

MASTER CATALOG

HAIMER®

QUALITY WINS.

Our corporate company philosophy

Dear customers and prospective customers,

We are very pleased to present you the new HAIMER Master Catalog. In this compilation, we bundled all HAIMER catalogs and it will be continuously updated with new products and services.

As a system partner all around the machine tool, it is our top priority to provide you with consistent solutions for all of your tooling and machining needs.

HAIMER started as a job shop in 1977. From the very beginning HAIMER has been known as a quality supplier and has lived up to the corporate company philosophy "Quality wins" ever since.

Even today with over 800 employees worldwide, quality still defines our actions.

For our customers we consistently strive for highest values which are at the center of our company philosophy:

- Quality – micron precision through double 100% inspection
- Innovation through 8% R&D-ratio
- Fast and dynamic company culture
- Flexibility through short paths of communication
- Reliability – Delivery performance due to high stock availability
- Best price-performance ratio

In an effort to live by one of our core values that states, “The benchmark for the value of our daily work is the satisfaction of our customers”, HAIMER established its first worldwide subsidiary in the Chicago area in 2002. Founded in the garage at the house of the Holden family, HAIMER knew that in order to properly support and satisfy the North American market, a local sales and service center had to be established.

By 2003, the North American operation moved into a 5,000 square foot warehouse in the Chicago suburb of Villa Park, IL. This is where the operation is still today, having now expanded to over 30,000 square feet. In this location, there is a full inventory, showroom, training room, sales, service and support center ready to assist our customers. In addition to our North American headquarters, we have over 20 employees in the United States and Canada living in their territories in order to provide local support. In total, there are over 40 employees in the United States and Canada ready to assist at any time.

In 2014, Haimer North America officially founded Haimer Mexico in Queretaro, Mexico. Currently Haimer Mexico has about 10 employees living throughout the country and we are willing and able to support the Mexican market fully with the HAIMER product.

We are pleased to continuously support you with our passion for precision and innovation, expanding our position as the market leader, true to our corporate philosophy:

Quality wins.



Franz Haimer

Company Founder and
CEO Haimer GmbH



Claudia Haimer

Company Founder and
CEO Haimer GmbH



Andreas Haimer

Managing Director Haimer GmbH
and President Haimer Group



Brendt Holden

President Haimer USA and
North America

GROWING WITH CHALLENGES. OPEN FOR NEW POSSIBILITIES.



The HAIMER success story started as a one-man-business in 1977. HAIMER first produced high-precision parts as a supplier for the aerospace and automotive industry. Even back then it was about achieving the highest quality standards. Acquired special skills in conjunction with the typical HAIMER passion for innovation proved to be an ideal base for its first in-house product developments.

In 1988, HAIMER presented its first 3D-sensor, a milestone which has since been followed by many more: From tool holders, shrinking and balancing technology to solid carbide end mills.

HAIMER's latest product line expansion is the integration of the HAIMER Microset tool presetting technology. Today, HAIMER is considered a global system supplier in the tooling industry and is the European market leader in tool holding technology.

Simultaneously, the Igenhausen production site with state-of–the-art machinery and a high degree of automation has been consistently further developed.

In addition, HAIMER has expanded globally with its own sales and service subsidiaries in the largest metal working markets. At the second production site in Bielefeld high-precision tool presetters have been produced for over 50 years.

1977

>500

More than 500 of over 800 HAIMER employees are working at the production site in Igenhausen, near Augsburg. They are working for the strict compliance of our corporate philosophy:
Quality wins.





1989

1988



1999

1996

2002



2006

2007



2011

2013



2016

2017













QUALITY STARTS WITH THE PRODUCT. SERVICE COMPLETES IT.

With our subsidiaries across the globe we guarantee the highest possible quality of support. We are always at your service: Our local specialists are available to personally support you in your respective business activities and based on your specific requirements.

From specific product advice to individual customer service support, the global HAIMER subsidiaries help you throughout the entire sales process even after the delivery is completed.

In countries without direct HAIMER sales and service subsidiaries, we trust our trained distribution and competence partners to locally support our end customers. Thus we are able to export our products to over 100 countries worldwide.

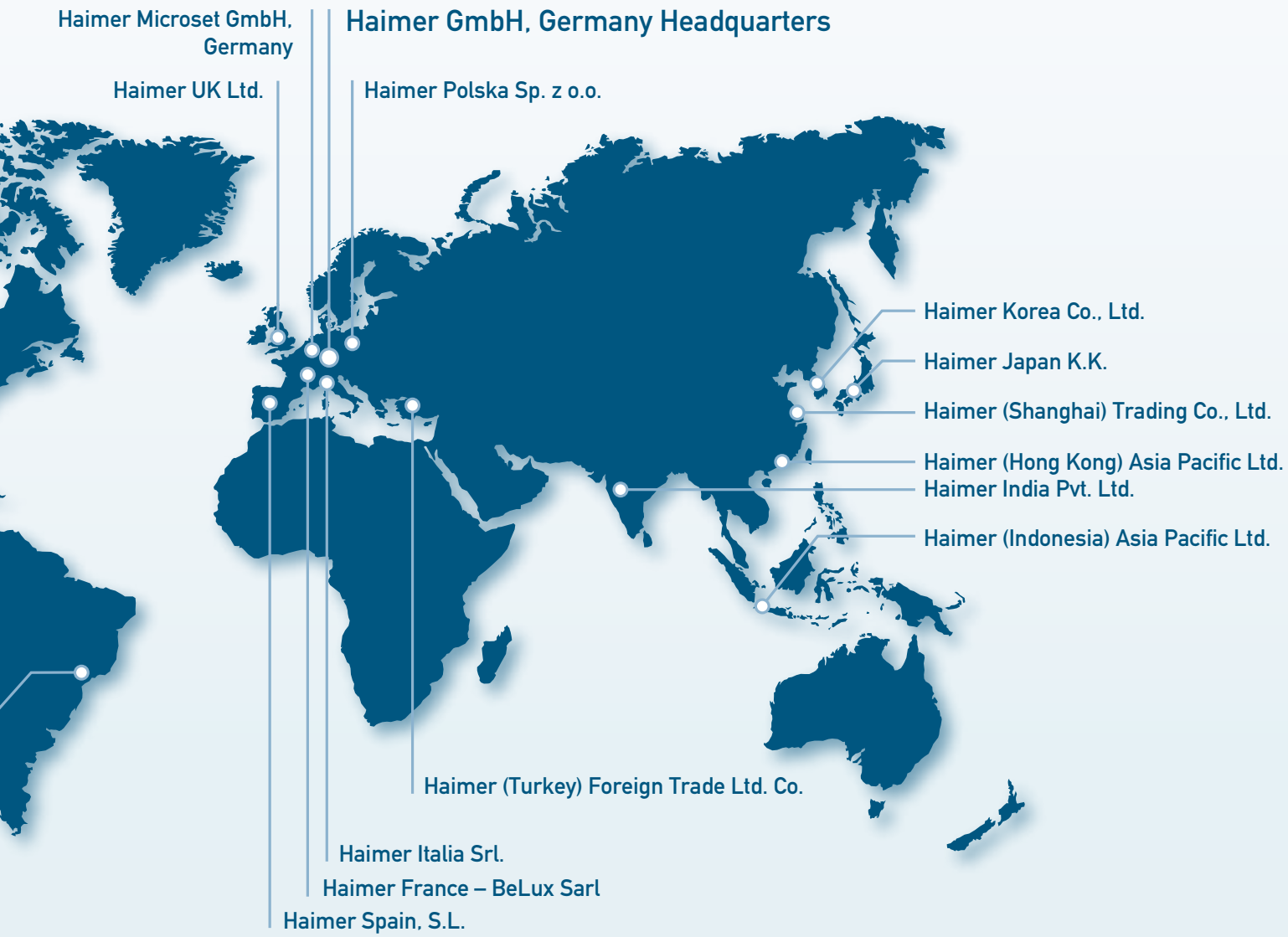




HAIMER USA and North American Headquarters in Villa Park, IL

16

This is the number of our subsidiaries worldwide. For first-class service, competent consultation and the global implementation of our corporate philosophy: **Quality wins.**


Haimer Microset GmbH, Germany
Haimer GmbH, Germany Headquarters
Haimer UK Ltd.
Haimer Polska Sp. z o.o.
Haimer Korea Co., Ltd.
Haimer Japan K.K.
Haimer (Shanghai) Trading Co., Ltd.
Haimer (Hong Kong) Asia Pacific Ltd.
Haimer India Pvt. Ltd.
Haimer (Indonesia) Asia Pacific Ltd.
Haimer (Turkey) Foreign Trade Ltd. Co.
Haimer Italia Srl.
Haimer France – BeLux Sarl
Haimer Spain, S.L.

QUALITY LIES WITHIN THE PROCESS. HAIMER IS YOUR SYSTEM PARTNER.

We are offering groundbreaking solutions for the entire machining process! From efficient and professional tool handling through shrinking, balancing and presetting technology or machining itself – with technologically advanced tool holders and solid carbide end mills.

All of the solutions provided work seamlessly together with one another. This reduces non-productive times and allows you to increase your efficiency and productivity. Of course, the HAIMER quality promise is valid for the entire product offering.

In summary: With HAIMER, you are not only purchasing a product but a full and consistent solution.

MEASURING TECHNOLOGY

3D-sensors and centering devices
Fast and precise positioning and measuring of work pieces and clamping systems.

10,220

A high variety of products in six product segments is at your disposal: In order to increase your efficiency and productivity. **Quality wins.**

TOOL MANAGEMENT

Entire solution for tool storage and management
For functional and ergonomic workspaces. The HAIMER DAC offers a Tool Management system to connect all process steps around the machine tool.

TOOLING TECHNOLOGY

Tool holders, solid carbide and modular end mills
High-end tooling technology for maximum cutting performance and precision.



SHRINKING TECHNOLOGY

Inductive shrink fit machines
Tool change within seconds with maximum clamping forces and most precise tool holding.

BALANCING TECHNOLOGY

Balancing machines for tool holders, tools, grinding wheels and other rotors.
More productivity, longer tool life and process security through less imbalance in production.

PRESETTING TECHNOLOGY

Tool Presetters for precise measuring of tools
More productivity and process security in tool presetting – direct data transfer to the machine tool.

QUALITY NEEDS CONSISTENCY.

For us at HAIMER quality is not just a promise. It is at the center of our actions and a key factor for both the journey as well as the end result.

Our customers around the world rely on quality. It is our ambition to develop solutions that help great companies to achieve their targets, increase their competitive advantage and expand their successful market position in the long run.

This requires experienced, skilled and highly motivated and qualified employees. The use of most modern technologies is demanded, as well as the ability to completely incorporate requests from various industries.

Particularly the continued willingness to do the very best again and again in every single process step is a key factor. This is HAIMER – discover our company and what we can do for you.



200%

Consistently ambitious: Besides the existing DIN-standards, HAIMER has defined its own considerably higher standards. Our double 100% inspection ensures the compliance.
Quality wins.


We leave nothing to chance.
We inspect thoroughly.
From raw material selection to delivery.
The HAIMER Quality Management.

KEEP GOING ON AND ON.

In 2018, HAIMER set new standards with the new additional production site in Motzenhofen. Since then HAIMER is turning and milling high precision rotating tool holders on a production space of more than 47,000 ft² with the help of the most modern and automated machine tools.

With a maximum capacity of 4,000 tool holders per day, the HAIMER plant in Motzenhofen is the biggest production facility for rotating tool holders worldwide.

Needless to say, HAIMER is using its own tool holders, cutting tools, shrinking, balancing and presetting technology, as well as our own Tool Management Systems.

The raw material inspection, a quality measuring room and a large tool room provide the best conditions to produce consistent quality – from the first holder to the last.





Tool Room Motzenhofen, Germany

4,000...

...Tool holders per day is our maximum capacity. The challenge for us is to deliver each and every tool holder in consistent µm-precise accuracy. **Quality wins.**



PRECISION REACHES ITS TARGET. IN MANY INDUSTRIES.

Aerospace. Heavy duty machine construction. General mechanical engineering. Die and mold. Automotive industry. Medical industry. Watchmaking industry. Consumer electronics. HAIMER is present in various industries with many different requirements for machining: From micro-machining in the electronic and medical industry to heavy-duty cutting in the aerospace industry.

However, all industries have one thing in common: Wherever maximum precision and productivity in metal cutting is the target, HAIMER technology is often used on the shopfloor.

No matter what result is at the end of the value chain, every company depends on maximum process reliability for their success. And this is exactly what innovative HAIMER solutions provide.

All in all, HAIMER customers are machining with more precision and with a safer, more productive solution – reducing the wear of tools and machine tools at the same time.

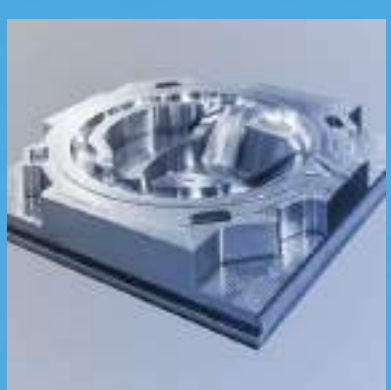


30,977

Companies from dynamic industries are depending on HAIMER technology. And this number increases everyday. **Quality wins.**











Jet engines, structural parts, implants, engine and chassis components for cars and trains as well as complex parts for consumer electronics and general engineering are only a few of the application areas HAIMER products are used for.

HAIMER CARE.
ALWAYS AT YOUR SERVICE.

The HAIMER machines are known for their high quality and longevity. For HAIMER, quality does not end with the products, but continues through the quality of service HAIMER employees provide.

The HAIMER technicians are quickly on site and you benefit from:

- Early wear detection
- Maintaining the condition of the equipment
- High availability of HAIMER specialists
- Consistent quality level
- Prerequisite for certification according to ISO 9001



Learn more about the HAIMER service program from your contact person or by visiting:
www.haimer-usa.com/services/haimer-care

Demo Van

Individual advice at your shop.

We travel internationally with our Demo Vans. On board we have our latest solutions and demonstrate state-of-the-art shrink fit, balancing and presetting of tools LIVE. We provide a free balancing check of your tool assemblies on site – through these tests, we often discover the reasons for spindle damage and vibrations!

Ask us and benefit from the experience of our experts!
We will come to your facility!



HAIMER HCCP PROGRAM

Both Haimer USA and Haimer Mexico have established the HAIMER Competency Center in an effort to give our distributors the skills and tools to support the HAIMER products properly in the market.

Participating distributors in the HCCP program walk away from their training prepared to share with their customers the benefits of using HAIMER products on the shop floor in an effort to optimize production and save costs.

In return, HAIMER has committed to support our distributors in the field with on-site visits at the end-users.

SHOWROOM AND APPLICATION CENTER

Both Haimer USA and Haimer Mexico are equipped with a showroom and application center that includes a training room, a test environment for machining trials and a fully equipped tool room that has many different HAIMER machines under power for demonstration.

- Over 10,000 square feet in the USA with machinery, training room, reception and hospitality
- Close to 300 square meters in Mexico with machinery, training room and reception
- Both showrooms are always ready to receive visitors for product demonstrations at any time
- One machining center in Villa Park, IL for trials, product comparisons and applications for a variety of industries
- Fully equipped state-of-the-art tool room with many HAIMER machines under power in both the USA and Mexico
- Modern audio and visual technology for live demonstrations



Benefit

Haimer USA offers its distribution partners the opportunity to further their sales efforts. Learn how one distributor benefited from the HCCP Program. **Quality wins.**



CUSTOMER VOICE

"I deal with these products on a daily basis but I really haven't had a lot of hands-on experience myself, so just being able to spend some time around the product was worthwhile. We've all come back with such positive feedback and got quite a bit out of it. Not only the technical part, but the hands-on part of the training was really helpful for the few of us who have been able to attend. We will be sending more employees to this training in the future."

Participant Haimer USA HCCP training

INVESTING IN THE FUTURE.

TITANS OF CNC AND HAIMER USA JOIN FORCES.

Haimer USA is proud to announce a partnership with TITANS of CNC, an organization that uplifts students, educators and the manufacturing workforce in over 170 countries worldwide.

Titan Gilroy, CEO and founder of TITANS of CNC is focused on developing and delivering high-level manufacturing education through the TITANS of CNC: Academy and Aerospace Academy. Over the past few years, TITANS of CNC has reshaped the way manufacturing education is approached and delivered. With its free, online, video-based, step by-step, training system, TITANS of CNC continues to provide real solutions to real manufacturing problems.

As part of the collaboration, Haimer USA introduced various industry leading products to Titan so he can implement the HAIMER technology into his academies and teach his students about how HAIMER products provide consistent solutions for machinists to increase their productivity. “We are excited to be working with Titan and his team,” President of Haimer USA, Brendt Holden stated, “Through the TITANS of CNC: Academy, together we will be able to educate operators on why our system solution of balancing, presetting, shrinking and measuring are so important to implement in machine shops.”

“TITANS of CNC is proud to partner with HAIMER who is a world leader in the area of shrink fit, balancing, and presetting technology,” Titan Gilroy – CEO of TITANS of CNC stated, “We are excited to introduce our audience to these incredible products and solutions and we look forward to using them to help teach the trade at the highest level.”

HAIMER is the worldwide leader in the production of shrinking, balancing and presetting equipment combined. Together these three technologies, along with a state of the art Tool Management cabinetry system is in place and on display in the TITANS of CNC shop. New and exciting educational videos are soon to be produced in order to show this equipment in action in practical uses for any size shop.

HAIMER supports the continuing training for the machinists of tomorrow through their apprenticeship program and their HAIMER Academy, a series of webinars and workshops. “Education has always been a core passion at HAIMER as we agree that it is important to invest in educating the future of our trade,” explains Brendt. “It is a pleasure to expand upon that passion with Titan and his Academy.”



TITANS of CNC | ACADEMY

For more information on TITANS of CNC, please visit titansofcnc.com

Apprenticeship at HAIMER

HAIMER GmbH welcomed 15 new apprentices this year to bring the total to 50 apprentices currently working and learning at the HAIMER headquarters located in Igenhausen, Germany.



STAY CONNECTED.

Today, the social media presence of the HAIMER group comprises nearly 25,000 followers on YouTube, LinkedIn, Facebook, Instagram and Twitter.

On our YouTube channel we offer:

- Product and application videos
- Tutorials
- Customer success stories

Learn more about specific products by visiting the website below
www.youtube.com/user/haimerusallc



DOWNLOAD OF DXF AND STP FILES

For our customers, HAIMER offers free drawings to download for a smooth interference contour analysis and integration into the CAD/CAM system. For all HAIMER tool holders and tools, there are 2D and 3D files as DXF and STP available.

Simply register on our corporate HAIMER website to get access. Overall drawings for more than 5,000 tool holders, cutting tools and accessories are available for download. More than 15,000 users are already taking advantage of this service.

www.haimer-usa.com/registration

HAIMER i4.0 – Technologies for smart production



HAIMER Info

Keep in touch with the HAIMER newsletter. The HAIMER newsletter keeps you informed about the latest HAIMER Group updates.

Benefits of registering:

- **Free tickets** for events & conventions
- **Invitations** (e. g. for open house)
- **Application tips and stories** from other customers
- **Important information** about HAIMER products



Sign up for the newsletter here:
www.haimer-usa.com/news/blog

QUALITY WINS.



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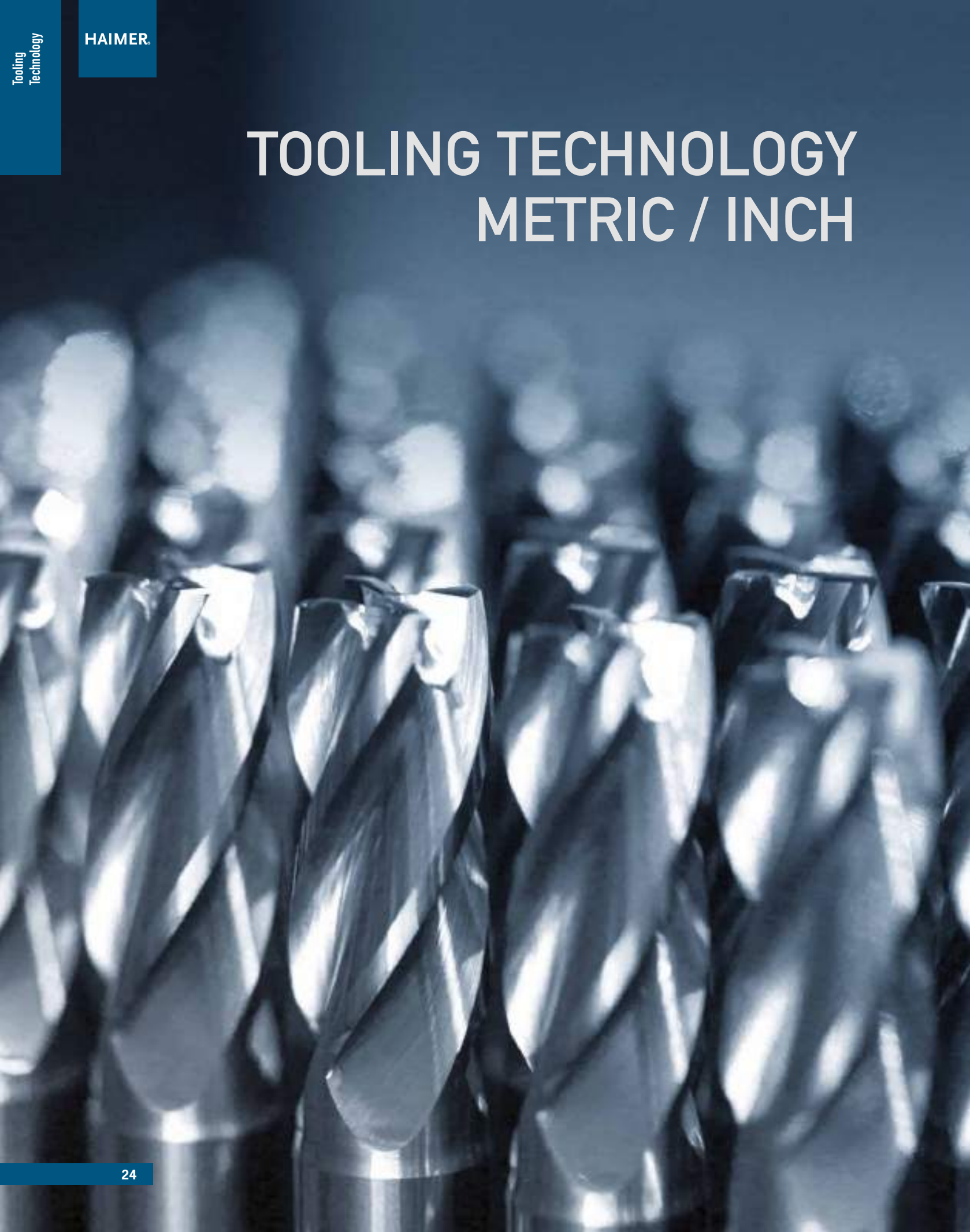

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HAIMER

TOOLING TECHNOLOGY METRIC / INCH



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METRIC INCH

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HAIMER MILL Power Series

Solid Carbide End Mills – Unique Advantages



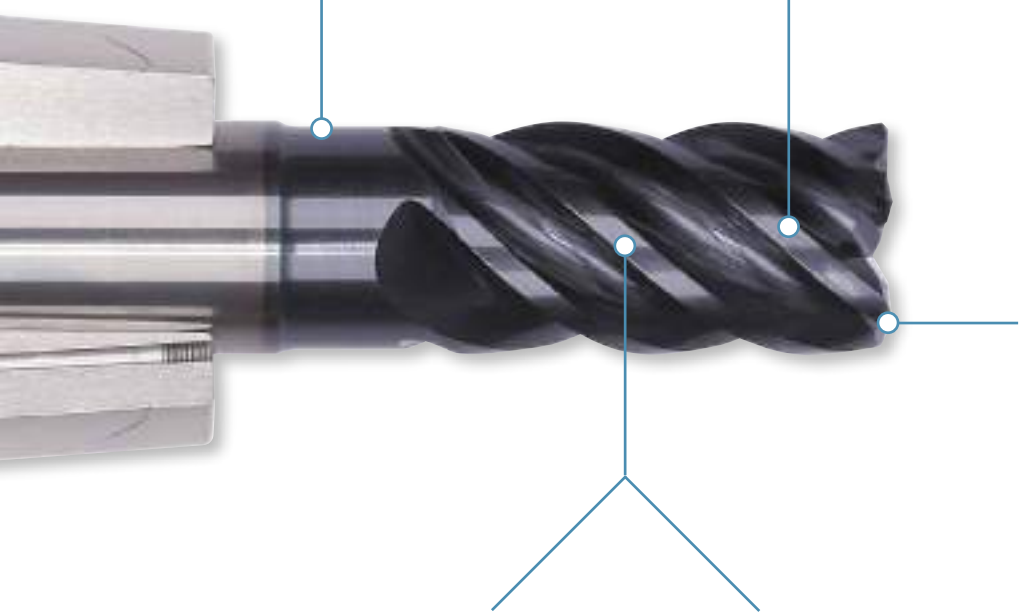
HAIMER Quality – 100% guarantee:

→ Consistent cutting tool performance
→ Maximized process reliability

Safe-Lock shank:
→ Maximum pull-out protection
→ Best run-out accuracy
→ Maximum cutting volume
→ Even in tool holders without Safe-Lock consistent clamping forces and torques
→ h5 shank tolerance

Recessed Neck:
→ Greater reach capability (ap)
→ Expanded application range

Fine-balanced to < 1gmm
→ Smooth vibration-free rotation
→ Spindle Bearing Protection



Max. 5 µm run-out accuracy
→ Optimized repeatability
→ Better machining quality
→ Reduced chatter
→ Increased tool life thanks to equal tool wear

High precision rounding of cutting edges
→ Less prone to chipping
→ Wide application range

Polished Surfaces:
→ Optimized chip removal
→ Increased tool life



Shock-resistant packaging
→ Top quality in each delivery

Tooling Technology

HAIMER



HAIMER MILL Power Series

For maximum cutting performance and tool life

FORMULAS – MILLING BASICS

Common North American cutting tool formulas

INCH

Description	Formula
Cutting Speed (RPM)	$RPM = \frac{SFM \cdot 3.82}{Dia.}$
Surface feed per minute	$SFM = RPM \cdot 0.262 \cdot Dia.$
Feed (IPM)	$IPM = RPM \cdot IPR$
Feed per tooth	$IPT = \frac{IPM / RPM}{No.\ of\ flutes}$
Material removal rate	$MRR = IPM \cdot WOC \cdot DOC$

Legend

RPM = Revolutions per minute
Dia. = Tool diameter [inch]
SFM = Surface feed per minute [inch/min]
IPM = Feed per minute [inch/min]
IPR = Feed per revolution [inch/r]
IPT = Feed per tooth [inch/Z]
MRR = Material removal rate [inch^3/min]
WOC = Width of cut
DOC = Depth of cut

Cutting speed, Feed and Milling

METRIC

Description	Formula
RPM	$n = \frac{v_c \cdot 1000}{D \cdot \pi}$
Cutting speed	$v_c = \frac{D \cdot \pi \cdot n}{1000}$
Feed per tooth	$f_z = \frac{f_n}{z}$ $\quad f_z = \frac{v_f}{z \cdot n}$
Feed per rotation	$f_n = f_z \cdot z$ $\quad f_n = \frac{v_f}{n}$
Feed rate	$v_f = f_z \cdot z \cdot n$
Material removal rate	$Q = \frac{a_p \cdot a_e \cdot v_f}{1000}$
Drive power	$P_a = \frac{a_p \cdot a_e \cdot v_f \cdot k_c}{60 \cdot 10^6 \cdot \eta_{mt}}$
Cutting time	$T_c = \frac{l}{V_f} = min$
Average chip thickness	$h_m = f_z \cdot \sqrt{\frac{a_e}{D}}$

Legend

a_e = Radial cutting width [mm]
a_p = Axial cutting depth [mm]
D = Diameter [mm]
f_n = Feed per rotation [mm/r]
f_z = Feed per tooth [mm/Z]
h_m = Average chip thickness [mm]
k_c = Specific cutting force [N/mm^2]
l = Length of cut [mm]
n = Revolutions per minute [rpm]
P_a = Drive power [kW]
Q = Material removal rate [cm^3/min]
T_c = Cutting time [min]
v_c = Cutting speed [m/min]
v_f = Feed rate [mm/min]
z = Number of teeth
π = 3.14...
η_{mt} = Efficiency rate



SAFE-λOCK® – The safety belt for your tools

In high performance cutting (HPC), it is possible for the cutting tool to be pulled out of the chuck. The reason is a slow micro-creeping motion. It happens when cutting at high speeds and with high pull out forces. Even chucks with extremely high clamping force cannot prevent micro-creeping. High-quality work pieces become scrap as a result. **The Safe-λock® system offers a solution.**

The revolutionary system secures the cutting tool via the high accuracy frictional clamping in conjunction with a positive locking form fit connection.

This is accomplished by means of grooves in the cutting tools and the corresponding form fit in the tool holder. Resulting in a connection in which all potential movements of the cutting tool are prevented.

Your advantages On the safe side with SAFE-λOCK®:

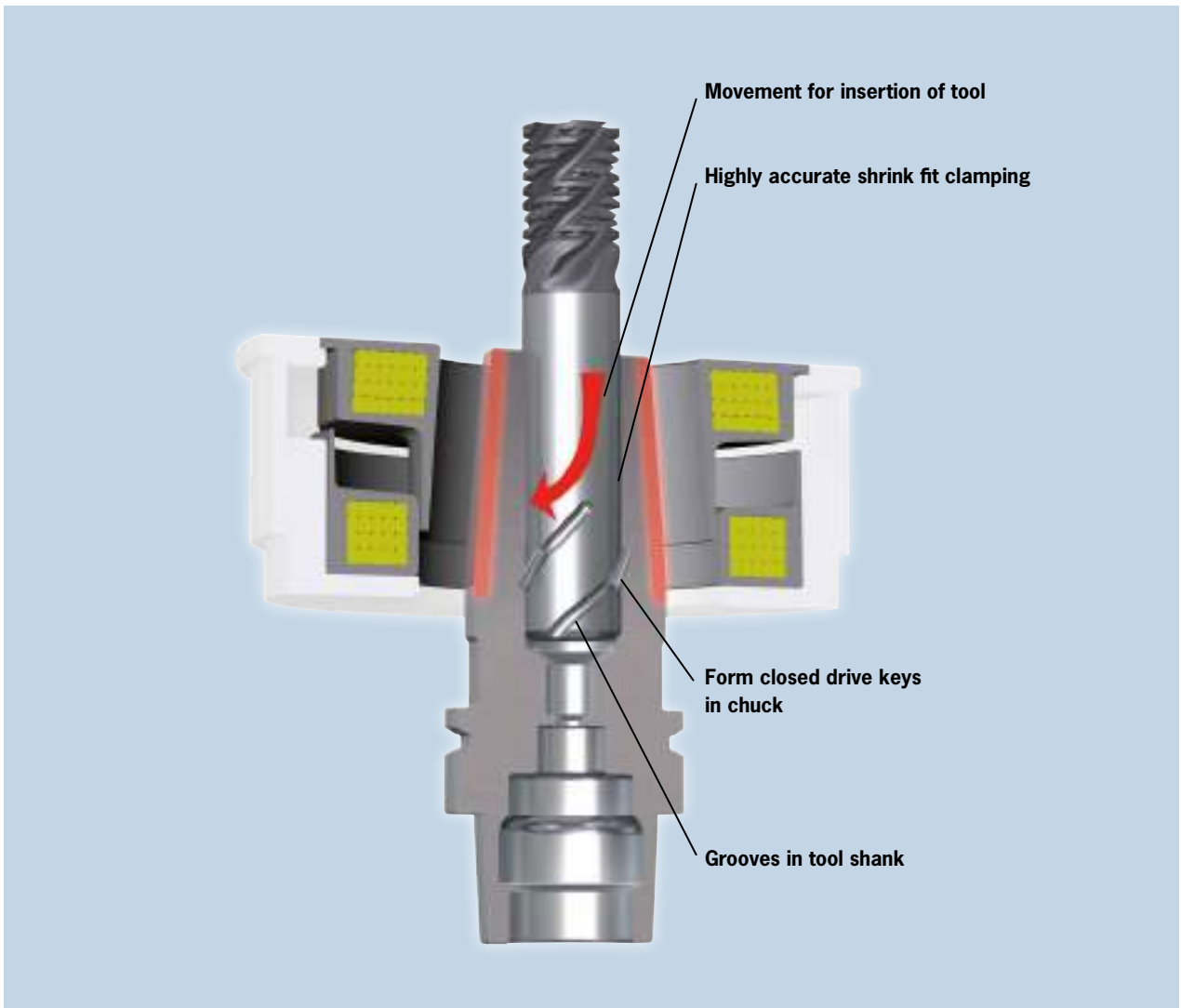
- For High Performance Cutting
- Highly accurate clamping due to shrink fit or collet chuck technology
- High torque due to form closed clamping
- No tool pull out (see image on the lower left)
- No twisting
- Patent granted: licensing possible

→ Maximum metal removal rate with absolute process reliability



No tool pull out with Safe-Lock

SAFE-λOCK® PULL OUT PROTECTION – FUNCTIONALITY



POWER SHRINK CHUCK WITH SAFE-LOCK



POWER COLLET CHUCK WITH SAFE-LOCK



QUESTION:
Can an end mill with Safe-Lock shank also be clamped into a tool holder without Safe-Lock pins?

ANSWER:
Yes, tools with Safe-Lock shank can be clamped in every frictional tool holder.

QUESTION:
Is the length of tools with Safe-Lock shank adjustable?

ANSWER:
Yes, the pull out protection Safe-Lock allows shifting the tool within the Safe-Lock groove without any problems.

QUESTION:
How can I shrink in tools with Safe-Lock shank?

ANSWER:
Tools with Safe-Lock shank are put in the heated tool holder and are then shrinked in with a twisting movement.

QUESTION:
How can I get out broken tools with Safe-Lock shank from a Safe-Lock tool holder?

ANSWER:
The HAIMER shrink out device (Order No. 80.126.00) helps to get out broken tools despite the spiral-shaped Safe-Lock grooves without any problems.

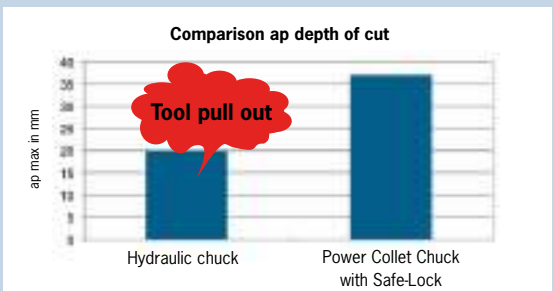
QUESTION:
What advantages does the Safe-Lock system offer compared to the well-tried Weldon-clamping system?

ANSWER:
Due to the side clamping of the Weldon system, the tool is pushed off center, which which causes poor runout accuracy of up to 0.05 mm, inconsistent balance, all of which causes insufficient surface finish and poor tool life.
In comparison, HAIMER Safe-Lock provides, in addition to the pull out protection, a very high runout accuracy of < 0.003 mm and repeatable balance.
Only Safe-Lock allows a maximum metal removal rate combined with absolute process reliability and precision!

Power Collet Chuck with Safe-Lock

Maximum metal removal rate and best surface finish without risk of pullout

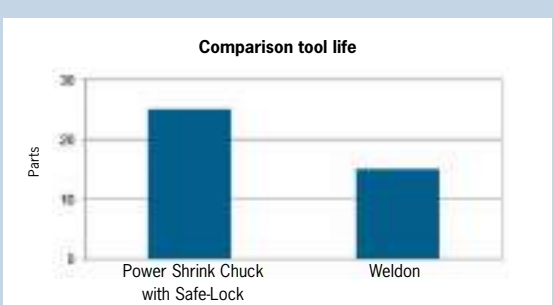
Application:	Slot milling
Work piece:	Titanium block
Material:	Ti6Al4V
Tool Holder:	Power Collet Chuck with Safe-Lock
Machine:	DMG MORI, DMU 80 P duoBLOCK®
Interface tool:	HSK-A 100
Cooling / pressure:	Emulsion/100 bar
Tool:	Safe-Lock solid carbide end mill, Z4, Ø20mm
Cutting data:	ae: 20 mm
	ap: 20/32.5/35/37.5 mm
	fz: 0.07 mm
	vc: 60 m/min



Power Shrink Chuck with Safe-Lock

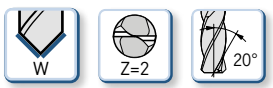
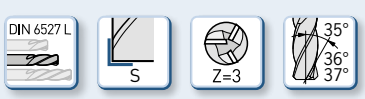
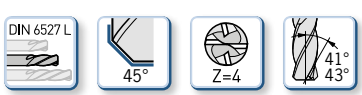
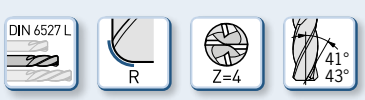
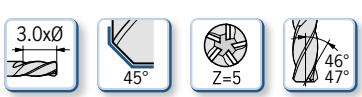
66% more tool life with Safe-Lock compared to Weldon

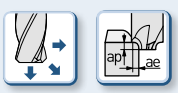
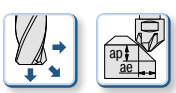
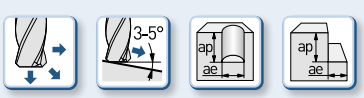
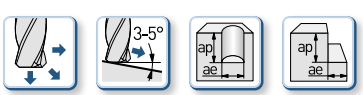
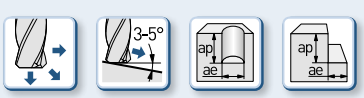
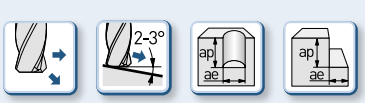
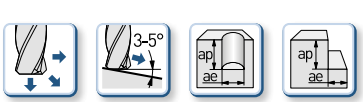
Application:	Pocket milling
Work piece:	Mold
Material:	1.2312/40CrMnMoS 8-6, 40 HRC
Tool Holder:	Power Shrink Chuck with Safe-Lock
Machine:	Mazak FH7800
Interface tool:	HSK-A 100
Cooling:	Air
Tool:	Safe-Lock solid carbide end mill, Z4, Ø20mm
Cutting data:	ae: 2 mm
	ap: 35 mm
	fz: 0.25 mm
	vc: 180 m/min



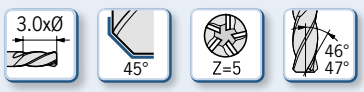
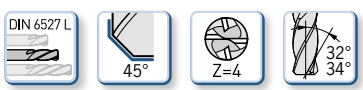
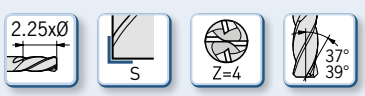
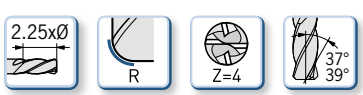
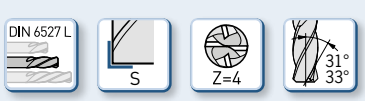
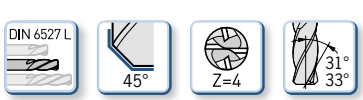
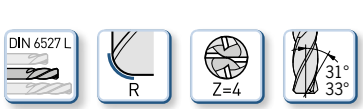
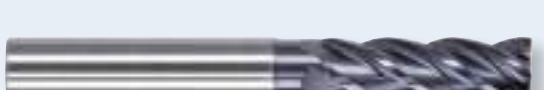
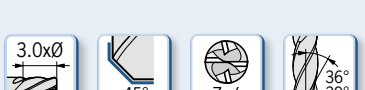
HAIMER

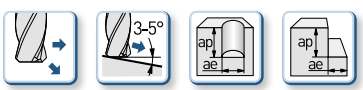
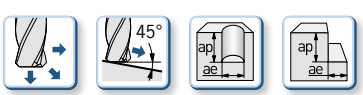
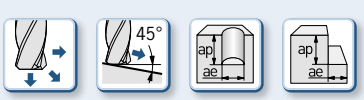
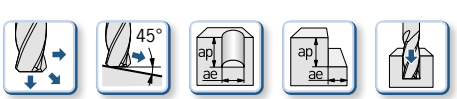
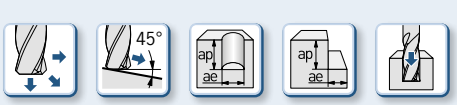
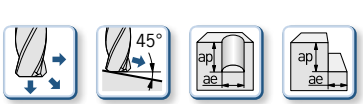
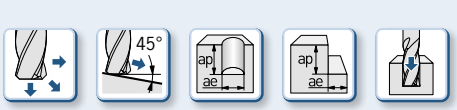
OVERVIEW SOLID CARBIDE END MILLS

Products		ø D1	Page	Characteristics
E1012 – HAIMER MILL MULTIFUNCTION END MILL 	METRIC	ø 4 – ø 10	43	
E1014UN - HAIMER MILL QUADRANT END MILL 	METRIC	ø 6 – ø 10	45	
E1014UN/E1016UN - HAIMER MILL CHAMFERING END MILL 	METRIC	ø 4 – ø 10	47	
F1003NN – HAIMER MILL Power Series 	METRIC INCH	ø 2 – ø 20 ø 3/32" – ø 1"	49 51	
F1004NN – HAIMER MILL Power Series 	METRIC INCH	ø 2 – ø 20 ø 3/32" – ø 1"	53 55	
F1004NN – HAIMER MILL Power Series 	METRIC INCH	ø 2 – ø 20 ø 3/32" – ø 1"	57 – 59 61	
F1005LL – HAIMER MILL Power Series 	METRIC INCH	ø 6 – ø 20 ø 1/4" – ø 1"	63 65	
F1005NN – HAIMER MILL Power Series 	METRIC	ø 10 – ø 32	67	
F1104NN – HAIMER MILL Power Series CHIP BREAKER 	METRIC	ø 6 – ø 20	69	

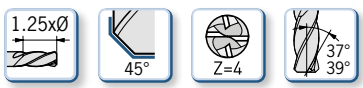
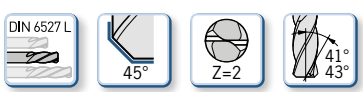
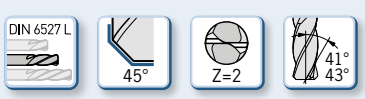
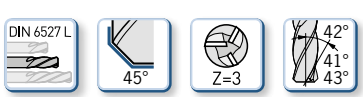
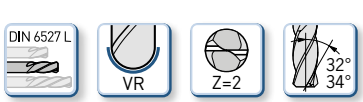
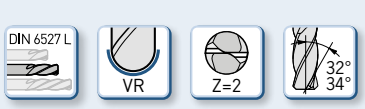
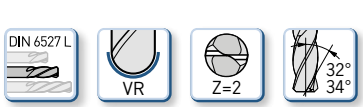
Shank	Application	Material
		Main Material: P also suitable for: K S N M H
		Main Material: P also suitable for: K S N M H
		Main Material: P also suitable for: K S N M H
		Main Material: P also suitable for: K S N M H
		Main Material: P also suitable for: K S N M H
		Main Material: P also suitable for: K S N M H
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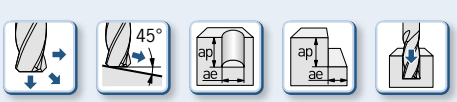
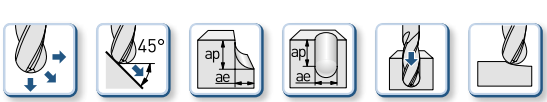
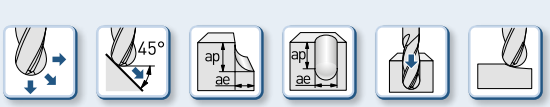
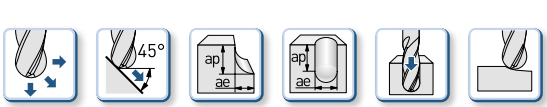
OVERVIEW SOLID CARBIDE END MILLS

Products		ø D1	Page	Characteristics
F1105LL – HAIMER MILL Power Series CHIP BREAKER 	METRIC	ø 6 – ø 20	71	
F1304NN – HAIMER MILL Power Series ROUGHING 	METRIC INCH	ø 6 – ø 20 ø 1/4" – ø 1"	73 75	
F2004MN – HAIMER MILL 	INCH	ø 3/32" – ø 3/4"	78	
F2004MN – HAIMER MILL 	INCH	ø 3/32" – ø 3/4"	79	
F2004NN – HAIMER MILL 	METRIC	ø 2 – ø 20	80	
F2004NN – HAIMER MILL UNDERSIZE 	METRIC	ø 5,7 – ø 19,5	81	
F2004NN – HAIMER MILL 	METRIC	ø 2 – ø 20	82	
F2004NN – HAIMER MILL 	METRIC	ø 2 – ø 20	83 – 85	
F2004LL – HAIMER MILL 	METRIC INCH	ø 6 – ø 20 ø 1/4" – ø 3/4"	86 87	

Shank	Application	Material	
		Main Material: P	also suitable for: K S N M H
		Main Material: P	also suitable for: K S N M
		Main Material: P M	also suitable for: K S N H
		Main Material: P M	also suitable for: K S N H
		Main Material: P M	also suitable for: K S N H
		Main Material: P M	also suitable for: K S N H
		Main Material: P M	also suitable for: K S N H
		Main Material: P M	also suitable for: K S N H
		Main Material: P M	also suitable for: K S N H

OVERVIEW SOLID CARBIDE END MILLS

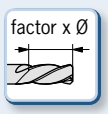
Products		ø D1	Page	Characteristics
F2014KK – HAIMER MILL 	METRIC	ø 2 – ø 20	88	
	INCH	ø 3/32" – ø 3/4"	89	
F2014 – HAIMER MILL 	INCH	ø 1/4" – ø 3/4"	91	
F4002NN – HAIMER MILL Alu Series UNCOATED 	METRIC	ø 2 – ø 20	93	
F4002NN – HAIMER MILL Alu Series 	METRIC	ø 2 – ø 20	95	
F4003NN – HAIMER MILL Alu Series UNCOATED 	METRIC	ø 2 – ø 20	97	
F4003NN – HAIMER MILL Alu Series 	METRIC	ø 2 – ø 20	99	
V1002NN – HAIMER MILL Power Series 	METRIC	ø 2 – ø 20	101	
	INCH	ø 3/32" – ø 1/2"	103	
V4002NN – HAIMER MILL Alu Series UNCOATED 	METRIC	ø 2 – ø 20	105	
V4002NN – HAIMER MILL Alu Series 	METRIC	ø 2 – ø 20	107	

Shank	Application	Material
		Main Material: P, M also suitable for: K, S, N, H
		Main Material: P, M also suitable for: K, S, N, H
		Main Material: N
		Main Material: N
		Main Material: N
		Main Material: N
		Main Material: P also suitable for: K, S, N, M, H
		Main Material: N
		Main Material: N

Explanation Icons

Characteristics

Cutting length



similar DIN



Helix angle



Sharp cutting edge



Corner chamfer



Corner radius



Ball Nose



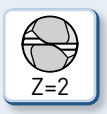
Spot



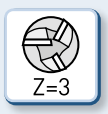
Edge radius



Teeth 2



Teeth 3



Teeth 4



Teeth 5



Teeth 6



Safe-λock®



Straight shank



Weldon shank

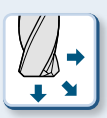


All three shanks available

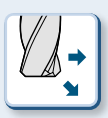


Application

Feed direction



Feed direction



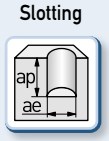
Feed direction



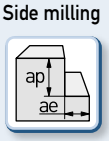
Ramping



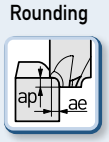
Slotting



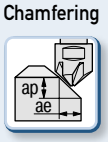
Side milling



Rounding



Chamfering



Drilling



3D Milling



V-slotting



Contouring



Chamfering



Side milling



Coolant

Emulsion



Cold air



Dry machining



Minimal lubrication



Explanation article code

F	1	0	0	2	M	N	L
Tool type	Group	Type	Modification	No. of teeth	Length of cut	Overall length	Shank type
F- Cylindrical end mill E- Chamfering end mill V- Ball nose end mill	1- Universal 2- Steel < 52HRC 4- Alu 6- Titan/ Inconel	0- Plain cutter 1- Chip breaker 3- Roughing	0- With neck 1- No Neck	2- Z2 3- Z3 4- Z4 5- Z5 6- Z6 8- Z8 0- Z10	N- DIN (1.75-2.5xD) L- 2.6-3.5xD M- 1.5xD K- 1.25xD U- 0.75xD	N- DIN6527 L- Long K- Short U- Ultra short	L- Safe-Lock H- Straight B- Weldon

Material list

HAIMER Material groups		Example material: ANSI	Example material: Material no.	Material information: Tensile strength	Material information: Content/Hardness
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA	
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA	
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA	
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA	
S1	Titanium & titanium alloys	Ti6Al4V	3.7165		
S2	High Temp alloys	Inconel, Nimonic			
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%
H1	Hardened steels				45 - 55 HRC
H1	Hardened steels				>- 55 HRC

	1000	R	1.00	A	A	0001	KR
	Diameter	Cutting edge transition	Size transition	Material	Coating	Special number	Cooling
	1200- Metric 1/2Z- Inch	S- Sharp cutting edge C- Chamfer R- Radius W- Chamfer angle	1.00- Metric .03- Inch 90- Chamfer angle 60- Chamfer angle 120- Chamfer angle	A- HF10 h5 D- HF10 h6	A- HAIMER-UNI C- HAIMER-ALU T- HAIMER-HARD - none	0000 - 9999	KR- Cooling radial KZ- Cooling central KS- Cooling special

E1012 – HAIMER MILL MULTIFUNCTION END MILL

METRIC

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		60 – 90	90 – 120
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/ mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

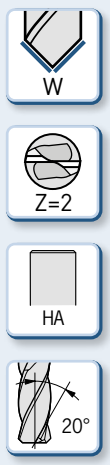
Feed per tooth (mm/tooth) in relation with D1 and cutting width ae				
	ø 4	**ø 6**	**ø 8**	**ø 10**
fz	0.01 – 0.04	0.015 – 0.06	0.02 – 0.08	0.03 – 0.10

METRIC

E1012 – HAIMER MILL MULTIFUNCTION END MILL

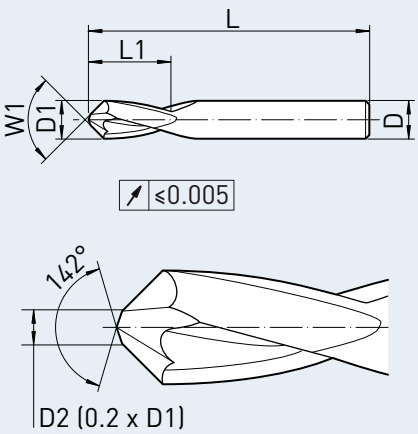
Technical data and Product characteristics











Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Cone angle 60/90/120°/142°
- Center spot
- Multi functional tool
- Circumference cutting

Article-Code	HAIMER Quality	D1 (h6) [mm]	Chamfer	Angle W1	L1 max. [mm]	L [mm]	D2 [mm]	Shank
E1012NNH0400W60..	DA	4.00	W	60°	11	51	4.00	HA
E1012NNH0400W90..	DA	4.00	W	90°	11	51	4.00	HA
E1012NNH0400W120..	DA	4.00	W	120°	11	51	4.00	HA
E1012NNH0400W142..	DA	4.00	W	142°	11	51	4.00	HA
E1012NLH0600W60..	DA	6.00	W	60°	13	66	6.00	HA
E1012NLH0600W90..	DA	6.00	W	90°	13	66	6.00	HA
E1012NLH0600W120..	DA	6.00	W	120°	13	66	6.00	HA
E1012NLH0600W142..	DA	6.00	W	142°	13	66	6.00	HA
E1012NLH0800W60..	DA	8.00	W	60°	19	79	8.00	HA
E1012NLH0800W90..	DA	8.00	W	90°	19	79	8.00	HA
E1012NLH0800W120..	DA	8.00	W	120°	19	79	8.00	HA
E1012NLH0800W142..	DA	8.00	W	142°	19	79	8.00	HA
E1012NLH1000W60..	DA	10.00	W	60°	22	89	10.00	HA
E1012NLH1000W90..	DA	10.00	W	90°	22	89	10.00	HA
E1012NLH1000W120..	DA	10.00	W	120°	22	89	10.00	HA
E1012NLH1000W142..	DA	10.00	W	142°	22	89	10.00	HA

Order No. = Article Code + HAIMER Quality.

