050	K10
3648333	VDIE3M2016	K12
3648334	VDIE3M2020	K12
3648335	VDIE3M3025	K12
3648336	VDIE3M4025	K12
3648337	VDIE3M4032	K12
3648338	VDIE3M5025	K12
3648339	VDIE3M5032	K12
3648340	VDIE3M6032	K12
3648341	VDIE4M1616	K12
3648342	VDIE4M2016	K12
3648343	VDIE4M2025	K12
3648344	VDIE4M3025	K12
3648345	VDIE4M3032	K12
3648346	VDIE4M3040	K12
3648347	VDIE4M4025	K12
3648348	VDIE4M4032	K12
3648349	VDIE4M4040	K12
3648350	VDIE4M5040	K12
3648351	VDIE4M6040	K12
3648519	VDIZ2M20	K13
3648520	VDIZ2M30	K13
3648521	VDIZ2M40	K13
3648522	VDIZ2M50	K13
3648543	VDIZ2M60	K13
3648598	BT30SMC050118	E17
3648599	BT30SM2C050118	E17
3648600	BT30SMC075118	E17
3648601	BT30SM2C075118	E17
3648602	BT30SMC100177	E17
3648653	BT30SM2C100177	E17
3648654	BT40BSMC050177	E52
3648655	BT40BSM2C050177	E52
3648656	BT40BSMC050400	E52
3648657	BT40BSM2C050400	E52
3648658	BT40BSMC075177	E52
3648659	BT40BSM2C075177	E52
3648661	BT40BSMC075400	E52
3648662	BT40BSM2C075400	E52
3648663	BT40BSMC075600	E52
3648664	BT40BSMC100177	E52
3648665	BT40BSM2C100177	E52
3648666	BT40BSMC100400	E52
3648667	BT40BSM2C100400	E52
3648668	BT40BSMC100600	E52
3648669	BT40BSMC125236	E52
3648670	BT40BSMC125500	E52
3648671	BT40BSMC150236	E52
3648672	BT40BSMC150500	E52
3648695	TT3200HCSSP0306M	L6, L10
3648696	TT3200HCSSP0612M	L6, L10
3648697	TT3200HCSSP1220M	L6, L10
3648698	TT3200HCSSP2032M	L6, L10
3648699	TT3200CCTRAY	L7, L11
3653264	KM80TSBN125075M	A551
3653265	KM80TSBN140130M	A551
3653266	KM80TSBN150160M	A551
3653267	KM80TSBN150250M	A551
3653268	KM80TSBN175175M	A551
3653772	BT50BSMC050177	E88
3653804	BT50BSMC050400	E88
3653805	BT50BSM2C050400	E88
3653806	BT50BSMC075177	E88
3653808	BT50BSMC075400	E88
3653809	BT50BSM2C075400	E88
3653810	BT50BSMC100177	E88
3653812	BT50BSMC100400	E88
3653813	BT50BSM2C100400	E88
3653814	BT50BSMC100600	E88
3653815	BT50BSMC125177	E88
3653816	BT50BSMC125400	E88
3653817	BT50BSMC125600	E88
3653818	BT50BSMC150177	E88
3653819	BT50BSMC150400	E88
3653820	BT50BSMC150600	E88
3653821	BT50BSMC200236	E88
3653822	BT50BSMC200400	E88
3653823	BT50BSMC250236	E88
3653824	BT50BSMC250400	E88
3661823	KM63XMZHPVTT06080MY	A572
3661824	KM63XMZHPVTT08080MY	A572
3661825	KM63XMZHPVTT10090MY	A572
3661826	KM63XMZHPVTT12090MY	A572
3661827	KM63XMZHPVTT14100MY	A572
3661828	KM63XMZHPVTT16100MY	A572
3661829	KM63XMZHPVTT18100MY	A572
3661830	KM63XMZHPVTT20100MY	A572
3661831	KM63XMZHPVTT25120MY	A572
3661832	KM63XMZHPVTT32120MY	A572
3661833	KM63XMZHPVTT04080MY	A572
3661834	KM63XMZHPVTTHT12090MY	A574
3661835	KM63XMZHPVTTHT14100MY	A574
3661836	KM63XMZHPVTTHT16100MY	A574
3661837	KM63XMZHPVTTHT18100MY	A574
3661838	KM63XMZHPVTTHT20100MY	A574
3661839	KM63XMZHPVTTHT25120MY	A574
3661840	KM63XMZHPVTTHT32120MY	A574
3661841	KM80ATCHPVTT10090M	A606
3661842	KM80ATCHPVTT10170M	A606
3662523	KM80TSMCKNL19	A521
3662524	KM80TSMCKNR19	A521
3662525	KM80TSMCLNL12	A521
3662526	KM80TSMCLNL16	A521
3662527	KM80TSMCLNL19	A521
3662528	KM80TSMCLNL25	A521
3662529	KM80TSMCLNR12	A521
3662530	KM80TSMCLNR16	A521
3662531	KM80TSMCLNR19	A521
3662532	KM80TSMCLNR25	A521
3662533	KM80TSMCRNL16	A522
3662534	KM80TSMCRNL19	A522
3662535	KM80TSMCRNL25	A522
3662536	KM80TSMCRNR16	A522
3662537	KM80TSMCRNR19	A522
3662538	KM80TSMCRNR25	A522
3662541	KM80TSMDJNL1504	A522
3662542	KM80TSMDJNR1504	A522
3662561	KM80TSMVJNL16	A526
3662562	KM80TSMVJNR16	A526
3662563	KM80TSMDJNL1506	A522
3662564	KM80TSMDJNR1506	A522
3662565	KM80TSMDPNN1504	A523
3662566	KM80TSMDPNN1506	A523
3662567	KM80TSMDQNL1504	A523
3662568	KM80TSMDQNR1504	A523
3662569	KM80TSMDQNL1506	A523
3662570	KM80TSMDQNR1506	A523
3662571	KM80TSMDUNL1504	A524
3662572	KM80TSMDUNR1504	A524
3662573	KM80TSMDUNL1506	A524
3662574	KM80TSMDUNR1506	A524
3662577	KM80TSMSDNN19	A524
3662578	KM80TSMSDNN25	A524
3662579	KM80TSMSKNL19	A525
3662580	KM80TSMSKNL25	A525
3662581	KM80TSMSKNR19	A525
3662582	KM80TSMSKNR25	A525
3662583	KM80TSMSRNL19	A525
3662584	KM80TSMSRNL25	A525
3662585	KM80TSMSRNR19	A525
3662586	KM80TSMSRNR25	A525
3662587	KM80TSMSSNL25	A526
3662588	KM80TSMSSNR25	A526
3662590	KM20P	A186
3662591	KM2520P	A186
3662593	KM80TSMVUNL16	A527
3662594	KM80TSMVUNR16	A527
3662595	KM80TSMWLNL08	A527
3662596	KM80TSMWLNR08	A527
3662598	KM80TSPCLNL12	A528
3662599	KM80TSPCLNL16	A528
3662600	KM80TSPCLNL19	A528
3662601	KM80TSPCLNL25	A528
3662602	KM80TSPCLNR12	A528
3662603	KM80TSPCLNR16	A528
3662604	KM80TSPCLNR19	A528
3662605	KM80TSPCLNR25	A528
3662606	KM80TSPRDCN20	A528
3662607	KM80TSPRDCN25	A528
3662623	KM80TSPRGCL25	A529
3662624	KM80TSPRGCL32	A529
3662625	KM80TSPRGCR25	A529
3662626	KM80TSPRGCR32	A529
3662627	KM80TSPSDNN19	A529
3662628	KM80TSPSDNN25	A529
3662629	KM80TSPSRNL19	A530
3662630	KM80TSPSRNL25	A530
3662631	KM80TSPSRNR19	A530
3662632	KM80TSPSRNR25	A530
3662633	KM80TSPSSNL19	A530
3662634	KM80TSPSSNL25	A530
3662636	KM80TSPSSNR19	A530
3662637	KM80TSPSSNR25	A530
3662743	KM80ATCHPVTT12095M	A606
3662744	KM80ATCHPVTT12160M	A606
3662745	KM80ATCHPVTT14095M	A606
3662746	KM80ATCHPVTT16100M	A606
3662747	KM80ATCHPVTT18100M	A606
3662748	KM80ATCHPVTT18160M	A606
3662749	KM80ATCHPVTT20105M	A606
3662750	KM80ATCHPVTT25115M	A606
3662751	KM80ATCHPVTT32120M	A606
3662752	KM80ATCHPVTT40130M	A606
3662753	KM80ATCHPVTT50140M	A606
3662754	KM80ATCHPVTTHT12095M	A608
3662755	KM80ATCHPVTTHT12160M	A608
3662756	KM80ATCHPVTTHT14095M	A608
3662757	KM80ATCHPVTTHT16100M	A608
3662758	KM80ATCHPVTTHT18100M	A608
3662759	KM80ATCHPVTTHT18160M	A608
3662760	KM80ATCHPVTTHT20105M	A608
3662761	KM80ATCHPVTTHT25115M	A608
3662762	KM80ATCHPVTTHT32120M	A608
3663411	TW515R	L52
3665053	KM80TSNEL3	A531
3665054	KM80TSNER3	A531
3665055	KM80TSNEL4	A531
3665056	KM80TSNER4	A531
3665057	KM80TSNEL5	A531
3665058	KM80TSNER5	A531
3665059	KM80TSNEL6	A531
3665060	KM80TSNER6	A531
3668863	KM80TSNSL3	A531
3668864	KM80TSNSR3	A531
3668865	KM80TSNSL4	A531
3668866	KM80TSNSR4	A531
3668867	KM80TSNSL5	A531
3668868	KM80TSNSR5	A531
3668961	KM80TSS40060M	A550
3668963	KM80TSS50080M	A550
3668964	KM80TSS63080M	A550
3668965	KM80TSS80120M	A549
3668967	KM80TSS80160M	A549
3670057	KM80TSSTAL20	A517
3670058	KM80TSSTAL24	A517
3670059	KM80TSSTAL2525M	A517
3670060	KM80TSSTAL3232M	A517
3670061	KM80TSSTAR20	A517
3670062	KM80TSSTAR24	A517
3670073	KM80TSSTAR2525M	A517
3670074	KM80TSSTAR3232M	A517
3670078	KM80TSETAL16	A518
3670080	KM80TSETAL20	A518
3670082	KM80TSETAL24	A518
3670103	KM80TSETAL2525M	A518
3670104	KM80TSETAL3232M	A518
3670105	KM80TSETAR16	A518
3670106	KM80TSETAR20	A518
3670107	KM80TSETAR24	A518
3670108	KM80TSETAR2525M	A518
3670109	KM80TSETAR3232M	A518
3670114	KM80TSTG075160M	A542
3670115	KM80TSTG100100M	A542
3670116	KM80TSTG150125M	A542
3670133	KM80TSWN12075M	A545
3670134	KM80TSWN20085M	A545
3670135	KM80TSWN25100M	A545
3670136	KM80TSWN32105M	A545
3670301	KM80TSEM050354	A546
3670343	KM80TSEM062354	A546
3670344	KM80TSEM075354	A546
3670345	KM80TSEM088354	A546
3670346	KM80TSEM100354	A546
3670347	KM80TSEM125354	A546
3670348	KM80TSEM150382	A546
3670349	KM80TSEM200492	A546
3670350	KM80TSBA100276	A536
3670351	KM80TSBA125295	A536
3670352	KM80TSBA150413	A536
3670363	KM80TSBA200512	A536
3670367	KM80TSKGMEL50	A532
3670368	KM80TSKGMEL65	A532
3670369	KM80TSKGMER50	A532
3670370	KM80TSKGMER65	A532
3670371	KM80TSKGMSL50	A534
3670372	KM80TSKGMSL65	A535
3670383	KM80TSKGMSR50	A534
3670384	KM80TSKGMSR65	A535
3670392	KM80TSBA25075M	A536
3670423	KM80TSBA32075M	A536
3670424	KM80TSBA40105M	A536
3670508	KM80TSSMC100158	A547
3670509	KM80TSSMC125158	A547
3670510	KM80TSSMC125394	A547
3670511	KM80TSSMC150158	A547
3670512	KM80TSSMC200216	A547
3670533	KM80TSSMC250225	A547
3670534	KM80TSSMC250450	A547
3681408	KM80TSHPVTT10090M	A538
3681409	KM80TSHPVTT10170M	A538
3681410	KM80TSHPVTT12095M	A538
3681411	KM80TSHPVTT12160M	A538
3681412	KM80TSHPVTT14095M	A538
3682733	KM80TSHPVTT16100M	A538
3682734	KM80TSHPVTT18100M	A538
3682735	KM80TSHPVTT18160M	A538
3682736	KM80TSHPVTT20105M	A538
3682737	KM80TSHPVTT25115M	A538
3682738	KM80TSHPVTT32120M	A538
3682739	KM80TSHPVTT40130M	A538
3682740	KM80TSHPVTT50140M	A538
3682747	KM80TSHPVTTHT12095M	A540
3682748	KM80TSHPVTTHT12160M	A540
3682749	KM80TSHPVTTHT14095M	A540
3682750	KM80TSHPVTTHT16100M	A540
3682751	KM80TSHPVTTHT18100M	A540
3682752	KM80TSHPVTTHT18160M	A540
3682773	KM80TSHPVTTHT20105M	A540
3682774	KM80TSHPVTTHT25115M	A540
3682775	KM80TSHPVTTHT32120M	A540

Order No.	Catalog No.	Page(s)
3683038	KM80TSHPVTT050374	A539
3683039	KM80TSHPVTT056374	A539
3683040	KM80TSHPVTT062394	A539
3683041	KM80TSHPVTT062850	A539
3683042	KM80TSHPVTT075413	A539
3683339	KM80TSER20100M	A543
3683341	KM80TSER25100M	A544
3683342	KM80TSER32065M	A544
3683353	KM80TSER40090M	A544
3683354	KM80TSER32100M	A544
3683355	KM80TSER40140M	A544
3683463	KM80TSHPVTT075630	A539
3683464	KM80TSHPVTT088413	A539
3683465	KM80TSHPVTT100453	A539
3683466	KM80TSHPVTT125472	A539
3683467	KM80TSHPVTT150512	A539
3683468	KM80TSHPVTT200551	A539
3683469	KM80TSHPVTT031335	A539
3683470	KM80TSHPVTT038630	A539
3683471	KM80TSHPVTT044374	A539
3683472	KM80TSSMC27050M	A547
3683474	CV40BHPVTT025350	F7
3683476	CV40BHPVTT025600	F7
3683477	CV40BHPVTT031350	F7
3683478	CV40BHPVTT031600	F7
3683479	CV40BHPVTT038375	F7
3683480	CV40BHPVTT038600	F7
3683481	CV40BHPVTT044375	F7
3683482	CV40BHPVTT06M350	F6
3683483	KM80TSSMC32060M	A547
3683484	KM80TSSMC32100M	A547
3683485	KM80TSSMC40060M	A547
3683486	KM80TSSMC40100M	A547
3683487	KM80TSSMC50070M	A547
3683488	KM80TSSMC60070M	A547
3683493	CV40BHPVTT06M600	F6
3683494	CV40BHPVTT08M350	F6
3683495	CV40BHPVTT08M600	F6
3683496	CV40BHPVTT10M375	F6
3683497	CV40BHPVTT10M600	F6
3683498	CV50BHPVTT025350	F45
3683499	CV50BHPVTT025800	F45
3683500	CV50BHPVTT031350	F45
3683501	CV50BHPVTT031800	F45
3683502	CV50BHPVTT038375	F45
3683503	CV50BHPVTT038800	F45
3683504	CV50BHPVTT044375	F45
3683505	CV50BHPVTT044800	F45
3683506	CV50BHPVTT150450	F45
3683507	CV50BHPVTT200450	F45
3683508	CV50BHPVTT06M350	F44
3683509	CV50BHPVTT06M800	F44
3683510	CV50BHPVTT08M350	F44
3683511	CV50BHPVTT08M800	F44
3683512	CV50BHPVTT10M375	F44
3683513	CV50BHPVTT10M800	F44
3683514	CV40ZTTHT050275	F9
3683516	CV40ZTTHT075275	F9
3683878	KM80TSEM12070M	A546
3683879	KM80TSEM14070M	A546
3683880	KM80TSEM16070M	A546
3683881	KM80TSEM18070M	A546
3683882	KM80TSEM20070M	A546
3683903	KM80TSEM25090M	A546
3683904	KM80TSEM32090M	A546
3683905	KM80TSEM40100M	A546
3683935	KM80TSSSF075350	A549
3683936	KM80TSSSF100450	A549
3683937	KM80TSSSF125500	A549
3683938	KM80TSSSF150550	A549
3683939	KM80TSSSF200650	A549
3684074	KM80TSHPVTTHT050374	A541
3684075	KM80TSHPVTTHT056374	A541
3684076	KM80TSHPVTTHT062394	A541
3684077	KM80TSHPVTTHT062850	A541
3684078	KM80TSHPVTTHT075413	A541
3684079	KM80TSHPVTTHT075630	A541
3684080	KM80TSHPVTTHT088413	A541
3684081	KM80TSHPVTTHT100453	A541
3684082	KM80TSHPVTTHT125472	A541
3684524	KM80ATCMCKNL25	A597
3734753	KM80TSESL63105M	A550
3734754	KM80TSESR63105M	A550
3735627	KM1612NCMSF2127	A68
3735628	KM2016NCMSF2533	A68
3735656	KM80TSCS32050M	A548
3735658	KM80TSCS40060M	A548
3738085	KM50TSDSDNN12KC04	A350
3738086	KM50TSDSKNL12KC04	A351
3738087	KM50TSDSKNR12KC04	A351
3738088	KM50TSDSRNL12KC04	A352
3738089	KM50TSDSRNR12KC04	A352
3738090	KM50TSDSSNL12KC04	A353
3738091	KM50TSDSSNR12KC04	A353
3738137	KM50TSMCKNL12	A358
3738138	KM50TSMCKNL16	A358
3738139	KM50TSMCKNR12	A358
3738140	KM50TSMCKNR16	A358
3738141	KM50TSMCLNL12	A358
3738142	KM50TSMCLNL16	A358
3738149	KM50TSMDJNL1504	A360
3738150	KM50TSMDJNL1506	A360
3738151	KM50TSMDJNR1504	A360
3738152	KM50TSMDJNR1506	A360
3738153	KM50TSMDJNR1906	A360
3738154	KM50TSMDMNL1504	A369
3738155	KM50TSMDMNL1506	A369
3738157	KM50TSDTFNL22KC04055M	A354
3738158	KM50TSDTFNR22KC04055M	A354
3738159	KM50TSDTGNL22KC04	A355
3738160	KM50TSDTGNR22KC04	A355
3738161	KM50TSDTJNL22KC04	A356
3738162	KM50TSDTJNR22KC04	A356
3738163	KM50TSMCLNL19	A358
3738164	KM50TSMCLNR12	A358
3738165	KM50TSMCLNR16	A358
3738166	KM50TSMCLNR19	A358
3738167	KM50TSMCMNN12	A368
3738177	KM50TSDWLNL08KC04	A357
3738178	KM50TSDWLNR08KC04	A357
3738179	KM50TSMCRNL12	A360
3738181	KM50TSMCRNL16	A360
3738182	KM50TSMCRNR12	A360
3738183	KM50TSMCRNR19	A360
3738456	KM50TSDCLNL12KC04	A345
3738457	KM50TSDCLNR12KC04	A345
3738458	KM50TSDCLNL16KC06	A345
3738459	KM50TSDCLNR16KC06	A345
3738460	KM50TSDCRNL12KC04	A346
3738461	KM50TSDCRNR12KC04	A346
3738484	KM50TSMRGNL12	A362
3738485	KM50TSMRGNR12	A362
3738489	KM50TSMDPNN1504	A361
3738509	KM50TSMDPNN1506	A361
3738513	KM50TSPCKNL12	A370
3738514	KM50TSPCKNR12	A370
3738515	KM50TSMDQNL1504	A361
3738516	KM50TSPCLNL12	A371
3738517	KM50TSPCLNR12	A371
3738518	KM50TSPCLNL16	A371
3738519	KM50TSMDQNL1506	A361
3738520	KM50TSPCLNR16	A371
3738522	KM50TSMDQNR1504	A361
3738524	KM50TSMDQNR1506	A361
3738526	KM50TSMDUNL1504	A362
3738528	KM50TSMDUNL1506	A362
3738529	KM50TSMDUNR1504	A362
3738530	KM50TSMDUNR1506	A362
3738557	KM50TSMVHNL16	A366
3738558	KM50TSMVHNR16	A366
3738559	KM50TSMVJNL16	A367
3738560	KM50TSMVJNR16	A367
3738561	KM50TSMVMNL16	A369
3738562	KM50TSMVUNL16	A367
3738567	KM50TSMSDNN12	A363
3738568	KM50TSMSKNL12	A363
3738569	KM50TSMSKNL15	A363
3738571	KM50TSMSKNL19	A363
3738572	KM50TSMSKNR12	A363
3738583	KM50TSMSKNR15	A363
3738585	KM50TSMSKNR19	A363
3738587	KM50TSMTFNR16	A365
3738588	KM50TSMTFNR22	A365
3738589	KM50TSMTJNL16	A365
3738590	KM50TSMTJNR16	A365
3738591	KM50TSMTUNL16	A366
3738592	KM50TSMSRNL12	A364
3738593	KM50TSMVUNR16	A367
3738595	KM50TSMWLNL08	A368
3738596	KM50TSMWLNR08	A368
3738597	KM50TSMWMNL08	A370
3738598	KM50TSMWMNR08	A370
3738613	KM50TSMSRNL15	A364
3738614	KM50TSMSRNL19	A364
3738615	KM50TSMSRNR12	A364
3738616	KM50TSMSRNR15	A364
3738617	KM50TSMSRNR19	A364
3738618	KM50TSMSSNL12	A364
3738619	KM50TSMSSNL15	A364
3738620	KM50TSMSSNL19	A364
3738621	KM50TSMSSNR12	A364
3738622	KM50TSMSSNR15	A364
3738623	KM50TSMSSNR19	A364
3741357	KM50TSDDJNL15KC04060M	A347
3741358	KM50TSDDJNL15KC06060M	A347
3741359	KM50TSDDJNR15KC04060M	A347
3741360	KM50TSDDJNR15KC06060M	A347
3741361	KM50TSDDQNL15KC04	A348
3741362	KM50TSPDJNL11	A371
3741383	KM50TSDDQNL15KC06	A348
3741384	KM50TSDDQNR15KC04	A348
3741385	KM50TSDDQNR15KC06	A348
3741386	KM50TSDDUNL15KC04	A349
3741387	KM50TSDDUNL15KC06	A349
3741388	KM50TSPDJNL15	A371
3741389	KM50TSDDUNR15KC04	A349
3741390	KM50TSPDJNR11	A371
3741391	KM50TSDDUNR15KC06	A349
3741392	KM50TSPDJNR15	A371
3741393	KM50TSPDNNL15	A372
3741394	KM50TSPDNNR15	A372
3741395	KM50TSPDQNL11	A372
3741396	KM50TSPDQNR11	A372
3741397	KM50TSPDUNL15	A373
3741398	KM50TSPDUNR15	A373
3741399	KM50TSPDXNL15	A373
3741400	KM50TSPDXNR15	A373
3741453	KM2016ER08025C	A113
3741454	KM2016ER11030C	A113
3741455	KM2016ER16040C	A113
3741456	KM2016ER20045C	A113
3746472	TBWL5H	L53
3746593	KM50TSSCLCL12	A376
3746594	KM50TSSCLCR12	A376
3746595	KM50TSSRGCR12	A377
3746596	KM50TSSVJBL16	A377
3746597	KM50TSSVJBR16	A377
3746726	KM50TSCCLNL12	A378
3746732	KM50TSCCLNR12	A378
3746735	KM50TSCRGNL12	A378
3746739	KM50TSCRGNR12	A378
3746966	KM50TSCCLNL12MX7	A379
3746972	KM50TSCCLNR12MX7	A379
3746975	KM50TSCDQNL12MX7	A379
3746978	KM50TSCDQNR12MX7	A379
3746980	KM50TSCSDNN12MX7	A380
3746984	KM50TSCSKNL12MX7	A380
3746986	KM50TSCSKNR12MX7	A380
3746989	KM50TSCSSNL12MX7	A381
3746992	KM50TSCSSNR12MX7	A381
3746996	KM50TSCSXNL12MX7	A381
3746998	KM50TSCSXNR12MX7	A381
3747001	KM50TSCSYNL12MX7	A382
3747004	KM50TSCSYNR12MX7	A382
3747064	KM50TSNVHCL16	A383
3747065	KM50TSNVHCR16	A383
3747066	KM50TSNVJCL16	A383
3747067	KM50TSNVJCR16	A383
3747068	KM50TSNVQCL16	A384
3747069	KM50TSNVQCR16	A384
3747070	KM50TSNVUCL16	A384
3747071	KM50TSNVUCR16	A384
3747117	KM50TSBEL	A391
3747118	KM50TSBER	A391
3747119	KM50TSS40LMWLNL08	A396
3747120	KM50TSS40LMWLNR08	A396
3747121	KM50TSS25JMWLNR08	A396
3747122	KM50TSS25JMWLNL08	A396
3747123	KM50TSS32KMWLNR08	A396
3747129	KM50TSKGMSR50	A390
3747130	KM50TSKGMSL50	A390
3747132	KM50TSKGMEL50	A389
3747133	KM50TSKGMER50	A389
3747134	KM50TSKGMSR65	A390
3747135	KM50TSKGMSL65	A390
3747136	KM50TSKGMER65	A389
3747137	KM50TSKGMEL65	A389
3750031	BT50BSMC16045M	E86
3750032	BT50BSM2C16045M	E86
3750033	BT50BSMC16100M	E86
3750034	BT50BSM2C16100M	E86
3750035	BT50BSMC16150M	E86
3750036	BT50BSM2C16150M	E86
3750037	BT50BSMC22045M	E86
3750038	BT50BSM2C22045M	E86
3750039	BT50BSMC22100M	E86
3750040	BT50BSM2C22100M	E86
3750041	BT50BSMC22150M	E86
3750042	BT50BSM2C22150M	E86
3750043	BT50BSMC27045M	E87
3750044	BT50BSMC27100M	E87
3750045	BT50BSMC27150M	E87
3750046	BT50BSMC32045M	E87
3750047	BT50BSMC32100M	E87
3750048	BT50BSMC32150M	E87
3750049	BT50BSMC40050M	E87
3750050	BT50BSMC40100M	E87
3750051	BT50BSMC40150M	E87
3750052	BT50BSMC60090M	E87
3752222	BT30SMC16035M	E16
3752223	BT30SM2C16035M	E16
3752224	BT30SMC16050M	E16
3752225	BT30SM2C16050M	E16
3752226	BT30SMC22040M	E16
3752227	BT30SM2C22040M	E16
3752228	BT30SMC22050M	E16
3752229	BT30SM2C22050M	E16
3752230	BT30SMC27045M	E17
3752231	BT40BSMC16050M	E50
3752232	BT40BSM2C16050M	E50
3752233	BT40BSMC16075M	E50
3752234	BT40BSM2C16075M	E50
3752235	BT40BSMC16100M	E50
3752236	BT40BSM2C16100M	E50
3752237	BT40BSMC22055M	E50
3752238	BT40BSM2C22055M	E50
3752239	BT40BSMC22100M	E50
3752241	BT40BSM2C22100M	E50
3752242	BT40BSMC22150M	E50
3752243	BT40BSM2C22150M	E50
3752244	BT40BSMC27055M	E51
3752245	BT40BSMC27100M	E51
3752246	BT40BSMC27150M	E51
3752247	BT40BSMC32060M	E51
3752248	BT40BSMC32100M	E51
3752249	BT40BSMC40060M	E51
3752250	BT40BSMC40100M	E51
3752976	KM50TSPSRNL12	A375
3752977	KM50TSPSRNR12	A375
3752978	KM50TSPSRNL15	A375
3752979	KM50TSPSRNR15	A375
3752980	KM50TSPSDNN12	A374
3752981	KM50TSPSDNN15	A374
3752982	KM50TSPSKNL12	A374
3753153	KM50TSPSKNR12	A374
3753154	KM50TSPSKNL15	A374
3753155	KM50TSPSKNR15	A374
3753156	KM50TSPSSNL12	A375
3753157	KM50TSPSSNR12	A375
3753158	KM50TSPWLNL08	A376
3753159	KM50TSPWLNR08	A376
3753480	KM50TSS40HMDUNL15	A394–395
3753485	KM50TSS40HMDUNR15	A394–395
3753488	KM50TSS40JMDUNL15	A394–395
3753490	KM50TSS40JMDUNR15	A394–395
3753492	KM50TSS40LMDUNL15	A394–395
3753493	KM50TSS40LMDUNR15	A394–395
3753565	KM50TSLSEL16E	A386

Order No.	Catalog No.	Page(s)
3753566	KM50TSLSER16E	A386
3753567	KM50TSLSER16N	A387
3753568	KM50TSLSER22N	A387
3753569	KM50TSLSSL16	A388
3753570	KM50TSLSSR16	A388
3753571	KM50TSLSSR22	A388
3753572	KM50TSNEL3	A385
3753583	KM50TSNEL4	A385
3753584	KM50TSNER3	A385
3753585	KM50TSNER4	A385
3753586	KM50TSNRL3	A385
3753587	KM50TSNRR3	A385
3753588	KM50TSNSL3	A386
3753589	KM50TSNSL4	A386
3753590	KM50TSNSR3	A386
3753591	KM50TSNSR4	A386
3753597	KM50TSS25DMDUNL15	A394–395
3753598	KM50TSS25DMDUNR15	A394–395
3753599	KM50TSS25EMDUNL15	A394–395
3753600	KM50TSS25JMDUNL15	A394–395
3753601	KM50TSS25JMDUNR15	A394–395
3753602	KM50TSS32FMDUNL15	A394–395
3753603	KM50TSS32FMDUNR15	A394–395
3753604	KM50TSS32GMDUNL15	A394–395
3753605	KM50TSS32GMDUNR15	A394–395
3753606	KM50TSS32KMDUNL15	A394–395
3753607	KM50TSS32KMDUNR15	A394–395
3753667	KM50TSS40HMCLNL12	A392–393
3753668	KM50TSS40HMCLNR12	A392–393
3753669	KM50TSS40JMCLNL12	A392–393
3753670	KM50TSS40JMCLNR12	A392–393
3753671	KM50TSS40LMCLNL12	A392–393
3753672	KM50TSS40LMCLNL16	A392–393
3753683	KM50TSS40LMCLNR12	A392–393
3753684	KM50TSS40LMCLNR16	A392–393
3753685	KM50TSS50LMCLNL12	A392–393
3753686	KM50TSS50LMCLNR12	A392–393
3753687	KM50TSS25DMCLNL12	A392–393
3753688	KM50TSS25DMCLNR12	A392–393
3753689	KM50TSS25EMCLNL12	A392–393
3753690	KM50TSS25EMCLNR12	A392–393
3753691	KM50TSS25JMCLNL12	A392–393
3753692	KM50TSS25JMCLNR12	A392–393
3753693	KM50TSS32FMCLNL12	A392–393
3753694	KM50TSS32FMCLNR12	A392–393
3753695	KM50TSS32GMCLNL12	A392–393
3753696	KM50TSS32GMCLNR12	A392–393
3753697	KM50TSS32KMCLNL12	A392–393
3753698	KM50TSS32KMCLNR12	A392–393
3758113	KM80ATCMCKNR25	A597
3762349	HSK40ASMC050200	C20
3762350	HSK40ASM2C050200	C20
3762351	HSK40ASMC075200	C20
3762352	HSK40ASM2C075200	C20
3762403	HSK40ASMC100200	C20
3762404	HSK40ASM2C100200	C20
3762405	HSK50ASMC050200	C30
3762406	HSK50ASM2C050200	C30
3762409	HSK63ASMC050200	C66
3762410	HSK63ASM2C050200	C66
3762411	HSK63ASMC075200	C66
3762412	HSK63ASM2C075200	C66
3762413	HSK63ASMC100225	C66
3762414	HSK63ASM2C100225	C66
3762415	HSK63ASMC125225	C66
3762416	HSK63ASMC150225	C66
3762419	HSK40ESMC050200	C152
3762420	HSK40ESM2C050200	C152
3762421	HSK40ESMC075200	C152
3762422	HSK40ESM2C075200	C152
3762771	HSK80ASMC075225	C88
3762772	HSK80ASM2C075225	C88
3763063	HSK80ASMC100225	C88
3763064	HSK80ASM2C100225	C88
3763065	HSK80ASMC125250	C88
3763066	HSK80ASMC150250	C88
3763067	HSK80ASMC200250	C88
3763068	HSK80ASMC250250	C88
3763069	HSK80FPSMC075200	C165
3763070	HSK80FPSM2C075200	C165
3763071	HSK100ASMC075225	C115
3763072	HSK100ASM2C075225	C115
3763073	HSK100ASMC100225	C115
3763074	HSK100ASM2C100225	C115
3763075	HSK100ASMC125250	C115
3763076	HSK100ASMC150250	C115
3763077	HSK100ASMC200250	C115
3763078	HSK100ASMC250250	C115
3767815	DV40BSMC16035M	G32
3767816	DV40BSM2C16035M	G32
3767817	DV40BSMC16100M	G32
3767818	DV40BSM2C16100M	G32
3767819	DV40BSMC22035M	G32
3767820	DV40BSM2C22035M	G32
3767821	DV40BSMC22100M	G32
3767822	DV40BSM2C22100M	G32
3767833	DV40BSMC27035M	G33
3767834	DV40BSMC27100M	G33
3767835	DV40BSMC32050M	G33
3767836	DV40BSMC32100M	G33
3767837	DV40BSMC40050M	G33
3767838	DV40BSMC40100M	G33
3767839	DV50BSMC16035M	G68
3767840	DV50BSM2C16035M	G68
3767841	DV50BSMC16100M	G68
3767842	DV50BSM2C16100M	G68
3767843	DV50BSMC22035M	G68
3767844	DV50BSM2C22035M	G68
3767845	DV50BSMC22100M	G68
3767846	DV50BSM2C22100M	G68
3767847	DV50BSMC22150M	G68
3767848	DV50BSM2C22150M	G68
3767849	DV50BSMC27035M	G69
3767850	DV50BSMC27100M	G69
3767851	DV50BSMC27150M	G69
3767852	DV50BSMC32035M	G69
3767853	DV50BSMC32100M	G69
3767854	DV50BSMC32150M	G69
3767855	DV50BSMC40050M	G69
3767856	DV50BSMC40100M	G69
3767857	DV50BSMC40150M	G69
3767858	DV50BSMC60070M	G69
3768909	KM63TSD32TTB6	A494
3768910	KM63TSD24TTB9	A494
3768911	KM63TSD32TTB12	A494
3768912	KM63TSD40TTB15	A494
3768933	KM63TSD28TTB14	A494
3768934	KM63TSD32TTB16	A494
3768935	KM63TSD40TTB20	A494
3781676	MS1322	A160
3782116	BT30HPVTT06075M	E4
3782117	BT30HPVTT08075M	E4
3782118	BT30HPVTT10075M	E4
3782119	BT30HPVTT025295	E5
3782120	BT30HPVTT031295	E5
3782121	BT30HPVTT038295	E5
3782122	BT30HPVTT044295	E5
3782133	BT40BHPVTT06090M	E24
3782134	BT40BHPVTT06120M	E24
3782135	BT40BHPVTT06160M	E24
3782136	BT40BHPVTT08090M	E24
3782137	BT40BHPVTT08120M	E24
3782138	BT40BHPVTT08160M	E24
3782139	BT40BHPVTT10090M	E24
3782140	BT40BHPVTT10120M	E24
3782141	BT40BHPVTT10160M	E24
3782142	BT40BHPVTT025354	E25
3782143	BT40BHPVTT025630	E25
3782144	BT40BHPVTT031354	E25
3782145	BT40BHPVTT031630	E25
3782146	BT40BHPVTT038354	E25
3782147	BT40BHPVTT038630	E25
3782148	BT40BHPVTT044354	E25
3782149	BT50BHPVTT06100M	E66
3782150	BT50BHPVTT06160M	E66
3782151	BT50BHPVTT08100M	E66
3782152	BT50BHPVTT08160M	E66
3782153	BT50BHPVTT10100M	E66
3782154	BT50BHPVTT10160M	E66
3782155	BT50BHPVTT025394	E67
3782156	BT50BHPVTT025787	E67
3782157	BT50BHPVTT031394	E67
3782158	BT50BHPVTT031787	E67
3782159	BT50BHPVTT038394	E67
3782160	BT50BHPVTT038787	E67
3782161	BT50BHPVTT044394	E67
3783935	BT40BKM32040M	E59
3783945	BT40BKM32090M	E59
3783946	BT40BKM40040M	E59
3783947	BT40BKM40100M	E59
3783948	BT40BKM50060M	E59
3783949	BT40BKM50120M	E59
3783950	BT50BKM32040M	E94
3783951	BT50BKM32090M	E94
3783952	BT50BKM40060M	E94
3783953	BT50BKM40100M	E94
3783954	BT50BKM50060M	E94
3783955	BT50BKM50120M	E94
3783956	BT50BKM63060M	E94
3783957	BT50BKM63140M	E94
3783958	BT50BKM80080M	E94
3789270	KM50TSS25GPCLNL12	A397
3789271	KM50TSS25JPCLNL12	A397
3789272	KM50TSS25JPCLNR12	A397
3789293	KM50TSS32KPCLNL12	A397
3789294	KM50TSS32KPCLNR12	A397
3789295	KM50TSS40LPWLNL08	A398
3789296	KM50TSS40LPWLNR08	A398
3789364	KM50TSDA188075M	A416–417
3789365	KM50TSDA208060M	A416–417
3789875	KM50TSE10FSCLPL06	A400
3789876	KM50TSE10FSCLPR06	A400
3789877	KM50TSE12GSCLPL06	A400
3789878	KM50TSE12GSCLPR06	A400
3789879	KM50TSE16JSCLPL09	A400
3789880	KM50TSE16JSCLPR09	A400
3789881	KM50TSE20LSCLPL09	A400
3789882	KM50TSE20LSCLPR09	A400
3789937	KM50TSBA06217	A409
3789938	KM50TSBA08236	A409
3789939	KM50TSBA10256	A409
3789940	KM50TSBA12276	A409
3789941	KM50TSBA16276	A409
3790097	DV40BHPVTT06080M	G6
3790098	DV40BHPVTT06120M	G6
3790099	DV40BHPVTT06160M	G6
3790100	DV40BHPVTT08080M	G6
3790101	DV40BHPVTT08120M	G6
3790102	DV40BHPVTT08160M	G6
3790203	DV40BHPVTT10080M	G6
3790204	DV40BHPVTT10120M	G6
3790205	DV40BHPVTT10160M	G6
3790206	DV50BHPVTT06080M	G46
3790207	DV50BHPVTT06120M	G46
3790208	DV50BHPVTT06160M	G46
3790209	DV50BHPVTT08080M	G46
3790210	DV50BHPVTT08120M	G46
3790211	DV50BHPVTT08160M	G46
3790212	DV50BHPVTT10080M	G46
3790213	DV50BHPVTT10120M	G46
3790214	DV50BHPVTT10160M	G46
3790287	KM50TSBAI20315	A410
3790288	KM50TSBAI24354	A410
3790289	KM50TSBAI32080M	A410
3790290	KM50TSBAI40090M	A410
3790291	KM50TSS16FNEL2	A406–407
3790547	KM50TSBA06045M	A409
3790548	KM50TSBA08045M	A409
3790549	KM50TSBA10055M	A409
3790550	KM50TSBA12060M	A409
3790551	KM50TSBA16065M	A409
3790552	KM50TSBA20070M	A409
3790573	KM50TSBA25070M	A409
3790583	KM50TSS16FNER2	A406–407
3790584	KM50TSS12ENEL2	A406–407
3790585	KM50TSS12ENER2	A406–407
3790586	KM50TSS20HNEL2	A406–407
3790587	KM50TSS20HNER2	A406–407
3790588	KM50TSS25JNEL3	A406–407
3790589	KM50TSS25JNER3	A406–407
3790590	KM50TSS32GNEL3	A406–407
3790591	KM50TSS32GNER3	A406–407
3790592	KM50TSS32KNEL3	A406–407
3790593	KM50TSS32KNER3	A406–407
3790594	KM50TSS40JNEL4	A406–407
3790595	KM50TSS40JNER4	A406–407
3790596	KM50TSS40LNEL3	A406–407
3790597	KM50TSS40LNEL4	A406–407
3790598	KM50TSS40LNER3	A406–407
3790599	KM50TSS40LNER4	A406–407
3790600	KM50TSTG075336	A413
3790601	KM50TSTG075080M	A412
3790602	KM50TSTG100110M	A412
3790613	KM50TSTG100457	A413
3795029	KM50TSER25050M	A414
3795030	KM50TSER32060M	A414
3795031	KM50TSER40070M	A414
3795102	KM50TSWN06065M	A418
3795103	KM50TSWN08065M	A418
3795104	KM50TSWN10070M	A418
3795105	KM50TSWN12080M	A418
3795106	KM50TSWN14080M	A418
3795107	KM50TSWN16085M	A418
3795108	KM50TSWN18085M	A418
3795109	KM50TSWN20095M	A418
3795110	KM50TSWN25100M	A418
3795111	KM50TSWN32105M	A418
3798342	BT40BER25150M	E37
3798343	BT40BER32150M	E37
3812593	KM50TSE16JSDUPL07	A401
3812594	KM50TSE16JSDUPR07	A401
3812595	KM50TSE20LSDUPL11	A401
3812596	KM50TSE20LSDUPR11	A401
3812597	KM50TSE12GSTFPR11	A402
3812598	KM50TSE12GSTFPL11	A402
3812599	KM50TSE16JSTFPR11	A402
3812600	KM50TSE16JSTFPL11	A402
3812617	KM50TSEM10050M	A419
3812618	KM50TSEM12055M	A419
3812619	KM50TSEM16060M	A419
3812620	KM50TSEM20060M	A419
3812621	KM50TSEM25080M	A419
3812622	KM50TSEM32085M	A419
3812635	KM50TSEM038197	A419
3812636	KM50TSEM050216	A419
3812637	KM50TSEM062236	A419
3812638	KM50TSEM075236	A419
3812639	KM50TSEM100335	A419
3812640	KM50TSEM125335	A419
3815241	CVKV40BKM32150	D51
3815242	CVKV40BKM32350	D51
3815265	CVKV50BKM32150	D66
3815266	CVKV50BKM32350	D66
3815267	CVKV50BKM40175	D66
3815268	CVKV50BKM40400	D66
3815269	CVKV50BKM50225	D66
3815270	CVKV50BKM50475	D66
3815271	CVKV50BKM63225	D66
3815272	CVKV50BKM63550	D66
3815301	BTKV50BKM32060M	D36
3815302	BTKV50BKM32090M	D36
3815303	CVKV50BKM80325	D66
3815310	CVKV40BB400600	D51
3815311	CVKV40BB400120	D51
3815313	CVKV40BKM40175	D51
3815314	CVKV40BKM40400	D51
3815315	CVKV40BKM50350	D51
3815316	CVKV40BKM50475	D51
3815333	BTKV50BKM40065M	D36
3815334	BTKV50BKM40100M	D36
3815335	BTKV50BKM50070M	D36
3815336	BTKV50BKM50120M	D36
3815337	BTKV50BKM63080M	D36
3815338	BTKV50BKM63140M	D36
3815339	BTKV50BKM80090M	D36
3815343	CVKV50BB400600	D67
3815344	CVKV50BB600600	D67
3815345	CVKV50BB600120	D67
3815346	CVKV50BB400120	D67
3815352	BTKV40BB063280M	D19
3822963	BTKV40BKM32050M	D18, D19
3822964	BTKV40BKM32090M	D18
3822965	BTKV40BKM40055M	D18
3822966	BTKV40BKM40100M	D18
3822967	BTKV40BKM50065M	D18
3822968	BTKV40BKM50120M	D18
3830226	BTKV50BB104350M	D37
3830227	BTKV50BB134250M	D37

Order No.	Catalog No.	Page(s)
3836819	KM2016BN3035	A115
3836820	KM1612BN2430	A115
3836821	KM2016BN2060	A115
3836822	KM1612BN1650	A115
3838383	KM50TSMCRNR16	A360
3838384	KM50TSMCRNL19	A360
3838530	KM50TSMTFNL16	A365
3838532	KM50TSMTFNL22	A365
3838582	KM50TSSRGCL12	A377
3838705	KM50TSS20HLSER16	A408
3838706	KM50TSS25JLSEL16	A408
3838708	KM50TSS32KLSEL16	A408
3838709	KM50TSS32KLSER16	A408
3838710	KM50TSS40LLSER16	A408
3838711	KM50TSS40LLSER22	A408
3838715	KM50TSS32GSCLCL12	A399
3838724	KM50TSS25JLSER16	A408
3847457	BT30ER16150M	E10
3847458	BT30ER20100M	E10
3847459	BT30ER32100M	E11
3847460	BT30ER40100M	E11
3847461	BT40BER16150M	E36
3847462	BT40BER20060M	E36
3847513	BT40BER20120M	E36
3847514	BT40BER20150M	E36
3847515	BT50BER20100M	E78
3847516	BT50BER20150M	E78
3847517	BT50BER40200M	E79
3851266	KM50TSBN105062M	A428
3851267	KM50TSBN73135M	A428
3851268	KM50TSBN75062M	A428
3851786	KM12WSJ15EL20	A89
3851787	KM12WSJ15ER20	A89
3851788	KM12WSK15EL20	A90
3851789	KM12WSK15ER20	A90
3852030	PSC63KM40TS065M	A619
3852031	PSC63KM50TS075M	A619
3852032	PSC63KM63TS090M	A619
3852063	PSC63KM40TS090M	A619
3852064	PSC63KM50TS090M	A619
3852065	PSC63KM63TS105M	A619
3853186	TTISG3200LCPCCKM50	L5, L9
3853187	TTISG3200LCPCCKM63	L5, L9
3853188	TTISG3200LCPCCKM80	L5, L9
3854807	BTKV40BHPVTT06090M	D4
3854808	BTKV40BHPVTT08090M	D4
3854809	BTKV40BHPVTT10090M	D4
3854810	BTKV40BHPVTT12090M	D4
3854811	BTKV40BHPVTT14090M	D4
3854812	BTKV40BHPVTT16090M	D4
3854823	BTKV40BHPVTT18090M	D4
3854824	BTKV40BHPVTT20090M	D4
3854825	BTKV40BHPVTT25100M	D4
3854826	BTKV40BHPVTT32105M	D4
3854827	BTKV40BHPVTTHT12090M	D6
3854828	BTKV40BHPVTTHT14090M	D6
3854829	BTKV40BHPVTTHT16090M	D6
3854830	BTKV40BHPVTTHT18090M	D6
3854831	BTKV40BHPVTTHT20090M	D6
3854832	BTKV40BHPVTTHT25100M	D6
3854833	BTKV40BHPVTTHT32105M	D6
3855796	CM234R ASSY	A265–277, A345–357, A434–446, A519–520, A593–596
3856539	BTKV50BEM06063M	D30
3856541	BTKV50BEM08063M	D30
3856542	BTKV50BEM10080M	D30
3856563	BTKV50BEM12080M	D30
3856564	BTKV50BEM14080M	D30
3856565	BTKV50BEM16080M	D30
3856566	BTKV50BEM18080M	D30
3856567	BTKV50BEM20080M	D30
3856568	BTKV50BEM25105M	D30
3856569	BTKV50BEM32105M	D30
3856570	BTKV50BEM40120M	D30
3856571	BTKV50BEM50130M	D30
3856572	BTKV50BEM050300	D31
3856573	BTKV50BEM075400	D31
3856574	BTKV50BEM100400	D31
3856575	BTKV50BEM125400	D31
3856576	BTKV50BEM150450	D31
3856577	BTKV50BEM200550	D31
3856578	BTKV40BEM06050M	D12
3856579	BTKV40BEM08050M	D12
3856580	BTKV40BEM10063M	D12
3856581	BTKV40BEM12063M	D12
3856582	BTKV40BEM14063M	D12
3856583	BTKV40BEM16063M	D12
3856584	BTKV40BEM18063M	D12
3856585	BTKV40BEM20063M	D12
3856586	BTKV40BEM25090M	D12
3856587	BTKV40BEM025250	D13
3856588	BTKV40BEM031250	D13
3856589	BTKV40BEM038250	D13
3856590	BTKV40BEM050300	D13
3856591	BTKV40BEM062300	D13
3856592	BTKV40BEM075400	D13
3856593	BTKV40BEM088400	D13
3856594	BTKV40BEM100400	D13
3856595	BTKV40BEM125400	D13
3856633	BTKV50BHPVTT06100M	D22
3856634	BTKV50BHPVTT08100M	D22
3856635	BTKV50BHPVTT10100M	D22
3856636	BTKV50BHPVTT12100M	D22
3856637	BTKV50BHPVTT14100M	D22
3856638	BTKV50BHPVTT16100M	D22
3856639	BTKV50BHPVTT18100M	D22
3856640	BTKV50BHPVTT20100M	D22
3856641	BTKV50BHPVTT25100M	D22
3856642	BTKV50BHPVTT32100M	D22
3856643	BTKV50BHPVTTHT12100M	D24
3856644	BTKV50BHPVTTHT14100M	D24
3856645	BTKV50BHPVTTHT16100M	D24
3856646	BTKV50BHPVTTHT18100M	D24
3856647	BTKV50BHPVTTHT20100M	D24
3856648	BTKV50BHPVTTHT25100M	D24
3856649	BTKV50BHPVTTHT32100M	D24
3856650	BTKV40BTG075070M	D8
3856651	BTKV40BTG100080M	D8
3856652	BTKV40BTG100100M	D8
3856663	BTKV40BTG100150M	D8
3856664	BTKV40BTG150110M	D8
3856665	BTKV50BTG100090M	D26
3856666	BTKV50BTG100150M	D26
3856667	BTKV50BTG150100M	D26
3856668	BTKV50BTG150150M	D26
3857068	BTKV50BSMC16045M	D34
3857069	BTKV50BSM2C16045M	D34
3857070	BTKV50BSMC22045M	D34
3857071	BTKV50BSM2C22045M	D34
3857072	BTKV50BSMC27045M	D34
3857088	BTKV40BER16060M	D10
3857089	BTKV40BER16120M	D10
3857090	BTKV40BER20060M	D10
3857091	BTKV40BER20120M	D10
3857092	BTKV40BER25070M	D11
3857093	BTKV50BSMC32045M	D34
3857094	BTKV50BSMC40050M	D34
3857095	BTKV50BSMC60090M	D34
3857096	BTKV50BSMC075200	D35
3857097	BTKV50BSM2C075200	D35
3857098	BTKV50BSMC100200	D35
3857099	BTKV50BSM2C100200	D35
3857100	BTKV50BSMC125200	D35
3857101	BTKV50BSMC150200	D35
3857102	BTKV50BSMC200300	D35
3857103	BTKV50BSMC250300	D35
3857108	BTKV40BSMC16050M	D16
3857109	BTKV40BSM2C16050M	D16
3857110	BTKV40BSMC22055M	D16
3857111	BTKV40BSM2C22055M	D16
3857112	BTKV40BSMC27055M	D16
3857123	BTKV40BER25120M	D11
3857124	BTKV40BER32070M	D11
3857125	BTKV40BER32120M	D11
3857126	BTKV40BER40080M	D11
3857127	BTKV40BER40120M	D11
3857128	BTKV50BER16100M	D28
3857129	BTKV50BER16150M	D28
3857130	BTKV50BER20070M	D28
3857131	BTKV50BER20150M	D28
3857132	BTKV50BER25070M	D29
3857133	BTKV50BER25150M	D29
3857134	BTKV50BER32070M	D29
3857135	BTKV50BER32150M	D29
3857136	BTKV50BER40080M	D29
3857137	BTKV50BER40150M	D29
3857163	BTKV40BSMC32060M	D16
3857165	BTKV40BSMC050175	D17
3857166	BTKV40BSM2C050175	D17
3857167	BTKV40BSMC075200	D17
3857168	BTKV40BSM2C075200	D17
3857169	BTKV40BSMC100200	D17
3857170	BTKV40BSM2C100200	D17
3857171	BTKV40BSMC125200	D17
3857172	BTKV40BSMC150200	D17
3858932	KM63XMZHPVTT025315Y	A573
3858943	KM63XMZHPVTT031315Y	A573
3858944	KM63XMZHPVTT038335Y	A573
3858945	KM63XMZHPVTT044354Y	A573
3858946	KM63XMZHPVTT050354Y	A573
3858947	KM63XMZHPVTT056354Y	A573
3858948	KM63XMZHPVTT062374Y	A573
3858949	KM63XMZHPVTT068374Y	A573
3858950	KM63XMZHPVTT075394Y	A573
3858951	KM63XMZHPVTT088394Y	A573
3858952	KM63XMZHPVTT100453Y	A573
3858953	KM63XMZHPVTT125472Y	A573
3858954	KM63XMZHPVTTHT050354Y	A575
3858955	KM63XMZHPVTTHT056354Y	A575
3858956	KM63XMZHPVTTHT062374Y	A575
3858957	KM63XMZHPVTTHT068374Y	A575
3858958	KM63XMZHPVTTHT075394Y	A575
3858959	KM63XMZHPVTTHT088394Y	A575
3858960	KM63XMZHPVTTHT100453Y	A575
3858961	KM63XMZHPVTTHT125472Y	A575
3859981	BTKV50BHPVTT025400	D23
3859982	BTKV50BHPVTT031400	D23
3860008	CVKV40BHPVTT025350	D41
3860009	CVKV40BHPVTT031350	D41
3860010	CVKV40BHPVTT038375	D41
3860011	CVKV40BHPVTT044375	D41
3860012	CVKV40BHPVTT050375	D41
3860013	CVKV40BHPVTT056375	D41
3860014	CVKV40BHPVTT062375	D41
3860015	CVKV40BHPVTT068400	D41
3860016	CVKV40BHPVTT075400	D41
3860017	CVKV40BHPVTT088400	D41
3860018	CVKV40BHPVTT100400	D41
3860019	CVKV40BHPVTT125400	D41
3860020	CVKV40BHPVTTHT050375	D43
3860021	CVKV40BHPVTTHT056375	D43
3860022	CVKV40BHPVTTHT062375	D43
3860023	CVKV40BHPVTTHT068400	D43
3860024	CVKV40BHPVTTHT075400	D43
3860025	CVKV40BHPVTTHT088400	D43
3860026	CVKV40BHPVTTHT100400	D43
3860027	CVKV40BHPVTTHT125400	D43
3860033	BTKV50BHPVTT038400	D23
3860034	BTKV50BHPVTT044400	D23
3860035	BTKV50BHPVTT050400	D23
3860036	BTKV50BHPVTT062400	D23
3860037	BTKV50BHPVTT075400	D23
3860038	BTKV50BHPVTT088400	D23
3860039	BTKV50BHPVTT100400	D23
3860040	BTKV50BHPVTT125400	D23
3860041	BTKV50BHPVTTHT050400	D25
3860042	BTKV50BHPVTTHT062400	D25
3860043	BTKV50BHPVTTHT075400	D25
3860044	BTKV50BHPVTTHT088400	D25
3860045	BTKV50BHPVTTHT100400	D25
3860046	BTKV50BHPVTTHT125400	D25
3860047	CVKV50BHPVTT025350	D55
3860048	CVKV50BHPVTT031350	D55
3860049	CVKV50BHPVTT038375	D55
3860050	CVKV50BHPVTT044375	D55
3860051	CVKV50BHPVTT050400	D55
3860052	CVKV50BHPVTT056400	D55
3860087	CVKV40BEM012250	D48
3860088	CVKV40BEM018250	D48
3860089	CVKV40BEM025250	D48
3860090	CVKV40BEM031250	D48
3860091	CVKV40BEM038250	D48
3860092	CVKV40BEM044250	D48
3860093	CVKV50BHPVTT062400	D55
3860094	CVKV50BHPVTT068400	D55
3860095	CVKV50BHPVTT075400	D55
3860096	CVKV50BHPVTT088400	D55
3860097	CVKV50BHPVTT100400	D55
3860098	CVKV50BHPVTT125400	D55
3860099	CVKV50BHPVTT150450	D55
3860100	CVKV50BHPVTT200450	D55
3860101	CVKV50BHPVTTHT050400	D57
3860102	CVKV50BHPVTTHT056400	D57
3860103	CVKV50BHPVTTHT062400	D57
3860104	CVKV50BHPVTTHT068400	D57
3860105	CVKV50BHPVTTHT075400	D57
3860106	CVKV50BHPVTTHT088400	D57
3860107	CVKV50BHPVTTHT100400	D57
3860108	CVKV50BHPVTTHT125400	D57
3860109	CVKV50BEM018250	D63
3860110	CVKV50BEM025250	D63
3860111	CVKV50BEM031250	D63
3860112	CVKV50BEM038250	D63
3860123	CVKV40BEM050300	D48
3860124	CVKV40BEM050450	D48
3860125	CVKV40BEM062300	D48
3860126	CVKV40BEM062450	D48
3860127	CVKV40BEM075300	D48
3860128	CVKV40BEM075450	D48
3860129	CVKV40BEM088400	D48
3860130	CVKV40BEM100400	D48
3860131	CVKV40BEM125450	D48
3860132	CVKV40BEM150500	D48
3860134	CVKV40BTG075250G	D45
3860135	CVKV40BTG075400G	D45
3860136	CVKV40BTG075600G	D45
3860137	CVKV40BTG100275G	D45
3860138	CVKV40BTG100400G	D45
3860139	CVKV40BTG100600G	D45
3860140	CVKV50BTG075275G	D58
3860141	CVKV50BTG075400G	D58
3860142	CVKV50BTG075600G	D58
3860143	CVKV50BTG100275G	D58
3860144	CVKV50BTG100400G	D58
3860145	CVKV50BTG100600G	D58
3860147	CVKV50BHPVTT06M350	D54
3860148	CVKV50BHPVTT08M350	D54
3860149	CVKV50BHPVTT10M375	D54
3860150	CVKV50BHPVTT12M400	D54
3860151	CVKV50BHPVTT14M400	D54
3860152	CVKV50BHPVTT16M400	D54
3860153	CVKV50BHPVTT18M400	D54
3860154	CVKV50BHPVTT20M400	D54
3860155	CVKV50BHPVTT25M400	D54
3860156	CVKV50BHPVTT32M400	D54
3860157	CVKV50BHPVTTHT12M400	D56
3860158	CVKV50BHPVTTHT14M400	D56
3860159	CVKV50BHPVTTHT16M400	D56
3860160	CVKV50BHPVTTHT18M400	D56
3860161	CVKV50BHPVTTHT20M400	D56
3860162	CVKV50BHPVTTHT25M400	D56
3860163	CVKV50BHPVTTHT32M400	D56
3860164	CVKV40BHPVTT06M350	D40
3860165	CVKV40BHPVTT08M350	D40
3860166	CVKV40BHPVTT10M350	D40
3860167	CVKV40BHPVTT12M350	D40
3860168	CVKV40BHPVTT14M350	D40
3860169	CVKV40BHPVTT16M350	D40
3860170	CVKV40BHPVTT18M400	D40
3860171	CVKV40BHPVTT20M400	D40
3860172	CVKV40BHPVTT25M400	D40
3860173	CVKV40BHPVTT32M400	D40
3860174	CVKV40BHPVTTHT12M350	D42
3860175	CVKV40BHPVTTHT14M350	D42
3860176	CVKV40BHPVTTHT16M350	D42
3860177	CVKV40BHPVTTHT18M400	D42
3860178	CVKV40BHPVTTHT20M400	D42
3860179	CVKV40BHPVTTHT25M400	D42
3860180	CVKV40BHPVTTHT32M400	D42
3860183	CVKV50BEM044250	D63
3860184	CVKV50BEM050300	D63
3860185	CVKV50BEM050450	D63
3860186	CVKV50BEM062300	D63
3860187	CVKV50BEM062450	D63
3860188	CVKV50BEM075300	D63
3860189	CVKV50BEM075450	D63
3860190	CVKV50BEM088400	D63