E1014UN – HAIMER MILL QUADRANT END MILL

METRIC

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		60 – 90	90 – 120
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/ mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae			
	ø 6	**ø 8**	**ø 10**
fz	0.015 – 0.06	0.02 – 0.08	0.03 – 0.10

METRIC

E1014UN – HAIMER MILL QUADRANT END MILL

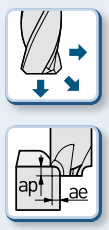
Technical data and Product characteristics



Characteristics

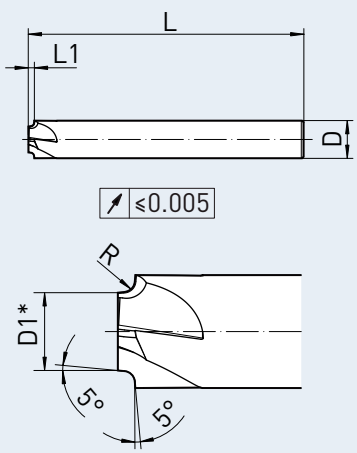


Application



Coolant





Fine balanced
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

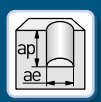
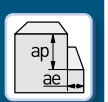
K S N M H

- For contour rounding
- 5° tangential release
- Positive rake angle without profile displacement

Article-Code	HAIMER Quality	D1 [mm]	Cutting edge	Edge radius [mm]	L1 max. [mm]	L [mm]	D (h6) [mm]	Shank
E1014UNH0600R0.25..	DA	5.0	R	0.25	0.50	58	6	HA
E1014UNH0600R0.50..	DA	4.5	R	0.50	0.75	58	6	HA
E1014UNH0800R0.75..	DA	6.0	R	0.75	1.00	64	8	HA
E1014UNH0800R1.00..	DA	5.0	R	1.00	1.50	64	8	HA
E1014UNH1000R1.50..	DA	6.0	R	1.50	2.00	73	10	HA
E1014UNH1000R2.00..	DA	5.0	R	2.00	2.50	73	10	HA

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width  ae = 100% D1 ap = 1 x D1	 ae = 50% D1 ap = 1,5 x D1	 ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**170 – 200**	**210 – 240**	**250 – 270**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**90 – 110**	**110 – 130**	**130 – 150**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		–	–	55 – 65
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		–	–	40 – 50
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		110 – 130	130 – 150	200 – 220
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		90 – 110	110 – 130	160 – 180
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			60 – 80	60 – 80	60 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/ mm²		30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	120 – 240	120 – 240	120 – 240
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 240	120 – 240	120 – 240
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae				
	ø 4	**ø 6**	**ø 8**	**ø 10**
fz	0.01 – 0.04	0.015 – 0.06	0.02 – 0.08	0.03 – 0.10

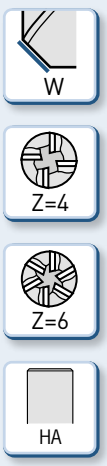
METRIC

E1014UN/E1016UN – HAIMER MILL CHAMFERING END MILL

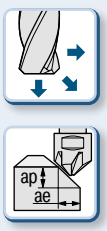
Technical data and Product characteristics



Characteristics

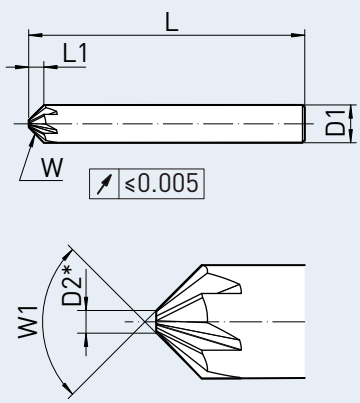


Application



Coolant





Fine balanced
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Cone angle 60/90/120°
- Flat tip
- Multi functional tool
- Straight fluted

Article-Code	HAIMER Quality	D1 (h6) [mm]	Chamfer	Angle W1	L1 max. [mm]	L [mm]	D2 [mm]	Shank
E1014UNH0400W60..	DA	4.00	W	60°	2.8	51	0.8	HA
E1014UNH0400W90..	DA	4.00	W	90°	1.6	51	0.8	HA
E1014UNH0400W120..	DA	4.00	W	120°	0.9	51	0.8	HA
E1016UNH0600W60..	DA	6.00	W	60°	4.2	51	0.8	HA
E1016UNH0600W90..	DA	6.00	W	90°	2.4	58	1.2	HA
E1016UNH0600W120..	DA	6.00	W	120°	1.3	58	1.2	HA
E1016UNH0800W60..	DA	8.00	W	60°	5.5	64	1.6	HA
E1016UNH0800W90..	DA	8.00	W	90°	3.2	64	1.6	HA
E1016UNH0800W120..	DA	8.00	W	120°	1.8	64	1.6	HA
E1016UNH1000W60..	DA	10.00	W	60°	6.9	73	2.0	HA
E1016UNH1000W90..	DA	10.00	W	90°	4	73	2.0	HA
E1016UNH1000W120..	DA	10.00	W	120°	2.3	73	2.0	HA

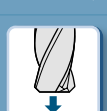
Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
P1	**General construction steels**	A252, A50-2, 1045	1.0038. 1.0050. 1.0503	≤ 800 N/mm²	up to 25 HRC	**170 – 200**	**210 – 240**	**250 – 270**
P2	**Heat treated steels**	D2, 4140	1.2367. 1.2379. 1.2363. 1.7225	> 800 N/mm²	up to 45 HRC	**90 – 110**	**110 – 130**	**130 – 150**
M1	Stainless steels	303, 304	1.4305. 1.4301. 1.4034	≤ 650 N/mm²		–	–	55 – 65
M2	Stainless steels	316Ti, 316L	1.4571. 1.4404. 1.4418	> 650 N/mm²		–	–	40 – 50
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020. 0.6040. 0.7040	≤ 450 N/mm²		110 – 130	130 – 150	200 – 220
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060. 0.7070	> 450 N/mm²		90 – 110	110 – 130	160 – 180
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			60 – 80	60 – 80	60 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/ mm²		30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	120 – 240	120 – 240	120 – 240
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 240	120 – 240	120 – 240
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae

ae	ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.072	0.084	0.096	0.108	0.120
100% ø	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.090	0.100
	0.002	0.003	0.004	0.005	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020

METRIC

F1003NN – HAIMER MILL Power Series SHARP CUTTING EDGE

Technical data and Product characteristics





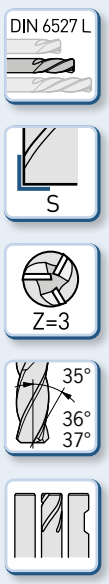


* = H * = L * = B

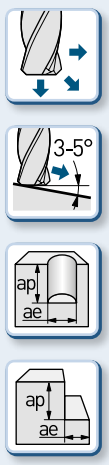
Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

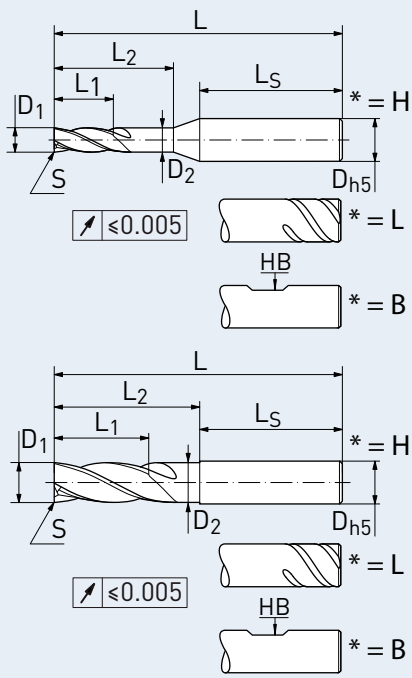


Application



Coolant





Fine balanced
Except Weldon shank

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F1003NN*0200S..	AA	2.00	S	7	58	9	1.9	6	44.3	HA/S-λ/HB
F1003NN*0300S..	AA	3.00	S	8	58	10	2.9	6	44.0	HA/S-λ/HB
F1003NN*0400S..	AA	4.00	S	11	58	15	3.8	6	40.0	HA/S-λ/HB
F1003NN*0500S..	AA	5.00	S	13	58	18	4.8	6	37.875	HA/S-λ/HB
F1003NN*0600S..	AA	6.00	S	13	58	20	5.7	6	36.5	HA/S-λ/HB
F1003NN*0800S..	AA	8.00	S	19	64	26	7.6	8	36.5	HA/S-λ/HB
F1003NN*1000S..	AA	10.00	S	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
F1003NN*1200S..	AA	12.00	S	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F1003NN*1400S..	AA	14.00	S	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
F1003NN*1600S..	AA	16.00	S	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F1003NN*1800S..	AA	18.00	S	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
F1003NN*2000S..	AA	20.00	S	38	105	52	19	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1 Cutting Speed (SFM)	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**557 – 656**	**689 – 787**	**820 – 885**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**295 – 361**	**361 – 426**	**426 – 492**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		–	–	180 – 213
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		–	–	131 – 164
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		361 – 426	426 – 492	656 – 721
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		295 – 361	361 – 426	525 – 590
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			197 – 262	197 – 262	197 – 262
S2	High Temp alloys	Inconel, Nimonic				98 – 131	98 – 131	98 – 131
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			393 – 787	393 – 787	393 – 787
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	393 – 787	393 – 787	393 – 787
H1	Hardened steels				45 - 55 HRC	131 – 197	197 – 262	197 – 262

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae

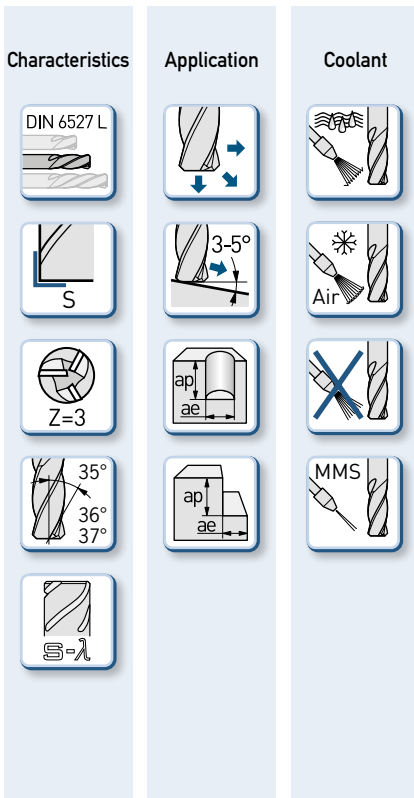
ae	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
to 50% ø	0.0006	0.0008	0.0011	0.0015	0.0019	0.0023	0.0030	0.0038	0.0045	0.0060
100% ø	0.0005	0.0006	0.0009	0.0013	0.0016	0.0019	0.0025	0.0031	0.0038	0.0050
	0.0001	0.0001	0.0002	0.0003	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010

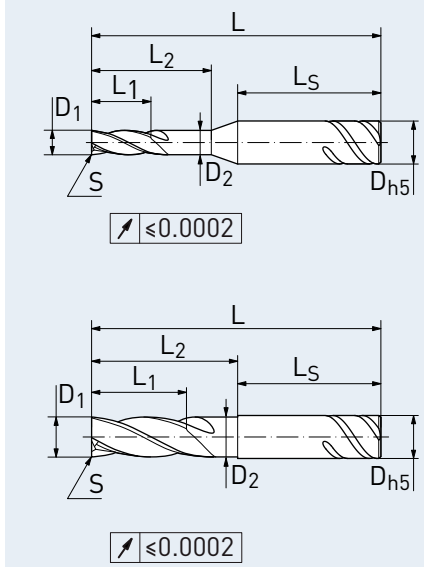
INCH

F1003NN – HAIMER MILL Power Series SHARP CUTTING EDGE

Technical data and Product characteristics







Fine balanced
Except Weldon shank

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (h9) [inch]	Cutting edge	L1 max. [inch]	L [inch]	L2 [inch]	D2 [inch]	D (h5) [inch]	LS [inch]	Shank
F1003NNL3/32ZS..	AA	3/32	S	3/16	2	1/4	0.089	1/4	1.562	S-λ
F1003NNL1/8ZS..	AA	1/8	S	1/4	2	5/16	0.121	1/4	1.531	S-λ
F1003NNL3/16ZS..	AA	3/16	S	3/8	2	1/2	0.179	1/4	1.375	S-λ
F1003NNL1/4ZS..	AA	1/4	S	1/2	2	5/8	0.238	1/4	1.343	S-λ
F1003NNL5/16ZS..	AA	5/16	S	5/8	2 3/16	13/16	0.296	5/16	1.312	S-λ
F1003NNL3/8ZS..	AA	3/8	S	3/4	2 1/2	1	0.355	3/8	1.437	S-λ
F1003NNL1/2ZS..	AA	1/2	S	1	3	1 1/4	0.476	1/2	1.687	S-λ
F1003NNL5/8ZS..	AA	5/8	S	1 1/4	3 3/8	1 9/16	0.593	5/8	1.750	S-λ
F1003NNL3/4ZS..	AA	3/4	S	1 1/2	3 3/4	1 7/8	0.710	3/4	1.812	S-λ
F1003NNL1ZS..	AA	1	S	2	4 1/2	2 1/2	0.960	1	1.937	S-λ

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
P1	**General construction steels**	A252, A50-2, 1045	1.0038. 1.0050. 1.0503	≤ 800 N/mm²	up to 25 HRC	**170 – 200**	**210 – 240**	**250 – 270**
P2	**Heat treated steels**	D2, 4140	1.2367. 1.2379. 1.2363. 1.7225	> 800 N/mm²	up to 45 HRC	**90 – 110**	**110 – 130**	**130 – 150**
M1	Stainless steels	303, 304	1.4305. 1.4301. 1.4034	≤ 650 N/mm²		–	–	55 – 65
M2	Stainless steels	316Ti, 316L	1.4571. 1.4404. 1.4418	> 650 N/mm²		–	–	40 – 50
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020. 0.6040. 0.7040	≤ 450 N/mm²		110 – 130	130 – 150	200 – 220
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060. 0.7070	> 450 N/mm²		90 – 110	110 – 130	160 – 180
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			60 – 80	60 – 80	60 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/ mm²		30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	120 – 240	120 – 240	120 – 240
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 240	120 – 240	120 – 240
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae

ae	ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.072	0.084	0.096	0.108	0.120
100% ø	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.090	0.100
	0.002	0.003	0.004	0.005	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020

METRIC

F1004NN – HAIMER MILL Power Series CHAMFER

Technical data and Product characteristics







* = H * = L * = B

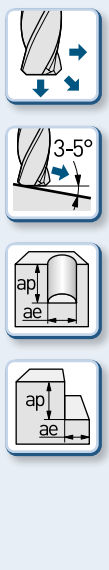
Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

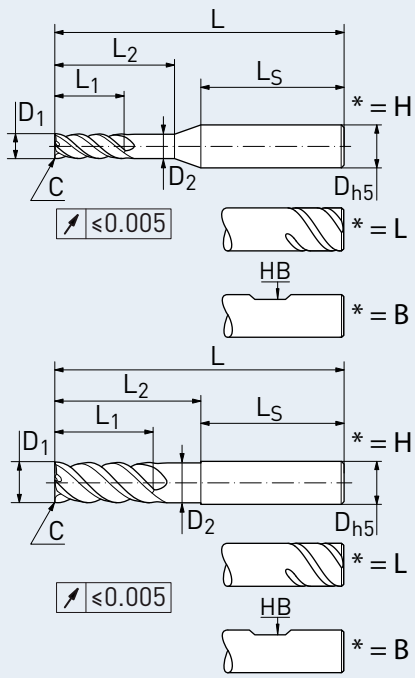


Application



Coolant





Fine balanced
Except Weldon shank

Material – characteristics

Main Material

P

also suitable for

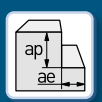
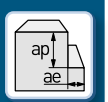
K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F1004NN*0200C..	AA	2.00	C	0.10	7	58	9	1.9	6	44.3	HA/S-λ/HB
F1004NN*0300C..	AA	3.00	C	0.10	8	58	10	2.9	6	44.0	HA/S-λ/HB
F1004NN*0400C..	AA	4.00	C	0.15	11	58	15	3.8	6	40.0	HA/S-λ/HB
F1004NN*0500C..	AA	5.00	C	0.20	13	58	18	4.8	6	37.875	HA/S-λ/HB
F1004NN*0600C..	AA	6.00	C	0.20	13	58	20	5.7	6	36.5	HA/S-λ/HB
F1004NN*0800C..	AA	8.00	C	0.20	19	64	26	7.6	8	36.5	HA/S-λ/HB
F1004NN*1000C..	AA	10.00	C	0.30	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
F1004NN*1200C..	AA	12.00	C	0.30	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F1004NN*1400C..	AA	14.00	C	0.40	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
F1004NN*1600C..	AA	16.00	C	0.50	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F1004NN*1800C..	AA	18.00	C	0.50	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
F1004NN*2000C..	AA	20.00	C	0.60	38	105	52	19	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width  ae = 100% D1 ap = 1 x D1	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max.
						Cutting Speed (SFM)		
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**557 – 656**	**689 – 787**	**820 – 885**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**295 – 361**	**361 – 426**	**426 – 492**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		–	–	180 – 213
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		–	–	131 – 164
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		361 – 426	426 – 492	656 – 721
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		295 – 361	361 – 426	525 – 590
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			197 – 262	197 – 262	197 – 262
S2	High Temp alloys	Inconel, Nimonic				98 – 131	98 – 131	98 – 131
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			393 – 787	393 – 787	393 – 787
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	393 – 787	393 – 787	393 – 787
H1	Hardened steels				45 - 55 HRC	131 – 197	197 – 262	197 – 262

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae

ae	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
to 50% ø	0.0006	0.0008	0.0011	0.0015	0.0019	0.0023	0.0030	0.0038	0.0045	0.0060
100% ø	0.0005	0.0006	0.0009	0.0013	0.0016	0.0019	0.0025	0.0031	0.0038	0.0050
	0.0001	0.0001	0.0002	0.0003	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010

INCH

F1004NN – HAIMER MILL Power Series CHAMFER

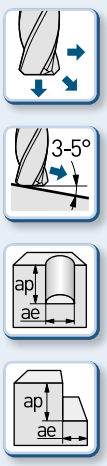
Technical data and Product characteristics



Characteristics

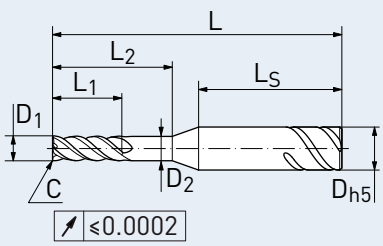


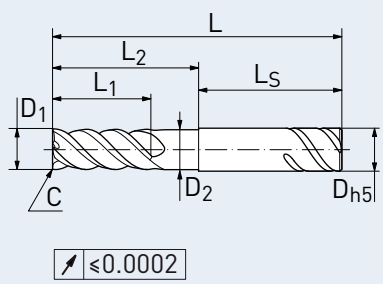
Application



Coolant







Fine balanced
Except Weldon shank

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 max. [inch]	L [inch]	L2 [inch]	D2 [inch]	D (h5) [inch]	LS [inch]	Shank
F1004NNL3/32ZC..	AA	3/32	C	0.004	3/16	2	1/4	0.089	1/4	1.562	S-λ
F1004NNL1/8ZC..	AA	1/8	C	0.004	1/4	2	5/16	0.121	1/4	1.531	S-λ
F1004NNL3/16ZC..	AA	3/16	C	0.006	3/8	2	1/2	0.179	1/4	1.375	S-λ
F1004NNL1/4ZC..	AA	1/4	C	0.008	1/2	2	5/8	0.238	1/4	1.343	S-λ
F1004NNL5/16ZC..	AA	5/16	C	0.008	5/8	2 3/16	13/16	0.296	5/16	1.312	S-λ
F1004NNL3/8ZC..	AA	3/8	C	0.012	3/4	2 1/2	1	0.355	3/8	1.437	S-λ
F1004NNL1/2ZC..	AA	1/2	C	0.012	1	3	1 1/4	0.476	1/2	1.687	S-λ
F1004NNL5/8ZC..	AA	5/8	C	0.020	1 1/4	3 3/8	1 9/16	0.593	5/8	1.750	S-λ
F1004NNL3/4ZC..	AA	3/4	C	0.024	1 1/2	3 3/4	1 7/8	0.710	3/4	1.812	S-λ
F1004NNL1ZC..	AA	1	C	0.032	2	4 1/2	2 1/2	0.960	1	1.937	S-λ

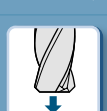
Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
P1	**General construction steels**	A252, A50-2, 1045	1.0038. 1.0050. 1.0503	≤ 800 N/mm²	up to 25 HRC	**170 – 200**	**210 – 240**	**250 – 270**
P2	**Heat treated steels**	D2, 4140	1.2367. 1.2379. 1.2363. 1.7225	> 800 N/mm²	up to 45 HRC	**90 – 110**	**110 – 130**	**130 – 150**
M1	Stainless steels	303, 304	1.4305. 1.4301. 1.4034	≤ 650 N/mm²		–	–	55 – 65
M2	Stainless steels	316Ti, 316L	1.4571. 1.4404. 1.4418	> 650 N/mm²		–	–	40 – 50
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020. 0.6040. 0.7040	≤ 450 N/mm²		110 – 130	130 – 150	200 – 220
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060. 0.7070	> 450 N/mm²		90 – 110	110 – 130	160 – 180
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			60 – 80	60 – 80	60 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/ mm²		30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	120 – 240	120 – 240	120 – 240
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 240	120 – 240	120 – 240
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae

ae	ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.072	0.084	0.096	0.108	0.120
100% ø	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.090	0.100
	0.002	0.003	0.004	0.005	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020

METRIC

F1004NN – HAIMER MILL Power Series
CORNER RADIUS

Technical data and Product characteristics







* = H * = L * = B

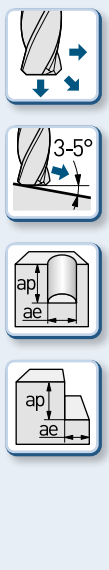
Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

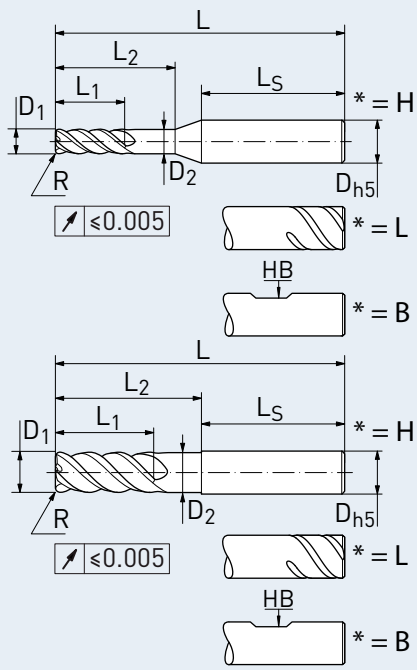


Application



Coolant





Fine balanced
Except Weldon shank

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F1004NN*0200R0.20..	AA	2.00	R	0.20	7	58	9	1.9	6	44.3	HA/S-λ/HB
F1004NN*0300R0.30..	AA	3.00	R	0.30	8	58	10	2.9	6	44.0	HA/S-λ/HB
F1004NN*0400R0.30..	AA	4.00	R	0.30	11	58	15	3.8	6	40.0	HA/S-λ/HB
F1004NN*0400R0.40..	AA	4.00	R	0.40	11	58	15	3.8	6	40.0	HA/S-λ/HB
F1004NN*0400R0.50..	AA	4.00	R	0.50	11	58	15	3.8	6	40.0	HA/S-λ/HB
F1004NN*0500R0.30..	AA	5.00	R	0.30	13	58	18	4.8	6	37.875	HA/S-λ/HB
F1004NN*0500R0.50..	AA	5.00	R	0.50	13	58	18	4.8	6	37.875	HA/S-λ/HB
F1004NN*0500R1.00..	AA	5.00	R	1.00	13	58	18	4.8	6	37.875	HA/S-λ/HB
F1004NN*0600R0.30..	AA	6.00	R	0.30	13	58	20	5.7	6	36.5	HA/S-λ/HB
F1004NN*0600R0.50..	AA	6.00	R	0.50	13	58	20	5.7	6	36.5	HA/S-λ/HB
F1004NN*0600R1.00..	AA	6.00	R	1.00	13	58	20	5.7	6	36.5	HA/S-λ/HB
F1004NN*0600R1.50..	AA	6.00	R	1.50	13	58	20	5.7	6	36.5	HA/S-λ/HB

⇨ Turn page for more articles

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Technical data and Product characteristics



* = H



* = L



* = B

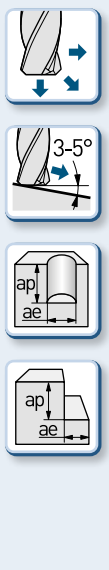
Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

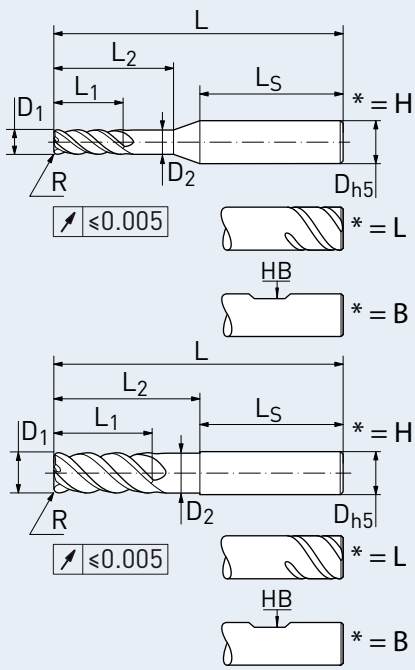


Application



Coolant





Fine balanced
Except Weldon shank

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F1004NN*0800R0.30..	AA	8.00	R	0.30	19	64	26	7.6	8	36.5	HA/S-λ/HB
F1004NN*0800R0.50..	AA	8.00	R	0.50	19	64	26	7.6	8	36.5	HA/S-λ/HB
F1004NN*0800R1.00..	AA	8.00	R	1.00	19	64	26	7.6	8	36.5	HA/S-λ/HB
F1004NN*0800R1.50..	AA	8.00	R	1.50	19	64	26	7.6	8	36.5	HA/S-λ/HB
F1004NN*0800R2.00..	AA	8.00	R	2.00	19	64	26	7.6	8	36.5	HA/S-λ/HB
F1004NN*1000R0.30..	AA	10.00	R	0.30	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
F1004NN*1000R0.50..	AA	10.00	R	0.50	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
F1004NN*1000R1.00..	AA	10.00	R	1.00	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
F1004NN*1000R1.50..	AA	10.00	R	1.50	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
F1004NN*1000R2.00..	AA	10.00	R	2.00	22	73	30.5	9.5	10	40.5	HA/S-λ/HB

⇨ *Turn page for more articles*

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

METRIC

F1004NN – HAIMER MILL Power Series
CORNER RADIUS

Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F1004NN*1200R0.30..	AA	12.00	R	0.30	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F1004NN*1200R0.50..	AA	12.00	R	0.50	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F1004NN*1200R1.00..	AA	12.00	R	1.00	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F1004NN*1200R1.50..	AA	12.00	R	1.50	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F1004NN*1200R2.00..	AA	12.00	R	2.00	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F1004NN*1200R3.00..	AA	12.00	R	3.00	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F1004NN*1200R4.00..	AA	12.00	R	4.00	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F1004NN*1400R0.50..	AA	14.00	R	0.50	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
F1004NN*1400R1.00..	AA	14.00	R	1.00	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
F1004NN*1400R2.00..	AA	14.00	R	2.00	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
F1004NN*1600R0.30..	AA	16.00	R	0.30	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F1004NN*1600R0.50..	AA	16.00	R	0.50	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F1004NN*1600R0.80..	AA	16.00	R	0.80	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F1004NN*1600R1.00..	AA	16.00	R	1.00	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F1004NN*1600R1.50..	AA	16.00	R	1.50	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F1004NN*1600R2.00..	AA	16.00	R	2.00	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F1004NN*1600R3.00..	AA	16.00	R	3.00	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F1004NN*1600R4.00..	AA	16.00	R	4.00	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F1004NN*1800R0.50..	AA	18.00	R	0.50	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
F1004NN*1800R1.00..	AA	18.00	R	1.00	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
F1004NN*1800R2.00..	AA	18.00	R	2.00	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
F1004NN*2000R0.30..	AA	20.00	R	0.30	38	105	52	19	20	50.5	HA/S-λ/HB
F1004NN*2000R0.50..	AA	20.00	R	0.50	38	105	52	19	20	50.5	HA/S-λ/HB
F1004NN*2000R0.80..	AA	20.00	R	0.80	38	105	52	19	20	50.5	HA/S-λ/HB
F1004NN*2000R1.00..	AA	20.00	R	1.00	38	105	52	19	20	50.5	HA/S-λ/HB
F1004NN*2000R1.50..	AA	20.00	R	1.50	38	105	52	19	20	50.5	HA/S-λ/HB
F1004NN*2000R2.00..	AA	20.00	R	2.00	38	105	52	19	20	50.5	HA/S-λ/HB
F1004NN*2000R3.00..	AA	20.00	R	3.00	38	105	52	19	20	50.5	HA/S-λ/HB
F1004NN*2000R4.00..	AA	20.00	R	4.00	38	105	52	19	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1 Cutting Speed (SFM)	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**557 – 656**	**689 – 787**	**820 – 885**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**295 – 361**	**361 – 426**	**426 – 492**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		–	–	180 – 213
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		–	–	131 – 164
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		361 – 426	426 – 492	656 – 721
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		295 – 361	361 – 426	525 – 590
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			197 – 262	197 – 262	197 – 262
S2	High Temp alloys	Inconel, Nimonic				98 – 131	98 – 131	98 – 131
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			393 – 787	393 – 787	393 – 787
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	393 – 787	393 – 787	393 – 787
H1	Hardened steels				45 - 55 HRC	131 – 197	197 – 262	197 – 262

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae

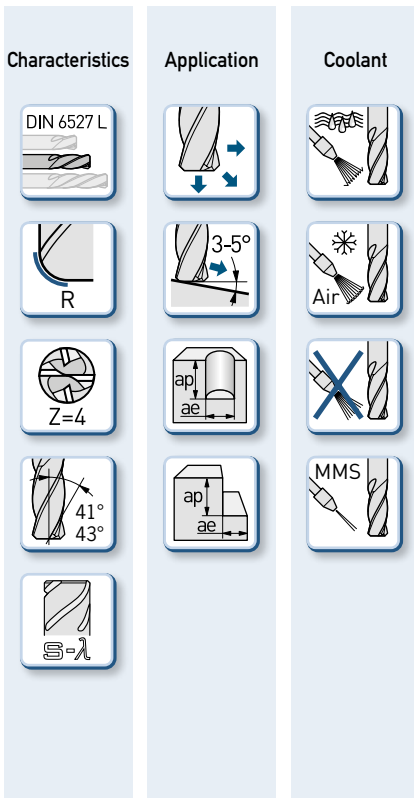
ae	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
to 50% ø	0.0006	0.0008	0.0011	0.0015	0.0019	0.0023	0.0030	0.0038	0.0045	0.0060
100% ø	0.0005	0.0006	0.0009	0.0013	0.0016	0.0019	0.0025	0.0031	0.0038	0.0050
	0.0001	0.0001	0.0002	0.0003	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010

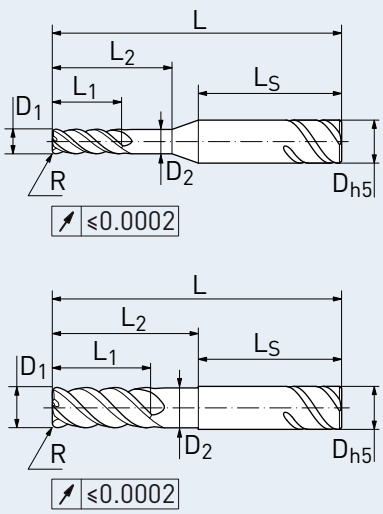
INCH

F1004NN – HAIMER MILL Power Series
CORNER RADIUS

Technical data and Product characteristics







Fine balanced
Except Weldon shank

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 max. [inch]	L [inch]	L2 [inch]	D2 [inch]	D (h5) [inch]	LS [inch]	Shank
F1004NNL3/32ZR.010..	AA	3/32	R	0.010	3/16	2	1/4	0.089	1/4	1.562	S-λ
F1004NNL1/8ZR.010..	AA	1/8	R	0.010	1/4	2	5/16	0.121	1/4	1.531	S-λ
F1004NNL3/16ZR.015..	AA	3/16	R	0.015	3/8	2	1/2	0.179	1/4	1.375	S-λ
F1004NNL1/4ZR.015..	AA	1/4	R	0.015	1/2	2	5/8	0.238	1/4	1.343	S-λ
F1004NNL5/16ZR.015..	AA	5/16	R	0.015	5/8	2 3/16	13/16	0.296	5/16	1.312	S-λ
F1004NNL3/8ZR.020..	AA	3/8	R	0.020	3/4	2 1/2	1	0.355	3/8	1.437	S-λ
F1004NNL1/2ZR.030..	AA	1/2	R	0.030	1	3	1 1/4	0.476	1/2	1.687	S-λ
F1004NNL5/8ZR.030..	AA	5/8	R	0.030	1 1/4	3 3/8	1 9/16	0.593	5/8	1.750	S-λ
F1004NNL3/4ZR.030..	AA	3/4	R	0.030	1 1/2	3 3/4	1 7/8	0.710	3/4	1.812	S-λ
F1004NNL1ZR.030..	AA	1	R	0.030	2	4 1/2	2 1/2	0.960	1	1.937	S-λ

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 5% D1 ap = L1 max. Cutting speed Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**250 – 270**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**130 – 150**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		55 – 65
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		40 – 50
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		200 – 220
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		160 – 180
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			60 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/ mm²		30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	120 – 240
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 240
H1	Hardened steels				45 – 55 HRC	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae

ae	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 5% ø	0.051	0.068	0.085	0.102	0.119	0.136	0.153	0.170

METRIC

F1005LL – HAIMER MILL Power Series CHAMFER

Technical data and Product characteristics



Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB



* = H



* = L

* = B

Characteristics

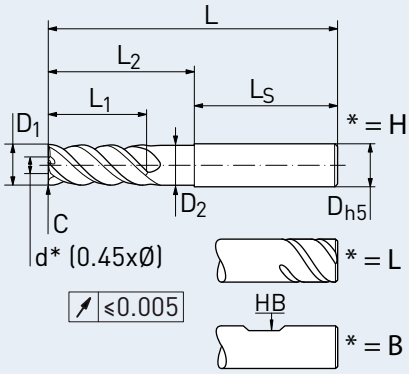


Application



Coolant





Fine balanced
Except Weldon shank
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Unequal cutting edge
- Length of cutting edge: long
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F1005LL*0600C..	AA	6.00	C	0.20	18	62	24	5.7	6	36.5	HA/S-λ/HB
F1005LL*0800C..	AA	8.00	C	0.20	24	70	32	7.6	8	36.5	HA/S-λ/HB
F1005LL*1000C..	AA	10.00	C	0.30	30	82	40	9.5	10	40.5	HA/S-λ/HB
F1005LL*1200C..	AA	12.00	C	0.30	36	95	48	11.4	12	45.5	HA/S-λ/HB
F1005LL*1400C..	AA	14.00	C	0.40	42	105	56	13.3	14	46.5	HA/S-λ/HB
F1005LL*1600C..	AA	16.00	C	0.50	48	115	64	15.2	16	48.5	HA/S-λ/HB
F1005LL*1800C..	AA	18.00	C	0.50	54	123	72	17.1	18	48	HA/S-λ/HB
F1005LL*2000C..	AA	20.00	C	0.60	60	133	80	19.0	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 5% D1 ap = L1 max. Cutting Speed (SFM)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**820 – 885**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**426 – 492**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		180 – 213
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		131 – 164
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		656 – 721
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		525 – 590
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			197 – 262
S2	High Temp alloys	Inconel, Nimonic				98 – 131
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			393 – 787
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	393 – 787
H1	Hardened steels				45 - 55 HRC	197 – 262

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae							
ae	1/4	5/16	3/8	1/2	5/8	3/4	1
to 5% ø	0.0021	0.0027	0.0032	0.0043	0.0085	0.0064	0.0085

INCH

F1005LL – HAIMER MILL Power Series CHAMFER

Technical data and Product characteristics



Characteristics

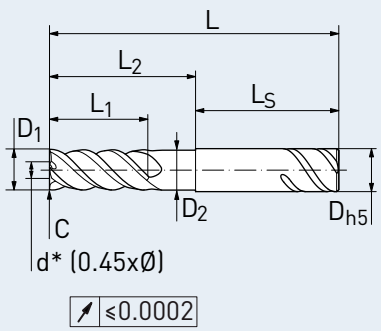


Application



Coolant





Fine balanced
* Diameter not center cutting
Except Weldon shank

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Unequal cutting edge
- Length of cutting edge: long
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 max. [inch]	L [inch]	L2 [inch]	D2 [inch]	D (h5) [inch]	LS [inch]	Shank
F1005LLL1/4ZC..	AA	1/4	C	0.008	3/4	2 3/8	1	0.238	1/4	1.343	S-λ
F1005LLL5/16ZC..	AA	5/16	C	0.008	15/16	2 5/8	1 1/4	0.296	5/16	1.312	S-λ
F1005LLL3/8ZC..	AA	3/8	C	0.012	1 1/8	3	1 1/2	0.355	3/8	1.437	S-λ
F1005LLL1/2ZC..	AA	1/2	C	0.012	1 1/2	3 3/4	2	0.476	1/2	1.687	S-λ
F1005LLL5/8ZC..	AA	5/8	C	0.020	1 7/8	4 5/16	2 1/2	0.593	5/8	1.750	S-λ
F1005LLL3/4ZC..	AA	3/4	C	0.024	2 1/4	4 7/8	3	0.710	3/4	1.812	S-λ
F1005LLL1ZC..	AA	1	C	0.032	3	6	4	0.960	1	1.937	S-λ

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
P1	**General construction steels**	A252, A50-2, 1045	1.0038. 1.0050. 1.0503	≤ 800 N/mm²	up to 25 HRC	**170 – 200**	**210 – 240**	**250 – 270**
P2	**Heat treated steels**	D2, 4140	1.2367. 1.2379. 1.2363. 1.7225	> 800 N/mm²	up to 45 HRC	**90 – 110**	**110 – 130**	**130 – 150**
M1	Stainless steels	303, 304	1.4305. 1.4301. 1.4034	≤ 650 N/mm²		–	–	55 – 65
M2	Stainless steels	316Ti, 316L	1.4571. 1.4404. 1.4418	> 650 N/mm²		–	–	40 – 50
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020. 0.6040. 0.7040	≤ 450 N/mm²		110 – 130	130 – 150	200 – 220
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060. 0.7070	> 450 N/mm²		90 – 110	110 – 130	160 – 180
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			60 – 80	60 – 80	60 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/ mm²		30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	120 – 240	120 – 240	120 – 240
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 240	120 – 240	120 – 240
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae

ae	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20	ø 25	ø 32
to 50% ø	0.060	0.072	0.084	0.096	0.108	0.120	0.15	0.2
100% ø	0.050	0.060	0.060	0.070	0.080	0.090	0.125	0.16

METRIC

F1005NN – HAIMER MILL Power Series CHAMFER

Technical data and Product characteristics







* = H * = L * = B

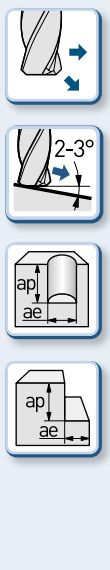
Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

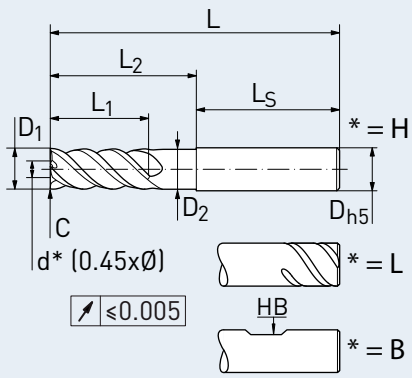


Application



Coolant





Fine balanced
Except Weldon shank
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Unequal cutting edge
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F1005NN*1000C..	AA	10.00	C	0.30	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
F1005NN*1200C..	AA	12.00	C	0.30	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F1005NN*1400C..	AA	14.00	C	0.40	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
F1005NN*1600C..	AA	16.00	C	0.50	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F1005NN*1800C..	AA	18.00	C	0.50	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
F1005NN*2000C..	AA	20.00	C	0.60	38	105	52	19	20	50.5	HA/S-λ/HB
F1005NN*2500C..	AA	25.00	C	0.70	45	122	61	24	25	57.0	HA/S-λ/HB
F1005NN*3200C..	AA	32.00	C	0.70	50	130	65	31	32	61.0	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
P1	**General construction steels**	A252, A50-2, 1045	1.0038. 1.0050. 1.0503	≤ 800 N/mm²	up to 25 HRC	**170 – 200**	**210 – 240**	**250 – 270**
P2	**Heat treated steels**	D2, 4140	1.2367. 1.2379. 1.2363. 1.7225	> 800 N/mm²	up to 45 HRC	**90 – 110**	**110 – 130**	**130 – 150**
M1	Stainless steels	303, 304	1.4305. 1.4301. 1.4034	≤ 650 N/mm²		–	–	55 – 65
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020. 0.6040. 0.7040	≤ 450 N/mm²		110 – 130	130 – 150	200 – 220
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060. 0.7070	> 450 N/mm²		90 – 110	110 – 130	160 – 180
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			60 – 80	60 – 80	60 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/ mm²		30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	120 – 240	120 – 240	120 – 240
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 240	120 – 240	120 – 240
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

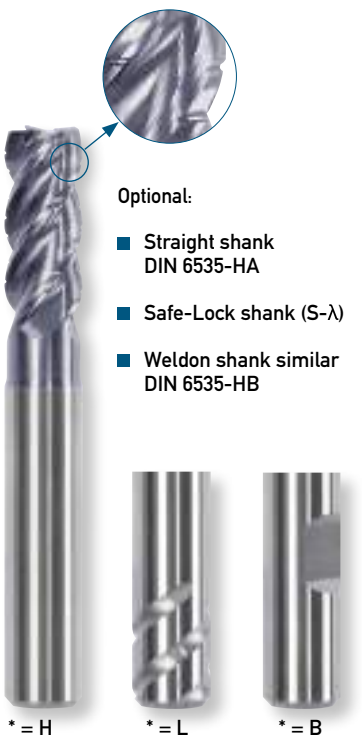
Feed per tooth (mm/tooth) in relation with D1 and cutting width ae

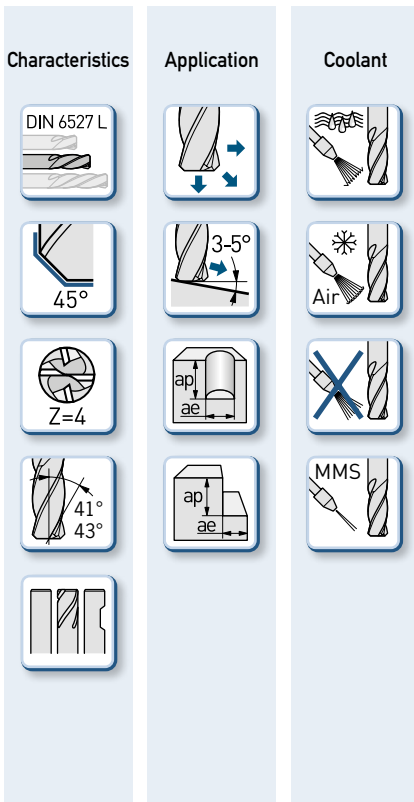
ae	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø	0.036	0.048	0.060	0.072	0.084	0.096	0.108	0.120
100% ø	0.030	0.040	0.050	0.060	0.070	0.080	0.090	0.100
	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020

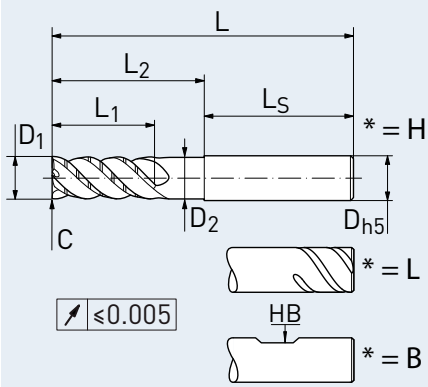
METRIC

F1104NN – HAIMER MILL Power Series
CHAMFER CHIP BREAKER

Technical data and Product characteristics







Fine balanced
Except Weldon shank

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F1104NN*0600C..	AA	6.00	C	0.20	13	58	20	5.7	6	36.5	HA/S-λ/HB
F1104NN*0800C..	AA	8.00	C	0.20	19	64	26	7.6	8	36.5	HA/S-λ/HB
F1104NN*1000C..	AA	10.00	C	0.30	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
F1104NN*1200C..	AA	12.00	C	0.30	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F1104NN*1400C..	AA	14.00	C	0.40	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
F1104NN*1600C..	AA	16.00	C	0.50	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F1104NN*1800C..	AA	18.00	C	0.50	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
F1104NN*2000C..	AA	20.00	C	0.60	38	105	52	19	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 5% D1 ap = L1 max. Cutting speed Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**250 – 270**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**130 – 150**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		55 – 65
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		200 – 220
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		160 – 180
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			60 – 80
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	120 – 240
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 240
H1	Hardened steels				45 – 55 HRC	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae

ae	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 5% ø	0.051	0.068	0.085	0.102	0.119	0.136	0.153	0.170

METRIC

F1105LL – HAIMER MILL Power Series
CHAMFER CHIP BREAKER

Technical data and Product characteristics



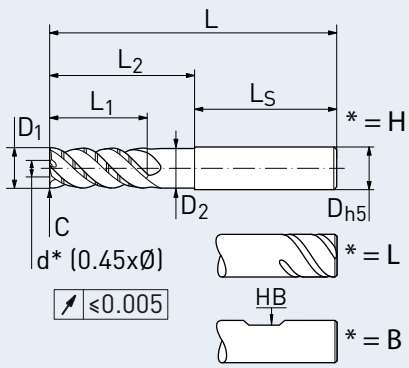
Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB









Fine balanced
Except Weldon shank
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Unequal cutting edge
- Length of cutting edge: long
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F1105LL*0600C..	AA	6.00	C	0.20	18	62	24	5.7	6	36.5	HA/S-λ/HB
F1105LL*0800C..	AA	8.00	C	0.20	24	70	32	7.6	8	36.5	HA/S-λ/HB
F1105LL*1000C..	AA	10.00	C	0.30	30	82	40	9.5	10	40.5	HA/S-λ/HB
F1105LL*1200C..	AA	12.00	C	0.30	36	95	48	11.4	12	45.5	HA/S-λ/HB
F1105LL*1400C..	AA	14.00	C	0.40	42	105	56	13.3	14	46.5	HA/S-λ/HB
F1105LL*1600C..	AA	16.00	C	0.50	48	115	64	15.2	16	48.5	HA/S-λ/HB
F1105LL*1800C..	AA	18.00	C	0.50	54	123	72	17.1	18	48	HA/S-λ/HB
F1105LL*2000C..	AA	20.00	C	0.60	60	133	80	19.0	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

F1304NN – HAIMER MILL Power Series
CHAMFER ROUGHING

METRIC

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
P1	**General construction steels**	A252, A50-2, 1045	1.0038. 1.0050. 1.0503	≤ 800 N/mm²	up to 25 HRC	**170 – 200**	**210 – 240**	**250 – 270**
P2	**Heat treated steels**	D2, 4140	1.2367. 1.2379. 1.2363. 1.7225	> 800 N/mm²	up to 45 HRC	**90 – 110**	**110 – 130**	**130 – 150**
M1	Stainless steels	303, 304	1.4305. 1.4301. 1.4034	≤ 650 N/mm²		–	–	55 – 65
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020. 0.6040. 0.7040	≤ 450 N/mm²		110 – 130	130 – 150	200 – 220
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060. 0.7070	> 450 N/mm²		90 – 110	110 – 130	160 – 180
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			60 – 80	60 – 80	60 – 80
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	120 – 240	120 – 240	120 – 240
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 240	120 – 240	120 – 240

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae								
ae	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø	0.036	0.048	0.060	0.072	0.084	0.096	0.108	0.120
100% ø	0.030	0.040	0.050	0.060	0.070	0.080	0.090	0.100

METRIC

F1304NN – HAIMER MILL Power Series
CHAMFER ROUGHING

Technical data and Product characteristics



Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB



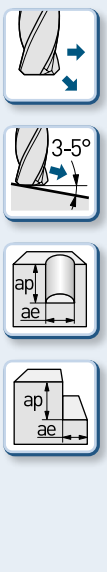


* = H * = L * = B

Characteristics

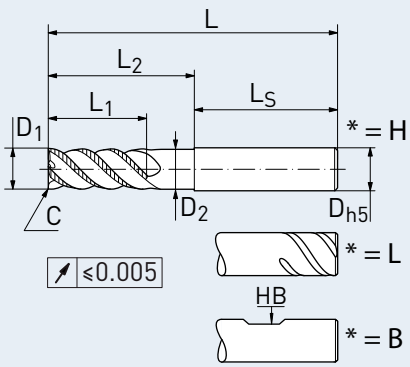


Application



Coolant





Fine balanced
Except Weldon shank

Material – characteristics

Main Material

P

also suitable for

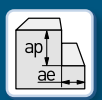
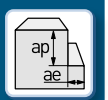
K S N M

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F1304NN*0600C..	AA	6.00	C	0.20	13	58	20	5.7	6	36.5	HA/S-λ/HB
F1304NN*0800C..	AA	8.00	C	0.20	19	64	26	7.6	8	36.5	HA/S-λ/HB
F1304NN*1000C..	AA	10.00	C	0.30	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
F1304NN*1200C..	AA	12.00	C	0.30	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F1304NN*1400C..	AA	14.00	C	0.40	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
F1304NN*1600C..	AA	16.00	C	0.50	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F1304NN*1800C..	AA	18.00	C	0.50	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
F1304NN*2000C..	AA	20.00	C	0.60	38	105	52	19	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width  ae = 100% D1 ap = 1 x D1	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max.
						Cutting Speed (SFM)		
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**557 – 656**	**689 – 787**	**820 – 885**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**295 – 361**	**361 – 426**	**426 – 492**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		–	–	180 – 213
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		361 – 426	426 – 492	656 – 721
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		295 – 361	361 – 426	525 – 590
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			197 – 262	197 – 262	197 – 262
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			393 – 787	393 – 787	393 – 787
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	393 – 787	393 – 787	393 – 787

Cutting data are reference values and need to be adjusted according to the application area.