Order No.	Catalog No.	Page(s)
3860191	CVKV50BEM100450	D63
3860192	CVKV50BEM125450	D63
3860193	CVKV50BEM150450	D63
3860194	CVKV50BEM200600	D63
3860218	CVKV40BER16250	D46
3860220	CVKV40BER16500	D46
3860221	CVKV40BER20250	D46
3860222	CVKV40BER20600	D46
3860223	CVKV40BER25250	D47
3860224	CVKV40BER25600	D47
3860225	CVKV40BER32275	D47
3860226	CVKV40BER32600	D47
3860227	CVKV40BER40300	D47
3860228	CVKV40BER40600	D47
3860229	CVKV50BER16250	D60
3860230	CVKV50BER16400	D60
3860231	CVKV50BER20250	D60
3860232	CVKV50BER20400	D60
3860233	CVKV50BER25250	D61
3860234	CVKV50BER25400	D61
3860235	CVKV50BER32275	D61
3860236	CVKV50BER32400	D61
3860237	CVKV50BER40300	D61
3860238	CVKV50BER40600	D61
3861303	CVKV50BSMC075200	D65
3861304	CVKV50BSM2C075200	D65
3861305	CVKV50BSMC075400	D65
3861306	CVKV50BSM2C075400	D65
3861307	CVKV50BSMC075600	D65
3861308	CVKV50BSM2C075600	D65
3861309	CVKV50BSMC100200	D65
3861310	CVKV50BSM2C100200	D65
3861311	CVKV50BSMC100400	D65
3861312	CVKV50BSM2C100400	D65
3861313	CVKV50BSMC100600	D65
3861314	CVKV50BSM2C100600	D65
3861315	CVKV50BSMC125200	D65
3861316	CVKV50BSMC125400	D65
3861317	CVKV50BSMC125600	D65
3861318	CVKV50BSMC150250	D65
3861319	CVKV50BSMC150400	D65
3861320	CVKV50BSMC150600	D65
3861321	CVKV50BSMC200250	D65
3861322	CVKV50BSMC200400	D65
3861323	CVKV50BSMC200600	D65
3861324	CVKV50BSMC250250	D65
3861325	CVKV50BSMC250400	D65
3861327	BTKV40BHPVTT025350	D5
3861328	BTKV40BHPVTT031350	D5
3861329	BTKV40BHPVTT038350	D5
3861330	BTKV40BHPVTT044350	D5
3861331	BTKV40BHPVTT050350	D5
3861332	BTKV40BHPVTT062350	D5
3861343	BTKV40BHPVTT075400	D5
3861344	BTKV40BHPVTT088400	D5
3861345	BTKV40BHPVTT100400	D5
3861346	BTKV40BHPVTT125425	D5
3861347	BTKV40BHPVTTHT050350	D7
3861348	BTKV40BHPVTTHT062350	D7
3861349	BTKV40BHPVTTHT075400	D7
3861350	BTKV40BHPVTTHT088400	D7
3861351	BTKV40BHPVTTHT100400	D7
3861352	BTKV40BHPVTTHT125425	D7
3862011	HSK80AHPVTTHT050374	C79
3862012	HSK80AHPVTTHT056374	C79
3862017	KM50TSCS22040M	A421
3862018	KM50TSCS27042M	A421
3862019	KM50TSCS32050M	A421
3862043	KM50TSMT1095M	A427
3862044	KM50TSMT2110M	A427
3862045	KM50TSMT3130M	A427
3862046	KM50TSMT4150M	A427
3862071	KM50TSS32070M	A428
3862072	KM50TSS40080M	A428
3862083	KM50TSS50070M	A427
3862084	KM50TSS50100M	A427
3862393	HSK80AHPVTTHT062394	C79
3862394	HSK80AHPVTTHT075413	C79
3862395	HSK80AHPVTTHT088413	C79
3862396	HSK80AHPVTTHT100453	C79
3862397	HSK80AHPVTTHT125472	C79
3862398	HSK80AHPVTTHT150512	C79
3862399	HSK80AHPVTTHT200551	C79
3862400	HSK100AHPVTTHT050374	C99
3862401	HSK100AHPVTTHT050630	C99
3862402	HSK100AHPVTTHT062394	C99
3862403	HSK100AHPVTTHT062630	C99
3862404	HSK100AHPVTTHT075413	C99
3862405	HSK100AHPVTTHT075630	C99
3862406	HSK100AHPVTTHT088413	C99
3862407	HSK100AHPVTTHT088630	C99
3862408	HSK100AHPVTTHT100453	C99
3862409	HSK100AHPVTTHT100630	C99
3862410	HSK100AHPVTTHT125472	C99
3862411	HSK100AHPVTTHT125630	C99
3862412	HSK100AHPVTTHT150531	C99
3862413	HSK40EHPVTTHT050354	C149
3862414	HSK40EHPVTTHT056354	C149
3862415	HSK40EHPVTTHT062354	C149
3862416	HSK40EHPVTTHT075374	C149
3863572	HSK100AHPVTT025335	C97
3863643	HSK100AHPVTT025630	C97
3863644	HSK100AHPVTT031335	C97
3863645	HSK100AHPVTT031630	C97
3863646	HSK100AHPVTT038354	C97
3863647	HSK100AHPVTT038630	C97
3863648	HSK100AHPVTT050374	C97
3863649	HSK100AHPVTT050630	C97
3863650	HSK100AHPVTT062394	C97
3863651	HSK100AHPVTT062630	C97
3863652	HSK100AHPVTT075413	C97
3863653	HSK100AHPVTT075630	C97
3863654	HSK100AHPVTT088413	C97
3863655	HSK100AHPVTT088630	C97
3863656	HSK100AHPVTT100453	C97
3863657	HSK100AHPVTT100630	C97
3863658	HSK100AHPVTT125472	C97
3863659	HSK100AHPVTT125630	C97
3863660	HSK100AHPVTT150531	C97
3863678	HSK50AHPVTT012315	C25
3863679	HSK50AHPVTT018315	C25
3863680	HSK50AHPVTT025315	C25
3863681	HSK50AHPVTT038335	C25
3863682	HSK50AHPVTT050354	C25
3863703	HSK50AHPVTT062374	C25
3863704	HSK50AHPVTT075394	C25
3863705	HSK50AHPVTT012472	C25
3863706	HSK50AHPVTT025472	C25
3863707	HSK50AHPVTT038472	C25
3863708	HSK50AHPVTT050472	C25
3863709	HSK50AHPVTT062472	C25
3863710	HSK50AHPVTT075472	C25
3863711	HSK50AHPVTT012630	C25
3863712	HSK50AHPVTT018630	C25
3863713	HSK50AHPVTT025630	C25
3863714	HSK50AHPVTT038630	C25
3863715	HSK50AHPVTT050630	C25
3863716	HSK50AHPVTT062630	C25
3863717	HSK50AHPVTT075630	C25
3863718	HSK40EHPVTT025315	C148
3863719	HSK40EHPVTT031315	C148
3863720	HSK40EHPVTT038315	C148
3863721	HSK40EHPVTT050354	C148
3863722	HSK40EHPVTT056354	C148
3863753	HSK40EHPVTT062354	C148
3863754	HSK40EHPVTT075374	C148
3863755	HSK80AHPVTT025335	C77
3863756	HSK80AHPVTT031335	C77
3863757	HSK80AHPVTT038354	C77
3863758	HSK80AHPVTT044374	C77
3863759	HSK80AHPVTT050374	C77
3863760	HSK80AHPVTT056374	C77
3863761	HSK80AHPVTT062394	C77
3863762	HSK80AHPVTT075413	C77
3863763	HSK80AHPVTT088413	C77
3863764	HSK80AHPVTT100453	C77
3863765	HSK80AHPVTT125472	C77
3863766	HSK80AHPVTT150512	C77
3863767	HSK80AHPVTT200551	C77
3864029	HSK40AHPVTT025315	C9
3864031	HSK40AHPVTT031315	C9
3864032	HSK40AHPVTT038315	C9
3864073	HSK40AHPVTT050354	C9
3864074	HSK40AHPVTT056354	C9
3864075	HSK40AHPVTT062354	C9
3864076	HSK40AHPVTT075374	C9
3864077	HSK63AHPVTT025315	C47
3864078	HSK63AHPVTT025472	C47
3864079	HSK63AHPVTT025630	C47
3864080	HSK63AHPVTT031315	C47
3864081	HSK63AHPVTT031472	C47
3864082	HSK63AHPVTT031630	C47
3864083	HSK63AHPVTT038335	C47
3864084	HSK63AHPVTT038472	C47
3864085	HSK63AHPVTT038630	C47
3864086	HSK63AHPVTT044354	C47
3864087	HSK63AHPVTT044472	C47
3864088	HSK63AHPVTT050354	C47
3864089	HSK63AHPVTT050472	C47
3864090	HSK63AHPVTT050630	C47
3864091	HSK63AHPVTT056354	C47
3864092	HSK63AHPVTT062374	C47
3864093	HSK63AHPVTT062472	C47
3864094	HSK63AHPVTT062630	C47
3864095	HSK63AHPVTT075394	C47
3864096	HSK63AHPVTT075630	C47
3864097	HSK63AHPVTT088394	C47
3864098	HSK63AHPVTT088630	C47
3864099	HSK63AHPVTT100453	C47
3864100	HSK63AHPVTT100630	C47
3864101	HSK63AHPVTT125472	C47
3864102	HSK63AHPVTT125630	C47
3864844	PSC80KM63TS080M	A619
3864845	PSC80KM63TS155M	A619
3866456	HSK40AHPVTT03060M	C8
3866457	HSK40AHPVTT04060M	C8
3866458	HSK40AHPVTT05060M	C8
3866459	HSK40AHPVTT06080M	C8
3866460	HSK40AHPVTT08080M	C8
3866461	HSK40AHPVTT10080M	C8
3866462	HSK40AHPVTT12090M	C8
3866563	HSK40AHPVTT14090M	C8
3866564	HSK40AHPVTT16090M	C8
3866565	HSK40AHPVTT18095M	C8
3866566	HSK40AHPVTT20095M	C8
3866567	HSK63AHPVTT03080M	C46
3866568	HSK63AHPVTT06080M	C46
3866569	HSK63AHPVTT06120M	C46
3866570	HSK63AHPVTT06160M	C46
3866571	HSK63AHPVTT08080M	C46
3866572	HSK63AHPVTT08120M	C46
3866573	HSK63AHPVTT08160M	C46
3866574	HSK63AHPVTT10085M	C46
3866575	HSK63AHPVTT10120M	C46
3866576	HSK63AHPVTT04080M	C46
3866577	HSK63AHPVTT05080M	C46
3866581	HSK63AHPVTT10160M	C46
3866582	HSK63AHPVTT12090M	C46
3866683	HSK63AHPVTT12120M	C46
3866684	HSK63AHPVTT12160M	C46
3866685	HSK63AHPVTT14090M	C46
3866686	HSK63AHPVTT14120M	C46
3866687	HSK63AHPVTT14160M	C46
3866688	HSK63AHPVTT16095M	C46
3866689	HSK63AHPVTT16120M	C46
3866690	HSK63AHPVTT16160M	C46
3866691	HSK63AHPVTT18095M	C46
3866692	HSK63AHPVTT18120M	C46
3866693	HSK63AHPVTT18160M	C46
3866694	HSK63AHPVTT20100M	C46
3866695	HSK63AHPVTT20120M	C46
3866696	HSK63AHPVTT20160M	C46
3866697	HSK63AHPVTT25115M	C46
3866698	HSK63AHPVTT25160M	C46
3866699	HSK63AHPVTT32120M	C46
3866700	HSK63AHPVTT32160M	C46
3866701	HSK100AHPVTT06085M	C96
3866702	HSK100AHPVTT08085M	C96
3866703	HSK100AHPVTT10090M	C96
3866704	HSK100AHPVTT12095M	C96
3866705	HSK100AHPVTT14095M	C96
3866706	HSK100AHPVTT16100M	C96
3866707	HSK100AHPVTT18100M	C96
3866708	HSK100AHPVTT20105M	C96
3866709	HSK100AHPVTT25115M	C96
3866710	HSK100AHPVTT32120M	C96
3866711	HSK100AHPVTT06160M	C96
3866712	HSK100AHPVTT08160M	C96
3866713	HSK100AHPVTT10160M	C96
3866714	HSK100AHPVTT12160M	C96
3866715	HSK100AHPVTT14160M	C96
3866716	HSK100AHPVTT16160M	C96
3866717	HSK100AHPVTT18160M	C96
3866718	HSK100AHPVTT20160M	C96
3866719	HSK100AHPVTT25160M	C96
3866720	HSK100AHPVTT32160M	C96
3866982	HSK40AHPVTTHT12090M	C10
3867169	HSK40EHPVTT03060M	C147
3867170	HSK40EHPVTT04060M	C147
3867171	HSK40EHPVTT05060M	C147
3867172	HSK40EHPVTT06080M	C147
3867174	HSK40AHPVTTHT14090M	C10
3867175	HSK40AHPVTTHT16090M	C10
3867176	HSK40AHPVTTHT18095M	C10
3867177	HSK40AHPVTTHT20095M	C10
3867178	HSK63AHPVTTHT12090M	C48
3867179	HSK63AHPVTTHT12120M	C48
3867180	HSK63AHPVTTHT12160M	C48
3867181	HSK63AHPVTTHT14090M	C48
3867182	HSK63AHPVTTHT14120M	C48
3867193	HSK63AHPVTTHT14160M	C48
3867194	HSK63AHPVTTHT16095M	C48
3867195	HSK63AHPVTTHT16120M	C48
3867196	HSK63AHPVTTHT16160M	C48
3867197	HSK63AHPVTTHT18095M	C48
3867198	HSK63AHPVTTHT18120M	C48
3867199	HSK63AHPVTTHT18160M	C48
3867200	HSK63AHPVTTHT20100M	C48
3867201	HSK63AHPVTTHT20120M	C48
3867202	HSK63AHPVTTHT20160M	C48
3867206	HSK63AHPVTTHT25115M	C48
3867207	HSK63AHPVTTHT25160M	C48
3867208	HSK63AHPVTTHT32120M	C48
3867209	HSK63AHPVTTHT32160M	C48
3867213	HSK80AHPVTTHT12095M	C78
3867214	HSK80AHPVTTHT14095M	C78
3867215	HSK80AHPVTTHT16100M	C78
3867216	HSK80AHPVTTHT18100M	C78
3867217	HSK80AHPVTTHT20105M	C78
3867218	HSK80AHPVTTHT25115M	C78
3867219	HSK80AHPVTTHT32120M	C78
3867220	HSK80AHPVTTHT40130M	C78
3867221	HSK80AHPVTTHT50140M	C78
3867222	HSK100AHPVTTHT12095M	C98
3867223	HSK100AHPVTTHT14095M	C98
3867224	HSK100AHPVTTHT16100M	C98
3867225	HSK100AHPVTTHT18100M	C98
3867226	HSK100AHPVTTHT20105M	C98
3867227	HSK100AHPVTTHT25115M	C98
3867228	HSK100AHPVTTHT32120M	C98
3867229	HSK40EHPVTTHT12090M	C149
3867230	HSK40EHPVTTHT14090M	C149
3867231	HSK40EHPVTTHT16090M	C149
3867232	HSK40EHPVTTHT18095M	C149
3867233	HSK40EHPVTTHT20095M	C149
3867263	HSK40EHPVTT08080M	C147
3867264	HSK40EHPVTT10080M	C147
3867265	HSK40EHPVTT12090M	C147
3867266	HSK40EHPVTT14090M	C147
3867267	HSK40EHPVTT16090M	C147
3867268	HSK40EHPVTT18095M	C147
3867269	HSK40EHPVTT20095M	C147
3867270	HSK80AHPVTT06085M	C76
3867271	HSK80AHPVTT08085M	C76
3867272	HSK80AHPVTT10090M	C76
3867273	HSK80AHPVTT12095M	C76
3867274	HSK80AHPVTT14095M	C76
3867275	HSK80AHPVTT16100M	C76
3867276	HSK80AHPVTT18100M	C76
3867277	HSK80AHPVTT20105M	C76
3867278	HSK80AHPVTT25115M	C76
3867279	HSK80AHPVTT32120M	C76
3867280	HSK80AHPVTT40130M	C76
3867281	HSK80AHPVTT50140M	C76
3867282	HSK80AHPVTT03085M	C77
3867283	HSK80AHPVTT04085M	C77
3867284	HSK80AHPVTT05085M	C77
3867563	KM50TSLSEL16N	A387

Order No.	Catalog No.	Page(s)
3867564	KM50TSLSEL22N	A387
3869194	KM63TSHPVTT06080M	A496
3869195	KM63TSHPVTT08080M	A496
3869196	KM63TSHPVTT10090M	A496
3869197	KM63TSHPVTT12090M	A496
3869198	KM63TSHPVTT14100M	A496
3869199	KM63TSHPVTT16100M	A496
3869200	KM63TSHPVTT18100M	A496
3869201	KM63TSHPVTT20100M	A496
3869202	KM63TSHPVTT25120M	A496
3869203	KM63TSHPVTT32120M	A496
3869209	KM63TSHPVTTHT12090M	A498
3869210	KM63TSHPVTTHT14100M	A498
3869211	KM63TSHPVTTHT16100M	A498
3869212	KM63TSHPVTTHT18100M	A498
3869213	KM63TSHPVTTHT20100M	A498
3869214	KM63TSHPVTTHT25120M	A498
3869215	KM63TSHPVTTHT32120M	A498
3869234	KM63TSHPVTTHT050354	A499
3869235	KM63TSHPVTTHT056354	A499
3869236	KM63TSHPVTTHT062374	A499
3869237	KM63TSHPVTTHT068374	A499
3869238	KM63TSHPVTTHT075394	A499
3869239	KM63TSHPVTTHT088394	A499
3869240	KM63TSHPVTTHT100453	A499
3869241	KM63TSHPVTTHT125472	A499
3869253	KM63TSHPVTT025315	A497
3869254	KM63TSHPVTT031315	A497
3869255	KM63TSHPVTT038335	A497
3869256	KM63TSHPVTT044354	A497
3869257	KM63TSHPVTT050354	A497
3869258	KM63TSHPVTT056354	A497
3869259	KM63TSHPVTT062374	A497
3869260	KM63TSHPVTT068374	A497
3869261	KM63TSHPVTT075394	A497
3869262	KM63TSHPVTT088394	A497
3869263	KM63TSHPVTT100453	A497
3869264	KM63TSHPVTT125472	A497
3870016	CVKV40BSMC050200	D50
3870017	CVKV40BSM2C050200	D50
3870018	CVKV40BSMC050400	D50
3870019	CVKV40BSM2C050400	D50
3870020	CVKV40BSMC075200	D50
3870021	CVKV40BSM2C075200	D50
3870022	CVKV40BSMC075400	D50
3870023	CVKV40BSM2C075400	D50
3870024	CVKV40BSMC075600	D50
3870025	CVKV40BSM2C075600	D50
3870026	CVKV40BSMC100200	D50
3870027	CVKV40BSM2C100200	D50
3870028	CVKV40BSMC100400	D50
3870029	CVKV40BSM2C100400	D50
3870030	CVKV40BSMC100600	D50
3870031	CVKV40BSM2C100600	D50
3870032	CVKV40BSMC125200	D50
3870033	CVKV40BSMC125400	D50
3870034	CVKV40BSMC150250	D50
3870035	CVKV40BSMC150400	D50
3872279	HSK80ASMC22050M	C87
3872280	HSK80ASM2C22050M	C87
3872281	HSK80ASMC27050M	C87
3872282	HSK80ASMC32060M	C87
3872493	HSK80ASMC40060M	C87
3872494	HSK80ASMC50070M	C87
3872495	HSK80ASMC60070M	C87
3872496	HSK100ASMC16050M	C114
3872497	HSK100ASMC16100M	C114
3872498	HSK100ASMC16160M	C114
3872499	HSK100ASMC22050M	C114
3872500	HSK100ASMC22100M	C114
3872501	HSK100ASMC22160M	C114
3872502	HSK100ASMC27050M	C114
3872503	HSK100ASMC27100M	C114
3872504	HSK100ASMC27160M	C114
3872505	HSK100ASMC32050M	C114
3872506	HSK100ASMC32100M	C114
3872507	HSK100ASMC32160M	C114
3872508	HSK100ASMC40060M	C114
3872509	HSK100ASMC40100M	C114
3872510	HSK100ASMC40160M	C114
3872511	HSK100ASMC50070M	C114
3872512	HSK100ASMC50100M	C114
3872513	HSK100ASMC50160M	C114
3872514	HSK100ASMC60070M	C114
3872515	HSK100ASMC60100M	C114
3872516	HSK100ASMC60160M	C114
3872517	HSK50ASMC100225	C30
3872588	HSK40ASMC16050M	C20
3872589	HSK40ASM2C16050M	C20
3872590	HSK40ASMC22050M	C20
3872591	HSK40ASM2C22050M	C20
3872592	HSK40ASMC27075M	C20
3872674	HSK40ESMC16050M	C152
3872675	HSK40ESM2C16050M	C152
3872676	HSK40ESMC22050M	C152
3872677	HSK40ESM2C22050M	C152
3872678	HSK50ASMC16050M	C30
3872679	HSK50ASMC22060M	C30
3872680	HSK50ASMC27060M	C30
3872681	HSK63ASMC16050M	C65
3872682	HSK63ASM2C16050M	C65
3872683	HSK63ASMC22050M	C65
3872684	HSK63ASM2C22050M	C65
3872685	HSK63ASMC22100M	C65
3872686	HSK63ASMC22160M	C65
3872687	HSK63ASMC27060M	C65
3872688	HSK63ASMC27100M	C65
3872689	HSK63ASMC27160M	C65
3872690	HSK63ASMC32060M	C65
3872691	HSK63ASMC32100M	C65
3872692	HSK63ASMC32160M	C65
3872693	HSK63ASMC40060M	C65
3872694	HSK63ASMC40100M	C65
3872695	HSK63ASMC40160M	C65
3872696	HSK40AHPVTTHT050354	C11
3872697	HSK40AHPVTTHT056354	C11
3872698	HSK40AHPVTTHT062354	C11
3872699	HSK40AHPVTTHT075374	C11
3872700	HSK63AHPVTTHT050354	C49
3872701	HSK63AHPVTTHT050472	C49
3872702	HSK63AHPVTTHT050630	C49
3872703	HSK63AHPVTTHT056354	C49
3872704	HSK63AHPVTTHT062374	C49
3872705	HSK63AHPVTTHT062472	C49
3872706	HSK63AHPVTTHT062630	C49
3872707	HSK63AHPVTTHT075394	C49
3872708	HSK63AHPVTTHT075630	C49
3872709	HSK63AHPVTTHT088394	C49
3872710	HSK63AHPVTTHT088630	C49
3872711	HSK63AHPVTTHT100453	C49
3872712	HSK63AHPVTTHT100630	C49
3872713	HSK63AHPVTTHT125472	C49
3872714	HSK63AHPVTTHT125630	C49
3874888	HSK50AHPVTT03080M	C24
3874889	HSK50AHPVTT04080M	C24
3874890	HSK50AHPVTT05080M	C24
3874891	HSK50AHPVTT06080M	C24
3874892	HSK50AHPVTT08080M	C24
3874895	PSC80KM50TS070M	A619
3874896	PSC80KM80TS090M	A619
3874897	PSC80KM50TS100M	A619
3874898	PSC80KM80TS155M	A619
3874983	HSK50AHPVTT10085M	C24
3874984	HSK50AHPVTT12090M	C24
3874985	HSK50AHPVTT14090M	C24
3874986	HSK50AHPVTT16095M	C24
3874987	HSK50AHPVTT18095M	C24
3874988	HSK50AHPVTT20100M	C24
3874989	HSK50AHPVTT06120M	C24
3874990	HSK50AHPVTT08120M	C24
3874991	HSK50AHPVTT10120M	C24
3874992	HSK50AHPVTT12120M	C24
3874993	HSK50AHPVTT14120M	C24
3874994	HSK50AHPVTT16120M	C24
3874995	HSK50AHPVTT18120M	C24
3874996	HSK50AHPVTT20120M	C24
3874997	HSK50AHPVTT06160M	C24
3874998	HSK50AHPVTT08160M	C24
3874999	HSK50AHPVTT10160M	C24
3875000	HSK50AHPVTT12160M	C24
3875001	HSK50AHPVTT14160M	C24
3875002	HSK50AHPVTT16160M	C24
3875003	HSK50AHPVTT18160M	C24
3875004	HSK50AHPVTT20160M	C24
3876257	KDK60M KTB	A547, A616, C87, C114, D34, E87, G69
3891593	KM80ATCWD32090M	A612
3891594	KM80ATCWD40100M	A612
3892897	HSK63TBA40130M	C41
3892898	HSK63TBA150512	C42
3892899	HSK63TKM63105M	C41
3895298	HSK63TKM50095M	C41
3896952	KM80ATCBA40105M	A604
3897160	KM80ATCSMC22040M	A616
3897161	KM80ATCSMC27040M	A616
3897162	KM80ATCSMC32040M	A616
3897193	KM80ATCSMC40045M	A616
3897194	KM80ATCSMC50055M	A616
3897195	KM80ATCSMC60060M	A616
3897198	KM80ATCPRGCL25	A600
3897199	KM80ATCPRGCR25	A600
3897200	KM80ATCPRGCL32	A600
3897201	KM80ATCPRGCR32	A600
3897203	KM80ATCBA50130M	A604
3897467	HSK63TMCLNR12070	C34
3897468	HSK63TMCLNL12070	C34
3897469	HSK63TPDNNN15115	C36
3897470	HSK63TPDMNR15115	C35
3897471	HSK63TSVVBN16115	C37
3897472	HSK63TSVVBN11115	C37
3897546	HSK63TBN115200M	C40
3897553	HSK63TSDNCN11115	C37
3897554	HSK63TSDNCN15115	C37
3897556	HSK63TLSSR16	C40
3897557	HSK63TLSSL16	C40
3897558	HSK63TLSSR22	C40
3897559	HSK63TLSSL22	C40
3897561	HSK63TKGMSR50	C38
3897562	HSK63TKGMSL50	C38
3897571	HSK63TBSR4	C39
3897572	HSK63TBSL4	C39
3897573	HSK63TBSR5	C39
3897574	HSK63TBSL5	C39
3897805	HSK63TETAN2525M	C33
3897806	HSK63TETAN16	C34
3901247	KM80ATCWNEM06065M	A613
3901248	KM80ATCWNEM08065M	A613
3901249	KM80ATCWNEM10075M	A613
3901250	KM80ATCWNEM12080M	A613
3901251	KM80ATCWNEM14080M	A613
3901252	KM80ATCWNEM16085M	A613
3901265	KM63TSD24TTB9KM40	A494
3901266	KM63TSD32TTB12KM40	A494
3901267	KM63TSD40TTB15KM40	A494
3901268	KM63TSD28TTB14KM40	A494
3901269	KM63TSD32TTB16KM40	A494
3901270	KM63TSD40TTB20KM40	A494
3901271	KM63XMZD24TTB9KM40	A568
3901272	KM63XMZD32TTB12KM40	A568
3901273	KM63XMZD40TTB15KM40	A568
3901274	KM63XMZD28TTB14KM40	A568
3901275	KM63XMZD32TTB16KM40	A568
3901276	KM63XMZD40TTB20KM40	A568
3901283	KM80ATCWNEM18085M	A613
3901284	KM80ATCWNEM20085M	A613
3901285	KM80ATCWNEM25100M	A613
3901286	KM80ATCWNEM32105M	A613
3901287	KM80ATCWNEM40115M	A613
3901289	KM40TSMDJNL1504	A279
3901290	KM40TSMDJNL1506	A279
3901291	KM40TSMDJNR1504	A279
3901292	KM40TSMDJNR1506	A279
3901293	KM40TSMDPNN1504	A280
3901294	KM40TSMDPNN1506	A280
3901295	KM40TSMDQNL1504	A280
3901296	KM40TSMDQNL1506	A280
3901297	KM40TSMDQNR1504	A280
3901298	KM40TSMDQNR1506	A280
3901299	KM40TSMDUNL1504	A281
3901300	KM40TSMDUNL1506	A281
3901301	KM40TSMDUNR1504	A281
3901302	KM40TSMDUNR1506	A281
3901305	KM40TSMRGNL12	A281
3901306	KM40TSMRGNR12	A281
3901307	KM40TSMSDNN12	A282
3901308	KM40TSMSKNL12	A282
3901309	KM40TSMSKNR12	A282
3901310	KM40TSMSRNL12	A283
3901311	KM40TSMSRNR12	A283
3901312	KM40TSMSRNR15	A283
3901313	KM40TSMSSNL12	A283
3901314	KM40TSMSSNR12	A283
3901335	KM40TSMCKNL12	A278
3901336	KM40TSMCKNR12	A278
3901337	KM40TSMCLNL12	A278
3901338	KM40TSMCLNL16	A278
3901339	KM40TSMCLNR16	A278
3901340	KM40TSMCRNL12	A279
3901341	KM40TSMCRNR12	A279
3902132	KM40TSNEL2	A307
3902238	KM40TSMVHNL16050M	A286
3902239	KM40TSMVHNR16050M	A286
3902240	KM40TSMVJNL16045M	A286
3902241	KM40TSMVJNR16045M	A286
3902242	KM40TSMVUNL16045M	A287
3902247	KM40TSMTFNL16	A284
3902249	KM40TSMTFNR16	A284
3902250	KM40TSMTGNL22	A284
3902251	KM40TSMTGNR22	A284
3902252	KM40TSMTJNL16	A285
3902253	KM40TSMVUNR16045M	A287
3902254	KM40TSMVVNN16050M	A287
3902255	KM40TSMWLNL08	A288
3902256	KM40TSMWLNR08	A288
3902260	KM40TSPCKNL12	A288
3902261	KM40TSPCKNR12	A288
3902262	KM40TSPCLNL09	A289
3902273	KM40TSMTJNL22	A285
3902274	KM40TSMTJNR16	A285
3902275	KM40TSMTJNR22	A285
3902276	KM40TSMTUNL16	A285
3902277	KM40TSMTUNL22	A285
3902278	KM40TSMTUNR16	A285
3902283	KM40TSNEL3	A307
3902284	KM40TSNEL4	A307
3902285	KM40TSNER2	A307
3902286	KM40TSNER3	A307
3902287	KM40TSNER4	A307
3902288	KM40TSNRL3045M	A308
3902289	KM40TSNRR3045M	A308
3902290	KM40TSNSL2	A308
3902291	KM40TSNSL3	A308
3902292	KM40TSNSL4	A308
3902293	KM40TSNSR2	A308
3902294	KM40TSNSR3	A308
3902295	KM40TSNSR4	A308
3902310	KM40TSPDJNL11	A290
3902311	KM40TSPDJNL15	A290
3902312	KM40TSPDJNR11	A290
3902313	KM40TSPCLNL12	A289
3902314	KM40TSPCLNL122W	A289
3902315	KM40TSPCLNR09	A289
3902316	KM40TSPCLNR12	A289
3902317	KM40TSPCLNR122W	A289
3902323	KM40TSPDJNR15	A290
3902324	KM40TSPDNNL15	A290
3902325	KM40TSPDNNR15	A290
3902326	KM40TSPDQNL11	A291
3902327	KM40TSPDQNR11	A291
3902328	KM40TSPDUNL11	A291
3902329	KM40TSPDUNL15	A291
3902330	KM40TSPDUNR11	A291
3902331	KM40TSPDUNR15	A291
3902332	KM40TSPDXNL15	A292
3902333	KM40TSPDXNR15	A292
3950139	KM40TSEM038197	A335
3950140	KM40TSEM050216	A335
3950141	KM40TSEM062236	A335
3950142	KM40TSEM075256	A335
3950151	KM40TSDDJNL15KC04	A267
3950152	KM40TSDDJNL15KC06	A267
3950156	KM40TSBAI20315	A325
3950157	KM40TSBAI24354	A325
3950158	KM40TSBAI32080M	A325
3950159	KM40TSBAI40090M	A325
3950161	KM40TSDCLNL12KC04	A265
3950162	KM40TSDCLNL16KC06	A265
3950163	KM40TSDDJNR15KC04	A267

Order No.	Catalog No.	Page(s)
3950164	KM40TSDDJNR15KC06	A267
3950165	KM40TSDDQNL15KC04	A268
3950166	KM40TSDDQNL15KC06	A268
3950167	KM40TSDDQNR15KC04	A268
3950168	KM40TSDDQNR15KC06	A268
3950169	KM40TSDDUNL15KC04	A269
3950170	KM40TSDDUNL15KC06	A269
3950171	KM40TSDDUNR15KC04	A269
3950172	KM40TSDDUNR15KC06	A269
3950178	KM40TSS32070M	A342
3950179	KM40TSS40060M	A342
3950180	KM40TSS40080M	A342
3950183	KM40TSDCLNR12KC04	A265
3950184	KM40TSDCLNR16KC06	A265
3950185	KM40TSDCRNL12KC04	A266
3950186	KM40TSDCRNR12KC04	A266
3950187	KM40TSDA188256	A332–333
3950188	KM40TSDA188315	A332–333
3950189	KM40TSDA188065M	A332
3950190	KM40TSDA188080M	A332
3950191	KM40TSDA208236	A332–333
3950193	KM40TSBN63125M	A343
3950194	KM40TSBN63052M	A343
3950195	KM40TSBN90052M	A343
3950196	KM40TSEM06045M	A335
3950197	KM40TSEM08045M	A335
3950198	KM40TSEM10050M	A335
3950199	KM40TSEM12055M	A335
3950200	KM40TSEM16060M	A335
3950201	KM40TSEM20065M	A335
3950205	KM40TSWN06065M	A334
3950206	KM40TSWN08065M	A334
3950207	KM40TSWN10070M	A334
3950208	KM40TSWN12080M	A334
3950209	KM40TSWN14080M	A334
3950210	KM40TSWN16085M	A334
3950211	KM40TSWN18085M	A334
3950212	KM40TSWN20095M	A334
3950246	KM40TSER16038M	A330
3950247	KM40TSER25045M	A331
3950248	KM40TSER32060M	A331
3950256	KM40TSSMC050102	A336
3950257	KM40TSSM2C075102	A336
3950258	KM40TSSMC075102	A336
3950259	KM40TSSM2C100126	A336
3950260	KM40TSSMC100126	A336
3950261	KM40TSSMC16026M	A336
3950262	KM40TSSMC22028M	A336
3950263	KM40TSSMC27032M	A336
3950265	KM40TSKGMEL50	A311
3950266	KM40TSKGMER50	A311
3950267	KM40TSKGMSL50	A311
3950268	KM40TSKGMSR50	A311
3950743	KM40TSDSDNN12KC04	A270
3950744	KM40TSDSKNL12KC04	A271
3950745	KM40TSDSKNR12KC04	A271
3950746	KM40TSDSRNL12KC04	A272
3950747	KM40TSDSRNR12KC04	A272
3950748	KM40TSDSSNL12KC04	A273
3950749	KM40TSDSSNR12KC04	A273
3950750	KM40TSDTFNL22KC04050M	A274
3950751	KM40TSDTFNR22KC04050M	A274
3950752	KM40TSDTGNL22KC04	A275
3950753	KM40TSDTGNR22KC04	A275
3950754	KM40TSDTJNL22KC04	A276
3950755	KM40TSDTJNR22KC04	A276
3950756	KM40TSDWLNL08KC04	A277
3950757	KM40TSDWLNR08KC04	A277
3950758	KM63XMZSMC16028MY	A586
3950759	KM63XMZSMC22028MY	A586
3950760	KM63XMZSMC27032MY	A586
3950761	KM63XMZSMC32040MY	A586
3950775	KM40TSPSDNN09	A292
3950776	KM40TSPSDNN12	A292
3950777	KM40TSPSKNL12	A293
3950778	KM40TSPSKNR12	A293
3950779	KM40TSPSRNL12	A293
3950780	KM40TSPSRNR12	A293
3950781	KM40TSPSSNR12	A294
3950782	KM40TSPTFNL16	A294
3950783	KM40TSPTFNR16	A294
3950784	KM40TSPTJNL16	A295
3950785	KM40TSPTJNR16	A295
3950786	KM40TSPWLNL06	A295
3950787	KM40TSPWLNL08	A295
3950788	KM40TSPWLNR06	A295
3950789	KM40TSPWLNR08	A295
3950809	KM40TSMT1090M	A338
3950810	KM40TSMT2105M	A338
3950811	KM40TSMT3125M	A338
3950813	KM40TSBA06236	A324
3950814	KM40TSBA08256	A324
3950815	KM40TSBA10276	A324
3950816	KM40TSBA12295	A324
3950817	KM40TSBA16295	A324
3950818	KM40TSBA06050M	A324
3950819	KM40TSBA08050M	A324
3950820	KM40TSBA10060M	A324
3950821	KM40TSBA12065M	A324
3950822	KM40TSBA16070M	A324
3950823	KM40TSBA20075M	A324
3950824	KM40TSBA25075M	A324
3950831	KM40TSLSEL16N	A309
3950832	KM40TSLSER16N	A309
3950834	KM40TSBEL	A312
3950835	KM40TSBER	A312
3950836	KM50TSSMC050102	A420
3950837	KM50TSSMC075102	A420
3950838	KM50TSSM2C075102	A420–421
3950839	KM50TSSMC100126	A420
3950840	KM50TSSM2C100126	A420–421
3950841	KM50TSSMC125157	A420
3950842	KM50TSSMC22028M	A420
3950853	KM40TSLSEL22N	A309
3950854	KM40TSLSER22N	A309
3950855	KM40TSLSSL16	A310
3950856	KM40TSLSSL22	A310
3950857	KM40TSLSSR16	A310
3950858	KM40TSLSSR22	A310
3950864	KM63TSSMC050102	A508
3950865	KM63TSSMC075126	A508
3950866	KM63TSSM2C075126	A508
3950867	KM63TSSMC100126	A508
3950868	KM63TSSM2C100126	A508
3950869	KM63TSSMC125157	A508
3950870	KM63TSSMC150177	A508
3950894	KM63TSSMC22028M	A508
3950895	KM63TSSMC27032M	A508
3950896	KM63TSSMC32040M	A508
3950897	KM63TSSMC40045M	A508
3950898	KM63XMZSMC050102Y	A586
3950899	KM63XMZSMC075102Y	A586
3950900	KM63XMZSM2C075102Y	A586
3950901	KM63XMZSMC100126Y	A586
3950902	KM63XMZSM2C100126Y	A586
3950903	KM63XMZSMC125157Y	A586
3950904	KM63XMZSMC150177Y	A586
3950913	KM50TSSMC27032M	A420
3950914	KM50TSSMC32040M	A420
3951833	KM40TSCS16036M	A337
3951834	KM40TSCS22038M	A337
3951835	KM40TSE16JNEL2 KWH	A322
3951836	KM40TSE16JNER2 KWH	A322
3951858	KM40TSNVHCL16050M	A303
3951859	KM40TSNVHCR16050M	A303
3951860	KM40TSNVJBL11	A303
3951861	KM40TSNVJBR11	A303
3951862	KM40TSNVJCL16050M	A304
3951913	KM40TSNVJCR16050M	A304
3951914	KM40TSNVQCL16	A304
3951915	KM40TSNVQCR16	A304
3951916	KM40TSNVUBL11	A305
3951917	KM40TSNVUBR11	A305
3951918	KM40TSNVUCL16	A305
3951919	KM40TSNVUCR16	A305
3951920	KM40TSNVVBN11045M	A306
3953386	KM16NAPKG	A64–65
3953388	KM12NAPKG	A64
3955375	KM80ATCSM2C100158	A616
3955376	KM80ATCSMC125158	A616
3955377	KM80ATCSMC125394	A616
3955378	KM80ATCSMC150158	A616
3955379	KM80ATCSMC200216	A616
3955380	KM80ATCSMC250225	A616
3955381	KM80ATCSMC250450	A616
3955463	KM40TSS10DLSEL11	A323
3955464	KM40TSS10DLSER11	A323
3955465	KM40TSS12ELSEL11	A323
3955466	KM40TSS12ELSER11	A323
3955467	KM40TSS16FLSEL16	A323
3955468	KM40TSS16FLSER16	A323
3955469	KM40TSS20GLSEL16	A323
3955470	KM40TSS20GLSER16	A323
3955471	KM40TSS25HLSEL16	A323
3955472	KM40TSS25HLSER16	A323
3955473	KM40TSS32JLSEL16	A323
3955474	KM40TSS32JLSER16	A323
3955475	KM40TSS32JLSEL22	A323
3955476	KM40TSS32JLSER22	A323
3955480	KM40TSS12ENEL2	A320–321
3955481	KM40TSS12ENER2	A320–321
3955482	KM40TSS16FNEL2	A320–321
3955483	KM40TSS16FNER2	A320–321
3955484	KM40TSS20GNEL2	A320–321
3955485	KM40TSS20GNER2	A320–321
3955486	KM40TSS25ENEL2	A320–321
3955487	KM40TSS25ENER2	A320–321
3955488	KM40TSS25HNEL2	A320–321
3955489	KM40TSS25HNER2	A320–321
3955490	KM40TSS25ENEL3	A320–321
3955491	KM40TSS25ENER3	A320–321
3955492	KM40TSS25HNEL3	A320–321
3955493	KM40TSS25HNER3	A320–321
3955494	KM40TSS32JNEL3	A320–321
3955495	KM40TSS32JNER3	A320–321
3955496	KM40TSS32GNEL3	A320–321
3955497	KM40TSS32GNER3	A320–321
3955548	KM40TSS25EMCLNL12	A314
3955549	KM40TSS25EMCLNR12	A314
3955550	KM40TSS25HMCLNL12	A314
3955551	KM40TSS25HMCLNR12	A314
3955552	KM40TSS32GMCLNL12	A314
3955553	KM40TSS32GMCLNR12	A314
3955554	KM40TSS32JMCLNL12	A314
3955555	KM40TSS32JMCLNR12	A314
3959330	KM40TSS25HMWLNL08	A316
3959331	KM40TSS25HMWLNR08	A316
3959332	KM40TSS32JMWLNL08	A316
3959336	KM40TSS25GPCLNL12	A317
3959337	KM40TSS25GPCLNR12	A317
3959338	KM40TSS25HPCLNL12	A317
3959339	KM40TSS25HPCLNR12	A317
3959340	KM40TSS32GPCLNL12	A317
3959341	KM40TSS32GPCLNR12	A317
3959342	KM40TSS25GPDUNL11	A318
3959343	KM40TSS25GPDUNR11	A318
3959344	KM40TSS25EPWLNL08	A319
3959345	KM40TSS25EPWLNR08	A319
3959346	KM40TSS25GPWLNL06	A319
3959347	KM40TSS25GPWLNR06	A319
3959348	KM40TSS25GPWLNL08	A319
3959349	KM40TSS25GPWLNR08	A319
3959350	KM40TSS25HPWLNL08	A319
3959351	KM40TSS25HPWLNR08	A319
3959373	KM40TSS32JMWLNR08	A316
3959374	KM40TSS25EMDUNL15	A315
3959375	KM40TSS25EMDUNR15	A315
3959376	KM40TSS25HMDUNL15	A315
3959377	KM40TSS25HMDUNR15	A315
3959378	KM40TSS32GMDUNL15	A315
3959379	KM40TSS32GMDUNR15	A315
3959380	KM40TSS32JMDUNL15	A315
3959381	KM40TSS32JMDUNR15	A315
3959386	KM63TSLSEL27N	A478
3959387	KM63TSLSER27N	A478
3959388	KM63TSLSSL27	A478
3959389	KM63TSLSSR27	A478
3959390	KM50TSLSEL27E	A386
3959391	KM50TSLSER27E	A386
3959392	KM50TSLSEL27N	A387
3959393	KM50TSLSER27N	A387
3959394	KM50TSLSSL27	A388
3959395	KM50TSLSSR27	A388
3959398	KM40TSLSEL27N	A309
3959399	KM40TSLSER27N	A309
3959400	KM40TSLSSL27	A310
3959401	KM40TSLSSR27	A310
3959952	KM40TSSCLCL12	A297
3959978	KM50TSGB50100M	A426
3959981	KM40TSGB40080M	A343
3960003	KM40TSSCLCR12	A297
3960004	KM40TSSDJCL11	A297
3960005	KM40TSSDJCR11	A297
3960006	KM40TSSDJCL15	A297
3960007	KM40TSSDJCR15	A297
3960008	KM40TSSDNCN15045M	A298
3960009	KM40TSSDQCL11	A298
3960010	KM40TSSDQCR11	A298
3960011	KM40TSSDQCL15	A298
3960012	KM40TSSDQCR15	A298
3960013	KM40TSSDUCL11	A299
3960014	KM40TSSDUCR11	A299
3960015	KM40TSSRDCN06	A299
3960016	KM40TSSRDCN08	A299
3960017	KM40TSSRDCN10	A299
3960018	KM40TSSRGCL10	A300
3960019	KM40TSSRGCR10	A300
3960020	KM40TSSRGCL12	A300
3960021	KM40TSSRGCR12	A300
3960022	KM40TSSSDCN12	A300
3960033	KM40TSSSSCL12	A301
3960034	KM40TSSSSCR12	A301
3960035	KM40TSSTFCL16	A301
3960036	KM40TSSTFCR16	A301
3960037	KM40TSSTGCL16	A302
3960038	KM40TSSTGCR16	A302
3960039	KM40TSSVJBL16	A302
3960040	KM40TSSVJBR16	A302
3960479	TTSS05014M	A496–497, A572–573, C8–9, C24–25, C46–47, C50, C76–77, C96–97, C147–148, C159, C163, D4–5, D22–23, D40–41, D54–55, E4–5, E24–25, E66–67, F6–7, F44–45, G6, G46, I4–5
3960480	TTSS06014M	A496–497, A539, A572–573, A607, C8–9, C24–25, C46–47, C50, C76–77, C96–97, C147–148, D4–5, D22–23, D40–41, D54–55, E4–5, E24–25, E66–67, F6–7, F44–45, G6, G46, I4–5
3960481	TTSS08014M	A496–497, A538–539, A572–573, A606–607, C8–9, C24–25, C46–47, C50, C76–77, C96–97, C138, C147–148, C159, C163, D4–5, D22–23, D40–43, D54–57, E4–6, E24–27, E66–69, F6–9, F44–47, G6–8, G46–48, I4–5
3960493	TTSS12014M	A496–499, A538–541, A572–575, A606–609, C8–11, C24–25, C46–50, C76–79, C96–99, C147–149, C159, C163, D4–7, D22–25, D40–43, D54–57, E4–6, E24–27, E66–69, F6–9, F44–47, G7–8, G47–48, I5
3960494	TTSS16014M	A496–499, A538–541, A572–575, A606–609, C8–11, C24–25, C46–50, C76–79, C96–99, C147–149, C159, C163, D4–7, D22–25, D40–43, D54–57, E4–6, E24–27, E66–69, F6–9, F44–47, G7–9, G47, G49
3960497	KM40TSHC050300	A326
3960498	KM40TSHC06065M	A326
3960499	KM40TSHC08065M	A326
3960500	KM40TSHC10070M	A326
3960501	KM40TSHC12075M	A326
3960760	SS03M030	G65
3964066	KM40TSWTJNL16	A296
3964067	KM40TSWTJNR16	A296
3964071	KM40TSST1045M	A338

Order No.	Catalog No.	Page(s)
3964072	KM40TSST2070M	A338
3964133	KM50TSST1050M	A423
3964134	KM50TSST2075M	A423
3964139	KM50TSS20HLSEL16	A408
3964140	KM50TSS40LLSEL16	A408
3964141	KM50TSS40LLSEL22	A408
3964155	KM50TSS40LNKXNL15	A403
3964156	KM50TSS40LNKXNR15	A403
3964159	KM50TSS40LNVUCL16	A404
3964160	KM50TSS40LNVUCR16	A404
3969763	KM40TSTG075316	A329
3969764	KM40TSTG075075M	A328
3969765	KM40TSTG100100M	A328
3969766	KM40TSTG100417	A329
3996499	SS03M032	A546, C110, G65
4007723	KM50TSHC06065M	A411
4007724	KM50TSHC08065M	A411
4007725	KM50TSHC10070M	A411
4007726	KM50TSHC12075M	A411
4007727	KM50TSHC14075M	A411
4007728	KM50TSHC16080M	A411
4007729	KM50TSHC18080M	A411
4007730	KM50TSHC20085M	A411
4053778	KM40TSRDC13092M	A333
4053779	KM50TSRDC16106M	A418
4057060	KM50TSFBHM1677	A424
4057097	PKG–8001	A424
4061374	HSK40AST06053M	C21
4061375	HSK40AST06078M	C21
4061376	HSK40AST06103M	C21
4061377	HSK40AST08053M	C21
4061378	HSK40AST08078M	C21
4061379	HSK40AST08103M	C21
4061380	HSK40AST08128M	C21
4061381	HSK40AST10053M	C21
4061382	HSK40AST10078M	C21
4061397	HSK100AST12087M	C117
4061398	HSK100AST12137M	C117
4061399	HSK100AST12187M	C117
4061400	HSK100AST12237M	C117
4061401	HSK100AST16087M	C117
4061402	HSK100AST16137M	C117
4061413	HSK100AST16187M	C117
4061414	HSK100AST16237M	C117
4061423	HSK40AST10103M	C21
4061424	HSK40AST10128M	C21
4061425	HSK40AST12053M	C21
4061426	HSK40AST12078M	C21
4061427	HSK40AST12103M	C21
4061428	HSK40AST12128M	C21
4061429	HSK40EST06053M	C153
4061430	HSK40EST06078M	C153
4061431	HSK40EST06103M	C153
4061432	HSK40EST08053M	C153
4061433	HSK40EST08078M	C153
4061434	HSK40EST08103M	C153
4061435	HSK40EST08128M	C153
4061436	HSK40EST10053M	C153
4061437	HSK40EST10078M	C153
4061438	HSK40EST10103M	C153
4061439	HSK40EST10128M	C153
4061440	HSK50AST06059M	C31
4061441	HSK50AST06084M	C31
4061442	HSK50AST06109M	C31
4061443	HSK50AST08059M	C31
4061444	HSK50AST08084M	C31
4061445	HSK50AST08109M	C31
4061446	HSK50AST08134M	C31
4061447	HSK50AST10059M	C31
4061448	HSK50AST10084M	C31
4061449	HSK50AST10109M	C31
4061450	HSK50AST10134M	C31
4061451	HSK50AST12059M	C31
4061452	HSK50AST12084M	C31
4061453	HSK50AST12109M	C31
4061454	HSK50AST12134M	C31
4061564	HSK63AST06059M	C69
4061565	HSK63AST06084M	C69
4061566	HSK63AST06109M	C69
4061567	HSK63AST08059M	C69
4061568	HSK63AST08084M	C69
4061569	HSK63AST08109M	C69
4061570	HSK63AST08134M	C69
4061571	HSK63AST10059M	C69
4061572	HSK63AST10084M	C69
4061573	HSK63AST10109M	C69
4061574	HSK63AST10134M	C69
4061575	HSK63AST12059M	C69
4061576	HSK63AST12084M	C69
4061577	HSK63AST12109M	C69
4061578	HSK63AST12134M	C69
4061579	HSK63AST16059M	C69
4061580	HSK63AST16084M	C69
4061581	HSK63AST16109M	C69
4061582	HSK63AST16134M	C69
4062449	HSK50EST06059M	C157
4062450	HSK50EST06084M	C157
4062451	HSK50EST06109M	C157
4062452	HSK50EST08059M	C157
4062786	MS1954	A591
4062843	HSK50EST08084M	C157
4062844	HSK50EST08109M	C157
4062845	HSK50EST08134M	C157
4062846	HSK50EST10059M	C157
4062847	HSK50EST10084M	C157
4062848	HSK50EST10109M	C157
4062849	HSK50EST10134M	C157
4066108	DV40BST06038M	G35
4066109	DV40BST06058M	G35
4066110	DV40BST06078M	G35
4066111	DV40BST06098M	G35
4066112	DV40BST08038M	G35
4066123	DV40BST08058M	G35
4066124	DV40BST08078M	G35
4066125	DV40BST08098M	G35
4066126	DV40BST10038M	G35
4066127	DV40BST10058M	G35
4066128	DV40BST10078M	G35
4066129	DV40BST10098M	G35
4066130	DV40BST12038M	G35
4066131	DV40BST12058M	G35
4066132	DV40BST12078M	G35
4066133	DV40BST12098M	G35
4066134	DV40BST12118M	G35
4066135	DV40BST16038M	G35
4066136	DV40BST16058M	G35
4066137	DV40BST16078M	G35
4066138	DV40BST16098M	G35
4066139	DV40BST16118M	G35
4066159	BT40BST06047M	E55
4066160	BT40BST06067M	E55
4066161	BT40BST06087M	E55
4066162	BT40BST06107M	E55
4066303	BT40BST08047M	E55
4066304	BT40BST08067M	E55
4066305	BT40BST08087M	E55
4066306	BT40BST08107M	E55
4066307	BT40BST10047M	E55
4066308	BT40BST10067M	E55
4066309	BT40BST10087M	E55
4066310	BT40BST10107M	E55
4066311	BT40BST12047M	E55
4066312	BT40BST12067M	E55
4066313	BT40BST12087M	E55
4066314	BT40BST12107M	E55
4066315	BT40BST12127M	E55
4066316	BT40BST16047M	E55
4066317	BT40BST16067M	E55
4066318	BT40BST16087M	E55
4066319	BT40BST16107M	E55
4066320	BT40BST16127M	E55
4067906	BT50BST12087M	E90
4067907	BT50BST12137M	E90
4067908	BT50BST12187M	E90
4067909	BT50BST16087M	E90
4067910	BT50BST16137M	E90
4067911	BT50BST16187M	E90
4067912	BT50BST16237M	E90
4070054	BT30ST06032M	E18
4070055	BT30ST08032M	E18
4070056	BT30ST10032M	E18
4070057	BT30ST12032M	E18
4073528	CV40BST06M228	F34
4073529	CV40BST06M386	F34
4073530	CV40BST08M228	F34
4073531	CV40BST08M386	F34
4073532	CV40BST10M228	F34
4073643	CV40BST10M386	F34
4073644	CV40BST12M228	F34
4073645	CV40BST12M386	F34
4073646	CV40BST16M228	F34
4073647	CV40BST16M386	F34
4073648	CV50BST12M343	F78
4073649	CV50BST12M539	F78
4073650	CV50BST12M736	F78
4073651	CV50BST16M343	F78
4073652	CV50BST16M539	F78
4073653	CV50BST16M739	F78
4073654	CV50BST16M933	F78
4074129	M06WST10060M	I26
4074131	M08WST16073M	I26
4074132	M10WST20080M	I26
4074153	M12WST25086M	I26
4074154	M16WST32095M	I26
4074158	M06MST06025M	I23
4074159	M08MST08030M	I23
4074160	M10MST10035M	I23
4074161	M12MST12040M	I23
4074162	M16MST16040M	I23
4074193	M16MST08060M	I24
4074194	M16MST12040M	I24
4077815	M10MST08030M	I24
4077816	M12MST06060M	I24
4077817	M12MST08080M	I24
4077818	M12MST06040M	I24
4077819	M12MST08060M	I24
4077820	M12MST10035M	I24
4077821	M12MST08040M	I24
4077822	M12MST06080M	I24
4077823	M16MST08080M	I24
4077824	M16MST10080M	I24
4077825	M16MST10060M	I24
4077826	M08MST06025M	I24
4078806	KLSS27M	A336, A420, A508, A547, A586, A616, C20, C30, C64–65, C87, C112, C114, D14, D16, D32, D34, E17, E48, E51, E84, E87, G31, G33, G67, G69, L37
4078807	KLSS32M	A420, A508, A547, A586, A616, C65, C87, C112, C114, D16, D32, D34, E51, E84, E87, G33, G67, G69, L37
4078808	KLSS40M	A508, A547, A616, C65, C87, C114, D34, E51, E87, G33, G69, L37
4098740	KM50TSMCLNR12BB	A359
4098741	KM50TSMCLNL12BB	A359
4134686	LN050M	F19, F58, L18
4135132	DV40BTDSMC22260M	G31
4135483	DV40BTDSMC27260M	G31
4135484	DV50BTDSMC22260M	G67
4135485	DV50BTDSMC27320M	G67
4135486	DV50BTDSMC32330M	G67
4135487	BT40BTDSMC22260M	E48
4135488	BT40BTDSMC27260M	E48
4135489	BT40BTDSMC0751050	E49
4135490	BT40BTDSMC1001050	E49
4135491	BT50BTDSMC22260M	E84
4135492	BT50BTDSMC27320M	E84
4135493	BT50BTDSMC32330M	E84
4135494	BT50BTDSMC0751050	E85
4135495	BT50BTDSMC1001250	E85
4135496	BT50BTDSMC1251300	E85
4135497	CVKV40BTDSMC0750900	D49
4135498	CVKV40BTDSMC1000900	D49
4135499	CVKV50BTDSMC0751050	D64
4135500	CVKV50BTDSMC1001250	D64
4135501	CVKV50BTDSMC1251300	D64
4135683	CV40BTG050300	F19
4135684	CV40BTG050500	F19
4135685	CV40BTG050800	F19
4135686	CV40BTG0501000	F19
4135687	CV50BTG050300	F58
4135688	CV50BTG050500	F58
4135689	CV50BTG050800	F58
4135690	CV50BTG0501000	F58
4135691	CV50BTG0501200	F58
4135978	HSK63ATDSMC27260M	C64
4135979	HSK63ATDSMC0750866	C64
4135980	HSK63ATDSMC1001050	C64
4135981	HSK100ATDSMC22260M	C112
4135982	HSK100ATDSMC27320M	C112
4136187	CV40BTDSMC0750900	F31
4136188	CV40BTDSMC1000900	F31
4136189	CV50BTDSMC0751050	F75
4136190	CV50BTDSMC1001250	F75
4136191	CV50BTDSMC1251300	F75
4136192	HSK63ATDSMC22220M	C64
4136283	HSK100ATDSMC32330M	C112
4136284	HSK100ATDSMC0751050	C113
4136285	HSK100ATDSMC1001250	C113
4136286	HSK100ATDSMC1251300	C113
4136287	BTKV40BTDSMC22260M	D14
4136288	BTKV40BTDSMC27260M	D14
4136289	BTKV40BTDSMC0751050	D15
4136290	BTKV40BTDSMC1001050	D15
4136291	BTKV50BTDSMC22260M	D32
4136292	BTKV50BTDSMC27320M	D32
4136303	BTKV50BTDSMC32330M	D32
4136304	BTKV50BTDSMC0751050	D33
4136305	BTKV50BTDSMC1001250	D33
4136306	BTKV50BTDSMC1251300	D33
4137620	KM63TSSTC06059M	A510
4137621	KM63TSSTC06084M	A510
4137622	KM63TSSTC06109M	A510
4137801	KM50TSSTC06059M	A422
4137802	KM50TSSTC06084M	A422
4137823	KM50TSSTC06109M	A422
4137824	KM50TSSTC08059M	A422
4137825	KM50TSSTC08084M	A422
4137826	KM50TSSTC08109M	A422
4137827	KM50TSSTC08134M	A422
4137828	KM50TSSTC10059M	A422
4137829	KM50TSSTC10084M	A422
4137830	KM50TSSTC10109M	A422
4137831	KM50TSSTC10134M	A422
4137832	KM50TSSTC12059M	A422
4137833	KM50TSSTC12084M	A422
4137834	KM50TSSTC12109M	A422
4137835	KM50TSSTC12134M	A422
4137836	KM80TSSTC12087M	A548
4137837	KM80TSSTC12137M	A548
4137838	KM80TSSTC12187M	A548
4137839	KM80TSSTC12237M	A548
4137840	KM80TSSTC16087M	A548
4137841	KM80TSSTC16137M	A548
4137842	KM80TSSTC16187M	A548
4137853	KM63TSSTC08059M	A510
4137854	KM63TSSTC08084M	A510
4137855	KM63TSSTC08109M	A510
4137856	KM63TSSTC08134M	A510
4137857	KM63TSSTC10059M	A510
4137858	KM63TSSTC10084M	A510
4137859	KM63TSSTC10109M	A510
4137860	KM63TSSTC10134M	A510
4137861	KM63TSSTC12059M	A510
4137862	KM63TSSTC12084M	A510
4137873	KM63TSSTC12109M	A510
4137874	KM63TSSTC12134M	A510
4137875	KM63TSSTC16059M	A510
4137876	KM63TSSTC16084M	A510
4137877	KM63TSSTC16109M	A510
4137878	KM63TSSTC16134M	A510
4137883	KM80TSSTC16237M	A548
4144667	HSK50ASM2C16050M	C30
4144668	HSK50ASM2C22060M	C30
4144669	HSK100ASM2C16050M	C114
4144670	HSK100ASM2C22050M	C114
4155746	KM4X100HPVTT025335	A623
4155747	KM4X100HPVTT025630	A623
4155748	KM4X100HPVTT031335	A623
4155749	KM4X100HPVTT031630	A623
4155750	KM4X100HPVTT038354	A623
4155751	KM4X100HPVTT038630	A623
4155752	KM4X100HPVTT050374	A623
4156046	KM4X100HPVTT06085M	A622
4156047	KM4X100HPVTT06160M	A622
4156048	KM4X100HPVTT08085M	A622

Order No.	Catalog No.	Page(s)
4156049	KM4X100HPVTT08160M	A622
4156050	KM4X100HPVTT10090M	A622
4156051	KM4X100HPVTT10160M	A622
4156052	KM4X100HPVTT12095M	A622
4156113	KM4X100HPVTT12160M	A622
4156114	KM4X100HPVTT14095M	A622
4156115	KM4X100HPVTT14160M	A622
4156116	KM4X100HPVTT16100M	A622
4156117	KM4X100HPVTT16160M	A622
4156118	KM4X100HPVTT18100M	A622
4156119	KM4X100HPVTT18160M	A622
4156120	KM4X100HPVTT20105M	A622
4156121	KM4X100HPVTT20160M	A622
4156122	KM4X100HPVTT25115M	A622
4156123	KM4X100HPVTT25160M	A622
4156124	KM4X100HPVTT32120M	A622
4156125	KM4X100HPVTT32160M	A622
4156153	KM4X100HPVTT050630	A623
4156154	KM4X100HPVTT062394	A623
4156155	KM4X100HPVTT062630	A623
4156156	KM4X100HPVTT075413	A623
4156157	KM4X100HPVTT075630	A623
4156158	KM4X100HPVTT088413	A623
4156159	KM4X100HPVTT088630	A623
4156160	KM4X100HPVTT100453	A623
4156161	KM4X100HPVTT100630	A623
4156162	KM4X100HPVTT125472	A623
4156163	KM4X100HPVTT125630	A623
4156164	KM4X100HPVTT150531	A623
4156166	KM4X100HPVTTHT050374	A625
4156167	KM4X100HPVTTHT050630	A625
4156168	KM4X100HPVTTHT062394	A625
4156169	KM4X100HPVTTHT062630	A625
4156170	KM4X100HPVTTHT075413	A625
4156171	KM4X100HPVTTHT075630	A625
4156172	KM4X100HPVTTHT088413	A625
4156182	KM4X100HPVTTHT12095M	A624
4156193	KM4X100HPVTTHT14095M	A624
4156194	KM4X100HPVTTHT16100M	A624
4156195	KM4X100HPVTTHT18100M	A624
4156196	KM4X100HPVTTHT20105M	A624
4156197	KM4X100HPVTTHT25115M	A624
4156198	KM4X100HPVTTHT32120M	A624
4156203	KM4X100HPVTTHT088630	A625
4156204	KM4X100HPVTTHT100453	A625
4156205	KM4X100HPVTTHT100630	A625
4156206	KM4X100HPVTTHT125472	A625
4156207	KM4X100HPVTTHT125630	A625
4156208	KM4X100HPVTTHT150531	A625
4156445	KM4X100TG050105M	A626
4156446	KM4X100TG050160M	A626
4156447	KM4X100TG075120M	A626
4156448	KM4X100TG100140M	A626
4156449	KM4X100TG150165M	A626
4156599	KLM48BB	A359
4159439	KM4X100HTS40085M	A629
4159440	KM4X100HTS50090M	A629
4159999	KM4X100ER16100M	A627
4160000	KM4X100ER16160M	A627
4160001	KM4X100ER20100M	A627
4160002	KM4X100ER25100M	A627
4160043	KM4X100ER32100M	A627
4160044	KM4X100ER32160M	A627
4160045	KM4X100ER40120M	A627
4160047	KM4X100WN06090M	A628
4160048	KM4X100WN08090M	A628
4160049	KM4X100WN10090M	A628
4160050	KM4X100WN12100M	A628
4160051	KM4X100WN14100M	A628
4160052	KM4X100WN16100M	A628
4160073	KM4X100WN18100M	A628
4160074	KM4X100WN20110M	A628
4160075	KM4X100WN25120M	A628
4160076	KM4X100WN32120M	A628
4160286	KM4X100SMC075400	A633
4160287	KM4X100SM2C075400	A633
4160289	KM4X100SMC075600	A633
4160290	KM4X100SM2C075600	A633
4160291	KM4X100SMC100400	A633
4160292	KM4X100SM2C100400	A633
4160313	KM4X100SMC100600	A633
4160314	KM4X100SM2C100600	A633
4160315	KM4X100SMC125400	A633
4160316	KM4X100SMC125600	A633
4160317	KM4X100SMC150400	A633
4160318	KM4X100SMC150600	A633
4160319	KM4X100SMC200400	A633
4160320	KM4X100SMC200600	A633
4160321	KM4X100SMC250400	A633
4160322	KM4X100SMC250600	A633
4160335	KM4X100SMC22050M	A632
4160337	KM4X100SMC22100M	A632
4160338	KM4X100SMC22160M	A632
4160340	KM4X100SMC27050M	A632
4160341	KM4X100SMC27100M	A632
4160342	KM4X100SMC27160M	A632
4160343	KM4X100SMC32050M	A632
4160344	KM4X100SMC32100M	A632
4160345	KM4X100SMC32160M	A632
4160346	KM4X100SMC40060M	A632
4160347	KM4X100SMC40100M	A632
4160348	KM4X100SMC40160M	A632
4160350	KM4X100SMC50070M	A632
4160351	KM4X100SMC50100M	A632
4160352	KM4X100SMC50160M	A632
4160353	KM4X100SMC60070M	A632
4160354	KM4X100SMC60100M	A632
4160355	KM4X100SMC60160M	A632
4160427	SS120STCHM06085M	I25
4160428	SS120STCHM06105M	I25
4160430	SS120STCHM06125M	I25
4160431	SS160STCHM08088M	I25
4160432	SS160STCHM08108M	I25
4160473	SS160STCHM08128M	I25
4160474	SS160STCHM08148M	I25
4160475	SS160STCHM08168M	I25
4160476	SS200STCHM10090M	I25
4160477	SS200STCHM10110M	I25
4160478	SS200STCHM10130M	I25
4160479	SS200STCHM10150M	I25
4160480	SS200STCHM10170M	I25
4160510	KM4X100EM06080M	A630
4160511	KM4X100EM08080M	A630
4160512	KM4X100EM10080M	A630
4160518	KM4X100EM025300	A630
4160519	KM4X100EM038300	A630
4160520	KM4X100EM050325	A630
4160521	KM4X100EM062375	A630
4160522	KM4X100EM075375	A630
4160529	KM4X100GB40349M	A635
4160533	KM4X100EM12080M	A630
4160534	KM4X100EM14080M	A630
4160535	KM4X100EM16100M	A630
4160536	KM4X100EM18100M	A630
4160537	KM4X100EM20100M	A630
4160538	KM4X100EM25100M	A630
4160539	KM4X100EM32100M	A630
4160540	KM4X100EM40120M	A630
4160541	KM4X100EM50130M	A630
4160571	KM4X100BN080150M	A635
4160572	KM4X100BN110150M	A635
4160573	KM4X100EM100425	A630
4160574	KM4X100EM125425	A630
4160575	KM4X100EM150450	A630
4160576	KM4X100EM200550	A630
4160577	KM4X100EM250575	A630
4160613	KM4X100BN130200M	A635
4161095	ICSN433BB K9	A359
4161856	KM4X100KM32075M	A634
4161858	KM4X100KM40080M	A634
4161859	KM4X100KM40100M	A634
4161860	KM4X100KM40150M	A634
4161861	KM4X100KM50100M	A634
4161862	KM4X100KM50150M	A634
4161863	KM4X100KM50200M	A634
4161864	KM4X100KM63100M	A634
4161865	KM4X100KM63150M	A634
4161866	KM4X100KM63200M	A634
4161867	KM4X100KM80100M	A634
4161868	KM4X100KM80150M	A634
4161869	KM4X100KM80200M	A634
4169583	KM4X100TDSMC22260M	A631
4169584	KM4X100TDSMC27320M	A631
4169585	KM4X100TDSMC32330M	A631
4169586	KM4X100TDSMC0751050	A631
4169587	KM4X100TDSMC1001250	A631
4169588	KM4X100TDSMC1251300	A631
4170385	CM209R ASSY	A265, A345, A434, A519, A593
4180988	PSW45M	E40, E80, G26, G62
5086814	TTAAG16MX1	L12
5086815	TTAAG18MX1	L12
5086816	TTAAG20MX1	L12
5086817	TTAAG25MX1	L12
5086818	TTAAG32MX1	L12
5089582	CV40ZBSFTT12M256	F5
5089583	CV40ZBSFTT16M256	F5
5089584	CV40ZBSFTT20M256	F5
5089585	CV40ZBSFTT25M295	F5
5089586	CV40ZBSFTT050256	F5
5089587	CV40ZBSFTT062256	F5
5089588	CV40ZBSFTT075256	F5
5089589	CV40ZBSFTT100295	F5
5089650	CV50ZBSFTT12M315	F42
5089651	CV50ZBSFTT14M315	F42
5089652	CV50ZBSFTT16M315	F42
5089653	CV50ZBSFTT18M315	F42
5089654	CV50ZBSFTT20M315	F42
5089655	CV50ZBSFTT25M394	F42
5089656	CV50ZBSFTT050315	F42
5089657	CV50ZBSFTT062315	F42
5089658	CV50ZBSFTT075315	F42
5089659	CV50ZBSFTT100394	F42
5089660	CV50ZBSFHDTT25M354	F43
5089661	CV50ZBSFHDTT32M354	F43
5089662	CV50ZBSFHDTT40M394	F43
5089663	CV50ZBSFHDTT50M551	F43
5089664	CV50ZBSFHDTT100354	F43
5089665	CV50ZBSFHDTT125354	F43
5089666	CV50ZBSFHDTT150394	F43
5089667	CV50ZBSFHDTT200551	F43
5090056	HSK100ASFTT12095M	C94
5090057	HSK100ASFTT14095M	C94
5090058	HSK100ASFTT16100M	C94
5090059	HSK100ASFTT18100M	C94
5090210	HSK100ASFTT20105M	C94
5090211	HSK100ASFTT25115M	C94
5090212	HSK100ASFHDTT16100M	C95
5090213	HSK100ASFHDTT20100M	C95
5090214	HSK100ASFHDTT25110M	C95
5090215	HSK100ASFHDTT32110M	C95
5090216	HSK100ASFHDTT40140M	C95
5090217	HSK100ASFHDTT50140M	C95
5090218	HSK63ASFTT12070M	C45
5090219	HSK63ASFTT14075M	C45
5090220	HSK63ASFTT16075M	C45
5090221	HSK63ASFTT18075M	C45
5090222	HSK63ASFTT20075M	C45
5090223	HSK63ASFTT25085M	C45
5090224	HSK63ASFTT32085M	C45
5090225	HSK100ASFTT050374	C94
5090226	HSK100ASFTT062394	C94
5090227	HSK100ASFTT075413	C94
5090228	HSK100ASFTT100453	C94
5090229	HSK100ASFHDTT100433	C95
5090230	HSK100ASFHDTT125433	C95
5090231	HSK100ASFHDTT150551	C95
5090232	HSK100ASFHDTT200551	C95
5090233	HSK63ASFTT050276	C45
5090234	HSK63ASFTT062295	C45
5090235	HSK63ASFTT075295	C45
5090236	HSK63ASFTT100335	C45
5090237	HSK63ASFTT125335	C45
5090239	DV40BSFTT16065M	G5
5090260	DV40BSFTT18065M	G5
5090261	DV40BSFTT20065M	G5
5090262	DV40BSFTT25075M	G5
5090263	DV40BSFTT32080M	G5
5090264	BT40BSFTT12070M	E23
5090265	BT40BSFTT14075M	E23
5090266	BT40BSFTT16075M	E23
5090267	BT40BSFTT18075M	E23
5090268	BT40BSFTT20075M	E23
5090269	BT40BSFTT25085M	E23
5090270	BT40BSFTT32085M	E23
5090271	DV50BSFTT12080M	G44
5090272	DV50BSFTT14080M	G44
5090273	DV50BSFTT16080M	G44
5090274	DV50BSFTT18080M	G44
5090275	DV50BSFTT20080M	G44
5090276	DV50BSFTT25100M	G44
5090277	BT50BSFTT12100M	E64
5090278	BT50BSFTT14100M	E64
5090279	BT50BSFTT16100M	E64
5090280	BT50BSFTT18100M	E64
5090281	BT50BSFTT20100M	E64
5090282	BT50BSFTT25100M	E64
5129960	BT40BSFTT050276	E23
5129962	BT40BSFTT062295	E23
5129963	BT40BSFTT075295	E23
5129964	BT40BSFTT100335	E23
5129965	BT50BSFTT050394	E64
5129966	BT50BSFTT062394	E64
5129967	BT50BSFTT075394	E64
5129968	BT50BSFTT100394	E64
5129969	DV40BSFTT12065M	G5
5129970	DV40BSFTT14065M	G5
5275038	TTISG3400NA	L4
5275039	TTISG3400CCNA	L8
5275128	TTISG3400EU	L4
5275129	TTISG3400CCEU	L8

Catalog No.	Page(s)
170.008	A629
191.728	A629
192.424	A629
192.425	A629
000DA010M	J65
000DA012M	J65
000DA015M	J65
000DA017M	J65
000DA020M	J65
000DA022M	J65
000DA025M	J65
000DA027M	J65
000DA030M	J65
000DA032M	J65
000DA035M	J66
000DA037M	J66
000DA040M	J66
000DAS000M	J69
100DA0047	J67
100DA0062	J67
100DA0078	J67
100DA0094	J67
100DA0109	J67
100DA0125	J67
100DA0141	J67
100DA0156	J67
100DA0172	J67
100DA0188	J67
100DA0203	J67
100DA0219	J67
100DA0234	J67
100DA0250	J67
100DA025M	J65
100DA0266	J67
100DA0281	J67
100DA0297	J67
100DA030M	J65
100DA0312	J67
100DA0328	J67
100DA0344	J67
100DA0359	J67
100DA035M	J66
100DA0375	J67
100DA0391	J67
100DA0406	J67
100DA040M	J66
100DA0422	J67
100DA0438	J67
100DA0453	J67
100DA045M	J66
100DA0469	J67
100DA0484	J67
100DA0500	J68
100DA050M	J66
100DA0516	J68
100DA0531	J68
100DA0547	J68
100DA055M	J66
100DA0562	J68
100DA060M	J66
100DA065M	J66
100DA070M	J66
100DA075M	J66
100DA080M	J66
100DA085M	J66
100DA090M	J66
100DA095M	J66
100DA100M	J66
100DA105M	J66
100DA110M	J66
100DA115M	J66
100DA120M	J66
100DA125M	J66
100DA130M	J66
100DA135M	J66
100DA140M	J66
100DAC0125	J67
100DAC0141	J67
100DAC0156	J67
100DAC0172	J67
100DAC0188	J67
100DAC0203	J67
100DAC0219	J67
100DAC0234	J67
100DAC0250	J67
100DAC0266	J67
100DAC0281	J67
100DAC0297	J67
100DAC0312	J67
100DAC0328	J67
100DAC0344	J67
100DAC0359	J67
100DAC0375	J67
100DAC0391	J67
100DAC0406	J67
100DAC0422	J67
100DAC0438	J67
100DAC0453	J67
100DAC0469	J67
100DAC0484	J67
100DAC0500	J68
100DAC0516	J68
100DAC0531	J68
100DAC0547	J68
100DAC0562	J68
100DAC060M	J66
100DAC080M	J66
100DAC100M	J66
100DAC120M	J66
100DAC140M	J66
100DAS000M	J69
100TG0094	J34
100TG0109	J34
100TG0125	J34
100TG0141	J34
100TG0156	J34
100TG0172	J34
100TG0188	J34
100TG0203	J34
100TG0219	J35
100TG0234	J35
100TG0250	J35
100TG0266	J35
100TG0281	J35
100TG0297	J35
100TG030M	J30
100TG0312	J35
100TG0328	J35
100TG0344	J35
100TG0359	J35
100TG035M	J30
100TG0375	J35
100TG0391	J35
100TG0406	J35
100TG040M	J30
100TG0422	J35
100TG0438	J35
100TG0453	J35
100TG045M	J30
100TG0469	J35
100TG0484	J35
100TG0500	J35
100TG050M	J30
100TG0516	J36
100TG0531	J36
100TG0547	J36
100TG055M	J30
100TG0562	J36
100TG0578	J36
100TG0594	J36
100TG0609	J36
100TG060M	J30
100TG0625	J36
100TG0641	J36
100TG0656	J36
100TG065M	J31
100TG0672	J36
100TG0688	J36
100TG0703	J36
100TG070M	J31
100TG0719	J36
100TG0734	J36
100TG0750	J36
100TG075M	J31
100TG0766	J36
100TG0781	J36
100TG0797	J36
100TG080M	J31
100TG0812	J36
100TG0828	J37
100TG0844	J37
100TG0859	J37
100TG085M	J31
100TG0875	J37
100TG0891	J37
100TG0906	J37
100TG090M	J31
100TG0922	J37
100TG0938	J37
100TG0953	J37
100TG095M	J31
100TG0969	J37
100TG0984	J37
100TG1000	J37
100TG100M	J31
100TG105M	J31
100TG115M	J31
100TG120M	J31
100TG125M	J31
100TG130M	J31
100TG135M	J31
100TG140M	J31
100TG145M	J31
100TG150M	J31
100TG155M	J31
100TG160M	J31
100TG165M	J31
100TG170M	J31
100TG175M	J31
100TG180M	J32
100TG185M	J32
100TG190M	J32
100TG195M	J32
100TG200M	J32
100TG205M	J32
100TG210M	J32
100TG220M	J32
100TG225M	J32
100TG230M	J31
100TG235M	J31
100TG240M	J31
100TG245M	J31
100TG250M	J31
100TG255M	J31
100TGC0250	J35
100TGC0266	J35
100TGC0281	J35
100TGC0297	J35
100TGC0312	J35
100TGC0328	J35
100TGC0344	J35
100TGC0359	J35
100TGC0375	J35
100TGC0391	J35
100TGC0406	J35
100TGC0422	J35
100TGC0438	J35
100TGC0453	J35
100TGC0469	J35
100TGC0484	J35
100TGC0500	J35
100TGC0516	J36
100TGC0531	J36
100TGC0547	J36
100TGC0562	J36
100TGC0578	J36
100TGC0594	J36
100TGC0609	J36
100TGC060M	J30
100TGC0625	J36
100TGC0641	J36
100TGC0656	J36
100TGC0672	J36
100TGC0688	J36
100TGC0703	J36
100TGC0719	J36
100TGC0734	J36
100TGC0750	J36
100TGC0766	J36
100TGC0781	J36
100TGC0797	J36
100TGC080M	J31
100TGC0812	J36
100TGC0828	J37
100TGC0844	J37
100TGC0875	J37
100TGC0891	J37
100TGC0906	J37
100TGC0922	J37
100TGC0938	J37
100TGC0953	J37
100TGC0969	J37
100TGC0984	J37
100TGC1000	J37
100TGC100M	J31
100TGC120M	J31
100TGC140M	J31
100TGC160M	J31
100TGC180M	J32
100TGC200M	J32
100TGC250M	J31
100TGCE	L15
100TGCHP0375	J35
100TGCHP0438	J35
100TGCHP0500	J35
100TGCHP0562	J36
100TGCHP0625	J36
100TGCHP0688	J36
100TGCHP0750	J36
100TGCHP0875	J37
100TGCHP1000	J37
100TGCHP100M	J31
100TGCHP120M	J31
100TGCHP140M	J31
100TGCHP160M	J31
100TGCHP180M	J32
100TGCHP200M	J32
100TGCHP250M	J31
100TGHP0125	J34
100TGHP0188	J34
100TGHP0250	J35
100TGHP0312	J35
100TGHP0375	J35
100TGHP0438	J35
100TGHP0500	J35
100TGHP0562	J36
100TGHP060M	J30
100TGHP0625	J36
100TGHP0688	J36
100TGHP0750	J36
100TGHP080M	J31
100TGHP0875	J37
100TGHP1000	J37
100TGHP100M	J31
100TGHP140M	J31
100TGHP180M	J32
100TGHP200M	J32
100TGHP250M	J31
100TGNP0375	J35
100TGNP0500	J35
100TGNP060M	J30
100TGNP0625	J36
100TGNP0750	J36
100TGNP0875	J37
100TGNP1000	J37
100TGNP120M	J31
100TGNP160M	J31
100TGNP200M	J32
100TGNP250M	J31
100TGST006P	J40
100TGST012P	J40
100TGST025	J40
100TGST025P	J41
100TGST031	J40
100TGST037	J40
100TGST037P	J41
100TGST043	J40
100TGST050	J40

Catalog No.	Page(s)
100TGST050P	J41
100TGST056	J40
100TGST062	J40
100TGST068	J40
100TGST075	J41
100TGST075P	J41
100TGST081	J41
100TGST087	J41
100TGST090071M	J40
100TGST094	J41
100TGST10	J40
100TGST100	J41
100TGST100080M	J40
100TGST110090M	J40
100TGST112	J41
100TGST12	J40
100TGST120090M	J40
100TGST140110M	J40
100TGST160120M	J40
100TGST180145M	J40
100TGST6	J40
100TGST8	J40
100TGSTC031	J40
100TGSTC037	J40
100TGSTC043	J40
100TGSTC050	J40
100TGSTC062	J40
100TGSTC075	J41
100TGSTC087	J41
100TGSTC100	J41
10SMC0125	J9
10SMC0188	J9
10SMC0250	J9
10SMC0312	J9
10SMC0375	J9
10SMC0438	J9
10SMC0500	J9
10SMC0563	J9
10SMC060M	J8
10SMC0625	J9
10SMC0750	J9
10SMC080M	J8
10SMC0875	J9
10SMC100M	J8
10SMC120M	J8
10SMC140M	J8
10SMC160M	J8
10SMC180M	J9
10SMC200M	J9
118.404	A528–529, A600
118.604	A529, A600
119.073	528, A600
11ER010M	J54
11ER015M	J54
11ER020M	J54
11ER025M	J54
11ER030M	J54
11ER035M	J54
11ER040M	J54
11ER045M	J54
11ER050M	J54
11ER055M	J54
11ER060M	J54
11ER065M	J54
11ER070M	J54
11ERS000M	J57
121.030	A529, A600
121.820	A528–529, A600
121.830	A556
12146021000 W	A201
12146021100 W	A201
12146032300 W	L58
12146032400 W	L58
12146032500 W	L58
12146032600 W	L58
12146032700 W	L58
12146032800 W	L58
12146033500 W	L58
12147625400 W	A201
12147658400 W	A201
12148562500 W	A528
12148781500	A201

Catalog No.	Page(s)
125.316	A114
12649910800	A312, A391, A481–482, C39
12649910900	A312, A391, A481–482, C39
12HC0500	J5
12HC0562	J5
12HC0625	J5
12HC0688	J5
12HC0750	J5
12HC0812	J5
12HC0875	J5
12HC1000	J5
12HC160M	J5
12HC180M	J5
12HC200M	J5
12HC250M	J5
12MHC030M	J4
12MHC040M	J4
12MHC050M	J4
12MHC060M	J4
12MHC070M	J4
12MHC080M	J4
12MHC090M	J4
12MHC100M	J4
12SMC0125	J9
12SMC0188	J9
12SMC0250	J9
12SMC0312	J9
12SMC0375	J9
12SMC0438	J9
12SMC0500	J9
12SMC0563	J9
12SMC060M	J8
12SMC0625	J9
12SMC0750	J9
12SMC080M	J8
12SMC0875	J9
12SMC1000	J9
12SMC100M	J8
12SMC120M	J8
12SMC140M	J8
12SMC160M	J8
12SMC180M	J9
12SMC200M	J9
12SMC220M	J9
12SMC250M	J9
150TG0375	J44
150TG0391	J44
150TG0406	J44
150TG0422	J44
150TG0438	J44
150TG0453	J44
150TG0468	J44
150TG0484	J44
150TG0500	J44
150TG0516	J44
150TG0531	J44
150TG0547	J45
150TG0562	J45
150TG0578	J45
150TG0594	J45
150TG0609	J45
150TG0625	J45
150TG0641	J45
150TG0656	J45
150TG0672	J45
150TG0688	J45
150TG0703	J45
150TG0719	J45
150TG0734	J45
150TG0750	J45
150TG0766	J45
150TG0781	J45
150TG0797	J45
150TG0812	J45
150TG0828	J45
150TG0844	J45
150TG0859	J45
150TG0875	J45
150TG0891	J45
150TG0906	J45
150TG0922	J45
150TG0938	J45

Catalog No.	Page(s)
150TG0953	J45
150TG0969	J45
150TG0984	J45
150TG1000	J45
150TG1016	J45
150TG1031	J45
150TG1047	J45
150TG1062	J45
150TG1078	J45
150TG1094	J45
150TG1109	J45
150TG1125	J45
150TG1141	J45
150TG1156	J45
150TG1172	J45
150TG1187	J45
150TG1203	J45
150TG120M	J42
150TG1219	J46
150TG1234	J46
150TG1250	J46
150TG1266	J46
150TG1281	J46
150TG1297	J46
150TG130M	J42
150TG1312	J46
150TG1328	J46
150TG1344	J46
150TG1359	J46
150TG1375	J46
150TG1391	J46
150TG1406	J46
150TG140M	J42
150TG1422	J46
150TG1438	J46
150TG1453	J46
150TG145M	J42
150TG1469	J46
150TG1484	J46
150TG1500	J46
150TG150M	J42
150TG160M	J42
150TG180M	J42
150TG190M	J42
150TG200M	J42
150TG210M	J42
150TG220M	J43
150TG250M	J43
150TG255M	J43
150TG260M	J43
150TG270M	J43
150TG280M	J43
150TG300M	J43
150TG320M	J43
150TG340M	J43
150TG350M	J43
150TG360M	J43
150TG380M	J43
150TG400M	J43
150TGCE	L15
150TGCHP1000	J45
150TGCHP1250	J46
150TGCHP1500	J46
150TGNP0500	J44
150TGNP0625	J45
150TGNP0750	J45
150TGNP0875	J45
150TGNP1000	J45
150TGNP1250	J46
150TGNP1500	J46
150TGNP250M	J43
150TGNP320M	J43
150TGS000M	J47
150TGST037P	J48
150TGST050P	J48
150TGST075	J48
150TGST075P	J48
150TGST100	J48
150TGST100P	J48
150TGST112	J48
150TGST125	J48
150TGST125P	J48

Catalog No.	Page(s)
150TGST137	J48
150TGST150	J48
150TGST150P	J48
150TGST162	J48
150TGST175	J48
169.333	A528, A600
169.337	A528–529, A600
169.339	A529, A600
16ER0062	J56
16ER0094	J56
16ER010M	J54
16ER0125	J56
16ER0156	J56
16ER015M	J54
16ER0188	J56
16ER020M	J54
16ER0219	J56
16ER0250	J56
16ER025M	J54
16ER0281	J56
16ER030M	J54
16ER0312	J56
16ER0344	J56
16ER035M	J54
16ER0375	J56
16ER0406	J56
16ER040M	J54
16ER045M	J54
16ER050M	J54
16ER055M	J54
16ER060M	J54
16ER065M	J54
16ER070M	J54
16ER075M	J54
16ER080M	J54
16ER085M	J55
16ER090M	J55
16ER095M	J55
16ER100M	J55
16ERS000M	J57
16ERS000SET2	J57
16ERTC025	J59
16ERTC045034M	J58
16ERTC055043M	J58
16ERTC060049M	J58
16ERTC070055M	J58
16ERTC080062M	J58
16ERTC090070M	J58
16ERTC10	J59
16ERTC12	J59
16ERTC8	J59
170.002	A326, A411, A500–501, A577, C12, C14, C26, C52–54, C80, C100–102, C124, C128, C130, C136, E28–30, E70–72, F10–13, F48–50, G10–12, G50–52
170.003	A411, A500–501, A576–577, C13, C15, C52, C54, C80, C100, C102–103, C124, C129, C136, C150, E7, E28, E30–31, E70, E72–73, F10, F12–15, F48, F50, F52–53, G10, G12–13, G50, G52
170.004	A500, A576, C54, C80, C102, E30, E72, F12–13, F50, G12, G52
170.005	C13, C103, C129, C150, E7, E31, E73–74, F14–16, F52–54, G13, G53
170.135	A326, A411, A500–501, A576–577, C12–15, C26, C52–55, C80–81, C100–103, C128–130, C136–137, C141–142, C150, C156, E7, E28–32, E70–74, F10–16, F48–50, F52–54, G10–14, G50–53
170.136	A500, A576, C54–55, C80–81, C102–103, C141–142, E30–31, E72–73, F12–15, F50, F52–53, G12, G52
170.195	L44
170.196	L44
170.197	L44
170.198	L44
170.199	L44
170.254	C14, C124

Catalog No.	Page(s)
180DA0047	J67
180DA0062	J67
180DA0078	J67
180DA0094	J67
180DA0109	J67
180DA0125	J67
180DA0141	J67
180DA0156	J67
180DA0172	J67
180DA0188	J67
180DA0203	J67
180DA0219	J67
180DA0234	J67
180DA0250	J67
180DA0266	J67
180DA0281	J67
180DA0297	J67
180DA030M	J65
180DA0312	J67
180DA0328	J67
180DA0344	J67
180DA0359	J67
180DA035M	J66
180DA0375	J67
180DA0391	J67
180DA0406	J67
180DA040M	J66
180DA0422	J67
180DA0438	J67
180DA0453	J67
180DA045M	J66
180DA0469	J67
180DA0484	J68
180DA0500	J68
180DA050M	J66
180DA0516	J68
180DA0531	J68
180DA0547	J68
180DA055M	J66
180DA0562	J68
180DA0578	J68
180DA0594	J68
180DA0609	J68
180DA060M	J66
180DA0625	J68
180DA0641	J68
180DA0656	J68
180DA065M	J66
180DA0672	J68
180DA0688	J68
180DA0703	J68
180DA070M	J66
180DA0719	J68
180DA0734	J68
180DA0750	J68
180DA075M	J66
180DA080M	J66
180DA085M	J66
180DA090M	J66
180DA095M	J66
180DA100M	J66
180DA105M	J66
180DA110M	J66
180DA115M	J66
180DA120M	J66
180DA125M	J66
180DA130M	J66
180DA135M	J66
180DA140M	J66
180DA145M	J66
180DA150M	J66
180DA155M	J66
180DA160M	J66
180DA165M	J66
180DA170M	J66
180DA175M	J66
180DA180M	J66
180DA185M	J66
180DA190M	J66
180DA195M	J66
180DA200M	J66
180DAC0250	J67
180DAC0266	J67
180DAC0281	J67
180DAC0297	J67
180DAC0312	J67
180DAC0328	J67
180DAC0344	J67
180DAC0359	J67
180DAC0375	J67
180DAC0391	J67
180DAC0406	J67
180DAC0422	J67
180DAC0438	J67
180DAC0453	J67
180DAC0469	J67
180DAC0484	J68
180DAC0500	J68
180DAC0516	J68
180DAC0531	J68
180DAC0547	J68
180DAC0562	J68
180DAC0578	J68
180DAC0594	J68
180DAC0609	J68
180DAC060M	J66
180DAC0625	J68
180DAC0641	J68
180DAC0656	J68
180DAC0672	J68
180DAC0688	J68
180DAC0703	J68
180DAC0719	J68
180DAC0734	J68
180DAC0750	J68
180DAC080M	J66
180DAC100M	J66
180DAC120M	J66
180DAC140M	J66
180DAC160M	J66
180DAC180M	J66
180DAC200M	J66
180DANP0375	J67
180DANP0500	J68
180DANP0625	J68
180DANP0750	J68
180DANP100M	J66
180DANP120M	J66
180DANP160M	J66
180DAS000M	J69
190.228	A536
192.950	L15
192.951	L15
192.952	L15
192.953	L15
192.954	L15
192.955	L15
192.956	L15
192.957	L15
192.958	L15
192.959	L15
193.158	L44
193.159	L44
193.160	L44
193.161	L44
193.162	L44
200DA0047	J67
200DA0062	J67
200DA0078	J67
200DA0094	J67
200DA0109	J67
200DA010M	J65
200DA0125	J67
200DA0141	J67
200DA0156	J67
200DA015M	J65
200DA0172	J67
200DA0188	J67
200DA0203	J67
200DA020M	J65
200DA0219	J67
200DA0234	J67
200DA0250	J67
200DA025M	J65
200DA0266	J67
200DA0281	J67
200DA0297	J67
200DA030M	J65
200DA0312	J67
200DA0328	J67
200DA0344	J67
200DA0359	J67
200DA035M	J66
200DA0375	J67
200DA0391	J67
200DA040M	J66
200DA045M	J66
200DA050M	J66
200DA055M	J66
200DA060M	J66
200DA065M	J66
200DA070M	J66
200DA075M	J66
200DA080M	J66
200DA085M	J66
200DA090M	J66
200DA095M	J66
200DA100M	J66
200DAC0125	J67
200DAC0141	J67
200DAC0156	J67
200DAC0172	J67
200DAC0188	J67
200DAC0234	J67
200DAC0250	J67
200DAC0266	J67
200DAC0281	J67
200DAC0312	J67
200DAC0328	J67
200DAC0344	J67
200DAC0375	J67
200DAC0391	J67
200DAC060M	J66
200DAC080M	J66
200DAC100M	J66
200DAS000M	J69
20ER0062	J56
20ER0094	J56
20ER010M	J54
20ER0125	J56
20ER0156	J56
20ER0188	J56
20ER020M	J54
20ER0219	J56
20ER0250	J56
20ER0281	J56
20ER030M	J54
20ER0312	J56
20ER0344	J56
20ER0375	J56
20ER0406	J56
20ER040M	J54
20ER0438	J56
20ER0469	J56
20ER0500	J56
20ER050M	J54
20ER060M	J54
20ER070M	J54
20ER080M	J54
20ER090M	J55
20ER100M	J55
20ER110M	J55
20ER120M	J55
20ER130M	J55
20ERS000M	J57
20ERS000SET1	J57
20ERS000SET2	J57
20ERTC025	J59
20ERTC031	J59
20ERTC037	J59
20ERTC043	J59
20ERTC045034M	J58
20ERTC050	J59
20ERTC055043M	J58
20ERTC056	J59
20ERTC060049M	J58
20ERTC062	J59
20ERTC070055M	J58
20ERTC080062M	J58
20ERTC090070M	J58
20ERTC10	J59
20ERTC100080M	J58
20ERTC110090M	J58
20ERTC12	J59
20ERTC8	J59
20HCM0188	J5
20HCM0250	J5
20HCM0312	J5
20HCM0375	J5
20HCM0438	J5
20HCM0500	J5
20HCM0562	J5
20HCM0625	J5
20MHC030M	J4
20MHC040M	J4
20MHC050M	J4
20MHC060M	J4
20MHC070M	J4
20MHC080M	J4
20MHC090M	J4
20MHC100M	J4
20MHC110M	J4
20MHC120M	J4
20MHC130M	J4
20MHC140M	J4
20MHC150M	J4
20MHC160M	J4
20SMC060M	J8
20SMC080M	J8
20SMC100M	J8
20SMC120M	J8
20SMC160M	J8
25ER0062	J56
25ER0094	J56
25ER0125	J56
25ER0156	J56
25ER0188	J56
25ER020M	J54
25ER0219	J56
25ER0250	J56
25ER0281	J56
25ER030M	J54
25ER0312	J56
25ER0344	J56
25ER0375	J56
25ER0406	J56
25ER040M	J54
25ER0438	J56
25ER0469	J56
25ER0500	J56
25ER050M	J54
25ER0531	J56
25ER0562	J56
25ER0594	J56
25ER060M	J54
25ER0625	J56
25ER070M	J54
25ER080M	J54
25ER090M	J55
25ER100M	J55
25ER110M	J55
25ER120M	J55
25ER130M	J55
25ER140M	J55
25ER150M	J55
25ER160M	J55
25ERS000M	J57
25ERS000SET1	J57
25ERS000SET2	J57
25ERTC025	J59
25ERTC031	J59
25ERTC037	J59
25ERTC043	J59
25ERTC045034M	J58
25ERTC050	J59
25ERTC055043M	J58
25ERTC056	J59
25ERTC060049M	J58
25ERTC062	J59
25ERTC070055M	J58

Catalog No.	Page(s)
25ERTC080062M	J58
25ERTC090070M	J58
25ERTC10	J59
25ERTC100080M	J58
25ERTC110090M	J58
25ERTC12	J59
25ERTC120090M	J58
25ERTC140110M	J58
25ERTC160120M	J58
25ERTC8	J59
25MHC030M	J4
25MHC040M	J4
25MHC050M	J4
25MHC060M	J4
25MHC070M	J4
25MHC080M	J4
25MHC090M	J4
25MHC100M	J4
25MHC120M	J4
25MHC140M	J4
25MHC160M	J4
25MHC180M	J4
25MHC200M	J4
280.034	E32
280.200	L14
280.202	L14
280.203	L14
280.204	L14
280.205	L14
280.206	L14
280.207	L14
280.208	L14
280.209	L14
280.262	L14
280.264	L14
280.266	L14
280.268	L14
280.269	L14
300DA0031	J67
300DA0047	J67
300DA0062	J67
300DA0078	J67
300DA0094	J67
300DA0109	J67
300DA010M	J65
300DA0125	J67
300DA0141	J67
300DA0156	J67
300DA015M	J65
300DA0172	J67
300DA0188	J67
300DA0203	J67
300DA020M	J65
300DA0219	J67
300DA0234	J67
300DA0250	J67
300DA025M	J65
300DA030M	J65
300DA035M	J66
300DA040M	J66
300DA045M	J66
300DA050M	J66
300DA055M	J66
300DA060M	J66
300DAC0125	J67
300DAC0141	J67
300DAC0156	J67
300DAC0172	J67
300DAC0188	J67
300DAC0203	J67
300DAC0219	J67
300DAC0234	J67
300DAC0250	J67
300DAS000M	J69
301.361	L52
32ER0125	J56
32ER0156	J56
32ER0188	J56
32ER0219	J56
32ER0250	J56
32ER0281	J56
32ER030M	J54
32ER0312	J56
32ER0344	J56
32ER0375	J56
32ER0406	J56
32ER040M	J54
32ER0438	J56
32ER0469	J56
32ER0500	J56
32ER050M	J54
32ER0531	J56
32ER0562	J56
32ER0594	J56
32ER060M	J54
32ER0625	J56
32ER0656	J56
32ER0688	J56
32ER070M	J54
32ER0719	J56
32ER0750	J56
32ER0781	J56
32ER080M	J54
32ER0812	J56
32ER090M	J55
32ER100M	J55
32ER110M	J55
32ER120M	J55
32ER130M	J55
32ER140M	J55
32ER150M	J55
32ER160M	J55
32ER170M	J55
32ER180M	J55
32ER190M	J55
32ER200M	J55
32ERS000M	J57
32ERS000SET1	J57
32ERS000SET2	J57
32ERTC025	J59
32ERTC031	J59
32ERTC037	J59
32ERTC043	J59
32ERTC045034M	J58
32ERTC050	J59
32ERTC055043M	J58
32ERTC056	J59
32ERTC060049M	J58
32ERTC062	J59
32ERTC069	J59
32ERTC070055M	J58
32ERTC075	J59
32ERTC080062M	J58
32ERTC081	J59
32ERTC090070M	J58
32ERTC10	J59
32ERTC100080M	J58
32ERTC110090M	J58
32ERTC12	J59
32ERTC120090M	J58
32ERTC140110M	J58
32ERTC160120M	J58
32ERTC180145M	J58
32ERTC200160M	J58
32ERTC8	J59
32HCM0500	J5
32HCM0562	J5
32HCM0625	J5
32HCM0688	J5
32HCM0750	J5
32HCM0875	J5
32HCM1000	J5
32MHC060M	J4
32MHC070M	J4
32MHC080M	J4
32MHC090M	J4
32MHC100M	J4
32MHC110M	J4
32MHC120M	J4
32MHC130M	J4
32MHC140M	J4
32MHC150M	J4
32MHC160M	J4
32MHC170M	J4
32MHC180M	J4
32MHC190M	J4
32MHC200M	J4
32MHC220M	J4
32MHC250M	J4
32SMC060M	J8
32SMC080M	J8
32SMC100M	J8
32SMC120M	J8
32SMC160M	J8
32SMC200M	J8
32SMC250M	J8
40ER0125	J56
40ER0156	J56
40ER0188	J56
40ER0219	J56
40ER0250	J56
40ER0281	J56
40ER0312	J56
40ER0344	J56
40ER0375	J56
40ER0406	J56
40ER040M	J54
40ER0438	J56
40ER0469	J56
40ER0500	J56
40ER050M	J54
40ER0531	J56
40ER0562	J56
40ER0594	J56
40ER060M	J54
40ER0625	J56
40ER0656	J56
40ER0688	J56
40ER070M	J54
40ER0719	J56
40ER0750	J56
40ER0781	J56
40ER080M	J54
40ER0812	J56
40ER0844	J56
40ER0875	J56
40ER0906	J56
40ER090M	J55
40ER0938	J56
40ER0969	J56
40ER1000	J56
40ER100M	J55
40ER110M	J55
40ER120M	J55
40ER130M	J55
40ER140M	J55
40ER150M	J55
40ER160M	J55
40ER170M	J55
40ER180M	J55
40ER190M	J55
40ER200M	J55
40ER210M	J55
40ER220M	J55
40ER230M	J55
40ER240M	J55
40ER250M	J55
40ER260M	J55
40ERS000M	J57
40ERS000SET1	J57
40ERS000SET2	J57
40ERTC025	J59
40ERTC031	J59
40ERTC037	J59
40ERTC043	J59
40ERTC050	J59
40ERTC056	J59
40ERTC062	J59
40ERTC069	J59
40ERTC070055M	J58
40ERTC075	J59
40ERTC080062M	J58
40ERTC081	J59
40ERTC087	J59
40ERTC090070M	J58
40ERTC093	J59
40ERTC100	J59
40ERTC100080M	J58
40ERTC110090M	J58
40ERTC120090M	J58
40ERTC140110M	J58
40ERTC160120M	J58
40ERTC180145M	J58
40ERTC200160M	J58
40ERTC220180M	J58
50HC0125	J5
50HC0188	J5
50HC0250	J5
50HC030M	J5
50HC0312	J5
50HC0375	J5
50HC040M	J5
50HC050M	J5
50HC060M	J5
50HC080M	J5
50HC100M	J5
50TG0047	J18
50TG0062	J18
50TG0078	J18
50TG0094	J18
50TG0109	J18
50TG0125	J18
50TG0141	J18
50TG0156	J18
50TG015M	J14
50TG0172	J18
50TG0188	J18
50TG0203	J18
50TG020M	J14
50TG0219	J18
50TG0234	J18
50TG0250	J18
50TG025M	J14
50TG0266	J18
50TG0281	J18
50TG0297	J18
50TG030M	J14
50TG0312	J18
50TG0328	J18
50TG0344	J18
50TG0359	J18
50TG035M	J14
50TG0375	J18
50TG0391	J18
50TG0406	J18
50TG040M	J14
50TG0422	J18
50TG0438	J18
50TG0453	J18
50TG045M	J14
50TG0469	J18
50TG0484	J18
50TG0500	J18
50TG050M	J14
50TG0516	J18
50TG0531	J18
50TG055M	J14
50TG060M	J14
50TG065M	J14
50TG070M	J14
50TG075M	J15
50TG080M	J15
50TG085M	J15
50TG090M	J15
50TG095M	J15
50TG100M	J15
50TG105M	J15
50TG110M	J15
50TG115M	J15
50TG120M	J15
50TG125M	J15
50TG130M	J15
50TG135M	J15
50TGC0141	J18
50TGC0156	J18
50TGC0172	J18
50TGC0188	J18
50TGC0203	J18

Catalog No.	Page(s)
50TGC0219	J18
50TGC0250	J18
50TGC0266	J18
50TGC0281	J18
50TGC0312	J18
50TGC0328	J18
50TGC0344	J18
50TGC0359	J18
50TGC0375	J18
50TGC0391	J18
50TGC0406	J18
50TGC0422	J18
50TGC0438	J18
50TGC0453	J18
50TGC0469	J18
50TGC0484	J18
50TGC0500	J18
50TGC0516	J18
50TGC0531	J18
50TGC060M	J14
50TGC080M	J15
50TGC100M	J15
50TGC120M	J15
50TGCE	L15
50TGCHP0125	J18
50TGCHP0188	J18
50TGCHP0250	J18
50TGCHP0312	J18
50TGCHP0375	J18
50TGCHP0438	J18
50TGCHP0500	J18
50TGCHP060M	J14
50TGCHP080M	J15
50TGCHP100M	J15
50TGCHP120M	J15
50TGHP0125	J18
50TGHP0188	J18
50TGHP0250	J18
50TGHP0312	J18
50TGHP0375	J18
50TGHP040M	J14
50TGHP0438	J18
50TGHP0500	J18
50TGHP060M	J14
50TGHP080M	J15
50TGHP100M	J15
50TGHP120M	J15
50TGST006P	J21
50TGST012P	J21
50TGST025	J21
50TGST025021M	J20
50TGST028021M	J20
50TGST031	J21
50TGST032025M	J20
50TGST035027M	J20
50TGST037	J21
50TGST040032M	J20
50TGST043	J21
50TGST045034M	J20
50TGST050	J21
50TGST050040M	J20
50TGST056	J21
50TGST060049M	J20
50TGST062	J21
50TGST063050M	J20
50TGST070055M	J20
50TGST071056M	J20
50TGST080062M	J20
50TGST090070M	J20
50TGST10	J21
50TGST100080M	J20
50TGST110090M	J20
50TGST12	J21
50TGST120090M	J20
50TGST6	J21
50TGST8	J21
50TGSTC025	J21
50TGSTC031	J21
50TGSTC037	J21
50TGSTC043	J21
50TGSTC050	J21
50TGSTC056	J21
511.013	A242
511.015	A318, A489, A566
511.018	A144, A229, A289, A292, A294–295, A464–466
511.022	A175, A317, A319, A397, A488, A490, A565
511.023	A143, A175–176, A227, A288–289, A292–295, A317, A370–371, A374–376, A397–398, A458–459, A462–466, A488, A490, A528, A561, C35
511.024	A290–292, A371–373, A460–462, A489, A562, C35–36
511.025	A371, A374–375, A458–459, A462–464, A528
511.028	A464–465
511.030	A176, A243, A319
511.033	A458–459, A462–464, A528–530
511.038	A528–530
511.060	A144, A175, A227–228, A290–291, A371–372, A460–461
512.013	A294–295, A464–465
512.023	A465
512.024	A528
512.025	A374–375, A462–464
512.031	A464–465
512.053	A292
512.060	A144, A175, A227–228, A290–291, A371–372, A460–461
512.063	A292–294, A374–375, A462–464
512.083	A462–464, A529–530
512.092	A529–530
512.111	A289
512.112	A143, A175, A227, A288–289, A317, A370–371, A397, A458–459, A488, A528, A561, C35
512.117	A371, A458–459, A528
512.123	A458–459, A528
512.134	A144, A229, A295, A466
512.135	A176, A295, A376, A398, A466, A490
512.153	A290–292, A371–373, A460–462, A489, A562, C35–36
513.018	A144, A229, A294–295, A464–466
513.019	A289, A292
513.023	A143, A175–176, A227, A288–295, A317, A370–376, A397–398, A458–466, A488–490, A528, A561–562, C35–36
513.025	A371, A374–375,A458–459, A462–465, A528
513.033	A458–459, A462–464, A528–530
513.038	A528–530
513.060	A144, A175, A227–228, A290–291, A371–372, A460–461
514.011	A242
514.012	A566
514.022	A565
514.023	A561
514.028	A562
514.112	A176, A243, A318–319, A489
514.118	A144, A175, A227–229, A289–292, A294–295, A371–372, A460–461, A464–466
514.122	A175, A317, A319, A397, A488, A490
514.123	A143, A175–176, A227, A288–289, A292–295, A317, A370–371, A374–376, A397–398, A458–459, A462–466, A488, A490, A528, C35
514.125	A371, A374–375, A458–459, A462–464, A528
514.128	A290–292, A371–373, A460–462, A464–465, A489, C35–36
514.133	A458–459, A462–464, A528–530
514.138	A529–530
515.018	A143–144, A175–176, A227–229, A288–295, A317, A370–376, A397–398, A458–466, A488–490, A528, A561–562, C35–36
515.022	A371, A374, A458–459, A463–465, A528–530
515.028	A462, A528–530
551.326	A379–382
552.221	A379
552.225	A379
552.232	A380–382
554.252	A381
554.254	A379
554.260	A379–382
571.060	A334, A418, A582–583, A613, A628, C18, C60, C85, C108, C139, E14, E28, E41, E81, F26, F66, G27
571.061	C156, E7, E28, E31, F14–15
571.062	C17, C151, E14
571.063	A506, C15, C137, C156, E7, E14, E31, F14–15
571.066	E42, E82, G28
571.067	A334, A418, A582–583, A613, A628, C18, C60, C85, C108, C139, E14, E41, E81, F26, F66, G27
571.068	A334, A418, A582–583, A613, A628, C17–18, C60, C85, C108, C125, C139, C151, E41, E81, F26, F66, G27
571.069	A506, A628, C60, C108, E14
571.071	C137
571.074	A334, A418, A545, A582–583, A613, A628, C18, C60, C85, C108, C139, C144, E41, E81, F26, F66, G27
571.075	A334, A418, A582, A613, C18, C85, C132, C139, C144, E41, E81, F26, F66, G27
571.076	A334, A418, A545, A613, A628, C60, C85, C108, C139, C144, E41, E81, F26, F66, G27
571.077	A418, A545, A613, A628, C60, C85, C108, C144, E41, F26, F66
75HC0125	J5
75HC0188	J5
75HC0250	J5
75HC030M	J5
75HC0312	J5
75HC0375	J5
75HC040M	J5
75HC0438	J5
75HC0500	J5
75HC050M	J5
75HC0562	J5
75HC060M	J5
75HC0625	J5
75HC080M	J5
75HC100M	J5
75HC120M	J5
75HC140M	J5
75HC160M	J5
75SMC0125	J9
75SMC0188	J9
75SMC0250	J9
75SMC0312	J9
75SMC0375	J9
75SMC0438	J9
75SMC0500	J9
75SMC0563	J9
75SMC060M	J8
75SMC0625	J9
75SMC080M	J8
75SMC100M	J8
75SMC120M	J8
75SMC140M	J8
75SMC160M	J8
75TG0062	J24
75TG0078	J24
75TG0094	J24
75TG0109	J24
75TG0125	J25
75TG0141	J25
75TG0156	J25
75TG0172	J25
75TG0188	J25
75TG0203	J25
75TG0219	J25
75TG0234	J25
75TG0250	J25
75TG0266	J25
75TG0281	J25
75TG0297	J25
75TG030M	J22
75TG0312	J25
75TG0328	J25
75TG0344	J25
75TG0359	J25
75TG035M	J22
75TG0375	J25
75TG0391	J25
75TG0406	J25
75TG040M	J22
75TG0422	J25
75TG0438	J25
75TG0453	J25
75TG045M	J22
75TG0469	J25
75TG0484	J25
75TG0500	J26
75TG050M	J22
75TG0516	J26
75TG0531	J26
75TG0547	J26
75TG055M	J22
75TG0562	J26
75TG0578	J26
75TG0594	J26
75TG0609	J26
75TG060M	J22
75TG0625	J26
75TG0641	J26
75TG0656	J26
75TG065M	J22
75TG0672	J26
75TG0688	J26
75TG0703	J26
75TG070M	J22
75TG0719	J26
75TG0734	J26
75TG0750	J26
75TG075M	J22
75TG080M	J23
75TG085M	J23
75TG090M	J23
75TG095M	J23
75TG100M	J23
75TG105M	J23
75TG110M	J23
75TG115M	J23
75TG120M	J23
75TG125M	J23
75TG130M	J23
75TG135M	J23
75TG140M	J23
75TG145M	J23
75TG150M	J23
75TG155M	J23
75TG160M	J23
75TG165M	J23
75TG170M	J23
75TG175M	J23
75TG180M	J23
75TG190M	J23
75TG195M	J23
75TG200M	J23
75TGC0250	J25
75TGC0266	J25
75TGC0281	J25
75TGC0297	J25
75TGC0312	J25
75TGC0328	J25
75TGC0344	J25
75TGC0359	J25
75TGC0375	J25
75TGC0391	J25
75TGC0406	J25
75TGC0422	J25
75TGC0438	J25
75TGC0453	J25
75TGC0469	J25
75TGC0484	J26
75TGC0500	J26
75TGC0516	J26
75TGC0531	J26
75TGC0547	J26

Catalog No.	Page(s)
75TGC0562	J26
75TGC0578	J26
75TGC0594	J26
75TGC0609	J26
75TGC060M	J22
75TGC0625	J26
75TGC0641	J26
75TGC0656	J26
75TGC0672	J26
75TGC0688	J26
75TGC0703	J26
75TGC0719	J26
75TGC0734	J26
75TGC0750	J26
75TGC080M	J22
75TGC100M	J23
75TGC120M	J23
75TGC140M	J23
75TGC160M	J23
75TGC180M	J23
75TGC200M	J23
75TGCE	L15
75TGCHP0250	J25
75TGCHP0375	J25
75TGCHP0438	J25
75TGCHP0500	J26
75TGCHP0562	J26
75TGCHP060M	J22
75TGCHP0625	J26
75TGCHP0688	J26
75TGCHP0750	J26
75TGCHP080M	J22
75TGCHP100M	J23
75TGCHP120M	J23
75TGCHP140M	J23
75TGCHP160M	J23
75TGCHP180M	J23
75TGCHP200M	J23
75TGHP0125	J25
75TGHP0188	J25
75TGHP0250	J25
75TGHP0312	J25
75TGHP0375	J25
75TGHP040M	J22
75TGHP0438	J25
75TGHP0500	J26
75TGHP0562	J26
75TGHP060M	J22
75TGHP0625	J26
75TGHP0750	J26
75TGHP080M	J22
75TGHP100M	J23
75TGHP120M	J23
75TGHP140M	J23
75TGHP160M	J23
75TGHP180M	J23
75TGHP200M	J23
75TGNP0375	J25
75TGNP0500	J26
75TGNP0625	J26
75TGNP0750	J26
75TGST006P	J28
75TGST012P	J29
75TGST025	J28
75TGST025P	J29
75TGST031	J28
75TGST037	J29
75TGST037P	J29
75TGST043	J28
75TGST050	J29
75TGST050P	J29
75TGST056	J29
75TGST062	J29
75TGST068	J29
75TGST075	J29
75TGST081	J29
75TGST087	J29
75TGST10	J28
75TGST12	J28
75TGST6	J28
75TGST8	J28
75TGSTC025	J28
75TGSTC031	J28
75TGSTC037	J29
75TGSTC043	J28
75TGSTC050	J29
75TGSTC062	J29
75TGSTC068	J29
75TGSTC075	J29
75TGSTC087	J29
840.142.200	A260
840.142.250	A260
840.142.320	A339
840.142.420	A424
840.142.550	A424
840.142.720	A424, A512
840.142.940	A512
841.142.200	A260, A424
841.142.250	A260
841.142.320	A339
841.142.550	A424
841.142.720	A424, A512
841.142.940	A512
841.342.200	A260, A339
841.342.420	A424, A512
880.252.320	A340
880.252.420	A425
880.252.550	A425, A513
881.252.320	A340
881.252.420	A425
881.252.550	A425
881.252.720	A425, A513
881.252.940	A513
8ER010M	J54
8ER015M	J54
8ER020M	J54
8ER025M	J54
8ER030M	J54
8ER035M	J54
8ER040M	J54
8ER045M	J54
8ER050M	J54
8ERS000M	J57
A2BHSN19X0116	A162
A2BHSN19X0211	A162
A2BHSN19X0216	A162
BT25IP	L52
BT27IP	L52
BT30DA188060M	E13
BT30DA208060M	E12
BT30DC08092M	E14
BT30EM012236	E15
BT30EM018236	E15
BT30EM025236	E15
BT30EM031236	E15
BT30EM038236	E15
BT30EM050236	E15
BT30EM06050M	E15
BT30EM062236	E15
BT30EM075236	E15
BT30EM08060M	E15
BT30EM10060M	E15
BT30EM12060M	E15
BT30EM16060M	E15
BT30EM20080M	E15
BT30ER16060M	E10
BT30ER16100M	E10
BT30ER16150M	E10
BT30ER20060M	E10
BT30ER20100M	E10
BT30ER25060M	E11
BT30ER25100M	E11
BT30ER32070M	E11
BT30ER32100M	E11
BT30ER40100M	E11
BT30HCT025295	E7
BT30HCT038315	E7
BT30HCT050335	E7
BT30HCT06075M	E7
BT30HCT062394	E7
BT30HCT075413	E7
BT30HCT08075M	E7
BT30HCT10080M	E7
BT30HCT12085M	E7
BT30HCT14100M	E7
BT30HCT16100M	E7
BT30HCT18100M	E7
BT30HCT20100M	E7
BT30HPMC075335	E8
BT30HPMC20085M	E8
BT30HPVTT025295	E5
BT30HPVTT031295	E5
BT30HPVTT038295	E5
BT30HPVTT044295	E5
BT30HPVTT050295	E5
BT30HPVTT056295	E5
BT30HPVTT06075M	E4
BT30HPVTT062295	E5
BT30HPVTT068354	E5
BT30HPVTT075354	E5
BT30HPVTT08075M	E4
BT30HPVTT10075M	E4
BT30HPVTT12075M	E4
BT30HPVTT14075M	E4
BT30HPVTT16075M	E4
BT30HPVTT18090M	E4
BT30HPVTT20090M	E4
BT30HPVTTHT050295	E6
BT30HPVTTHT056295	E6
BT30HPVTTHT062295	E6
BT30HPVTTHT068354	E6
BT30HPVTTHT075354	E6
BT30HPVTTHT12075M	E6
BT30HPVTTHT14075M	E6
BT30HPVTTHT16075M	E6
BT30HPVTTHT18090M	E6
BT30HPVTTHT20090M	E6
BT30KM3240	E18
BT30SM2C050118	E17
BT30SM2C075118	E17
BT30SM2C100177	E17
BT30SM2C16035M	E16
BT30SM2C16050M	E16
BT30SM2C22040M	E16
BT30SM2C22050M	E16
BT30SMC050118	E17
BT30SMC075118	E17
BT30SMC100177	E17
BT30SMC16035M	E16
BT30SMC16050M	E16
BT30SMC22040M	E16
BT30SMC22050M	E16
BT30SMC27045M	E17
BT30ST06032M	E18
BT30ST08032M	E18
BT30ST10032M	E18
BT30ST12032M	E18
BT30TG075075M	E9
BT30WN06050M	E14
BT30WN08050M	E14
BT30WN10055M	E14
BT30WN12055M	E14
BT30WN14055M	E14
BT30WN16055M	E14
BT40BB063280M	E60
BT40BB104200M	E60
BT40BEM06050M	E43
BT40BEM08050M	E43
BT40BEM10063M	E43
BT40BEM12063M	E43
BT40BEM14063M	E43
BT40BEM16063M	E43
BT40BEM18063M	E43
BT40BEM20063M	E43
BT40BEM25090M	E43
BT40BER16060M	E36
BT40BER16120M	E36
BT40BER16150M	E36
BT40BER20060M	E36
BT40BER20120M	E36
BT40BER20150M	E36
BT40BER25070M	E37
BT40BER25120M	E37
BT40BER25150M	E37
BT40BER32070M	E37
BT40BER32120M	E37
BT40BER32150M	E37
BT40BER40080M	E37
BT40BER40120M	E37
BT40BHC06080M	E30
BT40BHC08080M	E30
BT40BHC10085M	E30
BT40BHC12090M	E30
BT40BHC14090M	E30
BT40BHC16090M	E30
BT40BHC18090M	E30
BT40BHC20095M	E30
BT40BHC25115M	E30
BT40BHC32120M	E30
BT40BHCB075374	E32
BT40BHCB20095M	E32
BT40BHCSL12170M	E29
BT40BHCSL14170M	E29
BT40BHCSL16170M	E29
BT40BHCSL18170M	E29
BT40BHCSL20170M	E29
BT40BHCSLT06170M	E28
BT40BHCSLT08170M	E28
BT40BHCSLT10170M	E28
BT40BHCT025315	E31
BT40BHCT038335	E31
BT40BHCT050354	E31
BT40BHCT062354	E31
BT40BHCT075374	E31
BT40BHCT100453	E31
BT40BHCT125472	E31
BT40BHPMC075295	E33
BT40BHPMC075472	E33
BT40BHPMC100335	E33
BT40BHPMC100472	E33
BT40BHPMC125354	E33
BT40BHPMC125472	E33
BT40BHPMC20075M	E33
BT40BHPMC20120M	E33
BT40BHPMC25085M	E33
BT40BHPMC25120M	E33
BT40BHPMC32090M	E33
BT40BHPMC32120M	E33
BT40BHPVTT025354	E25
BT40BHPVTT025630	E25
BT40BHPVTT031354	E25
BT40BHPVTT031630	E25
BT40BHPVTT038354	E25
BT40BHPVTT038630	E25
BT40BHPVTT044354	E25
BT40BHPVTT050354	E25
BT40BHPVTT050630	E25
BT40BHPVTT06090M	E24
BT40BHPVTT06120M	E24
BT40BHPVTT06160M	E24
BT40BHPVTT062354	E25
BT40BHPVTT062630	E25
BT40BHPVTT075354	E25
BT40BHPVTT075630	E25
BT40BHPVTT08090M	E24
BT40BHPVTT08120M	E24
BT40BHPVTT08160M	E24
BT40BHPVTT088354	E25
BT40BHPVTT088630	E25
BT40BHPVTT100394	E25
BT40BHPVTT100630	E25
BT40BHPVTT10090M	E24
BT40BHPVTT10120M	E24
BT40BHPVTT10160M	E24
BT40BHPVTT12090M	E24
BT40BHPVTT12120M	E24
BT40BHPVTT12160M	E24
BT40BHPVTT125413	E25
BT40BHPVTT125630	E25
BT40BHPVTT14090M	E24
BT40BHPVTT14120M	E24
BT40BHPVTT14160M	E24
BT40BHPVTT16090M	E24
BT40BHPVTT16120M	E24
BT40BHPVTT16160M	E24
BT40BHPVTT18090M	E24
BT40BHPVTT18120M	E24
BT40BHPVTT18160M	E24