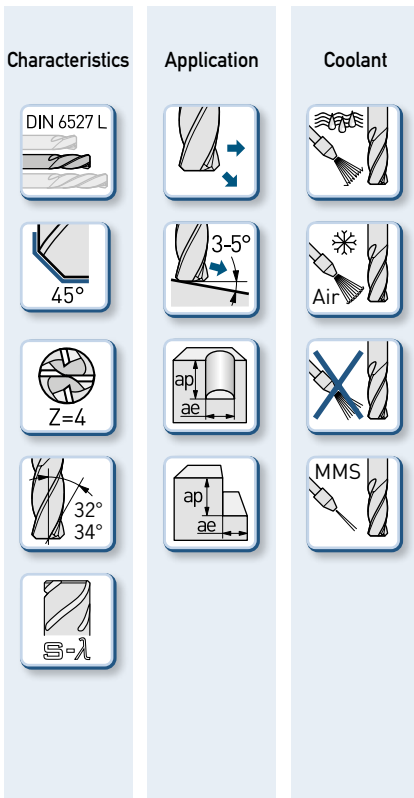
Feed per tooth (inch/tooth) in relation with D1 and cutting width ae										
ae	3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
to 50% ø	0.0006	0.0008	0.0011	0.0015	0.0019	0.0023	0.0030	0.0038	0.0045	0.0060
100% ø	0.0005	0.0006	0.0009	0.0013	0.0016	0.0019	0.0025	0.0031	0.0038	0.0050

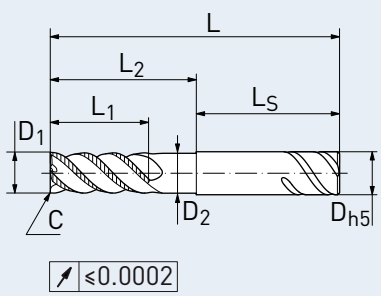
INCH

F1304NN – HAIMER MILL Power Series
CHAMFER ROUGHING

Technical data and Product characteristics







Fine balanced
Except Weldon shank

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 max. [inch]	L [inch]	L2 [inch]	D2 [inch]	D (h5) [inch]	LS [inch]	Shank
F1304NNL1/4ZC..	AA	1/4	C	0.008	1/2	2	5/8	0.238	1/4	1.343	S-λ
F1304NNL5/16ZC..	AA	5/16	C	0.008	5/8	2 3/16	13/16	0.296	5/16	1.312	S-λ
F1304NNL3/8ZC..	AA	3/8	C	0.012	3/4	2 1/2	1	0.355	3/8	1.437	S-λ
F1304NNL1/2ZC..	AA	1/2	C	0.012	1	3	1 1/4	0.476	1/2	1.687	S-λ
F1304NNL5/8ZC..	AA	5/8	C	0.020	1 1/4	3 3/8	1 9/16	0.593	5/8	1.750	S-λ
F1304NNL3/4ZC..	AA	3/4	C	0.024	1 1/2	3 3/4	1 7/8	0.710	3/4	1.812	S-λ
F1304NNL1ZC..	AA	1	C	0.032	2	4 1/2	2 1/2	0.960	1	1.937	S-λ

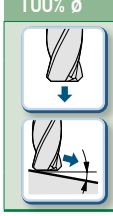
Order No. = Article Code + HAIMER Quality

Cutting data inch

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Ramping	ae = 100% D1 ap = 1 x D1 Cutting Speed (SFM)	ae = 15% D1 ap = L1 max.	ae = 5% D1 ap = L1 max.
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**45°**	**836 – 902**	**1049 – 1115**	**1311 – 1377**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**30°**	**623 – 689**	**721 – 787**	**951 – 1016**
M1	**Stainless steels**	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		**10°**	**311 – 361**	**377 – 443**	**492 – 557**
M2	**Stainless steels**	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		**5°**	**246 – 295**	**311 – 344**	**361 – 426**
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		45°	525 – 590	590 – 656	689 – 754
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		20°	426 – 492	492 – 557	590 – 656
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10°	164 – 197	197 – 262	262 – 295
S2	High Temp alloys	Inconel, Nimonic				5°	98 – 131	98 – 131	98 – 131
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			30°	1541 – 1607	1967 – 2066	2557 – 2689
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	30°	1115 – 1180	1377 – 1443	1770 – 1902
H1	Hardened steels				45 - 55 HRC	10°	131 – 197	197 – 262	197 – 262

Cutting data are reference values and need to be adjusted according to the application area.
Chip removal recommended for drilling depth 0.5 – 1 x D.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae

ae		3/32	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4
to 50% ø		0.0006	0.0008	0.0012	0.0016	0.0020	0.0024	0.0033	0.0041	0.0049
100% ø		*0.0005	*0.0007	*0.0011	*0.0014	*0.0017	*0.0021	*0.0028	*0.0034	*0.0041
	P	0.0004	0.0006	0.0009	0.0011	0.0014	0.0017	0.0023	0.0028	0.0034
	M	0.0002	0.0003	0.0005	0.0006	0.0008	0.0009	0.0013	0.0016	0.0019
	K	0.0004	0.0005	0.0008	0.0010	0.0013	0.0015	0.0020	0.0025	0.0030
	S	0.0002	0.0003	0.0004	0.0005	0.0006	0.0008	0.0010	0.0013	0.0015
	N	0.0004	0.0006	0.0009	0.0011	0.0014	0.0017	0.0023	0.0028	0.0034

* For Slotting (100% Ø) in material M1, M2 and S1 reduce fz by 30%.

Cutting data metric

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Ramping	ae = 100% D1 ap = 1 x D1 Cutting speed Vc (m/min)	ae = 15% D1 ap = L1 max.	ae = 5% D1 ap = L1 max.
P1	**General construction steels**	A252, A50-2, 1045	1.0038. 1.0050. 1.0503	≤ 800 N/mm²	up to 25 HRC	**45°**	**255 – 275**	**320 – 340**	**400 – 420**
P2	**Heat treated steels**	D2, 4140	1.2367. 1.2379. 1.2363. 1.7225	> 800 N/mm²	up to 25 HRC	**30°**	**190 – 210**	**220 – 240**	**290 – 310**
M1	Stainless steels	303, 304	1.4305. 1.4301. 1.4034	≤ 650 N/mm²		**10°**	**95 – 110**	**115 – 135**	**150 – 170**
M2	Stainless steels	316Ti, 316L	1.4571. 1.4404. 1.4418	> 650 N/mm²		**5°**	**75 – 90**	**95 – 105**	**110 – 130**
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020. 0.6040. 0.7040	≤ 450 N/mm²		45°	160 – 180	180 – 200	210 – 230
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060. 0.7070	> 450 N/mm²		20°	130 – 150	150 – 170	180 – 200
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10°	50 – 60	60 – 80	80 – 90
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/ mm²		5°	30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	30°	470 – 490	600 – 630	780 – 820
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	30°	340 – 360	420 – 440	540 – 580
H1	Hardened steels				45 – 55 HRC	10°	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.
Chip removal recommended for drilling depth 0.5 – 1 x D.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae

ae		ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø		0.013	0.020	0.026	0.033	0.039	0.052	0.065	0.078	0.091	0.104	0.117	0.13
100% ø		*0.011	*0.017	*0.022	*0.028	*0.033	*0.044	*0.055	*0.066	*0.077	*0.088	*0.099	*0.11
	P	0.007	0.011	0.014	0.018	0.021	0.028	0.035	0.042	0.049	0.056	0.063	0.07
	M	0.004	0.006	0.008	0.010	0.012	0.016	0.020	0.024	0.028	0.032	0.036	0.04
	K	0.007	0.011	0.014	0.018	0.021	0.028	0.035	0.042	0.049	0.056	0.063	0.07
	S	0.004	0.006	0.008	0.010	0.012	0.016	0.020	0.024	0.028	0.032	0.036	0.04
	N	0.009	0.014	0.018	0.023	0.027	0.036	0.045	0.054	0.063	0.072	0.081	0.09

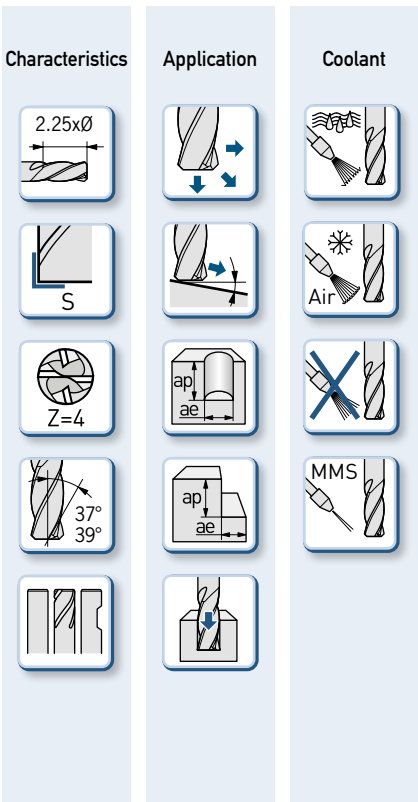
*For Slotting (100% Ø) in material M1, M2, S1 and S2 reduce fz by 30%.

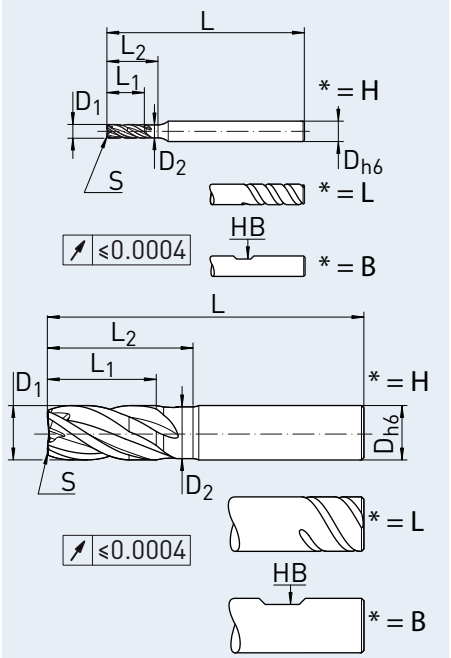
Technical data and Product characteristics



Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB





Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Cutting length L1 max. 2.25 x D1

Article-Code	HAIMER Quality	D1 (f9) [inch]	Cutting edge	L1 [inch]	L [inch]	L2 [inch]	D2 [inch]	D (h6) [inch]	Shank
F2004MN*3/32ZS..	DA	3/32	S	0.211	2	9/32	0.090	1/4	HA/S-λ/HB
F2004MN*1/8ZS..	DA	1/8	S	0.281	2	3/8	0.121	1/4	HA/S-λ/HB
F2004MN*3/16ZS..	DA	3/16	S	0.422	2 1/2	9/16	0.180	1/4	HA/S-λ/HB
F2004MN*1/4ZS..	DA	1/4	S	0.563	2 1/2	3/4	0.231	1/4	HA/S-λ/HB
F2004MN*5/16ZS..	DA	5/16	S	0.703	2 1/2	15/16	0.297	5/16	HA/S-λ/HB
F2004MN*3/8ZS..	DA	3/8	S	0.844	3	1 1/8	0.355	3/8	HA/S-λ/HB
F2004MN*1/2ZS..	DA	1/2	S	1.125	3 1/2	1 1/2	0.476	1/2	HA/S-λ/HB
F2004MN*5/8ZS..	DA	5/8	S	1.406	4	1 7/8	0.594	5/8	HA/S-λ/HB
F2004MN*3/4ZS..	DA	3/4	S	1.688	4 1/2	2 1/4	0.711	3/4	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

INCH

F2004MN – HAIMER MILL CORNER RADIUS

Technical data and Product characteristics



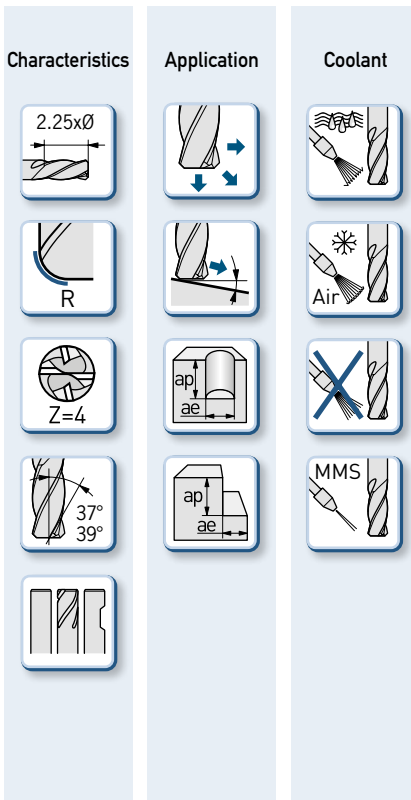


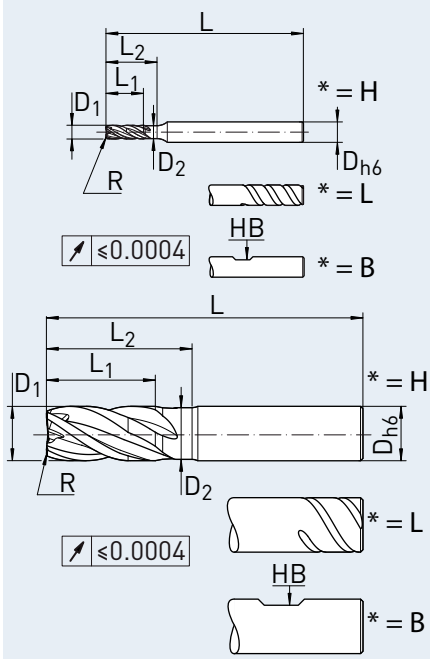


* = H * = L * = B

Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB





Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Cutting length L1 max. 2.25 x D1

Article-Code	HAIMER Quality	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 [inch]	L [inch]	L2 [inch]	D2 [inch]	D (h6) [inch]	Shank
F2004MN*3/32ZR.010..	DA	3/32	R	0.010	0.211	2	9/32	0..090	1/4	HA/S-λ/HB
F2004MN*1/8ZR.010..	DA	1/8	R	0.010	0.281	2	3/8	0.121	1/4	HA/S-λ/HB
F2004MN*3/16ZR.015..	DA	3/16	R	0.015	0.422	2 1/2	9/16	0.180	1/4	HA/S-λ/HB
F2004MN*1/4ZR.030..	DA	1/4	R	0.030	0.563	2 1/2	3/4	0.231	1/4	HA/S-λ/HB
F2004MN*5/16ZR.030..	DA	5/16	R	0.030	0.703	2 1/2	15/16	0.297	5/16	HA/S-λ/HB
F2004MN*3/8ZR.015..	DA	3/8	R	0.015	0.844	3	1 1/8	0.355	3/8	HA/S-λ/HB
F2004MN*3/8ZR.030..	DA	3/8	R	0.030	0.844	3	1 1/8	0.355	3/8	HA/S-λ/HB
F2004MN*1/2ZR.015..	DA	1/2	R	0.015	1.125	3 1/2	1 1/2	0.476	1/2	HA/S-λ/HB
F2004MN*1/2ZR.020..	DA	1/2	R	0.020	1.125	3 1/2	1 1/2	0.476	1/2	HA/S-λ/HB
F2004MN*1/2ZR.060..	DA	1/2	R	0.060	1.125	3 1/2	1 1/2	0.476	1/2	HA/S-λ/HB
F2004MN*5/8ZR.060..	DA	5/8	R	0.060	1.406	4	1 7/8	0.594	5/8	HA/S-λ/HB
F2004MN*3/4ZR.060..	DA	3/4	R	0.060	1.688	4 1/2	2 1/4	0.711	3/4	HA/S-λ/HB
F2004MN*3/4ZR.090..	DA	3/4	R	0.090	1.688	4 1/2	2 1/4	0.711	3/4	HA/S-λ/HB
F2004MN*3/4ZR.125..	DA	3/4	R	0.125	1.688	4 1/2	2 1/4	0.711	3/4	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

F2004NN – HAIMER MILL SHARP CUTTING EDGE

METRIC

Technical data and Product characteristics



Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB



* = H * = L * = B

Characteristics

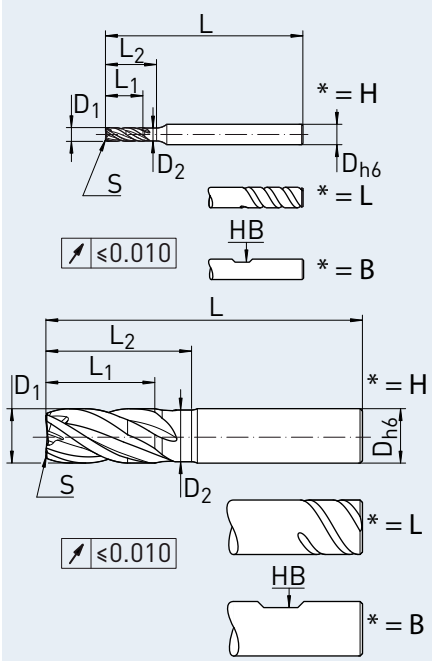


Application



Coolant





Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge

Article-Code	HAIMER Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D (h6) [mm]	Shank h6	Shank h6
F2004NN*0200S..	DA	2.00	S	7	58	9	1.9	6	HA/S-λ/HB
F2004NN*0300S..	DA	3.00	S	8	58	10	2.9	6	HA/S-λ/HB
F2004NN*0400S..	DA	4.00	S	11	58	15	3.8	6	HA/S-λ/HB
F2004NN*0500S..	DA	5.00	S	13	58	18	4.8	6	HA/S-λ/HB
F2004NN*0600S..	DA	6.00	S	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0800S..	DA	8.00	S	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*1000S..	DA	10.00	S	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1200S..	DA	12.00	S	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1400S..	DA	14.00	S	26	84	36.5	13.3	14	HA/S-λ/HB
F2004NN*1600S..	DA	16.00	S	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1800S..	DA	18.00	S	32	93	42.5	17.1	18	HA/S-λ/HB
F2004NN*2000S..	DA	20.00	S	38	105	52	19	20	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

METRIC

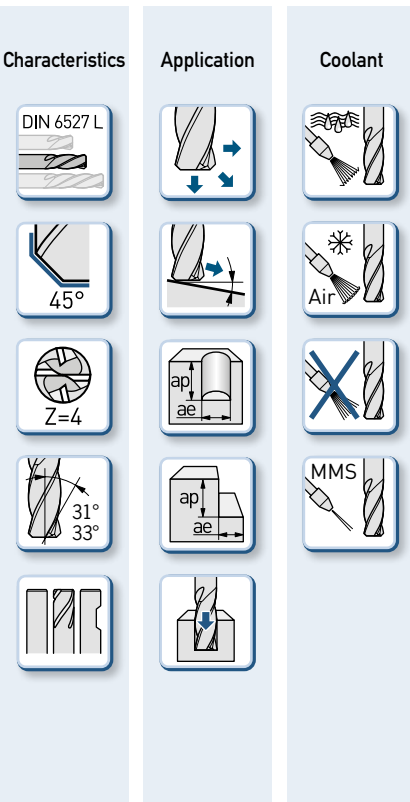
F2004NN – HAIMER MILL CHAMFER UNDERSIZE

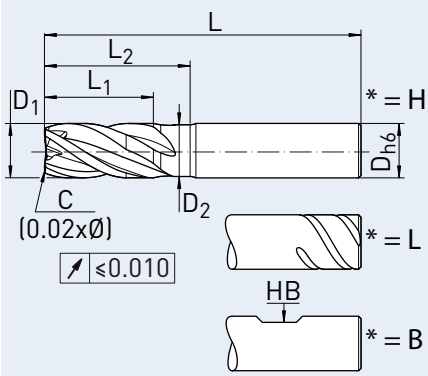
Technical data and Product characteristics



Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB





Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge

Cooling with Cool Jet or Cool Flash and using Power Chucks is recommended for higher tool life and high removal rate.

Article-Code	HAIMER Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h6) [mm]	Shank
F2004NN*0570C..	DA	5.70	C	0.12	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0770C..	DA	7.70	C	0.16	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*0970C..	DA	9.70	C	0.20	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1170C..	DA	11.70	C	0.24	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1370C..	DA	13.70	C	0.28	26	84	36.5	13.3	14	HA/S-λ/HB
F2004NN*1560C..	DA	15.60	C	0.32	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1950C..	DA	19.50	C	0.40	38	105	52	19	20	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

F2004NN – HAIMER MILL CHAMFER

METRIC

Technical data and Product characteristics



Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB



* = H * = L * = B

Characteristics

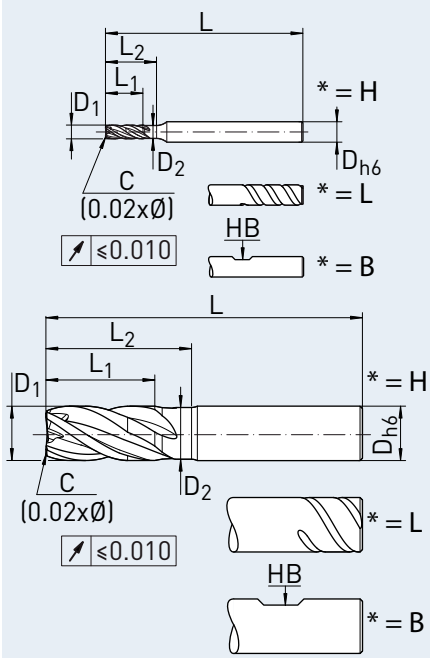


Application



Coolant





Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge

Article-Code	HAIMER Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h6) [mm]	Shank
F2004NN*0200C..	DA	2.00	C	0.04	7	58	9	1.9	6	HA/S-λ/HB
F2004NN*0300C..	DA	3.00	C	0.06	8	58	10	2.9	6	HA/S-λ/HB
F2004NN*0400C..	DA	4.00	C	0.08	11	58	15	3.8	6	HA/S-λ/HB
F2004NN*0500C..	DA	5.00	C	0.10	13	58	18	4.8	6	HA/S-λ/HB
F2004NN*0600C..	DA	6.00	C	0.12	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0800C..	DA	8.00	C	0.16	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*1000C..	DA	10.00	C	0.20	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1200C..	DA	12.00	C	0.24	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1400C..	DA	14.00	C	0.28	26	84	36.5	13.3	14	HA/S-λ/HB
F2004NN*1600C..	DA	16.00	C	0.32	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1800C..	DA	18.00	C	0.36	32	93	42.5	17.1	18	HA/S-λ/HB
F2004NN*2000C..	DA	20.00	C	0.40	38	105	52	19	20	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

METRIC

F2004NN – HAIMER MILL CORNER RADIUS

Technical data and Product characteristics



Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB



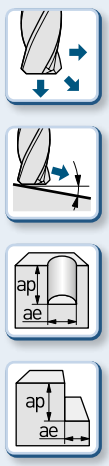


* = H * = L * = B

Characteristics

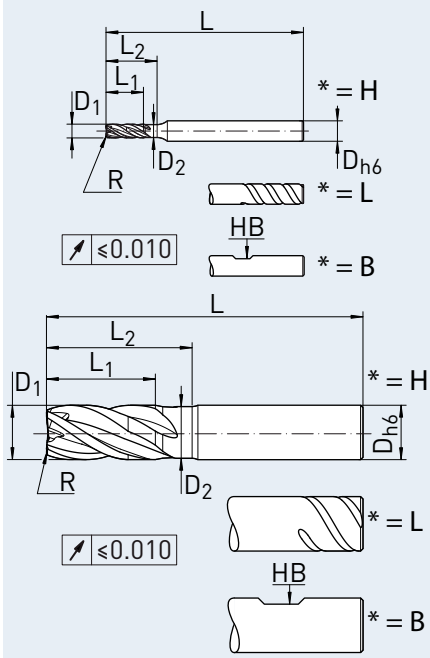


Application



Coolant





Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge

Article-Code	HAIMER Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h6) [mm]	Shank
F2004NN*0200R0.20..	DA	2.00	R	0.20	7	58	9	1.9	6	HA/S-λ/HB
F2004NN*0300R0.30..	DA	3.00	R	0.30	8	58	10	2.9	6	HA/S-λ/HB
F2004NN*0400R0.30..	DA	4.00	R	0.30	11	58	15	3.8	6	HA/S-λ/HB
F2004NN*0400R0.40..	DA	4.00	R	0.40	11	58	15	3.8	6	HA/S-λ/HB
F2004NN*0400R0.50..	DA	4.00	R	0.50	11	58	15	3.8	6	HA/S-λ/HB
F2004NN*0500R0.30..	DA	5.00	R	0.30	13	58	18	4.8	6	HA/S-λ/HB
F2004NN*0500R0.50..	DA	5.00	R	0.50	13	58	18	4.8	6	HA/S-λ/HB
F2004NN*0500R1.00..	DA	5.00	R	1.00	13	58	18	4.8	6	HA/S-λ/HB
F2004NN*0600R0.30..	DA	6.00	R	0.30	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0600R0.50..	DA	6.00	R	0.50	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0600R0.80..	DA	6.00	R	0.80	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0600R1.00..	DA	6.00	R	1.00	13	58	20	5.7	6	HA/S-λ/HB

Turn page for more articles

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Technical data and Product characteristics



* = H



* = L



* = B

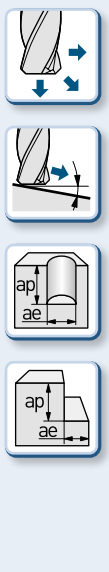
Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

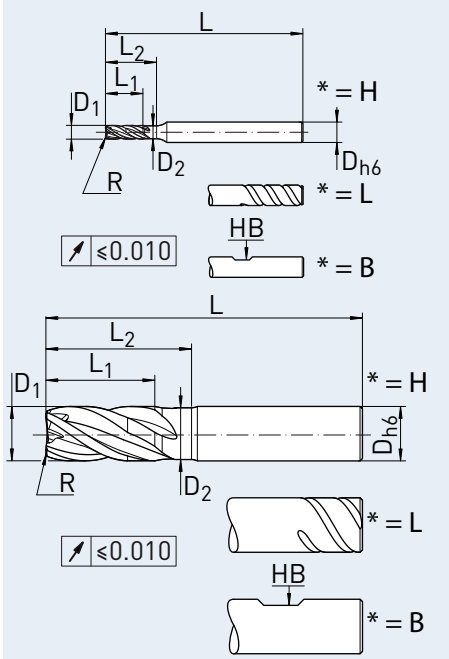


Application



Coolant





Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge

Article-Code	HAIMER Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h6) [mm]	Shank
F2004NN*0600R1.50..	DA	6.00	R	1.50	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0600R2.00..	DA	6.00	R	2.00	13	58	20	5.7	6	HA/S-λ/HB
F2004NN*0800R0.30..	DA	8.00	R	0.30	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*0800R0.50..	DA	8.00	R	0.50	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*0800R0.80..	DA	8.00	R	0.80	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*0800R1.00..	DA	8.00	R	1.00	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*0800R1.50..	DA	8.00	R	1.50	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*0800R2.00..	DA	8.00	R	2.00	19	64	26	7.6	8	HA/S-λ/HB
F2004NN*1000R0.30..	DA	10.00	R	0.30	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1000R0.50..	DA	10.00	R	0.50	22	73	30.5	9.5	10	HA/S-λ/HB

⇨ Turn page for more articles

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

METRIC

F2004NN – HAIMER MILL CORNER RADIUS

Article-Code	HAIMER Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h6) [mm]	Shank
F2004NN*1000R0.80..	DA	10.00	R	0.80	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1000R1.00..	DA	10.00	R	1.00	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1000R1.50..	DA	10.00	R	1.50	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1000R2.00..	DA	10.00	R	2.00	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1000R2.50..	DA	10.00	R	2.50	22	73	30.5	9.5	10	HA/S-λ/HB
F2004NN*1200R0.30..	DA	12.00	R	0.30	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R0.50..	DA	12.00	R	0.50	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R0.80..	DA	12.00	R	0.80	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R1.00..	DA	12.00	R	1.00	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R1.50..	DA	12.00	R	1.50	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R2.00..	DA	12.00	R	2.00	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R2.50..	DA	12.00	R	2.50	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R3.00..	DA	12.00	R	3.00	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1200R4.00..	DA	12.00	R	4.00	26	84	36.5	11.4	12	HA/S-λ/HB
F2004NN*1400R0.50..	DA	14.00	R	0.50	26	84	36.5	13.3	14	HA/S-λ/HB
F2004NN*1400R1.00..	DA	14.00	R	1.00	26	84	36.5	13.3	14	HA/S-λ/HB
F2004NN*1400R2.00..	DA	14.00	R	2.00	26	84	36.5	13.3	14	HA/S-λ/HB
F2004NN*1600R0.30..	DA	16.00	R	0.30	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R0.50..	DA	16.00	R	0.50	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R0.80..	DA	16.00	R	0.80	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R1.00..	DA	16.00	R	1.00	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R1.50..	DA	16.00	R	1.50	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R2.00..	DA	16.00	R	2.00	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R3.00..	DA	16.00	R	3.00	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1600R4.00..	DA	16.00	R	4.00	32	93	42.5	15.2	16	HA/S-λ/HB
F2004NN*1800R0.50..	DA	18.00	R	0.50	32	93	42.5	17.1	18	HA/S-λ/HB
F2004NN*1800R1.00..	DA	18.00	R	1.00	32	93	42.5	17.1	18	HA/S-λ/HB
F2004NN*1800R2.00..	DA	18.00	R	2.00	32	93	42.5	17.1	18	HA/S-λ/HB
F2004NN*2000R0.30..	DA	20.00	R	0.30	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R0.50..	DA	20.00	R	0.50	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R0.80..	DA	20.00	R	0.80	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R1.00..	DA	20.00	R	1.00	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R1.50..	DA	20.00	R	1.50	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R2.00..	DA	20.00	R	2.00	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R3.00..	DA	20.00	R	3.00	38	105	52	19	20	HA/S-λ/HB
F2004NN*2000R4.00..	DA	20.00	R	4.00	38	105	52	19	20	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Technical data and Product characteristics



* = H



* = L



* = B

Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

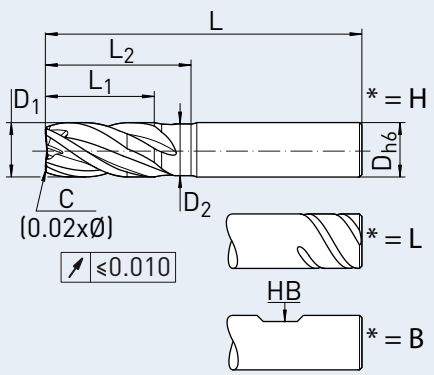


Application



Coolant





Material – characteristics

Main Material



also suitable for



- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge

Article-Code	HAIMER Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h6) [mm]	Shank
F2004LL*0600C..	DA	6.00	C	0.12	18	62	24	5.7	6	HA/S-λ/HB
F2004LL*0800C..	DA	8.00	C	0.16	24	70	32	7.6	8	HA/S-λ/HB
F2004LL*1000C..	DA	10.00	C	0.20	30	82	40	9.5	10	HA/S-λ/HB
F2004LL*1200C..	DA	12.00	C	0.24	36	95	48	11.4	12	HA/S-λ/HB
F2004LL*1400C..	DA	14.00	C	0.28	42	105	56	13.3	14	HA/S-λ/HB
F2004LL*1600C..	DA	16.00	C	0.32	48	115	64	15.2	16	HA/S-λ/HB
F2004LL*2000C..	DA	20.00	C	0.40	60	133	80	19.0	20	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

INCH

F2004LL – HAIMER MILL CHAMFER

Technical data and Product characteristics





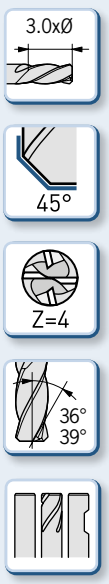


* = H * = L * = B

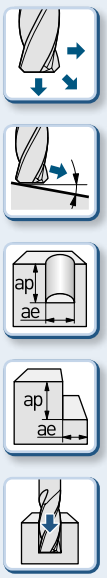
Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

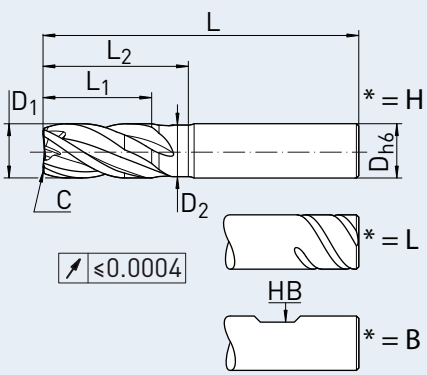


Application



Coolant





Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Cutting length L1 max. 3 x D1
- Very favorable solid carbide shank shape

Article-Code	HAIMER Quality	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 [inch]	L [inch]	L2 [inch]	D2 [inch]	D (h6) [inch]	Shank
F2004LL*1/4ZC..	DA	1/ 4	C	0.0050	0.750	2 1/ 2	1	0.238	1/ 4	HA/S-λ/HB
F2004LL*5/16ZC..	DA	5/16	C	0.0064	0.938	3	1 1/4	0.296	5/16	HA/S-λ/HB
F2004LL*3/8ZC..	DA	3/ 8	C	0.0075	1.125	3 1/ 2	1 1/2	0.355	3/ 8	HA/S-λ/HB
F2004LL*1/2ZC..	DA	1/ 2	C	0.0100	1.500	4	2	0.476	1/ 2	HA/S-λ/HB
F2004LL*5/8ZC..	DA	5/ 8	C	0.0125	1.875	4 1/ 2	2 1/2	0.593	5/ 8	HA/S-λ/HB
F2004LL*3/4ZC..	DA	3/ 4	C	0.0150	2.250	5	3	0.710	3/ 4	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Technical data and Product characteristics

Optional:

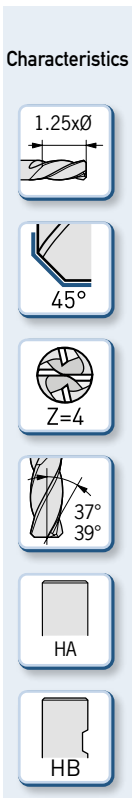
- Straight shank DIN 6535-HA
- Weldon shank similar DIN 6535-HB

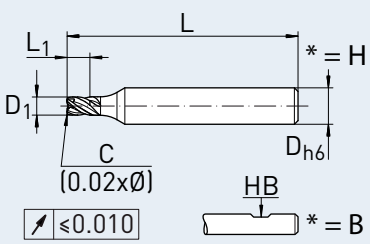


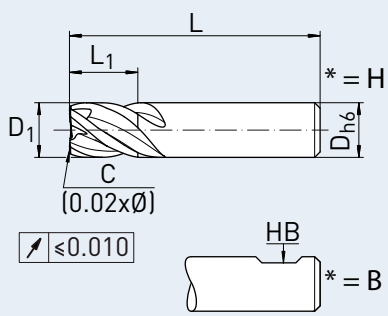
* = H



* = B







Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Center cutting
- Unequal cutting edge
- Cutting length L1 max. 1.25 x D1
- No neck
- Shortened shank for ideal length in some applications

Article-Code	HAIMER Quality	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D (h6) [mm]	Shank h6
F2014KK*0200C..	DA	2.00	C	0.04	2.50	38	6	HA/HB
F2014KK*0300C..	DA	3.00	C	0.06	3.75	38	6	HA/HB
F2014KK*0400C..	DA	4.00	C	0.08	5.00	38	6	HA/HB
F2014KK*0500C..	DA	5.00	C	0.10	6.25	38	6	HA/HB
F2014KK*0600C..	DA	6.00	C	0.12	7.50	38	6	HA/HB
F2014KK*0800C..	DA	8.00	C	0.16	10.00	42	8	HA/HB
F2014KK*1000C..	DA	10.00	C	0.20	12.50	50	10	HA/HB
F2014KK*1200C..	DA	12.00	C	0.24	15.00	55	12	HA/HB
F2014KK*1400C..	DA	14.00	C	0.28	17.50	58	14	HA/HB
F2014KK*1600C..	DA	16.00	C	0.32	20.00	63	16	HA/HB
F2014KK*2000C..	DA	20.00	C	0.40	25.00	75	20	HA/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

INCH

F2014KK – HAIMER MILL CHAMFER

Technical data and Product characteristics

Optional:

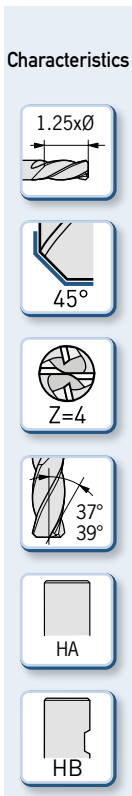
- Straight shank DIN 6535-HA
- Weldon shank similar DIN 6535-HB

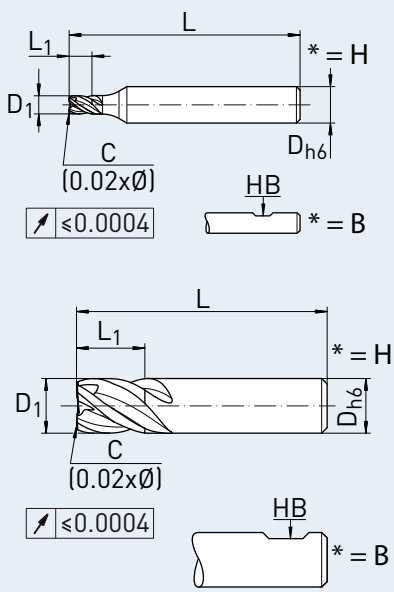


* = H



* = B





Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Center cutting
- Unequal cutting edge
- Cutting length L1 max. 1.25 x D1
- No neck
- Shortened shank for ideal length in some applications

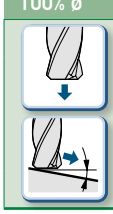
Article-Code	HAIMER Quality	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 [inch]	L [inch]	D (h6) [inch]	Shank
F2014KK*3/32ZC..	DA	3/32	C	0.0018	0.117	1 1/2	1/4	HA/HB
F2014KK*1/8ZC..	DA	1/8	C	0.0025	0.156	1 1/2	1/4	HA/HB
F2014KK*3/16ZC..	DA	3/16	C	0.0038	0.234	1 1/2	1/4	HA/HB
F2014KK*1/4ZC..	DA	1/4	C	0.0050	0.313	1 1/2	1/4	HA/HB
F2014KK*5/16ZC..	DA	5/16	C	0.0064	0.391	2	5/16	HA/HB
F2014KK*3/8ZC..	DA	3/8	C	0.0075	0.469	2	3/8	HA/HB
F2014KK*1/2ZC..	DA	1/2	C	0.0100	0.625	2 1/2	1/2	HA/HB
F2014KK*5/8ZC..	DA	5/8	C	0.0125	0.781	2 1/2	5/8	HA/HB
F2014KK*3/4ZC..	DA	3/4	C	0.0150	0.938	3	3/4	HA/HB

* = H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material information Material no.	Tensile strength	Content/ Hardness	Cutting width Ramping	ae = 100% D1 ap = 1 x D1 Cutting Speed (SFM)	ae = 15% D1 ap = L1 max.	ae = 5% D1 ap = L1 max.
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**45°**	**836 – 902**	**1049 – 1115**	**1311 – 1377**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**30°**	**623 – 689**	**721 – 787**	**951 – 1016**
M1	**Stainless steels**	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		**10°**	**311 – 361**	**377 – 443**	**492 – 557**
M2	**Stainless steels**	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		**5°**	**246 – 295**	**311 – 344**	**361 – 426**
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		45°	525 – 590	590 – 656	689 – 754
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		20°	426 – 492	492 – 557	590 – 656
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10°	164 – 197	197 – 262	262 – 295
S2	High Temp alloys	Inconel, Nimonic				5°	98 – 131	98 – 131	98 – 131
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			30°	1541 – 1607	1967 – 2066	2557 – 2689
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	30°	1115 – 1180	1377 – 1443	1770 – 1902
H1	Hardened steels				45 - 55 HRC	10°	131 – 197	197 – 262	197 – 262

Cutting data are reference values and need to be adjusted according to the application area.
Chip removal recommended for drilling depth 0.5 – 1 x D.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae							
ae		1/4	5/16	3/8	1/2	5/8	3/4
to 50% ø		0.0016	0.0020	0.0024	0.0033	0.0041	0.0049
100% ø		*0.0014	*0.0017	*0.0021	*0.0028	*0.0034	*0.0041
	P	0.0011	0.0014	0.0017	0.0023	0.0028	0.0034
	M	0.0006	0.0008	0.0009	0.0013	0.0016	0.0019
	K	0.0010	0.0013	0.0015	0.0020	0.0025	0.0030
	S	0.0005	0.0006	0.0008	0.0010	0.0013	0.0015
	N	0.0011	0.0014	0.0017	0.0023	0.0028	0.0034

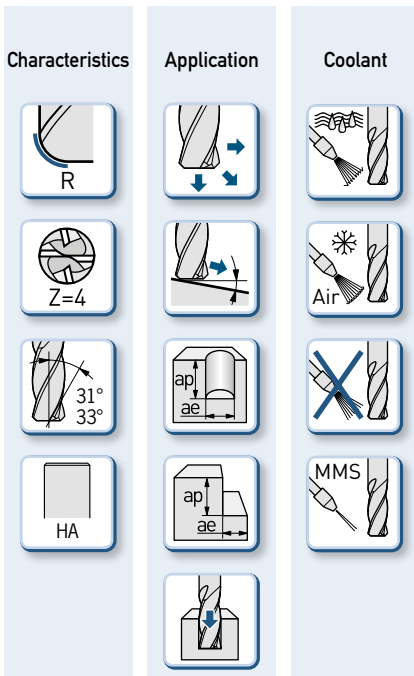
* For Slotting (100% Ø) in material M1, M2 and S1 reduce fz by 30%.