Catalog No.	Page(s)
BT40BHPVTT20090M	E24
BT40BHPVTT20120M	E24
BT40BHPVTT20160M	E24
BT40BHPVTT25100M	E24
BT40BHPVTT32105M	E24
BT40BHPVTTHT050354	E27
BT40BHPVTTHT050630	E27
BT40BHPVTTHT062354	E27
BT40BHPVTTHT062630	E27
BT40BHPVTTHT075354	E27
BT40BHPVTTHT075630	E27
BT40BHPVTTHT088354	E27
BT40BHPVTTHT088630	E27
BT40BHPVTTHT100394	E27
BT40BHPVTTHT100630	E27
BT40BHPVTTHT12090M	E26
BT40BHPVTTHT12120M	E26
BT40BHPVTTHT12160M	E26
BT40BHPVTTHT125413	E27
BT40BHPVTTHT125630	E27
BT40BHPVTTHT14090M	E26
BT40BHPVTTHT14120M	E26
BT40BHPVTTHT14160M	E26
BT40BHPVTTHT16090M	E26
BT40BHPVTTHT16120M	E26
BT40BHPVTTHT16160M	E26
BT40BHPVTTHT18090M	E26
BT40BHPVTTHT18120M	E26
BT40BHPVTTHT18160M	E26
BT40BHPVTTHT20090M	E26
BT40BHPVTTHT20120M	E26
BT40BHPVTTHT20160M	E26
BT40BHPVTTHT25100M	E26
BT40BHPVTTHT32105M	E26
BT40BHSK32050M	E60
BT40BHSK40060M	E60
BT40BHSK50070M	E60
BT40BHSK63075M	E60
BT40BKM32040M	E59
BT40BKM32090M	E59
BT40BKM40040M	E59
BT40BKM40100M	E59
BT40BKM50060M	E59
BT40BKM50120M	E59
BT40BKR32030M	E58
BT40BKR50050M	E58
BT40BSFTT050276	E23
BT40BSFTT062295	E23
BT40BSFTT075295	E23
BT40BSFTT100335	E23
BT40BSFTT12070M	E23
BT40BSFTT14075M	E23
BT40BSFTT16075M	E23
BT40BSFTT18075M	E23
BT40BSFTT20075M	E23
BT40BSFTT25085M	E23
BT40BSFTT32085M	E23
BT40BSM2C050177	E52
BT40BSM2C050400	E52
BT40BSM2C075177	E52
BT40BSM2C075400	E52
BT40BSM2C100177	E52
BT40BSM2C100400	E52
BT40BSM2C16050M	E50
BT40BSM2C16075M	E50
BT40BSM2C16100M	E50
BT40BSM2C22055M	E50
BT40BSM2C22100M	E50
BT40BSM2C22150M	E50
BT40BSMC050177	E52
BT40BSMC050400	E52
BT40BSMC075177	E52
BT40BSMC075400	E52
BT40BSMC075600	E52
BT40BSMC100177	E52
BT40BSMC100400	E52
BT40BSMC100600	E52
BT40BSMC125236	E52
BT40BSMC125500	E52
BT40BSMC150236	E52
BT40BSMC150500	E52
BT40BSMC16050M	E50
BT40BSMC16075M	E50
BT40BSMC16100M	E50
BT40BSMC22055M	E50
BT40BSMC22100M	E50
BT40BSMC22150M	E50
BT40BSMC27055M	E51
BT40BSMC27100M	E51
BT40BSMC27150M	E51
BT40BSMC32060M	E51
BT40BSMC32100M	E51
BT40BSMC40060M	E51
BT40BSMC40100M	E51
BT40BSSF075325	E46
BT40BSSF100425	E46
BT40BSSF125500	E46
BT40BST06047M	E55
BT40BST06067M	E55
BT40BST06087M	E55
BT40BST06107M	E55
BT40BST08047M	E55
BT40BST08067M	E55
BT40BST08087M	E55
BT40BST08107M	E55
BT40BST10047M	E55
BT40BST10067M	E55
BT40BST10087M	E55
BT40BST10107M	E55
BT40BST12047M	E55
BT40BST12067M	E55
BT40BST12087M	E55
BT40BST12107M	E55
BT40BST12127M	E55
BT40BST16047M	E55
BT40BST16067M	E55
BT40BST16087M	E55
BT40BST16107M	E55
BT40BST16127M	E55
BT40BSWN25075M	E42
BT40BSWN32075M	E42
BT40BTDSMC0751050	E49
BT40BTDSMC1001050	E49
BT40BTDSMC22260M	E48
BT40BTDSMC27260M	E48
BT40BWN06050M	E41
BT40BWN08050M	E41
BT40BWN10063M	E41
BT40BWN12063M	E41
BT40BWN14063M	E41
BT40BWN16063M	E41
BT40BWN18063M	E41
BT40BWN20063M	E41
BT40BWN25090M	E41
BT40BWN32100M	E41
BT40CS16055M	E53
BT40CS16100M	E53
BT40CS22055M	E53
BT40CS22150M	E53
BT40CS27055M	E53
BT40CS27150M	E53
BT40CS32060M	E53
BT40CS32150M	E53
BT40CS40080M	E53
BT40DA108070M	E38
BT40DA188070M	E39
BT40DA188100M	E39
BT40DA188150M	E39
BT40DA208070M	E38
BT40DC13096M	E40
BT40EM025255	E45
BT40EM031255	E45
BT40EM038255	E45
BT40EM050255	E45
BT40EM050400	E45
BT40EM062255	E45
BT40EM075150	E45
BT40EM075255	E45
BT40EM088335	E45
BT40EM100162	E45
BT40EM100374	E45
BT40EM100500	E45
BT40EM125250	E45
BT40EM125335	E45
BT40EM32110M	E44
BT40JT33045M	E57
BT40MT1050M	E57
BT40MT2050M	E57
BT40MT3070M	E57
BT40MT4095M	E57
BT40RC1067M	E56
BT40RC2094M	E56
BT40SA100400	E54
BT40SA125400	E54
BT40SER32035M	E35
BT40STRC1074M	E56
BT40STRC2089M	E56
BT40TA1106	E42
BT40TG075070M	E34
BT40TG100080M	E34
BT40TG100100M	E34
BT40TG100150M	E34
BT40TG150110M	E34
BT50BB104350M	E95
BT50BB134250M	E95
BT50BER16100M	E78
BT50BER16150M	E78
BT50BER20100M	E78
BT50BER20150M	E78
BT50BER25070M	E79
BT50BER25150M	E79
BT50BER32070M	E79
BT50BER32150M	E79
BT50BER40080M	E79
BT50BER40150M	E79
BT50BER40200M	E79
BT50BHC06090M	E72
BT50BHC08090M	E72
BT50BHC10095M	E72
BT50BHC12100M	E72
BT50BHC14100M	E72
BT50BHC16100M	E72
BT50BHC18100M	E72
BT50BHC20105M	E72
BT50BHC25115M	E72
BT50BHC32120M	E72
BT50BHCB075413	E74
BT50BHCB20105M	E74
BT50BHCSL12200M	E71
BT50BHCSL14200M	E71
BT50BHCSL16200M	E71
BT50BHCSL18200M	E71
BT50BHCSL20200M	E71
BT50BHCSLT06200M	E70
BT50BHCSLT08200M	E70
BT50BHCSLT10200M	E70
BT50BHCT025354	E73
BT50BHCT038374	E73
BT50BHCT050394	E73
BT50BHCT062394	E73
BT50BHCT075413	E73
BT50BHCT100453	E73
BT50BHCT125472	E73
BT50BHPMC075413	E75
BT50BHPMC100413	E75
BT50BHPMC125413	E75
BT50BHPMC20105M	E75
BT50BHPMC20165M	E75
BT50BHPMC25105M	E75
BT50BHPMC25165M	E75
BT50BHPMC32105M	E75
BT50BHPMC32165M	E75
BT50BHPVTT025394	E67
BT50BHPVTT025787	E67
BT50BHPVTT031394	E67
BT50BHPVTT031787	E67
BT50BHPVTT038394	E67
BT50BHPVTT038787	E67
BT50BHPVTT044394	E67
BT50BHPVTT050394	E67
BT50BHPVTT050787	E67
BT50BHPVTT06100M	E66
BT50BHPVTT06160M	E66
BT50BHPVTT062394	E67
BT50BHPVTT062787	E67
BT50BHPVTT075394	E67
BT50BHPVTT075787	E67
BT50BHPVTT08100M	E66
BT50BHPVTT08160M	E66
BT50BHPVTT088394	E67
BT50BHPVTT088787	E67
BT50BHPVTT100394	E67
BT50BHPVTT100787	E67
BT50BHPVTT10100M	E66
BT50BHPVTT10160M	E66
BT50BHPVTT12100M	E66
BT50BHPVTT12160M	E66
BT50BHPVTT125394	E67
BT50BHPVTT125787	E67
BT50BHPVTT14100M	E66
BT50BHPVTT14160M	E66
BT50BHPVTT16100M	E66
BT50BHPVTT16160M	E66
BT50BHPVTT18100M	E66
BT50BHPVTT18160M	E66
BT50BHPVTT20100M	E66
BT50BHPVTT20160M	E66
BT50BHPVTT25100M	E66
BT50BHPVTT32100M	E66
BT50BHPVTTHT050394	E69
BT50BHPVTTHT050787	E69
BT50BHPVTTHT062394	E69
BT50BHPVTTHT062787	E69
BT50BHPVTTHT075394	E69
BT50BHPVTTHT075787	E69
BT50BHPVTTHT088394	E69
BT50BHPVTTHT088787	E69
BT50BHPVTTHT100394	E69
BT50BHPVTTHT100787	E69
BT50BHPVTTHT12100M	E68
BT50BHPVTTHT12160M	E68
BT50BHPVTTHT125394	E69
BT50BHPVTTHT125787	E69
BT50BHPVTTHT14100M	E68
BT50BHPVTTHT14160M	E68
BT50BHPVTTHT16100M	E68
BT50BHPVTTHT16160M	E68
BT50BHPVTTHT18100M	E68
BT50BHPVTTHT18160M	E68
BT50BHPVTTHT20100M	E68
BT50BHPVTTHT20160M	E68
BT50BHPVTTHT25100M	E68
BT50BHPVTTHT32100M	E68
BT50BHSK40060M	E95
BT50BHSK50065M	E95
BT50BHSK63075M	E95
BT50BKM32040M	E94
BT50BKM32090M	E94
BT50BKM40060M	E94
BT50BKM40100M	E94
BT50BKM50060M	E94
BT50BKM50120M	E94
BT50BKM63060M	E94
BT50BKM63140M	E94
BT50BKM80080M	E94
BT50BKR32040M	E93
BT50BKR50040M	E93
BT50BKR63060M	E93
BT50BKR80060M	E93
BT50BSFTT050394	E64
BT50BSFTT062394	E64
BT50BSFTT075394	E64
BT50BSFTT100394	E64
BT50BSFTT12100M	E64
BT50BSFTT14100M	E64
BT50BSFTT16100M	E64
BT50BSFTT18100M	E64
BT50BSFTT20100M	E64
BT50BSFTT25100M	E64
BT50BSM2C050400	E88
BT50BSM2C075400	E88
BT50BSM2C100400	E88
BT50BSM2C16045M	E86
BT50BSM2C16100M	E86
BT50BSM2C16150M	E86
BT50BSM2C22045M	E86
BT50BSM2C22100M	E86
BT50BSM2C22150M	E86

Catalog No.	Page(s)
BT50BSMC050177	E88
BT50BSMC050400	E88
BT50BSMC075177	E88
BT50BSMC075400	E88
BT50BSMC100177	E88
BT50BSMC100400	E88
BT50BSMC100600	E88
BT50BSMC125177	E88
BT50BSMC125400	E88
BT50BSMC125600	E88
BT50BSMC150177	E88
BT50BSMC150400	E88
BT50BSMC150600	E88
BT50BSMC16045M	E86
BT50BSMC16100M	E86
BT50BSMC16150M	E86
BT50BSMC200236	E88
BT50BSMC200400	E88
BT50BSMC22045M	E86
BT50BSMC22100M	E86
BT50BSMC22150M	E86
BT50BSMC250236	E88
BT50BSMC250400	E88
BT50BSMC27045M	E87
BT50BSMC27100M	E87
BT50BSMC27150M	E87
BT50BSMC32045M	E87
BT50BSMC32100M	E87
BT50BSMC32150M	E87
BT50BSMC40050M	E87
BT50BSMC40100M	E87
BT50BSMC40150M	E87
BT50BSMC60090M	E87
BT50BST12087M	E90
BT50BST12137M	E90
BT50BST12187M	E90
BT50BST16087M	E90
BT50BST16137M	E90
BT50BST16187M	E90
BT50BST16237M	E90
BT50BSWN25075M	E82
BT50BSWN32075M	E82
BT50BTDSMC0751050	E85
BT50BTDSMC1001250	E85
BT50BTDSMC1251300	E85
BT50BTDSMC22260M	E84
BT50BTDSMC27320M	E84
BT50BTDSMC32330M	E84
BT50BWN06063M	E81
BT50BWN08063M	E81
BT50BWN10063M	E81
BT50BWN12080M	E81
BT50BWN14080M	E81
BT50BWN16080M	E81
BT50BWN18080M	E81
BT50BWN20080M	E81
BT50BWN25100M	E81
BT50BWN32105M	E81
BT50CS16070M	E89
BT50CS16150M	E89
BT50CS22070M	E89
BT50CS22150M	E89
BT50CS22200M	E89
BT50CS32070M	E89
BT50CS32150M	E89
BT50CS40070M	E89
BT50CS40150M	E89
BT50CS40200M	E89
BT50CS50075M	E89
BT50CS50150M	E89
BT50DA188070M	E80
BT50DA188150M	E80
BT50DA188200M	E80
BT50DC13110M	E80
BT50EM050295	E83
BT50EM06063M	E83
BT50EM06150M	E83
BT50EM075295	E83
BT50EM08063M	E83
BT50EM100413	E83
BT50EM100600	E83
BT50EM10080M	E83
BT50EM10100M	E83
BT50EM12080M	E83
BT50EM125413	E83
BT50EM125600	E83
BT50EM150413	E83
BT50EM16080M	E83
BT50EM200531	E83
BT50EM20080M	E83
BT50EM25105M	E83
BT50EM32105M	E83
BT50EM40120M	E83
BT50EM50130M	E83
BT50JT33041M	E92
BT50MT5105M	E92
BT50RC1075M	E91
BT50RC2102M	E91
BT50RC3141M	E91
BT50SA125600	E90
BT50SA150600	E90
BT50SER32046M	E77
BT50SER40046M	E77
BT50STRC1074M	E91
BT50STRC2089M	E91
BT50TA1187	E82
BT50TG100090M	E76
BT50TG100150M	E76
BT50TG100200M	E76
BT50TG150100M	E76
BT50TG150150M	E76
BTE25IP	L52
BTE27IP	L52
BTKV40BB063280M	D19
BTKV40BEM025250	D13
BTKV40BEM031250	D13
BTKV40BEM038250	D13
BTKV40BEM050300	D13
BTKV40BEM06050M	D12
BTKV40BEM062300	D13
BTKV40BEM075400	D13
BTKV40BEM08050M	D12
BTKV40BEM088400	D13
BTKV40BEM100400	D13
BTKV40BEM10063M	D12
BTKV40BEM12063M	D12
BTKV40BEM125400	D13
BTKV40BEM14063M	D12
BTKV40BEM16063M	D12
BTKV40BEM18063M	D12
BTKV40BEM20063M	D12
BTKV40BEM25090M	D12
BTKV40BER16060M	D10
BTKV40BER16120M	D10
BTKV40BER20060M	D10
BTKV40BER20120M	D10
BTKV40BER25070M	D11
BTKV40BER25120M	D11
BTKV40BER32070M	D11
BTKV40BER32120M	D11
BTKV40BER40080M	D11
BTKV40BER40120M	D11
BTKV40BHPVTT025350	D5
BTKV40BHPVTT031350	D5
BTKV40BHPVTT038350	D5
BTKV40BHPVTT044350	D5
BTKV40BHPVTT050350	D5
BTKV40BHPVTT06090M	D4
BTKV40BHPVTT062350	D5
BTKV40BHPVTT075400	D5
BTKV40BHPVTT08090M	D4
BTKV40BHPVTT088400	D5
BTKV40BHPVTT100400	D5
BTKV40BHPVTT10090M	D4
BTKV40BHPVTT12090M	D4
BTKV40BHPVTT125425	D5
BTKV40BHPVTT14090M	D4
BTKV40BHPVTT16090M	D4
BTKV40BHPVTT18090M	D4
BTKV40BHPVTT20090M	D4
BTKV40BHPVTT25100M	D4
BTKV40BHPVTT32105M	D4
BTKV40BHPVTTHT050350	D7
BTKV40BHPVTTHT062350	D7
BTKV40BHPVTTHT075400	D7
BTKV40BHPVTTHT088400	D7
BTKV40BHPVTTHT100400	D7
BTKV40BHPVTTHT12090M	D6
BTKV40BHPVTTHT125425	D7
BTKV40BHPVTTHT14090M	D6
BTKV40BHPVTTHT16090M	D6
BTKV40BHPVTTHT18090M	D6
BTKV40BHPVTTHT20090M	D6
BTKV40BHPVTTHT25100M	D6
BTKV40BHPVTTHT32105M	D6
BTKV40BKM32050M	D18, D19
BTKV40BKM32090M	D18
BTKV40BKM40055M	D18
BTKV40BKM40100M	D18
BTKV40BKM50065M	D18
BTKV40BKM50120M	D18
BTKV40BSM2C050175	D17
BTKV40BSM2C075200	D17
BTKV40BSM2C100200	D17
BTKV40BSM2C16050M	D16
BTKV40BSM2C22055M	D16
BTKV40BSMC050175	D17
BTKV40BSMC075200	D17
BTKV40BSMC100200	D17
BTKV40BSMC125200	D17
BTKV40BSMC150200	D17
BTKV40BSMC16050M	D16
BTKV40BSMC22055M	D16
BTKV40BSMC27055M	D16
BTKV40BSMC32060M	D16
BTKV40BTDSMC0751050	D15
BTKV40BTDSMC1001050	D15
BTKV40BTDSMC22260M	D14
BTKV40BTDSMC27260M	D14
BTKV40BTG075070M	D8
BTKV40BTG100080M	D8
BTKV40BTG100100M	D8
BTKV40BTG100150M	D8
BTKV40BTG150110M	D8
BTKV50BB104350M	D37
BTKV50BB134250M	D37
BTKV50BEM050300	D31
BTKV50BEM06063M	D30
BTKV50BEM075400	D31
BTKV50BEM08063M	D30
BTKV50BEM100400	D31
BTKV50BEM10080M	D30
BTKV50BEM12080M	D30
BTKV50BEM125400	D31
BTKV50BEM14080M	D30
BTKV50BEM150450	D31
BTKV50BEM16080M	D30
BTKV50BEM18080M	D30
BTKV50BEM200550	D31
BTKV50BEM20080M	D30
BTKV50BEM25105M	D30
BTKV50BEM32105M	D30
BTKV50BEM40120M	D30
BTKV50BEM50130M	D30
BTKV50BER16100M	D28
BTKV50BER16150M	D28
BTKV50BER20070M	D28
BTKV50BER20150M	D28
BTKV50BER25070M	D29
BTKV50BER25150M	D29
BTKV50BER32070M	D29
BTKV50BER32150M	D29
BTKV50BER40080M	D29
BTKV50BER40150M	D29
BTKV50BHPVTT025400	D23
BTKV50BHPVTT031400	D23
BTKV50BHPVTT038400	D23
BTKV50BHPVTT044400	D23
BTKV50BHPVTT050400	D23
BTKV50BHPVTT06100M	D22
BTKV50BHPVTT062400	D23
BTKV50BHPVTT075400	D23
BTKV50BHPVTT08100M	D22
BTKV50BHPVTT088400	D23
BTKV50BHPVTT100400	D23
BTKV50BHPVTT10100M	D22
BTKV50BHPVTT12100M	D22
BTKV50BHPVTT125400	D23
BTKV50BHPVTT14100M	D22
BTKV50BHPVTT16100M	D22
BTKV50BHPVTT18100M	D22
BTKV50BHPVTT20100M	D22
BTKV50BHPVTT25100M	D22
BTKV50BHPVTT32100M	D22
BTKV50BHPVTTHT050400	D25
BTKV50BHPVTTHT062400	D25
BTKV50BHPVTTHT075400	D25
BTKV50BHPVTTHT088400	D25
BTKV50BHPVTTHT100400	D25
BTKV50BHPVTTHT12100M	D24
BTKV50BHPVTTHT125400	D25
BTKV50BHPVTTHT14100M	D24
BTKV50BHPVTTHT16100M	D24
BTKV50BHPVTTHT18100M	D24
BTKV50BHPVTTHT20100M	D24
BTKV50BHPVTTHT25100M	D24
BTKV50BHPVTTHT32100M	D24
BTKV50BKM32060M	D36
BTKV50BKM32090M	D36
BTKV50BKM40065M	D36
BTKV50BKM40100M	D36
BTKV50BKM50070M	D36
BTKV50BKM50120M	D36
BTKV50BKM63080M	D36
BTKV50BKM63140M	D36
BTKV50BKM80090M	D36
BTKV50BSM2C075200	D35
BTKV50BSM2C100200	D35
BTKV50BSM2C16045M	D34
BTKV50BSM2C22045M	D34
BTKV50BSMC075200	D35
BTKV50BSMC100200	D35
BTKV50BSMC125200	D35
BTKV50BSMC150200	D35
BTKV50BSMC16045M	D34
BTKV50BSMC200300	D35
BTKV50BSMC22045M	D34
BTKV50BSMC250300	D35
BTKV50BSMC27045M	D34
BTKV50BSMC32045M	D34
BTKV50BSMC40050M	D34
BTKV50BSMC60090M	D34
BTKV50BTDSMC0751050	D33
BTKV50BTDSMC1001250	D33
BTKV50BTDSMC1251300	D33
BTKV50BTDSMC22260M	D32
BTKV50BTDSMC27320M	D32
BTKV50BTDSMC32330M	D32
BTKV50BTG100090M	D26
BTKV50BTG100150M	D26
BTKV50BTG150100M	D26
BTKV50BTG150150M	D26
CC09	A103
CC11	A103, A110
CDER16000M	L23
CDER16035M	L23
CDER16040M	L23
CDER16045M	L23
CDER16050M	L23
CDER16055M	L23
CDER16060M	L23
CDER16065M	L23
CDER16070M	L23
CDER16075M	L23
CDER16080M	L23
CDER16085M	L23
CDER16090M	L23
CDER16095M	L23
CDER16100M	L23
CDER20000M	L24
CDER20030M	L24
CDER20035M	L24
CDER20040M	L24
CDER20045M	L24
CDER20050M	L24
CDER20055M	L24
CDER20060M	L24

Catalog No.	Page(s)
CDER20065M	L24
CDER20070M	L24
CDER20075M	L24
CDER20080M	L24
CDER20085M	L24
CDER20090M	L24
CDER20095M	L24
CDER20100M	L24
CDER20105M	L24
CDER20110M	L24
CDER20115M	L24
CDER20120M	L24
CDER20125M	L24
CDER20130M	L24
CDER25000M	L25
CDER25035M	L25
CDER25040M	L25
CDER25045M	L25
CDER25050M	L25
CDER25055M	L25
CDER25060M	L25
CDER25065M	L25
CDER25070M	L25
CDER25075M	L25
CDER25080M	L25
CDER25085M	L25
CDER25090M	L25
CDER25095M	L25
CDER25100M	L25
CDER25105M	L25
CDER25110M	L25
CDER25115M	L25
CDER25120M	L25
CDER25125M	L25
CDER25130M	L25
CDER25135M	L25
CDER25140M	L25
CDER25145M	L25
CDER25150M	L25
CDER25155M	L25
CDER25160M	L25
CDER32000M	L27
CDER32035M	L26
CDER32040M	L26
CDER32045M	L26
CDER32050M	L26
CDER32055M	L26
CDER32060M	L26
CDER32065M	L26
CDER32070M	L26
CDER32075M	L26
CDER32080M	L26
CDER32085M	L26
CDER32090M	L26
CDER32095M	L26
CDER32100M	L26
CDER32105M	L26
CDER32110M	L26
CDER32115M	L26
CDER32120M	L26
CDER32125M	L26
CDER32130M	L26
CDER32135M	L26
CDER32140M	L26
CDER32145M	L26
CDER32150M	L26
CDER32155M	L26
CDER32160M	L26
CDER32165M	L26
CDER32170M	L26
CDER32175M	L26
CDER32180M	L26
CDER32185M	L26
CDER32190M	L26
CDER32195M	L26
CDER32200M	L26
CDER40000M	L29
CDER40035M	L28
CDER40040M	L28
CDER40045M	L28
CDER40050M	L28
CDER40055M	L28
CDER40060M	L28
CDER40065M	L28
CDER40070M	L28
CDER40075M	L28
CDER40080M	L28
CDER40085M	L28
CDER40090M	L28
CDER40095M	L28
CDER40100M	L28
CDER40105M	L28
CDER40110M	L28
CDER40115M	L28
CDER40120M	L28
CDER40125M	L28
CDER40130M	L28
CDER40135M	L28
CDER40140M	L28
CDER40145M	L28
CDER40150M	L28
CDER40155M	L28
CDER40160M	L28
CDER40165M	L28
CDER40170M	L28
CDER40175M	L29
CDER40180M	L29
CDER40185M	L29
CDER40190M	L29
CDER40195M	L29
CDER40200M	L29
CDER40205M	L29
CDER40210M	L29
CDER40215M	L29
CDER40220M	L29
CDER40225M	L29
CDER40230M	L29
CDER40235M	L29
CDER40240M	L29
CDER40245M	L29
CDER40250M	L29
CDER40255M	L29
CDER40260M	L29
CDK16M	A337, C67, C89, C116, E53, E89, G34
CDK22M	A337, A421, C67, C89, C116, E53, E89, G34
CDK27M	A421, A509, C67, C89, C116, E53, G34, G70
CDK32M	A421, A509, A548, C67, C89, C116, E53, E89, G34, G70
CDK40M	A509, A548, C67, C89, C116, E53, E89, G34, G70
CDK50M	C89, C116, E89, G70
CDR16M	A337, C67, C89, C116, E53, E89, G34
CDR22M	A337, A421, C67, C89, C116, E53, E89, G34
CDR27M	A421, A509, C67, C89, C116, E53, G34, G70
CDR32M	A421, A509, A548, C67, C89, C116, E53, E89, G34, G70
CDR40M	A509, A548, C67, C89, C116, E53, E89, G34, G70
CDR50M	C89, C116, E89, G70
CGS4	A312, A391, A481–482, A564, C39
CGS5	A482, A564, C39
CKC3	A155, A178, A237–238, A248, A309–310, A323, A386–388, A408, A478, C40
CKC4	A155, A178, A309–310, A323, A387–388, A408, A478
CKC5	A309–310, A386–388, A478
CKM12	A521–522, A524–525, A597–599
CKM13	A447–448, A451–452
CKM13LP	A358, A360, A363–364
CKM20	A368–369, A378, A447–448, A450–452, A456, A458, A469–472, A521–522, A527, A558–559, A561, C34
CKM20LP	A134–142, A166–168, A170–174, A221–223, A226, A240–241, A278–283, A285–288, A314–316, A358, A360, A362–364, A368–370, A393, A395–396, A485, A487
CKM22	A600
CKM23	A361, A378, A448–450, A453–455, A457, A470, A472, A522–524, A526–527, A558–560
CKM23LP	A135, A169, A222–223, A225–226, A279–281, A284–287, A315, A360–362, A365–367, A395, A487
CKM24	A521–522, A524–526, A597–599
CKM37	A232
CKM7LP	A134–137, A140–142, A168–171, A173–174, A224, A284–285, A365–366
CM113	A234–235, A303–305, A383–384, A404, A473–476
CM114	A234–235, A303–305, A383–384, A404, A473–476
CM120	A531, A601
CM121	A531, A601
CM146	A88–89, A97, A247, A321–322, A407
CM147	A88–89, A97, A247, A321–322, A407
CM158	A234, A303, A305–306
CM159	A303, A305
CM168	A89
CM169	A89
CM182	A102
CM183	A102
CM209R ASSY	A265, A345, A434, A519, A593
CM212LP	A154
CM213LP	A154
CM234R ASSY	A265–277, A345–357, A434–446, A519–520, A593–596
CM66	A403
CM68	A233
CM71	A232
CM72	A236, A307–308, A321, A385–386, A407, A477, A492, A531, A601
CM72LP	A153–154, A177
CM73	A235–236, A307–308, A321, A385–386, A407, A477, A492, A531, A601
CM73LP	A153–154, A177
CM74	A153–154, A177, A236, A247, A307–308, A321, A407
CM75	A153–154, A177, A235–236, A307–308, A321, A407
CM79	A232
CM80	A477, A531, A601
CM81	A477, A531, A601
CSS0615M	I8
CSS081125	F30, F73
CSS1020M	I8
CSS112175PKG	F73
CSS1225M	I8–9
CSTB25PKG	A95
CSTB4SDPKG	A90
CT11 WG	A107
CT15	A104–106
CV40BB400120	F39
CV40BB400600	F39
CV40BEM050262	F29
CV40BEM062375	F29
CV40BEM075375	F29
CV40BEM100400	F29
CV40BEM125425	F29
CV40BER16250	F22
CV40BER16500	F22
CV40BER20250	F22
CV40BER20600	F22
CV40BER25250	F23
CV40BER25600	F23
CV40BER32275	F23
CV40BER32600	F23
CV40BER40300	F23
CV40BER40600	F23
CV40BHC025350	F13
CV40BHC038375	F13
CV40BHC050375	F13
CV40BHC062400	F13
CV40BHC06M350	F12
CV40BHC075400	F13
CV40BHC08M350	F12
CV40BHC100462	F13
CV40BHC10M375	F12
CV40BHC125462	F13
CV40BHC12M375	F12
CV40BHC14M400	F12
CV40BHC16M400	F12
CV40BHC18M400	F12
CV40BHC20M400	F12
CV40BHC25M462	F12
CV40BHC32M462	F12
CV40BHCB075400	F16
CV40BHCB20M400	F16
CV40BHCSL050669	F11
CV40BHCSL062669	F11
CV40BHCSL075669	F11
CV40BHCSL12M669	F11
CV40BHCSL14M669	F11
CV40BHCSL16M669	F11
CV40BHCSL18M669	F11
CV40BHCSL20M669	F11
CV40BHCSLT025669	F10
CV40BHCSLT038669	F10
CV40BHCSLT06M669	F10
CV40BHCSLT08M669	F10
CV40BHCSLT10M669	F10
CV40BHCT025350	F15
CV40BHCT025600	F15
CV40BHCT038375	F15
CV40BHCT038600	F15
CV40BHCT050375	F15
CV40BHCT050600	F15
CV40BHCT062400	F15
CV40BHCT062600	F15
CV40BHCT06M350	F14
CV40BHCT06M600	F14
CV40BHCT075400	F15
CV40BHCT075600	F15
CV40BHCT08M350	F14
CV40BHCT08M600	F14
CV40BHCT100462	F15
CV40BHCT10M375	F14
CV40BHCT10M600	F14
CV40BHCT125462	F15
CV40BHCT12M375	F14
CV40BHCT12M600	F14
CV40BHCT14M400	F14
CV40BHCT14M600	F14
CV40BHCT16M400	F14
CV40BHCT16M600	F14
CV40BHCT18M400	F14
CV40BHCT18M600	F14
CV40BHCT20M400	F14
CV40BHCT20M600	F14
CV40BHCT25M462	F14
CV40BHCT32M462	F14
CV40BHPMC075335	F17
CV40BHPMC075591	F17
CV40BHPMC100374	F17
CV40BHPMC100591	F17
CV40BHPMC125472	F17
CV40BHPMC125591	F17
CV40BHPVTT025350	F7
CV40BHPVTT025600	F7
CV40BHPVTT031350	F7
CV40BHPVTT031600	F7
CV40BHPVTT038375	F7
CV40BHPVTT038600	F7
CV40BHPVTT044375	F7
CV40BHPVTT050375	F7
CV40BHPVTT050600	F7
CV40BHPVTT056375	F7
CV40BHPVTT062375	F7
CV40BHPVTT062600	F7
CV40BHPVTT068400	F7
CV40BHPVTT06M350	F6
CV40BHPVTT06M600	F6
CV40BHPVTT075400	F7
CV40BHPVTT075600	F7
CV40BHPVTT088400	F7
CV40BHPVTT088600	F7
CV40BHPVTT08M350	F6
CV40BHPVTT08M600	F6
CV40BHPVTT100400	F7
CV40BHPVTT100600	F7
CV40BHPVTT10M375	F6

Catalog No.	Page(s)
CV40BHPVTT10M600	F6
CV40BHPVTT125400	F7
CV40BHPVTT125600	F7
CV40BHPVTT12M375	F6
CV40BHPVTT12M600	F6
CV40BHPVTT14M375	F6
CV40BHPVTT14M600	F6
CV40BHPVTT16M375	F6
CV40BHPVTT16M600	F6
CV40BHPVTT18M400	F6
CV40BHPVTT18M600	F6
CV40BHPVTT20M400	F6
CV40BHPVTT20M600	F6
CV40BHPVTT25M400	F6
CV40BHPVTT25M600	F6
CV40BHPVTT32M400	F6
CV40BHPVTT32M600	F6
CV40BHPVTTHT050375	F9
CV40BHPVTTHT050600	F9
CV40BHPVTTHT056375	F9
CV40BHPVTTHT062375	F9
CV40BHPVTTHT062600	F9
CV40BHPVTTHT068400	F9
CV40BHPVTTHT075400	F9
CV40BHPVTTHT075600	F9
CV40BHPVTTHT088400	F9
CV40BHPVTTHT088600	F9
CV40BHPVTTHT100400	F9
CV40BHPVTTHT100600	F9
CV40BHPVTTHT125400	F9
CV40BHPVTTHT125600	F9
CV40BHPVTTHT12M375	F8
CV40BHPVTTHT12M600	F8
CV40BHPVTTHT14M375	F8
CV40BHPVTTHT14M600	F8
CV40BHPVTTHT16M375	F8
CV40BHPVTTHT16M600	F8
CV40BHPVTTHT18M400	F8
CV40BHPVTTHT18M600	F8
CV40BHPVTTHT20M400	F8
CV40BHPVTTHT20M600	F8
CV40BHPVTTHT25M400	F8
CV40BHPVTTHT25M600	F8
CV40BHPVTTHT32M400	F8
CV40BHPVTTHT32M600	F8
CV40BHSK63295	F39
CV40BKM32157	F38
CV40BKM32354	F38
CV40BKM40157	F38
CV40BKM40394	F38
CV40BKM50354	F38
CV40BKM50472	F38
CV40BKR32157	F37
CV40BKR50236	F37
CV40BSM2C050350	F32
CV40BSM2C075350	F32
CV40BSM2C075600	F32
CV40BSM2C100206	F32
CV40BSM2C100400	F32
CV40BSM2C100600	F32
CV40BSMC050138	F32
CV40BSMC050350	F32
CV40BSMC075138	F32
CV40BSMC075350	F32
CV40BSMC075600	F32
CV40BSMC100206	F32
CV40BSMC100400	F32
CV40BSMC100600	F32
CV40BSMC125212	F32
CV40BSMC125400	F32
CV40BSMC150241	F32
CV40BSMC150400	F32
CV40BSSF075275	F30
CV40BSSF100450	F30
CV40BSSF125475	F30
CV40BSSF150575	F30
CV40BST06M228	F34
CV40BST06M386	F34
CV40BST08M228	F34
CV40BST08M386	F34
CV40BST10M228	F34
CV40BST10M386	F34
CV40BST12M228	F34
CV40BST12M386	F34
CV40BST16M228	F34
CV40BST16M386	F34
CV40BTDSMC0750900	F31
CV40BTDSMC1000900	F31
CV40BTG0501000	F19
CV40BTG050300	F19
CV40BTG050500	F19
CV40BTG050800	F19
CV40BTG075275G	F19
CV40BTG075600G	F19
CV40BTG100300G	F19
CV40BTG100600G	F19
CV40BTGF050250	F18
CV40BTGF050400	F18
CV40BTGF050600	F18
CV40BTGF075250	F18
CV40BTGF075400	F18
CV40BTGF075600	F18
CV40BTGF100275	F18
CV40BTGF100400	F18
CV40BTGF100600	F18
CV40BWD32M343	F27
CV40BWN06M244	F26
CV40BWN08M244	F26
CV40BWN10M244	F26
CV40BWN12M260	F26
CV40BWN14M260	F26
CV40BWN16M275	F26
CV40BWN18M275	F26
CV40BWN20M275	F26
CV40BWN25M375	F26
CV40BWN32M388	F26
CV40CHTCRC1382	F35
CV40CHTCRC2524	F35
CV40CSTRC1290	F36
CV40CSTRC2350	F36
CV40DA188300	F24
CV40DA188600	F24
CV40DA208300	F24
CV40DA208500	F24
CV40DC13M421	F25
CV40EM012450	F28
CV40EM018250	F28
CV40EM018450	F28
CV40EM025250	F28
CV40EM025450	F28
CV40EM031450	F28
CV40EM038250	F28
CV40EM038450	F28
CV40EM038650	F28
CV40EM044450	F28
CV40EM050262	F28
CV40EM050462	F28
CV40EM050662	F28
CV40EM062375	F28
CV40EM062575	F28
CV40EM075375	F28
CV40EM075575	F28
CV40EM088400	F28
CV40EM088600	F28
CV40EM100400	F28
CV40EM100600	F28
CV40EM125425	F28
CV40EM125625	F28
CV40EM150462	F28
CV40EM150662	F28
CV40JT2244	F37
CV40JT3278	F37
CV40JT33256	F37
CV40KM12ECTRA	A114
CV40KM12TRA	A114
CV40KM16ECTRA	A114
CV40KM16TRA	A114
CV40MT1175	F36
CV40MT2244	F36
CV40MT3300	F36
CV40MT4388	F36
CV40SA062400	F33
CV40SA100400	F33
CV40SA125400	F33
CV40SER32169	F21
CV40SS100400	F30
CV40TA1137	F27
CV40TA7137	F27
CV40TCRC1297	F35
CV40TCRC2393	F35
CV40TG075275	F20
CV40TG075600	F20
CV40TG100300	F20
CV40TG100400	F20
CV40TG100600	F20
CV40TG150488	F20
CV40ZBSFTT050256	F5
CV40ZBSFTT062256	F5
CV40ZBSFTT075256	F5
CV40ZBSFTT100295	F5
CV40ZBSFTT12M256	F5
CV40ZBSFTT16M256	F5
CV40ZBSFTT20M256	F5
CV40ZBSFTT25M295	F5
CV40ZBSM2C100100	F32
CV40ZBSMC100100	F32
CV40ZEM012138	F28
CV40ZEM018138	F28
CV40ZEM025138	F28
CV40ZEM031138	F28
CV40ZEM038138	F28
CV40ZEM044175	F28
CV40ZEM050175	F28
CV40ZEM062175	F28
CV40ZEM075175	F28
CV40ZEM088175	F28
CV40ZEM100175	F28
CV40ZEM125200	F28
CV40ZSER32106	F21
CV40ZTTHT050275	F9
CV40ZTTHT075275	F9
CV50BB400120	F83
CV50BB400600	F83
CV50BB600120	F83
CV50BB600600	F83
CV50BEM050462	F72
CV50BEM062375	F72
CV50BEM075375	F72
CV50BEM100400	F72
CV50BEM125400	F72
CV50BEM150400	F72
CV50BER16250	F62
CV50BER16400	F62
CV50BER16600	F62
CV50BER20250	F62
CV50BER20400	F62
CV50BER20600	F62
CV50BER25250	F63
CV50BER25400	F63
CV50BER25600	F63
CV50BER32275	F63
CV50BER32400	F63
CV50BER32600	F63
CV50BER40300	F63
CV50BER40600	F63
CV50BHC025350	F50
CV50BHC038375	F50
CV50BHC050375	F50
CV50BHC062400	F50
CV50BHC06M350	F50
CV50BHC075400	F50
CV50BHC08M350	F50
CV50BHC100462	F50
CV50BHC10M375	F50
CV50BHC125462	F50
CV50BHC12M375	F50
CV50BHC14M400	F50
CV50BHC16M400	F50
CV50BHC18M400	F50
CV50BHC20M400	F50
CV50BHC25M462	F50
CV50BHC32M462	F50
CV50BHCB075400	F54
CV50BHCB20M400	F54
CV50BHCSL050787	F49
CV50BHCSL062787	F49
CV50BHCSL075787	F49
CV50BHCSL12M787	F49
CV50BHCSL14M787	F49
CV50BHCSL16M787	F49
CV50BHCSL18M787	F49
CV50BHCSL20M787	F49
CV50BHCSLT025787	F48
CV50BHCSLT038787	F48
CV50BHCSLT06M787	F48
CV50BHCSLT08M787	F48
CV50BHCSLT10M787	F48
CV50BHCT025350	F53
CV50BHCT025600	F53
CV50BHCT038375	F53
CV50BHCT038600	F53
CV50BHCT050375	F53
CV50BHCT050600	F53
CV50BHCT062400	F53
CV50BHCT062600	F53
CV50BHCT06M350	F52
CV50BHCT06M600	F52
CV50BHCT075400	F53
CV50BHCT075600	F53
CV50BHCT08M350	F52
CV50BHCT08M600	F52
CV50BHCT100462	F53
CV50BHCT10M375	F52
CV50BHCT10M600	F52
CV50BHCT125462	F53
CV50BHCT12M375	F52
CV50BHCT12M600	F52
CV50BHCT14M400	F52
CV50BHCT14M600	F52
CV50BHCT16M400	F52
CV50BHCT16M600	F52
CV50BHCT18M400	F52
CV50BHCT18M600	F52
CV50BHCT20M400	F52
CV50BHCT20M600	F52
CV50BHCT25M462	F52
CV50BHCT32M462	F52
CV50BHPMC075354	F55
CV50BHPMC075650	F55
CV50BHPMC100354	F55
CV50BHPMC100531	F55
CV50BHPMC100650	F55
CV50BHPMC125354	F55
CV50BHPMC125531	F55
CV50BHPMC125650	F55
CV50BHPVTT025350	F45
CV50BHPVTT025800	F45
CV50BHPVTT031350	F45
CV50BHPVTT031800	F45
CV50BHPVTT038375	F45
CV50BHPVTT038800	F45
CV50BHPVTT044375	F45
CV50BHPVTT044800	F45
CV50BHPVTT050375	F45
CV50BHPVTT050800	F45
CV50BHPVTT056375	F45
CV50BHPVTT062375	F45
CV50BHPVTT062800	F45
CV50BHPVTT068400	F45
CV50BHPVTT06M350	F44
CV50BHPVTT06M800	F44
CV50BHPVTT075400	F45
CV50BHPVTT075800	F45
CV50BHPVTT088400	F45
CV50BHPVTT088800	F45
CV50BHPVTT08M350	F44
CV50BHPVTT08M800	F44
CV50BHPVTT100400	F45
CV50BHPVTT100800	F45
CV50BHPVTT10M375	F44
CV50BHPVTT10M800	F44
CV50BHPVTT125400	F45
CV50BHPVTT125800	F45
CV50BHPVTT12M375	F44
CV50BHPVTT12M800	F44
CV50BHPVTT14M375	F44
CV50BHPVTT14M800	F44
CV50BHPVTT150450	F45

Catalog No.	Page(s)
CV50BHPVTT16M375	F44
CV50BHPVTT16M800	F44
CV50BHPVTT18M400	F44
CV50BHPVTT18M800	F44
CV50BHPVTT200450	F45
CV50BHPVTT20M400	F44
CV50BHPVTT20M800	F44
CV50BHPVTT25M400	F44
CV50BHPVTT25M800	F44
CV50BHPVTT32M400	F44
CV50BHPVTT32M800	F44
CV50BHPVTTHT050375	F47
CV50BHPVTTHT050800	F47
CV50BHPVTTHT056375	F47
CV50BHPVTTHT062375	F47
CV50BHPVTTHT062800	F47
CV50BHPVTTHT068400	F47
CV50BHPVTTHT075400	F47
CV50BHPVTTHT075800	F47
CV50BHPVTTHT088400	F47
CV50BHPVTTHT088800	F47
CV50BHPVTTHT100400	F47
CV50BHPVTTHT100800	F47
CV50BHPVTTHT125400	F47
CV50BHPVTTHT125800	F47
CV50BHPVTTHT12M375	F46
CV50BHPVTTHT12M800	F46
CV50BHPVTTHT14M375	F46
CV50BHPVTTHT14M800	F46
CV50BHPVTTHT16M375	F46
CV50BHPVTTHT16M800	F46
CV50BHPVTTHT18M400	F46
CV50BHPVTTHT18M800	F46
CV50BHPVTTHT20M400	F46
CV50BHPVTTHT20M800	F46
CV50BHPVTTHT25M400	F46
CV50BHPVTTHT25M800	F46
CV50BHPVTTHT32M400	F46
CV50BHPVTTHT32M800	F46
CV50BHSK50197	F83
CV50BHSK63236	F83
CV50BKM32157	F82
CV50BKM32354	F82
CV50BKM40157	F82
CV50BKM40394	F82
CV50BKM50236	F82
CV50BKM50472	F82
CV50BKM50630	F82
CV50BKM63236	F82
CV50BKM63551	F82
CV50BKM63709	F82
CV50BKM80319	F82
CV50BKR32157	F81
CV50BKR50157	F81
CV50BKR63236	F81
CV50BKR80275	F81
CV50BSM2C050150	F76
CV50BSM2C050350	F76
CV50BSM2C050550	F76
CV50BSM2C075150	F76
CV50BSM2C075350	F76
CV50BSM2C075550	F76
CV50BSM2C100200	F76
CV50BSM2C100400	F76
CV50BSM2C100600	F76
CV50BSMC050150	F76
CV50BSMC050350	F76
CV50BSMC050550	F76
CV50BSMC075150	F76
CV50BSMC075350	F76
CV50BSMC075550	F76
CV50BSMC075700	F76
CV50BSMC075900	F76
CV50BSMC1001000	F76
CV50BSMC100200	F76
CV50BSMC100400	F76
CV50BSMC100600	F76
CV50BSMC100800	F76
CV50BSMC125150	F76
CV50BSMC125350	F76
CV50BSMC125550	F76
CV50BSMC125700	F76
CV50BSMC125900	F76
CV50BSMC150240	F76
CV50BSMC150400	F76
CV50BSMC150600	F76
CV50BSMC150800	F76
CV50BSMC200240	F76
CV50BSMC200400	F77
CV50BSMC200600	F77
CV50BSMC200800	F77
CV50BSMC250240	F77
CV50BSMC250400	F77
CV50BSSF075275	F74
CV50BSSF100400	F74
CV50BSSF125400	F74
CV50BSSF150450	F74
CV50BSSF200550	F74
CV50BST12M343	F78
CV50BST12M539	F78
CV50BST12M736	F78
CV50BST16M343	F78
CV50BST16M539	F78
CV50BST16M739	F78
CV50BST16M933	F78
CV50BTDSMC0751050	F75
CV50BTDSMC1001250	F75
CV50BTDSMC1251300	F75
CV50BTG0501000	F58
CV50BTG0501200	F58
CV50BTG050300	F58
CV50BTG050500	F58
CV50BTG050800	F58
CV50BTG075300G	F59
CV50BTG075600G	F59
CV50BTG100300G	F59
CV50BTG100750G	F59
CV50BTGF050275	F56
CV50BTGF050400	F56
CV50BTGF050600	F56
CV50BTGF050800	F56
CV50BTGF075275	F56
CV50BTGF075400	F56
CV50BTGF075600	F56
CV50BTGF075800	F56
CV50BTGF100275	F56
CV50BTGF100400	F56
CV50BTGF100600	F56
CV50BTGF100800	F56
CV50BWD32M343	F68
CV50BWD40M343	F68
CV50BWD50M343	F68
CV50BWN06M244	F66
CV50BWN08M244	F66
CV50BWN10M244	F66
CV50BWN12M264	F66
CV50BWN14M264	F66
CV50BWN16M275	F66
CV50BWN18M275	F66
CV50BWN20M275	F66
CV50BWN20M600	F66
CV50BWN25M375	F66
CV50BWN25M600	F66
CV50BWN32M388	F66
CV50BWN32M600	F66
CV50CHTCRC1382	F79
CV50CHTCRC2524	F79
CV50CHTCRC3717	F79
CV50CSTRC1290	F80
CV50CSTRC2350	F80
CV50CSTRC3481	F80
CV50DA188300	F64
CV50DA188600	F64
CV50DC13M421	F65
CV50EM018250	F70
CV50EM018450	F70
CV50EM018650	F70
CV50EM025250	F70
CV50EM025450	F70
CV50EM025650	F70
CV50EM031250	F70
CV50EM031450	F70
CV50EM031650	F70
CV50EM038250	F70
CV50EM038450	F70
CV50EM038650	F70
CV50EM038850	F70
CV50EM044250	F70
CV50EM050262	F70
CV50EM050462	F70
CV50EM050662	F70
CV50EM050850	F70
CV50EM062375	F70
CV50EM062575	F70
CV50EM062775	F70
CV50EM0751000	F70
CV50EM075375	F70
CV50EM075575	F70
CV50EM075775	F70
CV50EM088375	F70
CV50EM088575	F70
CV50EM088775	F70
CV50EM1001000	F71
CV50EM100400	F70
CV50EM100600	F70
CV50EM100800	F71
CV50EM1251000	F71
CV50EM125400	F71
CV50EM125600	F71
CV50EM125800	F71
CV50EM150400	F71
CV50EM150600	F71
CV50EM150800	F71
CV50EM200562	F71
CV50EM200762	F71
CV50EM200962	F71
CV50JT3268	F81
CV50KM12ECTRA	A114
CV50KM16ECTRA	A114
CV50KM20ECTRA	A188
CV50KM25ECTRA	A188
CV50KM3225TRA	A188
CV50MT1150	F80
CV50MT2200	F80
CV50MT3250	F80
CV50MT4338	F80
CV50MT5375	F80
CV50SA062400	F77
CV50SA100400	F77
CV50SA100600	F77
CV50SA125400	F77
CV50SA125600	F77
CV50SA150400	F77
CV50SA150600	F77
CV50SA200600	F77
CV50SER32169	F61
CV50SER40169	F61
CV50SS100400	F73
CV50SS100600	F73
CV50SS100800	F73
CV50SS125400	F73
CV50SS125600	F73
CV50SS125800	F73
CV50SS150400	F73
CV50SS150600	F73
CV50SS150800	F73
CV50SS175400	F73
CV50SS200562	F73
CV50SS200762	F73
CV50SS225650	F73
CV50SS250800	F73
CV50TA1137	F69
CV50TA15200	F69
CV50TCRC1297	F79
CV50TCRC2393	F79
CV50TCRC3516	F79
CV50TG0751000G	F60
CV50TG0751200G	F60
CV50TG075279G	F60
CV50TG075579G	F60
CV50TG075800G	F60
CV50TG100276G	F60
CV50TG100326G	F60
CV50TG100526G	F60
CV50TG100726G	F60
CV50WNA038282	F67
CV50WNA038469	F67
CV50WNA038669	F67
CV50WNA050273	F67
CV50WNA050460	F67
CV50WNA050660	F67
CV50WNA062266	F67
CV50WNA062453	F67
CV50WNA062653	F67
CV50WNA075263	F67
CV50WNA075450	F67
CV50WNA075650	F67
CV50WNA088263	F67
CV50WNA088450	F67
CV50WNA088650	F67
CV50WNA100300	F67
CV50WNA100450	F67
CV50WNA100650	F67
CV50WNA125300	F67
CV50WNA125450	F67
CV50WNA125650	F67
CV50WNA150400	F67
CV50WNA200535	F67
CV50WNA200735	F67
CV50WNA250535	F67
CV50WNA250735	F67
CV50ZBSFHDTT100354	F43
CV50ZBSFHDTT125354	F43
CV50ZBSFHDTT150394	F43
CV50ZBSFHDTT200551	F43
CV50ZBSFHDTT25M354	F43
CV50ZBSFHDTT32M354	F43
CV50ZBSFHDTT40M394	F43
CV50ZBSFHDTT50M551	F43
CV50ZBSFTT050315	F42
CV50ZBSFTT062315	F42
CV50ZBSFTT075315	F42
CV50ZBSFTT100394	F42
CV50ZBSFTT12M315	F42
CV50ZBSFTT14M315	F42
CV50ZBSFTT16M315	F42
CV50ZBSFTT18M315	F42
CV50ZBSFTT20M315	F42
CV50ZBSFTT25M394	F42
CV50ZSER32106	F61
CV50ZSER40106	F61
CV50ZWNA200375	F67
CVKV40BB400120	D51
CVKV40BB400600	D51
CVKV40BEM012250	D48
CVKV40BEM018250	D48
CVKV40BEM025250	D48
CVKV40BEM031250	D48
CVKV40BEM038250	D48
CVKV40BEM044250	D48
CVKV40BEM050300	D48
CVKV40BEM050450	D48
CVKV40BEM062300	D48
CVKV40BEM062450	D48
CVKV40BEM075300	D48
CVKV40BEM075450	D48
CVKV40BEM088400	D48
CVKV40BEM100400	D48
CVKV40BEM125450	D48
CVKV40BEM150500	D48
CVKV40BER16250	D46
CVKV40BER16500	D46
CVKV40BER20250	D46
CVKV40BER20600	D46
CVKV40BER25250	D47
CVKV40BER25600	D47
CVKV40BER32275	D47
CVKV40BER32600	D47
CVKV40BER40300	D47
CVKV40BER40600	D47
CVKV40BHPVTT025350	D41
CVKV40BHPVTT031350	D41
CVKV40BHPVTT038375	D41
CVKV40BHPVTT044375	D41
CVKV40BHPVTT050375	D41
CVKV40BHPVTT056375	D41
CVKV40BHPVTT062375	D41
CVKV40BHPVTT068400	D41

Catalog No.	Page(s)
CVKV40BHPVTT06M350	D40
CVKV40BHPVTT075400	D41
CVKV40BHPVTT088400	D41
CVKV40BHPVTT08M350	D40
CVKV40BHPVTT100400	D41
CVKV40BHPVTT10M350	D40
CVKV40BHPVTT125400	D41
CVKV40BHPVTT12M350	D40
CVKV40BHPVTT14M350	D40
CVKV40BHPVTT16M350	D40
CVKV40BHPVTT18M400	D40
CVKV40BHPVTT20M400	D40
CVKV40BHPVTT25M400	D40
CVKV40BHPVTT32M400	D40
CVKV40BHPVTTHT050375	D43
CVKV40BHPVTTHT056375	D43
CVKV40BHPVTTHT062375	D43
CVKV40BHPVTTHT068400	D43
CVKV40BHPVTTHT075400	D43
CVKV40BHPVTTHT088400	D43
CVKV40BHPVTTHT100400	D43
CVKV40BHPVTTHT125400	D43
CVKV40BHPVTTHT12M350	D42
CVKV40BHPVTTHT14M350	D42
CVKV40BHPVTTHT16M350	D42
CVKV40BHPVTTHT18M400	D42
CVKV40BHPVTTHT20M400	D42
CVKV40BHPVTTHT25M400	D42
CVKV40BHPVTTHT32M400	D42
CVKV40BKM32150	D51
CVKV40BKM32350	D51
CVKV40BKM40175	D51
CVKV40BKM40400	D51
CVKV40BKM50350	D51
CVKV40BKM50475	D51
CVKV40BSM2C050200	D50
CVKV40BSM2C050400	D50
CVKV40BSM2C075200	D50
CVKV40BSM2C075400	D50
CVKV40BSM2C075600	D50
CVKV40BSM2C100200	D50
CVKV40BSM2C100400	D50
CVKV40BSM2C100600	D50
CVKV40BSMC050200	D50
CVKV40BSMC050400	D50
CVKV40BSMC075200	D50
CVKV40BSMC075400	D50
CVKV40BSMC075600	D50
CVKV40BSMC100200	D50
CVKV40BSMC100400	D50
CVKV40BSMC100600	D50
CVKV40BSMC125200	D50
CVKV40BSMC125400	D50
CVKV40BSMC150250	D50
CVKV40BSMC150400	D50
CVKV40BTDSMC0750900	D49
CVKV40BTDSMC1000900	D49
CVKV40BTG075250G	D45
CVKV40BTG075400G	D45
CVKV40BTG075600G	D45
CVKV40BTG100275G	D45
CVKV40BTG100400G	D45
CVKV40BTG100600G	D45
CVKV50BB400120	D67
CVKV50BB400600	D67
CVKV50BB600120	D67
CVKV50BB600600	D67
CVKV50BEM018250	D63
CVKV50BEM025250	D63
CVKV50BEM031250	D63
CVKV50BEM038250	D63
CVKV50BEM044250	D63
CVKV50BEM050300	D63
CVKV50BEM050450	D63
CVKV50BEM062300	D63
CVKV50BEM062450	D63
CVKV50BEM075300	D63
CVKV50BEM075450	D63
CVKV50BEM088400	D63
CVKV50BEM100450	D63
CVKV50BEM125450	D63
CVKV50BEM150450	D63
CVKV50BEM200600	D63
CVKV50BER16250	D60
CVKV50BER16400	D60
CVKV50BER20250	D60
CVKV50BER20400	D60
CVKV50BER25250	D61
CVKV50BER25400	D61
CVKV50BER32275	D61
CVKV50BER32400	D61
CVKV50BER40300	D61
CVKV50BER40600	D61
CVKV50BHPVTT025350	D55
CVKV50BHPVTT031350	D55
CVKV50BHPVTT038375	D55
CVKV50BHPVTT044375	D55
CVKV50BHPVTT050400	D55
CVKV50BHPVTT056400	D55
CVKV50BHPVTT062400	D55
CVKV50BHPVTT068400	D55
CVKV50BHPVTT06M350	D54
CVKV50BHPVTT075400	D55
CVKV50BHPVTT088400	D55
CVKV50BHPVTT08M350	D54
CVKV50BHPVTT100400	D55
CVKV50BHPVTT10M375	D54
CVKV50BHPVTT125400	D55
CVKV50BHPVTT12M400	D54
CVKV50BHPVTT14M400	D54
CVKV50BHPVTT150450	D55
CVKV50BHPVTT16M400	D54
CVKV50BHPVTT18M400	D54
CVKV50BHPVTT200450	D55
CVKV50BHPVTT20M400	D54
CVKV50BHPVTT25M400	D54
CVKV50BHPVTT32M400	D54
CVKV50BHPVTTHT050400	D57
CVKV50BHPVTTHT056400	D57
CVKV50BHPVTTHT062400	D57
CVKV50BHPVTTHT068400	D57
CVKV50BHPVTTHT075400	D57
CVKV50BHPVTTHT088400	D57
CVKV50BHPVTTHT100400	D57
CVKV50BHPVTTHT125400	D57
CVKV50BHPVTTHT12M400	D56
CVKV50BHPVTTHT14M400	D56
CVKV50BHPVTTHT16M400	D56
CVKV50BHPVTTHT18M400	D56
CVKV50BHPVTTHT20M400	D56
CVKV50BHPVTTHT25M400	D56
CVKV50BHPVTTHT32M400	D56
CVKV50BKM32150	D66
CVKV50BKM32350	D66
CVKV50BKM40175	D66
CVKV50BKM40400	D66
CVKV50BKM50225	D66
CVKV50BKM50475	D66
CVKV50BKM63225	D66
CVKV50BKM63550	D66
CVKV50BKM80325	D66
CVKV50BSM2C075200	D65
CVKV50BSM2C075400	D65
CVKV50BSM2C075600	D65
CVKV50BSM2C100200	D65
CVKV50BSM2C100400	D65
CVKV50BSM2C100600	D65
CVKV50BSMC075200	D65
CVKV50BSMC075400	D65
CVKV50BSMC075600	D65
CVKV50BSMC100200	D65
CVKV50BSMC100400	D65
CVKV50BSMC100600	D65
CVKV50BSMC125200	D65
CVKV50BSMC125400	D65
CVKV50BSMC125600	D65
CVKV50BSMC150250	D65
CVKV50BSMC150400	D65
CVKV50BSMC150600	D65
CVKV50BSMC200250	D65
CVKV50BSMC200400	D65
CVKV50BSMC200600	D65
CVKV50BSMC250250	D65
CVKV50BSMC250400	D65
CVKV50BTDSMC0751050	D64
CVKV50BTDSMC1001250	D64
CVKV50BTDSMC1251300	D64
CVKV50BTG075275G	D58
CVKV50BTG075400G	D58
CVKV50BTG075600G	D58
CVKV50BTG100275G	D58
CVKV50BTG100400G	D58
CVKV50BTG100600G	D58
DV40BB063280M	G41
DV40BB082280M	G41
DV40BB104200M	G41
DV40BEM06050M	G29
DV40BEM08050M	G29
DV40BEM10050M	G29
DV40BEM12050M	G29
DV40BEM14050M	G29
DV40BEM16063M	G29
DV40BEM20063M	G29
DV40BEM25100M	G29
DV40BEM32100M	G29
DV40BER16070M	G20
DV40BER16120M	G20
DV40BER25065M	G21
DV40BER25120M	G21
DV40BER32070M	G21
DV40BER32120M	G21
DV40BER40080M	G21
DV40BER40120M	G21
DV40BHC06072M	G12
DV40BHC08072M	G12
DV40BHC10077M	G12
DV40BHC12077M	G12
DV40BHC14082M	G12
DV40BHC16082M	G12
DV40BHC18082M	G12
DV40BHC20082M	G12
DV40BHC25117M	G12
DV40BHC32117M	G12
DV40BHCB20082M	G14
DV40BHCSL12170M	G11
DV40BHCSL14170M	G11
DV40BHCSL16170M	G11
DV40BHCSL18170M	G11
DV40BHCSL20170M	G11
DV40BHCSLT06170M	G10
DV40BHCSLT08170M	G10
DV40BHCSLT10170M	G10
DV40BHCT06150M	G13
DV40BHCT08150M	G13
DV40BHCT10150M	G13
DV40BHCT12150M	G13
DV40BHCT14150M	G13
DV40BHCT16150M	G13
DV40BHCT18150M	G13
DV40BHCT20150M	G13
DV40BHPMC20085M	G15
DV40BHPMC20150M	G15
DV40BHPMC25095M	G15
DV40BHPMC25150M	G15
DV40BHPMC32120M	G15
DV40BHPMC32150M	G15
DV40BHPVTT06080M	G6
DV40BHPVTT06120M	G6
DV40BHPVTT06160M	G6
DV40BHPVTT08080M	G6
DV40BHPVTT08120M	G6
DV40BHPVTT08160M	G6
DV40BHPVTT10080M	G6
DV40BHPVTT10120M	G6
DV40BHPVTT10160M	G6
DV40BHPVTT12080M	G6
DV40BHPVTT12120M	G6
DV40BHPVTT12160M	G6
DV40BHPVTT14080M	G6
DV40BHPVTT14120M	G6
DV40BHPVTT14160M	G7
DV40BHPVTT16080M	G7
DV40BHPVTT16120M	G7
DV40BHPVTT16160M	G7
DV40BHPVTT18080M	G7
DV40BHPVTT18120M	G7
DV40BHPVTT18160M	G7
DV40BHPVTT20080M	G7
DV40BHPVTT20120M	G7
DV40BHPVTT20160M	G7
DV40BHPVTT25100M	G7
DV40BHPVTT25160M	G7
DV40BHPVTT32100M	G7
DV40BHPVTT32160M	G7
DV40BHPVTTHT12080M	G8
DV40BHPVTTHT12120M	G8
DV40BHPVTTHT12160M	G8
DV40BHPVTTHT14080M	G8
DV40BHPVTTHT14120M	G8
DV40BHPVTTHT14160M	G8
DV40BHPVTTHT16080M	G8
DV40BHPVTTHT16120M	G8
DV40BHPVTTHT16160M	G8
DV40BHPVTTHT18080M	G8
DV40BHPVTTHT18120M	G8
DV40BHPVTTHT18160M	G8
DV40BHPVTTHT20080M	G8
DV40BHPVTTHT20120M	G8
DV40BHPVTTHT20160M	G9
DV40BHPVTTHT25100M	G9
DV40BHPVTTHT25160M	G9
DV40BHPVTTHT32100M	G9
DV40BHPVTTHT32160M	G9
DV40BHSK40060M	G40
DV40BHSK50065M	G40
DV40BHSK63075M	G40
DV40BKM32040M	G39
DV40BKM32090M	G39
DV40BKM40040M	G39
DV40BKM40100M	G39
DV40BKM50060M	G39
DV40BKM50120M	G39
DV40BKR32041M	G38
DV40BKR50060M	G38
DV40BSEM25045M	G30
DV40BSEM32070M	G30
DV40BSFTT12065M	G5
DV40BSFTT14065M	G5
DV40BSFTT16065M	G5
DV40BSFTT18065M	G5
DV40BSFTT20065M	G5
DV40BSFTT25075M	G5
DV40BSFTT32080M	G5
DV40BSM2C16035M	G32
DV40BSM2C16100M	G32
DV40BSM2C22035M	G32
DV40BSM2C22100M	G32
DV40BSMC16035M	G32
DV40BSMC16100M	G32
DV40BSMC22035M	G32
DV40BSMC22100M	G32
DV40BSMC27035M	G33
DV40BSMC27100M	G33
DV40BSMC32050M	G33
DV40BSMC32100M	G33
DV40BSMC40050M	G33
DV40BSMC40100M	G33
DV40BST06038M	G35
DV40BST06058M	G35
DV40BST06078M	G35
DV40BST06098M	G35
DV40BST08038M	G35
DV40BST08058M	G35
DV40BST08078M	G35
DV40BST08098M	G35
DV40BST10038M	G35
DV40BST10058M	G35
DV40BST10078M	G35
DV40BST10098M	G35
DV40BST12038M	G35
DV40BST12058M	G35
DV40BST12078M	G35
DV40BST12098M	G35
DV40BST12118M	G35
DV40BST16038M	G35
DV40BST16058M	G35
DV40BST16078M	G35
DV40BST16098M	G35

Catalog No.	Page(s)
DV40BST16118M	G35
DV40BSWN25075M	G28
DV40BSWN32075M	G28
DV40BTDSMC22260M	G31
DV40BTDSMC27260M	G31
DV40BTG100080M	G16
DV40BWN06050M	G27
DV40BWN08050M	G27
DV40BWN10050M	G27
DV40BWN12050M	G27
DV40BWN14050M	G27
DV40BWN16063M	G27
DV40BWN18063M	G27
DV40BWN20063M	G27
DV40BWN25100M	G27
DV40BWN32100M	G27
DV40CS16055M	G34
DV40CS16100M	G34
DV40CS22055M	G34
DV40CS22100M	G34
DV40CS27055M	G34
DV40CS27100M	G34
DV40CS27150M	G34
DV40CS32060M	G34
DV40CS32100M	G34
DV40CS40060M	G34
DV40DA108070M	G24
DV40DA188070M	G25
DV40DA188100M	G25
DV40DA188150M	G25
DV40DA204100M	G22
DV40DA204150M	G22
DV40DA208070M	G24
DV40DC13090M	G26
DV40KM20ECTRA	A188
DV40KM2520TRA	A188
DV40KM3225TRA	A188
DV40MT1050M	G37
DV40MT2050M	G37
DV40MT3070M	G37
DV40MT4095M	G37
DV40RC1060M	G36
DV40RC2098M	G36
DV40RC3150M	G36
DV40SER32027M	G18
DV40STRC1074M	G36
DV40STRC2089M	G36
DV40TG075070M	G17
DV40TG100080M	G17
DV40TG100100M	G17
DV40TG100150M	G17
DV40TG150125M	G17
DV50BB104350M	G77
DV50BB134250M	G77
DV50BEM16063M	G65
DV50BEM20063M	G65
DV50BEM25080M	G65
DV50BEM32100M	G65
DV50BEM40110M	G65
DV50BEM50120M	G65
DV50BER16100M	G58
DV50BER16150M	G58
DV50BER25070M	G59
DV50BER25150M	G59
DV50BER32070M	G59
DV50BER32150M	G59
DV50BER40080M	G59
DV50BER40150M	G59
DV50BHC06072M	G52
DV50BHC08072M	G52
DV50BHC10077M	G52
DV50BHC12077M	G52
DV50BHC14082M	G52
DV50BHC16082M	G52
DV50BHC18082M	G52
DV50BHC20082M	G52
DV50BHC25117M	G52
DV50BHC32117M	G52
DV50BHCB20082M	G53
DV50BHCSL12200M	G51
DV50BHCSL14200M	G51
DV50BHCSL16200M	G51
DV50BHCSL18200M	G51
DV50BHCSL20200M	G51
DV50BHCSLT06200M	G50
DV50BHCSLT08200M	G50
DV50BHCSLT10200M	G50
DV50BHPVTT06080M	G46
DV50BHPVTT06120M	G46
DV50BHPVTT06160M	G46
DV50BHPVTT08080M	G46
DV50BHPVTT08120M	G46
DV50BHPVTT08160M	G46
DV50BHPVTT10080M	G46
DV50BHPVTT10120M	G46
DV50BHPVTT10160M	G46
DV50BHPVTT12080M	G46
DV50BHPVTT12120M	G46
DV50BHPVTT12160M	G46
DV50BHPVTT14080M	G46
DV50BHPVTT14120M	G46
DV50BHPVTT14160M	G47
DV50BHPVTT16080M	G47
DV50BHPVTT16120M	G47
DV50BHPVTT16160M	G47
DV50BHPVTT18080M	G47
DV50BHPVTT18120M	G47
DV50BHPVTT18160M	G47
DV50BHPVTT20080M	G47
DV50BHPVTT20120M	G47
DV50BHPVTT20160M	G47
DV50BHPVTT25100M	G47
DV50BHPVTT25160M	G47
DV50BHPVTT32100M	G47
DV50BHPVTT32160M	G47
DV50BHPVTTHT12080M	G48
DV50BHPVTTHT12120M	G48
DV50BHPVTTHT12160M	G48
DV50BHPVTTHT14080M	G48
DV50BHPVTTHT14120M	G48
DV50BHPVTTHT14160M	G48
DV50BHPVTTHT16080M	G48
DV50BHPVTTHT16120M	G48
DV50BHPVTTHT16160M	G48
DV50BHPVTTHT18080M	G48
DV50BHPVTTHT18120M	G48
DV50BHPVTTHT18160M	G48
DV50BHPVTTHT20080M	G49
DV50BHPVTTHT20120M	G49
DV50BHPVTTHT20160M	G49
DV50BHPVTTHT25100M	G49
DV50BHPVTTHT25160M	G49
DV50BHPVTTHT32100M	G49
DV50BHPVTTHT32160M	G49
DV50BHSK32055M	G76
DV50BHSK40060M	G76
DV50BHSK50065M	G76
DV50BHSK63075M	G76
DV50BKM32040M	G75
DV50BKM32090M	G75
DV50BKM40040M	G75
DV50BKM40100M	G75
DV50BKM50060M	G75
DV50BKM50120M	G75
DV50BKM63060M	G75
DV50BKM63140M	G75
DV50BKM80080M	G75
DV50BKR32041M	G74
DV50BKR50040M	G74
DV50BKR63060M	G74
DV50BKR80070M	G74
DV50BSFTT12080M	G44
DV50BSFTT14080M	G44
DV50BSFTT16080M	G44
DV50BSFTT18080M	G44
DV50BSFTT20080M	G44
DV50BSFTT25100M	G44
DV50BSM2C16035M	G68
DV50BSM2C16100M	G68
DV50BSM2C22035M	G68
DV50BSM2C22100M	G68
DV50BSM2C22150M	G68
DV50BSMC16035M	G68
DV50BSMC16100M	G68
DV50BSMC22035M	G68
DV50BSMC22100M	G68
DV50BSMC22150M	G68
DV50BSMC27035M	G69
DV50BSMC27100M	G69
DV50BSMC27150M	G69
DV50BSMC32035M	G69
DV50BSMC32100M	G69
DV50BSMC32150M	G69
DV50BSMC40050M	G69
DV50BSMC40100M	G69
DV50BSMC40150M	G69
DV50BSMC60070M	G69
DV50BSWN25070M	G64
DV50BSWN32070M	G64
DV50BTDSMC22260M	G67
DV50BTDSMC27320M	G67
DV50BTDSMC32330M	G67
DV50BTG100085M	G55
DV50BTG100150M	G55
DV50DA188070M	G61
DV50DA188150M	G61
DV50DA188200M	G61
DV50DA204100M	G60
DV50DA204150M	G60
DV50DC13090M	G62
DV50EM06063M	G66
DV50EM06150M	G66
DV50EM08063M	G66
DV50EM08150M	G66
DV50EM10063M	G66
DV50EM10150M	G66
DV50EM12063M	G66
DV50EM12150M	G66
DV50EM16150M	G66
DV50EM20150M	G66
DV50MT5105M	G73
DV50RC1075M	G72
DV50RC2084M	G72
DV50RC3139M	G72
DV50SER32027M	G57
DV50SER40027M	G57
DV50STRC1074M	G73
DV50STRC2089M	G73
DV50TG100085M	G56
DV50TG100150M	G56
DV50TG100200M	G56
DV50TG150090M	G56
DV50TG150150M	G56
DWG 249618–23R05	A555
DWG ELS056038	F28, H6
DWG ELS075044	E45, F28
DWG ELS075050	E46, F28, F30, F74
DWG MS1277	A197–198
DWG MS1365	A191–192
DWG MS1430	A592
DWG MS1494	A197–198
DWG MS1585	A191–192
DWG MS1599	A208–209
DWG SDK062088	C68, C117, F33, F77, I27
DWG SDK100106	C68, C117, E54, F33, F77, I27
DWG SDK125119	C68, C117, E54, E90, F33, F77, H22, I27
DWG SDK150175	C117, E90, F77, H22, I27
ELS025025PKG	A630, C19, C62, C110, D13, D48, D63, E15, E45, F28, F70, H6, H14
ELS031031PKG	D13, D48, D63, E15, E45, F28, F70
ELS038031PKG	A258, A335, A419, A630, C19, C62, C86, C110, D13, D48, D63, E15, E42, E45, F27–28, F70, H6, H14, H20, H27
ELS044038PKG	A258, A335, A419, A507, A546, A584, A630, C19, C62, C86, C110, D13, D31, D48, D63, E15, E45, E83, F28–29, F70, F72, H6, H14, H20, H27
ELS050050PKG	F69
ELS056050PKG	A335, A419, A507, A546, A584, A630, C19, C62, C86, C110, D13, D48, D63, E15, E45, F28–29, F70, F72, H14, H20, H27
ELS062050PKG	A335, A419, A507, A546, A549, A584, A615, A630, C62, C86, C110, D13, D31, D48, D63, E15, E45–46, E82–83, F28–30, F69–70, F72, F74, H6, H14, H20, H27
ELS075056PKG	A419, A507, A546, A549, A584, A614–615, A630, C62–63, C86, C110, D13, D31, D48, D63, E45–46, E83, F28–30, F70–72, F74, H6, H14, H20, H27
ELS075062PKG	A507, A584, A614, A630, C62, C86, C110, D13, D31, D48, D63, E45, E83, F28–30, F71–73, H6, H14, H20
ELS075069PKG	A507, A614, A630, C110, D31, D48, D63, F28, F71–73, H20
ELS100062	F73
ELS100088PKG	A546, A549, A584, A614–615, A630, C110, D31, D63, E83, F71, F73–74, H20
ER08WEM	A112–113, I10
ER11WEM	A112–113, A580, I8, I10
ER16WEM	A112–113, A183, I8, I10
ER20WEM	A112–113, A183, I8
ER25WM	A183, A254, A331, A414, A505, A544, A580, A627, C17, C29, C59, C84, C107, C131, C138, C143, C151, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59, I9, I11
ER32WM	A254, A331, A414, A505, A544, A580, A611, A627, C17, C29, C59, C84, C107, C131, C138, C143, C151, C160, C164, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59, I9
ER40WM	A414, A505, A544, A580, A611, A627, C59, C84, C107, C143, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59
FC11	A108
FP4	A296
HDB6250	A251
HDB6375	A251
HDB6500	A251
HDB6625	A251
HPMCBALSCREWSET	L14
HPVLNA050G	L16
HPVLNA075G	L16
HPVLNA100G	L16
HSK100ABB100300M	C121
HSK100ABB200175M	C121
HSK100ACHRC1112M	C118
HSK100ACHRC2144M	C118
HSK100ACHRC3210M	C118
HSK100ACS16060M	C116
HSK100ACS22060M	C116
HSK100ACS27060M	C116
HSK100ACS32060M	C116
HSK100ACS40070M	C116
HSK100ACS50080M	C116
HSK100ADC13125M	C108
HSK100ADC16125M	C108
HSK100AEM025300	C110
HSK100AEM038300	C110
HSK100AEM050325	C110
HSK100AEM06080M	C110
HSK100AEM062375	C110
HSK100AEM075375	C110
HSK100AEM08080M	C110
HSK100AEM100425	C110
HSK100AEM10080M	C110
HSK100AEM12080M	C110
HSK100AEM125425	C110
HSK100AEM14080M	C110
HSK100AEM150450	C110
HSK100AEM16100M	C110
HSK100AEM18100M	C110
HSK100AEM200550	C110
HSK100AEM20100M	C110
HSK100AEM250575	C110
HSK100AEM25100M	C110

Catalog No.	Page(s)
HSK100AEM32100M	C110
HSK100AEM40120M	C110
HSK100AEM50130M	C110
HSK100AER16100M	C106
HSK100AER16160M	C106
HSK100AER20100M	C106
HSK100AER25100M	C107
HSK100AER32100M	C107
HSK100AER40120M	C107
HSK100AGB40349M	C121
HSK100AHC038350	C102
HSK100AHC050375	C102
HSK100AHC06085M	C102
HSK100AHC06150M	C102
HSK100AHC062400	C102
HSK100AHC075425	C102
HSK100AHC08085M	C102
HSK100AHC08150M	C102
HSK100AHC100475	C102
HSK100AHC10090M	C102
HSK100AHC10150M	C102
HSK100AHC12095M	C102
HSK100AHC12150M	C102
HSK100AHC125500	C102
HSK100AHC14095M	C102
HSK100AHC14150M	C102
HSK100AHC16100M	C102
HSK100AHC16150M	C102
HSK100AHC18100M	C102
HSK100AHC18150M	C102
HSK100AHC20105M	C102
HSK100AHC20150M	C102
HSK100AHC25115M	C102
HSK100AHC25200M	C102
HSK100AHC32120M	C102
HSK100AHC32200M	C102
HSK100AHCSL12200M	C101
HSK100AHCSL14200M	C101
HSK100AHCSL16200M	C101
HSK100AHCSL18200M	C101
HSK100AHCSL20200M	C101
HSK100AHCSLT06200M	C100
HSK100AHCSLT08200M	C100
HSK100AHCSLT10200M	C100
HSK100AHCT06085M	C103
HSK100AHCT08085M	C103
HSK100AHCT10090M	C103
HSK100AHCT12095M	C103
HSK100AHCT14095M	C103
HSK100AHCT16100M	C103
HSK100AHCT18100M	C103
HSK100AHCT20105M	C103
HSK100AHCT25115M	C103
HSK100AHCT32120M	C103
HSK100AHPMC075453	C104
HSK100AHPMC100512	C104
HSK100AHPMC125531	C104
HSK100AHPMC20115M	C104
HSK100AHPMC32135M	C104
HSK100AHPVTT025335	C97
HSK100AHPVTT025630	C97
HSK100AHPVTT031335	C97
HSK100AHPVTT031630	C97
HSK100AHPVTT038354	C97
HSK100AHPVTT038630	C97
HSK100AHPVTT050374	C97
HSK100AHPVTT050630	C97
HSK100AHPVTT06085M	C96
HSK100AHPVTT06160M	C96
HSK100AHPVTT062394	C97
HSK100AHPVTT062630	C97
HSK100AHPVTT075413	C97
HSK100AHPVTT075630	C97
HSK100AHPVTT08085M	C96
HSK100AHPVTT08160M	C96
HSK100AHPVTT088413	C97
HSK100AHPVTT088630	C97
HSK100AHPVTT100453	C97
HSK100AHPVTT100630	C97
HSK100AHPVTT10090M	C96
HSK100AHPVTT10160M	C96
HSK100AHPVTT12095M	C96
HSK100AHPVTT12160M	C96
HSK100AHPVTT125472	C97
HSK100AHPVTT125630	C97
HSK100AHPVTT14095M	C96
HSK100AHPVTT14160M	C96
HSK100AHPVTT150531	C97
HSK100AHPVTT16100M	C96
HSK100AHPVTT16160M	C96
HSK100AHPVTT18100M	C96
HSK100AHPVTT18160M	C96
HSK100AHPVTT20105M	C96
HSK100AHPVTT20160M	C96
HSK100AHPVTT25115M	C96
HSK100AHPVTT25160M	C96
HSK100AHPVTT32120M	C96
HSK100AHPVTT32160M	C96
HSK100AHPVTTHT050374	C99
HSK100AHPVTTHT050630	C99
HSK100AHPVTTHT062394	C99
HSK100AHPVTTHT062630	C99
HSK100AHPVTTHT075413	C99
HSK100AHPVTTHT075630	C99
HSK100AHPVTTHT088413	C99
HSK100AHPVTTHT088630	C99
HSK100AHPVTTHT100453	C99
HSK100AHPVTTHT100630	C99
HSK100AHPVTTHT12095M	C98
HSK100AHPVTTHT125472	C99
HSK100AHPVTTHT125630	C99
HSK100AHPVTTHT14095M	C98
HSK100AHPVTTHT150531	C99
HSK100AHPVTTHT16100M	C98
HSK100AHPVTTHT18100M	C98
HSK100AHPVTTHT20105M	C98
HSK100AHPVTTHT25115M	C98
HSK100AHPVTTHT32120M	C98
HSK100AHSK100140M	C120
HSK100AHSK100200M	C120
HSK100AHSK50080M	C120
HSK100AHSK63100M	C120
HSK100AKM32075M	C120
HSK100AKM40080M	C120
HSK100AKM50100M	C120
HSK100AKM63115M	C120
HSK100AKM80125M	C120
HSK100AKR32075M	C119
HSK100AKR50085M	C119
HSK100AKR63100M	C119
HSK100AKR80090M	C119
HSK100AMT2120M	C118
HSK100AMT3150M	C118
HSK100AMT4170M	C118
HSK100AMT5200M	C118
HSK100AP	L42
HSK100AS	L40
HSK100ASA062400	C117
HSK100ASA100400	C117
HSK100ASA125600	C117
HSK100ASA150600	C117
HSK100ASA200600	C117
HSK100ASFHDTT100433	C95
HSK100ASFHDTT125433	C95
HSK100ASFHDTT150551	C95
HSK100ASFHDTT16100M	C95
HSK100ASFHDTT200551	C95
HSK100ASFHDTT20100M	C95
HSK100ASFHDTT25110M	C95
HSK100ASFHDTT32110M	C95
HSK100ASFHDTT40140M	C95
HSK100ASFHDTT50140M	C95
HSK100ASFTT050374	C94
HSK100ASFTT062394	C94
HSK100ASFTT075413	C94
HSK100ASFTT100453	C94
HSK100ASFTT12095M	C94
HSK100ASFTT14095M	C94
HSK100ASFTT16100M	C94
HSK100ASFTT18100M	C94
HSK100ASFTT20105M	C94
HSK100ASFTT25115M	C94
HSK100ASM2C075225	C115
HSK100ASM2C100225	C115
HSK100ASM2C16050M	C114
HSK100ASM2C22050M	C114
HSK100ASM50070M	A631–633
HSK100ASMC075225	C115
HSK100ASMC100225	C115
HSK100ASMC125250	C115
HSK100ASMC150250	C115
HSK100ASMC16050M	C114
HSK100ASMC16100M	C114
HSK100ASMC16160M	C114
HSK100ASMC200250	C115
HSK100ASMC22050M	C114
HSK100ASMC22100M	C114
HSK100ASMC22160M	C114
HSK100ASMC250250	C115
HSK100ASMC27050M	C114
HSK100ASMC27100M	C114
HSK100ASMC27160M	C114
HSK100ASMC32050M	C114
HSK100ASMC32100M	C114
HSK100ASMC32160M	C114
HSK100ASMC40060M	C114
HSK100ASMC40100M	C114
HSK100ASMC40160M	C114
HSK100ASMC50070M	C114
HSK100ASMC50100M	C114
HSK100ASMC50160M	C114
HSK100ASMC60070M	C114
HSK100ASMC60100M	C114
HSK100ASMC60160M	C114
HSK100AST12087M	C117
HSK100AST12137M	C117
HSK100AST12187M	C117
HSK100AST12237M	C117
HSK100AST16087M	C117
HSK100AST16137M	C117
HSK100AST16187M	C117
HSK100AST16237M	C117
HSK100ASWN20085M	C109
HSK100ASWN25085M	C109
HSK100ASWN32100M	C109
HSK100ASWN40110M	C109
HSK100ASWN50110M	C109
HSK100ATDSMC0751050	C113
HSK100ATDSMC1001250	C113
HSK100ATDSMC1251300	C113
HSK100ATDSMC22260M	C112
HSK100ATDSMC27320M	C112
HSK100ATDSMC32330M	C112
HSK100ATG050105M	C105
HSK100ATG050160M	C105
HSK100ATG075120M	C105
HSK100ATG100140M	C105
HSK100ATG150165M	C105
HSK100AWN06090M	C108
HSK100AWN08090M	C108
HSK100AWN10090M	C108
HSK100AWN12100M	C108
HSK100AWN14100M	C108
HSK100AWN16100M	C108
HSK100AWN18100M	C108
HSK100AWN20110M	C108
HSK100AWN25120M	C108
HSK100AWN32120M	C108
HSK100SW	L43
HSK32AS	L40
HSK32CBB034100M	C125
HSK32CBB034200M	C125
HSK32CBB053150M	C125
HSK32CER16060M	C125
HSK32CHC06060M	C124
HSK32CHC08060M	C124
HSK32CHC10065M	C124
HSK32CHC12070M	C124
HSK32CHCT06060M	C124
HSK32CHCT08060M	C124
HSK32CHCT10065M	C124
HSK32CHCT12070M	C124
HSK32SW	L43
HSK40ABB040120M	C21
HSK40AEM025250	C19
HSK40AEM038250	C19
HSK40AEM050275	C19
HSK40AEM06060M	C19
HSK40AEM062300	C19
HSK40AEM08060M	C19
HSK40AEM10060M	C19
HSK40AEM12070M	C19
HSK40AEM14075M	C19
HSK40AEM16075M	C19
HSK40AER16080M	C17
HSK40AER25080M	C17
HSK40AER32090M	C17
HSK40AER32100M	C17
HSK40AHC06080M	C14
HSK40AHC08080M	C14
HSK40AHC10085M	C14
HSK40AHC12090M	C14
HSK40AHCSLT06160M	C12
HSK40AHCSLT08160M	C12
HSK40AHCSLT10160M	C13
HSK40AHCSLT12170M	C13
HSK40AHCSLT14170M	C13
HSK40AHCSLT16170M	C13
HSK40AHCSLT18170M	C13
HSK40AHCSLT20170M	C13
HSK40AHCT025315	C15
HSK40AHCT038335	C15
HSK40AHCT050354	C15
HSK40AHCT062394	C15
HSK40AHCT075394	C15
HSK40AHCT14100M	C15
HSK40AHCT16100M	C15
HSK40AHCT18100M	C15
HSK40AHCT20100M	C15
HSK40AHPVTT025315	C9
HSK40AHPVTT03060M	C8
HSK40AHPVTT031315	C9
HSK40AHPVTT038315	C9
HSK40AHPVTT04060M	C8
HSK40AHPVTT050354	C9
HSK40AHPVTT05060M	C8
HSK40AHPVTT056354	C9
HSK40AHPVTT06080M	C8
HSK40AHPVTT062354	C9
HSK40AHPVTT075374	C9
HSK40AHPVTT08080M	C8
HSK40AHPVTT10080M	C8
HSK40AHPVTT12090M	C8
HSK40AHPVTT14090M	C8
HSK40AHPVTT16090M	C8
HSK40AHPVTT18095M	C8
HSK40AHPVTT20095M	C8
HSK40AHPVTTHT050354	C11
HSK40AHPVTTHT056354	C11
HSK40AHPVTTHT062354	C11
HSK40AHPVTTHT075374	C11
HSK40AHPVTTHT12090M	C10
HSK40AHPVTTHT14090M	C10
HSK40AHPVTTHT16090M	C10
HSK40AHPVTTHT18095M	C10
HSK40AHPVTTHT20095M	C10
HSK40AS	L40
HSK40ASM2C050200	C20
HSK40ASM2C075200	C20
HSK40ASM2C100200	C20
HSK40ASM2C16050M	C20
HSK40ASM2C22050M	C20
HSK40ASMC050200	C20
HSK40ASMC075200	C20
HSK40ASMC100200	C20
HSK40ASMC16050M	C20
HSK40ASMC22050M	C20
HSK40ASMC27075M	C20
HSK40AST06053M	C21
HSK40AST06078M	C21
HSK40AST06103M	C21
HSK40AST08053M	C21
HSK40AST08078M	C21
HSK40AST08103M	C21
HSK40AST08128M	C21
HSK40AST10053M	C21
HSK40AST10078M	C21
HSK40AST10103M	C21

Catalog No.	Page(s)
HSK40AST10128M	C21
HSK40AST12053M	C21
HSK40AST12078M	C21
HSK40AST12103M	C21
HSK40AST12128M	C21
HSK40ATG050080M	C16
HSK40ATG075090M	C16
HSK40AWN06080M	C18
HSK40AWN08080M	C18
HSK40AWN10080M	C18
HSK40AWN12090M	C18
HSK40AWN14090M	C18
HSK40AWN16090M	C18
HSK40CBB040100M	C133
HSK40CBB040200M	C133
HSK40CBB063150M	C133
HSK40CER16060M	C131
HSK40CER25070M	C131
HSK40CER32075M	C131
HSK40CHC06060M	C130
HSK40CHC08060M	C130
HSK40CHC10065M	C130
HSK40CHC12070M	C130
HSK40CHCSLT06140M	C128
HSK40CHCSLT08140M	C128
HSK40CHCSLT12150M	C129
HSK40CHCSLT14150M	C129
HSK40CHCSLT16150M	C129
HSK40CHCSLT18150M	C129
HSK40CHCSLT20150M	C129
HSK40CHCT06060M	C130
HSK40CHCT08060M	C130
HSK40CHCT10065M	C130
HSK40CHCT12070M	C130
HSK40CHSK32050M	C132
HSK40CWN16075M	C132
HSK40EBB040120M	C153
HSK40EER16080M	C151
HSK40EER25080M	C151
HSK40EER32100M	C151
HSK40EHCT025315	C150
HSK40EHCT038335	C150
HSK40EHCT050354	C150
HSK40EHCT06080M	C150
HSK40EHCT062394	C150
HSK40EHCT075394	C150
HSK40EHCT08080M	C150
HSK40EHCT10085M	C150
HSK40EHCT12090M	C150
HSK40EHCT14100M	C150
HSK40EHCT16100M	C150
HSK40EHCT18100M	C150
HSK40EHCT20100M	C150
HSK40EHPVTT025315	C148
HSK40EHPVTT03060M	C147
HSK40EHPVTT031315	C148
HSK40EHPVTT038315	C148
HSK40EHPVTT04060M	C147
HSK40EHPVTT050354	C148
HSK40EHPVTT05060M	C147
HSK40EHPVTT056354	C148
HSK40EHPVTT06080M	C147
HSK40EHPVTT062354	C148
HSK40EHPVTT075374	C148
HSK40EHPVTT08080M	C147
HSK40EHPVTT10080M	C147
HSK40EHPVTT12090M	C147
HSK40EHPVTT14090M	C147
HSK40EHPVTT16090M	C147
HSK40EHPVTT18095M	C147
HSK40EHPVTT20095M	C147
HSK40EHPVTTHT050354	C149
HSK40EHPVTTHT056354	C149
HSK40EHPVTTHT062354	C149
HSK40EHPVTTHT075374	C149
HSK40EHPVTTHT12090M	C149
HSK40EHPVTTHT14090M	C149
HSK40EHPVTTHT16090M	C149
HSK40EHPVTTHT18095M	C149
HSK40EHPVTTHT20095M	C149
HSK40ESM2C050200	C152
HSK40ESM2C075200	C152
HSK40ESM2C16050M	C152
HSK40ESM2C22050M	C152
HSK40ESMC050200	C152
HSK40ESMC075200	C152
HSK40ESMC16050M	C152
HSK40ESMC22050M	C152
HSK40EST06053M	C153
HSK40EST06078M	C153
HSK40EST06103M	C153
HSK40EST08053M	C153
HSK40EST08078M	C153
HSK40EST08103M	C153
HSK40EST08128M	C153
HSK40EST10053M	C153
HSK40EST10078M	C153
HSK40EST10103M	C153
HSK40EST10128M	C153
HSK40SW	L43
HSK50ABB063200M	C31
HSK50ABB100125M	C31
HSK50AER16100M	C28
HSK50AER16160M	C28
HSK50AER20100M	C28
HSK50AER25100M	C29
HSK50AER32100M	C29
HSK50AHC06080M	C26
HSK50AHC08080M	C26
HSK50AHC10085M	C26
HSK50AHC12090M	C26
HSK50AHPVTT012315	C25
HSK50AHPVTT012472	C25
HSK50AHPVTT012630	C25
HSK50AHPVTT018315	C25
HSK50AHPVTT018630	C25
HSK50AHPVTT025315	C25
HSK50AHPVTT025472	C25
HSK50AHPVTT025630	C25
HSK50AHPVTT03080M	C24
HSK50AHPVTT038335	C25
HSK50AHPVTT038472	C25
HSK50AHPVTT038630	C25
HSK50AHPVTT04080M	C24
HSK50AHPVTT050354	C25
HSK50AHPVTT050472	C25
HSK50AHPVTT050630	C25
HSK50AHPVTT05080M	C24
HSK50AHPVTT06080M	C24
HSK50AHPVTT06120M	C24
HSK50AHPVTT06160M	C24
HSK50AHPVTT062374	C25
HSK50AHPVTT062472	C25
HSK50AHPVTT062630	C25
HSK50AHPVTT075394	C25
HSK50AHPVTT075472	C25
HSK50AHPVTT075630	C25
HSK50AHPVTT08080M	C24
HSK50AHPVTT08120M	C24
HSK50AHPVTT08160M	C24
HSK50AHPVTT10085M	C24
HSK50AHPVTT10120M	C24
HSK50AHPVTT10160M	C24
HSK50AHPVTT12090M	C24
HSK50AHPVTT12120M	C24
HSK50AHPVTT12160M	C24
HSK50AHPVTT14090M	C24
HSK50AHPVTT14120M	C24
HSK50AHPVTT14160M	C24
HSK50AHPVTT16095M	C24
HSK50AHPVTT16120M	C24
HSK50AHPVTT16160M	C24
HSK50AHPVTT18095M	C24
HSK50AHPVTT18120M	C24
HSK50AHPVTT18160M	C24
HSK50AHPVTT20100M	C24
HSK50AHPVTT20120M	C24
HSK50AHPVTT20160M	C24
HSK50AS	L40
HSK50ASM2C050200	C30
HSK50ASM2C16050M	C30
HSK50ASM2C22060M	C30
HSK50ASMC050200	C30
HSK50ASMC100225	C30
HSK50ASMC16050M	C30
HSK50ASMC22060M	C30
HSK50ASMC27060M	C30
HSK50AST06059M	C31
HSK50AST06084M	C31
HSK50AST06109M	C31
HSK50AST08059M	C31
HSK50AST08084M	C31
HSK50AST08109M	C31
HSK50AST08134M	C31
HSK50AST10059M	C31
HSK50AST10084M	C31
HSK50AST10109M	C31
HSK50AST10134M	C31
HSK50AST12059M	C31
HSK50AST12084M	C31
HSK50AST12109M	C31
HSK50AST12134M	C31
HSK50ATG050100M	C27
HSK50ATG075115M	C27
HSK50CBB053100M	C139
HSK50CBB053200M	C139
HSK50CBB083175M	C139
HSK50CER16060M	C138
HSK50CER25070M	C138
HSK50CER32075M	C138
HSK50CHC06060M	C136
HSK50CHC08060M	C136
HSK50CHC10065M	C136
HSK50CHC12075M	C136
HSK50CHC14075M	C136
HSK50CHC16080M	C136
HSK50CHC18080M	C136
HSK50CHC20080M	C136
HSK50CHCT06060M	C137
HSK50CHCT08060M	C137
HSK50CHCT10065M	C137
HSK50CHCT12075M	C137
HSK50CHCT14075M	C137
HSK50CHCT16080M	C137
HSK50CHCT18080M	C137
HSK50CHCT20080M	C137
HSK50CWN06060M	C139
HSK50CWN08060M	C139
HSK50CWN10065M	C139
HSK50CWN12075M	C139
HSK50CWN14075M	C139
HSK50CWN16080M	C139
HSK50CWN18080M	C139
HSK50CWN20080M	C139
HSK50EHCT06080M	C156
HSK50EHCT08080M	C156
HSK50EHCT10085M	C156
HSK50EHCT12090M	C156
HSK50EHCT14105M	C156
HSK50EHCT16105M	C156
HSK50EHCT18105M	C156
HSK50EHCT20105M	C156
HSK50EST06059M	C157
HSK50EST06084M	C157
HSK50EST06109M	C157
HSK50EST08059M	C157
HSK50EST08084M	C157
HSK50EST08109M	C157
HSK50EST08134M	C157
HSK50EST10059M	C157
HSK50EST10084M	C157
HSK50EST10109M	C157
HSK50EST10134M	C157
HSK50ETTMD03080M	C155
HSK50ETTMD04080M	C155
HSK50ETTMD05080M	C155
HSK50ETTMD06080M	C155
HSK50ETTMD08080M	C155
HSK50ETTMD10085M	C155
HSK50ETTMD12090M	C155
HSK50ETTMD14090M	C155
HSK50ETTMD16095M	C155
HSK50ETTMD18095M	C155
HSK50ETTMD20100M	C155
HSK50SW	L43
HSK63ABB080250M	C73
HSK63ABB115150M	C73
HSK63ACHRC1105M	C70
HSK63ACHRC2140M	C70
HSK63ACHRC3203M	C70
HSK63ACS16060M	C67
HSK63ACS22060M	C67
HSK63ACS27060M	C67
HSK63ACS32060M	C67
HSK63ACS40070M	C67
HSK63ADC13117M	C60
HSK63ADC16117M	C60
HSK63AEM025300	C62
HSK63AEM038300	C62
HSK63AEM050300	C62
HSK63AEM06065M	C62
HSK63AEM062375	C62
HSK63AEM075375	C62
HSK63AEM08065M	C62
HSK63AEM100375	C62
HSK63AEM10065M	C62
HSK63AEM12080M	C62
HSK63AEM125425	C62
HSK63AEM14080M	C62
HSK63AEM16080M	C62
HSK63AEM18080M	C62
HSK63AEM20080M	C62
HSK63AEM25110M	C62
HSK63AEM32110M	C62
HSK63AER16100M	C58
HSK63AER16160M	C58
HSK63AER20100M	C58
HSK63AER25100M	C59
HSK63AER32100M	C59
HSK63AER40120M	C59
HSK63AGB40346M	C73
HSK63AHC025325	C54
HSK63AHC038338	C54
HSK63AHC050350	C54
HSK63AHC06080M	C54
HSK63AHC062375	C54
HSK63AHC075400	C54
HSK63AHC08080M	C54
HSK63AHC100475	C54
HSK63AHC10085M	C54
HSK63AHC12090M	C54
HSK63AHC125500	C54
HSK63AHC14090M	C54
HSK63AHC16095M	C54
HSK63AHC18095M	C54
HSK63AHC20100M	C54
HSK63AHC25120M	C54
HSK63AHC32125M	C54
HSK63AHCSL050669	C53
HSK63AHCSL075669	C53
HSK63AHCSL12170M	C52–53
HSK63AHCSL14170M	C52–53
HSK63AHCSL16170M	C52–53
HSK63AHCSL18170M	C52–53
HSK63AHCSL20170M	C52–53
HSK63AHCSLT06160M	C52
HSK63AHCSLT08160M	C52
HSK63AHCSLT10160M	C52
HSK63AHCT06080M	C55
HSK63AHCT06150M	C55
HSK63AHCT08080M	C55
HSK63AHCT08150M	C55
HSK63AHCT10085M	C55
HSK63AHCT10150M	C55
HSK63AHCT12090M	C55
HSK63AHCT12150M	C55
HSK63AHCT14090M	C55
HSK63AHCT14150M	C55
HSK63AHCT16095M	C55
HSK63AHCT16150M	C55
HSK63AHCT18095M	C55
HSK63AHCT18150M	C55
HSK63AHCT20100M	C55
HSK63AHCT20150M	C55
HSK63AHCT25120M	C55
HSK63AHCT32125M	C55
HSK63AHPMC075433	C56
HSK63AHPMC100472	C56

Catalog No.	Page(s)
HSK63AHPMC125472	C56
HSK63AHPMC20110M	C56
HSK63AHPMC32120M	C56
HSK63AHPVTT025315	C47
HSK63AHPVTT025472	C47
HSK63AHPVTT025630	C47
HSK63AHPVTT03080M	C46
HSK63AHPVTT031315	C47
HSK63AHPVTT031472	C47
HSK63AHPVTT031630	C47
HSK63AHPVTT038335	C47
HSK63AHPVTT038472	C47
HSK63AHPVTT038630	C47
HSK63AHPVTT04080M	C46
HSK63AHPVTT044354	C47
HSK63AHPVTT044472	C47
HSK63AHPVTT050354	C47
HSK63AHPVTT050472	C47
HSK63AHPVTT050630	C47
HSK63AHPVTT05080M	C46
HSK63AHPVTT056354	C47
HSK63AHPVTT06080M	C46
HSK63AHPVTT06120M	C46
HSK63AHPVTT06160M	C46
HSK63AHPVTT062374	C47
HSK63AHPVTT062472	C47
HSK63AHPVTT062630	C47
HSK63AHPVTT075394	C47
HSK63AHPVTT075630	C47
HSK63AHPVTT08080M	C46
HSK63AHPVTT08120M	C46
HSK63AHPVTT08160M	C46
HSK63AHPVTT088394	C47
HSK63AHPVTT088630	C47
HSK63AHPVTT100453	C47
HSK63AHPVTT100630	C47
HSK63AHPVTT10085M	C46
HSK63AHPVTT10120M	C46
HSK63AHPVTT10160M	C46
HSK63AHPVTT12090M	C46
HSK63AHPVTT12120M	C46
HSK63AHPVTT12160M	C46
HSK63AHPVTT125472	C47
HSK63AHPVTT125630	C47
HSK63AHPVTT14090M	C46
HSK63AHPVTT14120M	C46
HSK63AHPVTT14160M	C46
HSK63AHPVTT16095M	C46
HSK63AHPVTT16120M	C46
HSK63AHPVTT16160M	C46
HSK63AHPVTT18095M	C46
HSK63AHPVTT18120M	C46
HSK63AHPVTT18160M	C46
HSK63AHPVTT20100M	C46
HSK63AHPVTT20120M	C46
HSK63AHPVTT20160M	C46
HSK63AHPVTT25115M	C46
HSK63AHPVTT25160M	C46
HSK63AHPVTT32120M	C46
HSK63AHPVTT32160M	C46
HSK63AHPVTTHT050354	C49
HSK63AHPVTTHT050472	C49
HSK63AHPVTTHT050630	C49
HSK63AHPVTTHT056354	C49
HSK63AHPVTTHT062374	C49
HSK63AHPVTTHT062472	C49
HSK63AHPVTTHT062630	C49
HSK63AHPVTTHT075394	C49
HSK63AHPVTTHT075630	C49
HSK63AHPVTTHT088394	C49
HSK63AHPVTTHT088630	C49
HSK63AHPVTTHT100453	C49
HSK63AHPVTTHT100630	C49
HSK63AHPVTTHT12090M	C48
HSK63AHPVTTHT12120M	C48
HSK63AHPVTTHT12160M	C48
HSK63AHPVTTHT125472	C49
HSK63AHPVTTHT125630	C49
HSK63AHPVTTHT14090M	C48
HSK63AHPVTTHT14120M	C48
HSK63AHPVTTHT14160M	C48
HSK63AHPVTTHT16095M	C48
HSK63AHPVTTHT16120M	C48
HSK63AHPVTTHT16160M	C48
HSK63AHPVTTHT18095M	C48
HSK63AHPVTTHT18120M	C48
HSK63AHPVTTHT18160M	C48
HSK63AHPVTTHT20100M	C48
HSK63AHPVTTHT20120M	C48
HSK63AHPVTTHT20160M	C48
HSK63AHPVTTHT25115M	C48
HSK63AHPVTTHT25160M	C48
HSK63AHPVTTHT32120M	C48
HSK63AHPVTTHT32160M	C48
HSK63AHSK32070M	C72
HSK63AHSK40080M	C72
HSK63AHSK50080M	C72
HSK63AHSK63080M	C72
HSK63AHSK63120M	C72
HSK63AKM32070M	C72
HSK63AKM40080M	C72
HSK63AKM50095M	C72
HSK63AKM63105M	C72
HSK63AKR32075M	C71
HSK63AKR50080M	C71
HSK63AMT1100M	C70
HSK63AMT2120M	C70
HSK63AMT3140M	C70
HSK63AMT4160M	C70
HSK63AP	L42
HSK63AS	L40
HSK63ASA062400	C68
HSK63ASA100400	C68
HSK63ASA125400	C68
HSK63ASFTT050276	C45
HSK63ASFTT062295	C45
HSK63ASFTT075295	C45
HSK63ASFTT100335	C45
HSK63ASFTT12070M	C45
HSK63ASFTT125335	C45
HSK63ASFTT14075M	C45
HSK63ASFTT16075M	C45
HSK63ASFTT18075M	C45
HSK63ASFTT20075M	C45
HSK63ASFTT25085M	C45
HSK63ASFTT32085M	C45
HSK63ASM2C050200	C66
HSK63ASM2C075200	C66
HSK63ASM2C100225	C66
HSK63ASM2C16050M	C65
HSK63ASM2C22050M	C65
HSK63ASMC050200	C66
HSK63ASMC075200	C66
HSK63ASMC100225	C66
HSK63ASMC125225	C66
HSK63ASMC150225	C66
HSK63ASMC16050M	C65
HSK63ASMC22050M	C65
HSK63ASMC22100M	C65
HSK63ASMC22160M	C65
HSK63ASMC27060M	C65
HSK63ASMC27100M	C65
HSK63ASMC27160M	C65
HSK63ASMC32060M	C65
HSK63ASMC32100M	C65
HSK63ASMC32160M	C65
HSK63ASMC40060M	C65
HSK63ASMC40100M	C65
HSK63ASMC40160M	C65
HSK63ASSF125500	C63
HSK63ASSF150550	C63
HSK63AST06059M	C69
HSK63AST06084M	C69
HSK63AST06109M	C69
HSK63AST08059M	C69
HSK63AST08084M	C69
HSK63AST08109M	C69
HSK63AST08134M	C69
HSK63AST10059M	C69
HSK63AST10084M	C69
HSK63AST10109M	C69
HSK63AST10134M	C69
HSK63AST12059M	C69
HSK63AST12084M	C69
HSK63AST12109M	C69
HSK63AST12134M	C69
HSK63AST16059M	C69
HSK63AST16084M	C69
HSK63AST16109M	C69
HSK63AST16134M	C69
HSK63ASWN20075M	C61
HSK63ASWN25080M	C61
HSK63ASWN32090M	C61
HSK63ATDSMC0750866	C64
HSK63ATDSMC1001050	C64
HSK63ATDSMC22220M	C64
HSK63ATDSMC27260M	C64
HSK63ATG050100M	C57
HSK63ATG050160M	C57
HSK63ATG075115M	C57
HSK63ATG100135M	C57
HSK63ATTMD05080M	C50
HSK63ATTMD06080M	C50
HSK63ATTMD08080M	C50
HSK63ATTMD10085M	C50
HSK63ATTMD12090M	C50
HSK63ATTMD16095M	C50
HSK63ATTMD20100M	C50
HSK63ATTMD25115M	C50
HSK63AWN06080M	C60
HSK63AWN08080M	C60
HSK63AWN10080M	C60
HSK63AWN12090M	C60
HSK63AWN14090M	C60
HSK63AWN16100M	C60
HSK63AWN18100M	C60
HSK63AWN20100M	C60
HSK63AWN25110M	C60
HSK63AWN32110M	C60
HSK63CBB063100M	C145
HSK63CBB063200M	C145
HSK63CBB102175M	C145
HSK63CER16060M	C143
HSK63CER25070M	C143
HSK63CER32075M	C143
HSK63CER40080M	C143
HSK63CHC06060M	C141
HSK63CHC08060M	C141
HSK63CHC10065M	C141
HSK63CHC12075M	C141
HSK63CHC14075M	C141
HSK63CHC16080M	C141
HSK63CHC18080M	C141
HSK63CHC20080M	C141
HSK63CHC25095M	C141
HSK63CHC32100M	C141
HSK63CHCT06060M	C142
HSK63CHCT08060M	C142
HSK63CHCT10065M	C142
HSK63CHCT12075M	C142
HSK63CHCT14075M	C142
HSK63CHCT16080M	C142
HSK63CHCT18080M	C142
HSK63CHCT20080M	C142
HSK63CHCT25095M	C142
HSK63CHCT32100M	C142
HSK63CWN12075M	C144
HSK63CWN14075M	C144
HSK63CWN16080M	C144
HSK63CWN18080M	C144
HSK63CWN20080M	C144
HSK63CWN25095M	C144
HSK63FPER32080M	C160
HSK63FPTTHT025300	C159
HSK63FPTTHT038300	C159
HSK63FPTTHT050325	C159
HSK63FPTTHT062325	C159
HSK63FPTTHT075325	C159
HSK63FPTTHT100325	C159
HSK63SW	L43
HSK63TBA150512	C42
HSK63TBA40130M	C41
HSK63TBN115200M	C40
HSK63TBSL4	C39
HSK63TBSL5	C39
HSK63TBSR4	C39
HSK63TBSR5	C39
HSK63TETAN16	C34
HSK63TETAN2525M	C33
HSK63TKGMSL50	C38
HSK63TKGMSR50	C38
HSK63TKM40070M	C41
HSK63TKM50095M	C41
HSK63TKM63105M	C41
HSK63TLSSL16	C40
HSK63TLSSL22	C40
HSK63TLSSR16	C40
HSK63TLSSR22	C40
HSK63TMCLNL12070	C34
HSK63TMCLNR12070	C34
HSK63TPCMNN12115	C35
HSK63TPDMNL15115	C35
HSK63TPDMNR15115	C35
HSK63TPDNNN15115	C36
HSK63TSDNCN11115	C37
HSK63TSDNCN15115	C37
HSK63TSTAL2525M	C33
HSK63TSTAR2525M	C33
HSK63TSVVBN11115	C37
HSK63TSVVBN16115	C37
HSK80ABB100250M	C90
HSK80ABB150150M	C90
HSK80ACS16060M	C89
HSK80ACS22060M	C89
HSK80ACS27060M	C89
HSK80ACS32060M	C89
HSK80ACS40070M	C89
HSK80ACS50080M	C89
HSK80AEM038300	C86
HSK80AEM050325	C86
HSK80AEM06080M	C86
HSK80AEM062375	C86
HSK80AEM075375	C86
HSK80AEM08080M	C86
HSK80AEM100425	C86
HSK80AEM10080M	C86
HSK80AEM12080M	C86
HSK80AEM125425	C86
HSK80AEM14080M	C86
HSK80AEM16100M	C86
HSK80AEM18100M	C86
HSK80AEM20100M	C86
HSK80AEM25100M	C86
HSK80AEM32110M	C86
HSK80AER16100M	C83
HSK80AER16160M	C83
HSK80AER20100M	C83
HSK80AER25100M	C84
HSK80AER32100M	C84
HSK80AER40120M	C84
HSK80AHC06085M	C80
HSK80AHC08085M	C80
HSK80AHC10090M	C80
HSK80AHC12095M	C80
HSK80AHC14095M	C80
HSK80AHC16100M	C80
HSK80AHC18100M	C80
HSK80AHC20105M	C80
HSK80AHC25115M	C80
HSK80AHC32125M	C80
HSK80AHCT06085M	C81
HSK80AHCT08085M	C81
HSK80AHCT10090M	C81
HSK80AHCT12095M	C81
HSK80AHCT14095M	C81
HSK80AHCT16100M	C81
HSK80AHCT18100M	C81
HSK80AHCT20105M	C81
HSK80AHCT25115M	C81
HSK80AHCT32125M	C81
HSK80AHPVTT025335	C77
HSK80AHPVTT03085M	C77
HSK80AHPVTT031335	C77
HSK80AHPVTT038354	C77
HSK80AHPVTT04085M	C77