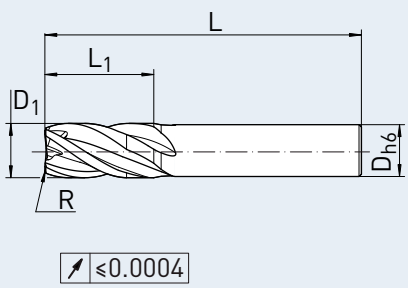
INCH

F2014 – HAIMER MILL CORNER RADIUS

Technical data and Product characteristics







Material – characteristics

Main Material: **P** **M**

also suitable for: **K** **S** **N** **H**

- Center cutting
- Unequal cutting edge

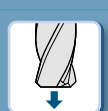
Article-Code	HAIMER Quality	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 [inch]	L [inch]	D (h6) [inch]	Shank
F2014NNH1/4ZR.015..	DA	1/4	R	0.015	7/16	2 1/2	1/4	HA
F2014NNH1/4ZR.030..	DA	1/4	R	0.030	7/16	2 1/2	1/4	HA
F2014LNH1/4ZR.015..	DA	1/4	R	0.015	3/4	2 1/2	1/4	HA
F2014LNH1/4ZR.030..	DA	1/4	R	0.030	3/4	2 1/2	1/4	HA
F2014LNH5/16ZR.015..	DA	5/16	R	0.015	13/16	2 1/2	5/16	HA
F2014LNH5/16ZR.030..	DA	5/16	R	0.030	13/16	2 1/2	5/16	HA
F2014KNH3/8ZR.030..	DA	3/8	R	0.030	1/2	2 1/2	3/8	HA
F2014NNH3/8ZR.030..	DA	3/8	R	0.030	7/8	2 1/2	3/8	HA
F2014KKH1/2ZR.015..	DA	1/2	R	0.015	5/8	2 1/2	1/2	HA
F2014KKH1/2ZR.030..	DA	1/2	R	0.030	5/8	2 1/2	1/2	HA
F2014NNH1/2ZR.030..	DA	1/2	R	0.030	1	3	1/2	HA
F2014NNH1/2ZR.060..	DA	1/2	R	0.060	1	3	1/2	HA
F2014NLH1/2ZR.015..	DA	1/2	R	0.015	1 1/4	3 1/2	1/2	HA
F2014NLH1/2ZR.030..	DA	1/2	R	0.030	1 1/4	3 1/2	1/2	HA
F2014NLH1/2ZR.060..	DA	1/2	R	0.060	1 1/4	3 1/2	1/2	HA
F2014NNH5/8ZR.030..	DA	5/8	R	0.030	1 1/4	4	5/8	HA
F2014NNH5/8ZR.060..	DA	5/8	R	0.060	1 1/4	4	5/8	HA
F2014NNH3/4ZR.030..	DA	3/4	R	0.030	1 1/2	4	3/4	HA
F2014NNH3/4ZR.060..	DA	3/4	R	0.060	1 1/2	4	3/4	HA
F2014NNH3/4ZR.090..	DA	3/4	R	0.090	1 1/2	4	3/4	HA
F2014NNH3/4ZR.125..	DA	3/4	R	0.125	1 1/2	4	3/4	HA

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**400 – 500**	**500 – 600**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%			

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae												
ae	ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø	0.02	0.03	0.04	0.05	0.06	0.08	0.1	0.12	0.14	0.16	0.18	0.2
100% ø	0.01	0.015	0.02	0.025	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1
	0.002	0.003	0.004	0.005	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020

METRIC

F4002NN – HAIMER MILL Alu Series
CHAMFER UNCOATED

Technical data and Product characteristics



* = H



* = L

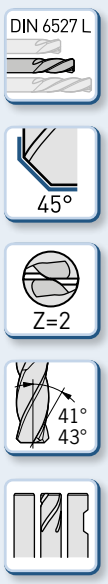


* = B

Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

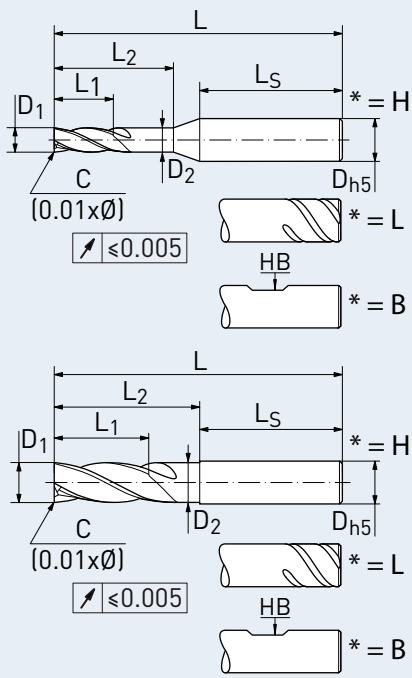


Application



Coolant





Fine balanced
Except Weldon shank

Material – characteristics

Main Material

N

- Neck for higher cutting depth
- Center cutting
- Polished flute and relief
- Uncoated

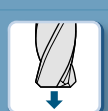
Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F4002NN*0200C..	A-	2.00	C	0.02	7	58	9	1.9	6	44.3	HA/S-λ/HB
F4002NN*0300C..	A-	3.00	C	0.03	8	58	10	2.9	6	44.0	HA/S-λ/HB
F4002NN*0400C..	A-	4.00	C	0.04	11	58	15	3.8	6	40.0	HA/S-λ/HB
F4002NN*0500C..	A-	5.00	C	0.05	13	58	18	4.8	6	37.875	HA/S-λ/HB
F4002NN*0600C..	A-	6.00	C	0.06	13	58	20	5.7	6	36.5	HA/S-λ/HB
F4002NN*0800C..	A-	8.00	C	0.08	19	64	26	7.6	8	36.5	HA/S-λ/HB
F4002NN*1000C..	A-	10.00	C	0.10	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
F4002NN*1200C..	A-	12.00	C	0.12	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F4002NN*1400C..	A-	14.00	C	0.14	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
F4002NN*1600C..	A-	16.00	C	0.16	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F4002NN*1800C..	A-	18.00	C	0.18	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
F4002NN*2000C..	A-	20.00	C	0.20	38	105	52	19	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**400 – 500**	**500 – 600**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%			

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae												
ae	ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø	0.02	0.03	0.04	0.05	0.06	0.08	0.1	0.12	0.14	0.16	0.18	0.2
100% ø	0.01	0.015	0.02	0.025	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1
	0.002	0.003	0.004	0.005	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020

METRIC

F4002NN – HAIMER MILL Alu Series CHAMFER

Technical data and Product characteristics



* = H



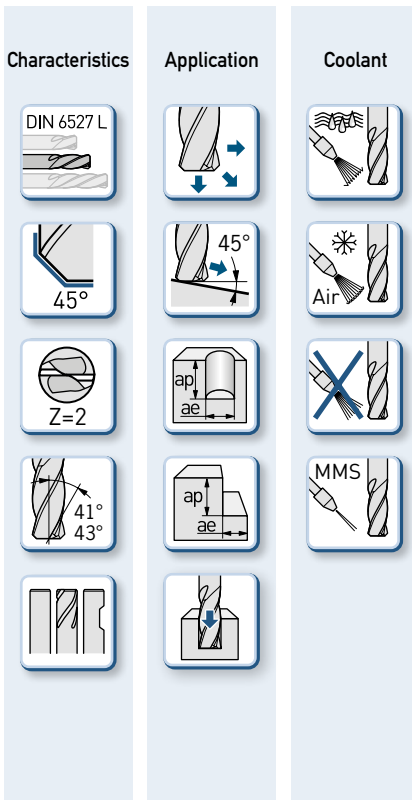
* = L

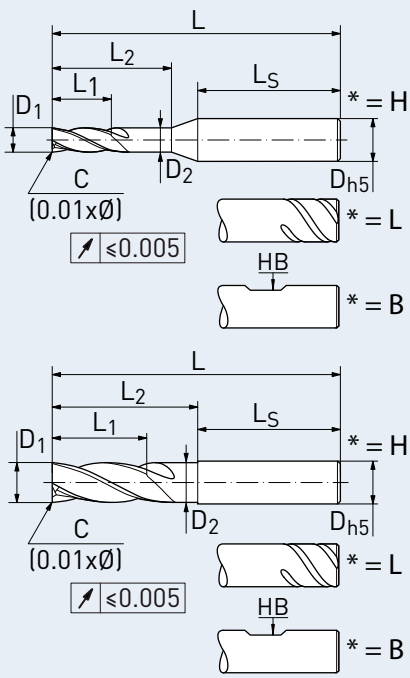


* = B

Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB





Fine balanced
Except Weldon shank

Material – characteristics

Main Material

N

- Coating for abrasive materials
- Neck for higher cutting depth
- Center cutting
- Polished flute and relief

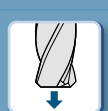
Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F4002NN*0200C..	AC	2.00	C	0.02	7	58	9	1.9	6	44.3	HA/S-λ/HB
F4002NN*0300C..	AC	3.00	C	0.03	8	58	10	2.9	6	44.0	HA/S-λ/HB
F4002NN*0400C..	AC	4.00	C	0.04	11	58	15	3.8	6	40.0	HA/S-λ/HB
F4002NN*0500C..	AC	5.00	C	0.05	13	58	18	4.8	6	37.875	HA/S-λ/HB
F4002NN*0600C..	AC	6.00	C	0.06	13	58	20	5.7	6	36.5	HA/S-λ/HB
F4002NN*0800C..	AC	8.00	C	0.08	19	64	26	7.6	8	36.5	HA/S-λ/HB
F4002NN*1000C..	AC	10.00	C	0.10	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
F4002NN*1200C..	AC	12.00	C	0.12	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F4002NN*1400C..	AC	14.00	C	0.14	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
F4002NN*1600C..	AC	16.00	C	0.16	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F4002NN*1800C..	AC	18.00	C	0.18	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
F4002NN*2000C..	AC	20.00	C	0.20	38	105	52	19	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**400 – 500**	**500 – 600**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%			

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae												
ae	ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø	0.02	0.03	0.04	0.05	0.06	0.08	0.1	0.12	0.14	0.16	0.18	0.2
100% ø	0.01	0.015	0.02	0.025	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1
	0.002	0.003	0.004	0.005	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020

METRIC

F4003NN – HAIMER MILL Alu Series
CHAMFER UNCOATED

Technical data and Product characteristics



* = H



* = L

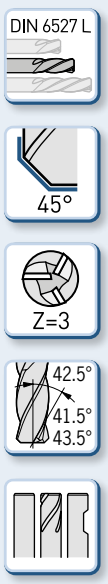


* = B

Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

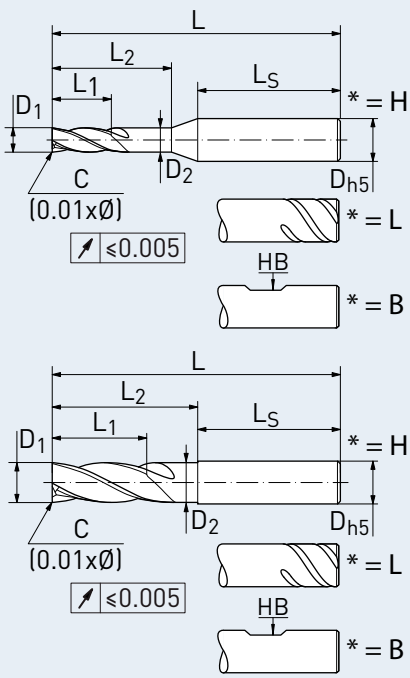


Application



Coolant





Fine balanced
Except Weldon shank

Material – characteristics

Main Material

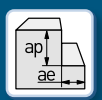
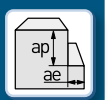
N

- Neck for higher cutting depth
- Center cutting
- Polished flute and relief
- Uncoated

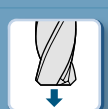
Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F4003NN*0200C..	A-	2.00	C	0.02	7	58	9	1.9	6	44.3	HA/S-λ/HB
F4003NN*0300C..	A-	3.00	C	0.03	8	58	10	2.9	6	44.0	HA/S-λ/HB
F4003NN*0400C..	A-	4.00	C	0.04	11	58	15	3.8	6	40.0	HA/S-λ/HB
F4003NN*0500C..	A-	5.00	C	0.05	13	58	18	4.8	6	37.875	HA/S-λ/HB
F4003NN*0600C..	A-	6.00	C	0.06	13	58	20	5.7	6	36.5	HA/S-λ/HB
F4003NN*0800C..	A-	8.00	C	0.08	19	64	26	7.6	8	36.5	HA/S-λ/HB
F4003NN*1000C..	A-	10.00	C	0.10	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
F4003NN*1200C..	A-	12.00	C	0.12	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F4003NN*1400C..	A-	14.00	C	0.14	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
F4003NN*1600C..	A-	16.00	C	0.16	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F4003NN*1800C..	A-	18.00	C	0.18	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
F4003NN*2000C..	A-	20.00	C	0.20	41	105	52	19	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width  ae = 100% D1 ap = 1 x D1	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**400 – 500**	**500 – 600**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%			

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae												
ae	ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø	0.02	0.03	0.04	0.05	0.06	0.08	0.1	0.12	0.14	0.16	0.18	0.2
100% ø	0.01	0.015	0.02	0.025	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1
	0.002	0.003	0.004	0.005	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020

METRIC

F4003NN – HAIMER MILL Alu Series CHAMFER

Technical data and Product characteristics



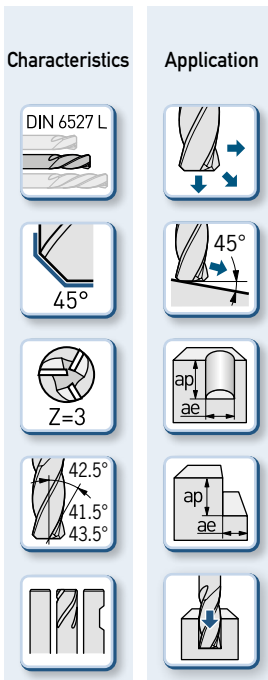


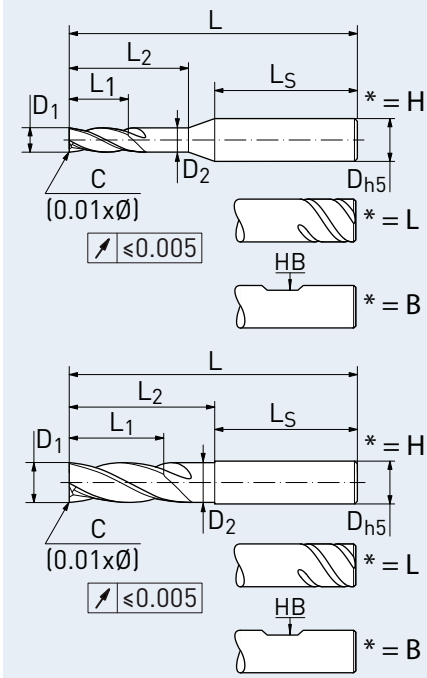


* = H * = L * = B

Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB





Fine balanced
Except Weldon shank

Material – characteristics

Main Material

N

- Coating for abrasive materials
- Neck for higher cutting depth
- Center cutting
- Polished flute and relief

Article-Code	HAIMER Quality	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
F4003NN*0200C..	AC	2.00	C	0.02	7	58	9	1.9	6	44.3	HA/S-λ/HB
F4003NN*0300C..	AC	3.00	C	0.03	8	58	10	2.9	6	44.0	HA/S-λ/HB
F4003NN*0400C..	AC	4.00	C	0.04	11	58	15	3.8	6	40.0	HA/S-λ/HB
F4003NN*0500C..	AC	5.00	C	0.05	13	58	18	4.8	6	37.875	HA/S-λ/HB
F4003NN*0600C..	AC	6.00	C	0.06	13	58	20	5.7	6	36.5	HA/S-λ/HB
F4003NN*0800C..	AC	8.00	C	0.08	19	64	26	7.6	8	36.5	HA/S-λ/HB
F4003NN*1000C..	AC	10.00	C	0.10	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
F4003NN*1200C..	AC	12.00	C	0.12	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
F4003NN*1400C..	AC	14.00	C	0.14	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
F4003NN*1600C..	AC	16.00	C	0.16	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
F4003NN*1800C..	AC	18.00	C	0.18	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
F4003NN*2000C..	AC	20.00	C	0.20	41	105	52	19	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038. 1.0050. 1.0503	≤ 800 N/mm²	up to 25 HRC	**180 – 220**	**280 – 320**
P2	**Heat treated steels**	D2, 4140	1.2367. 1.2379. 1.2363. 1.7225	> 800 N/mm²	up to 45 HRC	**170 – 190**	**270 – 290**
M1	Stainless steels	303, 304	1.4305. 1.4301. 1.4034	≤ 650 N/mm²		110 – 130	170 – 190
M2	Stainless steels	316Ti, 316L	1.4571. 1.4404. 1.4418	> 650 N/mm²		70 – 90	120 – 140
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020. 0.6040. 0.7040	≤ 450 N/mm²		190 – 210	290 – 310
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060. 0.7070	> 450 N/mm²		140 – 160	220 – 240
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			60 – 80	60 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/ mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	120 – 240	120 – 240
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 240	120 – 240
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae

ae	ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø	0.02	0.03	0.04	0.05	0.06	0.08	0.1	0.12	0.14	0.16	0.18	0.2
100% ø	0.01	0.015	0.02	0.025	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1
	0.002	0.003	0.004	0.005	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020

METRIC

V1002NN – HAIMER MILL Power Series
BALL NOSE

Technical data and Product characteristics



* = H



* = L

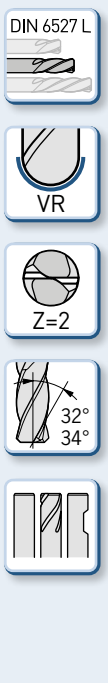


* = B

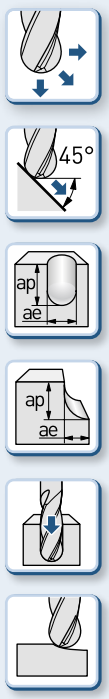
Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

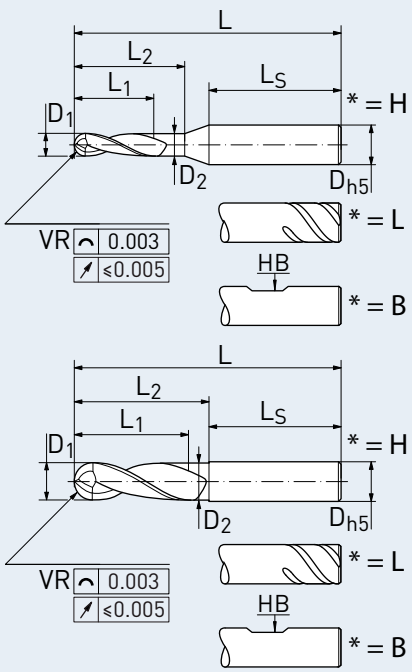


Application



Coolant





Fine balanced
Except Weldon shank

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Ball Nose
- Polished flute and relief

Article-Code	HAIMER Quality	D1 [mm]	VR ± 0.005 mm	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
V1002NN*0200R..	AA	2 $^{-0.005}_{-0.025}$	0.9925	7	58	9	1.9	6	44.3	HA/S-λ/HB
V1002NN*0300R..	AA	3 $^{-0.005}_{-0.025}$	1.4925	8	58	10	2.9	6	44.0	HA/S-λ/HB
V1002NN*0400R..	AA	4 $^{-0.010}_{-0.030}$	1.99	11	58	15	3.8	6	40.0	HA/S-λ/HB
V1002NN*0500R..	AA	5 $^{-0.010}_{-0.030}$	2.49	13	58	18	4.8	6	37.875	HA/S-λ/HB
V1002NN*0600R..	AA	6 $^{-0.010}_{-0.030}$	2.99	13	58	20	5.7	6	36.5	HA/S-λ/HB
V1002NN*0800R..	AA	8 $^{-0.010}_{-0.030}$	3.99	19	64	26	7.6	8	36.5	HA/S-λ/HB
V1002NN*1000R..	AA	10 $^{-0.010}_{-0.030}$	4.99	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
V1002NN*1200R..	AA	12 $^{-0.010}_{-0.030}$	5.99	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
V1002NN*1400R..	AA	14 $^{-0.010}_{-0.030}$	6.99	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
V1002NN*1600R..	AA	16 $^{-0.010}_{-0.030}$	7.99	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
V1002NN*1800R..	AA	18 $^{-0.010}_{-0.030}$	8.99	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
V1002NN*2000R..	AA	20 $^{-0.010}_{-0.030}$	9.99	38	105	52	19	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Roughing Cutting Speed (SFM)	Finishing Cutting Speed (SFM)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**590 – 721**	**918 – 1049**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**557 – 623**	**885 – 951**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		361 – 426	557 – 623
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		230 – 295	393 – 459
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		623 – 689	951 – 1016
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		459 – 525	721 – 787
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			197 – 262	197 – 262
S2	High Temp alloys	Inconel, Nimonic				98 – 131	98 – 131
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			393 – 787	393 – 787
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	393 – 787	393 – 787
H1	Hardened steels				45 - 55 HRC	131 – 197	197 – 262

Cutting data are reference values and need to be adjusted according to the application area.

Definition of application		3/32	1/8	3/16	1/4	5/16	3/8	1/2
Roughing	ae	0.0047	0.0063	0.0113	0.0167	0.0234	0.0281	0.0417
	ap	0.0070	0.0063	0.0150	0.0208	0.0293	0.0375	0.0625
Finishing	ae	0.0023	0.0029	0.0045	0.0058	0.0063	0.0068	0.0083
	ap	0.0023	0.0025	0.0034	0.0042	0.0059	0.0075	0.0104

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae							
ae	3/32	1/8	3/16	1/4	5/16	3/8	1/2
Roughing	0.0014	0.0017	0.0018	0.0021	0.0027	0.0038	0.0050
Finishing	0.0014	0.0017	0.0018	0.0021	0.0027	0.0038	0.0050

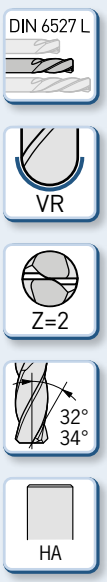
INCH

V1002NN – HAIMER MILL Power Series BALL NOSE

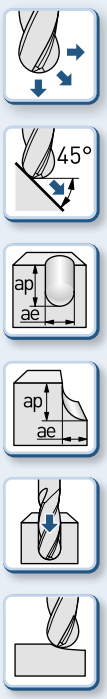
Technical data and Product characteristics



Characteristics

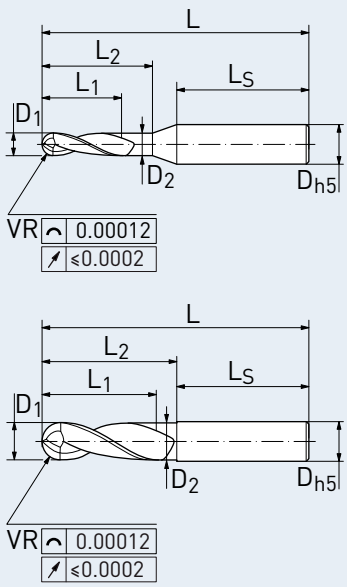


Application



Coolant





Fine balanced
Except Weldon shank

Material – characteristics

Main Material

P

also suitable for

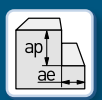
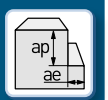
K S N M H

- Neck for higher cutting depth
- Ball Nose
- Polished flute and relief

Article-Code	HAIMER Quality	D1 [inch]	VR ± 0.0002 [inch]	L1 max. [inch]	L [inch]	L2 [inch]	D2 [inch]	D (h5) [inch]	LS [inch]	Shank
V1002NNH3/32ZR..	DA	3/32 -0.0002 -0.001	0.046	9/32	2-1/4	3/8	0.089	1/4	1.796	HA
V1002NNH1/8ZR..	DA	1/8 -0.0002 -0.001	0.062	1/4	2-1/4	3/8	0.121	1/4	1.815	HA
V1002NNH3/16ZR..	DA	3/16 -0.0004 -0.0012	0.093	1/2	2-1/4	5/8	0.179	1/4	1.593	HA
V1002NNH1/4ZR..	DA	1/4 -0.0004 -0.0012	0.124	1/2	2-1/4	3/4	0.238	1/4	1.500	HA
V1002NNH5/16ZR..	DA	5/16 -0.0004 -0.0012	0.158	3/4	2-1/2	1	0.296	5/16	1.500	HA
V1002NNH3/8ZR..	DA	3/8 -0.0004 -0.0012	0.187	7/8	2-5/8	1-3/16	0.355	3/8	1.437	HA
V1002NNH1/2ZR..	DA	1/2 -0.0004 -0.0012	0.250	1	3-1/4	1-3/8	0.476	1/2	1.875	HA

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width  ae = 100% D1 ap = 1 x D1	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**400 – 500**	**500 – 600**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%			

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae												
ae	ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø	0.02	0.03	0.04	0.05	0.06	0.08	0.1	0.12	0.14	0.16	0.18	0.2
100% ø	0.01	0.015	0.02	0.025	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1
	0.002	0.003	0.004	0.005	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020

METRIC

V4002NN – HAIMER MILL Alu Series
BALL NOSE UNCOATED

Technical data and Product characteristics





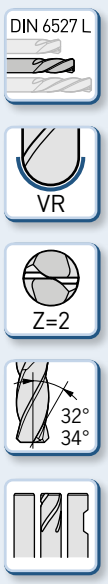


* = H * = L * = B

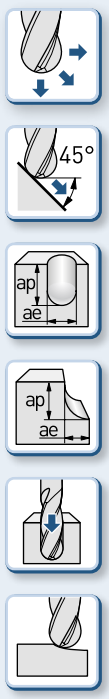
Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

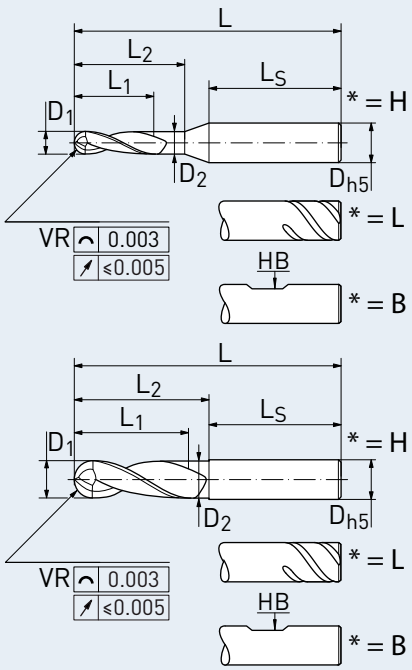


Application



Coolant





Fine balanced
Except Weldon shank

Material – characteristics

Main Material

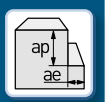
N

- Neck for higher cutting depth
- Ball Nose
- Polished flute and relief
- Uncoated

Article-Code	HAIMER Quality	D1 [mm]	VR ± 0.005 mm	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
V4002NN*0200R..	A-	2	−0.005 −0.025	0.9925	7	58	9	1.9	6	44.3	HA/S-λ/HB
V4002NN*0300R..	A-	3	−0.005 −0.025	1.4925	8	58	10	2.9	6	44.0	HA/S-λ/HB
V4002NN*0400R..	A-	4	−0.010 −0.030	1.99	11	58	15	3.8	6	40.0	HA/S-λ/HB
V4002NN*0500R..	A-	5	−0.010 −0.030	2.49	13	58	18	4.8	6	37.875	HA/S-λ/HB
V4002NN*0600R..	A-	6	−0.010 −0.030	2.99	13	58	20	5.7	6	36.5	HA/S-λ/HB
V4002NN*0800R..	A-	8	−0.010 −0.030	3.99	19	64	26	7.6	8	36.5	HA/S-λ/HB
V4002NN*1000R..	A-	10	−0.010 −0.030	4.99	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
V4002NN*1200R..	A-	12	−0.010 −0.030	5.99	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
V4002NN*1400R..	A-	14	−0.010 −0.030	6.99	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
V4002NN*1600R..	A-	16	−0.010 −0.030	7.99	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
V4002NN*1800R..	A-	18	−0.010 −0.030	8.99	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
V4002NN*2000R..	A-	20	−0.010 −0.030	9.99	38	105	52	19	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width  ae = 100% D1 ap = 1 x D1	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**400 – 500**	**500 – 600**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%			

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (mm/tooth) in relation with D1 and cutting width ae												
ae	ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 14	ø 16	ø 18	ø 20
to 50% ø	0.02	0.03	0.04	0.05	0.06	0.08	0.1	0.12	0.14	0.16	0.18	0.2
100% ø	0.01	0.015	0.02	0.025	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1
	0.002	0.003	0.004	0.005	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020

METRIC

V4002NN – HAIMER MILL Alu Series
BALL NOSE

Technical data and Product characteristics





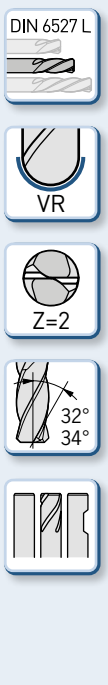


* = H * = L * = B

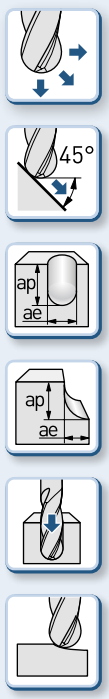
Optional:

- Straight shank DIN 6535-HA
- Safe-Lock shank (S-λ)
- Weldon shank similar DIN 6535-HB

Characteristics

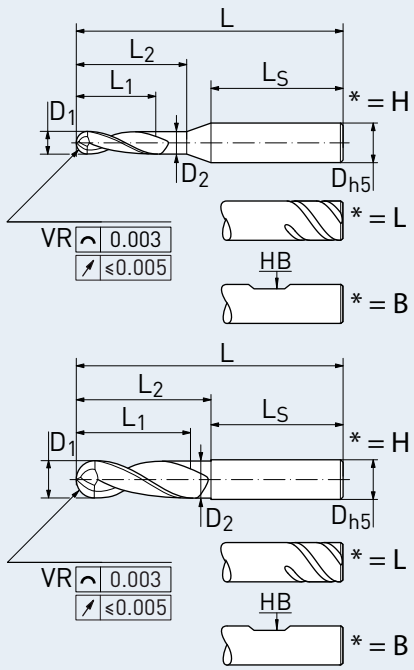


Application



Coolant





Fine balanced
Except Weldon shank

Material – characteristics

Main Material

N

- Coating for abrasive materials
- Neck for higher cutting depth
- Ball Nose
- Polished flute and relief

Article-Code	HAIMER Quality	D1 [mm]	VR ± 0.005 mm	L1 max. [mm]	L [mm]	L2 [mm]	D2 [mm]	D (h5) [mm]	LS [mm]	Shank
V4002NN*0200R..	AC	2 −0.005 −0.025	0.9925	7	58	9	1.9	6	44.3	HA/S-λ/HB
V4002NN*0300R..	AC	3 −0.005 −0.025	1.4925	8	58	10	2.9	6	44.0	HA/S-λ/HB
V4002NN*0400R..	AC	4 −0.010 −0.030	1.99	11	58	15	3.8	6	40.0	HA/S-λ/HB
V4002NN*0500R..	AC	5 −0.010 −0.030	2.49	13	58	18	4.8	6	37.875	HA/S-λ/HB
V4002NN*0600R..	AC	6 −0.010 −0.030	2.99	13	58	20	5.7	6	36.5	HA/S-λ/HB
V4002NN*0800R..	AC	8 −0.010 −0.030	3.99	19	64	26	7.6	8	36.5	HA/S-λ/HB
V4002NN*1000R..	AC	10 −0.010 −0.030	4.99	22	73	30.5	9.5	10	40.5	HA/S-λ/HB
V4002NN*1200R..	AC	12 −0.010 −0.030	5.99	26	84	36.5	11.4	12	45.5	HA/S-λ/HB
V4002NN*1400R..	AC	14 −0.010 −0.030	6.99	26	84	36.5	13.3	14	45.5	HA/S-λ/HB
V4002NN*1600R..	AC	16 −0.010 −0.030	7.99	32	93	42.5	15.2	16	48.5	HA/S-λ/HB
V4002NN*1800R..	AC	18 −0.010 −0.030	8.99	32	93	42.5	17.1	18	48.5	HA/S-λ/HB
V4002NN*2000R..	AC	20 −0.010 −0.030	9.99	38	105	52	19	20	50.5	HA/S-λ/HB

* = L - Safe-Lock / H - Straight shank / B - Weldon shank. Order No. = Article Code + HAIMER Quality.

DUO-LOCK®

Advanced Materials Require Advanced Manufacturing.

The continuing development of high-strength, lightweight materials such as titanium alloys, Inconel, and new aluminum alloys are eagerly sought by manufacturers in many industries, including aerospace and defense, energy, and transportation. These new materials present significant machining challenges in themselves.

Add the competitive pressures in these global industries, and finding advanced manufacturing solutions becomes a top priority.

DUO-LOCK®

The Duo-Lock technology addresses the issue of the increasing cost of carbide by delivering a modular interface for cutting tool heads. Duo-Lock provides maximum stability and load capacity through a proprietary thread design with a double cone bond.

The results are unmatched precision and productivity, with a connection that is virtually unbreakable in the most demanding applications.

SAFE-LOCK®

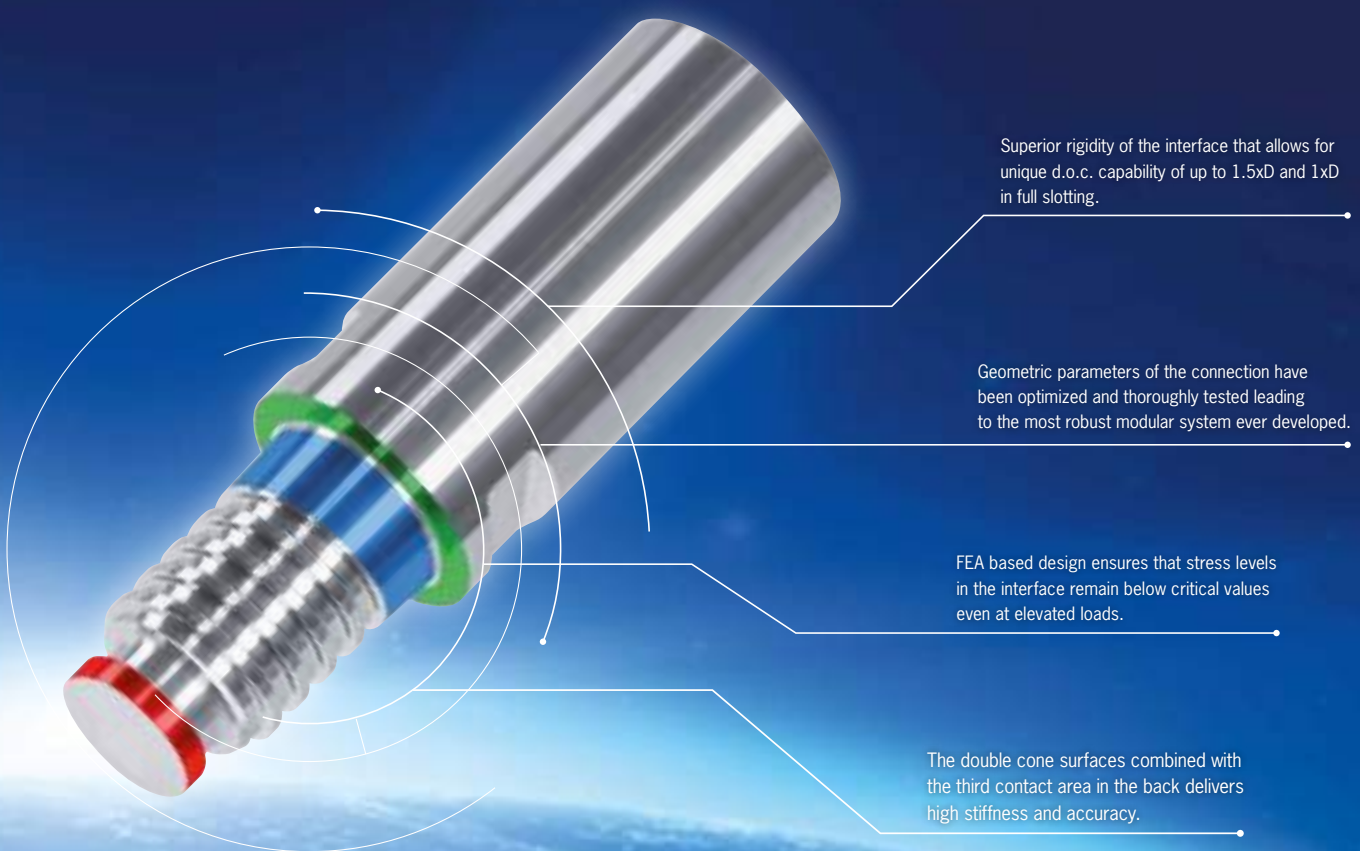
The Safe-Lock anti-pullout interface is also available with modular Duo-Lock extensions to take advantage of long reach and aggressive cuts.

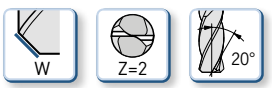
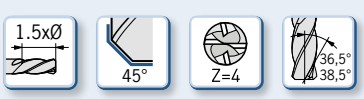
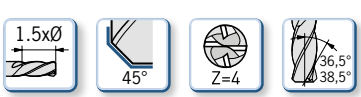
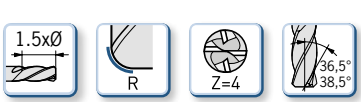


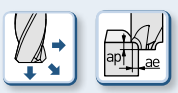
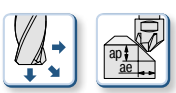
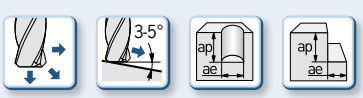
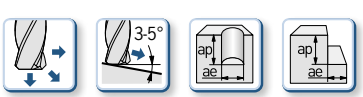
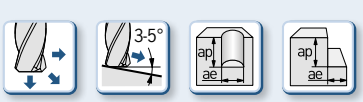
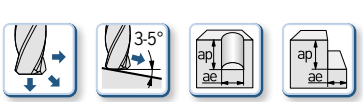
For the first time, a modular milling system can achieve the similar high performance of the latest generation solid carbide end mill.

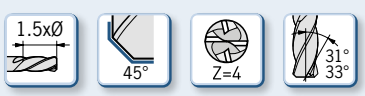
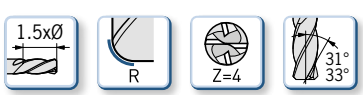
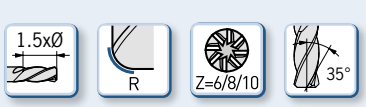
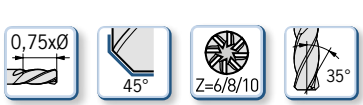
To deliver groundbreaking joint technology, Duo-Lock combines the innovative histories of two leaders in the world of manufacturing – Kennametal and HAIMER.

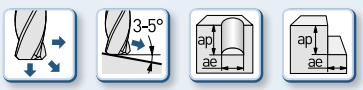
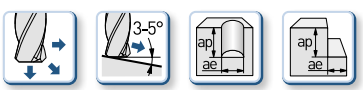
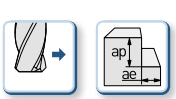
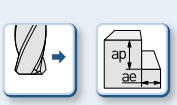
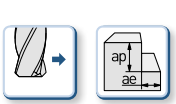
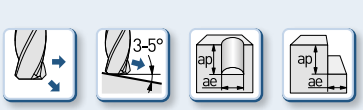
Duo-Lock maximizes a carbide tool's full potential with productivity gains in both roughing and finishing. It provides high load capacity and rigidity when machining at high metal removal rates. When combined with high-performance cutting tools, Duo-Lock provides more than double the metal removal rate in common milling applications.



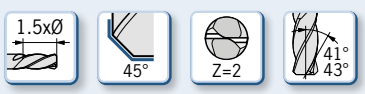
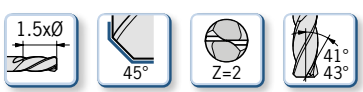
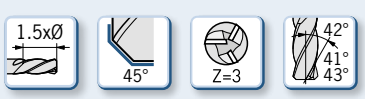
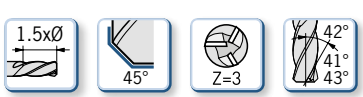
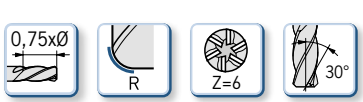
Products		ø D1	Page	Characteristics
E1002KK – HAIMER MILL MULTIFUNCTION END MILL 	METRIC	ø 10 – ø 20	121	
E1014UK – HAIMER MILL QUADRANT END MILL 	METRIC	ø 10 – ø 20	123	
E1016/18UK – HAIMER MILL CHAMFERING END MILL 	METRIC INCH	ø 10 – ø 20 ø 3/8" – ø 3/4"	125 127	
F1004MN – HAIMER MILL Power Series UNCOATED 	METRIC INCH	ø 10 – ø 20 ø 3/8" – ø 1 1/4"	129 131	
F1004MN – HAIMER MILL Power Series 	METRIC INCH	ø 10 – ø 20 ø 3/8" – ø 1 1/4"	133 135	
F1004MN – HAIMER MILL Power Series UNCOAT 	METRIC	ø 10 – ø 20	137	
F1004MN – HAIMER MILL Power Series 	METRIC	ø 10 – ø 20	141	
F1105LL – HAIMER MILL Power Series CHIP BREAKER 	METRIC	ø 10 – ø 32	145	
F1105MN – HAIMER MILL Power Series CHIP BREAKER 	METRIC	ø 10 – ø 32	147	

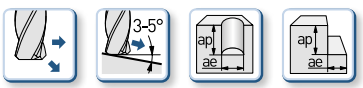
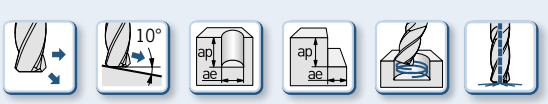
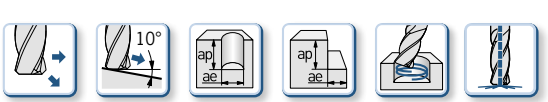
Application	Material	
	Main Material: P	also suitable for: K S N M H
	Main Material: P	also suitable for: K S N M H
	Main Material: P	also suitable for: K S N M H
	Main Material: N	also suitable for: K S M P
	Main Material: P	also suitable for: K S N M H
	Main Material: N	also suitable for: K S M P
	Main Material: P	also suitable for: K S N M H
	Main Material: P	also suitable for: K S N M H
	Main Material: P	also suitable for: K S N M H

Products		ø D1	Page	Characteristics
F2003MN – HAIMER MILL 	METRIC	ø 2 – ø 20	149	
	INCH	ø 3/8" – ø 3/4"	151	
F2003UK – HAIMER MILL 	METRIC	ø 10 – ø 20	153	
	INCH	ø 3/8" – ø 3/4"	155	
F2004MN – HAIMER MILL 	METRIC	ø 2 – ø 32	157	
	INCH	ø 3/8" – ø 1 1/4"	159	
F2004MN – HAIMER MILL 	METRIC	ø 10 – ø 20	161	
	INCH	ø 3/8" – ø 3/4"	165	
F2004UK – HAIMER MILL 	METRIC	ø 10 – ø 32	167	
	INCH	ø 3/8" – ø 1 1/4"	169	
F2006/08/00MN – HAIMER MILL FINISHING 	METRIC	ø 10 – ø 20	171	
	INCH	ø 3/8" – ø 3/4"	173	
F2006/08/00MN – HAIMER MILL FINISHING 	METRIC	ø 10 – ø 20	175	
	INCH	ø 3/8" – ø 3/4"	177	
F2006/08/00UK – HAIMER MILL FINISHING 	METRIC	ø 10 – ø 20	179	
	INCH	ø 3/8" – ø 3/4"	181	
F2304MN – HAIMER MILL ROUGHING 	METRIC	ø 10 – ø 20	183	
	INCH	ø 3/8" – ø 3/4"	185	

Application	Material	
	Main Material: P	also suitable for: K S N M H
	Main Material: P	also suitable for: K S N M H
	Main Material: P M	also suitable for: K S N H
	Main Material: P M	also suitable for: K S N H
	Main Material: P M	also suitable for: K S N H
	Main Material: P M	also suitable for: K S N H
	Main Material: P M	also suitable for: K S N H
	Main Material: P M	also suitable for: K S N H
	Main Material: P	also suitable for: K S N M

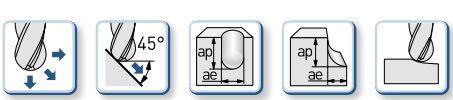
OVERVIEW DUO-ΛOCK®

Products		ø D1	Page	Characteristics
F2304UK – HAIMER MILL ROUGHING 	METRIC	ø 10 – ø 20	187	
	INCH	ø 3/8" – ø 3/4"	189	
F4002MN – HAIMER MILL Alu Series UNCOATED 	METRIC	ø 10 – ø 20	191	
F4002MN – HAIMER MILL Alu Series 	METRIC	ø 10 – ø 20	193	
F4003MN – HAIMER MILL Alu Series UNCOATED 	METRIC	ø 10 – ø 20	195	
F4003MN – HAIMER MILL Alu Series 	METRIC	ø 10 – ø 20	197	
H2004UK – HAIMER MILL HF Series HIGH FEED KZ 	METRIC	ø 10 – ø 20	199	
H2006UK – HAIMER MILL HF Series HIGH FEED KZ 	METRIC	ø 10 – ø 20	201	

Application	Material	
	Main Material P	also suitable for K S N M
	Main Material N	
	Main Material N	
	Main Material N	
	Main Material N	
	Main Material P	also suitable for K S N M H
	Main Material P	also suitable for K S N M H

OVERVIEW DUO-ΛOCK®

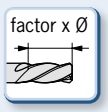
Products		ø D1	Page	Characteristics
V2002MN – HAIMER MILL 	METRIC	ø 2 – ø 10	203	1.5xØ, VR, Z=2, 10°
V2002UK – HAIMER MILL 	METRIC INCH	ø 10 – ø 20 ø 3/8" – ø 3/4"	205 207	0,75xØ, VR, Z=2, 10°
V2004MN – HAIMER MILL 	METRIC	ø 2 – ø 10	209	1.5xØ, VR, Z=4, 32° 34°
V2004UK – HAIMER MILL 	METRIC	ø 10 – ø 20	211	0,75xØ, VR, Z=4, 32° 34°
V4002UK – HAIMER MILL Alu Series UNCOATED 	METRIC	ø 10 – ø 20	213	0,75xØ, VR, Z=2, 10°
V4002UK – HAIMER MILL Alu Series 	METRIC	ø 10 – ø 20	215	0,75xØ, VR, Z=2, 10°

Application	Material
	Main Material: P also suitable for: K S N M H
	Main Material: P also suitable for: K S N M H
	Main Material: P also suitable for: K S N M H
	Main Material: P also suitable for: K S N M H
	Main Material: N
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Explanation Icons