Catalog No.	Page(s)
HSK80AHPVTT044374	C77
HSK80AHPVTT050374	C77
HSK80AHPVTT05085M	C77
HSK80AHPVTT056374	C77
HSK80AHPVTT06085M	C76
HSK80AHPVTT062394	C77
HSK80AHPVTT075413	C77
HSK80AHPVTT08085M	C76
HSK80AHPVTT088413	C77
HSK80AHPVTT100453	C77
HSK80AHPVTT10090M	C76
HSK80AHPVTT12095M	C76
HSK80AHPVTT125472	C77
HSK80AHPVTT14095M	C76
HSK80AHPVTT150512	C77
HSK80AHPVTT16100M	C76
HSK80AHPVTT18100M	C76
HSK80AHPVTT200551	C77
HSK80AHPVTT20105M	C76
HSK80AHPVTT25115M	C76
HSK80AHPVTT32120M	C76
HSK80AHPVTT40130M	C76
HSK80AHPVTT50140M	C76
HSK80AHPVTTHT050374	C79
HSK80AHPVTTHT056374	C79
HSK80AHPVTTHT062394	C79
HSK80AHPVTTHT075413	C79
HSK80AHPVTTHT088413	C79
HSK80AHPVTTHT100453	C79
HSK80AHPVTTHT12095M	C78
HSK80AHPVTTHT125472	C79
HSK80AHPVTTHT14095M	C78
HSK80AHPVTTHT150512	C79
HSK80AHPVTTHT16100M	C78
HSK80AHPVTTHT18100M	C78
HSK80AHPVTTHT200551	C79
HSK80AHPVTTHT20105M	C78
HSK80AHPVTTHT25115M	C78
HSK80AHPVTTHT32120M	C78
HSK80AHPVTTHT40130M	C78
HSK80AHPVTTHT50140M	C78
HSK80AS	L40
HSK80ASM2C075225	C88
HSK80ASM2C100225	C88
HSK80ASM2C22050M	C87
HSK80ASMC075225	C88
HSK80ASMC100225	C88
HSK80ASMC125250	C88
HSK80ASMC150250	C88
HSK80ASMC200250	C88
HSK80ASMC22050M	C87
HSK80ASMC250250	C88
HSK80ASMC27050M	C87
HSK80ASMC32060M	C87
HSK80ASMC40060M	C87
HSK80ASMC50070M	C87
HSK80ASMC60070M	C87
HSK80ATG075120M	C82
HSK80ATG100140M	C82
HSK80AWN06090M	C85
HSK80AWN08090M	C85
HSK80AWN10090M	C85
HSK80AWN12100M	C85
HSK80AWN14100M	C85
HSK80AWN16100M	C85
HSK80AWN18100M	C85
HSK80AWN20110M	C85
HSK80AWN25110M	C85
HSK80AWN32120M	C85
HSK80FPER32085M	C164
HSK80FPSM2C075200	C165
HSK80FPSMC075200	C165
HSK80FPTTHT025325	C163
HSK80FPTTHT038325	C163
HSK80FPTTHT050325	C163
HSK80FPTTHT062325	C163
HSK80FPTTHT075325	C163
HSK80FPTTHT100350	C163
HSK80FPTTHT125350	C163
HSW25M	A256, L57
HSW34M	A578, A626, C16, C27, C57, C105, F18, F56, I6, L57
HSW45M	A252, A256, A328, A332, A412, A416–417, A542, A578, A610, A626, C16, C27, C57, C82, C105, D8, D45, D58, E9, E13, E34, E39, E80, F18–19, F25, F56, F59–60, F65, G17, G25, G61, I7, L57
HSW58M	A328, A412, A502, A542, A578, A610, A626, C57, C82, C105, D8, D26, D45, D58, E34, E76, F18–19, F56, F59–60, G16–17, G55–56, I7, I22, L57
HSW68M	L57
HSW80M	A542, A610, A626, C105, D8, D26, E34, E76, G17, G56, L57
ICSN332 K9	A84, A134, A168
ICSN432 K9	A84, A134, A166–168, A221, A278–279, A314, A358, A368, A393, A447, A456, A485, A521, A558–559, C34
ICSN433 K9	A134–135, A265, A360
ICSN433BB K9	A359
ICSN442 K9	A378, A469
ICSN443 K9	A266
ICSN443 K9	A345–346
ICSN443 K9	A434–435
ICSN443 K9	A519, A593
ICSN533 K9	A278, A358, A360, A393, A447–448, A469, A521–522, A558
ICSN543 K9	A265, A345, A434, A519, A593
ICSN633 K9	A358, A360, A447–448, A521–522, A597–598
ICSN846 K9	A521–522, A597–598
IDSN322 K9	A84, A135–136, A169–171
IDSN432 K9	A135, A169–171, A221–223, A279–281, A315, A360–362, A369, A395, A448–450, A487, A522–524, A560
IDSN433 K9	A267–269, A347–349, A436–438, A519–520, A594–596
IDSN442 K9	A135–136, A221–222, A279–281, A360–362, A369, A448–450, A457, A470, A522–524, A558, A560
IDSN443 K9	A267–269, A347–349, A436–438, A519–520, A594–596
IDSN532 K9	A360
IRSN33 K9	A137
IRSN42 K9	A378, A470
IRSN43 K9	A137, A281, A362, A450
ISSN332 K9	A85
ISSN432 K9	A172, A223, A282–283, A363–364, A451–452
ISSN433 K9	A137–139
ISSN442 K9	A471–472
ISSN443 K9	A270–273, A350–353, A439–442
ISSN533 K9	A283, A363–364, A451–452, A471–472
ISSN633 K9	A363–364, A451–452, A524–525, A598–599
ISSN846 K9	A524–526, A598–599
ITSN322 K9	A85, A140, A224, A284–285, A365–366
ITSN323 K9	A139–140, A173
ITSN433 K9	A139–140, A173, A274, A284–285, A365, A453, A472
ITSN443 K9	A275–276, A354–356, A443–445
IVSN322 K9	A141–142, A174, A225–226, A286–287, A366–367, A369, A454–455, A457, A526–527, A559–560, A600
IWSN322 K9	A142
IWSN433 K9	A142, A174, A226, A277, A288, A316, A368, A370, A396, A456, A458, A527, A561
IWSN443 K9	A357, A446
JTC025	J71
JTC025021M	J71
JTC028021M	J71
JTC028022M	J71
JTC031	J71
JTC032025M	J71
JTC035027M	J71
JTC036028M	J71
JTC037	J71
JTC040032M	J71
JTC043	J71
JTC045034M	J71
JTC045036M	J71
JTC050	J71
JTC056045M	J71
JTC060049M	J71
JTC070055M	J71
JTC071056M	J71
JTC080063M	J71
JTC090071M	J71
JTC10	J71
JTC12	J71
JTC6	J71
JTC8	J71
KDK04	A336, A420, A508, A586, C20, C30, C66, C152, D17, D50, E17, E52, E88, F32, F76, H7, H15, H21, H27
KDK05	A336, A420, A508, A586, C20, C64, C66, C88, C113, C115, C152, C165, D15, D17, D33, D35, D49–50, D64–65, E17, E49, E52, E85, E88, F31–32, F75–76, H7, H15, H21, H27
KDK06	A336, A420–421, A508, A547, A586, A616, C20, C30, C64, C66, C88, C113, C115, D15, D17, D33, D35, D49–50, D64–65, E17, E49, E52, E85, E88, F31–32, F75–76, H7, H15, H21, H27
KDK08	A420, A508, A547, A586, A616, C66, C88, C113, C115, D17, D33, D35, D50, D64–65, E52, E85, E88, F32, F75–76, H7, H15, H21, H27
KDK10	A508, A547, A586, A616, C66, C88, C115, D17, D35, D50, D65, E52, E88, F32, F76, H7, H15, H21
KDK12	A547, A616, C88, C115, D35, D65, E88, F76–77, H15, H21
KDK16	A547, A616, C88, C115, D35, D65, E88, F77, H21
KDK16M	A336, A586, C20, C30, C65, C114, C152, D16, D34, E16, E50, E86, G32, G68
KDK22M	A336, A420, A508, A586, A616, C20, C30, C64–65, C87, C112, C114, C152, D14, D16, D32, D34, E16–17, E48, E50–51, E84, E86, G31–32, G67–68
KDK27M	A336, A420, A508, A547, A586, A616, C20, C30, C65, C87, C114, D16, D34, E87, G33, G69
KDK32M	A420, A508, A547, A586, A616, C65, C87, C112, C114, D16, D32, D34, E51, E84, E87, G33, G67, G69
KDK40M	A508, A547, A616, C65, C87, C114, D34, E51, E87, G33, G69
KDK60M KTB	A547, A616, C87, C114, D34, E87, G69
KLC46L	A222
KLM33	A168, A174
KLM33L	A171, A173–174
KLM34L	A84–85, A134–135, A140–142, A224–226, A284–287, A365–367, A369, A454–455, A457, A526–527, A559–560, A600
KLM34L9IP	A139–142, A173–174
KLM34LT9PKG	A135–137, A168–171
KLM43	A168, A171–172, A174, A240–241, A314–316, A393, A395–396, A485, A487
KLM46	A84, A134, A142, A221, A223, A226, A278–279, A281–285, A288, A314–316, A358, A360, A362–365, A368, A370, A393, A395–396, A447, A449–453, A456, A458, A485, A487, A521, A527, A558–559, A561, C34
KLM4615IP	A134–135, A137–140, A142, A166–174
KLM46L	A135, A221–223, A279–281, A360–362, A369, A448–450, A457, A522–524, A558, A560
KLM46L15IP	A135–136
KLM48BB	A359
KLM58	A278, A283, A358, A360, A363–364, A393, A447–448, A451–452, A521–522, A558
KLM68	A358, A360, A363–364, A447–448, A451–452, A521–522, A524–525, A597–599
KLM810	A521–522, A524–526, A597–599
KLS05	A336, A420, A508, A586, C20, C30, C66, C152, D17, D50, E17, E52, E88, F32, F76, H7, H15, H21, H27, L37
KLS07	A336, A420–421, A508, A586, A631, A633, C20, C64, C66, C68, C88, C113, C115, C117, C152, C165, D15, D17, D33, D35, D49–50, D64–65, E17, E49, E52, E85, E88, F31–33, F75–77, H7, H15, H21, H27, I27, L37
KLS10	A336, A420–421, A508, A547, A586, A616, A631, A633, C20, C30, C64, C66, C68, C88, C113, C115, C117, D15, D17, D33, D35, D49–50, D64–65, E17, E49, E52, E54, E85, E88, F31–33, F75–77, H7, H15, H21, H27, I27, L37
KLS12	A420, A508, A547, A586, A616, A631, A633, C66, C68, C88, C113, C115, C117, D17, D33, D35, D50, D64–65, E52, E54, E85, E88, E90, F32–33, F75–77, H7, H15, H21–22, H27, I27, L37
KLS15	A508, A547, A586, A616, A633, C66, C88, C115, C117, D17, D35, D50, D65, E52, E88, E90, F32, F76–77, H7, H15, H21–22, I27, L37
KLS20	A547, A616, A633, C88, C115, C117, D35, D65, E88, F76–77, H15, H21–22, I27, L37
KLS25	C88, C115, D35, E88
KLS27M	C67
KLS27M W	A421, A587
KLS27MPKG	A509, C89, C116, E53, G34, L36
KLS32M	A509, A548, A587, C67, C89, C116, E53, E89, G34, G70, L36
KLS32M W	A421
KLS40M	A509, A548, C67, C89, C116, E53, E89, G34, G70, L36
KLS50M	A547, A616, A632, C87, C89, C114, C116, E89, G70, L36
KLSS27M	A336, A420, A508, A547, A586, A616, C20, C30, C64–65, C87, C112, C114, D14, D16, D32, D34, E17, E48, E51, E84, E87, G31, G33, G67, G69, L37
KLSS27M	A631–632
KLSS32M	A420, A508, A547, A586, A616, C65, C87, C112, C114, D16, D32, D34, E51, E84, E87, G33, G67, G69, L37
KLSS32M	A631–632
KLSS40M	A508, A547, A616, C65, C87, C114, D34, E51, E87, G33, G69, L37
KLSS40M	A632
KLSSH10	L38
KLSSH12	L38
KLSSH15	L38
KLSSH20	L38
KLSSH25	L38
KM100NCMEF	A209
KM12A3SL31130	A88
KM12A3SR31130	A88
KM12A4SCL011330	A86
KM12A4SCL021630	A86
KM12A4SCL031630	A86
KM12A4SCR011330	A86
KM12A4SCR021630	A86
KM12A4SCR031630	A86
KM12BN3133	A115
KM12BSL	A87
KM12BSR	A87
KM12GB1620	A115
KM12LCM08400	A64
KM12LSSL1620	A91
KM12LSSR1620	A91
KM12NAPKG	A64
KM12NCM1212100	A64

Catalog No.	Page(s)
KM12NCMSF1522	A65
KM12NRPKG	A65–66, A68, A114, A117, A185
KM12NSL220	A89
KM12NSR220	A89
KM12P	A117
KM12RCM08400	A64
KM12SCGCL0915	A78
KM12SCGCL0920	A78
KM12SCGCR0915	A78
KM12SCGCR0920	A78
KM12SCLCL0915	A78
KM12SCLCL0920	A78
KM12SCLCR0915	A78
KM12SCLCR0920	A78
KM12SDACL1120	A79
KM12SDACR1120	A79
KM12SDJCL1120	A79
KM12SDJCR1120	A79
KM12SDPCN1120	A80
KM12STGCL1115	A80
KM12STGCL1120	A80
KM12STGCR1120	A80
KM12STGL1620	A90
KM12STGR1620	A90
KM12STJCL1120	A81
KM12STJCR1115	A81
KM12STJCR1120	A81
KM12SVGBL1120	A82
KM12SVGBR1120	A82
KM12SVJBL1120	A83
KM12SVJBR1120	A83
KM12SWLCL0615	A83
KM12SWLCL0620	A83
KM12SWLCR0615	A83
KM12SWLCR0620	A83
KM12TB	A117
KM12TIM0915	A116
KM12WSJ15EL20	A89
KM12WSJ15ER20	A89
KM12WSK15EL20	A90
KM12WSK15ER20	A90
KM1612BN1650	A115
KM1612BN2430	A115
KM1612ER08017	A112
KM1612ER11020	A112
KM1612ER16032	A112
KM1612NCMSF2127	A68
KM1612NCMSS08055	A66
KM1612NCMSS10055	A66
KM1612NCMSS12055	A66
KM1612NCMSS1614	A66
KM1612NCMSS1914	A66
KM1612NCMSS2014	A66
KM1612NCMSS2514	A66
KM1612P	A117
KM1612S0424SCLDLS4S	A103
KM1612S0424SCLDLS4T	A103
KM1612S0424SCLDRS4S	A103
KM1612S0424SCLDRS4T	A103
KM1612S0528SCLDLS4S	A103
KM1612S0528SCLDLS4T	A103
KM1612S0528SCLDRS4S	A103
KM1612S0528SCLDRS4T	A103
KM1612S0529SCXDRS	A110
KM1612S0529SCXDRT	A110
KM1612S0633SCLDLS4S	A103
KM1612S0633SCLDLS4T	A103
KM1612S0633SCLDRS4S	A103
KM1612S0633SCLDRS4T	A103
KM1612S0633SCXDRS	A110
KM1612S0633SCXDRT	A110
KM1612S0633SGFPL05S	A104
KM1612S0633SGFPL05T	A104
KM1612S0633SGFPR05S	A104
KM1612S0633SGFPR05T	A104
KM1612S0633SGLPL05S	A105
KM1612S0633SGLPL05T	A105
KM1612S0633SGLPR05S	A105
KM1612S0633SGLPR05T	A105
KM1612S0633SGXPL05S	A106
KM1612S0633SGXPL05T	A106
KM1612S0633SGXPR05S	A106
KM1612S0633SGXPR05T	A106
KM1612S0633STLDL07S	A108
KM1612S0633STLDL07T	A108
KM1612S0633STLDR07S	A108
KM1612S0633STLDR07T	A108
KM1612S0840SGFPL05S	A104
KM1612S0840SGFPL05T	A104
KM1612S0840SGFPR05S	A104
KM1612S0840SGFPR05T	A104
KM1612S0840SGJPL05S	A107
KM1612S0840SGJPL05T	A107
KM1612S0840SGJPR05S	A107
KM1612S0840SGJPR05T	A107
KM1612S0840SGLPL05S	A105
KM1612S0840SGLPL05T	A105
KM1612S0840SGLPR05S	A105
KM1612S0840SGLPR05T	A105
KM1612S0840STLDL07S	A108
KM1612S0840STLDL07T	A108
KM1612S0840STLDR07S	A108
KM1612S0840STLDR07T	A108
KM1612S0945SGJPL05S	A107
KM1612S0945SGJPL05T	A107
KM1612S0945SGJPR05S	A107
KM1612S0945SGJPR05T	A107
KM1612S1046SCXPLS	A111
KM1612S1046SCXPLT	A111
KM1612S1046SCXPRS	A111
KM1612S1046SCXPRT	A111
KM1612S1046STLPL11S	A109
KM1612S1046STLPL11T	A109
KM1612S1046STLPR11S	A109
KM1612S1046STLPR11T	A109
KM16A3SL31130	A88
KM16A3SL41130	A88
KM16A3SR31130	A88
KM16A3SR41130	A88
KM16A4SCL011330	A86
KM16A4SCL021630	A86
KM16A4SCL031630	A86
KM16A4SCL2B1630	A86
KM16A4SCR011330	A86
KM16A4SCR021630	A86
KM16A4SCR031630	A86
KM16A4SCR2B1630	A86
KM16BN3740	A115
KM16BSL	A87
KM16BSR	A87
KM16GB2020	A115
KM16LCM10400HPC	A65
KM16LCM1616100HPC	A65
KM16LSSL1620	A91
KM16LSSL1620HPC	A97
KM16LSSR1620	A91
KM16LSSR1620HPC	A97
KM16MCLNL0920	A84
KM16MCLNL1220	A84
KM16MCLNR0920	A84
KM16MCLNR1220	A84
KM16MDJNL1120	A84
KM16MDJNR1120	A84
KM16MSDNN0920	A85
KM16MTGNL1620	A85
KM16MTGNR1620	A85
KM16NAPKG	A64–65
KM16NCM10400	A64
KM16NCM1616100	A64
KM16NCMSF1928	A65
KM16NEL220	A88
KM16NER220	A88
KM16NRPKG	A65–68, A114, A117
KM16NRPKG	A185
KM16NSL220	A89
KM16NSL220HPC	A97
KM16NSL330	A89
KM16NSR220	A89
KM16NSR220HPC	A97
KM16NSR330	A89
KM16P	A117
KM16RCM10400HPC	A65
KM16RCM1616100HPC	A65
KM16SCGCL0920	A78
KM16SCGCR0920	A78
KM16SCLCL0920	A78
KM16SCLCL0920HPC	A94
KM16SCLCR0920	A78
KM16SCLCR0920HPC	A94
KM16SDACL1120	A79
KM16SDACR1120	A79
KM16SDJCL1120	A79
KM16SDJCL1120HPC	A94
KM16SDJCR1120	A79
KM16SDJCR1120HPC	A94
KM16SDPCN1120	A80
KM16SSPL0620HPC	A95
KM16SSPR0620HPC	A95
KM16STGCL1120	A80
KM16STGCL1620	A80
KM16STGCR1120	A80
KM16STGCR1620	A80
KM16STGL1620	A90
KM16STGR1620	A90
KM16STJCL1120	A81
KM16STJCL1620	A81
KM16STJCL1620HPC	A95
KM16STJCR1120	A81
KM16STJCR1620	A81
KM16STJCR1620HPC	A95
KM16STJNL11	A82
KM16STJNR11	A82
KM16SVGBL1120	A82
KM16SVGBL1630	A82
KM16SVGBR1120	A82
KM16SVGBR1630	A82
KM16SVJBL1120	A83
KM16SVJBL1120HPC	A96
KM16SVJBL1630	A83
KM16SVJBR1120	A83
KM16SVJBR1120HPC	A96
KM16SVJBR1630	A83
KM16SWLCL0620	A83
KM16SWLCL0620HPC	A96
KM16SWLCR0620	A83
KM16SWLCR0620HPC	A96
KM16TB	A117
KM16TIM1420	A116
KM16WSJ15EL20	A89
KM16WSJ15ER20	A89
KM16WSK15EL20	A90
KM16WSK15ER20	A90
KM2016BN2060	A115
KM2016BN3035	A115
KM2016ER08017	A112
KM2016ER08025C	A113
KM2016ER11020	A112
KM2016ER11030C	A113
KM2016ER16032	A112
KM2016ER16040C	A113
KM2016ER20035	A112
KM2016ER20045C	A113
KM2016NCME12	A67
KM2016NCMS12	A67
KM2016NCMS20	A67
KM2016NCMSF2533	A68
KM2016NCMSS08063	A66
KM2016NCMSS10063	A66
KM2016NCMSS12063	A66
KM2016NCMSS16063	A66
KM2016NCMSS1616	A66
KM2016NCMSS2016	A66
KM2016NCMSS2216	A66
KM2016NCMSS2516	A66
KM2016NEL220	A102
KM2016NER220	A102
KM2016P	A117
KM2016S1046SCXPLS	A111
KM2016S1046SCXPLT	A111
KM2016S1046SCXPRS	A111
KM2016S1046SCXPRT	A111
KM2016S1046STLPL11S	A109
KM2016S1046STLPL11T	A109
KM2016S1046STLPR11S	A109
KM2016S1046STLPR11T	A109
KM2016S1358STLPL11S	A109
KM2016S1358STLPL11T	A109
KM2016S1358STLPR11S	A109
KM2016S1358STLPR11T	A109
KM2016SCLPL0920	A100
KM2016SCLPR0920	A100
KM2016SDUPL1120	A100
KM2016SDUPR1120	A100
KM2016STLPL1620	A101
KM2016STLPR1620	A101
KM2016SVUBL1120	A101
KM2016SVUBR1120	A101
KM20A3SCL031635	A160
KM20A3SCL041635	A160
KM20A3SCR031635	A160
KM20A3SCR041635	A160
KM20A4SML011330	A156–157
KM20A4SML021430	A156–157
KM20A4SML031430	A156–157
KM20A4SML041430	A156–157
KM20A4SML2B1430	A156–157
KM20A4SMR011330	A156–157
KM20A4SMR021430	A156–157
KM20A4SMR031430	A156–157
KM20A4SMR041430	A156–157
KM20A4SMR2B1430	A156–157
KM20BN4040	A186
KM20GB2525	A187
KM20LCM2020100	A122
KM20LSEL1625	A155
KM20LSER1625	A155
KM20LSSL1625	A155
KM20LSSR1625	A155
KM20MCKNL1225	A134
KM20MCKNR1225	A134
KM20MCLNL0925	A134
KM20MCLNL1225	A134
KM20MCLNR0925	A134
KM20MCLNR1225	A134
KM20MDJNL1125	A135
KM20MDJNL150425	A135
KM20MDJNL150625	A135
KM20MDJNR1125	A135
KM20MDJNR150425	A135
KM20MDJNR150625	A135
KM20MTGNL1625	A140
KM20MTGNR1625	A140
KM20MVJNL1630	A141
KM20MVJNR1630	A141
KM20MWLNL0625	A142
KM20MWLNL0825	A142
KM20MWLNR0625	A142
KM20MWLNR0825	A142
KM20NAPKG	A122–123
KM20NCM12352	A123
KM20NCMSF2434	A127
KM20NEL225	A153
KM20NEL325	A153
KM20NER225	A153
KM20NER325	A153
KM20NSL230	A154
KM20NSL330	A154
KM20NSR230	A154
KM20NSR330	A154
KM20P	A186
KM20PCKNL1225	A143
KM20PCKNR1225	A143
KM20PCLNL1225	A143
KM20PCLNR1225	A143
KM20PDJNL1125	A144
KM20PDJNR1125	A144
KM20PWLNL0625	A144
KM20PWLNR0625	A144
KM20RCM2020100	A122
KM20SCACL0925	A145
KM20SCACR0925	A145
KM20SCLCL0925	A145
KM20SCLCL1225	A145
KM20SCLCR0925	A145
KM20SCLCR1225	A145
KM20SDJCL1125	A146
KM20SDJCL1525	A146
KM20SDJCR1125	A146

Catalog No.	Page(s)
KM20SDJCR1525	A146
KM20SDNCN1125	A147
KM20SDNCN1530	A147
KM20SDPCN1530	A146
KM20SDQCL1125	A147
KM20SDQCL1525	A147
KM20SDQCR1125	A147
KM20SDQCR1525	A147
KM20STGCL1625	A151
KM20STGCR1625	A151
KM20STJCL1625	A151
KM20STJCR1625	A151
KM20SVABL1630	A152
KM20SVABR1630	A152
KM20SVJBL1125	A152
KM20SVJBL1630	A152
KM20SVJBR1125	A152
KM20SVJBR1630	A152
KM20SWLCL0625	A153
KM20SWLCR0625	A153
KM2520A3ESL0308M25	A182
KM2520A3ESL0408M25	A182
KM2520A3ESL0510M25	A182
KM2520A3ESR0308M25	A182
KM2520A3ESR0408M25	A182
KM2520A3ESR0510M25	A182
KM2520A4EML0108M25	A180–181
KM2520A4EML0208M25	A180–181
KM2520A4EML0308M25	A180–181
KM2520A4EML0408M25	A180–181
KM2520A4EML2B08M25	A180–181
KM2520A4EMR0108M25	A180–181
KM2520A4EMR0208M25	A180–181
KM2520A4EMR0308M25	A180–181
KM2520A4EMR0408M25	A180–181
KM2520A4EMR2B08M25	A180–181
KM2520BA04217	A184
KM2520BA06217	A184
KM2520BA0645M	A184
KM2520BA08236	A184
KM2520BA0845M	A184
KM2520BA1055M	A184
KM2520BA1260M	A184
KM2520BN5050	A186
KM2520LSEL1625	A178
KM2520LSEL2225	A178
KM2520LSER1625	A178
KM2520LSER2225	A178
KM2520MCLNL0925	A168
KM2520MCLNL1225	A168
KM2520MCLNR0925	A168
KM2520MCLNR1225	A168
KM2520MDUNL1125	A171
KM2520MDUNL1525	A171
KM2520MDUNR1125	A171
KM2520MDUNR1525	A171
KM2520MSKNL1225	A172
KM2520MSKNR1225	A172
KM2520MTFNL1625	A173
KM2520MTFNR1625	A173
KM2520MVUNL1625	A174
KM2520MVUNR1625	A174
KM2520MWLNL0625	A174
KM2520MWLNL0825	A174
KM2520MWLNR0625	A174
KM2520MWLNR0825	A174
KM2520NCMS16	A125
KM2520NCMS25	A125
KM2520NCMSS12098	A124
KM2520NCMSS2025	A124
KM2520NEL230	A177
KM2520NEL330	A177
KM2520NER230	A177
KM2520NER330	A177
KM2520NRPKG	A124–125, A127, A185, A188–189
KM2520P	A186
KM2520PCLNL1225	A175
KM2520PCLNR1225	A175
KM2520PDUNL1125	A175
KM2520PDUNR1125	A175
KM2520PWLNL0625	A176
KM2520PWLNR0625	A176
KM2520S201630	A185
KM2520S2525	A185
KM2520S2550	A185
KM2520TB	A189
KM25A3SSL031635	A159
KM25A3SSL041635	A159
KM25A3SSL042645	A159
KM25A3SSL051635	A159
KM25A3SSL052645	A159
KM25A3SSR031635	A159
KM25A3SSR041635	A159
KM25A3SSR042645	A159
KM25A3SSR051635	A159
KM25A3SSR052645	A159
KM25A4ENN040730	A158
KM25A4ENN050930	A158
KM25A4SML011330	A156–157
KM25A4SML021430	A156–157
KM25A4SML031430	A156–157
KM25A4SML041430	A156–157
KM25A4SML051935	A156–157
KM25A4SML2B1430	A156–157
KM25A4SMR011330	A156–157
KM25A4SMR021430	A156–157
KM25A4SMR031430	A156–157
KM25A4SMR041430	A156–157
KM25A4SMR051935	A156–157
KM25A4SMR2B1430	A156–157
KM25BEL	A161
KM25BER	A161
KM25BN5050	A186
KM25BSL	A161
KM25BSR	A161
KM25GB3230	A187
KM25LCM16382	A122
KM25LCM16482	A122
KM25LSEL1630	A155
KM25LSER1630	A155
KM25LSSL1630	A155
KM25LSSL2230	A155
KM25LSSR1630	A155
KM25LSSR2230	A155
KM25MCKNL1230	A134
KM25MCKNR1230	A134
KM25MCLNL1230	A134
KM25MCLNR1230	A134
KM25MCRNL1230	A135
KM25MCRNR1230	A135
KM25MDJNL1130	A135
KM25MDJNL150430	A135
KM25MDJNL150630	A135
KM25MDJNR1130	A135
KM25MDJNR150430	A135
KM25MDJNR150630	A135
KM25MDPNN1130	A136
KM25MDQNL150430	A136
KM25MDQNR150430	A136
KM25MRGNL0930	A137
KM25MRGNL1230	A137
KM25MRGNR0930	A137
KM25MRGNR1230	A137
KM25MSDNN1230	A137
KM25MSKNL1230	A138
KM25MSKNR1230	A138
KM25MSRNL1230	A138
KM25MSRNR1230	A138
KM25MSSNL1230	A139
KM25MSSNR1230	A139
KM25MTFNL1630	A139
KM25MTFNL2230	A139
KM25MTFNR1630	A139
KM25MTFNR2230	A139
KM25MTGNL1630	A140
KM25MTGNL2230	A140
KM25MTGNR1630	A140
KM25MTGNR2230	A140
KM25MTJNL1630	A140
KM25MTJNL2230	A140
KM25MTJNR1630	A140
KM25MTJNR2230	A140
KM25MVJNL1630	A141
KM25MVJNR1630	A141
KM25MVUNL1630	A141
KM25MVUNR1630	A141
KM25MVVNN1630	A142
KM25MWLNL0830	A142
KM25MWLNR0830	A142
KM25NAPKG	A122–123
KM25NCM2525120	A123
KM25NCMSF3140	A127
KM25NCMSF3140MST	A431, A553
KM25NEL230	A153
KM25NEL330	A153
KM25NEL430	A153
KM25NER230	A153
KM25NER330	A153
KM25NER430	A153
KM25NRPKG	A127, A188, A553
KM25NSL230	A154
KM25NSL330	A154
KM25NSL430	A154
KM25NSR230	A154
KM25NSR330	A154
KM25NSR430	A154
KM25P	A186
KM25RCM16382	A122
KM25RCM16482	A122
KM25SCLCL0930	A145
KM25SCLCL1230	A145
KM25SCLCR0930	A145
KM25SCLCR1230	A145
KM25SDJCL1130	A146
KM25SDJCR1130	A146
KM25SDPCN1130	A146
KM25SDQCL1130	A147
KM25SDQCR1130	A147
KM25SDUCL1130	A148
KM25SDUCR1130	A148
KM25SRDCN0830	A149
KM25SRGCL1030	A149
KM25SRGCR1030	A149
KM25SSDCN1230	A150
KM25STFCL1630	A150
KM25STFCR1630	A150
KM25STGCL1630	A151
KM25STGCR1630	A151
KM25STJCL1630	A151
KM25STJCR1630	A151
KM25SVJBL1130	A152
KM25SVJBL1630	A152
KM25SVJBR1130	A152
KM25SVJBR1630	A152
KM3225A3ESL0305M30	A182
KM3225A3ESL0408M30	A182
KM3225A3ESL0510M30	A182
KM3225A3ESR0305M30	A182
KM3225A3ESR0408M30	A182
KM3225A3ESR0510M30	A182
KM3225A4EML0310M30	A180–181
KM3225A4EML0410M30	A180–181
KM3225A4EML0510M30	A180–181
KM3225A4EMR0310M30	A180–181
KM3225A4EMR0410M30	A180–181
KM3225A4EMR0510M30	A180–181
KM3225BA06217	A184
KM3225BA0645M	A184
KM3225BA08236	A184
KM3225BA0845M	A184
KM3225BA10256	A184
KM3225BA1055M	A184
KM3225BA12276	A184
KM3225BA1260M	A184
KM3225BA1665M	A184
KM3225BA2070M	A184
KM3225BN5050	A186
KM3225ECMS24	A126
KM3225ECMS40	A126
KM3225ER1635	A183
KM3225ER2040	A183
KM3225ER2545	A183
KM3225LSEL1630	A178
KM3225LSEL2230	A178
KM3225LSER1630	A178
KM3225LSER2230	A178
KM3225MCFNL1230	A166
KM3225MCFNR1230	A166
KM3225MCKNL1230	A167
KM3225MCKNR1230	A167
KM3225MCLNL0930	A168
KM3225MCLNL1230	A168
KM3225MCLNR0930	A168
KM3225MCLNR1230	A168
KM3225MDPNL1130	A169
KM3225MDPNL150430	A169
KM3225MDPNR1130	A169
KM3225MDPNR150430	A169
KM3225MDQNL1130	A170
KM3225MDQNL150430	A170
KM3225MDQNR1130	A170
KM3225MDQNR150430	A170
KM3225MDUNL1130	A171
KM3225MDUNL150430	A171
KM3225MDUNR1130	A171
KM3225MDUNR150430	A171
KM3225MSKNL1230	A172
KM3225MSKNR1230	A172
KM3225MTFNL1630	A173
KM3225MTFNL2230	A173
KM3225MTFNR1630	A173
KM3225MTFNR2230	A173
KM3225MVUNL1630	A174
KM3225MVUNR1630	A174
KM3225MWLNL0830	A174
KM3225MWLNR0830	A174
KM3225NCMS20	A125
KM3225NCMS32	A125
KM3225NCMSS16098	A124
KM3225NCMSS20098	A124
KM3225NCMSS24098	A124
KM3225NCMSS2525	A124
KM3225NCMSS3225	A124
KM3225NCMSS4025	A124
KM3225NEL230	A177
KM3225NEL330	A177
KM3225NEL430	A177
KM3225NER230	A177
KM3225NER330	A177
KM3225NER430	A177
KM3225NRPKG	A124–126, A185, A188–189, A431
KM3225P	A186
KM3225PCLNL1230	A175
KM3225PCLNR1230	A175
KM3225PDUNL1130	A175
KM3225PDUNR1130	A175
KM3225PWLNL0830	A176
KM3225PWLNR0830	A176
KM3225S161230	A185
KM3225S201630	A185
KM3225S252030	A185
KM3225S3240	A185
KM3225S3260	A185
KM3225TB	A189
KM32CLANVDI3060	A194
KM32CLNSEF	A191
KM32CLNSS20217	A191
KM32CLNSS24217	A191
KM32CLNSS3255	A191
KM32CLNTEF	A192
KM32CLRLVDI3035	A193
KM32CLRRVDI3035	A193
KM32CLSL2050K	A190
KM32CLSR1250B	A190
KM32CLSR1250C	A190
KM32CLSR1650C	A190
KM32CLSR2050K	A190
KM32ER3251	A254
KM32FBHS24	A261
KM32FBHS31	A261
KM32LCMIVDI40100	A212–213
KM32LCMIVDI4050	A212–213
KM32NCADS16T	A215
KM32NCM2425	A204
KM32NCM3225	A204
KM32NCM4040	A204

Catalog No.	Page(s)
KM32NCM5040	A204
KM32NCMEF	A209
KM32NCMF	A208
KM32NCMS20	A206
KM32NCMS32P	A206
KM32NCMS32R	A206
KM32NCMSS20100	A205
KM32NCMSS24100	A205
KM32NCMSS3225	A205
KM32NCMSS4025	A205
KM32P	L42
KM32PKG3L	A205, A209, A214, D51, D66, E18, E59, E94, F38, F82, G39
KM32PKG3S	A204, A206, A208, A210, A212–213, A262, A342, A428, A515, A588, C72, C120, D18, D36, D51, E59, E94, F38, F82, G39, G75
KM32PKGS	A634
KM32RBHT24	A260
KM32RBHT30	A260
KM32RCMIVDI30100	A212–213
KM32RCMIVDI3050	A212–213
KM32RCMIVDI40100	A212–213
KM32RCMIVDI4050	A212–213
KM32RCMLVDI2050	A214
KM32RCMLVDI4060	A214
KM32RCMVDI3035	A210
KM32TSBA06045M	A249
KM32TSBA06217	A249
KM32TSBA08045M	A249
KM32TSBA08236	A249
KM32TSBA10055M	A249
KM32TSBA10256	A249
KM32TSBA12060M	A249
KM32TSBA12276	A249
KM32TSBA16065M	A249
KM32TSBA20070M	A249
KM32TSBAI04126	A250
KM32TSBAI06126	A250
KM32TSBAI08157	A250
KM32TSBAI10185	A250
KM32TSBAI16276	A250
KM32TSBAI25070M	A250
KM32TSBN52048M	A263
KM32TSBN52100M	A263
KM32TSBN75048M	A263
KM32TSCCLPL12	A232
KM32TSDA188056M	A256
KM32TSDA188220	A257
KM32TSDA188295	A257
KM32TSDA208060M	A256
KM32TSDA208236	A257
KM32TSEM038177	A258
KM32TSEM050197	A258
KM32TSEM06040M	A258
KM32TSEM08040M	A258
KM32TSEM10045M	A258
KM32TSEM12050M	A258
KM32TSER16036M	A255
KM32TSER25045M	A254
KM32TSGB32070M	A261
KM32TSHDB6126	A251
KM32TSJT1	A259
KM32TSLSEL16E	A237
KM32TSLSER16N	A237
KM32TSLSSL16	A238
KM32TSLSSR16	A238
KM32TSMCLNL12	A221
KM32TSMCLNR12	A221
KM32TSMDJNL1504	A221
KM32TSMDJNL1506	A221
KM32TSMDJNR1504	A221
KM32TSMDJNR1506	A221
KM32TSMDPNN1504	A222
KM32TSMDPNN1506	A222
KM32TSMDQNL1506	A222
KM32TSMDQNR1506	A222
KM32TSMDUNL1506	A223
KM32TSMDUNR1506	A223
KM32TSMSDNN12	A223
KM32TSMTFNL16	A224
KM32TSMTUNR16	A224
KM32TSMVHNL16	A225
KM32TSMVHNR16	A225
KM32TSMVJNL16	A225
KM32TSMVJNR16	A225
KM32TSMVUNL16	A226
KM32TSMVUNR16	A226
KM32TSMWLNL08	A226
KM32TSMWLNR08	A226
KM32TSNER2	A235
KM32TSNER3	A235
KM32TSNKJCL11	A232
KM32TSNKJCR11	A232
KM32TSNKUCL11	A233
KM32TSNKUCR11	A233
KM32TSNKXCL11	A233
KM32TSNSL2	A236
KM32TSNSL3	A236
KM32TSNSR2	A236
KM32TSNSR3	A236
KM32TSNVHBR11	A234
KM32TSNVJCL16	A234
KM32TSNVJCR16	A234
KM32TSNVUCL16	A235
KM32TSNVUCR16	A235
KM32TSPCLNL12	A227
KM32TSPCLNR12	A227
KM32TSPDJNL11	A227
KM32TSPDJNR11	A227
KM32TSPDQNR11	A228
KM32TSPDUNL11	A228
KM32TSPDUNR11	A228
KM32TSPWLNL06	A229
KM32TSPWLNR06	A229
KM32TSS10CLSER11	A248
KM32TSS10CSCLPL06	A244
KM32TSS10CSCLPR06	A244
KM32TSS10CSTFPL11	A246
KM32TSS10CSTFPR11	A246
KM32TSS12DLSER11	A248
KM32TSS12DNEL2	A247
KM32TSS12DNER2	A247
KM32TSS12DSCLPL06	A244
KM32TSS12DSCLPR06	A244
KM32TSS12DSDUPL07	A245
KM32TSS12DSDUPR07	A245
KM32TSS16ELSER16	A248
KM32TSS16ESCLPL09	A244
KM32TSS16ESCLPR09	A244
KM32TSS16ESDUPL07	A245
KM32TSS16ESDUPR07	A245
KM32TSS16ESTFPR11	A246
KM32TSS20FLSER16	A248
KM32TSS20FNEL2	A247
KM32TSS20FSCLPL09	A244
KM32TSS20FSCLPR09	A244
KM32TSS20FSDUPL07	A245
KM32TSS20FSDUPR07	A245
KM32TSS25EMCLNL12	A240
KM32TSS25EMCLNR12	A240
KM32TSS25EMDUNR15	A241
KM32TSS25ESCLPL09	A244
KM32TSS25ESDUPL11	A245
KM32TSS25ESDUPR11	A245
KM32TSS25GLSEL16	A248
KM32TSS25GMCLNL12	A240
KM32TSS25GMCLNR12	A240
KM32TSS25GMDUNR15	A241
KM32TSS25GPCLNL09	A242
KM32TSS25GPCLNR09	A242
KM32TSS25GPWLNL06	A243
KM32TSS25GPWLNR06	A243
KM32TSS25GSCLPR09	A244
KM32TSS32050M	A262
KM32TSS32070M	A262
KM32TSSCLCL09	A229
KM32TSSCLCL12	A229
KM32TSSCLCR09	A229
KM32TSSCLCR12	A229
KM32TSSDJCL11	A230
KM32TSSDJCR11	A230
KM32TSSDNCN11	A230
KM32TSSDQCL11	A231
KM32TSSDQCR11	A231
KM32TSSDUCL11	A231
KM32TSSDUCR11	A231
KM32TSST1040M	A259
KM32TSTGB075075M	A252
KM32TSTGB075316	A253
KM40CL2ANVDI4060	A199
KM40CL2NSBC3216B	A200
KM40CL2NSEF	A197
KM40CL2NSS24236	A197
KM40CL2NSS4060	A197
KM40CL2NTBC3216B	A200
KM40CL2NTEF	A198
KM40CL2RLVDI4040	A199
KM40CL2RLVDI5040	A199
KM40CL2RRVDI4040	A199
KM40CL2RRVDI5040	A199
KM40CL2SL1260B	A196
KM40CL2SL1660C	A196
KM40CL2SL1660D	A196
KM40CL2SL2060D	A196
KM40CL2SL2560M	A196
KM40CL2SL3260P	A196
KM40CL2SR1260B	A196
KM40CL2SR1660C	A196
KM40CL2SR1660D	A196
KM40CL2SR2060D	A196
KM40CL2SR2560M	A196
KM40CL2SR3260P	A196
KM40CLANVDI4070	A194
KM40CLAVVDI4070	A194
KM40CLNSEF	A191
KM40CLNSS32274	A191
KM40CLNSS5070	A191
KM40CLNTEF	A192
KM40CLRLVDI4040	A193
KM40CLRRVDI4040	A193
KM40ECMS32	A207
KM40ECMS50S	A207
KM40FBHO1660	A341
KM40FBHS40	A340
KM40LCMIVDI40120	A212–213
KM40LCMIVDI4060	A212–213
KM40LCMIVDI50120	A212–213
KM40LCMIVDI5060	A212–213
KM40LCMVDI3035	A210
KM40LCMVDI4040	A210
KM40LCMVDI4060	A210
KM40LCMVDI5040	A210
KM40NACADS55	A216
KM40NACADS55DT	A216
KM40NCADS40	A215
KM40NCM3228	A204
KM40NCM4028	A204
KM40NCM5044	A204
KM40NCM6444	A204
KM40NCMEF	A209
KM40NCMF	A208
KM40NCMS24	A206
KM40NCMS40S	A206
KM40NCMSS24100	A205
KM40NCMSS28100	A205
KM40NCMSS32100	A205
KM40NCMSS4025	A205
KM40NCMSS5025	A205
KM40P	L42
KM40PKG3L	A205, A209–210, A214, C41, D66, E59, E94, F38, F82, G39, G75
KM40PKG3S	A204, A206–208, A210, A212–213, A342, A428, A515, A550, A588–589, A617, A619, C72, C120, D18, D36, D51, D66, E59, E94, F38, F82, G39, G75
KM40PKGS	A634
KM40RACADS40DT	A217
KM40RALVDI4060	A202
KM40RARVDI4060	A202
KM40RARVDI5060	A202
KM40RBHT40	A339
KM40RCMIVDI3050	A212–213
KM40RCMIVDI40120	A212–213
KM40RCMIVDI4060	A212–213
KM40RCMIVDI50120	A212–213
KM40RCMIVDI5060	A212–213
KM40RCMLVDI3050	A214
KM40RCMLVDI40120	A214
KM40RCMLVDI4060	A214
KM40RCMLVDI50120	A214
KM40RCMLVDI5060	A214
KM40RCMLVDI6080	A214
KM40RCMVDI3035	A210
KM40RCMVDI4040	A210
KM40RCMVDI5040	A210
KM40RNSEF	A201
KM40RPNTF	A201
KM40RRLVDI4040	A203
KM40RRLVDI4060	A203
KM40RRRVDI4040	A203
KM40RRRVDI4060	A203
KM40RRRVDI5040	A203
KM40TF	L38
KM40TSBA06050M	A324
KM40TSBA06236	A324
KM40TSBA08050M	A324
KM40TSBA08256	A324
KM40TSBA10060M	A324
KM40TSBA10276	A324
KM40TSBA12065M	A324
KM40TSBA12295	A324
KM40TSBA16070M	A324
KM40TSBA16295	A324
KM40TSBA20075M	A324
KM40TSBA25075M	A324
KM40TSBAI20315	A325
KM40TSBAI24354	A325
KM40TSBAI32080M	A325
KM40TSBAI40090M	A325
KM40TSBEL	A312
KM40TSBER	A312
KM40TSBN63052M	A343
KM40TSBN63125M	A343
KM40TSBN90052M	A343
KM40TSCS16036M	A337
KM40TSCS22038M	A337
KM40TSDA188065M	A332
KM40TSDA188080M	A332
KM40TSDA188256	A332–333
KM40TSDA188315	A332–333
KM40TSDA208236	A332–333
KM40TSDCLNL12KC04	A265
KM40TSDCLNL16KC06	A265
KM40TSDCLNR12KC04	A265
KM40TSDCLNR16KC06	A265
KM40TSDCRNL12KC04	A266
KM40TSDCRNR12KC04	A266
KM40TSDDJNL15KC04	A267
KM40TSDDJNL15KC06	A267
KM40TSDDJNR15KC04	A267
KM40TSDDJNR15KC06	A267
KM40TSDDQNL15KC04	A268
KM40TSDDQNL15KC06	A268
KM40TSDDQNR15KC04	A268
KM40TSDDQNR15KC06	A268
KM40TSDDUNL15KC04	A269
KM40TSDDUNL15KC06	A269
KM40TSDDUNR15KC04	A269
KM40TSDDUNR15KC06	A269
KM40TSDSDNN12KC04	A270
KM40TSDSKNL12KC04	A271
KM40TSDSKNR12KC04	A271
KM40TSDSRNL12KC04	A272
KM40TSDSRNR12KC04	A272
KM40TSDSSNL12KC04	A273
KM40TSDSSNR12KC04	A273
KM40TSDTFNL22KC04050M	A274
KM40TSDTFNR22KC04050M	A274
KM40TSDTGNL22KC04	A275
KM40TSDTGNR22KC04	A275
KM40TSDTJNL22KC04	A276
KM40TSDTJNR22KC04	A276
KM40TSDWLNL08KC04	A277
KM40TSDWLNR08KC04	A277
KM40TSE16JNEL2 KWH	A322
KM40TSE16JNER2 KWH	A322
KM40TSEM038197	A335

Catalog No.	Page(s)
KM40TSEM050216	A335
KM40TSEM06045M	A335
KM40TSEM062236	A335
KM40TSEM075256	A335
KM40TSEM08045M	A335
KM40TSEM10050M	A335
KM40TSEM12055M	A335
KM40TSEM16060M	A335
KM40TSEM20065M	A335
KM40TSER16038M	A330
KM40TSER25045M	A331
KM40TSER32060M	A331
KM40TSGB40080M	A343
KM40TSHC050300	A326
KM40TSHC06065M	A326
KM40TSHC08065M	A326
KM40TSHC10070M	A326
KM40TSHC12075M	A326
KM40TSKGMEL50	A311
KM40TSKGMER50	A311
KM40TSKGMSL50	A311
KM40TSKGMSR50	A311
KM40TSLSEL16N	A309
KM40TSLSEL22N	A309
KM40TSLSEL27N	A309
KM40TSLSER16N	A309
KM40TSLSER22N	A309
KM40TSLSER27N	A309
KM40TSLSSL16	A310
KM40TSLSSL22	A310
KM40TSLSSL27	A310
KM40TSLSSR16	A310
KM40TSLSSR22	A310
KM40TSLSSR27	A310
KM40TSMCKNL12	A278
KM40TSMCKNR12	A278
KM40TSMCLNL12	A278
KM40TSMCLNL16	A278
KM40TSMCLNR12	A278
KM40TSMCLNR16	A278
KM40TSMCRNL12	A279
KM40TSMCRNR12	A279
KM40TSMDJNL1504	A279
KM40TSMDJNL1506	A279
KM40TSMDJNR1504	A279
KM40TSMDJNR1506	A279
KM40TSMDPNN1504	A280
KM40TSMDPNN1506	A280
KM40TSMDQNL1504	A280
KM40TSMDQNL1506	A280
KM40TSMDQNR1504	A280
KM40TSMDQNR1506	A280
KM40TSMDUNL1504	A281
KM40TSMDUNL1506	A281
KM40TSMDUNR1504	A281
KM40TSMDUNR1506	A281
KM40TSMRGNL12	A281
KM40TSMRGNR12	A281
KM40TSMSDNN12	A282
KM40TSMSKNL12	A282
KM40TSMSKNR12	A282
KM40TSMSRNL12	A283
KM40TSMSRNR12	A283
KM40TSMSRNR15	A283
KM40TSMSSNL12	A283
KM40TSMSSNR12	A283
KM40TSMT1090M	A338
KM40TSMT2105M	A338
KM40TSMT3125M	A338
KM40TSMTFNL16	A284
KM40TSMTFNR16	A284
KM40TSMTGNL22	A284
KM40TSMTGNR22	A284
KM40TSMTJNL16	A285
KM40TSMTJNL22	A285
KM40TSMTJNR16	A285
KM40TSMTJNR22	A285
KM40TSMTUNL16	A285
KM40TSMTUNL22	A285
KM40TSMTUNR16	A285
KM40TSMVHNL16050M	A286
KM40TSMVHNR16050M	A286
KM40TSMVJNL16045M	A286
KM40TSMVJNR16045M	A286
KM40TSMVUNL16045M	A287
KM40TSMVUNR16045M	A287
KM40TSMVVNN16050M	A287
KM40TSMWLNL08	A288
KM40TSMWLNR08	A288
KM40TSNEL2	A307
KM40TSNEL3	A307
KM40TSNEL4	A307
KM40TSNER2	A307
KM40TSNER3	A307
KM40TSNER4	A307
KM40TSNRL3045M	A308
KM40TSNRR3045M	A308
KM40TSNSL2	A308
KM40TSNSL3	A308
KM40TSNSL4	A308
KM40TSNSR2	A308
KM40TSNSR3	A308
KM40TSNSR4	A308
KM40TSNVHCL16050M	A303
KM40TSNVHCR16050M	A303
KM40TSNVJBL11	A303
KM40TSNVJBR11	A303
KM40TSNVJCL16050M	A304
KM40TSNVJCR16050M	A304
KM40TSNVQCL16	A304
KM40TSNVQCR16	A304
KM40TSNVUBL11	A305
KM40TSNVUBR11	A305
KM40TSNVUCL16	A305
KM40TSNVUCR16	A305
KM40TSNVVBN11045M	A306
KM40TSPCKNL12	A288
KM40TSPCKNR12	A288
KM40TSPCLNL09	A289
KM40TSPCLNL12	A289
KM40TSPCLNL122W	A289
KM40TSPCLNR09	A289
KM40TSPCLNR12	A289
KM40TSPCLNR122W	A289
KM40TSPDJNL11	A290
KM40TSPDJNL15	A290
KM40TSPDJNR11	A290
KM40TSPDJNR15	A290
KM40TSPDNNL15	A290
KM40TSPDNNR15	A290
KM40TSPDQNL11	A291
KM40TSPDQNR11	A291
KM40TSPDUNL11	A291
KM40TSPDUNL15	A291
KM40TSPDUNR11	A291
KM40TSPDUNR15	A291
KM40TSPDXNL15	A292
KM40TSPDXNR15	A292
KM40TSPSDNN09	A292
KM40TSPSDNN12	A292
KM40TSPSKNL12	A293
KM40TSPSKNR12	A293
KM40TSPSRNL12	A293
KM40TSPSRNR12	A293
KM40TSPSSNR12	A294
KM40TSPTFNL16	A294
KM40TSPTFNR16	A294
KM40TSPTJNL16	A295
KM40TSPTJNR16	A295
KM40TSPWLNL06	A295
KM40TSPWLNL08	A295
KM40TSPWLNR06	A295
KM40TSPWLNR08	A295
KM40TSRDC13092M	A333
KM40TSS10DLSEL11	A323
KM40TSS10DLSER11	A323
KM40TSS12ELSEL11	A323
KM40TSS12ELSER11	A323
KM40TSS12ENEL2	A320–321
KM40TSS12ENER2	A320–321
KM40TSS16FLSEL16	A323
KM40TSS16FLSER16	A323
KM40TSS16FNEL2	A320–321
KM40TSS16FNER2	A320–321
KM40TSS20GLSEL16	A323
KM40TSS20GLSER16	A323
KM40TSS20GNEL2	A320–321
KM40TSS20GNER2	A320–321
KM40TSS25EMCLNL12	A314
KM40TSS25EMCLNR12	A314
KM40TSS25EMDUNL15	A315
KM40TSS25EMDUNR15	A315
KM40TSS25ENEL2	A320–321
KM40TSS25ENEL3	A320–321
KM40TSS25ENER2	A320–321
KM40TSS25ENER3	A320–321
KM40TSS25EPWLNL08	A319
KM40TSS25EPWLNR08	A319
KM40TSS25GPCLNL12	A317
KM40TSS25GPCLNR12	A317
KM40TSS25GPDUNL11	A318
KM40TSS25GPDUNR11	A318
KM40TSS25GPWLNL06	A319
KM40TSS25GPWLNL08	A319
KM40TSS25GPWLNR06	A319
KM40TSS25GPWLNR08	A319
KM40TSS25HLSEL16	A323
KM40TSS25HLSER16	A323
KM40TSS25HMCLNL12	A314
KM40TSS25HMCLNR12	A314
KM40TSS25HMDUNL15	A315
KM40TSS25HMDUNR15	A315
KM40TSS25HMWLNL08	A316
KM40TSS25HMWLNR08	A316
KM40TSS25HNEL2	A320–321
KM40TSS25HNEL3	A320–321
KM40TSS25HNER2	A320–321
KM40TSS25HNER3	A320–321
KM40TSS25HPCLNL12	A317
KM40TSS25HPCLNR12	A317
KM40TSS25HPWLNL08	A319
KM40TSS25HPWLNR08	A319
KM40TSS32070M	A342
KM40TSS32GMCLNL12	A314
KM40TSS32GMCLNR12	A314
KM40TSS32GMDUNL15	A315
KM40TSS32GMDUNR15	A315
KM40TSS32GNEL3	A320–321
KM40TSS32GNER3	A320–321
KM40TSS32GPCLNL12	A317
KM40TSS32GPCLNR12	A317
KM40TSS32JLSEL16	A323
KM40TSS32JLSEL22	A323
KM40TSS32JLSER16	A323
KM40TSS32JLSER22	A323
KM40TSS32JMCLNL12	A314
KM40TSS32JMCLNR12	A314
KM40TSS32JMDUNL15	A315
KM40TSS32JMDUNR15	A315
KM40TSS32JMWLNL08	A316
KM40TSS32JMWLNR08	A316
KM40TSS32JNEL3	A320–321
KM40TSS32JNER3	A320–321
KM40TSS40060M	A342
KM40TSS40080M	A342
KM40TSSCLCL12	A297
KM40TSSCLCR12	A297
KM40TSSDJCL11	A297
KM40TSSDJCL15	A297
KM40TSSDJCR11	A297
KM40TSSDJCR15	A297
KM40TSSDNCN15045M	A298
KM40TSSDQCL11	A298
KM40TSSDQCL15	A298
KM40TSSDQCR11	A298
KM40TSSDQCR15	A298
KM40TSSDUCL11	A299
KM40TSSDUCR11	A299
KM40TSSM2C075102	A336
KM40TSSM2C100126	A336
KM40TSSMC050102	A336
KM40TSSMC075102	A336
KM40TSSMC100126	A336
KM40TSSMC16026M	A336
KM40TSSMC22028M	A336
KM40TSSMC27032M	A336
KM40TSSRDCN06	A299
KM40TSSRDCN08	A299
KM40TSSRDCN10	A299
KM40TSSRGCL10	A300
KM40TSSRGCL12	A300
KM40TSSRGCR10	A300
KM40TSSRGCR12	A300
KM40TSSSDCN12	A300
KM40TSSSSCL12	A301
KM40TSSSSCR12	A301
KM40TSST1045M	A338
KM40TSST2070M	A338
KM40TSSTFCL16	A301
KM40TSSTFCR16	A301
KM40TSSTGCL16	A302
KM40TSSTGCR16	A302
KM40TSSVJBL16	A302
KM40TSSVJBR16	A302
KM40TSTG075075M	A328
KM40TSTG075316	A329
KM40TSTG100100M	A328
KM40TSTG100417	A329
KM40TSWN06065M	A334
KM40TSWN08065M	A334
KM40TSWN10070M	A334
KM40TSWN12080M	A334
KM40TSWN14080M	A334
KM40TSWN16085M	A334
KM40TSWN18085M	A334
KM40TSWN20095M	A334
KM40TSWTJNL16	A296
KM40TSWTJNR16	A296
KM4X100BN080150M	A635
KM4X100BN110150M	A635
KM4X100BN130200M	A635
KM4X100EM025300	A630
KM4X100EM038300	A630
KM4X100EM050325	A630
KM4X100EM06080M	A630
KM4X100EM062375	A630
KM4X100EM075375	A630
KM4X100EM08080M	A630
KM4X100EM100425	A630
KM4X100EM10080M	A630
KM4X100EM12080M	A630
KM4X100EM125425	A630
KM4X100EM14080M	A630
KM4X100EM150450	A630
KM4X100EM16100M	A630
KM4X100EM18100M	A630
KM4X100EM200550	A630
KM4X100EM20100M	A630
KM4X100EM250575	A630
KM4X100EM25100M	A630
KM4X100EM32100M	A630
KM4X100EM40120M	A630
KM4X100EM50130M	A630
KM4X100ER16100M	A627
KM4X100ER16160M	A627
KM4X100ER20100M	A627
KM4X100ER25100M	A627
KM4X100ER32100M	A627
KM4X100ER32160M	A627
KM4X100ER40120M	A627
KM4X100GB40349M	A635
KM4X100HPVTT025335	A623
KM4X100HPVTT025630	A623
KM4X100HPVTT031335	A623
KM4X100HPVTT031630	A623
KM4X100HPVTT038354	A623
KM4X100HPVTT038630	A623
KM4X100HPVTT050374	A623
KM4X100HPVTT050630	A623
KM4X100HPVTT06085M	A622
KM4X100HPVTT06160M	A622
KM4X100HPVTT062394	A623
KM4X100HPVTT062630	A623
KM4X100HPVTT075413	A623
KM4X100HPVTT075630	A623
KM4X100HPVTT08085M	A622
KM4X100HPVTT08160M	A622
KM4X100HPVTT088413	A623