Characteristics

Cutting length



Sharp cutting edge



Corner chamfer



Corner radius



Ball Nose



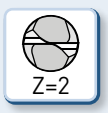
Spot



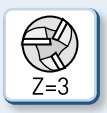
Edge radius



Teeth 2



Teeth 3



Teeth 4



Teeth 5



Teeth 6



Teeth 8



Teeth 10

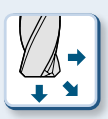


Helix angle

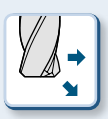


Application

Feed direction



Feed direction



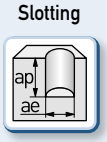
Feed direction



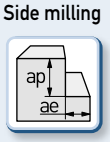
Ramping



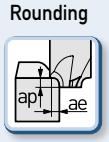
Slotting



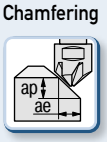
Side milling



Rounding



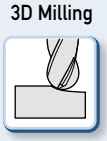
Chamfering



Drilling



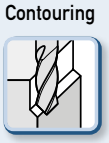
3D Milling



V-slotting



Contouring



Chamfering



Side milling



Coolant

Emulsion



Cold air



Dry machining



Minimal lubrication



Explanation article code

DL12	F	1	0	0	2	M	N
Interface	Tool type	Group	Type	Modification	No. of teeth	Length of cut	Overall length
DL10 DL12 DL16 DL20 DL25 DL32	F- Cylindrical end mill E- Chamfering end mill V- Ball nose end mill H- HighFeed end mill	1- Universal 2- Steel < 52HRC 4- Alu 6- Titan/ Inconel	0- Plain cutter 1- Chip breaker 3- Roughing	0- With neck 1- No Neck	2- Z2 3- Z3 4- Z4 5- Z5 6- Z6 8- Z8 0- Z10	L- 2.6-3.5xD M- 1.5xD K- 1.25xD U- 0.75xD	N- 2xD L- 3.5xD K- 1.25xD

Material list

HAIMER Material groups		Example material: ANSI	Example material: Material no.	Material information: Tensile strength	Material information: Content/Hardness
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA	
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA	
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA	
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA	
S1	Titanium & titanium alloys	Ti6Al4V	3.7165		
S2	High Temp alloys	Inconel, Nimonic			
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%
H1	Hardened steels				45 - 55 HRC
H1	Hardened steels				>- 55 HRC

	1000	R	1.00	A	A	0001	KR
	Diameter	Cutting edge transition	Size transition	Material	Coating	Special number	Cooling
	1200- Metric 1/2Z- Inch	S- Sharp cutting edge C- Chamfer R- Radius W- Chamfer angle	1.00- Metric .03- Inch 90- Chamfer angle 60- Chamfer angle 120- Chamfer angle	A- HF10 h5 D- HF10 h6	A- HAIMER-UNI C- HAIMER-ALU P- HAIMER-P - none	0000 - 9999	KR- Cooling radial KZ- Cooling central KS- Cooling special

Cutting data

HAIMER Material groups		Example material: ANSI	Example material: Material no.	Material information: Tensile strength	Material information: Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		60 – 90	90 – 120
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

METRIC

E1002KK – DUO-ΛOCK® HAIMER MILL MULTIFUNCTION END MILL

Technical data and Product characteristics



Characteristics

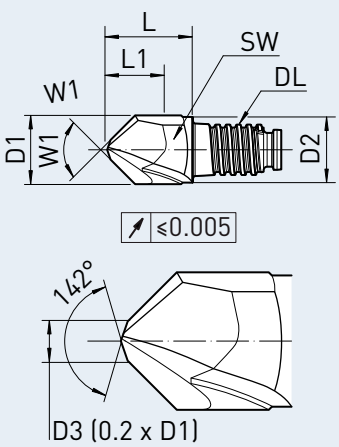


Application



Coolant





Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Cone angle 60°/90°/120°/142°
- Center spot
- Multi functional tool
- Circumference cutter
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	Z	D1 (f9) [mm]	Chamfer	W1	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10E1002KK1000W60..	DA	DL10	2	10.00	W	60°	10	12.5	9.6	SW8	20
DL10E1002KK1000W90..	DA	DL10	2	10.00	W	90°	10	12.5	9.6	SW8	20
DL10E1002KK1000W120..	DA	DL10	2	10.00	W	120°	10	12.5	9.6	SW8	20
DL10E1002KK1000W142..	DA	DL10	2	10.00	W	142°	10	12.5	9.6	SW8	20
DL12E1002KK1200W60..	DA	DL12	2	12.00	W	60°	12	15	11.5	SW9.5	30
DL12E1002KK1200W90..	DA	DL12	2	12.00	W	90°	12	15	11.5	SW9.5	30
DL12E1002KK1200W120..	DA	DL12	2	12.00	W	120°	12	15	11.5	SW9.5	30
DL12E1002KK1200W142..	DA	DL12	2	12.00	W	142°	12	15	11.5	SW9.5	30
DL16E1002KK1600W60..	DA	DL16	2	16.00	W	60°	16	20	15.5	SW13	60
DL16E1002KK1600W90..	DA	DL16	2	16.00	W	90°	16	20	15.5	SW13	60
DL16E1002KK1600W120..	DA	DL16	2	16.00	W	120°	16	20	15.5	SW13	60
DL16E1002KK1600W142..	DA	DL16	2	16.00	W	142°	16	20	15.5	SW13	60
DL20E1002KK2000W60..	DA	DL20	2	20.00	W	60°	20	25	19.3	SW16	80
DL20E1002KK2000W90..	DA	DL20	2	20.00	W	90°	20	25	19.3	SW16	80
DL20E1002KK2000W120..	DA	DL20	2	20.00	W	120°	20	25	19.3	SW16	80
DL20E1002KK2000W142..	DA	DL20	2	20.00	W	142°	20	25	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

E1014UK – DUO-ΛOCK® HAIMER MILL QUADRANT END MILL

METRIC

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		60 – 90	90 – 120
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

METRIC

E1014UK – DUO-ΛOCK® HAIMER MILL QUADRANT END MILL

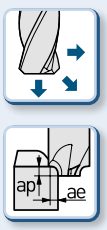
Technical data and Product characteristics



Characteristics

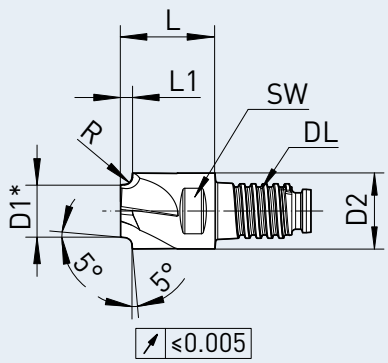


Application



Coolant





Fine balanced
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- For contour rounding
- 5° tangential release
- Positive rake angle without profile displacement
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (h9) [mm]	Cutting edge	Radius [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10E1014UK1000R1.00..	DA	DL10	7	R	1.00	1.50	12.5	10	SW8	20
DL10E1014UK1000R1.50..	DA	DL10	6	R	1.50	2.00	12.5	10	SW8	20
DL10E1014UK1000R2.00..	DA	DL10	5	R	2.00	2.50	12.5	10	SW8	20
DL12E1014UK1200R2.50..	DA	DL12	6	R	2.50	3.00	15.0	12	SW9.5	30
DL12E1014UK1200R3.00..	DA	DL12	5	R	3.00	3.50	15.0	12	SW9.5	30
DL16E1014UK1600R3.50..	DA	DL16	8	R	3.50	4.00	20.0	16	SW13	60
DL16E1014UK1600R4.00..	DA	DL16	7	R	4.00	4.50	20.0	16	SW13	60
DL16E1014UK1600R4.50..	DA	DL16	6	R	4.50	5.00	20.0	16	SW13	60
DL20E1014UK2000R5.00..	DA	DL20	8	R	5.00	6.00	25.0	20	SW16	80
DL20E1014UK2000R6.00..	DA	DL20	6	R	6.00	7.00	25.0	20	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		60 – 90	90 – 120
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

METRIC

E1016UK/E1018UK – DUO-ΛOCK® HAIMER MILL CHAMFERING END MILL

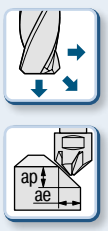
Technical data and Product characteristics



Characteristics

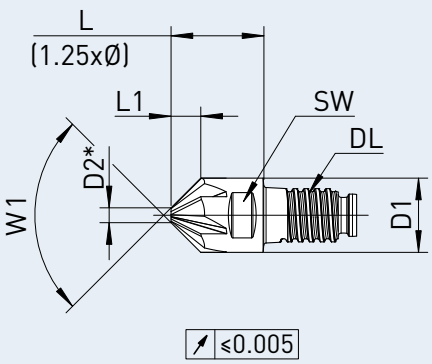


Application



Coolant





Fine balanced
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Cone angle 60°/90°/120°
- Flat tip
- Multi functional tool
- Best length repeatability
- Straight fluted

Article-Code	HAIMER Quality	Duo-Lock Size	Z	D1 (h6) [mm]	Chamfer	W1	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10E1016UK1000W60..	DA	DL10	6	10.00	W	60°	6.9	12.5	2.0	SW8	20
DL10E1016UK1000W90..	DA	DL10	6	10.00	W	90°	4	12.5	2.0	SW8	20
DL10E1016UK1000W120..	DA	DL10	6	10.00	W	120°	2.3	12.5	2.0	SW8	20
DL12E1016UK1200W60..	DA	DL12	6	12.00	W	60°	8.3	15	2.4	SW9.5	30
DL12E1016UK1200W90..	DA	DL12	6	12.00	W	90°	4.8	15	2.4	SW9.5	30
DL12E1016UK1200W120..	DA	DL12	6	12.00	W	120°	2.7	15	2.4	SW9.5	30
DL16E1018UK1600W60..	DA	DL16	8	16.00	W	60°	11	20	3.2	SW13	60
DL16E1018UK1600W90..	DA	DL16	8	16.00	W	90°	6.4	20	3.2	SW13	60
DL16E1018UK1600W120..	DA	DL16	8	16.00	W	120°	3.6	20	3.2	SW13	60
DL20E1018UK2000W60..	DA	DL20	8	20.00	W	60°	13.9	25	4	SW16	80
DL20E1018UK2000W90..	DA	DL20	8	20.00	W	90°	8	25	4	SW16	80
DL20E1018UK2000W120..	DA	DL20	8	20.00	W	120°	4.6	25	4	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Roughing Cutting Speed (SFM)	Finishing Cutting Speed (SFM)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**525 - 725**	**725 - 920**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**395 - 525**	**525 - 655**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		260 - 395	395 - 525
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		195 - 295	295 - 395
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		395 - 590	590 - 785
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		260 - 525	525 - 720
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			130 - 260	130 - 260
S2	High Temp alloys	Inconel, Nimonic				100 -130	100 -130
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			1640 -2950	1640 -2950
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	395 -1150	395 -1150
H1	Hardened steels				45 - 55 HRC	130 - 195	195 -260

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae				
Ø	3/8	1/2	5/8	3/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

INCH

E1016UK/E1018UK – DUO-ΛOCK® HAIMER MILL CHAMFERING END MILL

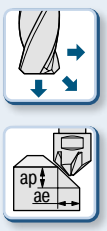
Technical data and Product characteristics



Characteristics

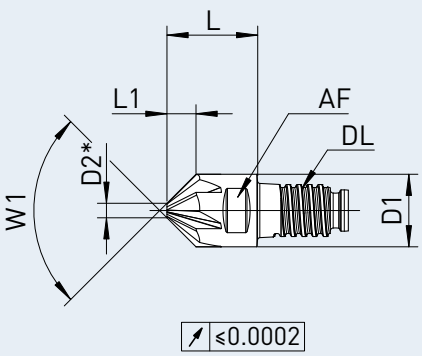


Application



Coolant





Fine balanced
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Cone angle 60°/90°/120°
- Flat tip
- Multi functional tool
- Best length repeatability
- Straight fluted

Article-Code	HAIMER Quality	Duo-Lock Size	Z	D1 (h6) [inch]	Chamfer	W1	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10E1016UK3/8ZW60..	DA	DL10	6	3/8	W	60	0.272	0.492	0.079	0.315	20
DL10E1016UK3/8ZW90..	DA	DL10	6	3/8	W	90	0.157	0.492	0.079	0.315	20
DL10E1016UK3/8ZW120..	DA	DL10	6	3/8	W	120	0.091	0.492	0.079	0.315	20
DL12E1016UK1/2ZW60..	DA	DL12	6	1/2	W	60	0.327	0.591	0.094	0.374	30
DL12E1016UK1/2ZW90..	DA	DL12	6	1/2	W	90	0.189	0.591	0.094	0.374	30
DL12E1016UK1/2ZW120..	DA	DL12	6	1/2	W	120	0.11	0.591	0.094	0.374	30
DL16E1018UK5/8ZW60..	DA	DL16	8	5/8	W	60	0.433	0.787	0.126	0.512	60
DL16E1018UK5/8ZW90..	DA	DL16	8	5/8	W	90	0.252	0.787	0.126	0.512	60
DL16E1018UK5/8ZW120..	DA	DL16	8	5/8	W	120	0.142	0.787	0.126	0.512	60
DL20E1018UK3/4ZW60..	DA	DL20	8	3/4	W	60	0.547	0.984	0.157	0.630	80
DL20E1018UK3/4ZW90..	DA	DL20	8	3/4	W	60	0.315	0.984	0.157	0.630	80
DL20E1018UK3/4ZW120..	DA	DL20	8	3/4	W	60	0.181	0.984	0.157	0.630	80

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
P1	General construction steels	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	20	30	40
P2	Heat treated steels	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	20	30	40
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		10 – 20	10 – 20	10 – 20
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		10 – 20	10 – 20	10 – 20
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		20 – 30	20 – 30	20 – 30
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		20 – 30	20 – 30	20 – 30
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10	10	20
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		10	10	20
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**300 – 400**	**400 – 500**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%	**300 – 400**	**300 – 400**	**400 – 500**

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

METRIC

F1004MN – DUO-ΛOCK® HAIMER MILL Power Series
CHAMFER UNCOATED

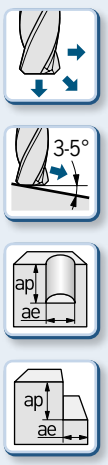
Technical data and Product characteristics



Characteristics

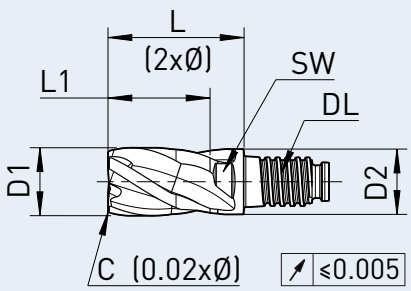


Application



Coolant





Fine balanced

Material – characteristics

Main Material

N

also suitable for

K S M P

- Particularly suitable for long overhang and cases of unstable part clamping
- Best results with carbide extension
- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability
- Polished flute and relief
- Uncoated

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F1004MN1000C..	D-	DL10	10.00	C	0.20	15	20	9.6	SW8	20
DL12F1004MN1200C..	D-	DL12	12.00	C	0.24	18	24	11.5	SW9.5	30
DL16F1004MN1600C..	D-	DL16	16.00	C	0.32	24	32	15.5	SW13	60
DL20F1004MN2000C..	D-	DL20	20.00	C	0.40	30	40	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material information Tensile strength	Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1 Cutting Speed (SFM)	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
P1	General construction steels	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	65	100	130
P2	Heat treated steels	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	65	100	130
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		35 - 65	35 - 65	35 - 65
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		35 - 65	35 - 65	35 - 65
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		65 - 100	65 - 100	65 - 100
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		65 - 100	65 - 100	65 - 100
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			35	35	65
S2	High Temp alloys	Inconel, Nimonic				35	35	65
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315			**985 -1310**	**985 -1310**	**1310 – 1640**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si >12%	**985 -1310**	**985 -1310**	**1310 – 1640**

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae						
Ø	3/8	1/2	5/8	3/4	1	1 1/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005	0.0024 - 0.0067	0.0027 - 0.0079

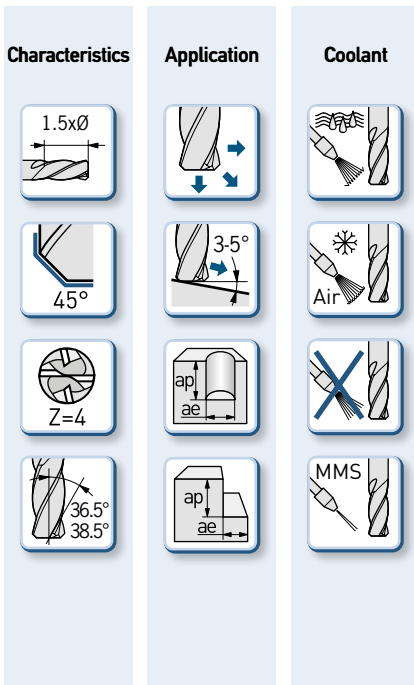
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

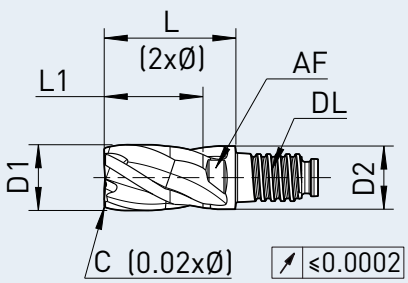
INCH

F1004MN – DUO-ΛOCK® HAIMER MILL Power Series CHAMFER UNCOATED

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

N

also suitable for

K S M P

- Particularly suitable for long overhang and cases of unstable part clamping
- Best results with carbide extension
- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability
- Polished flute and relief
- Uncoated

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10F1004MN3/8ZC..	D-	DL10	3/8	C	0.008	0.591	0.787	0.359	0.315	20
DL12F1004MN1/2ZC..	D-	DL12	1/2	C	0.010	0.709	0.945	0.480	0.374	30
DL16F1004MN5/8ZC..	D-	DL16	5/8	C	0.013	0.945	1.260	0.605	0.512	60
DL20F1004MN3/4ZC..	D-	DL20	3/4	C	0.015	1.181	1.575	0.730	0.630	80
DL25F1004MN1ZC..	D-	DL25	1	C	0.020	1.476	1.970	0.961	0.827	100
DL32F1004MN11/4ZC..	D-	DL32	11/4	C	0.025	1.890	2.520	1.211	1.102	130

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1 Cutting speed Vc (m/min)	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**170 – 200**	**210 – 240**	**250 – 270**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**90 – 110**	**110 – 130**	**130 – 150**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		40 – 80	40 – 80	40 – 80
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		30 – 60	30 – 60	30 – 60
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		110 – 130	140 – 180	200 – 220
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		90 – 110	120 – 150	160 – 180
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			50 – 60	60 – 80	80 – 90
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	120 – 240	120 – 240	120 – 240
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 240	120 – 240	120 – 240
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

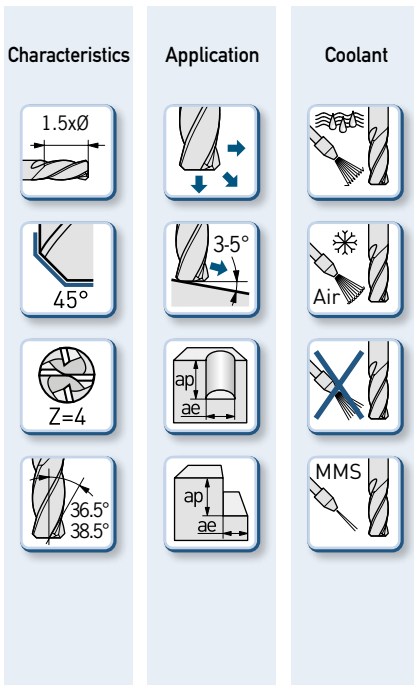
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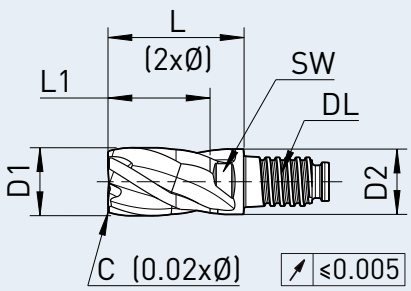
METRIC

F1004MN – DUO-ΛOCK® HAIMER MILL Power Series CHAMFER

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

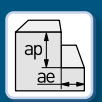
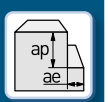
K S N M H

- Particularly suitable for long overhang and cases of unstable part clamping
- Best results with carbide extension
- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability
- Polished flute and relief

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F1004MN1000C..	DA	DL10	10.00	C	0.20	15	20	9.6	SW8	20
DL12F1004MN1200C..	DA	DL12	12.00	C	0.24	18	24	11.5	SW9.5	30
DL16F1004MN1600C..	DA	DL16	16.00	C	0.32	24	32	15.5	SW13	60
DL20F1004MN2000C..	DA	DL20	20.00	C	0.40	30	40	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width  ae = 100% D1 ap = 1 x D1	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max.
						Cutting Speed (SFM)		
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**560 - 655**	**690 - 785**	**820 – 885**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**295 - 360**	**360 - 425**	**425 – 490**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		130 - 260	130 - 260	130 - 260
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		100 – 195	100 – 195	100 – 195
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		360 - 425	460 - 590	655 – 720
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		295 - 360	395 - 490	525 – 590
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			165 - 200	200 - 260	260 – 295
S2	High Temp alloys	Inconel, Nimonic				100 -130	100 -130	100 – 135
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			395 -785	395 -785	395 – 785
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	395 -785	395 -785	395 – 785
H1	Hardened steels				45 - 55 HRC	130 - 195	195 -260	195 – 260

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae						
Ø	3/8	1/2	5/8	3/4	1	1 1/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005	0.0024 - 0.0067	0.0027 - 0.0079

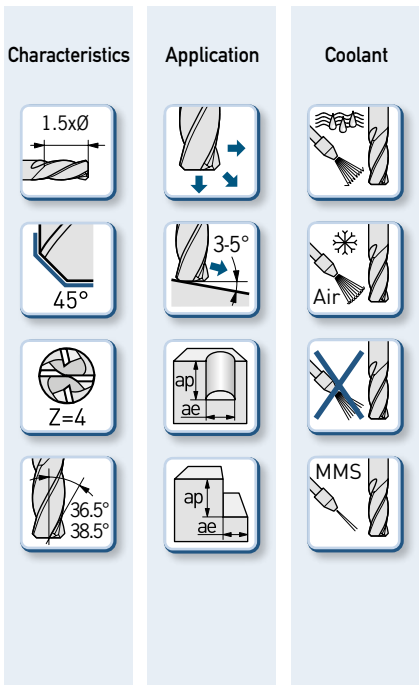
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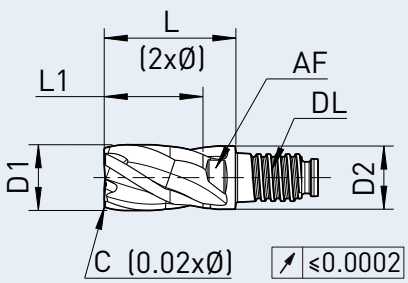
INCH

F1004MN – DUO-ΛOCK® HAIMER MILL Power Series CHAMFER

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

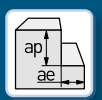
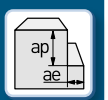
K S N M H

- Particularly suitable for long overhang and cases of unstable part clamping
- Best results with carbide extension
- Neck for higher cutting depth
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- Unequal cutting edge
- Best length repeatability
- Polished flute and relief

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10F1004MN3/8ZC..	DA	DL10	3/8	C	0.008	0.591	0.787	0.359	0.315	20
DL12F1004MN1/2ZC..	DA	DL12	1/2	C	0.010	0.709	0.945	0.480	0.374	30
DL16F1004MN5/8ZC..	DA	DL16	5/8	C	0.013	0.945	1.260	0.605	0.512	60
DL20F1004MN3/4ZC..	DA	DL20	3/4	C	0.015	1.181	1.575	0.730	0.630	80
DL25F1004MN1ZC..	DA	DL25	1	C	0.020	1.476	1.970	0.961	0.827	100
DL32F1004MN11/4ZC..	DA	DL32	11/4	C	0.025	1.890	2.520	1.211	1.102	130

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width  ae = 100% D1 ap = 1 x D1	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
P1	General construction steels	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	20	30	40
P2	Heat treated steels	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	20	30	40
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		10 – 20	10 – 20	10 – 20
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		10 – 20	10 – 20	10 – 20
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		20 – 30	20 – 30	20 – 30
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		20 – 30	20 – 30	20 – 30
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10	10	20
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		10	10	20
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**300 – 400**	**400 – 500**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%	**300 – 400**	**300 – 400**	**400 – 500**

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

METRIC

F1004MN – DUO-ΛOCK® HAIMER MILL Power Series
CORNER RADIUS UNCOATED

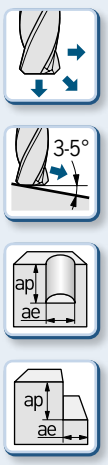
Technical data and Product characteristics



Characteristics

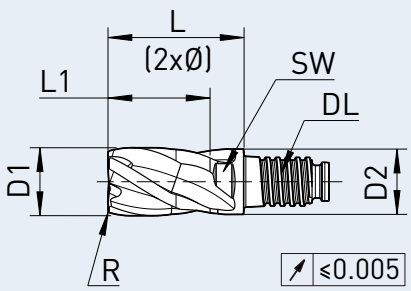


Application



Coolant





Fine balanced

Material – characteristics

Main Material

N

also suitable for

K S M P

- Particularly suitable for long overhang and cases of unstable part clamping
- Best results with carbide extension
- Neck for higher cutting depth
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- Unequal cutting edge
- Best length repeatability
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- Uncoated

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	R [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F1004MN1000R0.30..	D-	DL10	10.00	R	0.3	15	20	9.6	SW8	20
DL10F1004MN1000R0.50..	D-	DL10	10.00	R	0.5	15	20	9.6	SW8	20
DL10F1004MN1000R0.80..	D-	DL10	10.00	R	0.8	15	20	9.6	SW8	20
DL10F1004MN1000R1.00..	D-	DL10	10.00	R	1.0	15	20	9.6	SW8	20
DL10F1004MN1000R1.50..	D-	DL10	10.00	R	1.5	15	20	9.6	SW8	20
DL10F1004MN1000R2.00..	D-	DL10	10.00	R	2.0	15	20	9.6	SW8	20
DL10F1004MN1000R2.50..	D-	DL10	10.00	R	2.5	15	20	9.6	SW8	20
DL12F1004MN1200R0.50..	D-	DL12	12.00	R	0.5	18	24	11.5	SW9.5	30
DL12F1004MN1200R0.80..	D-	DL12	12.00	R	0.8	18	24	11.5	SW9.5	30
DL12F1004MN1200R1.00..	D-	DL12	12.00	R	1.0	18	24	11.5	SW9.5	30
DL12F1004MN1200R1.50..	D-	DL12	12.00	R	1.5	18	24	11.5	SW9.5	30
DL12F1004MN1200R2.00..	D-	DL12	12.00	R	2.0	18	24	11.5	SW9.5	30
DL12F1004MN1200R2.50..	D-	DL12	12.00	R	2.5	18	24	11.5	SW9.5	30
DL12F1004MN1200R3.00..	D-	DL12	12.00	R	3.0	18	24	11.5	SW9.5	30

⇨ *Turn page for more articles*

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
P1	General construction steels	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	20	30	40
P2	Heat treated steels	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	20	30	40
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		10 – 20	10 – 20	10 – 20
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		10 – 20	10 – 20	10 – 20
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		20 – 30	20 – 30	20 – 30
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		20 – 30	20 – 30	20 – 30
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10	10	20
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		10	10	20
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**300 – 400**	**400 – 500**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%	**300 – 400**	**300 – 400**	**400 – 500**

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

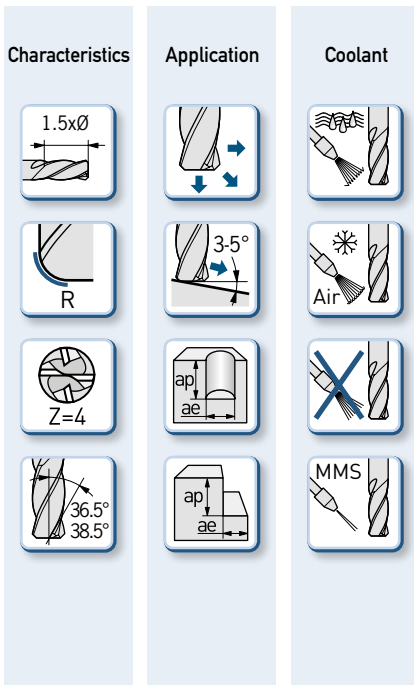
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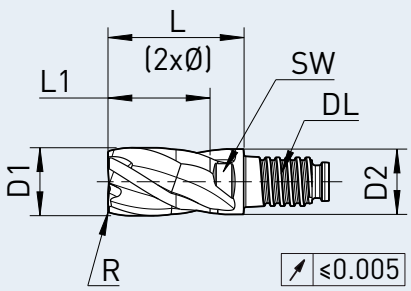
METRIC

F1004MN – DUO-ΛOCK® HAIMER MILL Power Series
CORNER RADIUS UNCOATED

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

N

also suitable for

K S M P

- Particularly suitable for long overhang and cases of unstable part clamping
- Best results with carbide extension
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- Uncoated

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	R [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL12F1004MN1200R4.00..	D-	DL12	12.00	R	4.0	18	24	11.5	SW9.5	30
DL16F1004MN1600R0.50..	D-	DL16	16.00	R	0.5	24	32	15.5	SW13	60
DL16F1004MN1600R0.80..	D-	DL16	16.00	R	0.8	24	32	15.5	SW13	60
DL16F1004MN1600R1.00..	D-	DL16	16.00	R	1.0	24	32	15.5	SW13	60
DL16F1004MN1600R2.00..	D-	DL16	16.00	R	2.0	24	32	15.5	SW13	60
DL16F1004MN1600R2.50..	D-	DL16	16.00	R	2.5	24	32	15.5	SW13	60
DL16F1004MN1600R3.00..	D-	DL16	16.00	R	3.0	24	32	15.5	SW13	60
DL16F1004MN1600R4.00..	D-	DL16	16.00	R	4.0	24	32	15.5	SW13	60
DL20F1004MN2000R0.50..	D-	DL20	20.00	R	0.5	30	40	19.3	SW16	80
DL20F1004MN2000R0.80..	D-	DL20	20.00	R	0.8	30	40	19.3	SW16	80
DL20F1004MN2000R1.00..	D-	DL20	20.00	R	1.0	30	40	19.3	SW16	80
DL20F1004MN2000R2.00..	D-	DL20	20.00	R	2.0	30	40	19.3	SW16	80
DL20F1004MN2000R2.50..	D-	DL20	20.00	R	2.5	30	40	19.3	SW16	80
DL20F1004MN2000R3.00..	D-	DL20	20.00	R	3.0	30	40	19.3	SW16	80
DL20F1004MN2000R4.00..	D-	DL20	20.00	R	4.0	30	40	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 100% D1 ap = 1 x D1	ae = 50% D1 ap = 1.5 x D1	ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**170 – 200**	**210 – 240**	**250 – 270**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**90 – 110**	**110 – 130**	**130 – 150**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		40 – 80	40 – 80	40 – 80
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		30 – 60	30 – 60	30 – 60
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		110 – 130	140 – 180	200 – 220
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		90 – 110	120 – 150	160 – 180
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			50 – 60	60 – 80	80 – 90
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	120 – 240	120 – 240	120 – 240
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 240	120 – 240	120 – 240
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

METRIC

F1004MN – DUO-ΛOCK® HAIMER MILL Power Series
CORNER RADIUS

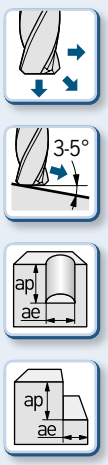
Technical data and Product characteristics



Characteristics

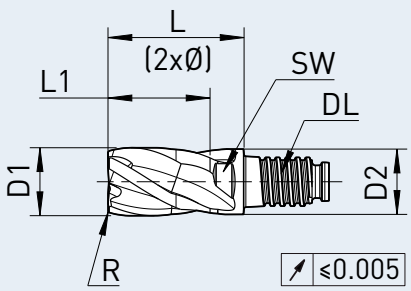


Application



Coolant





Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

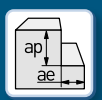
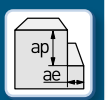
- Particularly suitable for long overhang and cases of unstable part clamping
- Best results with carbide extension
- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability
- Polished flute and relief

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	R [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F1004MN1000R0.30..	DA	DL10	10.00	R	0.3	15	20	9.6	SW8	20
DL10F1004MN1000R0.50..	DA	DL10	10.00	R	0.5	15	20	9.6	SW8	20
DL10F1004MN1000R0.80..	DA	DL10	10.00	R	0.8	15	20	9.6	SW8	20
DL10F1004MN1000R1.00..	DA	DL10	10.00	R	1.0	15	20	9.6	SW8	20
DL10F1004MN1000R1.50..	DA	DL10	10.00	R	1.5	15	20	9.6	SW8	20
DL10F1004MN1000R2.00..	DA	DL10	10.00	R	2.0	15	20	9.6	SW8	20
DL10F1004MN1000R2.50..	DA	DL10	10.00	R	2.5	15	20	9.6	SW8	20
DL12F1004MN1200R0.50..	DA	DL12	12.00	R	0.5	18	24	11.5	SW9.5	30
DL12F1004MN1200R0.80..	DA	DL12	12.00	R	0.8	18	24	11.5	SW9.5	30
DL12F1004MN1200R1.00..	DA	DL12	12.00	R	1.0	18	24	11.5	SW9.5	30
DL12F1004MN1200R1.50..	DA	DL12	12.00	R	1.5	18	24	11.5	SW9.5	30
DL12F1004MN1200R2.00..	DA	DL12	12.00	R	2.0	18	24	11.5	SW9.5	30
DL12F1004MN1200R2.50..	DA	DL12	12.00	R	2.5	18	24	11.5	SW9.5	30
DL12F1004MN1200R3.00..	DA	DL12	12.00	R	3.0	18	24	11.5	SW9.5	30

⇨ *Turn page for more articles*

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width  ae = 100% D1 ap = 1 x D1	 ae = 50% D1 ap = 1.5 x D1	 ae = 25% D1 ap = L1 max.
						Cutting speed Vc (m/min)		
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**170 – 200**	**210 – 240**	**250 – 270**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**90 – 110**	**110 – 130**	**130 – 150**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		40 – 80	40 – 80	40 – 80
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		30 – 60	30 – 60	30 – 60
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		110 – 130	140 – 180	200 – 220
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		90 – 110	120 – 150	160 – 180
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			50 – 60	60 – 80	80 – 90
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	120 – 240	120 – 240	120 – 240
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 240	120 – 240	120 – 240
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

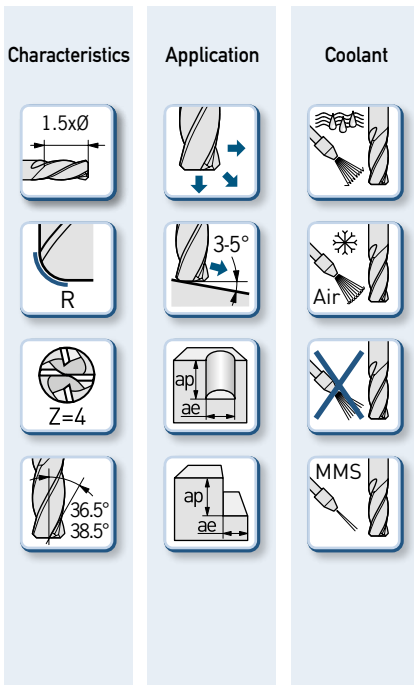
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

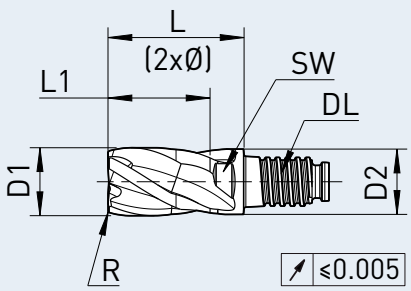
METRIC

F1004MN – DUO-ΛOCK® HAIMER MILL Power Series
CORNER RADIUS

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Particularly suitable for long overhang and cases of unstable part clamping
- Best results with carbide extension
- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability
- Polished flute and relief

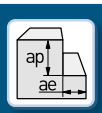
Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	R [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL12F1004MN1200R4.00..	DA	DL12	12.00	R	4.0	18	24	11.5	SW9.5	30
DL16F1004MN1600R0.50..	DA	DL16	16.00	R	0.5	24	32	15.5	SW13	60
DL16F1004MN1600R0.80..	DA	DL16	16.00	R	0.8	24	32	15.5	SW13	60
DL16F1004MN1600R1.00..	DA	DL16	16.00	R	1.0	24	32	15.5	SW13	60
DL16F1004MN1600R2.00..	DA	DL16	16.00	R	2.0	24	32	15.5	SW13	60
DL16F1004MN1600R2.50..	DA	DL16	16.00	R	2.5	24	32	15.5	SW13	60
DL16F1004MN1600R3.00..	DA	DL16	16.00	R	3.0	24	32	15.5	SW13	60
DL16F1004MN1600R4.00..	DA	DL16	16.00	R	4.0	24	32	15.5	SW13	60
DL20F1004MN2000R0.50..	DA	DL20	20.00	R	0.5	30	40	19.3	SW16	80
DL20F1004MN2000R0.80..	DA	DL20	20.00	R	0.8	30	40	19.3	SW16	80
DL20F1004MN2000R1.00..	DA	DL20	20.00	R	1.0	30	40	19.3	SW16	80
DL20F1004MN2000R2.00..	DA	DL20	20.00	R	2.0	30	40	19.3	SW16	80
DL20F1004MN2000R2.50..	DA	DL20	20.00	R	2.5	30	40	19.3	SW16	80
DL20F1004MN2000R3.00..	DA	DL20	20.00	R	3.0	30	40	19.3	SW16	80
DL20F1004MN2000R4.00..	DA	DL20	20.00	R	4.0	30	40	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

F1105LL – DUO-ΛOCK® HAIMER MILL Power Series
CHAMFER CHIP BREAKER

METRIC

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	 ae = 5% D1 ap = L1 max. Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth Fz (mm/tooth) in relation with D1 and cutting width ae				
ae 5%	**ø 16**	**ø 20**	**ø 25**	**ø 32**
fz	0.04 – 0.12	0.05 – 0.13	0.06 – 0.17	0.07 – 0.20

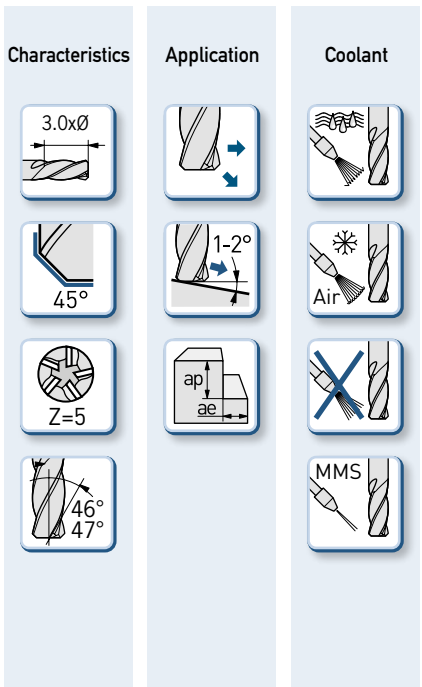
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

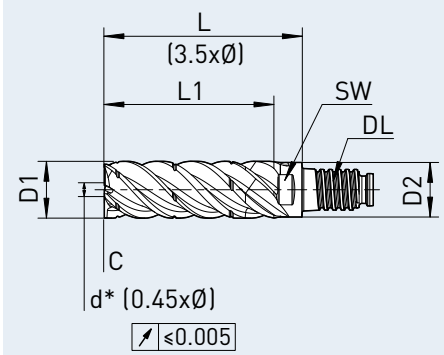
METRIC

F1105LL – DUO-ΛOCK® HAIMER MILL Power Series CHAMFER CHIP BREAKER

Technical data and Product characteristics







Fine balanced
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Unequal cutting edge
- Best length repeatability
- Polished flute and relief

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL16F1105LL1600C..	DA	DL16	16.00	C	0.50	48	56	15.5	SW13	60
DL20F1105LL2000C..	DA	DL20	20.00	C	0.60	60	70	19.3	SW16	80
DL25F1105LL2500C..	DA	DL25	25.00	C	0.60	75	87.5	24.0	SW21	100
DL32F1105LL3200C..	DA	DL32	32.00	C	0.70	96	112	31.0	SW28	130

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material		Material information			
		ANSI	Material no.	Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth Fz (mm/tooth) in relation with D1 and cutting width ae						
	ø 10	**ø 12**	**ø 16**	**ø 20**	**ø 25**	**ø 32**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13	0.06 – 0.17	0.07 – 0.20

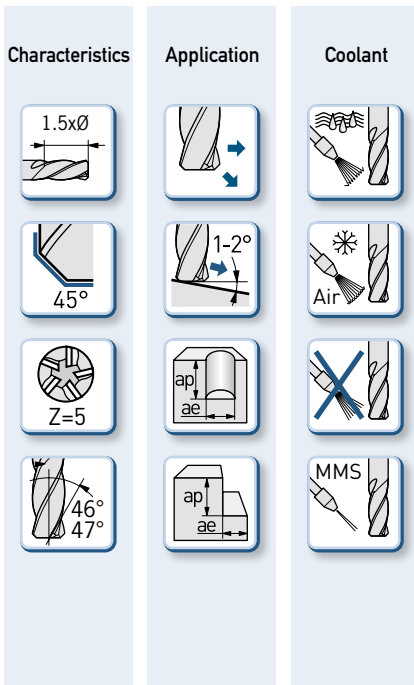
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

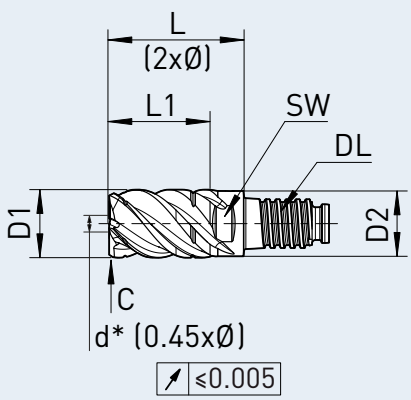
METRIC

F1105MN – DUO-ΛOCK® HAIMER MILL Power Series
CHAMFER CHIP BREAKER

Technical data and Product characteristics







Fine balanced
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Unequal cutting edge
- Best length repeatability
- Polished flute and relief

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F1105MN1000C..	DA	DL10	10.00	C	0.30	15	20	9.6	SW8	20
DL12F1105MN1200C..	DA	DL12	12.00	C	0.30	18	24	11.5	SW9.5	30
DL16F1105MN1600C..	DA	DL16	16.00	C	0.50	24	32	15.5	SW13	60
DL20F1105MN2000C..	DA	DL20	20.00	C	0.60	30	40	19.3	SW16	80
DL25F1105MN2500C..	DA	DL25	25.00	C	0.60	37.5	50	24.0	SW21	100
DL32F1105MN3200C..	DA	DL32	32.00	C	0.70	48	64	31.0	SW28	130

Order No. = Article Code + HAIMER Quality.

F2003MN - DUO-ΛOCK® HAIMER MILL SHARP CUTTING EDGE

METRIC

Cutting data

HAIMER Material groups		Example material ANSI	Example material Material no.	Material information Tensile strength	Material information Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		60 – 90	90 – 120
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae

	ø 2	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10	ø 12	ø 16	ø 20
fz	0.006 – 0.018	0.009 – 0.027	0.012 – 0.036	0.015 – 0.045	0.018 – 0.054	0.024 – 0.072	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

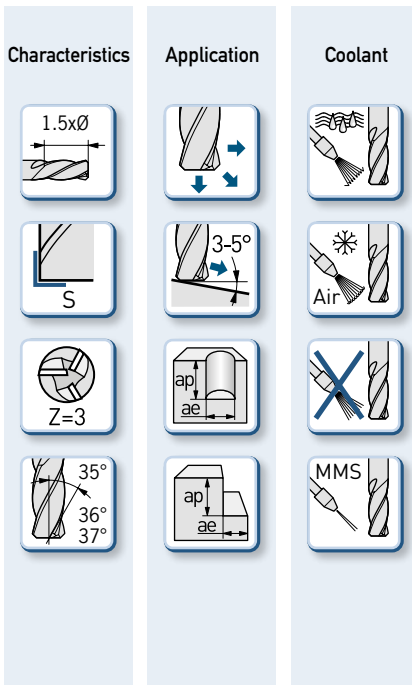
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

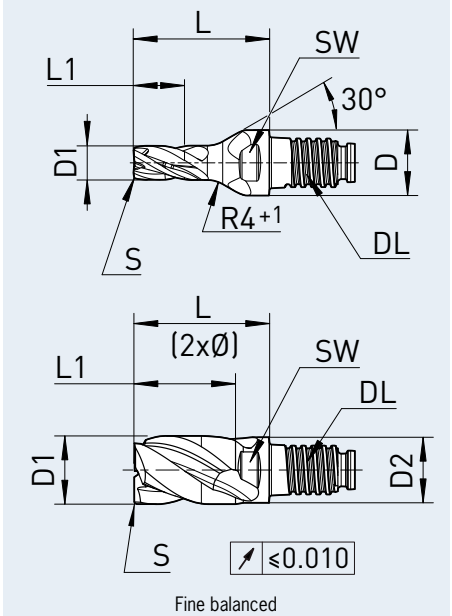
METRIC

F2003MN - DUO-ΛOCK® HAIMER MILL SHARP CUTTING EDGE

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability
- ø 2 – ø 8 mm for universal use with DL10 interface (without neck)

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	L1 max. [mm]	L [mm]	D [mm]	AF [mm]	Torque [N/m]
DL10F2003MN0200S..	DA	DL10	2.00	S	3.0	20	9.6	SW8	20
DL10F2003MN0300S..	DA	DL10	3.00	S	4.5	20	9.6	SW8	20
DL10F2003MN0400S..	DA	DL10	4.00	S	6.0	20	9.6	SW8	20
DL10F2003MN0500S..	DA	DL10	5.00	S	7.5	20	9.6	SW8	20
DL10F2003MN0600S..	DA	DL10	6.00	S	9.0	20	9.6	SW8	20
DL10F2003MN0800S..	DA	DL10	8.00	S	12.0	20	9.6	SW8	20
DL10F2003MN1000S..	DA	DL10	10.00	S	15	20	9.6	SW8	20
DL12F2003MN1200S..	DA	DL12	12.00	S	18	24	11.5	SW9.5	30
DL16F2003MN1600S..	DA	DL16	16.00	S	24	32	15.5	SW13	60
DL20F2003MN2000S..	DA	DL20	20.00	S	30	40	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Roughing Cutting Speed (SFM)	Finishing Cutting Speed (SFM)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**525 - 725**	**725 - 920**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**395 - 525**	**525 - 655**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		260 - 395	395 - 525
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		195 - 295	295 - 395
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		395 - 590	590 - 785
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		260 - 525	525 - 720
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			130 - 260	130 - 260
S2	High Temp alloys	Inconel, Nimonic				100 -130	100 -130
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			1640 -2950	1640 -2950
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	395 -1150	395 -1150
H1	Hardened steels				45 - 55 HRC	130 - 195	195 -260

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae				
Ø	3/8	1/2	5/8	3/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

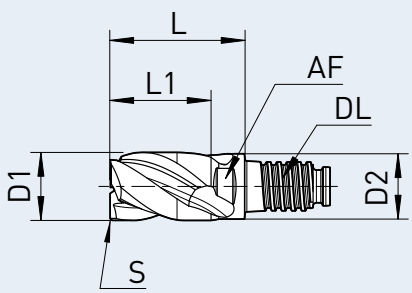
INCH

F2003MN – DUO-ΛOCK® HAIMER MILL SHARP CUTTING EDGE

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [inch]	Cutting edge	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10F2003MN3/8ZS..	DA	DL10	3/8	S	0.591	0.787	0.359	0.315	20
DL12F2003MN1/2ZS..	DA	DL12	1/2	S	0.709	0.945	0.480	0.374	30
DL16F2003MN5/8ZS..	DA	DL16	5/8	S	0.945	1.260	0.605	0.512	60
DL20F2003MN3/4ZS..	DA	DL20	3/4	S	1.181	1.575	0.730	0.630	80

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		60 – 90	90 – 120
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

METRIC

F2003UK – DUO-ΛOCK® HAIMER MILL SHARP CUTTING EDGE

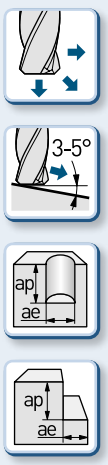
Technical data and Product characteristics



Characteristics

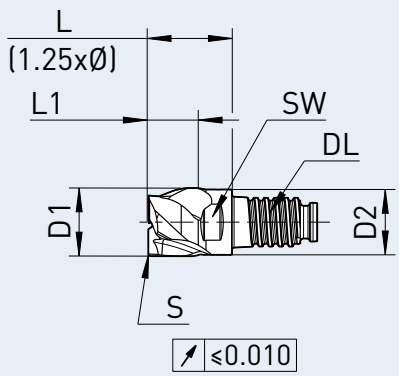


Application



Coolant





Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F2003UK1000S..	DA	DL10	10.00	S	7.5	12.5	9.6	SW8	20
DL12F2003UK1200S..	DA	DL12	12.00	S	9	15	11.5	SW9.5	30
DL16F2003UK1600S..	DA	DL16	16.00	S	12	20	15.5	SW13	60
DL20F2003UK2000S..	DA	DL20	20.00	S	15	25	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Roughing Cutting Speed (SFM)	Finishing Cutting Speed (SFM)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**525 - 725**	**725 - 920**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**395 - 525**	**525 - 655**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		260 - 395	395 - 525
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		195 - 295	295 - 395
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		395 - 590	590 - 785
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		260 - 525	525 - 720
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			130 - 260	130 - 260
S2	High Temp alloys	Inconel, Nimonic				100 -130	100 -130
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			1640 -2950	1640 -2950
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	395 -1150	395 -1150
H1	Hardened steels				45 - 55 HRC	130 - 195	195 -260

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae				
Ø	3/8	1/2	5/8	3/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

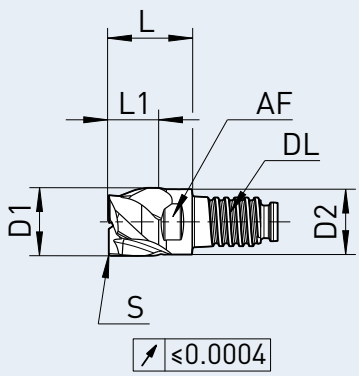
INCH

F2003UK – DUO-ΛOCK® HAIMER MILL SHARP CUTTING EDGE

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [inch]	Cutting edge	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10F2003UK3/8ZS..	DA	DL10	3/8	S	0.295	0.492	0.359	0.315	20
DL12F2003UK1/2ZS..	DA	DL12	1/2	S	0.354	0.591	0.480	0.374	30
DL16F2003UK5/8ZS..	DA	DL16	5/8	S	0.472	0.787	0.605	0.512	60
DL20F2003UK3/4ZS..	DA	DL20	3/4	S	0.591	0.984	0.730	0.630	80

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Ramping	ae = 100% D1 ap = 1 x D1	ae = 15% D1 ap = L1 max.	ae = 5% D1 ap = L1 max.
						Cutting speed Vc (m/min)			
P1	**General construction steels**	A252, A50-2, 1045	1.0038. 1.0050. 1.0503	≤ 800 N/mm²	up to 25 HRC	**45°**	**255 – 275**	**320 – 340**	**400 – 420**
P2	**Heat treated steels**	D2, 4140	1.2367. 1.2379. 1.2363. 1.7225	> 800 N/mm²	up to 45 HRC	**30°**	**190 – 210**	**220 – 240**	**290 – 310**
M1	**Stainless steels**	303, 304	1.4305. 1.4301. 1.4034	≤ 650 N/mm²		**10°**	**95 – 110**	**115 – 135**	**150 – 170**
M2	**Stainless steels**	316Ti, 316L	1.4571. 1.4404. 1.4418	> 650 N/mm²		**5°**	**75 – 90**	**95 – 105**	**110 – 130**
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020. 0.6040. 0.7040	≤ 450 N/mm²		45°	160 – 180	180 – 200	210 – 230
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060. 0.7070	> 450 N/mm²		20°	130 – 150	150 – 170	180 – 200
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10°	50 – 60	60 – 80	80 – 90
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		5°	30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	30°	470 – 490	600 – 630	780 – 820
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	30°	340 – 360	420 – 440	540 – 580
H1	Hardened steels				45 – 55 HRC	10°	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.
Chip removal recommended for drilling depth 0.5 – 1 x D.