Catalog No.	Page(s)
KM4X100HPVTT088630	A623
KM4X100HPVTT100453	A623
KM4X100HPVTT100630	A623
KM4X100HPVTT10090M	A622
KM4X100HPVTT10160M	A622
KM4X100HPVTT12095M	A622
KM4X100HPVTT12160M	A622
KM4X100HPVTT125472	A623
KM4X100HPVTT125630	A623
KM4X100HPVTT14095M	A622
KM4X100HPVTT14160M	A622
KM4X100HPVTT150531	A623
KM4X100HPVTT16100M	A622
KM4X100HPVTT16160M	A622
KM4X100HPVTT18100M	A622
KM4X100HPVTT18160M	A622
KM4X100HPVTT20105M	A622
KM4X100HPVTT20160M	A622
KM4X100HPVTT25115M	A622
KM4X100HPVTT25160M	A622
KM4X100HPVTT32120M	A622
KM4X100HPVTT32160M	A622
KM4X100HPVTTHT050374	A625
KM4X100HPVTTHT050630	A625
KM4X100HPVTTHT062394	A625
KM4X100HPVTTHT062630	A625
KM4X100HPVTTHT075413	A625
KM4X100HPVTTHT075630	A625
KM4X100HPVTTHT088413	A625
KM4X100HPVTTHT088630	A625
KM4X100HPVTTHT100453	A625
KM4X100HPVTTHT100630	A625
KM4X100HPVTTHT12095M	A624
KM4X100HPVTTHT125472	A625
KM4X100HPVTTHT125630	A625
KM4X100HPVTTHT14095M	A624
KM4X100HPVTTHT150531	A625
KM4X100HPVTTHT16100M	A624
KM4X100HPVTTHT18100M	A624
KM4X100HPVTTHT20105M	A624
KM4X100HPVTTHT25115M	A624
KM4X100HPVTTHT32120M	A624
KM4X100HTS40085M	A629
KM4X100HTS50090M	A629
KM4X100KM32075M	A634
KM4X100KM40080M	A634
KM4X100KM40100M	A634
KM4X100KM40150M	A634
KM4X100KM50100M	A634
KM4X100KM50150M	A634
KM4X100KM50200M	A634
KM4X100KM63100M	A634
KM4X100KM63150M	A634
KM4X100KM63200M	A634
KM4X100KM80100M	A634
KM4X100KM80150M	A634
KM4X100KM80200M	A634
KM4X100SM2C075400	A633
KM4X100SM2C075600	A633
KM4X100SM2C100400	A633
KM4X100SM2C100600	A633
KM4X100SMC075400	A633
KM4X100SMC075600	A633
KM4X100SMC100400	A633
KM4X100SMC100600	A633
KM4X100SMC125400	A633
KM4X100SMC125600	A633
KM4X100SMC150400	A633
KM4X100SMC150600	A633
KM4X100SMC200400	A633
KM4X100SMC200600	A633
KM4X100SMC22050M	A632
KM4X100SMC22100M	A632
KM4X100SMC22160M	A632
KM4X100SMC250400	A633
KM4X100SMC250600	A633
KM4X100SMC27050M	A632
KM4X100SMC27100M	A632
KM4X100SMC27160M	A632
KM4X100SMC32050M	A632
KM4X100SMC32100M	A632
KM4X100SMC32160M	A632
KM4X100SMC40060M	A632
KM4X100SMC40100M	A632
KM4X100SMC40160M	A632
KM4X100SMC50070M	A632
KM4X100SMC50100M	A632
KM4X100SMC50160M	A632
KM4X100SMC60070M	A632
KM4X100SMC60100M	A632
KM4X100SMC60160M	A632
KM4X100TDSMC0751050	A631
KM4X100TDSMC1001250	A631
KM4X100TDSMC1251300	A631
KM4X100TDSMC22260M	A631
KM4X100TDSMC27320M	A631
KM4X100TDSMC32330M	A631
KM4X100TG050105M	A626
KM4X100TG050160M	A626
KM4X100TG075120M	A626
KM4X100TG100140M	A626
KM4X100TG150165M	A626
KM4X100WN06090M	A628
KM4X100WN08090M	A628
KM4X100WN10090M	A628
KM4X100WN12100M	A628
KM4X100WN14100M	A628
KM4X100WN16100M	A628
KM4X100WN18100M	A628
KM4X100WN20110M	A628
KM4X100WN25120M	A628
KM4X100WN32120M	A628
KM50CL2NSBC4010B	A200
KM50CL2NSEF	A197
KM50CL2NSS32295	A197
KM50CL2NSS5075	A197
KM50CL2NTBC4010B	A200
KM50CL2NTEF	A198
KM50CL2SL1675D	A196
KM50CL2SL2075D	A196
KM50CL2SL2575M	A196
KM50CL2SL3275P	A196
KM50CL2SR1675D	A196
KM50CL2SR2075D	A196
KM50CL2SR2575M	A196
KM50CL2SR3275P	A196
KM50CLANVDI5080	A194
KM50CLAVVDI5080	A194
KM50CLNSEF	A191
KM50CLNSS40316	A191
KM50CLNSS5080	A191
KM50CLNTEF	A192
KM50CLRLVDI5050	A193
KM50CLRRVDI5050	A193
KM50ECMS40	A207
KM50ECMS60U	A207
KM50FBHO1670	A426
KM50FBHS51	A425
KM50FBHS67	A425
KM50FBHS87	A425
KM50LCMIVDI40140	A212–213
KM50LCMIVDI4070	A212–213
KM50LCMIVDI5070	A212–213
KM50LCMVDI4050	A210
KM50LCMVDI5050	A210
KM50NACADS70DT	A216
KM50NCADS50	A215
KM50NCM4034	A204
KM50NCM6454	A204
KM50NCMEF	A209
KM50NCMF	A208
KM50NCMS32	A206
KM50NCMS50T	A206
KM50NCMSS32125	A205
KM50NCMSS40125	A205
KM50NCMSS5032	A205
KM50NCMSS6032	A205
KM50P	L42
KM50PKG3L	A205, A209, A214, A515, A588, C41, D66, E94, F82
KM50PKG3S	A204, A206–208, A210, A212–213, A427, A515, A550, A588–589, A617, A619, C72, C120, D18, D36, D51, D66, E59, E94, F38, F82, G39, G75
KM50PKGS	A634
KM50RALVDI4070 W	A202
KM50RARVDI4070	A202
KM50RBHT50	A424
KM50RBHT66	A424
KM50RBHT87	A424
KM50RCMIVDI40140	A212–213
KM50RCMIVDI4070	A212–213
KM50RCMIVDI50140	A212–213
KM50RCMIVDI5070	A212–213
KM50RCMLVDI40120	A214
KM50RCMLVDI4060	A214
KM50RCMLVDI50140	A214
KM50RCMLVDI5070	A214
KM50RCMVDI4050	A210
KM50RCMVDI5050	A210
KM50RNSEF	A201
KM50RPNTF	A201
KM50RRRVDI5050	A203
KM50TF	L38
KM50TSBA06045M	A409
KM50TSBA06217	A409
KM50TSBA08045M	A409
KM50TSBA08236	A409
KM50TSBA10055M	A409
KM50TSBA10256	A409
KM50TSBA12060M	A409
KM50TSBA12276	A409
KM50TSBA16065M	A409
KM50TSBA16276	A409
KM50TSBA20070M	A409
KM50TSBA25070M	A409
KM50TSBAI20315	A410
KM50TSBAI24354	A410
KM50TSBAI32080M	A410
KM50TSBAI40090M	A410
KM50TSBEL	A391
KM50TSBER	A391
KM50TSBN105062M	A428
KM50TSBN73135M	A428
KM50TSBN75062M	A428
KM50TSCCLNL12	A378
KM50TSCCLNL12MX7	A379
KM50TSCCLNR12	A378
KM50TSCCLNR12MX7	A379
KM50TSCDQNL12MX7	A379
KM50TSCDQNR12MX7	A379
KM50TSCRGNL12	A378
KM50TSCRGNR12	A378
KM50TSCS22040M	A421
KM50TSCS27042M	A421
KM50TSCS32050M	A421
KM50TSCSDNN12MX7	A380
KM50TSCSKNL12MX7	A380
KM50TSCSKNR12MX7	A380
KM50TSCSSNL12MX7	A381
KM50TSCSSNR12MX7	A381
KM50TSCSXNL12MX7	A381
KM50TSCSXNR12MX7	A381
KM50TSCSYNL12MX7	A382
KM50TSCSYNR12MX7	A382
KM50TSDA188075M	A416–417
KM50TSDA208060M	A416–417
KM50TSDCLNL12KC04	A345
KM50TSDCLNL16KC06	A345
KM50TSDCLNR12KC04	A345
KM50TSDCLNR16KC06	A345
KM50TSDCRNL12KC04	A346
KM50TSDCRNR12KC04	A346
KM50TSDDJNL15KC04060M	A347
KM50TSDDJNL15KC06060M	A347
KM50TSDDJNR15KC04060M	A347
KM50TSDDJNR15KC06060M	A347
KM50TSDDQNL15KC04	A348
KM50TSDDQNL15KC06	A348
KM50TSDDQNR15KC04	A348
KM50TSDDQNR15KC06	A348
KM50TSDDUNL15KC04	A349
KM50TSDDUNL15KC06	A349
KM50TSDDUNR15KC04	A349
KM50TSDDUNR15KC06	A349
KM50TSDSDNN12KC04	A350
KM50TSDSKNL12KC04	A351
KM50TSDSKNR12KC04	A351
KM50TSDSRNL12KC04	A352
KM50TSDSRNR12KC04	A352
KM50TSDSSNL12KC04	A353
KM50TSDSSNR12KC04	A353
KM50TSDTFNL22KC04055M	A354
KM50TSDTFNR22KC04055M	A354
KM50TSDTGNL22KC04	A355
KM50TSDTGNR22KC04	A355
KM50TSDTJNL22KC04	A356
KM50TSDTJNR22KC04	A356
KM50TSDWLNL08KC04	A357
KM50TSDWLNR08KC04	A357
KM50TSE10FSCLPL06	A400
KM50TSE10FSCLPR06	A400
KM50TSE12GSCLPL06	A400
KM50TSE12GSCLPR06	A400
KM50TSE12GSTFPL11	A402
KM50TSE12GSTFPR11	A402
KM50TSE16JSCLPL09	A400
KM50TSE16JSCLPR09	A400
KM50TSE16JSDUPL07	A401
KM50TSE16JSDUPR07	A401
KM50TSE16JSTFPL11	A402
KM50TSE16JSTFPR11	A402
KM50TSE20LSCLPL09	A400
KM50TSE20LSCLPR09	A400
KM50TSE20LSDUPL11	A401
KM50TSE20LSDUPR11	A401
KM50TSEM038197	A419
KM50TSEM050216	A419
KM50TSEM062236	A419
KM50TSEM075236	A419
KM50TSEM100335	A419
KM50TSEM10050M	A419
KM50TSEM12055M	A419
KM50TSEM125335	A419
KM50TSEM16060M	A419
KM50TSEM20060M	A419
KM50TSEM25080M	A419
KM50TSEM32085M	A419
KM50TSER25050M	A414
KM50TSER32060M	A414
KM50TSER40070M	A414
KM50TSFBHM1677	A424
KM50TSGB50100M	A426
KM50TSHC06065M	A411
KM50TSHC08065M	A411
KM50TSHC10070M	A411
KM50TSHC12075M	A411
KM50TSHC14075M	A411
KM50TSHC16080M	A411
KM50TSHC18080M	A411
KM50TSHC20085M	A411
KM50TSKGMEL50	A389
KM50TSKGMEL65	A389
KM50TSKGMER50	A389
KM50TSKGMER65	A389
KM50TSKGMSL50	A390
KM50TSKGMSL65	A390
KM50TSKGMSR50	A390
KM50TSKGMSR65	A390
KM50TSLSEL16E	A386
KM50TSLSEL16N	A387
KM50TSLSEL22N	A387
KM50TSLSEL27E	A386
KM50TSLSEL27N	A387
KM50TSLSER16E	A386
KM50TSLSER16N	A387
KM50TSLSER22N	A387
KM50TSLSER27E	A386
KM50TSLSER27N	A387
KM50TSLSSL16	A388
KM50TSLSSL27	A388
KM50TSLSSR16	A388
KM50TSLSSR22	A388
KM50TSLSSR27	A388
KM50TSMCKNL12	A358
KM50TSMCKNL16	A358
KM50TSMCKNR12	A358
KM50TSMCKNR16	A358

Catalog No.	Page(s)
KM50TSMCLNL12	A358
KM50TSMCLNL12BB	A359
KM50TSMCLNL16	A358
KM50TSMCLNL19	A358
KM50TSMCLNR12	A358
KM50TSMCLNR12BB	A359
KM50TSMCLNR16	A358
KM50TSMCLNR19	A358
KM50TSMCMNN12	A368
KM50TSMCRNL12	A360
KM50TSMCRNL16	A360
KM50TSMCRNL19	A360
KM50TSMCRNR12	A360
KM50TSMCRNR16	A360
KM50TSMCRNR19	A360
KM50TSMDJNL1504	A360
KM50TSMDJNL1506	A360
KM50TSMDJNR1504	A360
KM50TSMDJNR1506	A360
KM50TSMDJNR1906	A360
KM50TSMDMNL1504	A369
KM50TSMDMNL1506	A369
KM50TSMDPNN1504	A361
KM50TSMDPNN1506	A361
KM50TSMDQNL1504	A361
KM50TSMDQNL1506	A361
KM50TSMDQNR1504	A361
KM50TSMDQNR1506	A361
KM50TSMDUNL1504	A362
KM50TSMDUNL1506	A362
KM50TSMDUNR1504	A362
KM50TSMDUNR1506	A362
KM50TSMRGNL12	A362
KM50TSMRGNR12	A362
KM50TSMSDNN12	A363
KM50TSMSKNL12	A363
KM50TSMSKNL15	A363
KM50TSMSKNL19	A363
KM50TSMSKNR12	A363
KM50TSMSKNR15	A363
KM50TSMSKNR19	A363
KM50TSMSRNL12	A364
KM50TSMSRNL15	A364
KM50TSMSRNL19	A364
KM50TSMSRNR12	A364
KM50TSMSRNR15	A364
KM50TSMSRNR19	A364
KM50TSMSSNL12	A364
KM50TSMSSNL15	A364
KM50TSMSSNL19	A364
KM50TSMSSNR12	A364
KM50TSMSSNR15	A364
KM50TSMSSNR19	A364
KM50TSMT1095M	A427
KM50TSMT2110M	A427
KM50TSMT3130M	A427
KM50TSMT4150M	A427
KM50TSMTFNL16	A365
KM50TSMTFNL22	A365
KM50TSMTFNR16	A365
KM50TSMTFNR22	A365
KM50TSMTJNL16	A365
KM50TSMTJNR16	A365
KM50TSMTUNL16	A366
KM50TSMVHNL16	A366
KM50TSMVHNR16	A366
KM50TSMVJNL16	A367
KM50TSMVJNR16	A367
KM50TSMVMNL16	A369
KM50TSMVUNL16	A367
KM50TSMVUNR16	A367
KM50TSMWLNL08	A368
KM50TSMWLNR08	A368
KM50TSMWMNL08	A370
KM50TSMWMNR08	A370
KM50TSNEL3	A385
KM50TSNEL4	A385
KM50TSNER3	A385
KM50TSNER4	A385
KM50TSNRL3	A385
KM50TSNRR3	A385
KM50TSNSL3	A386
KM50TSNSL4	A386
KM50TSNSR3	A386
KM50TSNSR4	A386
KM50TSNVHCL16	A383
KM50TSNVHCR16	A383
KM50TSNVJCL16	A383
KM50TSNVJCR16	A383
KM50TSNVQCL16	A384
KM50TSNVQCR16	A384
KM50TSNVUCL16	A384
KM50TSNVUCR16	A384
KM50TSPCKNL12	A370
KM50TSPCKNR12	A370
KM50TSPCLNL12	A371
KM50TSPCLNL16	A371
KM50TSPCLNR12	A371
KM50TSPCLNR16	A371
KM50TSPDJNL11	A371
KM50TSPDJNL15	A371
KM50TSPDJNR11	A371
KM50TSPDJNR15	A371
KM50TSPDNNL15	A372
KM50TSPDNNR15	A372
KM50TSPDQNL11	A372
KM50TSPDQNR11	A372
KM50TSPDUNL15	A373
KM50TSPDUNR15	A373
KM50TSPDXNL15	A373
KM50TSPDXNR15	A373
KM50TSPSDNN12	A374
KM50TSPSDNN15	A374
KM50TSPSKNL12	A374
KM50TSPSKNL15	A374
KM50TSPSKNR12	A374
KM50TSPSKNR15	A374
KM50TSPSRNL12	A375
KM50TSPSRNL15	A375
KM50TSPSRNR12	A375
KM50TSPSRNR15	A375
KM50TSPSSNL12	A375
KM50TSPSSNR12	A375
KM50TSPWLNL08	A376
KM50TSPWLNR08	A376
KM50TSRDC16106M	A418
KM50TSS12ENEL2	A406–407
KM50TSS12ENER2	A406–407
KM50TSS16FNEL2	A406–407
KM50TSS16FNER2	A406–407
KM50TSS20HLSEL16	A408
KM50TSS20HLSER16	A408
KM50TSS20HNEL2	A406–407
KM50TSS20HNER2	A406–407
KM50TSS25DMCLNL12	A392–393
KM50TSS25DMCLNR12	A392–393
KM50TSS25DMDUNL15	A394–395
KM50TSS25DMDUNR15	A394–395
KM50TSS25EMCLNL12	A392–393
KM50TSS25EMCLNR12	A392–393
KM50TSS25EMDUNL15	A394–395
KM50TSS25GPCLNL12	A397
KM50TSS25JLSEL16	A408
KM50TSS25JLSER16	A408
KM50TSS25JMCLNL12	A392–393
KM50TSS25JMCLNR12	A392–393
KM50TSS25JMDUNL15	A394–395
KM50TSS25JMDUNR15	A394–395
KM50TSS25JMWLNL08	A396
KM50TSS25JMWLNR08	A396
KM50TSS25JNEL3	A406–407
KM50TSS25JNER3	A406–407
KM50TSS25JPCLNL12	A397
KM50TSS25JPCLNR12	A397
KM50TSS32070M	A428
KM50TSS32FMCLNL12	A392–393
KM50TSS32FMCLNR12	A392–393
KM50TSS32FMDUNL15	A394–395
KM50TSS32FMDUNR15	A394–395
KM50TSS32GMCLNL12	A392–393
KM50TSS32GMCLNR12	A392–393
KM50TSS32GMDUNL15	A394–395
KM50TSS32GMDUNR15	A394–395
KM50TSS32GNEL3	A406–407
KM50TSS32GNER3	A406–407
KM50TSS32GSCLCL12	A399
KM50TSS32KLSEL16	A408
KM50TSS32KLSER16	A408
KM50TSS32KMCLNL12	A392–393
KM50TSS32KMCLNR12	A392–393
KM50TSS32KMDUNL15	A394–395
KM50TSS32KMDUNR15	A394–395
KM50TSS32KMWLNR08	A396
KM50TSS32KNEL3	A406–407
KM50TSS32KNER3	A406–407
KM50TSS32KPCLNL12	A397
KM50TSS32KPCLNR12	A397
KM50TSS40080M	A428
KM50TSS40HMCLNL12	A392–393
KM50TSS40HMCLNR12	A392–393
KM50TSS40HMDUNL15	A394–395
KM50TSS40HMDUNR15	A394–395
KM50TSS40JMCLNL12	A392–393
KM50TSS40JMCLNR12	A392–393
KM50TSS40JMDUNL15	A394–395
KM50TSS40JMDUNR15	A394–395
KM50TSS40JNEL4	A406–407
KM50TSS40JNER4	A406–407
KM50TSS40LLSEL16	A408
KM50TSS40LLSEL22	A408
KM50TSS40LLSER16	A408
KM50TSS40LLSER22	A408
KM50TSS40LMCLNL12	A392–393
KM50TSS40LMCLNL16	A392–393
KM50TSS40LMCLNR12	A392–393
KM50TSS40LMCLNR16	A392–393
KM50TSS40LMDUNL15	A394–395
KM50TSS40LMDUNR15	A394–395
KM50TSS40LMWLNL08	A396
KM50TSS40LMWLNR08	A396
KM50TSS40LNEL3	A406–407
KM50TSS40LNEL4	A406–407
KM50TSS40LNER3	A406–407
KM50TSS40LNER4	A406–407
KM50TSS40LNKXNL15	A403
KM50TSS40LNKXNR15	A403
KM50TSS40LNVUCL16	A404
KM50TSS40LNVUCR16	A404
KM50TSS40LPWLNL08	A398
KM50TSS40LPWLNR08	A398
KM50TSS50070M	A427
KM50TSS50100M	A427
KM50TSS50LMCLNL12	A392–393
KM50TSS50LMCLNR12	A392–393
KM50TSSCLCL12	A376
KM50TSSCLCR12	A376
KM50TSSM2C075102	A420–421
KM50TSSM2C100126	A420–421
KM50TSSMC050102	A420
KM50TSSMC075102	A420
KM50TSSMC100126	A420
KM50TSSMC125157	A420
KM50TSSMC22028M	A420
KM50TSSMC27032M	A420
KM50TSSMC32040M	A420
KM50TSSRGCL12	A377
KM50TSSRGCR12	A377
KM50TSST1050M	A423
KM50TSST2075M	A423
KM50TSSTC06059M	A422
KM50TSSTC06084M	A422
KM50TSSTC06109M	A422
KM50TSSTC08059M	A422
KM50TSSTC08084M	A422
KM50TSSTC08109M	A422
KM50TSSTC08134M	A422
KM50TSSTC10059M	A422
KM50TSSTC10084M	A422
KM50TSSTC10109M	A422
KM50TSSTC10134M	A422
KM50TSSTC12059M	A422
KM50TSSTC12084M	A422
KM50TSSTC12109M	A422
KM50TSSTC12134M	A422
KM50TSSVJBL16	A377
KM50TSSVJBR16	A377
KM50TSTG075080M	A412
KM50TSTG075336	A413
KM50TSTG100110M	A412
KM50TSTG100457	A413
KM50TSWN06065M	A418
KM50TSWN08065M	A418
KM50TSWN10070M	A418
KM50TSWN12080M	A418
KM50TSWN14080M	A418
KM50TSWN16085M	A418
KM50TSWN18085M	A418
KM50TSWN20095M	A418
KM50TSWN25100M	A418
KM50TSWN32105M	A418
KM63CL2NSBC5010B	A200
KM63CL2NSEF	A197
KM63CL2NSS40335	A197
KM63CL2NSS6085	A197
KM63CL2NTBC5010B	A200
KM63CL2NTEF	A198
KM63CL2SL2090E	A196
KM63CL2SL3290P	A196
KM63CL2SR2090E	A196
KM63CL2SR3290P	A196
KM63CLANVDI60160	A194
KM63CLANVDI6090	A194
KM63CLAVVDI60160	A194
KM63CLAVVDI6090	A194
KM63CLNSS40630	A191
KM63CLNSS48630	A191
KM63CLNSS60160	A191
KM63CLNSS6090	A191
KM63CLRLVDI6060	A193
KM63CLRRVDI6060	A193
KM63ECMS48	A207
KM63ECMS80W	A207
KM63LCMIVDI50160	A212–213
KM63LCMIVDI5080	A212–213
KM63LCMIVDI60160	A212–213
KM63LCMIVDI6080	A212–213
KM63LCMVDI6060	A210
KM63NACADS85DT	A216
KM63NCMEF	A209
KM63NCMF	A208
KM63NCMS40	A206
KM63NCMS60U	A206
KM63NCMSS40162	A205
KM63PKG3L	A205, A209, A214, C41, D66, E94, F82
KM63PKG3S	A206–208, A210, A212–213, A514, A550, A588, A617–619, C72, C120, D36, D66, E94, F82, G75
KM63PKGS	A634
KM63RACADS60DT	A217
KM63RARVDI5080	A202
KM63RCMIVDI50160	A212–213
KM63RCMIVDI5080	A212–213
KM63RCMIVDI60160	A212–213
KM63RCMIVDI6080	A212–213
KM63RCMLVDI60160	A214
KM63RCMVDI6060	A210
KM63RNSEF	A201
KM63RPNTF	A201
KM63TF	L38
KM63TS4XSTALKM25	A431
KM63TSBA06217	A495
KM63TSBA08236	A495
KM63TSBA10055M	A495
KM63TSBA10256	A495
KM63TSBA12060M	A495
KM63TSBA12276	A495
KM63TSBA16065M	A495
KM63TSBA16276	A495
KM63TSBA20070M	A495
KM63TSBA20295	A495
KM63TSBA24413	A495
KM63TSBA25070M	A495
KM63TSBA32075M	A495
KM63TSBA40105M	A495
KM63TSBEL4	A481
KM63TSBER4	A481
KM63TSBN115150M	A515

Catalog No.	Page(s)
KM63TSBN65200M	A515
KM63TSBSL4	A482
KM63TSBSL5	A482
KM63TSBSR4	A482
KM63TSBSR5	A482
KM63TSCCLNL12	A469
KM63TSCCLNL16	A469
KM63TSCCLNR12	A469
KM63TSCCLNR16	A469
KM63TSCCRNL12	A469
KM63TSCCRNL16	A469
KM63TSCCRNR12	A469
KM63TSCDJNL1504	A470
KM63TSCDJNR1504	A470
KM63TSCRGNL12	A470
KM63TSCRGNR12	A470
KM63TSCS27040M	A509
KM63TSCS32050M	A509
KM63TSCS40050M	A509
KM63TSCSDNN12	A471
KM63TSCSDNN15	A471
KM63TSCSKNL12	A471
KM63TSCSKNR12	A471
KM63TSCSRNL12	A472
KM63TSCSRNL15	A472
KM63TSCSRNR12	A472
KM63TSCSRNR15	A472
KM63TSCTGNL22	A472
KM63TSCTGNR22	A472
KM63TSD24TTB9	A494
KM63TSD24TTB9KM40	A494
KM63TSD28TTB14	A494
KM63TSD28TTB14KM40	A494
KM63TSD32TTB12	A494
KM63TSD32TTB12KM40	A494
KM63TSD32TTB16	A494
KM63TSD32TTB16KM40	A494
KM63TSD32TTB6	A494
KM63TSD40TTB15	A494
KM63TSD40TTB15KM40	A494
KM63TSD40TTB20	A494
KM63TSD40TTB20KM40	A494
KM63TSDAI40100M	A511
KM63TSDCLNL12KC04	A434
KM63TSDCLNL16KC06	A434
KM63TSDCLNR12KC04	A434
KM63TSDCLNR16KC06	A434
KM63TSDCRNL12KC04	A435
KM63TSDCRNR12KC04	A435
KM63TSDDJNL15KC04	A436
KM63TSDDJNL15KC06	A436
KM63TSDDJNR15KC04	A436
KM63TSDDJNR15KC06	A436
KM63TSDDQNL15KC04	A437
KM63TSDDQNL15KC06	A437
KM63TSDDQNR15KC04	A437
KM63TSDDQNR15KC06	A437
KM63TSDDUNL15KC04	A438
KM63TSDDUNR15KC04	A438
KM63TSDDUNR15KC06	A438
KM63TSDSDNN12KC04	A439
KM63TSDSKNL12KC04	A440
KM63TSDSKNR12KC04	A440
KM63TSDSRNL12KC04	A441
KM63TSDSRNR12KC04	A441
KM63TSDSSNL12KC04	A442
KM63TSDSSNR12KC04	A442
KM63TSDTFNL22KC04	A443
KM63TSDTFNR22KC04	A443
KM63TSDTGNL22KC04	A444
KM63TSDTGNR22KC04	A444
KM63TSDTJNL22KC04	A445
KM63TSDTJNR22KC04	A445
KM63TSDWLNL08KC04	A446
KM63TSDWLNR08KC04	A446
KM63TSEM050216	A507
KM63TSEM062236	A507
KM63TSEM075236	A507
KM63TSEM088236	A507
KM63TSEM100315	A507
KM63TSEM12055M	A507
KM63TSEM125354	A507
KM63TSEM150374	A507
KM63TSEM16060M	A507
KM63TSEM20060M	A507
KM63TSEM25080M	A507
KM63TSEM32090M	A507
KM63TSEM40095M	A507
KM63TSER16060M	A504
KM63TSER16120M	A504
KM63TSER25065M	A505
KM63TSER25120M	A505
KM63TSER32065M	A505
KM63TSER32120M	A505
KM63TSER40065M	A505
KM63TSETAL16	A433
KM63TSETAL2525M	A433
KM63TSETAR16	A433
KM63TSETAR2525M	A433
KM63TSGB50350M	A514
KM63TSGB63120M	A514
KM63TSHC025288	A500
KM63TSHC038300	A500
KM63TSHC050325	A500
KM63TSHC06070M	A500
KM63TSHC062325	A500
KM63TSHC075338	A500
KM63TSHC08070M	A500
KM63TSHC100375	A500
KM63TSHC10075M	A500
KM63TSHC12080M	A500
KM63TSHC125400	A500
KM63TSHC14080M	A500
KM63TSHC16080M	A500
KM63TSHC18080M	A500
KM63TSHC20085M	A500
KM63TSHC25095M	A500
KM63TSHC32100M	A500
KM63TSHCSL12170M	A501
KM63TSHCSL14170M	A501
KM63TSHCSL16170M	A501
KM63TSHCSL18170M	A501
KM63TSHCSL20170M	A501
KM63TSHCSLT06160M	A501
KM63TSHCSLT08160M	A501
KM63TSHCSLT10160M	A501
KM63TSHPVTT025315	A497
KM63TSHPVTT031315	A497
KM63TSHPVTT038335	A497
KM63TSHPVTT044354	A497
KM63TSHPVTT050354	A497
KM63TSHPVTT056354	A497
KM63TSHPVTT06080M	A496
KM63TSHPVTT062374	A497
KM63TSHPVTT068374	A497
KM63TSHPVTT075394	A497
KM63TSHPVTT08080M	A496
KM63TSHPVTT088394	A497
KM63TSHPVTT100453	A497
KM63TSHPVTT10090M	A496
KM63TSHPVTT12090M	A496
KM63TSHPVTT125472	A497
KM63TSHPVTT14100M	A496
KM63TSHPVTT16100M	A496
KM63TSHPVTT18100M	A496
KM63TSHPVTT20100M	A496
KM63TSHPVTT25120M	A496
KM63TSHPVTT32120M	A496
KM63TSHPVTTHT050354	A499
KM63TSHPVTTHT056354	A499
KM63TSHPVTTHT062374	A499
KM63TSHPVTTHT068374	A499
KM63TSHPVTTHT075394	A499
KM63TSHPVTTHT088394	A499
KM63TSHPVTTHT100453	A499
KM63TSHPVTTHT12090M	A498
KM63TSHPVTTHT125472	A499
KM63TSHPVTTHT14100M	A498
KM63TSHPVTTHT16100M	A498
KM63TSHPVTTHT18100M	A498
KM63TSHPVTTHT20100M	A498
KM63TSHPVTTHT25120M	A498
KM63TSHPVTTHT32120M	A498
KM63TSKGMEL50	A479
KM63TSKGMEL65	A479
KM63TSKGMER50	A479
KM63TSKGMER65	A479
KM63TSKGMSL50	A480
KM63TSKGMSL65	A480
KM63TSKGMSR50	A480
KM63TSKGMSR65	A480
KM63TSLSEL16N	A478
KM63TSLSEL22N	A478
KM63TSLSEL27N	A478
KM63TSLSER16N	A478
KM63TSLSER22N	A478
KM63TSLSER27N	A478
KM63TSLSSL16	A478
KM63TSLSSL22	A478
KM63TSLSSL27	A478
KM63TSLSSR16	A478
KM63TSLSSR22	A478
KM63TSLSSR27	A478
KM63TSMCKNL12	A447
KM63TSMCKNL16	A447
KM63TSMCKNL19	A447
KM63TSMCKNR12	A447
KM63TSMCKNR16	A447
KM63TSMCKNR19	A447
KM63TSMCLNL12	A447
KM63TSMCLNL16	A447
KM63TSMCLNL19	A447
KM63TSMCLNR12	A447
KM63TSMCLNR16	A447
KM63TSMCLNR19	A447
KM63TSMCMNN12115	A456
KM63TSMCRNL16	A448
KM63TSMCRNL19	A448
KM63TSMCRNR16	A448
KM63TSMCRNR19	A448
KM63TSMDJNL1504	A448
KM63TSMDJNL1506	A448
KM63TSMDJNR1504	A448
KM63TSMDJNR1506	A448
KM63TSMDMNL1504115	A457
KM63TSMDMNL1506115	A457
KM63TSMDMNR1504115	A457
KM63TSMDMNR1506115	A457
KM63TSMDPNN1504	A449
KM63TSMDPNN1506	A449
KM63TSMDQNL1504	A449
KM63TSMDQNL1506	A449
KM63TSMDQNR1504	A449
KM63TSMDQNR1506	A449
KM63TSMDUNL1504	A450
KM63TSMDUNL1506	A450
KM63TSMDUNR1504	A450
KM63TSMDUNR1506	A450
KM63TSMRGNL12	A450
KM63TSMRGNR12	A450
KM63TSMSDNN12	A451
KM63TSMSDNN15	A451
KM63TSMSDNN19	A451
KM63TSMSKNL12	A451
KM63TSMSKNL19	A451
KM63TSMSKNR12	A451
KM63TSMSKNR19	A451
KM63TSMSRNL12	A452
KM63TSMSRNL19	A452
KM63TSMSRNR12	A452
KM63TSMSRNR19	A452
KM63TSMSSNL12	A452
KM63TSMSSNL15	A452
KM63TSMSSNL19	A452
KM63TSMSSNR12	A452
KM63TSMSSNR15	A452
KM63TSMSSNR19	A452
KM63TSMTJNL22	A453
KM63TSMTJNR22	A453
KM63TSMTUNL22	A453
KM63TSMTUNR22	A453
KM63TSMVHNL16	A454
KM63TSMVHNR16	A454
KM63TSMVJNL16	A454
KM63TSMVJNR16	A454
KM63TSMVMNL16115	A457
KM63TSMVMNR16115	A457
KM63TSMVUNL16	A455
KM63TSMVUNR16	A455
KM63TSMVVNN16	A455
KM63TSMWLNL08	A456
KM63TSMWLNR08	A456
KM63TSMWMNL08115	A458
KM63TSMWMNR08115	A458
KM63TSNEL3	A477
KM63TSNEL4	A477
KM63TSNEL5	A477
KM63TSNER3	A477
KM63TSNER4	A477
KM63TSNER5	A477
KM63TSNSL3	A477
KM63TSNSL4	A477
KM63TSNSR3	A477
KM63TSNSR4	A477
KM63TSNVHCL16	A473
KM63TSNVHCR16	A473
KM63TSNVJCL16	A474
KM63TSNVJCR16	A474
KM63TSNVQCL16	A475
KM63TSNVQCR16	A475
KM63TSNVUCL16	A476
KM63TSNVUCR16	A476
KM63TSP	L42
KM63TSPCKNL12	A458
KM63TSPCKNL16	A458
KM63TSPCKNL19	A458
KM63TSPCKNR12	A458
KM63TSPCKNR16	A458
KM63TSPCKNR19	A458
KM63TSPCLNL12	A459
KM63TSPCLNL16	A459
KM63TSPCLNL162W	A459
KM63TSPCLNL19	A459
KM63TSPCLNR12	A459
KM63TSPCLNR16	A459
KM63TSPCLNR162W	A459
KM63TSPCLNR19	A459
KM63TSPDJNL11	A460
KM63TSPDJNL15	A460
KM63TSPDJNR11	A460
KM63TSPDJNR15	A460
KM63TSPDNNL11	A460
KM63TSPDNNL15	A460
KM63TSPDNNR11	A460
KM63TSPDNNR15	A460
KM63TSPDQNL11	A461
KM63TSPDQNL15	A461
KM63TSPDQNR11	A461
KM63TSPDQNR15	A461
KM63TSPDUNL11	A461
KM63TSPDUNL15	A461
KM63TSPDUNR11	A461
KM63TSPDUNR15	A461
KM63TSPDXNL15	A462
KM63TSPDXNR15	A462
KM63TSPSBNL12	A462
KM63TSPSBNL15	A462
KM63TSPSBNL19	A462
KM63TSPSBNR12	A462
KM63TSPSBNR15	A462
KM63TSPSBNR19	A462
KM63TSPSDNN12	A463
KM63TSPSDNN15	A463
KM63TSPSDNN19	A463
KM63TSPSKNL12	A463
KM63TSPSKNL15	A463
KM63TSPSKNL19	A463
KM63TSPSKNR12	A463
KM63TSPSKNR15	A463
KM63TSPSKNR19	A463
KM63TSPSSNL12	A464
KM63TSPSSNL19	A464
KM63TSPSSNR12	A464
KM63TSPSSNR15	A464
KM63TSPSSNR19	A464
KM63TSPTFNL16	A464
KM63TSPTFNL27	A464
KM63TSPTFNR16	A464

Catalog No.	Page(s)
KM63TSPTGNL16	A465
KM63TSPTGNL22	A465
KM63TSPTGNL27	A465
KM63TSPTGNR16	A465
KM63TSPTGNR22	A465
KM63TSPTGNR27	A465
KM63TSPTJNL16	A465
KM63TSPTJNL22	A465
KM63TSPTJNL27	A465
KM63TSPTJNR16	A465
KM63TSPTJNR22	A465
KM63TSPTJNR27	A465
KM63TSPWLNL06	A466
KM63TSPWLNL08	A466
KM63TSPWLNR06	A466
KM63TSPWLNR08	A466
KM63TSS25FMCLNL12	A484–485
KM63TSS25FMCLNR12	A484–485
KM63TSS25FMDUNL15	A486–487
KM63TSS25FMDUNR15	A486–487
KM63TSS25KMCLNL12	A484–485
KM63TSS25KMCLNR12	A484–485
KM63TSS25KMDUNL15	A486–487
KM63TSS25KMDUNR15	A486–487
KM63TSS25KPCLNL12	A488
KM63TSS25KPCLNR12	A488
KM63TSS25KPDUNL11	A489
KM63TSS25KPDUNR11	A489
KM63TSS25KPWLNL08	A490
KM63TSS25KPWLNR08	A490
KM63TSS32070M	A515
KM63TSS32GMCLNL12	A484–485
KM63TSS32GMCLNR12	A484–485
KM63TSS32GMDUNL15	A486–487
KM63TSS32GMDUNR15	A486–487
KM63TSS32LMCLNL12	A484–485
KM63TSS32LMCLNR12	A484–485
KM63TSS32LMDUNL15	A486–487
KM63TSS32LMDUNR15	A486–487
KM63TSS32LNEL3	A492
KM63TSS32LNER3	A492
KM63TSS32LPCLNL12	A488
KM63TSS32LPCLNR12	A488
KM63TSS32LPDUNL15	A489
KM63TSS32LPDUNR15	A489
KM63TSS32LPWLNL08	A490
KM63TSS32LPWLNR08	A490
KM63TSS32LSDUCL11	A491
KM63TSS32LSDUCR11	A491
KM63TSS40080M	A515
KM63TSS40HMCLNL12	A484–485
KM63TSS40HMCLNR12	A484–485
KM63TSS40HMDUNL15	A486–487
KM63TSS40HMDUNR15	A486–487
KM63TSS40LMCLNL12	A484–485
KM63TSS40LMCLNR12	A484–485
KM63TSS40LMDUNL15	A486–487
KM63TSS40LMDUNR15	A486–487
KM63TSS40LPCLNL12	A488
KM63TSS40LPCLNR12	A488
KM63TSS40LPDUNL15	A489
KM63TSS40LPDUNR15	A489
KM63TSS40LPWLNL08	A490
KM63TSS40LPWLNR08	A490
KM63TSS40LSCLCL12	A491
KM63TSS40LSCLCR12	A491
KM63TSS40LSTFCL16	A492
KM63TSS40LSTFCR16	A492
KM63TSS50065M	A515
KM63TSS50100M	A515
KM63TSS50KMCLNL12	A484–485
KM63TSS50KMCLNR12	A484–485
KM63TSS50KMDUNL15	A486–487
KM63TSS50KMDUNR15	A486–487
KM63TSS50PMCLNL12	A484–485
KM63TSS50PMCLNR12	A484–485
KM63TSS50PMDUNL15	A486–487
KM63TSS50PMDUNR15	A486–487
KM63TSS50PPCLNL12	A488
KM63TSS50PPCLNR12	A488
KM63TSS50PPDUNL15	A489
KM63TSS50PPDUNR15	A489
KM63TSS50PPWLNL08	A490
KM63TSS50PPWLNR08	A490
KM63TSS63080M	A514
KM63TSS63120M	A514
KM63TSSCLCL12	A466
KM63TSSCLCR12	A466
KM63TSSM2C075126	A508
KM63TSSM2C100126	A508
KM63TSSMC050102	A508
KM63TSSMC075126	A508
KM63TSSMC100126	A508
KM63TSSMC125157	A508
KM63TSSMC150177	A508
KM63TSSMC22028M	A508
KM63TSSMC27032M	A508
KM63TSSMC32040M	A508
KM63TSSMC40045M	A508
KM63TSSRDCN16	A467
KM63TSSTAL16	A432
KM63TSSTAL2525M	A432
KM63TSSTAR16	A432
KM63TSSTAR2525M	A432
KM63TSSTC06059M	A510
KM63TSSTC06084M	A510
KM63TSSTC06109M	A510
KM63TSSTC08059M	A510
KM63TSSTC08084M	A510
KM63TSSTC08109M	A510
KM63TSSTC08134M	A510
KM63TSSTC10059M	A510
KM63TSSTC10084M	A510
KM63TSSTC10109M	A510
KM63TSSTC10134M	A510
KM63TSSTC12059M	A510
KM63TSSTC12084M	A510
KM63TSSTC12109M	A510
KM63TSSTC12134M	A510
KM63TSSTC16059M	A510
KM63TSSTC16084M	A510
KM63TSSTC16109M	A510
KM63TSSTC16134M	A510
KM63TSSTFCL16	A467
KM63TSSTFCR16	A467
KM63TSSTGCL16	A468
KM63TSSTGCR16	A468
KM63TSSVJBL16	A468
KM63TSSVJBR16	A468
KM63TSTC2095M	A511
KM63TSTC3147M	A511
KM63TSTG100100M	A502
KM63TSWN20080M	A506
KM63TSWN25085M	A506
KM63TSWN32095M	A506
KM63UTDDUNL15KC06	A438
KM63UTFBHS116	A513
KM63UTFBHS87	A513
KM63UTRBHT115	A512
KM63UTRBHT87	A512
KM63XMZ2XSTALF2525Y	A556
KM63XMZ2XSTAR2525Y	A556
KM63XMZ45TALF12Y	A557
KM63XMZ45TALF2020Y	A557
KM63XMZ45TAR12Y	A557
KM63XMZ45TAR2020Y	A557
KM63XMZ4XSTALFKM25Y	A553
KM63XMZ4XSTAR2020Y	A556
KM63XMZBA125307Y	A569
KM63XMZBA150413Y	A569
KM63XMZBA200512Y	A569
KM63XMZBA3278Y	A569
KM63XMZBA40105Y	A569
KM63XMZBN115200Y	A589
KM63XMZBR150031Y	A570
KM63XMZBR150038Y	A570
KM63XMZBR150050Y	A570
KM63XMZBR150062Y	A570
KM63XMZBR150075Y	A570
KM63XMZBR150100Y	A570
KM63XMZBR150125Y	A570
KM63XMZBR4008Y	A570
KM63XMZBR4010Y	A570
KM63XMZBR4012Y	A570
KM63XMZBR4016Y	A570
KM63XMZBR4020Y	A570
KM63XMZBR4025Y	A570
KM63XMZBR4032Y	A570
KM63XMZBSLF4Y	A564
KM63XMZBSLF5Y	A564
KM63XMZBSR4Y	A564
KM63XMZBSR5Y	A564
KM63XMZCS1663Y	A587
KM63XMZCS22110Y	A587
KM63XMZCS2228Y	A587
KM63XMZCS2263Y	A587
KM63XMZCS27110Y	A587
KM63XMZCS2732Y	A587
KM63XMZCS2763Y	A587
KM63XMZCS32110Y	A587
KM63XMZCS3240Y	A587
KM63XMZCS3263Y	A587
KM63XMZD24TTB9KM40	A568
KM63XMZD28TTB14KM40	A568
KM63XMZD32TTB12KM40	A568
KM63XMZD32TTB16KM40	A568
KM63XMZD40TTB15KM40	A568
KM63XMZD40TTB20KM40	A568
KM63XMZDAI3270Y	A585
KM63XMZDAI40100Y	A585
KM63XMZEM050216Y	A584
KM63XMZEM06100Y	A584
KM63XMZEM062236Y	A584
KM63XMZEM075256Y	A584
KM63XMZEM08100Y	A584
KM63XMZEM100315Y	A584
KM63XMZEM10100Y	A584
KM63XMZEM125335Y	A584
KM63XMZEM1255Y	A584
KM63XMZEM1660Y	A584
KM63XMZEM1860Y	A584
KM63XMZEM200492Y	A584
KM63XMZEM2065Y	A584
KM63XMZEM2580Y	A584
KM63XMZEM3290Y	A584
KM63XMZER1160Y	A580
KM63XMZER1190Y	A580
KM63XMZER16120Y	A581
KM63XMZER1660Y	A581
KM63XMZER25120Y	A580
KM63XMZER2560Y	A580
KM63XMZER32120Y	A580
KM63XMZER3260Y	A580
KM63XMZER4090Y	A580
KM63XMZES40110Y	A589
KM63XMZES50100Y	A589
KM63XMZETALF16Y	A555
KM63XMZETAR16Y	A555
KM63XMZGB50200Y	A587
KM63XMZGB60150Y	A587
KM63XMZHC075335Y	A576
KM63XMZHC125394Y	A576
KM63XMZHC2085Y	A576
KM63XMZHC32100Y	A576
KM63XMZHCSL12170MY	A577
KM63XMZHCSL14170MY	A577
KM63XMZHCSL16170MY	A577
KM63XMZHCSL18170MY	A577
KM63XMZHCSL20170MY	A577
KM63XMZHCSLT06160MY	A577
KM63XMZHCSLT08160MY	A577
KM63XMZHCSLT10160MY	A577
KM63XMZHPVTT025315Y	A573
KM63XMZHPVTT031315Y	A573
KM63XMZHPVTT038335Y	A573
KM63XMZHPVTT04080MY	A572
KM63XMZHPVTT044354Y	A573
KM63XMZHPVTT050354Y	A573
KM63XMZHPVTT056354Y	A573
KM63XMZHPVTT06080MY	A572
KM63XMZHPVTT062374Y	A573
KM63XMZHPVTT068374Y	A573
KM63XMZHPVTT075394Y	A573
KM63XMZHPVTT08080MY	A572
KM63XMZHPVTT088394Y	A573
KM63XMZHPVTT100453Y	A573
KM63XMZHPVTT10090MY	A572
KM63XMZHPVTT12090MY	A572
KM63XMZHPVTT125472Y	A573
KM63XMZHPVTT14100MY	A572
KM63XMZHPVTT16100MY	A572
KM63XMZHPVTT18100MY	A572
KM63XMZHPVTT20100MY	A572
KM63XMZHPVTT25120MY	A572
KM63XMZHPVTT32120MY	A572
KM63XMZHPVTTHT050354Y	A575
KM63XMZHPVTTHT056354Y	A575
KM63XMZHPVTTHT062374Y	A575
KM63XMZHPVTTHT068374Y	A575
KM63XMZHPVTTHT075394Y	A575
KM63XMZHPVTTHT088394Y	A575
KM63XMZHPVTTHT100453Y	A575
KM63XMZHPVTTHT12090MY	A574
KM63XMZHPVTTHT125472Y	A575
KM63XMZHPVTTHT14100MY	A574
KM63XMZHPVTTHT16100MY	A574
KM63XMZHPVTTHT18100MY	A574
KM63XMZHPVTTHT20100MY	A574
KM63XMZHPVTTHT25120MY	A574
KM63XMZHPVTTHT32120MY	A574
KM63XMZKGMSLF50Y	A563
KM63XMZKGMSLF65Y	A563
KM63XMZKGMSR50Y	A563
KM63XMZKR5060Y	A585
KM63XMZKR6375Y	A585
KM63XMZMCLNLF12Y	A558
KM63XMZMCLNLF16Y	A558
KM63XMZMCLNR12Y	A558
KM63XMZMCLNR16Y	A558
KM63XMZMCMNNF12115Y	A559
KM63XMZMDJNLF1504Y	A558
KM63XMZMDJNR1504Y	A558
KM63XMZMDMNLF1504115Y	A560
KM63XMZMDMNLF1506115Y	A560
KM63XMZMDMNR1504115Y	A560
KM63XMZMDMNR1506115Y	A560
KM63XMZMVJNLF16Y	A559
KM63XMZMVJNR16Y	A559
KM63XMZMVMNLF16115Y	A560
KM63XMZMVMNR16115Y	A560
KM63XMZMWMNLF08115Y	A561
KM63XMZMWMNR08115Y	A561
KM63XMZPCLNLF12Y	A561
KM63XMZPCLNR12Y	A561
KM63XMZPDJNR15Y	A562
KM63XMZRDC1390Y	A582
KM63XMZRDC1690Y	A582
KM63XMZS25KPCLNLF12Y	A565
KM63XMZS25KPCLNR12Y	A565
KM63XMZS25KPDUNLF11Y	A566
KM63XMZS25KPDUNR11Y	A566
KM63XMZS3270Y	A588
KM63XMZS4080Y	A588
KM63XMZS50100Y	A588
KM63XMZS5058Y	A588
KM63XMZS5065Y	A588
KM63XMZS63120Y	A588
KM63XMZS6380Y	A588
KM63XMZSM2C075102Y	A586
KM63XMZSM2C100126Y	A586
KM63XMZSMC050102Y	A586
KM63XMZSMC075102Y	A586
KM63XMZSMC100126Y	A586
KM63XMZSMC125157Y	A586
KM63XMZSMC150177Y	A586
KM63XMZSMC16028MY	A586
KM63XMZSMC22028MY	A586
KM63XMZSMC27032MY	A586
KM63XMZSMC32040MY	A586
KM63XMZSTALF12Y	A554
KM63XMZSTALF16Y	A554
KM63XMZSTALF2020Y	A554
KM63XMZSTALF2525Y	A554
KM63XMZSTAR12Y	A554
KM63XMZSTAR16Y	A554
KM63XMZSTAR2020Y	A554
KM63XMZSTAR2525Y	A554
KM63XMZSVJBLF16Y	A562

Catalog No.	Page(s)
KM63XMZTG05050Y	A578
KM63XMZTG07575Y	A578
KM63XMZTG100100Y	A578
KM63XMZWN0660Y	A582
KM63XMZWN0865Y	A582
KM63XMZWN1070Y	A582
KM63XMZWN1275Y	A582
KM63XMZWN1475Y	A582
KM63XMZWN1680Y	A582
KM63XMZWN1880Y	A582
KM63XMZWN2080Y	A582
KM63XMZWN2585Y	A582
KM63XMZWN3295Y	A582
KM63XMZWNEM0680Y	A583
KM63XMZWNEM0880Y	A583
KM63XMZWNEM1080Y	A583
KM63XMZWNEM1280Y	A583
KM63XMZWNEM1480Y	A583
KM63XMZWNEM1680Y	A583
KM63XMZWNEM1880Y	A583
KM63XMZWNEM2080Y	A583
KM63XMZWNEM2580Y	A583
KM63XMZWNEM3280Y	A583
KM63XMZWNEM4095Y	A583
KM80ATCBA100276	A604
KM80ATCBA125295	A604
KM80ATCBA150413	A604
KM80ATCBA200512	A604
KM80ATCBA40105M	A604
KM80ATCBA50130M	A604
KM80ATCBN125075M	A618
KM80ATCBN140130M	A618
KM80ATCDCLNL12KC04	A593
KM80ATCDCLNL16KC06	A593
KM80ATCDCLNR12KC04	A593
KM80ATCDCLNR16KC06	A593
KM80ATCDDJNL15KC04	A594
KM80ATCDDJNL15KC06	A594
KM80ATCDDJNR15KC04	A594
KM80ATCDDJNR15KC06	A594
KM80ATCDDQNL15KC04	A595
KM80ATCDDQNL15KC06	A595
KM80ATCDDQNR15KC04	A595
KM80ATCDDQNR15KC06	A595
KM80ATCDDUNL15KC04	A596
KM80ATCDDUNL15KC06	A596
KM80ATCDDUNR15KC04	A596
KM80ATCDDUNR15KC06	A596
KM80ATCEM100354	A614
KM80ATCEM125354	A614
KM80ATCEM150382	A614
KM80ATCEM200492	A614
KM80ATCER3265	A611
KM80ATCER4090	A611
KM80ATCESL63105	A618
KM80ATCESR63105	A618
KM80ATCETAL20	A592
KM80ATCETAR20	A592
KM80ATCHPVTT031335	A607
KM80ATCHPVTT038630	A607
KM80ATCHPVTT044374	A607
KM80ATCHPVTT050374	A607
KM80ATCHPVTT056374	A607
KM80ATCHPVTT062394	A607
KM80ATCHPVTT062850	A607
KM80ATCHPVTT075413	A607
KM80ATCHPVTT075630	A607
KM80ATCHPVTT088413	A607
KM80ATCHPVTT100453	A607
KM80ATCHPVTT10090M	A606
KM80ATCHPVTT10170M	A606
KM80ATCHPVTT12095M	A606
KM80ATCHPVTT12160M	A606
KM80ATCHPVTT125472	A607
KM80ATCHPVTT14095M	A606
KM80ATCHPVTT150512	A607
KM80ATCHPVTT16100M	A606
KM80ATCHPVTT18100M	A606
KM80ATCHPVTT18160M	A606
KM80ATCHPVTT200551	A607
KM80ATCHPVTT20105M	A606
KM80ATCHPVTT25115M	A606
KM80ATCHPVTT32120M	A606
KM80ATCHPVTT40130M	A606
KM80ATCHPVTT50140M	A606
KM80ATCHPVTTHT050374	A609
KM80ATCHPVTTHT056374	A609
KM80ATCHPVTTHT062394	A609
KM80ATCHPVTTHT062850	A609
KM80ATCHPVTTHT075413	A609
KM80ATCHPVTTHT075630	A609
KM80ATCHPVTTHT088413	A609
KM80ATCHPVTTHT100453	A609
KM80ATCHPVTTHT12095M	A608
KM80ATCHPVTTHT12160M	A608
KM80ATCHPVTTHT125472	A609
KM80ATCHPVTTHT14095M	A608
KM80ATCHPVTTHT16100M	A608
KM80ATCHPVTTHT18100M	A608
KM80ATCHPVTTHT18160M	A608
KM80ATCHPVTTHT20105M	A608
KM80ATCHPVTTHT25115M	A608
KM80ATCHPVTTHT32120M	A608
KM80ATCKGMEL50	A602
KM80ATCKGMEL65	A602
KM80ATCKGMER50	A602
KM80ATCKGMER65	A602
KM80ATCKGMSL50	A603
KM80ATCKGMSL65	A603
KM80ATCKGMSR50	A603
KM80ATCKGMSR65	A603
KM80ATCMCKNL19	A597
KM80ATCMCKNL25	A597
KM80ATCMCKNR19	A597
KM80ATCMCKNR25	A597
KM80ATCMCLNL19	A597
KM80ATCMCLNL25	A597
KM80ATCMCLNR19	A597
KM80ATCMCLNR25	A597
KM80ATCMCRNL19	A598
KM80ATCMCRNL25	A598
KM80ATCMCRNR19	A598
KM80ATCMCRNR25	A598
KM80ATCMSDNN19	A598
KM80ATCMSDNN25	A598
KM80ATCMSKNL19	A599
KM80ATCMSKNL25	A599
KM80ATCMSKNR19	A599
KM80ATCMSKNR25	A599
KM80ATCMSRNL19	A599
KM80ATCMSRNL25	A599
KM80ATCMSRNR19	A599
KM80ATCMSRNR25	A599
KM80ATCMVUNL16	A600
KM80ATCMVUNR16	A600
KM80ATCNEL3	A601
KM80ATCNEL4	A601
KM80ATCNEL5	A601
KM80ATCNEL6	A601
KM80ATCNER3	A601
KM80ATCNER4	A601
KM80ATCNER5	A601
KM80ATCNER6	A601
KM80ATCNSL3	A601
KM80ATCNSL4	A601
KM80ATCNSR3	A601
KM80ATCNSR4	A601
KM80ATCPRGCL20	A600
KM80ATCPRGCL25	A600
KM80ATCPRGCL32	A600
KM80ATCPRGCR20	A600
KM80ATCPRGCR25	A600
KM80ATCPRGCR32	A600
KM80ATCS4060	A617
KM80ATCS5080	A617
KM80ATCS6380	A617
KM80ATCS80120	A617
KM80ATCS80160	A617
KM80ATCSM2C100158	A616
KM80ATCSMC125158	A616
KM80ATCSMC125394	A616
KM80ATCSMC150158	A616
KM80ATCSMC200216	A616
KM80ATCSMC22040M	A616
KM80ATCSMC250225	A616
KM80ATCSMC250450	A616
KM80ATCSMC27040M	A616
KM80ATCSMC32040M	A616
KM80ATCSMC40045M	A616
KM80ATCSMC50055M	A616
KM80ATCSMC60060M	A616
KM80ATCSSF075350	A615
KM80ATCSSF100450	A615
KM80ATCSSF125500	A615
KM80ATCSSF150550	A615
KM80ATCSSF200650	A615
KM80ATCSTAL20	A591
KM80ATCSTAL24	A591
KM80ATCSTAL2525	A591
KM80ATCSTAL3232	A591
KM80ATCSTAR20	A591
KM80ATCSTAR24	A591
KM80ATCSTAR2525	A591
KM80ATCSTAR3232	A591
KM80ATCTG075160	A610
KM80ATCTG100394	A610
KM80ATCTG150492	A610
KM80ATCWD32090M	A612
KM80ATCWD40100M	A612
KM80ATCWD50110M	A612
KM80ATCWNEM06065M	A613
KM80ATCWNEM08065M	A613
KM80ATCWNEM10075M	A613
KM80ATCWNEM12080M	A613
KM80ATCWNEM14080M	A613
KM80ATCWNEM16085M	A613
KM80ATCWNEM18085M	A613
KM80ATCWNEM20085M	A613
KM80ATCWNEM25100M	A613
KM80ATCWNEM32105M	A613
KM80ATCWNEM40115M	A613
KM80NCMEF	A209
KM80NCMF	A208
KM80P	L42
KM80PKG3L	A209
KM80PKG3S	A208, A549, A617, A619, C120, D36, D66, E94, F82, G75
KM80PKGS	A634
KM80TF	L38
KM80TSBA100276	A536
KM80TSBA125295	A536
KM80TSBA150413	A536
KM80TSBA200512	A536
KM80TSBA25075M	A536
KM80TSBA32075M	A536
KM80TSBA40105M	A536
KM80TSBN125075M	A551
KM80TSBN140130M	A551
KM80TSBN150160M	A551
KM80TSBN150250M	A551
KM80TSBN175175M	A551
KM80TSCS32050M	A548
KM80TSCS40060M	A548
KM80TSDCLNL12KC04	A519
KM80TSDCLNL16KC06	A519
KM80TSDCLNR12KC04	A519
KM80TSDCLNR16KC06	A519
KM80TSDDJNL15KC04	A519
KM80TSDDJNL15KC06	A519
KM80TSDDJNR15KC04	A519
KM80TSDDJNR15KC06	A519
KM80TSDDQNL15KC04	A520
KM80TSDDQNL15KC06	A520
KM80TSDDQNR15KC04	A520
KM80TSDDQNR15KC06	A520
KM80TSDDUNL15KC04	A520
KM80TSDDUNL15KC06	A520
KM80TSDDUNR15KC04	A520
KM80TSDDUNR15KC06	A520
KM80TSEM050354	A546
KM80TSEM062354	A546
KM80TSEM075354	A546
KM80TSEM088354	A546
KM80TSEM100354	A546
KM80TSEM12070M	A546
KM80TSEM125354	A546
KM80TSEM14070M	A546
KM80TSEM150382	A546
KM80TSEM16070M	A546
KM80TSEM18070M	A546
KM80TSEM200492	A546
KM80TSEM20070M	A546
KM80TSEM25090M	A546
KM80TSEM32090M	A546
KM80TSEM40100M	A546
KM80TSER20100M	A543
KM80TSER25100M	A544
KM80TSER32065M	A544
KM80TSER32100M	A544
KM80TSER40090M	A544
KM80TSER40140M	A544
KM80TSESL63105M	A550
KM80TSESR63105M	A550
KM80TSETAL16	A518
KM80TSETAL20	A518
KM80TSETAL24	A518
KM80TSETAL2525M	A518
KM80TSETAL3232M	A518
KM80TSETAR16	A518
KM80TSETAR20	A518
KM80TSETAR24	A518
KM80TSETAR2525M	A518
KM80TSETAR3232M	A518
KM80TSHPVTT031335	A539
KM80TSHPVTT038630	A539
KM80TSHPVTT044374	A539
KM80TSHPVTT050374	A539
KM80TSHPVTT056374	A539
KM80TSHPVTT062394	A539
KM80TSHPVTT062850	A539
KM80TSHPVTT075413	A539
KM80TSHPVTT075630	A539
KM80TSHPVTT088413	A539
KM80TSHPVTT100453	A539
KM80TSHPVTT10090M	A538
KM80TSHPVTT10170M	A538
KM80TSHPVTT12095M	A538
KM80TSHPVTT12160M	A538
KM80TSHPVTT125472	A539
KM80TSHPVTT14095M	A538
KM80TSHPVTT150512	A539
KM80TSHPVTT16100M	A538
KM80TSHPVTT18100M	A538
KM80TSHPVTT18160M	A538
KM80TSHPVTT200551	A539
KM80TSHPVTT20105M	A538
KM80TSHPVTT25115M	A538
KM80TSHPVTT32120M	A538
KM80TSHPVTT40130M	A538
KM80TSHPVTT50140M	A538
KM80TSHPVTTHT050374	A541
KM80TSHPVTTHT056374	A541
KM80TSHPVTTHT062394	A541
KM80TSHPVTTHT062850	A541
KM80TSHPVTTHT075413	A541
KM80TSHPVTTHT075630	A541
KM80TSHPVTTHT088413	A541
KM80TSHPVTTHT100453	A541
KM80TSHPVTTHT12095M	A540
KM80TSHPVTTHT12160M	A540
KM80TSHPVTTHT125472	A541
KM80TSHPVTTHT14095M	A540
KM80TSHPVTTHT16100M	A540
KM80TSHPVTTHT18100M	A540
KM80TSHPVTTHT18160M	A540
KM80TSHPVTTHT20105M	A540
KM80TSHPVTTHT25115M	A540
KM80TSHPVTTHT32120M	A540
KM80TSKGMEL50	A532
KM80TSKGMEL65	A532
KM80TSKGMER50	A532
KM80TSKGMER65	A532
KM80TSKGMSL50	A534
KM80TSKGMSL65	A535
KM80TSKGMSR50	A534
KM80TSKGMSR65	A535
KM80TSMCKNL19	A521
KM80TSMCKNR19	A521

Catalog No.	Page(s)
KM80TSMCLNL12	A521
KM80TSMCLNL16	A521
KM80TSMCLNL19	A521
KM80TSMCLNL25	A521
KM80TSMCLNR12	A521
KM80TSMCLNR16	A521
KM80TSMCLNR19	A521
KM80TSMCLNR25	A521
KM80TSMCRNL16	A522
KM80TSMCRNL19	A522
KM80TSMCRNL25	A522
KM80TSMCRNR16	A522
KM80TSMCRNR19	A522
KM80TSMCRNR25	A522
KM80TSMDJNL1504	A522
KM80TSMDJNL1506	A522
KM80TSMDJNR1504	A522
KM80TSMDJNR1506	A522
KM80TSMDPNN1504	A523
KM80TSMDPNN1506	A523
KM80TSMDQNL1504	A523
KM80TSMDQNL1506	A523
KM80TSMDQNR1504	A523
KM80TSMDQNR1506	A523
KM80TSMDUNL1504	A524
KM80TSMDUNL1506	A524
KM80TSMDUNR1504	A524
KM80TSMDUNR1506	A524
KM80TSMSDNN19	A524
KM80TSMSDNN25	A524
KM80TSMSKNL19	A525
KM80TSMSKNL25	A525
KM80TSMSKNR19	A525
KM80TSMSKNR25	A525
KM80TSMSRNL19	A525
KM80TSMSRNL25	A525
KM80TSMSRNR19	A525
KM80TSMSRNR25	A525
KM80TSMSSNL25	A526
KM80TSMSSNR25	A526
KM80TSMVJNL16	A526
KM80TSMVJNR16	A526
KM80TSMVUNL16	A527
KM80TSMVUNR16	A527
KM80TSMWLNL08	A527
KM80TSMWLNR08	A527
KM80TSNEL3	A531
KM80TSNEL4	A531
KM80TSNEL5	A531
KM80TSNEL6	A531
KM80TSNER3	A531
KM80TSNER4	A531
KM80TSNER5	A531
KM80TSNER6	A531
KM80TSNSL3	A531
KM80TSNSL4	A531
KM80TSNSL5	A531
KM80TSNSR3	A531
KM80TSNSR4	A531
KM80TSNSR5	A531
KM80TSPCLNL12	A528
KM80TSPCLNL16	A528
KM80TSPCLNL19	A528
KM80TSPCLNL25	A528
KM80TSPCLNR12	A528
KM80TSPCLNR16	A528
KM80TSPCLNR19	A528
KM80TSPCLNR25	A528
KM80TSPRDCN20	A528
KM80TSPRDCN25	A528
KM80TSPRGCL25	A529
KM80TSPRGCL32	A529
KM80TSPRGCR25	A529
KM80TSPRGCR32	A529
KM80TSPSDNN19	A529
KM80TSPSDNN25	A529
KM80TSPSRNL19	A530
KM80TSPSRNL25	A530
KM80TSPSRNR19	A530
KM80TSPSRNR25	A530
KM80TSPSSNL19	A530
KM80TSPSSNL25	A530
KM80TSPSSNR19	A530
KM80TSPSSNR25	A530
KM80TSS40060M	A550
KM80TSS50080M	A550
KM80TSS63080M	A550
KM80TSS80120M	A549
KM80TSS80160M	A549
KM80TSSMC100158	A547
KM80TSSMC125158	A547
KM80TSSMC125394	A547
KM80TSSMC150158	A547
KM80TSSMC200216	A547
KM80TSSMC250225	A547
KM80TSSMC250450	A547
KM80TSSMC27050M	A547
KM80TSSMC32060M	A547
KM80TSSMC32100M	A547
KM80TSSMC40060M	A547
KM80TSSMC40100M	A547
KM80TSSMC50070M	A547
KM80TSSMC60070M	A547
KM80TSSSF075350	A549
KM80TSSSF100450	A549
KM80TSSSF125500	A549
KM80TSSSF150550	A549
KM80TSSSF200650	A549
KM80TSSTAL20	A517
KM80TSSTAL24	A517
KM80TSSTAL2525M	A517
KM80TSSTAL3232M	A517
KM80TSSTAR20	A517
KM80TSSTAR24	A517
KM80TSSTAR2525M	A517
KM80TSSTAR3232M	A517
KM80TSSTC12087M	A548
KM80TSSTC12137M	A548
KM80TSSTC12187M	A548
KM80TSSTC12237M	A548
KM80TSSTC16087M	A548
KM80TSSTC16137M	A548
KM80TSSTC16187M	A548
KM80TSSTC16237M	A548
KM80TSTG075160M	A542
KM80TSTG100100M	A542
KM80TSTG150125M	A542
KM80TSWN12075M	A545
KM80TSWN20085M	A545
KM80TSWN25100M	A545
KM80TSWN32105M	A545
KM80XGL1062756	A218
KM80XGL1064593	A218
KM80XGL1555011	A218
KM80XGL1560573	A218
KM80XGL1724179	A218
KMS4	A378, A469–472
KMS5	A469, A471–472
KMSP415IP	A265–277, A345–357, A434–446, A519–520, A593–596
KMSP515IP	A265, A345, A434, A519, A593
KMSW32	L43
KMSW40	L43
KMSW50	L43
KMSW63	L43
KMSW80	L43
KRDCKR32M	C71, C119, E58, E93, F37, F81, G38, G74
KRDCKR50M	C71, C119, E58, E93, F37, F81, G38, G74
KRDCKR63M	C119, E93, F81, G74
KRDCKR80M	C119, E93, F81, G74
KTC025	J73
KTC025021M	J72
KTC028021M	J72
KTC031	J73
KTC035027M	J72
KTC036028M	J72
KTC037	J73
KTC040032M	J72
KTC043	J73
KTC045034M	J72
KTC045036M	J72
KTC050	J73
KTC050040M	J72
KTC056	J73
KTC060049M	J72
KTC070055M	J72
KTC071056M	J72
KTC080063M	J72
KTC090071M	J72
KTC10	J73
KTC100080M	J72
KTC110090M	J72
KTC112090M	J72
KTC12	J73
KTC120090M	J72
KTC6	J73
KTC8	J73
LABER16M	L20
LABER20M	L20
LER08M	A112–113, I10, L19
LER11M	A112–113, A580, I8, I10, L19
LER16M	A112–113, A183, I8, I10, L19
LER20M	A112–113, A183, I8, L19
LN000M	I14, L31
LN050M	F19, F58, L18
LN101	I13, L30
LN181	I13, L30
LN201	I13, L30
LN301	I13, L30
LNA050M	A578, A626, C16, C27, C57, C105, I6
LNA075M	A252, A328, A412, A542, A578, A610, A626, C16, C27, C57, C82, C105, D8, D45, D58, E9, E34, F19, F59–60, G17, I7, L18
LNA100M	A328, A412, A502, A542, A578, A610, A626, C57, C82, C105, D8, D26, D45, D58, E34, E76, F19, F59–60, G16–17, G55–56, I7, L18
LNA104M	I14–15, L31
LNA108M	E38, G24, H5, H12, I17, L31
LNA138	I21
LNA150M	A542, A610, A626, C105, D8, D26, E34, E76, G17, G56, L18
LNA184M	I15, L31
LNA188M	A256, A332, A416–417, E13, E39, E80, G25, G61
LNA204M	G22, G60, I14–15, I19–20, L31
LNA208M	E12, E38, G24, L31
LNA208RM	A256, A416–417
LNA304M	I14–15, L31
LNA308M	H5, H12, I17, L31
LNA404M	I15
LNABER25M	L22
LNABER32M	L22
LNABER40M	L22
LNAK04M	I19–20, L31
LNAL04M	I18–20, L31
LNATGF050M	F18, F56, L16
LNATGF075M	F18, F56, L16
LNATGF100M	F18, F56, L16
LNECSER32M	E35, E77, F21, F61, G18, G57, L19
LNECSER40M	E77, F61, G57, L19
LNER25M	A183
LNER32M	C17
LNHABER16M	L21
LNHABER20M	L21
LNHER16M	C125
LNHSER16M	A255, A330, A504, A581, C17, C28, C58, C83, C106, C131, C138, C143, C151, D10, D28, D46, D60, E10, E36, E78, F22, F62, G20, G58, L20
LNHSER16M	A627
LNHSER20M	A543, C28, C58, C83, C106, D10, D28, D46, D60, E10, E36, E78, F22, F62, I11, L20
LNHSER20M	A627
LNSER25M	A254, A331, A414, A505, A544, A580, C17, C29, C59, C84, C107, C131, C138, C143, C151, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59, I9, I11, L21
LNSER25M	A627
LNSER32M	A254, A331, A414, A505, A544, A580, A611, C17, C29, C59, C84, C107, C131, C138, C143, C151, C160, C164, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59, I9, L21
LNSER32M	A627
LNSER40M	A414, A505, A544, A580, A611, C59, C84, C107, C143, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59, L21
LNSER40M	A627
LTC025	J75
LTC031	J75
LTC037	J75
LTC043	J75
LTC050	J75
LTC056	J75
LTC060049M	J74
LTC062	J75
LTC063050M	J74
LTC069	J75
LTC070055M	J74
LTC071056M	J74
LTC075	J75
LTC080063M	J74
LTC081	J75
LTC087	J75
LTC090071M	J74
LTC10	J75
LTC100080M	J74
LTC109082M	J74
LTC110090M	J74
LTC111085M	J74
LTC112090M	J74
LTC12	J75
LTC120090M	J74
LTC125100M	J74
LTC140110M	J74
LTC140112M	J74
LTC143107M	J74
LTC160120M	J74
LTC160125M	J74
LTC180140M	J74
LTC180145M	J74
LTC6	J75
LTC8	J75
M06MST06025M	I23
M06WST10060M	I26
M08MST06025M	I24
M08MST08030M	I23
M08WST16073M	I26
M10MST08030M	I24
M10MST10035M	I23
M10WST20080M	I26
M12MST06040M	I24
M12MST06060M	I24
M12MST06080M	I24
M12MST08040M	I24
M12MST08060M	I24
M12MST08080M	I24
M12MST10035M	I24
M12MST12040M	I23
M12WST25086M	I26
M16MST08060M	I24
M16MST08080M	I24
M16MST10060M	I24
M16MST10080M	I24
M16MST12040M	I24
M16MST16040M	I23
M16WST32095M	I26
MCSS12030M	E8
MCSS16018M	C56, C104
MCSS16040M	E33, E75, F17, F55, G15
MRA5	A296
MS-1234	A631
MS–1879	A184, A570
MS1081	A324
MS1085PKG	A195, A200
MS109	A232
MS1109	A570
MS111	A403

Catalog No.	Page(s)
MS1153	A80–83, A96, A101, A152, A244–246, A299, A400–402, C37
MS1154	A149, A299
MS1155	A78–80, A82–83, A94–96, A100–101, A244–245, A400
MS1156	A78–81, A83, A86, A145–153, A157, A181, A229–231, A297–302, A377, A467–468, A491–492, A562, C37
MS1158	A145–147, A150, A229, A297–298, A300–301, A376, A399, A466, A491, C37
MS1160	A86, A157, A181, A467
MS1161	A181
MS1162	A182, A311, A389–390, A479–480, A563, A532, A534, A602–603, C38
MS1163	A389–390, A479–480, A532, A535, A563, A602–603
MS1200	A88–89, A97, A102, A153–154
MS1205	A184, A495
MS1210	A249, A324, A409
MS1211	A249, A324, A409, A495
MS1212	A249–250, A409, A495
MS1213	A324–325, A410
MS1217	A208–209
MS1220	A89, A232–233
MS1221	A403
MS1234	A200, A336–337, A420–421, A508, A586–587, A616, A632, C20, C30, C64–65, C67, C87, C89, C112, C114, C116, C152, D14, D16, D32, D34, E16, E48, E50, E53, E84, E86, E89, G31–32, G34, G67–68, L36
MS1239	A200
MS1252	A197–198
MS1272	A184
MS1294	A336–337, A586–587, C20, C30, C65, C67, C89, C114, C116, C152, D16, D34, E16, E50, E53, E86, E89, G32, G34, G68, L36
MS1322	A160
MS1347	A208–209
MS1361	A208–209
MS1375	A234
MS1430	A517–518, A554, A556, A591, C33–34
MS1460	A208–209
MS1488	A177, A235–236, A247, A307–308, A321–322, A407, L17
MS1489	A177, A235–236, A303–305, A307–308, A321, A383–386, A404, A407, A473–477, A492, A531, A601
MS1489PKG	A234
MS1490	A477, A531, A601
MS1561	A536, A569
MS1575PKG	A195
MS1595	A159, A312, A391, A481–482, A564, C39
MS1858	A569
MS1878	A570
MS1898PKG	A87, A161
MS1935	A495
MS1936	A191–192
MS1939	A400
MS1944	A86, A88, A159
MS1947	A536, A604, C41–42
MS1954	A591
MS1969PKG	A89–90
MS2002	A311, A389–390, A479–480, A532, A534, A563, A602–603, C38
MS2049	A554, A557
MS2062	A182
MS2064	A182
MS2069	A181
MS2091	A157–158, A601
MS2111	A153–154, A177
MS311	L17
MS319	A114
MS524	A153–154
MS734	A184
MS959	A232–235, A404, A473–476
MS988	A296
NP101	I13, L30
NP181	I13, L30
NP201	I13, L30
NP301	I13, L30
NPA050	I6–7, L18
NPA075	A253, A329, A413, F20, H4, H11, I6, L18
NPA100	A329, A413, F20, H4, H11, H19, I6, L18
NPA139	I21
NPA150	F20, H11, H19, L18
NPA188	A257, A333, F24, F64, H5, H12, H26, I17, I22
NPA208	A257, A333, F24, H5, H12, I17
NPA238	I21
NPA338	I21
OEW044	L56
OEW050	I15, L56
OEW062	I21, L56
OEW068	I17, L56
OEW075	I13, I15, I19–20, L56
OEW088	I21, L56
OEW094	I15, I19–20, L56
OEW100	A257, A333, F24, H5, H12, I17, L56
OEW106	I6–7, L56
OEW112	L56
OEW119	I15, L56
OEW125	I13, I17–20, L56
OEW138	I21, L56
OEW13M	I14, L56
OEW150	A257, A333, F24, F64, H5, H12, H26, I13, I17, I22, L56
OEW162	L56
OEW168	E77, F61, G57, I15, L56
OEW16M	L56
OEW175	I13, L56
OEW188	A253, A329, A413, F20, H4, H11, I6, L56
OEW19M	G22, G60, I14, L56
OEW225	A257, A329, A413, F20, H4, H11, H19, I6, L56
OEW24M	E12, E38, G24, I14, L56
OEW250	L56
OEW25M	A255, A330, A504, A581, A627, C17, C28, C58, C83, C106, C125, C131, C138, C143, C151, D10, D28, D46, D60, E10, E36, E78, F22, F62, G20, G58, L56
OEW30M	A543, A627, C28, C58, C83, C106, D10, D28, D46, D60, E10, E36, E78, F19, F22, F58, F62, I11, L56
OEW32M	E35, E38, E77, F21, F61, G18, G24, G57, H5, H12, L56
OEW9M	I14, L56
PKG–8001	A424
PKG7001	A341, A426
PMP08350	A389, C33–34
PMT04510	A480
PMT04525	A389–390, A479–480, A532, A534–535, A563, A602–603
PMT04526 COOLANT NOZZLE SPRAY	A390, A432–433, A517–518, A554–555, A591–592, A602–603, C33–34
PMT08420 COOLANT NOZZLE SPRAY	A431, A433, A553
PMT08430	A311
PSC63KM40TS065M	A619
PSC63KM40TS090M	A619
PSC63KM50TS075M	A619
PSC63KM50TS090M	A619
PSC63KM63TS090M	A619
PSC63KM63TS105M	A619
PSC80KM50TS070M	A619
PSC80KM50TS100M	A619
PSC80KM63TS080M	A619
PSC80KM63TS155M	A619
PSC80KM80TS090M	A619
PSC80KM80TS155M	A619
PSW350	F20, H11, H19, L57
PSW45M	E40, E80, G26, G62
PSW52M	C56, C104, E8, E33, E75, F17, F55, G15, L57
PSW58M	C56, C104, E33, E75, F17, F55, G15, L57
PSW68M	C56, C104, E33, E75, F17, F55, G15, L57
PSW80M	L57
PWZ1008	A556
QC15	A111
QC21	A109
QC30DA108200	H5
QC30DA188206	H5
QC30DA208181	H5
QC30DA308162	H5
QC30EM018175	H6
QC30EM025175	H6
QC30EM038175	H6
QC30EM050175	H6
QC30EM062175	H6
QC30EM075213	H6
QC30EM100269	H6
QC30EM125363	H6
QC30JT1159	H9
QC30JT2181	H9
QC30JT3219	H9
QC30JT33197	H9
QC30JT4262	H9
QC30JT6197	H9
QC30MT1100	H8
QC30MT2212	H8
QC30MT3281	H8
QC30SM050125	H7
QC30SM075131	H7
QC30SM100131	H7
QC30SM125144	H7
QC30SM150156	H7
QC30TG075253	H4
QC30TG100394	H4
QC40DA108200	H12
QC40DA188206	H12
QC40DA208181	H12
QC40DA308163	H12
QC40EM018231	H14
QC40EM025138	H14
QC40EM038231	H14
QC40EM050231	H14
QC40EM062231	H14
QC40EM075231	H14
QC40EM088294	H14
QC40EM100338	H14
QC40EM125369	H14
QC40EM150395	H14
QC40JT2188	H17
QC40JT3225	H17
QC40JT33194	H17
QC40JT4269	H17
QC40JT6194	H17
QC40MT1094	H16
QC40MT2206	H16
QC40MT3225	H16
QC40MT4306	H16
QC40MT5700	H16
QC40SM050088	H15
QC40SM075088	H15
QC40SM100131	H15
QC40SM125150	H15
QC40SM150163	H15
QC40SM200163	H15
QC40TA1137	H13
QC40TG075211	H11
QC40TG100255	H11
QC40TG150450	H11
QC50EM038275	H20
QC50EM050275	H20
QC50EM062275	H20
QC50EM075275	H20
QC50EM088200	H20
QC50EM100306	H20
QC50EM125306	H20
QC50EM150350	H20
QC50EM200475	H20
QC50MT2188	H22
QC50MT3238	H22
QC50MT4325	H22
QC50MT5462	H22
QC50SA125600	H22
QC50SA150600	H22
QC50SA200600	H22
QC50SM050125	H21
QC50SM075125	H21
QC50SM075600	H21
QC50SM100188	H21
QC50SM100600	H21
QC50SM100800	H21
QC50SM1251000	H21
QC50SM125188	H21
QC50SM125600	H21
QC50SM150188	H21
QC50SM200188	H21
QC50SM250200	H21
QC50TG100272	H19
QC50TG150284	H19
QNB–80617B	I27
R8DA188181	H26
R8EM018112	H27
R8EM038100	H27
R8EM050112	H27
R8EM062150	H27
R8EM075262	H27
R8EM088306	H27
R8EM100306	H27
R8EM125306	H27
R8SM050102	H27
R8SM075102	H27
R8SM100102	H27
R8SM125102	H27
RC1TA023018M030	J79
RC1TA025021M010	J78
RC1TA028021M020	J78
RC1TA028023M025	J79
RC1TA032025M030	J79
RC1TA035027M030	J78
RC1TA036028M035	J79
RC1TA040030M035	J78
RC1TA040032M040	J79
RC1TA045034M040	J78
RC1TA045036M060	J79
RC1TA050040M050	J79
RC1TA056045M000	J79
RC1TA060049M050	J78
RC1TA063050M060	J79
RC1TA070055M100	J78
RC1TA071056M070	J79
RC1TA080062M080	J78
RC1TA080063M080	J79
RC1TA090070M120	J78
RC1TA090071M090	J79
RC1TA100080M100	J78
RC1TA110090M140	J78
RC1TA112090M140	J79
RC2TA045034M040	J78
RC2TA045036M060	J79
RC2TA050040M050	J79
RC2TA060049M050	J78
RC2TA063050M060	J79
RC2TA070055M100	J78
RC2TA071056M070	J79
RC2TA080062M080	J78
RC2TA080063M080	J79
RC2TA090070M120	J78
RC2TA090071M090	J79
RC2TA100080M100	J78
RC2TA110090M140	J78
RC2TA112090M140	J79
RC2TA120090M160	J78
RC2TA125100M160	J79
RC2TA140110M180	J78
RC2TA140112M180	J79
RC2TA160120M200	J78
RC2TA160125M220	J79
RC2TA180140M240	J79
RC2TA180145M220	J78
RC3TA110090M140	J78
RC3TA112090M140	J79
RC3TA120090M160	J78
RC3TA140110M180	J78
RC3TA160120M200	J78
RC3TA160125M220	J79
RC3TA180140M240	J78
RC3TA180145M240	J78

Catalog No.	Page(s)
RC3TA200160M300	J78
RC3TA220180M300	J78
RC3TA224180M330	J79
RC3TA250200M360	J78
RC3TA280220M360	J78
RK30BT1M	L48
RK30BT2M	L48
RK31114	L50
RK31114B	L50
RK31118	L50
RK31118B	L50
RK32114	L50
RK40BT1M	L48
RK40BT2M	L48
RK40BT3M	L48
RK40CV	L49
RK40CV1M	L49
RK40CV3M	L49
RK40DVBM	L46
RK40DVM	L46
RK40ISAM	L47
RK40ISBM	L47
RK50AV1M	L49
RK50BT1M	L48
RK50BT2M	L48
RK50BT3M	L48
RK50CV	L49
RK50DVBM	L46
RK50DVM	L46
RK50HPCV	L49
RK50ISAM	L47
RK50ISBM	L47
RKW30	L51
RKW40	L51
RKW40M	L51
RKW50	L51
RKW50M	L51
S–1820	F67
S100TG1SET	J38
S100TG2SET	J38
S100TG3SET	J38
S100TG4SET	J38
S100TGNPSET	J38
S103SET	J69
S1045PKG	D48, D63, E15, F28, F70, H6, H14, H27
S104SET	J69
S150TG1SET	J47
S150TG2SET	J47
S150TG4SET	J47
S150TGNPSET	J47
S183SET	J69
S184SET	J69
S1990	A82
S203SET	J69
S204SET	J69
S303SET	J69
S304SET	J69
S305SET	J69
S327	A494
S330	A494
S337	A494
S339	A494
S340	A494
S350	A494
S353	A494
S50TG1SET	J19
S50TG2SET	J19
S75TG1SET	J27
S75TG2SET	J27
S75TG3SET	J27
S75TG4SET	J27
S75TGNPSET	J27
S836PKG	A250
S841PKG	A184, A250
S843	A249, A324, A409, A495
S850	A184
S852	A249, A324, A409, A495
S861	A184, A325, A410
S862	A249–250, A324, A409, A495
S863	A495
S884	A495
SA32CLNS2812	A195
SA32CLNT2812	A195
SA32CLNT2818	A195
SA40CLNS4008	A195
SA40CLNS4012	A195
SA40CLNT4008	A195
SA40CLNT4012	A195
SA50CLNS5008	A195
SA50CLNS5012	A195
SA50CLNT5008	A195
SA50CLNT5012	A195
SA63CLNS5012	A195
SA63CLNS6008	A195
SA63CLNS6012	A195
SA63CLNT6008	A195
SA63CLNT6012	A195
SB09530PWZ1012	A536, A556–557, A563, A569, A604, C41–42
SDK200169	C117, F77, H22, I27
SHVBR0325M	L16
SHVBR0445M	L16
SHVBR0545M	L16
SKCP343 K9	A78–80, A145–148, A229–231, A297–299, A376, A399, A466, A491, C37
SKDP453 K9	A146–147, A297–298, C37
SKRN100300 K9	A149, A299–300
SKRN1203M0 K9	A300, A377
SKRN160400 K9	A467
SKSP453 K9	A150, A300–301
SKTP343 K9	A80–81, A150–151, A301–302, A467–468, A492
SKVN343 K9	A152, A302, A377, A468, A562, C37
SKWP343 K9	A83, A153
SM290 K9	A296
SM812 K9	A234–235, A404, A473–476
SM813 K9	A234
SM871 K9	A403
SM872 K9	A403
SM885 K9	A232–233
SM886 K9	A232–233
SM891 K9	A232
SMW27M	A587, C67, C89, C116, E53, G34, G70
SMW32M	A587, C67, C89, C116, E53, E89, G34, G70
SMW40M	C67, C89, C116, E53, E89, G34
SMW50M	C87, C89, C116, E89, G70
SMYE3 K9	A91, A97, A155, A178, A237–238, A248, A309–310, A323, A386–388, A408, A478, C40
SMYE4 K9	A155, A178, A309–310, A323, A387–388, A408, A478, C40
SMYE5 K9	A309–310, A386–388, A478
SMYI3 K9	A91, A97, A155, A178, A237–238, A248, A309–310, A323, A386–388, A408, A478, C40
SMYI4 K9	A155, A178, A309–310, A323, A387, A408, A478, C40
SMYI5 K9	A309–310, A386–388, A478
SN3TPKG	A323
SRS3	A78–81, A83, A145–153, A229–231, A297–302, A377, A467–468, A491–492, A562, C37
SRS4	A145–147, A150, A229, A297–298, A300–301, A376, A399, A466, A491, C37
SRS5	A467
SS025031PKG	I10
SS031031G	H5, H12, I10, I13–15, I17, L32
SS038031G	A256–257, A333, A416–417, E12, E38, G22, G24, G60, I13, I17, L32
SS038ER08500	I10
SS03M012	A258, A334–335, A418, A582–584, A613, A628, A630, C18–19, C60, C62, C85–86, C108, C110, C139, D12, D30, E14–15, E41, E43, E81, E83, F26, F66, G27, G29, G66
SS03M014	A258, A334–335, A418, A582–584, A613, A628, A630, C18–19, C60, C62, C85–86, C108, C110, C139, D12, D30, E14–15, E41, E43, E81, E83, F26, F66, G27, G29, G66
SS03M018	A258, A334–335, A418–419, A582–584, A582–584, A613, A628, A630, C18–19, C60, C62, C85–86, C108, C110, C139, D12, D30, E14–15, E41, E43, E81, E83, F26, F66, G27, G29, G66
SS03M023	A258, A334–335, A418–419, A507, A545–546, A582–584, A612–613, A628, A630, C18–19, C60–62, C85–86, C108–110, C139, C144, D12, D30, E14–15, E41, E43, E81, E83, F26–27, F66, F68, G27, G29, G66
SS03M025	A334–335, A418–419, A507, A546, A582–584, A613, A628, A630, C18–19, C60, C62, C85–86, C108, C110, C139, C144, D12, D30, E14–15, E41, E43, E81, E83, F26, F66, G27, G29, G65–66
SS03M026	A334–335, A418–419, A506–507, A545–546, A582–585, A613, A628, A630, C60–62, C85–86, C108–110, C139, C144, D12, D30, E15, E41, E43, E81, E83, F26, F66, G27, G29, G65–66
SS03M027	A418–419, A506–507, A545–546, A582–584, A613, A628, A630, C60, C62, C85–86, C108, C110, C144, D12, D30, E41–43, E81–83, F26, F66, G27–29, G64–65
SS03M029	A418–419, A506–507, A511, A545–546, A582–585, A613, A628, A630, C60, C62, C85–86, C108, C110, D30, E41–42, E44, E81–83, F26, F66, G27–29, G64–65
SS03M030	G65
SS03M030	A630
SS03M032	A546, C110, G65
SS03M032	A630
SS044038G	A504, A581, A627, C28, C58, C83, C106, C131, C143, D10, D28, D46, D60, E10, E36, E78, F22, F24, F62, G20, G58, H5, H12, I10,I13–15, I17, L32
SS050038G	I13, I17, L32
SS050DA301544	I12–13
SS050DA304438	I15
SS050DA304681	I15
SS050DA308516	I16–17
SS050DP308403	I21
SS050ER11700	I10
SS050TT012600	I5
SS050TT018600	I5
SS056041G	A543, A626–627, C16, C27–28, C57–58, C83, C105–106, D10, D28, D46, D60, E10, E13, E36, E38, E78, F18–19, F22, F56, F58, F62, G24, H5, H12, I11, L32
SS062041G	H26, I6, I13–15, I17, L32
SS062DA201325	I12–13
SS062DA201600	I12–13
SS062DA208569	I16–17
SS062DA301319	I12–13
SS062DA301544	I12–13
SS062DA308516	I16–17
SS075041G	A505, A544, A580, A627, C29, C59, C84, C107, C131, C138, C143, D11, D29, D47, D61, E11, E37, E79, F23, F63, G21, G59, I11, I13, I17, L32
SS075DA101650	I12–13
SS075DA108588	I16–17
SS075DA201600	I12–13
SS075DA204469	I15
SS075DA204712	I15
SS075DA208531	I16–17
SS075DA301344	I12–13
SS075DA301544	I12–13
SS075DA308516	I16–17
SS075DP208448	I21
SS075DP308403	I21
SS075ER16700	I10
SS075FC188688	I22
SS075TCJ731	I19
SS075TCTG050	I7
SS075TOJ712	I20
SS075TT025600	I5
SS075TT031600	I5
SS075TT038600	I5
SS075TT044600	I5
SS075TT050600	I5
SS080DA000132M	I14
SS081041G	A252–253, A257, A328–329, A332–333, A412–413, A416–417, A542, A610, A626, C16, C27, C57, C82, C105, D8, D45, D58, E9, E34, E39, E80, F18–20, F24, F56, F59–60, F64, G16–17, G25, G61, H4–5, H11–12, I6, I13, I15, I17, L32
SS094041G	A505, A544, A580, A627, C29, C59, C84, C107, C131, C138, C143, C160, C164, D11, D29, D47, D61, E11, E35, E37, E77, E79, F19, F21, F23, F61, F63, G18, G21, G57, G59, L32
SS100DA101650	I12–13
SS100DA104488	I15
SS100DA104731	I15
SS100DA108556	I16–17
SS100DA181638	I12–13
SS100DA188638	I16–17
SS100DA201600	I12–13
SS100DA208431	I16–17
SS100DA208531	I16–17
SS100DA301544	I12–13
SS100DA308516	I16–17
SS100DP108562	I21
SS100DP208448	I21
SS100DP308403	I21
SS100ER20700	I11
SS100ER25750	I11
SS100FC188688	I22
SS100SA062050	I27
SS100STL169	I18
SS100TCK719	I19
SS100TCL769	I19
SS100TCTG075	I7
SS100TG050698G	I6
SS100TG050719	I6
SS100TOK700	I20
SS100TOL750	I20
SS100TT056700	I5
SS100TT062700	I5
SS112041G	A328–329, A412–413, A502, A544, A626–627, C57, C59, C82, C84, C105, C107, C143, D8, D11, D26, D29, D45, D47, D58, D61, E11, E34, E37, E76–77, E79, F18, F20, F23, F56, F59–61, F63, G17, G21, G55–57, G59, H11, H19, I6, I15, L32
SS120ER11107M	I8
SS120STCHM06085M	I25
SS120STCHM06105M	I25
SS120STCHM06125M	I25
SS125050G	F20, H11, L32
SS125DA108556	I16–17
SS125DA108756	I16–17
SS125DA181838	I12–13
SS125DA184738	I15
SS125DA184988	I15
SS125DA188762	I16–17
SS125DA208531	I16–17
SS125DA304109M	I14
SS125DA304173M	I14
SS125DP188696	I21
SS125FC188888	I22
SS125SA100075	I27
SS125SA125075	I27
SS125TG075850	I6
SS125TG100925	I6
SS150DA108756	I16–17
SS150DA181838	I12–13
SS150DA188762	I16–17
SS150DA201600	I12–13
SS150DA208531	I16–17
SS150DA208731	I16–17
SS150DA404104	I15
SS150DA404791	I15

Catalog No.	Page(s)
SS150FC188688	I22
SS150FC188888	I22
SS150SA150100	I27
SS150TCTG100756	I7
SS150TG075775	I6
SS150TG100925	I6
SS160ER11132M	I8
SS160STCHM08088M	I25
SS160STCHM08108M	I25
SS160STCHM08128M	I25
SS160STCHM08148M	I25
SS160STCHM08168M	I25
SS160TT03110M	I4
SS160TT04110M	I4
SS162062G	A626, C105, D26, E76, G56, H19, L32
SS175062G	L32
SS175DA188762	I16–17
SS175FC188888	I22
SS175TG100819	I6
SS190DA204117M	I14
SS190DA204181M	I14
SS200DA101850	I12–13
SS200DA181838	I12–13
SS200DA188762	I16–17
SS200DA201800	I12–13
SS200DA204117M	I14
SS200DA204181M	I14
SS200ER16182M	I8
SS200ER25146M	I9
SS200ER32154M	I9
SS200FC188888	I22
SS200SA200100	I27
SS200STCHM10090M	I25
SS200STCHM10110M	I25
SS200STCHM10130M	I25
SS200STCHM10150M	I25
SS200STCHM10170M	I25
SS200TG100819	I6
SS200TT04150M	I4
SS200TT05150M	I4
SS200TT06150M	I4
SS200TT08150M	I4
SS200TT10150M	I4
SS200TT12150M	I4
SS250DA104122M	I14
SS250DA104186M	I14
SS250ER20190M	I8
SSA3T	A91, A97, A155, A178, A237–238, A248, A309–310, A323, A386–388, A408, A478, C40
SSA4T	A155, A178, A309–310, A323, A387–388, A408, A478, C40
SSA5T	A309–310, A386–388, A478
SSC031	L34
SSC038081	L35
SSC044	L34
SSC056	L34
SSC056066	L35
SSC081	L34
SSC081103	L35
SSC112150	L35
SSCC031	L34
SSCC044	C28, C58, C83, C106, L34
SSCC050	L34
SSCC056	C27–28, C57–58, C83, C105–106, L34
SSCC062	L34
SSCC075	C29, C59, C84, C107, L34
SSCC081	A610, C27, C57, C82, C105, L34
SSCC094	C29, C59, C84, C107, L34
SSCC112	C57, C59, C82, C84, C105, C107, L34
SSCC125	L34
SSCC162	C105, L34
SSCC175	L34
SSN2T	A248, A323
SSP025016M	A265–277, A345–357, A434–446, A519–520, A593–596
SSP025018M	A265, A345, A519, A593
SSY3T	A91, A97, A155, A178, A237–238, A248, A309–310, A323, A386–388, A408, A478, C40
SSY4T	A155, A178, A309–310, A323, A387–388, A408, A478, C40
SSY5T K9	A309–310, A386–388, A478
STCC11	A222
STCM11	A134–135, A172, A221–223, A225–226, A232, A240–241, A278–288, A314–316, A358, A360–370, A378, A393, A395–396, A447–458, A469–472, A485, A487, A521–524, A526–527, A558–561, C34
STCM1115IP	A134–140, A142, A166–174
STCM119IP	A139–141, A173–174
STCM19	A521–522, A524–526, A597–599
STCM20	A600
STCM35	A168
STCM38	A168, A171, A173–174
STCM4	A521–522, A524–525, A597–599
STCM8	A358, A360, A363–364, A447–448, A451–452
STCM9	A134–135, A140–142, A224, A284–285, A365–366
STCM9T9	A135–137, A168–171
SW30	L43
SW40	L43
SW50	L43
T11006	J80
T11007	J80
T11008	J80
T11009	J80
T11010	J80
T11012	J80
T11013	J80
T11014	J80
T11015	J80
T110155	J80
T110166	J80
T110177	J80
T1SET	J81
T21018	J80
T21019	J80
T21020	J80
T21021	J80
T21022	J80
T21023	J80
T21024	J80
T21025	J80
T21026	J80
T21027	J80
T210288	J80
T210299	J80
T210300	J80
T2SET	J81
T31031	J80
T31032	J80
T31033	J80
T31034	J80
T31035	J80
T31036	J80
T31037	J80
T310387	J80
T310388	J80
T310389	J80
TBWL5H	L53
TBWL6H	L53
TBWLT25IP	L53
TBWLT27IP	L53
TF30	L41
TF40	L41
TF50	L41
TFHSK100A	L39
TFHSK32A	L39
TFHSK40A	L39
TFHSK63A	L39
TFHSK80A	L39
TG050CDA	L17
TG075CDA	L17
TG100CDA	L17
TT3200CCTRAY	L7, L11
TT3200HCSSP0306M	L6, L10
TT3200HCSSP0612M	L6, L10
TT3200HCSSP1220M	L6, L10
TT3200HCSSP2032M	L6, L10
TTAAG025	L13
TTAAG031	L13
TTAAG038	L13
TTAAG03M	L12
TTAAG044	L13
TTAAG044X1	L13
TTAAG04M	L12
TTAAG050	L13
TTAAG050X1	L13
TTAAG056	L13
TTAAG056X1	L13
TTAAG05M	L12
TTAAG062	L13
TTAAG068	L13
TTAAG06M	L12
TTAAG075	L13
TTAAG088	L13
TTAAG08M	L12
TTAAG100	L13
TTAAG10M	L12
TTAAG125	L13
TTAAG12M	L12
TTAAG12MX1	L12
TTAAG14M	L12
TTAAG14MX1	L12
TTAAG16M	L12
TTAAG16MX1	L12
TTAAG18M	L12
TTAAG18MX1	L12
TTAAG20M	L12
TTAAG20MX1	L12
TTAAG25M	L12
TTAAG25MX1	L12
TTAAG32M	L12
TTAAG32MX1	L12
TTCCTRAY	L11
TTCCTRAY	L7
TTCS	L5, L9
TTHC0332M	L5, L9
TTHC3250M	L9
TTHCHC0332M	L6, L10
TTHCSP0306M	L6, L10
TTHCSP0612M	L6, L10
TTHCSP1220M	L6, L10
TTHCSP2032M	L6, L10
TTISG3200LCPCCHSK100	L5, L9
TTISG3200LCPCCHSK32	L5, L9
TTISG3200LCPCCHSK40	L5, L9
TTISG3200LCPCCHSK50	L5, L9
TTISG3200LCPCCHSK63	L5, L9
TTISG3200LCPCCHSK80	L5, L9
TTISG3200LCPCCKM50	L5, L9
TTISG3200LCPCCKM63	L5, L9
TTISG3200LCPCCKM80	L5, L9
TTISG3200LCPCCV30	L5, L9
TTISG3200LCPCCV40	L5, L9
TTISG3200LCPCCV50	L5, L9
TTISG3400CCEU	L8
TTISG3400CCNA	L8
TTISG3400EU	L4
TTISG3400NA	L4
TTSS05014M	A496–497, A572–573, C8–9, C24–25, C46–47, C50, C76–77, C96–97, C147–148, C159, C163, D4–5, D22–23, D40–41, D54–55, E4–5, E24–25, E66–67, F6–7, F44–45, G6, G46, I4–5
TTSS05014M	A622–623
TTSS05018M	C155
TTSS06014M	A496–497, A539, A572–573, A607, C8–9, C24–25, C46–47, C50, C76–77, C96–97, C147–148, D4–5, D22–23, D40–41, D54–55, E4–5, E24–25, E66–67, F6–7, F44–45, G6, G46, I4–5
TTSS06014M	A622–623
TTSS06020M	C155
TTSS08014M	A496–497, A538–539, A572–573, A606–607, C8–9, C24–25, C46–47, C50, C76–77, C96–97, C138, C147–148, C159, C163, D4–5, D22–23, D40–41, D54–55, E4–5, E24–25, E66–67, F6–7, F44–45, G6, G46, I4–5
TTSS08014M	A622–623
TTSS08020M	C155
TTSS10014M	A496–499, A538–541, A572–575, A606–609, C8–11, C24–25, C46–50, C76–79, C96–99, C147–149, C159, C163, D4–7, D22–25, D40–43, D54–57, E4–6, E24–27, E66–69, F6–9, F44–47, G6–8, G46–48, I4–5
TTSS10014M	A622–625
TTSS12014M	A496–499, A538–541, A572–575, A606–609, C8–11, C24–25, C46–50, C76–79, C96–99, C147–149, C159, C163, D4–7, D22–25, D40–43, D54–57, E4–6, E24–27, E66–69, F6–9, F44–47, G7–8, G47–48, I5
TTSS12014M	A622–625
TTSS12020M	C155
TTSS16014M	A496–499, A538–541, A572–575, A606–609, C8–11, C24–25, C46–50, C76–79, C96–99, C147–149, C159, C163, D4–7, D22–25, D40–43, D54–57, E4–6, E24–27, E66–69, F6–9, F44–47, G7–9, G47, G49
TTSS16014M	A622–625
TTSS16020M	C155
TTSS20014M	A538–539, A606–607, C76–79, C97, C99, D55, F45
TTSS20014M	A623, A625
TW1237R	L52
TW1460R	L52
TW515R	L52
TW58	L52
TW58R	L52
TW610	L52
TW610R	L52
TW623R	L52
TW628R	L52
TWT256R	L52
TWT278R	L52
UTAV	L40
UTV5030	L41
VDIA1M2065	K3
VDIA1M3085	K3
VDIA1M40100	K3
VDIA1M50125	K3
VDIA1M60160	K3
VDIA2M2070	K3
VDIA2M30100	K3
VDIA2M30240	K3
VDIA2M40120	K3
VDIA2M40320	K3
VDIA2M50135	K3
VDIA2M50400	K3
VDIA2M60150	K3
VDIA2M60480	K3
VDIB1M161224	K4
VDIB1M161234	K4
VDIB1M201630	K4
VDIB1M201640	K4
VDIB1M251630	K4
VDIB1M302040	K4
VDIB1M302060	K4
VDIB1M402544	K4
VDIB1M503255	K4
VDIB1M603260	K4
VDIB2M161224	K4
VDIB2M161234	K4
VDIB2M201630	K4
VDIB2M201640	K4
VDIB2M251630	K4
VDIB2M302040	K4
VDIB2M302060	K4
VDIB2M402544	K4
VDIB2M503255	K4
VDIB2M603260	K4
VDIB3M161224	K5
VDIB3M161234	K5
VDIB3M201630	K5
VDIB3M201640	K5
VDIB3M251630	K5
VDIB3M302040	K5
VDIB3M302060	K5
VDIB3M402544	K5
VDIB3M503255	K5
VDIB3M603260	K5

Catalog No.	Page(s)
VDIB4M161224	K5
VDIB4M161234	K5
VDIB4M201630	K5
VDIB4M201640	K5
VDIB4M251630	K5
VDIB4M302040	K5
VDIB4M302060	K5
VDIB4M402544	K5
VDIB4M503255	K5
VDIB4M603260	K5
VDIB5M201630	K6
VDIB5M201640	K6
VDIB5M302040	K6
VDIB5M402044	K6
VDIB5M402544	K6
VDIB5M503255	K6
VDIB5M603260	K6
VDIB6M201630	K6
VDIB6M201640	K6
VDIB6M302040	K6
VDIB6M402044	K6
VDIB6M402544	K6
VDIB6M503255	K6
VDIB6M603260	K6
VDIB7M201630	K7
VDIB7M201640	K7
VDIB7M302040	K7
VDIB7M402044	K7
VDIB7M402544	K7
VDIB7M503255	K7
VDIB7M603260	K7
VDIB8M201630	K7
VDIB8M201640	K7
VDIB8M302040	K7
VDIB8M402044	K7
VDIB8M402544	K7
VDIB8M503255	K7
VDIB8M603260	K7
VDIC1M201650	K8
VDIC1M201655	K8
VDIC1M302070	K8
VDIC1M402585	K8
VDIC1M5032100	K8
VDIC1M6032125	K8
VDIC2M201650	K8
VDIC2M201655	K8
VDIC2M302070	K8
VDIC2M402585	K8
VDIC2M5032100	K8
VDIC2M6032125	K8
VDIC3M201650	K9
VDIC3M201655	K9
VDIC3M302070	K9
VDIC3M402585	K9
VDIC3M5032100	K9
VDIC3M6032125	K9
VDIC4M201650	K9
VDIC4M201655	K9
VDIC4M302070	K9
VDIC4M402585	K9
VDIC4M5032100	K9
VDIC4M6032125	K9
VDIE1M2020	K10
VDIE1M2025	K10
VDIE1M3020	K10
VDIE1M3025	K10
VDIE1M3032	K10
VDIE1M3040	K10
VDIE1M4020	K10
VDIE1M4025	K10
VDIE1M4032	K10
VDIE1M4040	K10
VDIE1M5020	K10
VDIE1M5025	K10
VDIE1M5032	K10
VDIE1M5040	K10
VDIE1M5050	K10
VDIE1M6020	K10
VDIE1M6025	K10
VDIE1M6032	K10
VDIE1M6040	K10
VDIE1M6050	K10
VDIE2M2010	K11
VDIE2M2012	K11
VDIE2M2016	K11
VDIE2M2020	K11
VDIE2M2025	K11
VDIE2M208	K11
VDIE2M3010	K11
VDIE2M3012	K11
VDIE2M3016	K11
VDIE2M3020	K11
VDIE2M3025	K11
VDIE2M3032	K11
VDIE2M308	K11
VDIE2M4010	K11
VDIE2M4012	K11
VDIE2M4016	K11
VDIE2M4020	K11
VDIE2M4025	K11
VDIE2M4032	K11
VDIE2M4040	K11
VDIE2M408	K11
VDIE2M5010	K11
VDIE2M5012	K11
VDIE2M5016	K11
VDIE2M5020	K11
VDIE2M5025	K11
VDIE2M5032	K11
VDIE2M5040	K11
VDIE2M5050	K11
VDIE2M508	K11
VDIE2M6010	K11
VDIE2M6012	K11
VDIE2M6016	K11
VDIE2M6020	K11
VDIE2M6025	K11
VDIE2M6032	K11
VDIE2M6040	K11
VDIE2M6050	K11
VDIE3M2016	K12
VDIE3M2020	K12
VDIE3M3025	K12
VDIE3M4025	K12
VDIE3M4032	K12
VDIE3M5025	K12
VDIE3M5032	K12
VDIE3M6032	K12
VDIE4M1616	K12
VDIE4M2016	K12
VDIE4M2025	K12
VDIE4M3025	K12
VDIE4M3032	K12
VDIE4M3040	K12
VDIE4M4025	K12
VDIE4M4032	K12
VDIE4M4040	K12
VDIE4M5040	K12
VDIE4M6040	K12
VDIZ2M20	K13
VDIZ2M30	K13
VDIZ2M40	K13
VDIZ2M50	K13
VDIZ2M60	K13
WC4	A296

Visit **www.kennametal.com** for additional contact information for locations.

North America

- **United States**
  General Sales: 1-800-446-7738
  FtMill.Service@kennametal.com
  Technical Support: 1-800-835-3668
  na-kmt.techsupport@kennametal.com

- **Canada**
  General Sales: 800-446-7738
  toronto.service@kennametal.com
  Technical Support: 1-800-835-3668
  na-kmt.techsupport@kennametal.com

- **Mexico**
  General Sales: 001-888-402-4963
  k-mx.service@kennametal.com

Central/South America

- **Argentina**
  General Sales: 54 11 4719-0700
  buenos-aires.ventas@kennametal.com

- **Brazil**
  General Sales: 55 19 3936 9200
  bra.marketing@kennametal.com

- **Chile**
  General Sales: 56-2-2641177
  kennametalchile@kennametalchile.cl

- **El Salvador**
  General Sales: (503) 2218 8096
  prometca@salnet.net

- **Venezuela**
  General Sales: 305-595-5175
  paxi@bellsouth.net

Africa

- **Egypt**
  General Sales: +20 2-263-9828
  gafa@link.net

- **South Africa**
  General Sales: +27 11-397-3540
  kempton.service@kennametal.com

Europe

- **Austria**
  General Sales: +43-2236-379898
  brunn.sales@kennametal.com
  Technical Support: 0800 202873
  eu-kmt.techsupport@kennametal.com

- **Belgium**
  General Sales: +32 4 248 48 48
  liege.sales@kennametal.com
  Technical Support: 0800 80850
  eu-kmt.techsupport@kennametal.com

- **Czech Republic**
  Ricany-Jazlovice
  General Sales: +420 800 900 840
  k-prha.sales@kennametal.com

- **France**
  General Sales: +33 1 60 12 81 00
  info.fr@kennametal.com
  Technical Support: 0805 540 367
  eu-kmt.techsupport@kennametal.com

- **Germany**
  General Sales: +49 6172 737-0
  friedrichsdorf.service@kennametal.com
  Technical Support: 0800 0006651
  eu-kmt.techsupport@kennametal.com

- **Great Britain**
  General Sales: +44 1384 408060
  kingswinford.service@kennametal.com
  Technical Support: 0800 032 8339
  na-kmt.techsupport@kennametal.com

- **Hungary**
  General Sales: +36 96 618 158
  gyoer.sales@kennametal.com

Europe (cont.)

- **Ireland**
  General Sales: +44 28-9084-9433

- **Italy**
  General Sales: +39 02-895-961
  milano.vendite@kennametal.com
  Technical Support: 800 916561
  eu-kmt.techsupport@kennametal.com

- **Luxembourg**
  General Sales: +32 4 248 48 48
  liege.sales@kennametal.com

- **Netherlands**
  General Sales: +31 26 384 48 50
  arnhem.information@kennametal.com
  Technical Support: 0800 0201130
  eu-kmt.techsupport@kennametal.com

- **Poland**
  General Sales: +48 61 6656501
  poznan.sales@kennametal.com
  Technical Support: 00800 4411887
  eu-kmt.techsupport@kennametal.com

- **Portugal**
  General Sales: +351 22 4119 400
  porto.service@kennametal.com

- **Russia**
  General Sales: +7 495 4115386
  system@kennametal.ru

- **Slovakia**
  General Sales: +421 42 444 0792
  k-eu-trencin.sales@kennametal.com

- **Spain**
  General Sales: +34 93 586 03 50
  barcelona.service@kennametal.com

- **Turkey**
  General Sales: +90 216-574-4780
  tr.information@kennametal.com

East/Asia Pacific

- **Australia**
  General Sales: 1-800-666-667
  k-au.service@kennametal.com
  Technical Support: 1800674037
  ap-kmt.techsupport@kennametal.com

- **Bahrain**
  General Sales: 00 971 (0) 5572371
  info@passtech.co.uk

- **China**
  General Sales: +86 400 889 2135
  Technical Support: 400-889-2238

- **Dubai**
  General Sales: 00 971 (0) 5572371
  info@passtech.co.uk

- **India**
  General Sales: +91 80 2219 8444 or
  +91 80 4328 1444
  bangalore.information@kennametal.com

- **Indonesia**
  General Sales: 65.6265.9222
  k-sg.sales@kennametal.com
  Technical Support: 1800 6221031

- **Israel**
  General Sales: +97 23-558-1313
  arnold1@inter.net.il
  Technical Support: 1809 449889
  na-kmt.techsupport@kennametal.com

- **Japan**
  General Sales: 813 3820 2855
  Technical Support: 0120-509-085
  k-jp.service@kennametal.com

- **Korea**
  General Sales: +82 2 2100 6100
  Technical Support: +82 2 2100 6100

- **Kuwait**
  General Sales: 00 971 (0) 5572371
  info@passtech.co.uk

- **Malaysia**
  General Sales: (6) 03-5569 9080
  Technical Support: 1800812990

- **New Zealand**
  General Sales: 0800 536 626
  k-nz.service@kennametal.com
  Technical Support: 0800 450941
  ap-kmt.techsupport@kennametal.com

- **Pakistan**
  General Sales: +92 21 2465305
  itsystem@brain.net.pk

- **Singapore***
  General Sales: 65.6265.9222
  k-sg.sales@kennametal.com
  Technical Support: 1800 6221031
  *Vietnam and Philippines individuals should contact the Singapore office.

- **Taiwan**
  General Sales: +886 4-2350 1920
  taiwan.service@kennametal.com
  Technical Support: 0800 666 197

- **Thailand**
  General Sales: 662 642 3455
  Technical Support: 18004417820



Application, Geometry, and Feature Icons

 Accuracy — 3µm or Less	 Accuracy — 5µm or Less	 Accuracy — 6µm or Less	 Axial Adjustment
 Axial Adjustment — End	 Axial Adjustment — Side	 Balance — G 2.5@ 15,000 min^{-1}	 Balance — G 2.5@ 15,000 min^{-1}
 Balance — G 2.5@ 20,000 min^{-1}	 Balance — G 2.5@ 25,000 min^{-1}	 Balance — G 2.5@ 33,000 min^{-1}	 Balance — G 6.3@ 15,000 min^{-1}
 Balance — G 6.3@ 15,000 min^{-1}	 Balance — G 6.3@ 20,000 min^{-1}	 Balance — G 6.3@ 20,000 min^{-1}	 Balance — G 6.3@ 30,000 min^{-1}
 Balanced-by-Design	 Collet — ER DIN 6499	 Compensation — None	 Compensation — Tension and Compression
 Compensation — Tension Only	 Coolant — No Coolant	 Coolant — Through Coolant	 Coolant — Through Coolant 80 bar Maximum
 Coolant — Through Coolant 100 bar (1500 psi) Maximum	 Coolant — Through Coolant 70 bar (1000 psi) Maximum	 Coolant — Through Coolant 1200 psi Maximum	 Coolant — Through Coolant 100 bar (1500 psi) Maximum
 Coolant — Through Coolant Nozzle	 Drilling — No Coolant	 Drilling — Through Coolant	 Milling — No Coolant
 Milling — Side and Face	 Milling — Slotting	 Milling — Through Coolant	 Reaming — Through Coolant
 Shank — 1"–8 UNC Drawbar	 Shank — 1/2"–13 UNC Drawbar	 Shank — 5/8"–11 UNC Drawbar	 Shank — Cylindrical Kenbore™
Shank — Cylindrical Plain	Shank — Cylindrical Plain	Shank — Cylindrical ROTAFLEX™	Shank — Cylindrical VDI DIN 69880
Shank — Cylindrical Weldon® ≤h6	Shank — Cylindrical Weldon 2 Flat	Shank — Cylindrical Weldon DIN 1835/B	Shank — Cylindrical Weldon
Shank — Cylindrical Weldon DIN 6535/1835	Shank — Cylindrical Whistle Notch™	Shank — Cylindrical Whistle Notch ≤h6	Shank — Cylindrical Whistle Notch 2°

Application, Geometry, and Feature Icons

 Shank — Cylindrical Whistle Notch 5°	 Shank — Cylindrical Whistle Notch with Drive and Flange	 Shank — Cylindrical Whistle Notch™ DIN 1835/E	 Shank — Cylindrical with Flat
 Shank — Cylindrical with Flat and Flange	 Shank — Cylindrical with Flat and Flange	 Shank — Cylindrical with Square	 Shank — HSK DIN 69893
 Shank — HSK DIN 69893	 Shank — HSK DIN 69893 Form A	 Shank — HSK DIN 69893 Form A	 Shank — HSK DIN 69893 Form C
 Shank — HSK DIN 69893 Form C	 Shank — HSK DIN 69893 Form E	 Shank — HSK DIN 69893 Form E	 Shank — HSK DIN 69893 Form F
 Shank — HSK DIN 69893 Form F with Pin	 Shank — HSK Turning ISO 12164-3	 Shank — HSK Turning ISO 12164-3	 Shank — KM Micro™
 Shank — KM™ Mini	 Shank — KM4X™	 Shank — KM-ATC™	 Shank — KM-TS™ ISO 26622
 Shank — KM-TS ISO 26622	 Shank — KM-XMZ™	 Shank — M16 Drawbar	 Shank — M24 Drawbar
 Shank — R8 Bridgeport	 Shank — Screw-On	 Shank — SK BT JIS B 6339	 Shank — SK BT Taper Face Contact
 Shank — SK CAT(CV) ANSI B5.50	 Shank — SK CAT(CV) ANSI B5.50 1"–8 UNC Drawbar	 Shank — SK CAT(CV) ANSI B5.50 5/8"–11 UNC Drawbar	 Shank — SK CAT(CV) Taper Face Contact
 Shank — SK DV DIN 69871	 Shank — SK QC Erickson Quick Change 1"–8 UNC Drawbar	 Shank — SK QC Erickson Quick Change 5/8"–11 UNC Drawbar	 Shank — SK QC ERICKSON™ Quick Change
Speed — 20,000 min⁻¹ Maximum	Speed — 3,000 min⁻¹ Maximum	Speed — 30,000 min⁻¹ Maximum	Speed — 6,000 min⁻¹ Maximum
Speed — No Rotation	Tapping — Through Coolant	Tapping — Through Coolant 50 bar (725 PSI) Maximum	Tunable

DIN — German Institute for Standardization
ISO — International Standardization Organization

Kennametal Innovations Master

Cutting Tools

2013 Catalog

Kennametal is proud to present the Kennametal Innovations Master Cutting Tools 2013 Catalog, featuring all our standard milling, holemaking, and turning products. By compiling our full metalworking portfolio together, and including new application guidelines, tool selectors, and technical information, Kennametal addresses key industry segments and the services that support that vision.

2,000+ pages of Kennametal's best tooling — all in one book! See complete Rotating and Stationary tooling in our new **Master 2013 catalog**! Download the INCH or METRIC version from **www.kennametal.com,** or request a printed copy!



KENNAMETAL®

Our All-New Grade and Geometry Converter Mobile Application Is Available as a **Free Download** from the iTunes™ App Store and Android™ Marketplace.



Now Available

Our app is an excellent tool that enables you to input competitor grade and geometry information to find the equivalent Kennametal grades and geometries for a wide range of competitive grades and geometries in your application.

Easy to Download

Go to your device's application store and search for "Kennametal", and then follow your application store's directions on downloading. It's simple, fast, and free.

Easy to Use

Once the application is downloaded on your mobile device, launch the application, and select the "convert" tab at the bottom of the screen. Next, choose if you want to convert by competitor grade or geometry.

Once you decide, select a manufacturer from the list, and select the grade or geometry. The application will then display all of Kennametal's comparable grades or geometries in different material types.

If you already know your grade or geometry, you can use the search tab at the bottom of the screen to search by competitor grade or geometry and display the Kennametal equivalent.

KENNAMETAL®

Metalcutting Safety

IMPORTANT SAFETY INSTRUCTIONS

Read before using the tools in this catalog!

Projectile and Fragmentation Hazards:

Modern metalcutting operations involve high spindle and cutter speeds and high temperatures and cutting forces. Hot metal chips may fly off the workpiece during metalcutting. Although cutting tools are designed and manufactured to withstand high cutting forces and temperatures, they can sometimes fragment, particularly if they are subjected to over-stress, severe impact, or other abuse.

To avoid injury:

- Always wear appropriate personal protective equipment, including safety goggles, when operating metalcutting machines or working nearby.
- Always make sure all machine guards are in place.

Breathing and Skin Contact Hazards:

Grinding carbide or other advanced cutting tool materials produces dust or mist containing metallic particles. Breathing this dust or mist — especially over an extended period — can cause temporary or permanent lung disease or make existing medical conditions worse. Contact with this dust or mist can irritate eyes, skin, and mucous membranes and may make existing skin conditions worse.

To avoid injury:

- Always wear breathing protection and safety goggles when grinding.
- Provide ventilation control and collect and properly dispose of dust, mist, or sludge from grinding.
- Avoid skin contact with dust or mist.

For more information, read the applicable Material Safety Data Sheet provided by Kennametal and consult General Industry Safety and Health Regulations, Part 1910, Title 29 of the Code of Federal Regulations.

These safety instructions are general guidelines. Many variables affect machining operations. It is impossible to cover every specific situation. The technical information included in this catalog and recommendations on machining practices may not apply to your particular operation. For more information, consult Kennametal's Metalcutting Safety booklet, available free from Kennametal at 724.539.5747 or fax 724.539.5439. For specific product safety and environmental questions, contact our Corporate Environmental Health and Safety Office at 724.539.5066 or fax 724.539.5372.

Kennametal, the stylized K, A2, A3, A4, Beyond, Beyond BLAST, DFS, Dodeka, Dodeka MAX, Drill Fix, Erickson, Extrude Hone, GOdrill, GOmill, Green Box, HARVI, HARVI II, K715, KC7512, KC7542, KCN05, Kenclamp, Kendex, KenFeed, Kenlever, Kenloc, Kenna Precision, KM, KM Micro, KM Mini, KM-LOC, KM-LOC-II, KM-TS, KM12, KM16, KM20, KM25, KM32, KM32TS, KM40, KM40TS, KM4X, KM50, KM50TS, KM63, KM63XMZ, KM80, KM80ATC, KM80TS, KSEM, KSEM PLUS, KSRM, KSSM, Maximet, Mill 1, ModBORE, Rodeka, Romicron, SEFAS, ToolBOSS, TopGroove, Top Notch, TopThread , UT63, Wedgelock, and Whistle Notch are trademarks of Kennametal, Inc. and are used as such herein. The absence of a product, service name, or logo from this list does not constitute a waiver of Kennametal's trademark or other intellectual property rights concerning that name or logo.

Daewoo® is a registered trademark of Daewoo International Corporation.
Densimet™ is a trademark of Plansee Se Corporation Austria.
Gedore™ is a trademark of Gedore-Werkzeugfabrik Otto Dowidat.
Giddings & Lewis™ is a trademark of Giddings & Lewis Machine Tools, LLC.
GLEITMO™ is a trademark of Fuchs Lubritech GmbH.
Hanes® TAGLESS® is a registered trademark of HBI Branded Apparel Limited, Inc.
Hardinge™ is a trademark of Hardinge Brothers, INC.
Hazet® is a registered trademark of Hazet-Werk Hermann Zerver GmbH & Co.
INCONEL® is a registered trademark of Special Metals Corporation.
Mazak® and INTEGREX® are registered trademarks of Yamatomo Kosan Kabushiki Kaisha Corporation.
Mori Seiki® is a registered trademark of Mori Seiki Co., Ltd.
Nakamura-Tome™ is a trademark of Nakamura-Tome Precision Industry Co., Ltd.
OKUMA® is a registered trademark of OKUMA Corporation.
QR Code is a registered trademark of Denso Wave Incorporated.
SAFE-LOCK™ is a trademark of Haimer GmbH.
Takisawa® is a registered trademark of Takisawa Machine Tool Co., Ltd.
Titleist® DT SoLo® is a registered trademark of Acushnet Company Corporation.
Viton® is a registered trademark of DuPont Performance Elastomers LLC.
WD-40™ is a trademark of WD-40 Manufacturing Company Corporation.
Weldon® is a registered trademark of Weldon Tool Company.

©Copyright 2013 by Kennametal Inc., Latrobe, PA 15650. All rights reserved.

INNOVATIONS

MASTER CATALOG

WORLD AND CORPORATE HEADQUARTERS
Kennametal Inc.
1600 Technology Way
Latrobe, PA 15650 USA
Phone: 800.446.7738 (United States and Canada)
E-mail: ftmill.service@kennametal.com

EUROPEAN HEADQUARTERS
Kennametal Europe GmbH
Rheingoldstrasse 50
CH 8212 Neuhausen am Rheinfall
Switzerland
Phone: 41.52.6750.100
E-mail: neuhausen.info@kennametal.com

ASIA-PACIFIC HEADQUARTERS
Kennametal (Singapore) Pte. Ltd.
3A International Business Park
Unit #01-02/03/05, ICON@IBP
Singapore 609935
Phone: 65.6265.9222
E-mail: k-sg.sales@kennametal.com

INDIA HEADQUARTERS
Kennametal India Limited
8/9th Mile, Tumkur Road
Bangalore - 560 073
Phone: 91.80.2839 4321
E-mail: bangalore.information@kennametal.com

KENNAMETAL®

www.kennametal.com

©2012 Kennametal Inc., Latrobe, PA 15650 USA
All rights reserved. I A-12-02809