Feed per tooth Fz (mm/tooth) in relation with D1 and cutting width ae

	ø 2	ø 3	ø 4	ø 5	ø 6	ø 8
fz	0.006 – 0.018	0.009 – 0.027	0.012 – 0.036	0.015 – 0.045	0.018 – 0.054	0.024 – 0.072
	ø 10	**ø 12**	**ø 16**	**ø 20**	**ø 25**	**ø 32**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13	0.06 – 0.17	0.07 – 0.20

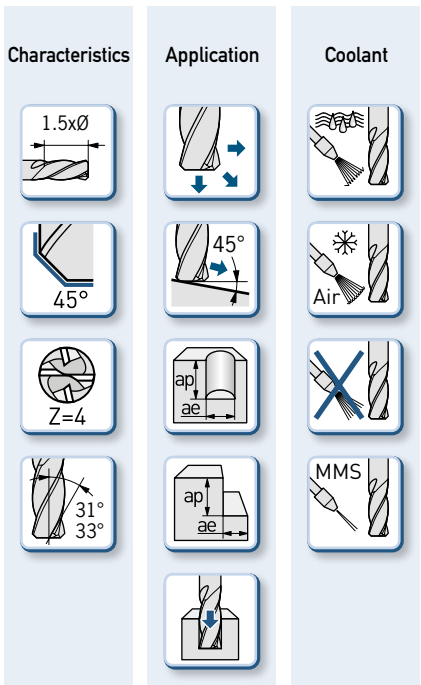
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

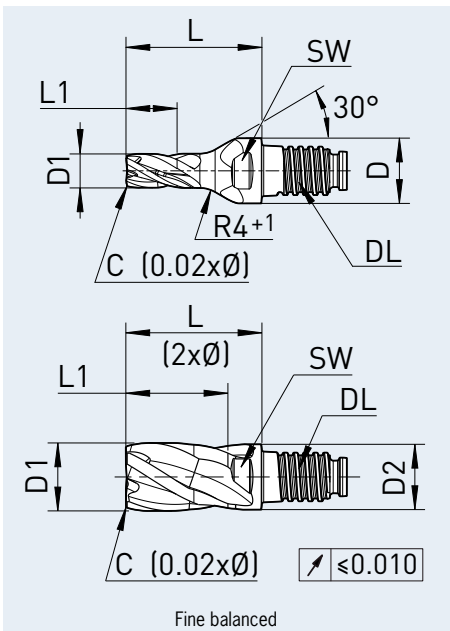
METRIC

F2004MN – DUO-ΛOCK® HAIMER MILL CHAMFER

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability
- ø 2 – ø 8 for universal use with DL10 interface (without neck)

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D [mm]	AF [mm]	Torque [N/m]
DL10F2004MN0200C..	DA	DL10	2.00	C	0.04	3.0	20	9.6	SW8	20
DL10F2004MN0300C..	DA	DL10	3.00	C	0.06	4.5	20	9.6	SW8	20
DL10F2004MN0400C..	DA	DL10	4.00	C	0.08	6.0	20	9.6	SW8	20
DL10F2004MN0500C..	DA	DL10	5.00	C	0.10	7.5	20	9.6	SW8	20
DL10F2004MN0600C..	DA	DL10	6.00	C	0.12	9.0	20	9.6	SW8	20
DL10F2004MN0800C..	DA	DL10	8.00	C	0.16	12.0	20	9.6	SW8	20
DL10F2004MN1000C..	DA	DL10	10.00	C	0.20	15	20	9.6	SW8	20
DL12F2004MN1200C..	DA	DL12	12.00	C	0.24	18	24	11.5	SW9.5	30
DL16F2004MN1600C..	DA	DL16	16.00	C	0.32	24	32	15.5	SW13	60
DL20F2004MN2000C..	DA	DL20	20.00	C	0.40	30	40	19.3	SW16	80
DL25F2004MN2500C..	DA	DL25	25.00	C	0.50	37.5	50	24.0	SW21	100
DL32F2004MN3200C..	DA	DL32	32.00	C	0.64	48	64	31.0	SW28	130

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Ramping	ae = 100% D1 ap = 1 x D1 Cutting Speed (SFM)	ae = 15% D1 ap = L1 max.	ae = 5% D1 ap = L1 max.
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**45°**	**835 - 900**	**1050 - 1115**	**1310 - 1380**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**30°**	**625 - 690**	**720 - 785**	**950 - 1015**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		10°	310 - 360*	375 - 445	490 - 560
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		5°	245 - 295*	310 - 345	360 - 425
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		45°	525 - 590	590 - 655	690 - 755
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		20°	425 - 490	490 - 560	590 - 655
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10°	165 - 195*	195 - 260	260 - 295
S2	High Temp alloys	Inconel, Nimonic				5°	100 -130	100 -130	100 -130
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			30°	1540 - 1610	1970 - 2065	2560 - 2690
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	30°	1115 - 1180	1380 - 1440	1770 - 1900
H1	Hardened steels				45 - 55 HRC	10°	130 - 195	195 -260	195 -260

Cutting data are reference values and need to be adjusted according to the application area.
Chip removal recommended for drilling depth 0.5 – 1 x D.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae

Ø	3/8	1/2	5/8	3/4	1	1 1/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005	0.0024 - 0.0067	0.0027 - 0.0079

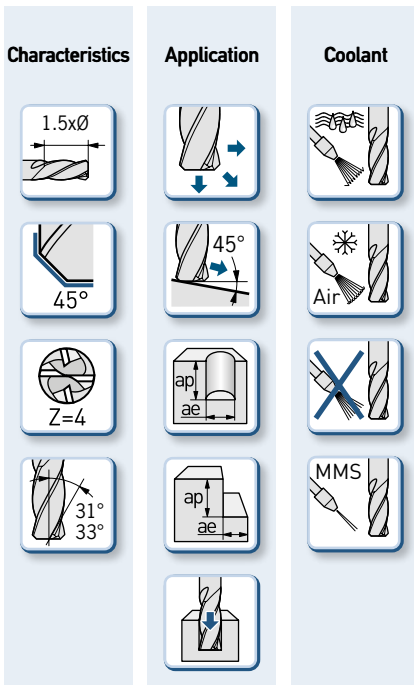
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

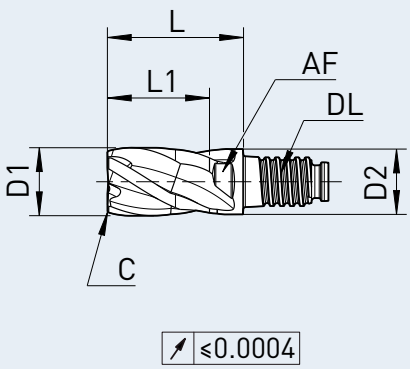
INCH

F2004MN – DUO-ΛOCK® HAIMER MILL CHAMFER

Technical data and Product characteristics







≤0.0004

Fine balanced

Material – characteristics

Main Material

P

also suitable for

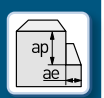
K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10F2004MN3/8ZC..	DA	DL10	3/8	C	0.008	0.591	0.787	0.359	0.315	20
DL12F2004MN1/2ZC..	DA	DL12	1/2	C	0.010	0.709	0.945	0.480	0.374	30
DL16F2004MN5/8ZC..	DA	DL16	5/8	C	0.013	0.945	1.260	0.605	0.512	60
DL20F2004MN3/4ZC..	DA	DL20	3/4	C	0.015	1.181	1.575	0.730	0.630	80
DL25F2004MN1ZC..	DA	DL25	1	C	0.020	1.476	1.970	0.961	0.827	100
DL32F2004MN11/4ZC..	DA	DL32	11/4	C	0.025	1.890	2.520	1.211	1.102	130

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Ramping	 ae = 100% D1 ap = 1 x D1	 ae = 15% D1 ap = L1 max.	 ae = 5% D1 ap = L1 max.
						Cutting speed Vc (m/min)			
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**45°**	**255 – 275**	**320 – 340**	**400 – 420**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**30°**	**190 – 210**	**220 – 240**	**290 – 310**
M1	**Stainless steels**	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		**10°**	**95 – 110**	**115 – 135**	**150 – 170**
M2	**Stainless steels**	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		**5°**	**75 – 90**	**95 – 105**	**110 – 130**
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		45°	160 – 180	180 – 200	210 – 230
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		20°	130 – 150	150 – 170	180 – 200
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10°	50 – 60	60 – 80	80 – 90
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		5°	30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	30°	470 – 490	600 – 630	780 – 820
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	30°	340 – 360	420 – 440	540 – 580
H1	Hardened steels				45 – 55 HRC	10°	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.
Chip removal recommended for drilling depth 0.5 – 1 x D.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae

	ø 10	ø 12	ø 16	ø 20
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

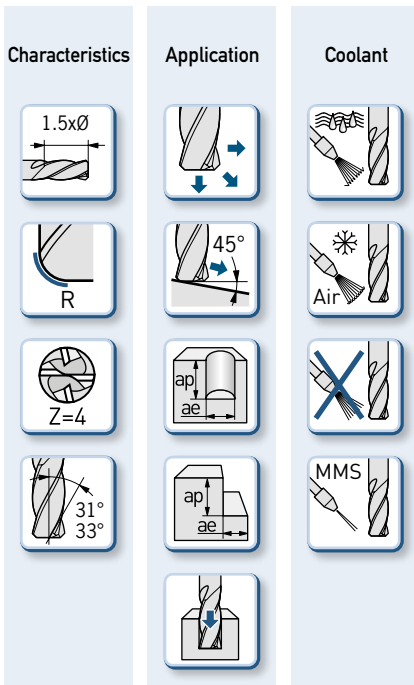
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

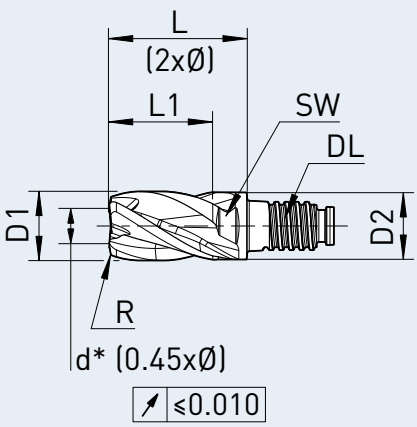
METRIC

F2004MN – DUO-ΛOCK® HAIMER MILL CORNER RADIUS

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

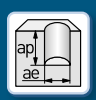
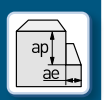
- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	R [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F2004MN1000R0.30..	DA	DL10	10.00	R	0.3	15	20	9.6	SW8	20
DL10F2004MN1000R0.50..	DA	DL10	10.00	R	0.5	15	20	9.6	SW8	20
DL10F2004MN1000R0.80..	DA	DL10	10.00	R	0.8	15	20	9.6	SW8	20
DL10F2004MN1000R1.00..	DA	DL10	10.00	R	1.0	15	20	9.6	SW8	20
DL10F2004MN1000R1.50..	DA	DL10	10.00	R	1.5	15	20	9.6	SW8	20
DL10F2004MN1000R2.00..	DA	DL10	10.00	R	2.0	15	20	9.6	SW8	20
DL10F2004MN1000R2.50..	DA	DL10	10.00	R	2.5	15	20	9.6	SW8	20
DL12F2004MN1200R0.50..	DA	DL12	12.00	R	0.5	18	24	11.5	SW9.5	30
DL12F2004MN1200R0.80..	DA	DL12	12.00	R	0.8	18	24	11.5	SW9.5	30
DL12F2004MN1200R1.00..	DA	DL12	12.00	R	1.0	18	24	11.5	SW9.5	30
DL12F2004MN1200R2.00..	DA	DL12	12.00	R	2.0	18	24	11.5	SW9.5	30
DL12F2004MN1200R2.50..	DA	DL12	12.00	R	2.5	18	24	11.5	SW9.5	30
DL12F2004MN1200R3.00..	DA	DL12	12.00	R	3.0	18	24	11.5	SW9.5	30
DL12F2004MN1200R4.00..	DA	DL12	12.00	R	4.0	18	24	11.5	SW9.5	30

⇨ *Turn page for more articles*

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width  Ramping	 ae = 100% D1 ap = 1 x D1	 ae = 15% D1 ap = L1 max.	 ae = 5% D1 ap = L1 max.
						Cutting speed Vc (m/min)			
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**45°**	**255 – 275**	**320 – 340**	**400 – 420**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**30°**	**190 – 210**	**220 – 240**	**290 – 310**
M1	**Stainless steels**	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		**10°**	**95 – 110**	**115 – 135**	**150 – 170**
M2	**Stainless steels**	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		**5°**	**75 – 90**	**95 – 105**	**110 – 130**
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		45°	160 – 180	180 – 200	210 – 230
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		20°	130 – 150	150 – 170	180 – 200
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10°	50 – 60	60 – 80	80 – 90
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		5°	30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	30°	470 – 490	600 – 630	780 – 820
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	30°	340 – 360	420 – 440	540 – 580
H1	Hardened steels				45 – 55 HRC	10°	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.
Chip removal recommended for drilling depth 0.5 – 1 x D.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae

	ø 10	ø 12	ø 16	ø 20
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

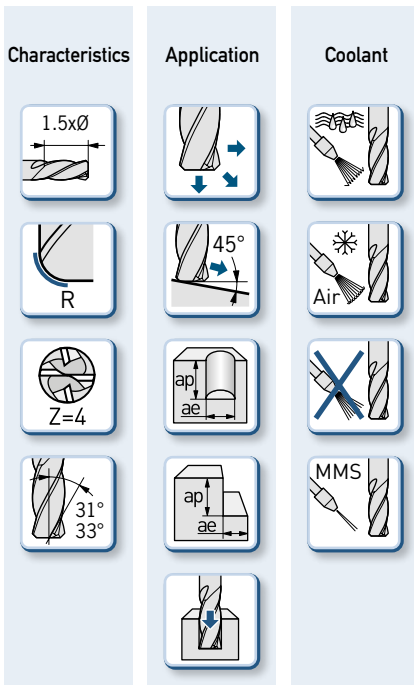
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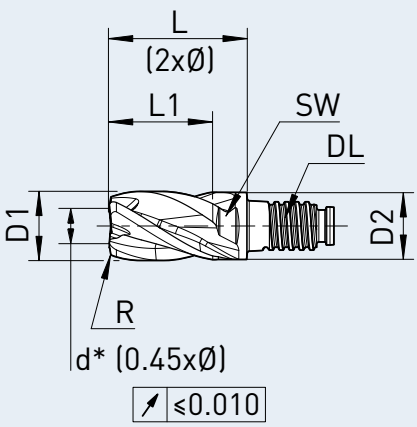
METRIC

F2004MN – DUO-ΛOCK® HAIMER MILL CORNER RADIUS

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL16F2004MN1600R0.50..	DA	DL16	16.00	R	0.5	24	32	15.5	SW13	60
DL16F2004MN1600R0.80..	DA	DL16	16.00	R	0.8	24	32	15.5	SW13	60
DL16F2004MN1600R1.00..	DA	DL16	16.00	R	1.0	24	32	15.5	SW13	60
DL16F2004MN1600R2.00..	DA	DL16	16.00	R	2.0	24	32	15.5	SW13	60
DL16F2004MN1600R2.50..	DA	DL16	16.00	R	2.5	24	32	15.5	SW13	60
DL16F2004MN1600R3.00..	DA	DL16	16.00	R	3.0	24	32	15.5	SW13	60
DL16F2004MN1600R4.00..	DA	DL16	16.00	R	4.0	24	32	15.5	SW13	60
DL20F2004MN2000R0.50..	DA	DL20	20.00	R	0.5	30	40	19.3	SW16	80
DL20F2004MN2000R0.80..	DA	DL20	20.00	R	0.8	30	40	19.3	SW16	80
DL20F2004MN2000R2.00..	DA	DL20	20.00	R	2.0	30	40	19.3	SW16	80
DL20F2004MN2000R2.50..	DA	DL20	20.00	R	2.5	30	40	19.3	SW16	80
DL20F2004MN2000R3.00..	DA	DL20	20.00	R	3.0	30	40	19.3	SW16	80
DL20F2004MN2000R4.00..	DA	DL20	20.00	R	4.0	30	40	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material information Material no.	Tensile strength	Content/ Hardness	Cutting width Ramping	ae = 100% D1 ap = 1 x D1 Cutting Speed (SFM)	ae = 15% D1 ap = L1 max.	ae = 5% D1 ap = L1 max.
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**45°**	**835 - 900**	**1050 - 1115**	**1310 - 1380**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**30°**	**625 - 690**	**720 - 785**	**950 - 1015**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		10°	310 - 360*	375 - 445	490 - 560
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		5°	245 - 295*	310 - 345	360 - 425
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		45°	525 - 590	590 - 655	690 - 755
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		20°	425 - 490	490 - 560	590 - 655
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10°	165 - 195*	195 - 260	260 - 295
S2	High Temp alloys	Inconel, Nimonic				5°	100 -130	100 -130	100 -130
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			30°	1540 - 1610	1970 - 2065	2560 - 2690
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	30°	1115 - 1180	1380 - 1440	1770 - 1900
H1	Hardened steels				45 - 55 HRC	10°	130 - 195	195 -260	195 -260

Cutting data are reference values and need to be adjusted according to the application area.
Chip removal recommended for drilling depth 0.5 – 1 x D.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae				
Ø	3/8	1/2	5/8	3/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

INCH

F2004MN – DUO-ΛOCK® HAIMER MILL CORNER RADIUS

Technical data and Product characteristics



Characteristics

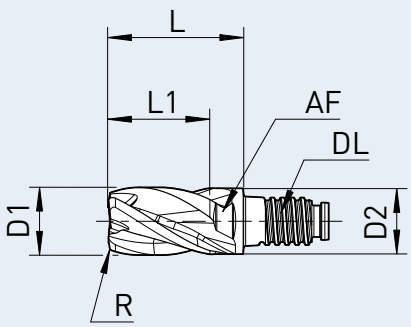


Application



Coolant





⩽0.0004

Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10F2004MN3/8ZR.015..	DA	DL10	3/8	R	0.015	0.591	0.787	0.359	0.315	20
DL10F2004MN3/8ZR.030..	DA	DL10	3/8	R	0.030	0.591	0.787	0.359	0.315	20
DL10F2004MN3/8ZR.060..	DA	DL10	3/8	R	0.060	0.591	0.787	0.359	0.315	20
DL12F2004MN1/2ZR.015..	DA	DL12	1/2	R	0.015	0.709	0.945	0.480	0.374	30
DL12F2004MN1/2ZR.030..	DA	DL12	1/2	R	0.030	0.709	0.945	0.480	0.374	30
DL12F2004MN1/2ZR.060..	DA	DL12	1/2	R	0.060	0.709	0.945	0.480	0.374	30
DL16F2004MN5/8ZR.015..	DA	DL16	5/8	R	0.015	0.945	1.260	0.605	0.512	60
DL16F2004MN5/8ZR.030..	DA	DL16	5/8	R	0.030	0.945	1.260	0.605	0.512	60
DL16F2004MN5/8ZR.060..	DA	DL16	5/8	R	0.060	0.945	1.260	0.605	0.512	60
DL16F2004MN5/8ZR.090..	DA	DL16	5/8	R	0.090	0.945	1.260	0.605	0.512	60
DL16F2004MN5/8ZR.125..	DA	DL16	5/8	R	0.125	0.945	1.260	0.605	0.512	60
DL20F2004MN3/4ZR.030..	DA	DL20	3/4	R	0.030	1.181	1.575	0.730	0.630	80
DL20F2004MN3/4ZR.060..	DA	DL20	3/4	R	0.060	1.181	1.575	0.730	0.630	80
DL20F2004MN3/4ZR.090..	DA	DL20	3/4	R	0.090	1.181	1.575	0.730	0.630	80
DL20F2004MN3/4ZR.125..	DA	DL20	3/4	R	0.125	1.181	1.575	0.730	0.630	80
DL20F2004MN3/4ZR.150..	DA	DL20	3/4	R	0.150	1.181	1.575	0.730	0.630	80

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Ramping	ae = 100% D1 ap = 1 x D1	ae = 15% D1 ap = L1 max.	ae = 5% D1 ap = L1 max.
						Cutting speed Vc (m/min)			
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**45°**	**255 – 275**	**320 – 340**	**400 – 420**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**30°**	**190 – 210**	**220 – 240**	**290 – 310**
M1	**Stainless steels**	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		**10°**	**95 – 110**	**115 – 135**	**150 – 170**
M2	**Stainless steels**	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		**5°**	**75 – 90**	**95 – 105**	**110 – 130**
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		45°	160 – 180	180 – 200	210 – 230
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		20°	130 – 150	150 – 170	180 – 200
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10°	50 – 60	60 – 80	80 – 90
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		5°	30 – 40	30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	30°	470 – 490	600 – 630	780 – 820
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	30°	340 – 360	420 – 440	540 – 580
H1	Hardened steels				45 – 55 HRC	10°	40 – 60	60 – 80	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.
Chip removal recommended for drilling depth 0.5 – 1 x D.

Feed per tooth Fz (mm/tooth) in relation with D1 and cutting width ae

	ø 10	ø 12	ø 16	ø 20	ø 25	ø 32
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13	0.06 – 0.17	0.07 – 0.20

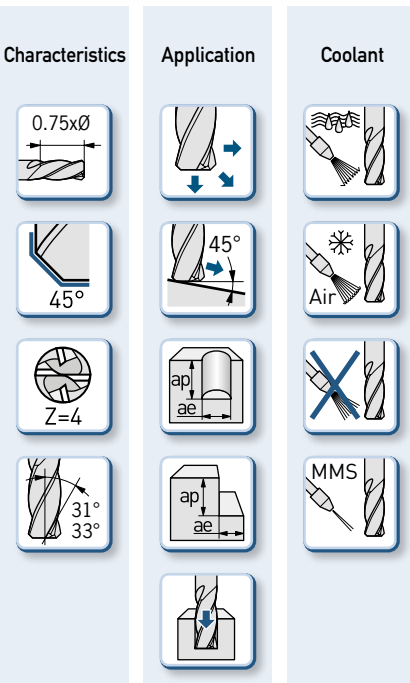
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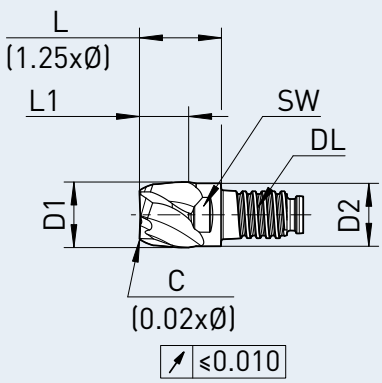
METRIC

F2004UK – DUO-ΛOCK® HAIMER MILL CHAMFER

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F2004UK1000C..	DA	DL10	10.00	C	0.20	7.5	12.5	9.6	SW8	20
DL12F2004UK1200C..	DA	DL12	12.00	C	0.24	9	15	11.5	SW9.5	30
DL16F2004UK1600C..	DA	DL16	16.00	C	0.32	12	20	15.5	SW13	60
DL20F2004UK2000C..	DA	DL20	20.00	C	0.40	15	25	19.3	SW16	80
DL25F2004UK2500C..	DA	DL25	25.00	C	0.50	18.75	31.25	24.0	SW21	100
DL32F2004UK3200C..	DA	DL32	32.00	C	0.64	24	40	31.0	SW28	130

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material information Material no.	Tensile strength	Content/ Hardness	Cutting width Ramping	ae = 100% D1 ap = 0.5 x D1 Cutting Speed (SFM)	ae = 15% D1 ap = L1 max.	ae = 5% D1 ap = L1 max.
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**45°**	**835 - 900**	**1050 - 1115**	**1310 - 1380**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**30°**	**625 - 690**	**720 - 785**	**950 - 1015**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		10°	310 - 360*	375 - 445	490 - 560
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		5°	245 - 295*	310 - 345	360 - 425
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		45°	525 - 590	590 - 655	690 - 755
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		20°	425 - 490	490 - 560	590 - 655
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			10°	165 - 195*	195 - 260	260 - 295
S2	High Temp alloys	Inconel, Nimonic				5°	100 -130	100 -130	100 -130
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			30°	1540 - 1610	1970 - 2065	2560 - 2690
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	30°	1115 - 1180	1380 - 1440	1770 - 1900
H1	Hardened steels				45 - 55 HRC	10°	130 - 195	195 -260	195 -260

Cutting data are reference values and need to be adjusted according to the application area.
Chip removal recommended for drilling depth 0.5 – 1 x D.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae

Ø	3/8	1/2	5/8	3/4	1	1 1/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005	0.0024 - 0.0067	0.0027 - 0.0079

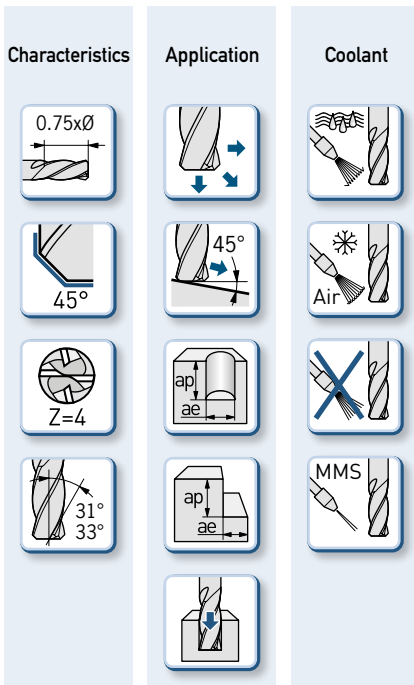
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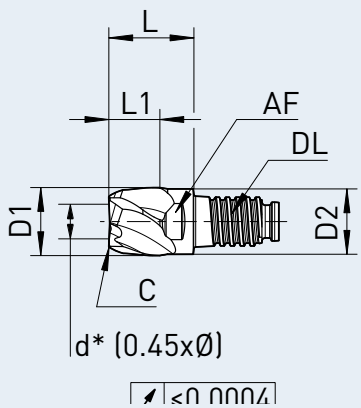
INCH

F2004UK – DUO-LOCK® HAIMER MILL CHAMFER

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10F2004UK3/8ZC..	DA	DL10	3/8	C	0.008	0.295	0.492	0.359	0.315	20
DL12F2004UK1/2ZC..	DA	DL12	1/2	C	0.010	0.354	0.591	0.480	0.374	30
DL16F2004UK5/8ZC..	DA	DL16	5/8	C	0.013	0.472	0.787	0.605	0.512	60
DL20F2004UK3/4ZC..	DA	DL20	3/4	C	0.015	0.591	0.984	0.730	0.630	80
DL25F2004UK1ZC..	DA	DL25	1	C	0.020	0.738	1.230	0.961	0.827	100
DL32F2004UK11/4ZC..	DA	DL32	11/4	C	0.025	0.945	1.575	1.211	1.102	130

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 5% D1 ap = L1 max. Cutting speed Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**160 – 200**
M1	**Stainless steels**	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		**120 – 160**
M2	**Stainless steels**	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		**90 – 120**
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350
H1	Hardened steels				45 – 55 HRC	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
ae 5%	ø 10	ø 12	ø 16	ø 20
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

METRIC

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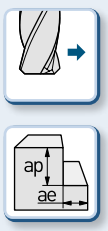
Technical data and Product characteristics



Characteristics

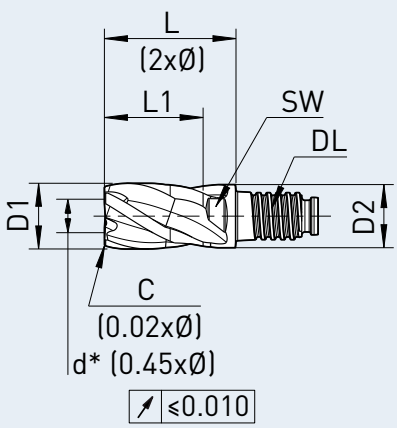


Application



Coolant





Fine balanced
* diameter not center cutting

Material – characteristics

Main Material

P

M

also suitable for

K S N H

- Neck for higher cutting depth
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	No. teeth	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F2006MN1000C..	DA	DL10	10.00	C	6	0.2	15	20	9.6	SW8	20
DL12F2006MN1200C..	DA	DL12	12.00	C	6	0.24	18	24	11.5	SW9.5	30
DL16F2008MN1600C..	DA	DL16	16.00	C	8	0.32	24	32	15.5	SW13	60
DL20F2000MN2000C..	DA	DL20	20.00	C	10	0.4	30	40	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 5% D1 ap = L1 max. Cutting Speed (SFM)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**725 - 920**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**525 - 655**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		395 - 525
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		295 - 395
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		590 - 785
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		525 - 720
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			130 - 260
S2	High Temp alloys	Inconel, Nimonic				100 -130
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			1640 -2950
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	395 -1150
H1	Hardened steels				45 - 55 HRC	195 -260

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae				
Ø	3/8	1/2	5/8	3/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

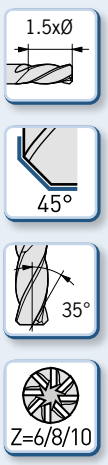
INCH

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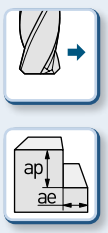
Technical data and Product characteristics



Characteristics

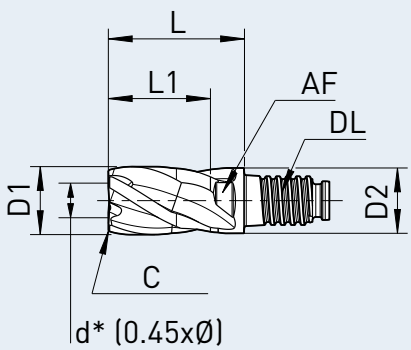


Application



Coolant





⊿ | ≤0.0004

Fine balanced
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [inch]	Cutting edge	Size [inch]	Z	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10F2006MN3/8ZC..	DA	DL10	3/8	C	0.008	6	0.591	0.787	0.359	0.315	20
DL12F2006MN1/2ZC..	DA	DL12	1/2	C	0.010	6	0.709	0.945	0.480	0.374	30
DL16F2008MN5/8ZC..	DA	DL16	5/8	C	0.013	8	0.945	1.260	0.605	0.512	60
DL20F2000MN3/4ZC..	DA	DL20	3/4	C	0.015	10	1.181	1.575	0.730	0.630	80

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 5% D1 ap = L1 max. Cutting speed Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**160 – 200**
M1	**Stainless steels**	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		**120 – 160**
M2	**Stainless steels**	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		**90 – 120**
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350
H1	Hardened steels				45 – 55 HRC	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
ae 5%	ø 10	ø 12	ø 16	ø 20
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

METRIC

F2006/08/00MN – DUO-ΛOCK® HAIMER MILL CORNER RADIUS FINISHING

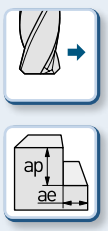
Technical data and Product characteristics



Characteristics

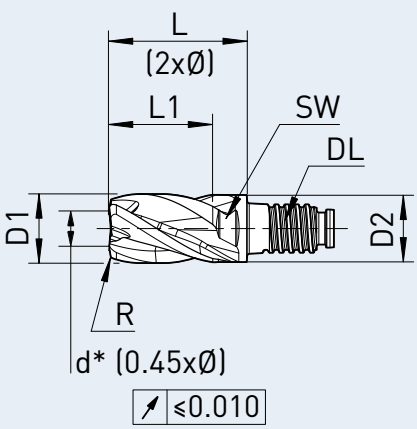


Application



Coolant





Fine balanced
* diameter not center cutting

Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	No. teeth	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F2006MN1000R0.50..	DA	DL10	10.00	R	6	0.50	15	20	9.6	SW8	20
DL10F2006MN1000R1.00..	DA	DL10	10.00	R	6	1.00	15	20	9.6	SW8	20
DL10F2006MN1000R1.50..	DA	DL10	10.00	R	6	1.50	15	20	9.6	SW8	20
DL10F2006MN1000R2.00..	DA	DL10	10.00	R	6	2.00	15	20	9.6	SW8	20
DL12F2006MN1200R0.50..	DA	DL12	12.00	R	6	0.50	18	24	11.5	SW9.5	30
DL12F2006MN1200R1.00..	DA	DL12	12.00	R	6	1.00	18	24	11.5	SW9.5	30
DL12F2006MN1200R2.00..	DA	DL12	12.00	R	6	2.00	18	24	11.5	SW9.5	30
DL16F2008MN1600R0.50..	DA	DL16	16.00	R	8	0.50	24	32	15.5	SW13	60
DL16F2008MN1600R1.00..	DA	DL16	16.00	R	8	1.00	24	32	15.5	SW13	60
DL16F2008MN1600R2.00..	DA	DL16	16.00	R	8	2.00	24	32	15.5	SW13	60
DL16F2008MN1600R4.00..	DA	DL16	16.00	R	8	4.00	24	32	15.5	SW13	60
DL20F2000MN2000R0.50..	DA	DL20	20.00	R	10	0.50	30	40	19.3	SW16	80
DL20F2000MN2000R2.00..	DA	DL20	20.00	R	10	2.00	30	40	19.3	SW16	80
DL20F2000MN2000R4.00..	DA	DL20	20.00	R	10	4.00	30	40	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 5% D1 ap = L1 max. Cutting Speed (SFM)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**725 - 920**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**525 - 655**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		395 - 525
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		295 - 395
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		590 - 785
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		525 - 720
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			130 - 260
S2	High Temp alloys	Inconel, Nimonic				100 -130
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			1640 -2950
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	395 -1150
H1	Hardened steels				45 - 55 HRC	195 -260

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae				
Ø	3/8	1/2	5/8	3/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

INCH

F2006/08/00MN – DUO-ΛOCK® HAIMER MILL CORNER RADIUS FINISHING

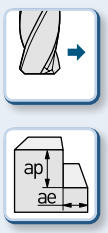
Technical data and Product characteristics



Characteristics

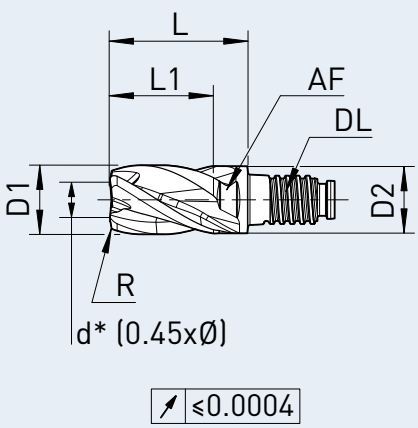


Application



Coolant





Fine balanced
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [inch]	Cutting edge	Size [inch]	Z	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10F2006MN3/8ZR.015..	DA	DL10	3/8	R	0.015	6	0.591	0.787	0.359	0.315	20
DL10F2006MN3/8ZR.030..	DA	DL10	3/8	R	0.030	6	0.591	0.787	0.359	0.315	20
DL10F2006MN3/8ZR.060..	DA	DL10	3/8	R	0.060	6	0.591	0.787	0.359	0.315	20
DL12F2006MN1/2ZR.015..	DA	DL12	1/2	R	0.015	6	0.709	0.945	0.480	0.374	30
DL12F2006MN1/2ZR.030..	DA	DL12	1/2	R	0.030	6	0.709	0.945	0.480	0.374	30
DL12F2006MN1/2ZR.060..	DA	DL12	1/2	R	0.060	6	0.709	0.945	0.480	0.374	30
DL16F2008MN5/8ZR.015..	DA	DL16	5/8	R	0.015	8	0.945	1.260	0.605	0.512	60
DL16F2008MN5/8ZR.030..	DA	DL16	5/8	R	0.030	8	0.945	1.260	0.605	0.512	60
DL16F2008MN5/8ZR.060..	DA	DL16	5/8	R	0.060	8	0.945	1.260	0.605	0.512	60
DL16F2008MN5/8ZR.090..	DA	DL16	5/8	R	0.090	8	0.945	1.260	0.605	0.512	60
DL16F2008MN5/8ZR.125..	DA	DL16	5/8	R	0.125	8	0.945	1.260	0.605	0.512	60
DL20F2000MN3/4ZR.030..	DA	DL20	3/4	R	0.030	10	1.181	1.575	0.730	0.630	80
DL20F2000MN3/4ZR.060..	DA	DL20	3/4	R	0.060	10	1.181	1.575	0.730	0.630	80
DL20F2000MN3/4ZR.090..	DA	DL20	3/4	R	0.090	10	1.181	1.575	0.730	0.630	80
DL20F2000MN3/4ZR.125..	DA	DL20	3/4	R	0.125	10	1.181	1.575	0.730	0.630	80
DL20F2000MN3/4ZR.150..	DA	DL20	3/4	R	0.150	10	1.181	1.575	0.730	0.630	80

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width ae = 5% D1 ap = L1 max. Cutting speed Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**160 – 200**
M1	**Stainless steels**	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		**120 – 160**
M2	**Stainless steels**	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		**90 – 120**
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350
H1	Hardened steels				45 – 55 HRC	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
ae 5%	ø 10	ø 12	ø 16	ø 20
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

METRIC

F2006/08/00UK – DUO-ΛOCK® HAIMER MILL CHAMFER FINISHING

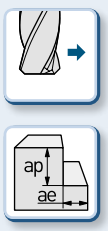
Technical data and Product characteristics



Characteristics

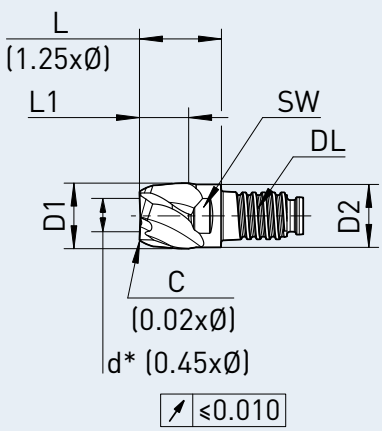


Application



Coolant





Fine balanced
* diameter not center cutting

Material – characteristics

Main Material: P, M

also suitable for: K, S, N, H

- Neck for higher cutting depth
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	No. teeth	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F2006UK1000C..	DA	DL10	10.00	C	6	0.2	7.5	12.5	9.6	SW8	20
DL12F2006UK1200C..	DA	DL12	12.00	C	6	0.24	9	15	11.5	SW9.5	30
DL16F2008UK1600C..	DA	DL16	16.00	C	8	0.32	12	20	15.5	SW13	60
DL20F2000UK2000C..	DA	DL20	20.00	C	10	0.4	15	25	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width  ae = 5% D1 ap = L1 max. Cutting Speed (SFM)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**725 - 920**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**525 - 655**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		395 - 525
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		295 - 395
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		590 - 785
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		525 - 720
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			130 - 260
S2	High Temp alloys	Inconel, Nimonic				100 -130
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			1640 -2950
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	395 -1150
H1	Hardened steels				45 - 55 HRC	195 -260

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae				
Ø	3/8	1/2	5/8	3/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

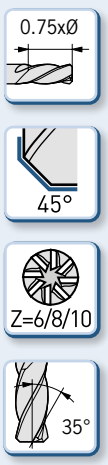
INCH

F2006/08/00UK – DUO-ΛOCK® HAIMER MILL CHAMFER FINISHING

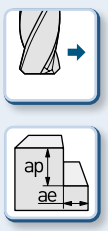
Technical data and Product characteristics



Characteristics

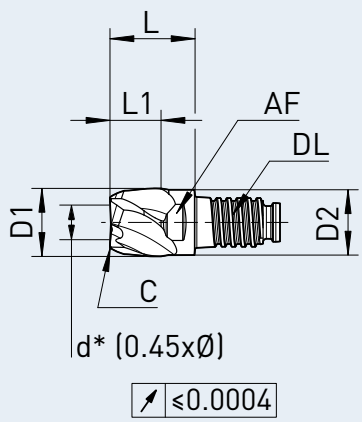


Application



Coolant





Fine balanced
* diameter not center cutting

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [inch]	Cutting edge	Size [inch]	Z	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10F2006UK3/8ZC..	DA	DL10	3/8	C	0.008	6	0.295	0.492	0.359	0.315	20
DL12F2006UK1/2ZC..	DA	DL12	1/2	C	0.010	6	0.354	0.591	0.480	0.374	30
DL16F2008UK5/8ZC..	DA	DL16	5/8	C	0.013	8	0.472	0.787	0.605	0.512	60
DL20F2000UK3/4ZC..	DA	DL20	3/4	C	0.015	10	0.591	0.984	0.730	0.630	80

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

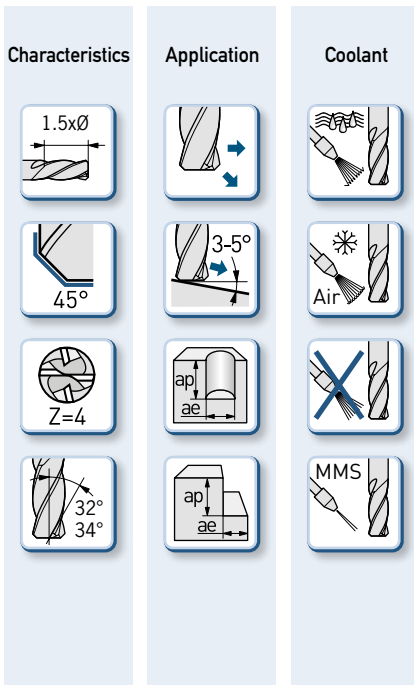
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

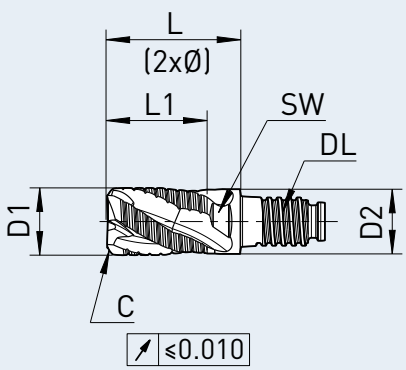
METRIC

F2304MN – DUO-ΛOCK® HAIMER MILL CHAMFER ROUGHING

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F2304MN1000C..	DA	DL10	10.00	C	0.30	15	20	9.6	SW8	20
DL12F2304MN1200C..	DA	DL12	12.00	C	0.30	18	24	11.5	SW9.5	30
DL16F2304MN1600C..	DA	DL16	16.00	C	0.50	24	32	15.5	SW13	60
DL20F2304MN2000C..	DA	DL20	20.00	C	0.60	30	40	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Roughing Cutting Speed (SFM)	Finishing Cutting Speed (SFM)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**525 - 725**	**725 - 920**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**395 - 525**	**525 - 655**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		260 - 395	395 - 525
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		395 - 590	590 - 785
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		260 - 525	525 - 720
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			130 - 260	130 - 260
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			1640 -2950	1640 -2950
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	395 -1150	395 -1150

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae				
Ø	3/8	1/2	5/8	3/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005

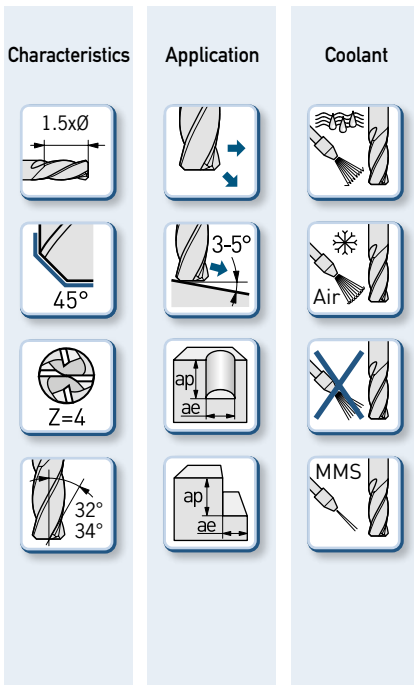
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

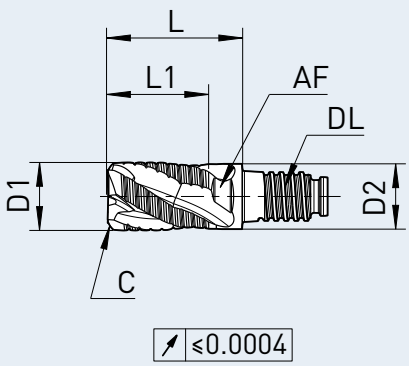
INCH

F2304MN – DUO-ΛOCK® HAIMER MILL ROUGHING

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10F2304MN3/8ZC..	DA	DL10	3/8	C	0.012	0.591	0.787	0.359	0.315	20
DL12F2304MN1/2ZC..	DA	DL12	1/2	C	0.012	0.709	0.945	0.480	0.374	30
DL16F2304MN5/8ZC..	DA	DL16	5/8	C	0.020	0.945	1.260	0.605	0.512	60
DL20F2304MN3/4ZC..	DA	DL20	3/4	C	0.024	1.181	1.575	0.730	0.630	80

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

METRIC

F2304UK – DUO-ΛOCK® HAIMER MILL CHAMFER ROUGHING

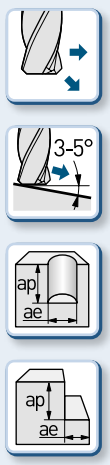
Technical data and Product characteristics



Characteristics

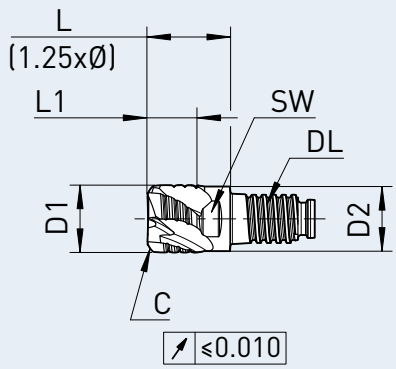


Application



Coolant





Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F2304UK1000C..	DA	DL10	10.00	C	0.30	7.5	12.5	9.6	SW8	20
DL12F2304UK1200C..	DA	DL12	12.00	C	0.30	9	15	11.5	SW9.5	30
DL16F2304UK1600C..	DA	DL16	16.00	C	0.50	12	20	15.5	SW13	60
DL20F2304UK2000C..	DA	DL20	20.00	C	0.60	15	25	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Roughing Cutting Speed (SFM)	Finishing Cutting Speed (SFM)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**525 - 725**	**725 - 920**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**395 - 525**	**525 - 655**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		260 - 395	395 - 525
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		395 - 590	590 - 785
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		260 - 525	525 - 720
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			130 - 260	130 - 260
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			1640 -2950	1640 -2950
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	395 -1150	395 -1150

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae				
Ø	3/8	1/2	5/8	3/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005

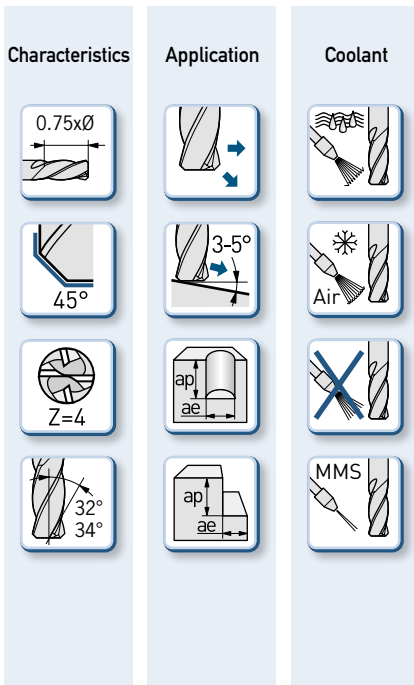
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

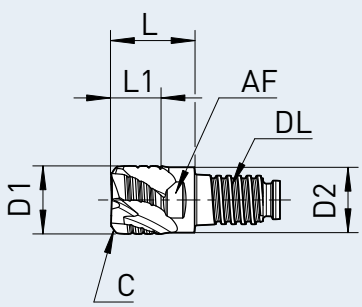
INCH

F2304UK – DUO-LOCK® HAIMER MILL ROUGHING

Technical data and Product characteristics







≤0.0004

Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M

- Neck for higher cutting depth
- Center cutting
- Unequal cutting edge
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10F2304UK3/8ZC..	DA	DL10	3/8	C	0.012	0.295	0.492	0.359	0.315	20
DL12F2304UK1/2ZC..	DA	DL12	1/2	C	0.012	0.354	0.591	0.480	0.374	30
DL16F2304UK5/8ZC..	DA	DL16	5/8	C	0.020	0.472	0.787	0.605	0.512	60
DL20F2304UK3/4ZC..	DA	DL20	3/4	C	0.024	0.591	0.984	0.730	0.630	80

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**400 – 500**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%		

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

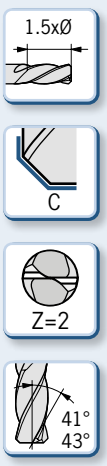
METRIC

F4002MN – DUO-ΛOCK® HAIMER MILL Alu Series CHAMFER UNCOATED

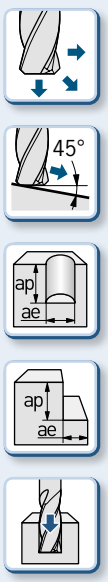
Technical data and Product characteristics



Characteristics

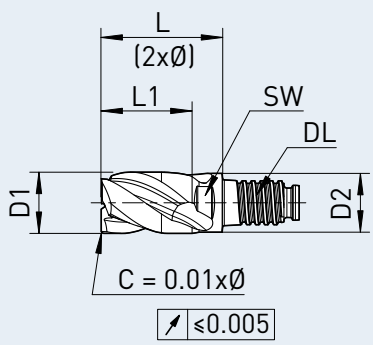


Application



Coolant





Fine balanced

Material – characteristics

Main Material

N

- Neck for higher cutting depth
- Center cutting
- Polished flute and relief
- Best length repeatability
- Uncoated

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F4002MN1000C..	D-	DL10	10.00	C	0.1	15	20	9.6	SW8	20
DL12F4002MN1200C..	D-	DL12	12.00	C	0.12	18	24	11.5	SW9.5	30
DL16F4002MN1600C..	D-	DL16	16.00	C	0.16	24	32	15.5	SW13	60
DL20F4002MN2000C..	D-	DL20	20.00	C	0.2	30	40	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

F4002MN – DUO-ΛOCK® HAIMER MILL Alu Series CHAMFER

METRIC

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**400 – 500**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%		

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

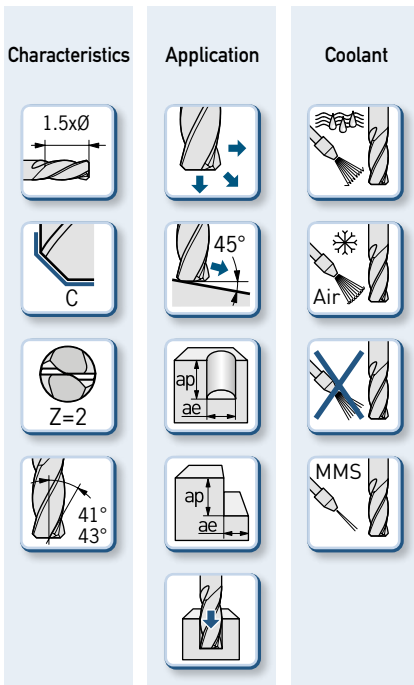
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

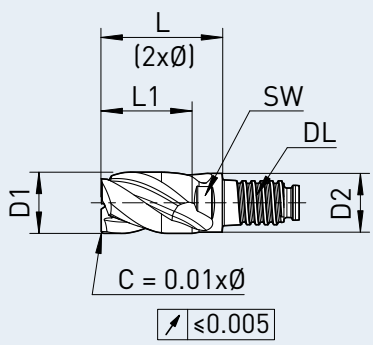
METRIC

F4002MN – DUO-ΛOCK® HAIMER MILL Alu Series CHAMFER

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

N

- Coating for abrasive materials
- Neck for higher cutting depth
- Center cutting
- Polished flute and relief
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F4002MN1000C..	DC	DL10	10.00	C	0.1	15	20	9.6	SW8	20
DL12F4002MN1200C..	DC	DL12	12.00	C	0.12	18	24	11.5	SW9.5	30
DL16F4002MN1600C..	DC	DL16	16.00	C	0.16	24	32	15.5	SW13	60
DL20F4002MN2000C..	DC	DL20	20.00	C	0.2	30	40	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**400 – 500**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%		

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

METRIC

F4003MN – DUO-ΛOCK® HAIMER MILL Alu Series CHAMFER UNCOATED

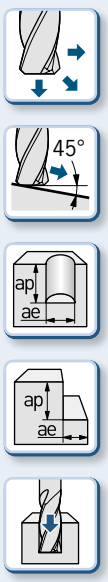
Technical data and Product characteristics



Characteristics

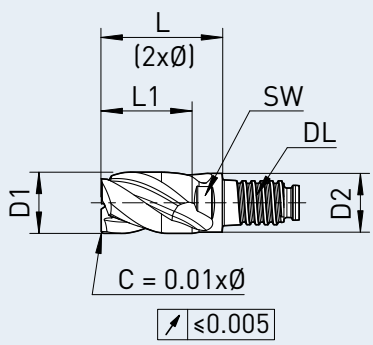


Application



Coolant





Fine balanced

Material – characteristics

Main Material

N

- Neck for higher cutting depth
- Center cutting
- Polished flute and relief
- Best length repeatability
- Uncoated

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F4003MN1000C..	D-	DL10	10.00	C	0.1	15	20	9.6	SW8	20
DL12F4003MN1200C..	D-	DL12	12.00	C	0.12	18	24	11.5	SW9.5	30
DL16F4003MN1600C..	D-	DL16	16.00	C	0.16	24	32	15.5	SW13	60
DL20F4003MN2000C..	D-	DL20	20.00	C	0.2	30	40	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**400 – 500**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%		

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

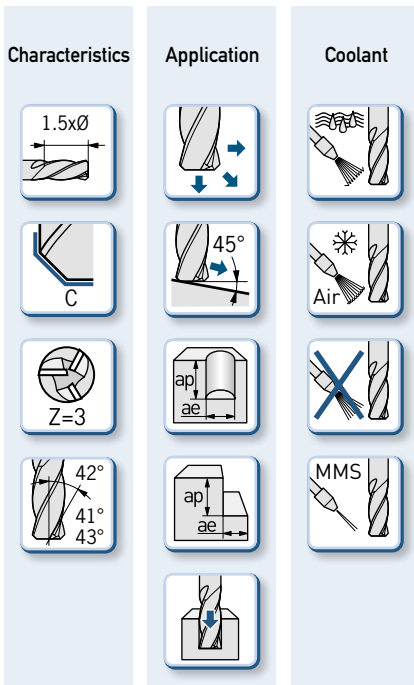
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

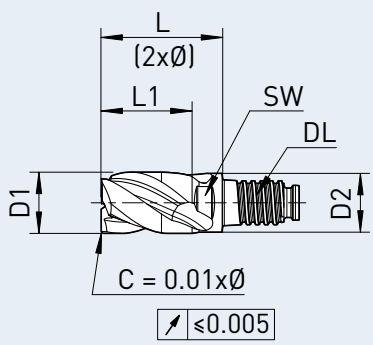
METRIC

F4003MN – DUO-ΛOCK® HAIMER MILL Alu Series CHAMFER

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

N

- Coating for abrasive materials
- Neck for higher cutting depth
- Center cutting
- Polished flute and relief
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10F4003MN1000C..	DC	DL10	10.00	C	0.1	15	20	9.6	SW8	20
DL12F4003MN1200C..	DC	DL12	12.00	C	0.12	18	24	11.5	SW9.5	30
DL16F4003MN1600C..	DC	DL16	16.00	C	0.16	24	32	15.5	SW13	60
DL20F4003MN2000C..	DC	DL20	20.00	C	0.2	30	40	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038. 1.0050. 1.0503	≤ 800 N/mm²	up to 25 HRC	**250 – 320**	**340 – 420**
P2	**Heat treated steels**	D2, 4140	1.2367. 1.2379. 1.2363. 1.7225	> 800 N/mm²	up to 45 HRC	**190 – 220**	**240 – 310**
M1	Stainless steels	303, 304	1.4305. 1.4301. 1.4034	≤ 650 N/mm²		95 – 115	135 – 170
M2	Stainless steels	316Ti, 316L	1.4571. 1.4404. 1.4418	> 650 N/mm²		75 – 95	105 – 130
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020. 0.6040. 0.7040	≤ 450 N/mm²		160 – 180	200 – 230
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060. 0.7070	> 450 N/mm²		130 – 150	170 – 200
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			50 – 60	80 – 90
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.1– 0.3	0.12 – 0.36	0.16 – 0.48	0.2 – 0.6
ap HFC	0.75	0.9	1.2	1.5

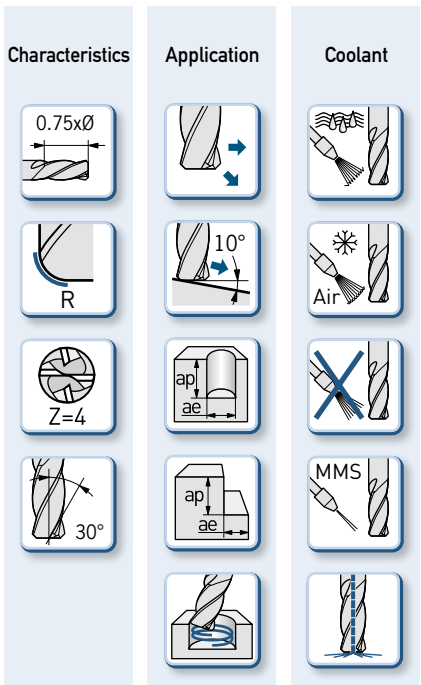
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

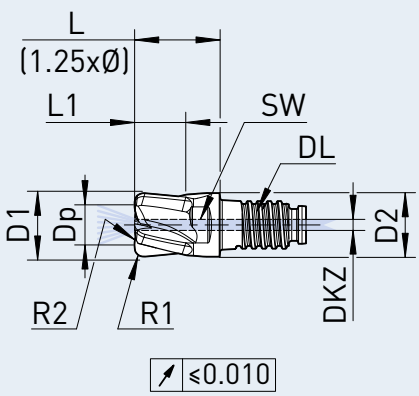
METRIC

H2004UK – DUO-ΛOCK® HAIMER MILL HF Series HIGH FEED

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Central inner cooling
- Neck for higher cutting depth
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	R1 [mm]	R2 [mm]	Dp [mm]	L1 max. [mm]	L [mm]	DKZ [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10H2004UK1000R..	DAKZ	DL10	10.00	R	1.5	5	6	7.5	12.5	2	9.6	SW8	20
DL12H2004UK1200R..	DAKZ	DL12	12.00	R	1.8	6	7.2	9	15	2	11.5	SW9.5	30
DL16H2004UK1600R..	DAKZ	DL16	16.00	R	2.4	8	9.6	12	20	2	15.5	SW13	60
DL20H2004UK2000R..	DAKZ	DL20	20.00	R	3	10	12	15	25	3	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038. 1.0050. 1.0503	≤ 800 N/mm²	up to 25 HRC	**250 – 320**	**340 – 420**
P2	**Heat treated steels**	D2, 4140	1.2367. 1.2379. 1.2363. 1.7225	> 800 N/mm²	up to 45 HRC	**190 – 220**	**240 – 310**
M1	Stainless steels	303, 304	1.4305. 1.4301. 1.4034	≤ 650 N/mm²		95 – 115	135 – 170
M2	Stainless steels	316Ti, 316L	1.4571. 1.4404. 1.4418	> 650 N/mm²		75 – 95	105 – 130
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020. 0.6040. 0.7040	≤ 450 N/mm²		160 – 180	200 – 230
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060. 0.7070	> 450 N/mm²		130 – 150	170 – 200
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			50 – 60	80 – 90
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.1– 0.3	0.12 – 0.36	0.16 – 0.48	0.2 – 0.6
ap HFC	0.75	0.9	1.2	1.5

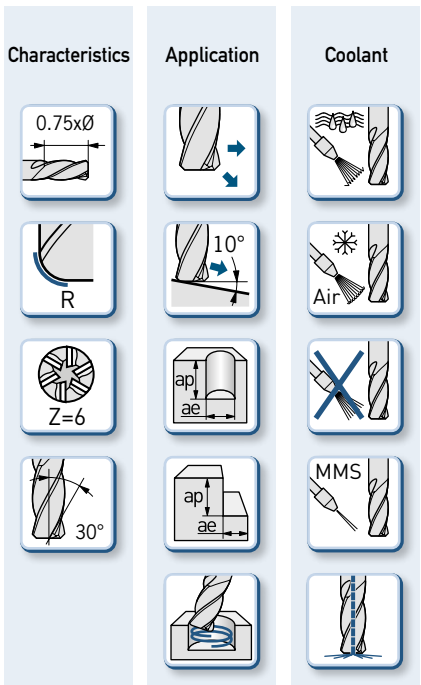
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

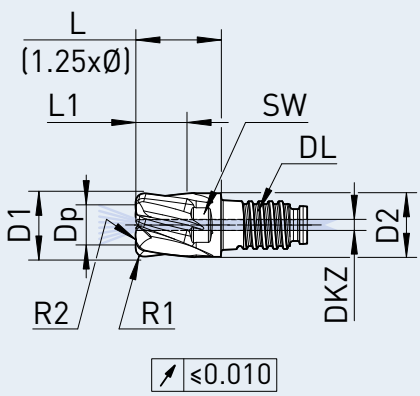
METRIC

H2006UK – DUO-ΛOCK® HAIMER MILL HF Series HIGH FEED

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Central inner cooling
- Neck for higher cutting depth
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	R1 [mm]	R2 [mm]	Dp [mm]	L1 max. [mm]	L [mm]	DKZ [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10H2006UK1000R..	DPKZ	DL10	10.00	R	1.5	5	6	7.5	12.5	2	9.6	SW8	20
DL12H2006UK1200R..	DPKZ	DL12	12.00	R	1.8	6	7.2	9	15	2	11.5	SW9.5	30
DL16H2006UK1600R..	DPKZ	DL16	16.00	R	2.4	8	9.6	12	20	2	15.5	SW13	60
DL20H2006UK2000R..	DPKZ	DL20	20.00	R	3	10	12	15	25	3	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		60 – 90	90 – 120
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae

	ø 2	ø 2,5	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10
fz	0.006 – 0.018	0.008 – 0.023	0.009 – 0.027	0.012 – 0.036	0.015 – 0.045	0.018 – 0.054	0.024 – 0.072	0.03 – 0.09

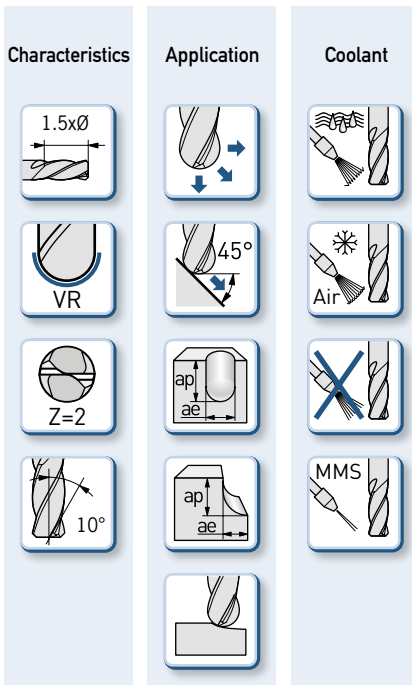
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

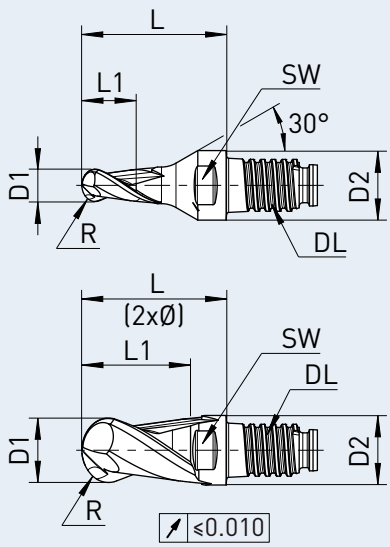
METRIC

V2002MN – DUO-ΛOCK® HAIMER MILL BALL NOSE

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Ball Nose
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	Radius [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10V2002MN0200R..	DA	DL10	2.00	R	1.00	3.0	20	9.6	SW8	20
DL10V2002MN0250R..	DA	DL10	2.50	R	1.25	3.75	20	9.6	SW8	20
DL10V2002MN0300R..	DA	DL10	3.00	R	1.50	4.5	20	9.6	SW8	20
DL10V2002MN0400R..	DA	DL10	4.00	R	2.00	6.0	20	9.6	SW8	20
DL10V2002MN0500R..	DA	DL10	5.00	R	2.50	7.5	20	9.6	SW8	20
DL10V2002MN0600R..	DA	DL10	6.00	R	3.00	9.0	20	9.6	SW8	20
DL10V2002MN0800R..	DA	DL10	8.00	R	4.00	12	20	9.6	SW8	20
DL10V2002MN1000R..	DA	DL10	10.00	R	5.00	15	20	9.6	SW8	20

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Example material Material no.	Material information Tensile strength	Material information Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		60 – 90	90 – 120
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

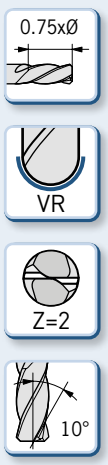
METRIC

V2002UK – DUO-ΛOCK® HAIMER MILL BALL NOSE

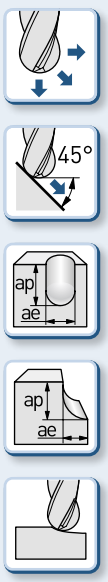
Technical data and Product characteristics



Characteristics

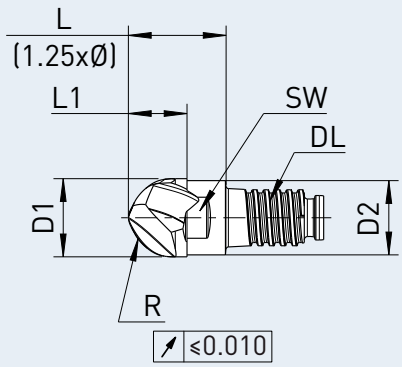


Application



Coolant





Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Ball Nose
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	Radius [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10V2002UK1000R..	DA	DL10	10.00	R	5.00	7.5	12.5	9.6	SW8	20
DL12V2002UK1200R..	DA	DL12	12.00	R	6.00	9	15	11.5	SW9.5	30
DL16V2002UK1600R..	DA	DL16	16.00	R	8.00	12	20	15.5	SW13	60
DL20V2002UK2000R..	DA	DL20	20.00	R	10.00	15	25	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Cutting width Roughing Cutting Speed (SFM)	Finishing Cutting Speed (SFM)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 116,000 PSI, 800MPA	up to 25 HRC	**525 - 725**	**725 - 920**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 116,000 PSI, 800MPA	up to 45 HRC	**395 - 525**	**525 - 655**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 94,275 PSI, 650MPA		260 - 395	395 - 525
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 94,275 PSI, 650MPA		195 - 295	295 - 395
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 65,265 PSI, 450MPA		395 - 590	590 - 785
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 65,265 PSI, 450MPA		260 - 525	525 - 720
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			130 - 260	130 - 260
S2	High Temp alloys	Inconel, Nimonic				100 -130	100 -130
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315			1640 -2950	1640 -2950
N2	Aluminum cast alloys	A310, A400	3.2581		Si >12%	395 -1150	395 -1150
H1	Hardened steels				45 - 55 HRC	130 - 195	195 -260

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth (inch/tooth) in relation with D1 and cutting width ae				
Ø	3/8	1/2	5/8	3/4
fz	0.0011 - 0.0035	0.0011 - 0.0039	0.0016 - 0.0047	0.002 - 0.005

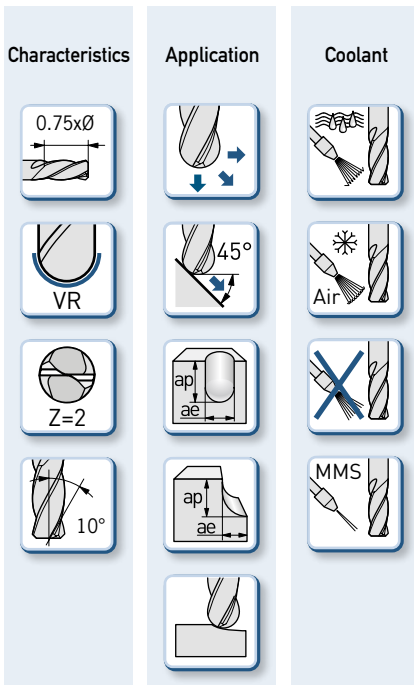
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

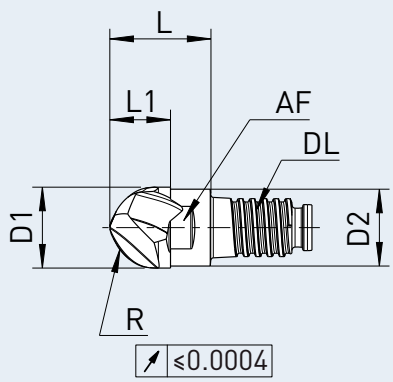
INCH

V2002UK – DUO-ΛOCK® HAIMER MILL BALL NOSE

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Ball Nose
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [inch]	Cutting edge	Size [inch]	L1 max. [inch]	L [inch]	D2 [inch]	AF [inch]	Torque [N/m]
DL10V2002UK3/8ZR..	DA	DL10	3/8	R	3/16	0.1875	0.492	0.359	0.315	20
DL12V2002UK1/2ZR..	DA	DL12	1/2	R	1/4	0.250	0.591	0.480	0.374	30
DL16V2002UK5/8ZR..	DA	DL16	5/8	R	5/16	0.3125	0.787	0.605	0.512	60
DL20V2002UK3/4ZR..	DA	DL20	3/4	R	3/8	0.375	0.984	0.730	0.630	80

Order No. = Article Code + HAIMER Quality

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		60 – 90	90 – 120
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae

	ø 2	ø 2,5	ø 3	ø 4	ø 5	ø 6	ø 8	ø 10
fz	0.006 – 0.018	0.008 – 0.023	0.009 – 0.027	0.012 – 0.036	0.015 – 0.045	0.018 – 0.054	0.024 – 0.072	0.03 – 0.09

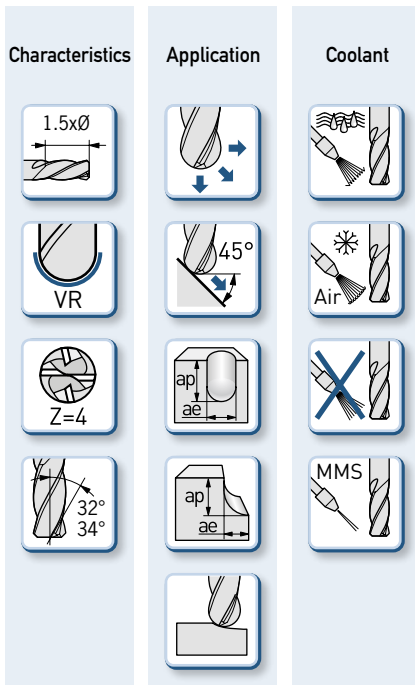
Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

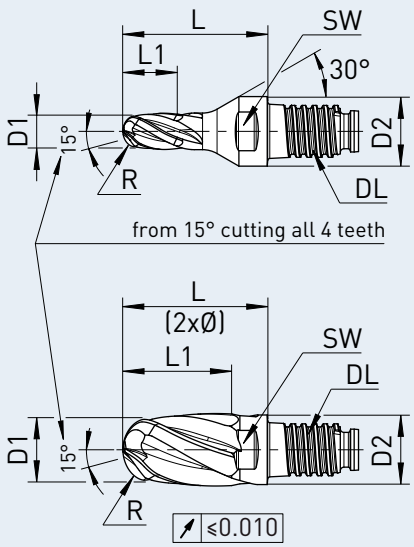
METRIC

V2004MN – DUO-ΛOCK® HAIMER MILL BALL NOSE

Technical data and Product characteristics







Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Ball Nose
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	Radius [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10V2004MN0200R..	DA	DL10	2.00	R	1.00	3.0	20	9.6	SW8	20
DL10V2004MN0250R..	DA	DL10	2.50	R	1.25	3.75	20	9.6	SW8	20
DL10V2004MN0300R..	DA	DL10	3.00	R	1.50	4.5	20	9.6	SW8	20
DL10V2004MN0400R..	DA	DL10	4.00	R	2.00	6.0	20	9.6	SW8	20
DL10V2004MN0500R..	DA	DL10	5.00	R	2.50	7.5	20	9.6	SW8	20
DL10V2004MN0600R..	DA	DL10	6.00	R	3.00	9.0	20	9.6	SW8	20
DL10V2004MN0800R..	DA	DL10	8.00	R	4.00	12	20	9.6	SW8	20
DL10V2004MN1000R..	DA	DL10	10.00	R	5.00	15	20	9.6	SW8	20

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Example material Material no.	Material information Tensile strength	Material information Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
P1	**General construction steels**	A252, A50-2, 1045	1.0038, 1.0050, 1.0503	≤ 800 N/mm²	up to 25 HRC	**160 – 220**	**220 – 280**
P2	**Heat treated steels**	D2, 4140	1.2367, 1.2379, 1.2363, 1.7225	> 800 N/mm²	up to 45 HRC	**120 – 160**	**160 – 200**
M1	Stainless steels	303, 304	1.4305, 1.4301, 1.4034	≤ 650 N/mm²		80 – 120	120 – 160
M2	Stainless steels	316Ti, 316L	1.4571, 1.4404, 1.4418	> 650 N/mm²		60 – 90	90 – 120
K1	Cast iron	ASTM A48 NO. 30, ASTM A48 NO. 55/60, G1800	0.6020, 0.6040, 0.7040	≤ 450 N/mm²		120 – 180	180 – 240
K2	Cast iron	ASTM A536 80-55-06, ASTMA536 100-70-06	0.7060, 0.7070	> 450 N/mm²		80 – 160	160 – 220
S1	Titanium & titanium alloys	Ti6Al4V	3.7165			40 – 80	40 – 80
S2	High Temp alloys	Inconel, Nimonic		800 – 1700 N/mm²		30 – 40	30 – 40
N1	Wrought aluminum alloys	A5005, A6061, A7075	3.3315		Si < 9%	500 – 900	500 – 900
N2	Aluminum cast alloys	A310, A400	3.2581		Si > 9%	120 – 350	120 – 350
H1	Hardened steels				45 – 55 HRC	40 – 60	60 – 80

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

METRIC

V2004UK – DUO-ΛOCK® HAIMER MILL BALL NOSE

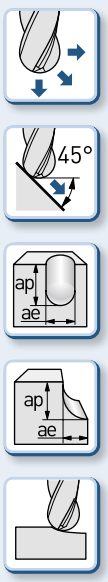
Technical data and Product characteristics



Characteristics

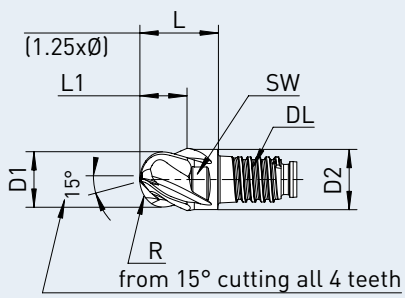


Application



Coolant





⊿ ≤0.010

Fine balanced

Material – characteristics

Main Material

P

also suitable for

K S N M H

- Neck for higher cutting depth
- Ball Nose
- Best length repeatability

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (f9) [mm]	Cutting edge	Radius [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10V2004UK1000R..	DA	DL10	10.00	R	5.00	7.5	12.5	9.6	SW8	20
DL12V2004UK1200R..	DA	DL12	12.00	R	6.00	9	15	11.5	SW9.5	30
DL16V2004UK1600R..	DA	DL16	16.00	R	8.00	12	20	15.5	SW13	60
DL20V2004UK2000R..	DA	DL20	20.00	R	10.00	15	25	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**400 – 500**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%		

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

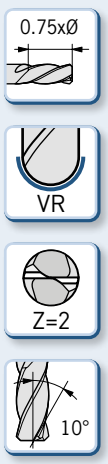
METRIC

V4002UK – DUO-ΛOCK® HAIMER MILL Alu Series
BALL NOSE UNCOATED

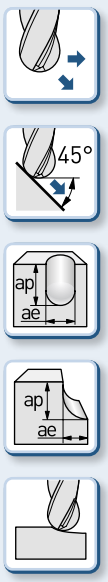
Technical data and Product characteristics



Characteristics

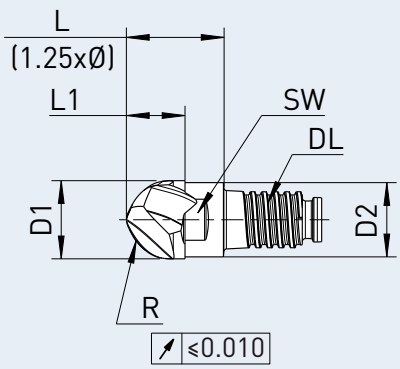


Application



Coolant





Fine balanced

Material – characteristics

Main Material

N

- Neck for higher cutting depth
- Center cutting
- Polished flute and relief
- Best length repeatability
- Uncoated

Article-Code	HAIMER Quality	Duo-Lock Size	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10V4002UK1000R..	D-	DL10	10.00	R	5.00	7.5	12.5	9.6	SW8	20
DL12V4002UK1200R..	D-	DL12	12.00	R	6.00	9	15	11.5	SW9.5	30
DL16V4002UK1600R..	D-	DL16	16.00	R	8.00	12	20	15.5	SW13	60
DL20V4002UK2000R..	D-	DL20	20.00	R	10.00	15	25	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

Cutting data

HAIMER Material groups		Example material ANSI	Material no.	Material information Tensile strength	Content/ Hardness	Roughing Vc (m/min)	Finishing Vc (m/min)
N1	**Wrought aluminum alloys**	A5005, A6061, A7075	3.3315		Si < 9%	**300 – 400**	**400 – 500**
N2	**Aluminum cast alloys**	A310, A400	3.2581		Si > 9%		

Cutting data are reference values and need to be adjusted according to the application area.

Feed per tooth fz (mm/tooth) in relation with D1 and cutting width ae				
	ø 10	**ø 12**	**ø 16**	**ø 20**
fz	0.03 – 0.09	0.03 – 0.10	0.04 – 0.12	0.05 – 0.13

Cutting data is based on short cylindrical extensions, cutting data for long overhang need to be adjusted.

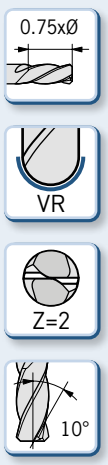
METRIC

V4002UK – DUO-ΛOCK® HAIMER MILL Alu Series
BALL NOSE

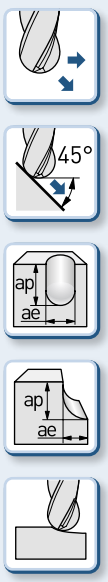
Technical data and Product characteristics



Characteristics

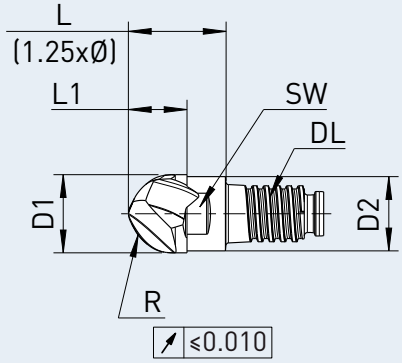


Application



Coolant





Fine balanced

Material – characteristics

Main Material

N

- Coating for abrasive materials
- Neck for higher cutting depth
- Center cutting
- Polished flute and relief
- Best length repeatability

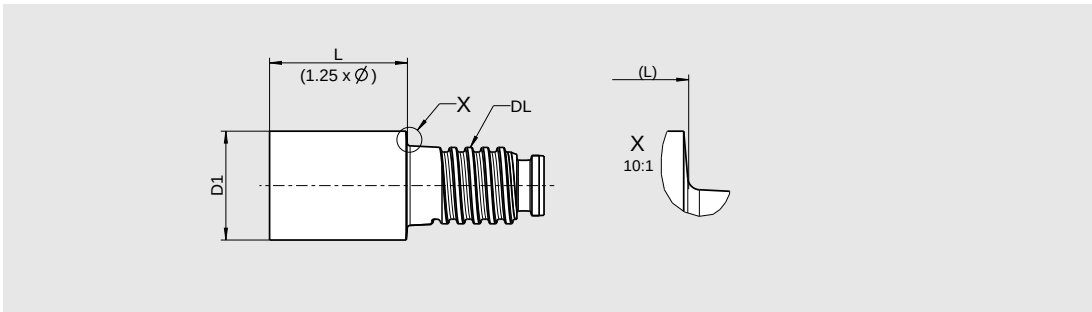
Article-Code	HAIMER Quality	Duo-Lock Size	D1 (h9) [mm]	Cutting edge	Size [mm]	L1 max. [mm]	L [mm]	D2 [mm]	AF [mm]	Torque [N/m]
DL10V4002UK1000R..	DC	DL10	10.00	R	5.00	7.5	12.5	9.6	SW8	20
DL12V4002UK1200R..	DC	DL12	12.00	R	6.00	9	15	11.5	SW9.5	30
DL16V4002UK1600R..	DC	DL16	16.00	R	8.00	12	20	15.5	SW13	60
DL20V4002UK2000R..	DC	DL20	20.00	R	10.00	15	25	19.3	SW16	80

Order No. = Article Code + HAIMER Quality.

DUO-LOCK® BLANK WITHOUT WRENCH FLATS

METRIC



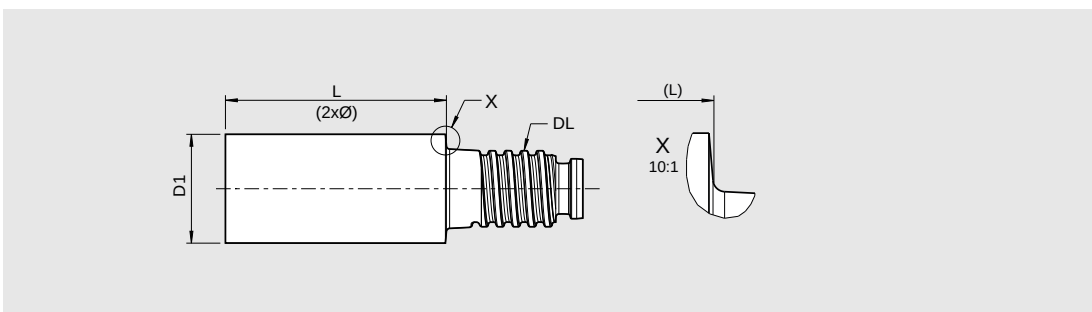


Version: short, without wrench flats
- Best length repeatability
- HF10: Fine grain carbide, 10% cobalt
- Measuring devices on request

Pay attention to wrench flats overview
Use only with Duo-Lock Torque Master
Keep minimum length to plain surface (See page 223)

Article-Code	D1 (h6) [mm]	L (+ 1) [mm]	Interface	Tightening torque [Nm]	AF [mm]	Material
RODL10-D10HA0125-0001	10	12.5	DL10	20	8	HF10
RODL12-D12HA0150-0001	12	15	DL12	30	9.5	HF10
RODL16-D16HA0200-0001	16	20	DL16	60	13	HF10
RODL20-D20HA0250-0001	20	25	DL20	80	16	HF10
RODL25-D25HA0313-0001	25	31.25	DL25	100	21	HF10
RODL32-D32HA0400-0001	32	40	DL32	130	28	HF10





Version: normal, without wrench flats
- Best length repeatability
- HF10: Fine grain carbide, 10% cobalt
- Measuring devices upon request

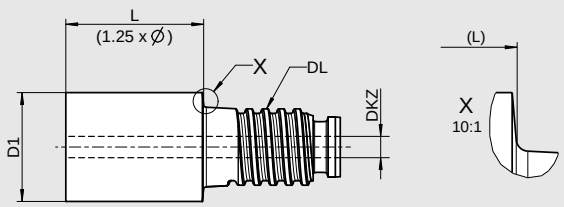
Pay attention to wrench flats overview
Use only with Duo-Lock Torque Master
Keep minimum length to plain surface (See page 223)

Article-Code	D1 (h6) [mm]	L (+ 1) [mm]	Interface	Tightening torque [Nm]	AF [mm]	Material
RODL10-D10HA0200-0001	10	20	DL10	20	8	HF10
RODL12-D12HA0240-0001	12	24	DL12	30	9.5	HF10
RODL16-D16HA0320-0001	16	32	DL16	60	13	HF10
RODL20-D20HA0400-0001	20	40	DL20	80	16	HF10
RODL25-D25HA0500-0001	25	50	DL25	100	21	HF10
RODL32-D32HA0640-0001	32	64	DL32	130	28	HF10

Further lengths available on request

METRIC

DUO-LOCK® BLANK
COOLING BORE CENTRAL – WITHOUT WRENCH FLATS



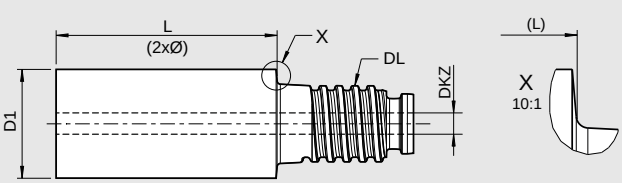


Version: short, without wrench flats
- Best length repeatability
- HF10: Fine grain carbide, 10% cobalt
- Measuring devices on request
- Central cooling

Pay attention to wrench flats overview
Use only with Duo-Lock Torque Master
Keep minimum length to plain surface (See page 223)

Article-Code	D1 (h6) [mm]	L (+ 1) [mm]	Interface	DKZ [mm]	Tightening torque [Nm]	AF [mm]	Material
RODL10-D10HA0125-0001KZ	10	12.5	DL10	2	20	8	HF10
RODL12-D12HA0150-0001KZ	12	15	DL12	2	30	9.5	HF10
RODL16-D16HA0200-0001KZ	16	20	DL16	2	60	13	HF10
RODL20-D20HA0250-0001KZ	20	25	DL20	3	80	16	HF10
RODL25-D25HA0313-0001KZ	25	31.25	DL25	4	100	21	HF10
RODL32-D32HA0400-0001KZ	32	40	DL32	5	130	28	HF10

Further lengths available on request - Radial cooling available on request





Version: normal, without wrench flats
- Best length repeatability
- HF10: Fine grain carbide, 10% cobalt
- Measuring devices upon request
- Central cooling

Pay attention to wrench flats overview
Use only with Duo-Lock Torque Master
Keep minimum length to plain surface (See page 223)

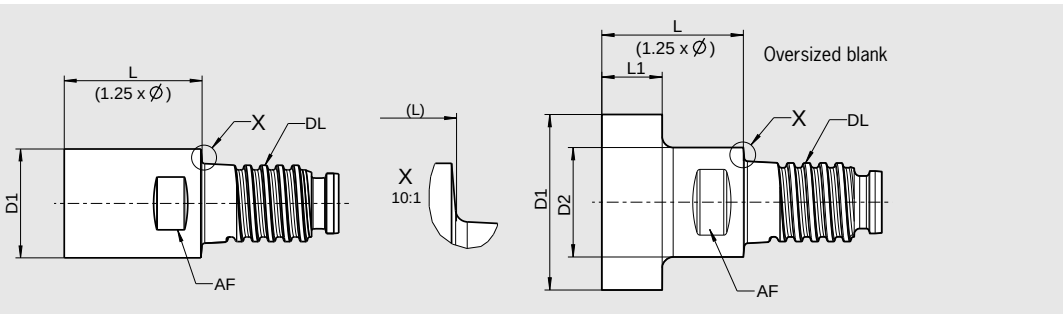
Article-Code	D1 (h6) [mm]	L (+ 1) [mm]	Interface	DKZ [mm]	Tightening torque [Nm]	AF [mm]	Material
RODL10-D10HA0200-0001KZ	10	20	DL10	2	20	8	HF10
RODL12-D12HA0240-0001KZ	12	24	DL12	2	30	9.5	HF10
RODL16-D16HA0320-0001KZ	16	32	DL16	2	60	13	HF10
RODL20-D20HA0400-0001KZ	20	40	DL20	3	80	16	HF10
RODL25-D25HA0500-0001KZ	25	50	DL25	4	100	21	HF10
RODL32-D32HA0640-0001KZ	32	64	DL32	5	130	28	HF10

Further lengths available on request - Radial cooling available on request

DUO-LOCK® BLANK
SHORT – WITH WRENCH FLATS

METRIC





Version: short, with wrench flats

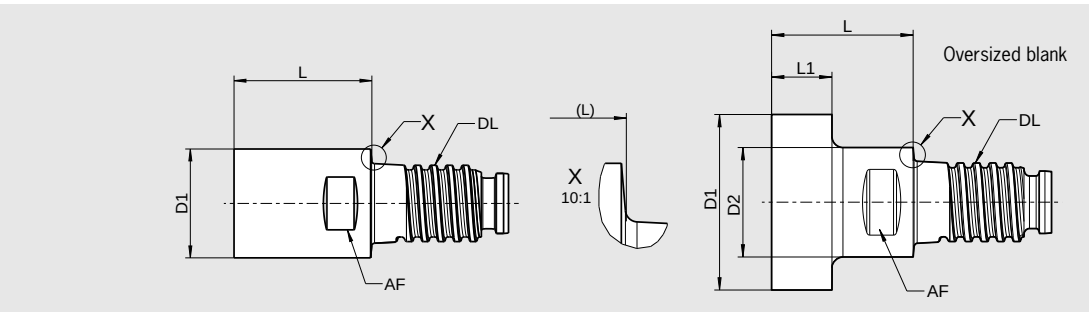
- Best length repeatability
- HF10: Fine grain carbide, 10% cobalt
- Measuring devices on request
- Central cooling available upon request

Article-Code	D1 (h6) [mm]	D2 (-0.1) [mm]	L (+ 1) [mm]	L1 (+ 1) [mm]	Interface	Tightening torque [Nm]	AF [mm]	Material
RODL10-D10HA0125-0002	10	–	12.5	–	DL10	20	8	HF10
RODL10-D12HA0125-0002	12	9.60	12.5	5.0	DL10	20	8	HF10
RODL10-D1270HA0125-0002	12.7	9.60	12.5	5	DL10	20	8	HF10
RODL10-D16HA0125-0002	16	9.60	12.5	5.0	DL10	20	8	HF10
RODL10-D20HA0125-0002	20	9.60	12.5	5.0	DL10	20	8	HF10
RODL12-D12HA0150-0002	12	–	15	–	DL12	30	9.5	HF10
RODL12-D1270HA0150-0002	12.7	–	15	–	DL12	30	9.5	HF10
RODL12-D16HA0150-0002	16	11.50	15	6.0	DL12	30	9.5	HF10
RODL12-D18HA0150-0002	18	11.50	15	6.0	DL12	30	9.5	HF10
RODL12-D20HA0150-0002	20	11.50	15	6.0	DL12	30	9.5	HF10
RODL12-D25HA0150-0002	25	11.50	15	6.0	DL12	30	9.5	HF10
RODL12-D2540HA0150-0002	25.4	11.50	15	6	DL12	30	9.5	HF10
RODL16-D16HA0200-0002	16	–	20	–	DL16	60	13	HF10
RODL16-D18HA0200-0002	18	15.50	20	8.0	DL16	60	13	HF10
RODL16-D20HA0200-0002	20	15.50	20	8.0	DL16	60	13	HF10
RODL16-D25HA0200-0002	25	15.50	20	8.0	DL16	60	13	HF10
RODL16-D2540HA0200-0002	25.4	15.50	20	8	DL16	60	13	HF10
RODL16-D32HA0200-0002	32	15.50	20	8.0	DL16	60	13	HF10
RODL20-D20HA0250-0002	20	–	25	–	DL20	80	16	HF10
RODL20-D25HA0250-0002	25	19.30	25	10.0	DL20	80	16	HF10
RODL20-D2540HA0250-0002	25.4	19.30	25	10	DL20	80	16	HF10
RODL20-D32HA0250-0002	32	19.30	25	10.0	DL20	80	16	HF10
RODL20-D36HA0250-0002	36	19.30	25	10.0	DL20	80	16	HF10
RODL20-D40HA0250-0002	40	19.30	25	10.0	DL20	80	16	HF10
RODL25-D25HA0313-0002	25	–	31.25	–	DL25	100	21	HF10
RODL25-D2540HA0313-0002	25.4	–	31.25	–	DL25	100	21	HF10
RODL32-D32HA0400-0002	32	–	40	–	DL32	130	28	HF10

Further lengths available on request

INCH

DUO-ΛOCK® BLANK
SHORT – WITH WRENCH FLATS





Version: short, with wrench flats

- Best length repeatability
- HF10: Fine grain carbide, 10% cobalt
- Measuring devices on request
- Central cooling available upon request

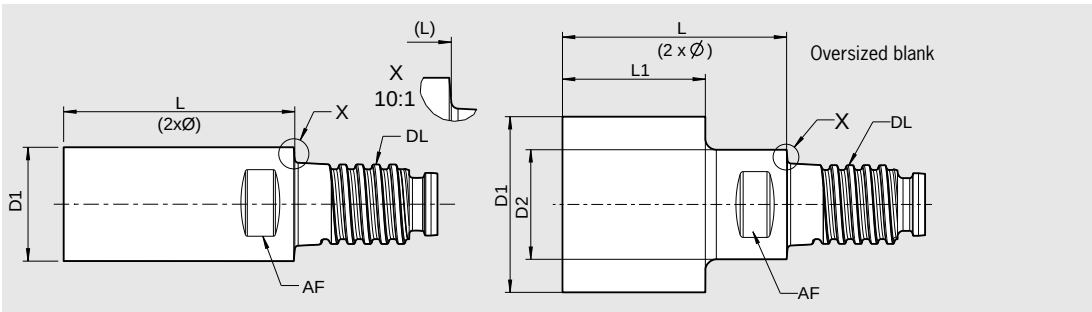
Article-Code	D1 (h6) [inch]	D2 (-0.004) [inch]	L (+ 0.04) [inch]	L1 (+ 0.04) [inch]	Interface	Tightening torque [Nm]	AF [inch]	Material
RODL10-D10HA0125-0002	0.394	–	0.492	–	DL10	20	0.315	HF10
RODL10-D12HA0125-0002	0.472	0.378	0.492	0.197	DL10	20	0.315	HF10
RODL10-D1270HA0125-0002	0.500	0.378	0.492	0.197	DL10	20	0.315	HF10
RODL10-D16HA0125-0002	0.630	0.378	0.492	0.197	DL10	20	0.315	HF10
RODL10-D20HA0125-0002	0.394	0.378	0.492	0.197	DL10	20	0.315	HF10
RODL12-D12HA0150-0002	0.472	–	0.590	–	DL12	30	0.374	HF10
RODL12-D1270HA0150-0002	0.500	–	0.590	–	DL12	30	0.374	HF10
RODL12-D16HA0150-0002	0.630	0.453	0.590	0.236	DL12	30	0.374	HF10
RODL12-D18HA0150-0002	0.709	0.453	0.590	0.236	DL12	30	0.374	HF10
RODL12-D20HA0150-0002	0.787	0.453	0.590	0.236	DL12	30	0.374	HF10
RODL12-D25HA0150-0002	0.984	0.453	0.590	0.236	DL12	30	0.374	HF10
RODL12-D2540HA0150-0002	1.000	0.453	0.590	0.236	DL12	30	0.374	HF10
RODL16-D16HA0200-0002	0.630	–	0.787	–	DL16	60	0.512	HF10
RODL16-D18HA0200-0002	0.709	0.610	0.787	0.315	DL16	60	0.512	HF10
RODL16-D20HA0200-0002	0.787	0.610	0.787	0.315	DL16	60	0.512	HF10
RODL16-D25HA0200-0002	0.984	0.610	0.787	0.315	DL16	60	0.512	HF10
RODL16-D2540HA0200-0002	1.000	0.610	0.787	0.315	DL16	60	0.512	HF10
RODL16-D32HA0200-0002	1.260	0.610	0.787	0.315	DL16	60	0.512	HF10
RODL20-D20HA0250-0002	0.787	–	0.984	–	DL20	80	0.630	HF10
RODL20-D25HA0250-0002	0.984	0.760	0.984	0.394	DL20	80	0.630	HF10
RODL20-D2540HA0250-0002	1.000	0.760	0.984	0.394	DL20	80	0.630	HF10
RODL20-D32HA0250-0002	1.260	0.760	0.984	0.394	DL20	80	0.630	HF10
RODL20-D36HA0250-0002	1.417	0.760	0.984	0.394	DL20	80	0.630	HF10
RODL20-D40HA0250-0002	1.575	0.760	0.984	0.394	DL20	80	0.630	HF10
RODL25-D25HA0313-0002	0.984	–	1.230	–	DL25	100	0.827	HF10
RODL25-D2540HA0313-0002	1.000	–	1.230	–	DL25	100	0.827	HF10
RODL32-D32HA0400-0002	1.260	–	1.575	–	DL32	130	1.102	HF10

Further lengths available on request

DUO-LOCK® BLANK
NORMAL – WITH WRENCH FLATS

METRIC





Version: normal, with wrench flats

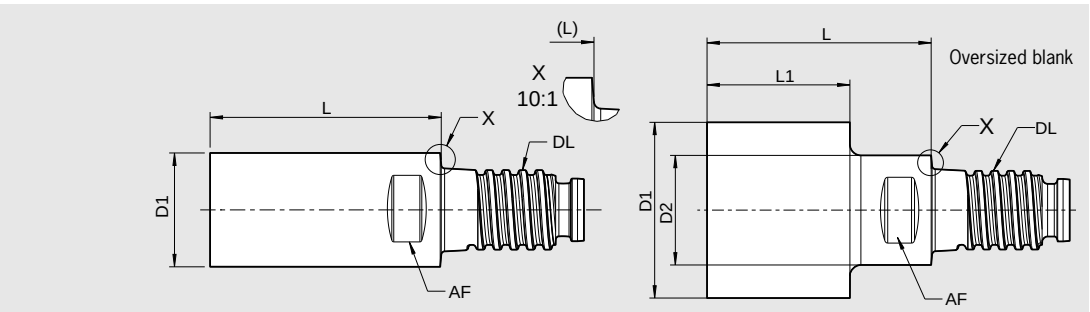
- Best length repeatability
- HF10: Fine grain carbide, 10% cobalt
- Measuring devices on request
- Central cooling available upon request

Article-Code	D1 (h6) [mm]	D2 (-0.1) [mm]	L (+ 1) [mm]	L1 (+ 1) [mm]	Interface	Tightening torque [Nm]	AF [mm]	Material
RODL10-D06HA0200-0002	6	9.60	20	16.0	DL10	20	8	HF10
RODL10-D0635HA0200-0002	6.4	9.60	20	16.0	DL10	20	8	HF10
RODL10-D08HA0200-0002	8	9.60	20	16.0	DL10	20	8	HF10
RODL10-D10HA0200-0002	10	–	20	–	DL10	20	8	HF10
RODL10-D12HA0200-0002	12	9.60	20	12.5	DL10	20	8	HF10
RODL10-D1270HA0200-0002	12.7	9.60	20	12.5	DL10	20	8	HF10
RODL10-D16HA0200-0002	16	9.60	20	12.5	DL10	20	8	HF10
RODL10-D20HA0200-0002	20	9.60	20	12.5	DL10	20	8	HF10
RODL12-D12HA0240-0002	12	–	24	–	DL12	30	9.5	HF10
RODL12-D1270HA0240-0002	12.7	–	24	–	DL12	30	9.5	HF10
RODL12-D16HA0240-0002	16	11.50	24	15.0	DL12	30	9.5	HF10
RODL12-D18HA0240-0002	18	11.50	24	15.0	DL12	30	9.5	HF10
RODL12-D20HA0240-0002	20	11.50	24	15.0	DL12	30	9.5	HF10
RODL12-D25HA0240-0002	25	11.50	24	15.0	DL12	30	9.5	HF10
RODL12-D2540HA0240-0002	25.4	11.50	24	15.0	DL12	30	9	HF10
RODL16-D16HA0320-0002	16	–	32	–	DL16	60	13	HF10
RODL16-D18HA0320-0002	18	15.50	32	20.0	DL16	60	13	HF10
RODL16-D20HA0320-0002	20	15.50	32	20.0	DL16	60	13	HF10
RODL16-D25HA0320-0002	25	15.50	32	20.0	DL16	60	13	HF10
RODL16-D2540HA0320-0002	25.4	15.50	32	20.0	DL16	60	13	HF10
RODL16-D32HA0320-0002	32	15.50	32	20.0	DL16	60	13	HF10
RODL20-D20HA0400-0002	20	–	40	–	DL20	80	16	HF10
RODL20-D25HA0400-0002	25	19.30	40	25.0	DL20	80	16	HF10
RODL20-D2540HA0400-0002	25.4	19.30	40	25.0	DL20	80	16	HF10
RODL20-D32HA0400-0002	32	19.30	40	25.0	DL20	80	16	HF10
RODL20-D36HA0400-0002	36	19.30	40	25.0	DL20	80	16	HF10
RODL20-D40HA0400-0002	40	19.30	40	25.0	DL20	80	16	HF10
RODL25-D25HA0500-0002	25	–	50	–	DL25	100	21	HF10
RODL25-D2540HA0500-0002	25.4	–	50	–	DL25	100	21	HF10
RODL32-D32HA0640-0002	32	–	64	–	DL32	130	28	HF10

Further lengths available on request

INCH

DUO-LOCK® BLANK
NORMAL – WITH WRENCH FLATS





Version: normal, with wrench flats

- Best length repeatability
- HF10: Fine grain carbide, 10% cobalt
- Measuring devices on request
- Central cooling available upon request

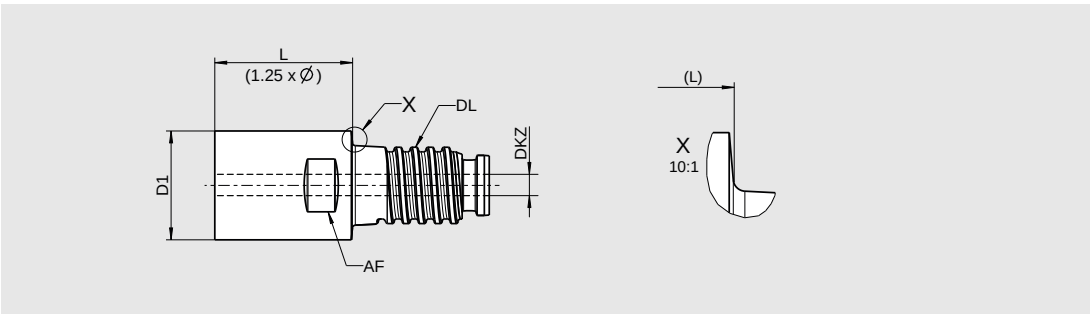
Article-Code	D1 (h6) [inch]	D2 (-0.004) [inch]	L (+ 0.04) [inch]	L1 (+ 0.04) [inch]	Interface	Tightening torque [Nm]	AF [inch]	Material
RODL10-D06HA0200-0002	0.236	0.378	0.787	0.630	DL10	20	0.315	HF10
RODL10-D0635HA0200-0002	0.250	0.378	0.787	0.630	DL10	20	0.315	HF10
RODL10-D08HA0200-0002	0.315	0.378	0.787	0.630	DL10	20	0.315	HF10
RODL10-D10HA0200-0002	0.394	–	0.787	–	DL10	20	0.315	HF10
RODL10-D12HA0200-0002	0.472	0.378	0.787	0.492	DL10	20	0.315	HF10
RODL10-D1270HA0200-0002	0.500	0.378	0.787	0.492	DL10	20	0.315	HF10
RODL10-D16HA0200-0002	0.630	0.378	0.787	0.492	DL10	20	0.315	HF10
RODL10-D20HA0200-0002	0.787	0.378	0.787	0.492	DL10	20	0.315	HF10
RODL12-D12HA0240-0002	0.472	–	0.945	–	DL12	30	0.374	HF10
RODL12-D1270HA0240-0002	0.500	–	0.945	–	DL12	30	0.374	HF10
RODL12-D16HA0240-0002	0.630	0.453	0.945	0.591	DL12	30	0.374	HF10
RODL12-D18HA0240-0002	0.709	0.453	0.945	0.591	DL12	30	0.374	HF10
RODL12-D20HA0240-0002	0.787	0.453	0.945	0.591	DL12	30	0.374	HF10
RODL12-D25HA0240-0002	0.984	0.453	0.945	0.591	DL12	30	0.374	HF10
RODL12-D2540HA0240-0002	1.000	0.453	0.945	0.591	DL12	30	0.374	HF10
RODL16-D16HA0320-0002	0.630	–	1.260	–	DL16	60	0.512	HF10
RODL16-D18HA0320-0002	0.709	0.610	1.260	0.787	DL16	60	0.512	HF10
RODL16-D20HA0320-0002	0.787	0.610	1.260	0.787	DL16	60	0.512	HF10
RODL16-D25HA0320-0002	0.984	0.610	1.260	0.787	DL16	60	0.512	HF10
RODL16-D2540HA0320-0002	1.000	0.610	1.260	0.787	DL16	60	0.512	HF10
RODL16-D32HA0320-0002	1.260	0.610	1.260	0.787	DL16	60	0.512	HF10
RODL20-D20HA0400-0002	0.787	–	1.575	–	DL20	80	0.630	HF10
RODL20-D25HA0400-0002	0.984	0.760	1.575	0.984	DL20	80	0.630	HF10
RODL20-D2540HA0400-0002	1.000	0.760	1.575	0.984	DL20	80	0.630	HF10
RODL20-D32HA0400-0002	1.260	0.760	1.575	0.984	DL20	80	0.630	HF10
RODL20-D36HA0400-0002	1.417	0.760	1.575	0.984	DL20	80	0.630	HF10
RODL20-D40HA0400-0002	1.575	0.760	1.575	0.984	DL20	80	0.630	HF10
RODL25-D25HA0500-0002	0.984	–	1.969	–	DL25	100	0.827	HF10
RODL25-D2540HA0500-0002	1.000	–	1.969	–	DL25	100	0.827	HF10
RODL32-D32HA0640-0002	1.260	–	2.520	–	DL32	130	1.102	HF10

Further lengths available on request

DUO-LOCK® BLANK
COOLING BORE CENTRAL – WITH WRENCH FLATS

METRIC





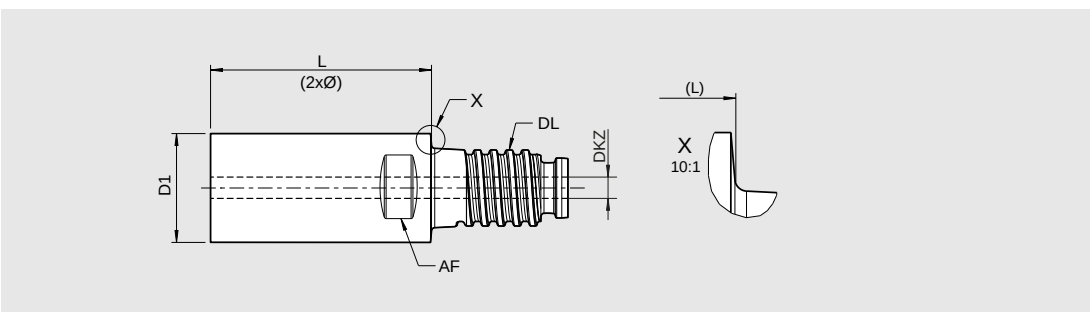
Version: short, with wrench flats

- Best length repeatability
- HF10: Fine grain carbide, 10% cobalt
- Measuring devices on request
- Central cooling

Article-Code	D1 (h6) [mm]	L (+ 1) [mm]	Interface	DKZ [mm]	Tightening torque [Nm]	AF [mm]	Material
RODL10-D10HA0125-0002KZ	10	12.5	DL10	2	20	8	HF10
RODL12-D12HA0150-0002KZ	12	15	DL12	2	30	9.5	HF10
RODL16-D16HA0200-0002KZ	16	20	DL16	2	60	13	HF10
RODL20-D20HA0250-0002KZ	20	25	DL20	3	80	16	HF10
RODL25-D25HA0313-0002KZ	25	31.25	DL25	4	100	21	HF10
RODL32-D32HA0400-0002KZ	32	40	DL32	5	130	28	HF10

Further lengths available on request - Radial cooling available on request





Version: normal, with wrench flats

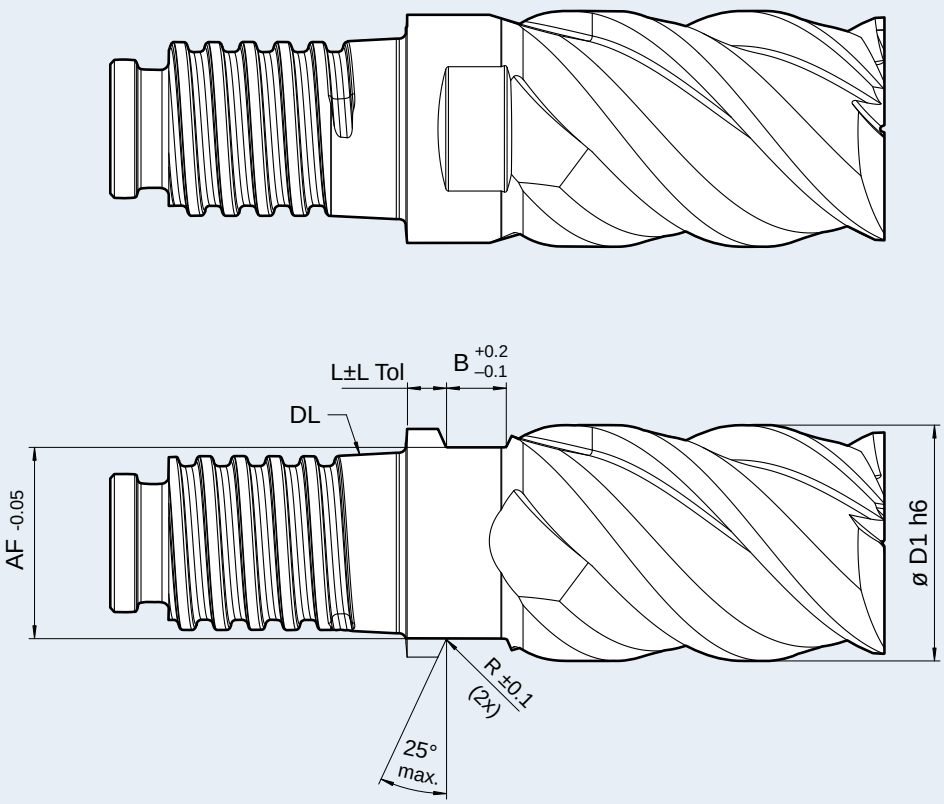
- Best length repeatability
- HF10: Fine grain carbide, 10% cobalt
- Measuring devices on request
- Central cooling

Article-Code	D1 (h6) [mm]	L (+ 1) [mm]	Interface	DKZ [mm]	Tightening torque [Nm]	AF [mm]	Material
RODL10-D10HA0200-0002KZ	10	20	DL10	2	20	8	HF10
RODL12-D12HA0240-0002KZ	12	24	DL12	2	30	9.5	HF10
RODL16-D16HA0320-0002KZ	16	32	DL16	2	60	13	HF10
RODL20-D20HA0400-0002KZ	20	40	DL20	3	80	16	HF10
RODL25-D25HA0500-0002KZ	25	50	DL25	4	100	21	HF10
RODL32-D32HA0640-0002KZ	32	64	DL32	5	130	28	HF10

Further lengths available on request - Radial cooling available on request

METRIC INCH

DUO-LOCK® BLANK
WRENCH FLATS SPECIFICATIONS



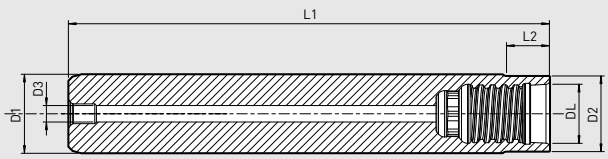
Interface	AF [mm]	L [mm]	L Tol. ± [mm]	B [mm]	ø D1 [mm]	R [mm]
DL10	8	1.7	± 0.15	2.5	10	0.3
DL12	9.5	2	± 0.15	3	12	0.3
DL16	13	2.5	± 0.2	4	16	0.3
DL20	16	3.1	± 0.2	4.8	20	0.3
DL25	21	3.5	± 0.2	7	25	0.6
DL32	28	4	± 0.2	9	32	0.6

Interface	AF [inch]	L [inch]	L Tol. ± [inch]	B [inch]	ø D1 [inch]	R [inch]
DL10	0.315	0.067	± 0.006	0.098	3/8	0.012
DL12	0.374	0.079	± 0.006	0.118	1/2	0.012
DL16	0.512	0.098	± 0.008	0.157	5/8	0.012
DL20	0.630	0.122	± 0.008	0.189	3/4	0.012
DL25	0.827	0.138	± 0.008	0.276	1	0.024
DL32	1.102	0.157	± 0.008	0.354	1 1/4	0.024

DUO-LOCK® EXTENSIONS
CYLINDRICAL – SHORT – STEEL

METRIC INCH





Version: cylindrical, short
– Shank tolerance: h6
– With inner coolant bore
– Optional with Safe-Lock

– Also available:

Extensions with coating – for perfect shrinking in and out even at high forces during machining

Duo-Lock extensions cylindrical: short

Interface DL	Order No.	Order No. with Coating	Clamping Ø D1 [mm]	Length L1 [mm]	Neck Ø D2 [mm]	Neck length L2 [mm]	Internal bore Ø D3 [mm]
DL12	75.120.DL12	75.120.DL12.1	12	60	11.5	6	2.5
DL16	75.160.DL16	75.160.DL16.1	16	65	15.5	8	3
DL20	75.200.DL20	75.200.DL20.1	20	70	19.3	10	3
DL25	75.250.DL25	75.250.DL25.1	25	80	24	12.5	5
DL32	75.320.DL32	75.320.DL32.1	32	90	31	16	5

Duo-Lock extensions cylindrical: short with Safe-Lock

Interface DL	Order No.	Order No. with Coating	Clamping Ø D1 [mm]	Length L1 [mm]	Neck Ø D2 [mm]	Neck length L2 [mm]	Internal bore Ø D3 [mm]
DL10	75.100.DL10	75.100.DL10.1	10	55	9.6	5	2.5
DL12	75.121.DL12	75.121.DL12.1	12	65	11.5	6	2.5
DL16	75.161.DL16	75.161.DL16.1	16	70	15.5	8	3
DL20	75.201.DL20	75.201.DL20.1	20	80	19.3	10	3
DL25	75.251.DL25	75.251.DL25.1	25	90	24	12.5	5
DL32	75.321.DL32	75.321.DL32.1	32	105	31	16	5

Duo-Lock extensions cylindrical: short

Interface DL	Order No.	Order No. with Coating	Clamping Ø D1 [inch]	Length L1 [inch]	Neck length L2 [inch]	Neck Ø D2 [inch]	Internal bore Ø D3 [inch]
DL16	75.5/8z0.DL16	75.5/8z0.DL16.1	5/8	2.5	0.3125	0.6053	0.1181
DL20	75.3/4z0.DL20	75.3/4z0.DL20.1	3/4	3	0.375	0.7303	0.1181
DL25	75.1z0.DL25	75.1z0.DL25.1	1	3	0.5	0.9606	0.1969
DL32	75.11/4z0.DL32	75.11/4z0.DL32.1	11/4	3.5	0.625	1.2106	0.1969

Duo-Lock extensions cylindrical: short with Safe-Lock

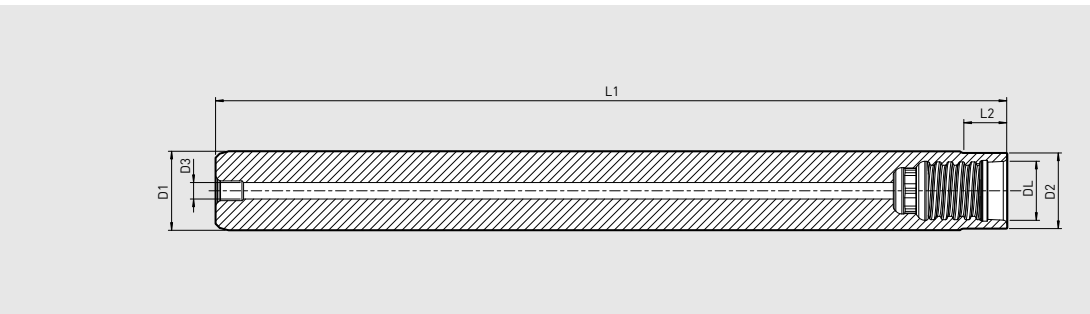
Interface DL	Order No.	Order No. with Coating	Clamping Ø D1 [inch]	Length L1 [inch]	Neck length L2 [inch]	Neck Ø D2 [inch]	Internal bore Ø D3 [inch]
DL10	75.3/8z0.DL10	75.3/8z0.DL10.1	3/8	2.25	0.1875	0.3593	0.0984
DL12	75.1/2z0.DL12	75.1/2z0.DL12.1	1/2	2.5	0.25	0.4803	0.0984
DL16	75.5/8z1.DL16	75.5/8z1.DL16.1	5/8	2.75	0.3125	0.6053	0.1181
DL20	75.3/4z1.DL20	75.3/4z1.DL20.1	3/4	3	0.375	0.7303	0.1181
DL25	75.1z1.DL25	75.1z1.DL25.1	1	3.5	0.5	0.9606	0.1969
DL32	75.11/4z1.DL32	75.11/4z1.DL32.1	11/4	4	0.625	1.2106	0.1969

Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	20	30	60	80	100	130

Attention: For a long lifetime of the system, the compliance with the torque is required.

METRIC INCH

DUO-LOCK® EXTENSIONS
CYLINDRICAL – LONG – STEEL





Version: cylindrical, long
– Shank tolerance: h6
– With inner coolant bore
– Vibration dampening on request
– Safe-Lock for an extra charge
– Cutting to length possible for an extra charge

– Also available:

Extensions with coating – for perfect shrinking in and out even at high forces during machining

Duo-Lock extensions cylindrical: long

Interface DL	Order No.	Order No. with Coating	Clamping Ø D1 [mm]	Length L1 [mm]	Neck Ø D2 [mm]	Neck length L2 [mm]	Internal bore Ø D3 [mm]
DL10	**75.102.DL10**	**75.102.DL10.1**	10	100	9.6	5	2.5
DL12	**75.122.DL12**	**75.122.DL12.1**	12	120	11.5	6	2.5
DL16	**75.162.DL16**	**75.162.DL16.1**	16	160	15.5	8	3
DL20	**75.202.DL20**	**75.202.DL20.1**	20	200	19.3	10	3
DL25	**75.252.DL25**	**75.252.DL25.1**	25	250	24	12.5	5
DL32	**75.322.DL32**	**75.322.DL32.1**	32	250	31	16	5

Duo-Lock extensions cylindrical: long

Interface DL	Order No.	Order No. with Coating	Clamping ø D1 [inch]	Length L1 [inch]	Neck length L2 [inch]	Neck ø D2 [inch]	Internal bore ø D3 [inch]
DL10	**75.3/8z2.DL10**	**75.3/8z2.DL10.1**	3/8	3.75	0.1875	0.3593	0.0984
DL12	**75.1/2z2.DL12**	**75.1/2z2.DL12.1**	1/2	5	0.25	0.4803	0.0984
DL16	**75.5/8z2.DL16**	**75.5/8z2.DL16.1**	5/8	6.25	0.3125	0.6053	0.1181
DL20	**75.3/4z2.DL20**	**75.3/4z2.DL20.1**	3/4	7.5	0.375	0.7303	0.1181
DL25	**75.1z2.DL25**	**75.1z2.DL25.1**	1	10	0.5	0.9606	0.1969
DL32	**75.11/4z2.DL32**	**75.11/4z2.DL32.1**	11/4	10	0.625	1.2106	0.1969

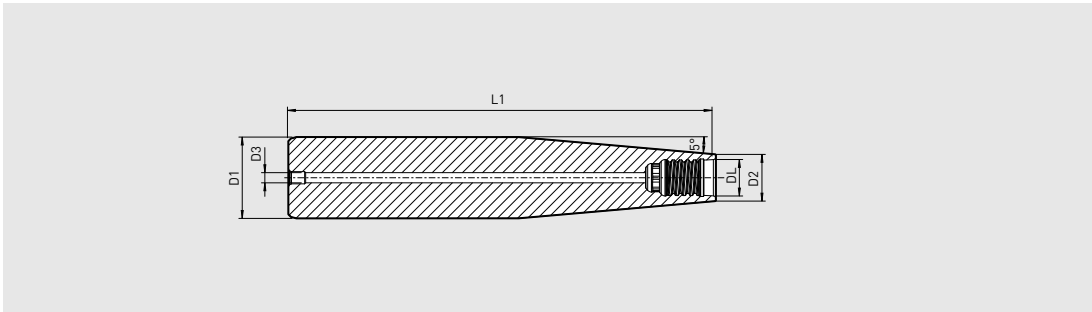
Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	**20**	**30**	**60**	**80**	**100**	**130**

Attention: For a long lifetime of the system, the compliance with the torque is required.

DUO-LOCK® EXTENSIONS CONICAL – SHORT – STEEL

METRIC INCH





Version: conical, short
– Shank tolerance: h6
– With inner coolant bore
– With Safe-Lock as standard

Also available:
Extensions with coating – for perfect shrinking in and out even at high forces during machining

Duo-Lock extensions conical: short with Safe-Lock

Interface DL	Order No.	Order No. with Coating	Clamping ⌀ D1 [mm]	Length L1 [mm]	Outer ⌀ D2 [mm]	Internal bore ⌀ D3 [mm]
DL10	**75.120.DL10**	**75.120.DL10.1**	12	65	9.6	2.5
DL10	**75.160.DL10**	**75.160.DL10.1**	16	90	9.6	2.5
DL10	**75.200.DL10**	**75.200.DL10.1**	20	115	9.6	2.5
DL12	**75.160.DL12**	**75.160.DL12.1**	16	80	11.5	2.5
DL12	**75.200.DL12**	**75.200.DL12.1**	20	105	11.5	2.5
DL16	**75.200.DL16**	**75.200.DL16.1**	20	80	15.5	3
DL16	**75.250.DL16**	**75.250.DL16.1**	25	115	15.5	3
DL20	**75.250.DL20**	**75.250.DL20.1**	25	95	19.3	3
DL25	**75.320.DL25**	**75.320.DL25.1**	32	105	24	5
DL32	**75.400.DL32**	**75.400.DL32.1**	40	140	31	5
DL32	**75.500.DL32**	**75.500.DL32.1**	50	200	31	5

Duo-Lock extensions conical: short with Safe-Lock

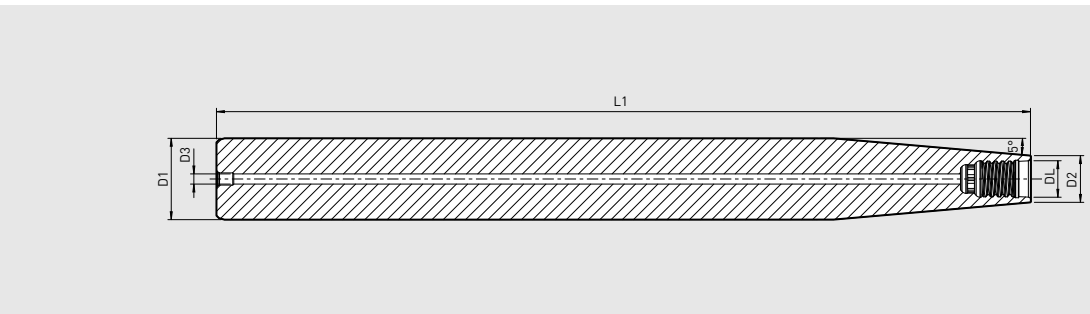
Interface DL	Order No.	Order No. with Coating	Clamping ⌀ D1 [inch]	Length L1 [inch]	Outer ⌀ D2 [inch]	Internal bore ⌀ D3 [inch]
DL10	**75.1/2z0.DL10**	**75.1/2z0.DL10.1**	1/2	2.5	0.3593	0.0984
DL10	**75.5/8z0.DL10**	**75.5/8z0.DL10.1**	5/8	3.5	0.3593	0.0984
DL10	**75.3/4z0.DL10**	**75.3/4z0.DL10.1**	3/4	4.5	0.3593	0.0984
DL12	**75.5/8z0.DL12**	**75.5/8z0.DL12.1**	5/8	3.25	0.4803	0.0984
DL12	**75.3/4z0.DL12**	**75.3/4z0.DL12.1**	3/4	4.25	0.4803	0.0984
DL16	**75.3/4z0.DL16**	**75.3/4z0.DL16.1**	3/4	3.25	0.6053	0.1181
DL16	**75.1z0.DL16**	**75.1z0.DL16.1**	1	4.5	0.6053	0.1181
DL20	**75.1z0.DL20**	**75.1z0.DL20.1**	1	3.75	0.7303	0.1181
DL25	**75.11/4z0.DL25**	**75.11/4z0.DL25.1**	11/4	4.25	0.9606	0.1969
DL32	**75.11/2z0.DL32**	**75.11/2z0.DL32.1**	11/2	5.5	1.2106	0.1969
DL32	**75.2z0.DL32**	**75.2z0.DL32.1**	2	7.5	1.2106	0.1969

Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	**20**	**30**	**60**	**80**	**100**	**130**

Attention: For a long lifetime of the system, the compliance with the torque is required.

METRIC INCH

DUO-LOCK® EXTENSIONS
CONICAL – LONG – STEEL





Version: conical, long
– Shank tolerance: h6
– With inner coolant bore
– Vibration dampening on request
– Safe-Lock for an extra charge
– Cutting to length possible for an extra charge

Also available:
Extensions with coating – for perfect shrinking in and out even at high forces during machining

Duo-Lock extensions conical: long

Interface DL	Order No.	Order No. with Coating	Clamping ø D1 [mm]	Length L1 [mm]	Outer ø D2 [mm]	Internal bore ø D3 [mm]
DL10	**75.122.DL10**	**75.122.DL10.1**	12	120	9.6	2.5
DL10	**75.162.DL10**	**75.162.DL10.1**	16	160	9.6	2.5
DL10	**75.202.DL10**	**75.202.DL10.1**	20	200	9.6	2.5
DL12	**75.162.DL12**	**75.162.DL12.1**	16	160	11.5	2.5
DL12	**75.202.DL12**	**75.202.DL12.1**	20	200	11.5	2.5
DL16	**75.202.DL16**	**75.202.DL16.1**	20	200	15.5	3
DL16	**75.252.DL16**	**75.252.DL16.1**	25	250	15.5	3
DL20	**75.252.DL20**	**75.252.DL20.1**	25	250	19.3	3
DL25	**75.322.DL25**	**75.322.DL25.1**	32	250	24	5
DL32	**75.402.DL32**	**75.402.DL32.1**	40	250	31	5
DL32	**75.502.DL32**	**75.502.DL32.1**	50	250	31	5

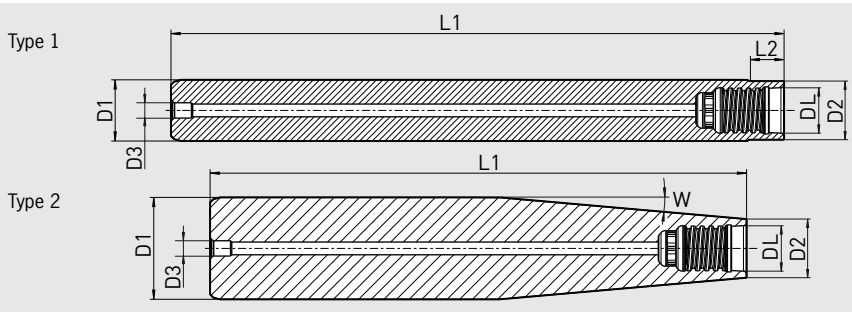
Duo-Lock extensions conical: long

Interface DL	Order No.	Order No. with Coating	Clamping ø D1 [inch]	Length L1 [inch]	Outer ø D2 [inch]	Internal bore ø D3 [inch]
DL10	**75.1/2z2.DL10**	**75.1/2z2.DL10.1**	1/2	5	0.3593	0.0984
DL10	**75.5/8z2.DL10**	**75.5/8z2.DL10.1**	5/8	6.25	0.3593	0.0984
DL10	**75.3/4z2.DL10**	**75.3/4z2.DL10.1**	3/4	7.5	0.3593	0.0984
DL12	**75.5/8z2.DL12**	**75.5/8z2.DL12.1**	5/8	6.25	0.4803	0.0984
DL12	**75.3/4z2.DL12**	**75.3/4z2.DL12.1**	3/4	7.5	0.4803	0.0984
DL16	**75.3/4z2.DL16**	**75.3/4z2.DL16.1**	3/4	7.5	0.6053	0.1181
DL16	**75.1z2.DL16**	**75.1z2.DL16.1**	1	10	0.6053	0.1181
DL20	**75.1z2.DL20**	**75.1z2.DL20.1**	1	10	0.7303	0.1181
DL25	**75.11/4z2.DL25**	**75.11/4z2.DL25.1**	11/4	10	0.9606	0.1969
DL32	**75.11/2z2.DL32**	**75.11/2z2.DL32.1**	11/2	10	1.2106	0.1969
DL32	**75.2z2.DL32**	**75.2z2.DL32.1**	2	10	1.2106	0.1969

Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	**20**	**30**	**60**	**80**	**100**	**130**

Attention: For a long lifetime of the system, the compliance with the torque is required.





Version: Heavy metal

– L1, L2 and W angle customizable
– Shank tolerance: h6
– With inner coolant bore
– Optional with Safe-Lock

Duo-Lock extensions: Heavy metal

Interface DL	Order No.	Clamping Ø D1 [mm]	Length max. L1 [mm]	Internal bore D3 [mm]
DL10	**75.109.DL10.4.XXX.XXX**	10	150	2.5
DL10 - DL12	**75.129.DLXX.4.XXX.XXX**	12	180	2.5
DL10 - DL16	**75.169.DLXX.4.XXX.XXX**	16	240	3
DL10 - DL20	**75.209.DLXX.4.XXX.XXX**	20	260	3
DL10 - DL25	**75.259.DLXX.4.XXX.XXX**	25	260	3
DL10 - DL32	**75.329.DLXX.4.XXX.XXX**	32	260	5
DL10 - DL32	**75.409.DLXX.4.XXX.XXX**	40	260	5
DL10 - DL32	**75.509.DLXX.4.XXX.XXX**	50	260	5

Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	**15**	**25**	**40**	**60**	**90**	**130**

Attention: For a long lifetime of the system, the compliance with the torque is required. The torque specification is given on the extension.

Interface DL	Fix Ø D2 [mm]	Standard L2 [mm]
DL10	9.6	5
DL12	11.5	6
DL16	15.5	8
DL20	19.3	10
DL25	24	12.5
DL32	31	16

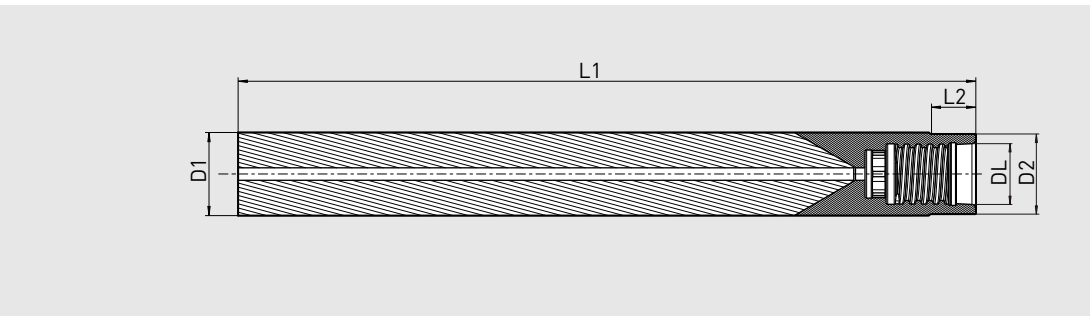
Legend Order No.:

75.XX9.DLXX.4.XXX.XXX

- Lenth L2 at type 1
- Total lenth L1
- Type heavy metal
- Duo-Lock size
- Diameter shank
- Duo-Lock group

METRIC INCH

DUO-LOCK® EXTENSIONS CARBIDE





Version: Carbide
– L1 and L2 customizable
– Shank tolerance: h6
– With inner coolant bore
– Optional with Safe-Lock

Duo-Lock extensions cylindrical: long

Interface DL	Order No.	Clamping Ø D1 [mm]	Length max. L1 [mm]	Fix Ø D2 [mm]	Standard L2 [mm]
DL10	**75.109.DL10.5.XXX.XXX**	10	150	9.6	5
DL12	**75.129.DL12.5.XXX.XXX**	12	180	11.5	6
DL16	**75.169.DL16.5.XXX.XXX**	16	240	15.5	8
DL20	**75.209.DL20.5.XXX.XXX**	20	260	19.3	10
DL25	**75.259.DL25.5.XXX.XXX**	25	260	24	12.5
DL32	**75.329.DL32.5.XXX.XXX**	32	260	31	16

Duo-Lock extensions cylindrical: long

Interface DL	Order No.	Clamping ø D1 [inch]	Length max. L1 [inch]	Fix ø D2 [inch]	Standard L2 [inch]
DL10	**75.3/8z9.DL10.5.XXX.XXX**	3/8	5.9055	0.3593	0.1875
DL12	**75.1/2z9.DL12.5.XXX.XXX**	1/2	7.0866	0.4803	0.25
DL16	**75.5/8z9.DL16.5.XXX.XXX**	5/8	9.4488	0.6053	0.3125
DL20	**75.3/4z9.DL20.5.XXX.XXX**	3/4	10.2362	0.7303	0.375
DL25	**75.1z9.DL25.5.XXX.XXX**	1	10.2362	0.9606	0.5
DL32	**75.11/4z9.DL32.5.XXX.XXX**	11/4	10.2362	1.2106	0.625

Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	**20**	**30**	**60**	**80**	**100**	**130**

Attention: For a long lifetime of the system, the compliance with the torque is required.

For more Duo-Lock information, please see pages "Torque Master" 247 - 249

Legend Order No.:

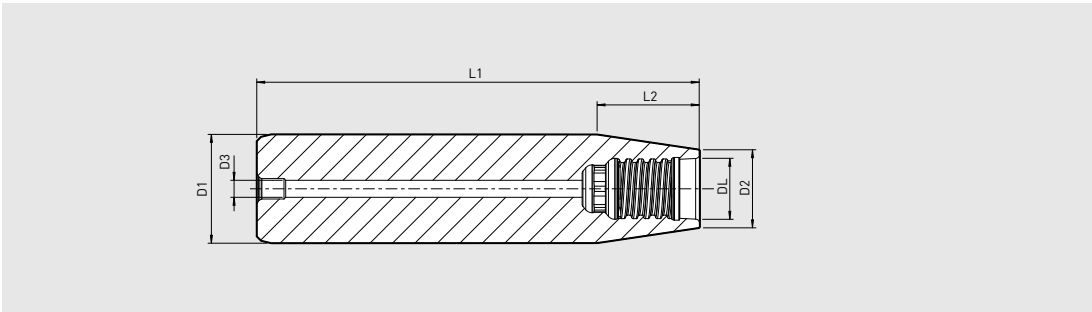
75.XXz.DLXX.5.XXX.XXX

- Lenth L2
- Total lenth L1
- Type carbide metal
- Duo-Lock size
- Diameter shank inch
- Duo-Lock group

DUO-LOCK® EXTENSIONS HEAVY DUTY – STEEL

METRIC INCH





Version: Heavy Duty
– Shank tolerance: h6
– With inner coolant bore
– With Safe-Lock as standard

Also available:
Extension with coating – for perfect shrinking in and out even at high forces during machining

Duo-Lock extensions Heavy Duty with Safe-Lock

Interface DL	Order No.	Clamping Ø D1 [mm]	Length L1 [mm]	Length L2 [mm]	Outer Ø D2 [mm]	Internal bore Ø D3 [mm]
DL10	**75.160.DL10.9**	16	62.5	12.5	9.6	2.5
DL12	**75.160.DL12.9**	16	65	15	11.5	2.5
DL16	**75.200.DL16.9**	20	72	20	15.5	3
DL20	**75.250.DL20.9**	25	82	24	19.3	3

Duo-Lock extensions Heavy Duty with Safe-Lock

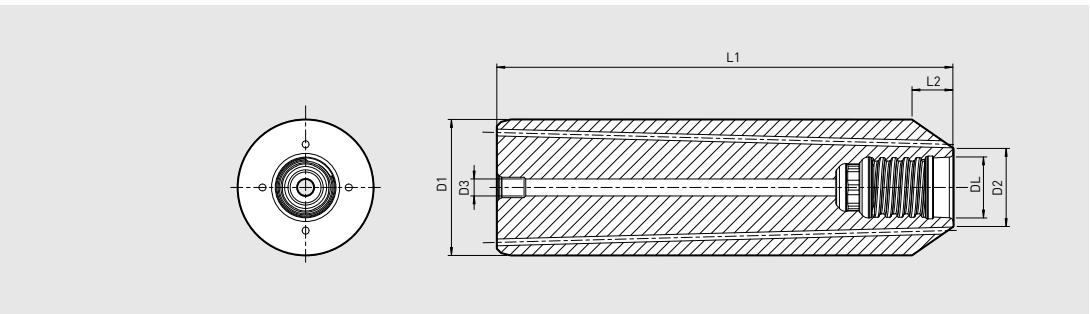
Interface DL	Order No.	Clamping Ø D1 [inch]	Length L1 [inch]	Neck length L2 [inch]	Outer Ø D2 [inch]	Internal bore Ø D3
DL10	**75.5/8z0.DL10.9**	5/8	2.4606	0.4921	0.3593	0.0984
DL12	**75.5/8z0.DL12.9**	5/8	2.5591	0.5906	0.4803	0.0984
DL16	**75.3/4z0.DL16.9**	3/4	2.8346	0.7874	0.6053	0.1181
DL20	**75.1z0.DL20.9**	1	3.2283	0.9449	0.7303	0.1181

Torque of Duo-Lock interface				
	DL10	DL12	DL16	DL20
Nm	**20**	**30**	**60**	**80**

Attention: For a long lifetime of the system, the compliance with the torque is required.

METRIC INCH

DUO-LOCK® EXTENSIONS
HEAVY DUTY WITH COOL JET – STEEL





Version: Heavy Duty with Cool Jet

– Shank tolerance: h6
– With Cool Jet
– With Safe-Lock as standard

Also available:
Extension with coating – for perfect shrinking in and out even at high forces during machining

Duo-Lock extensions Heavy Duty with Cool Jet

Interface DL	Order No.	Clamping Ø D1 [mm]	Length L1 [mm]	Length L2 [mm]	Outer Ø D2 [mm]	Internal bore Ø D3 [mm]
DL10	**75.160.DL10.82**	16	62.5	6	9.6	2.5
DL12	**75.200.DL12.82**	20	67	6	11.5	2.5
DL16	**75.250.DL16.82**	25	78	6	15.5	3
DL20	**75.320.DL20.82**	32	82	6	19.3	3

Duo-Lock extensions Heavy Duty with Cool Jet

Interface DL	Order No.	Clamping ø D1 [inch]	Length L1 [inch]	Neck length L2 [inch]	Outer ø D2 [inch]	Internal bore ø D3
DL10	**75.5/8z0.DL10.82**	5/8	2.4606	0.2362	0.3593	0.0984
DL12	**75.3/4z0.DL12.82**	3/4	2.6378	0.2362	0.4803	0.0984
DL16	**75.1z0.DL16.82**	1	3.0709	0.2362	0.6053	0.1181
DL20	**75.11/4z0.DL20.82**	11/4	3.2283	0.2362	0.7303	0.1181

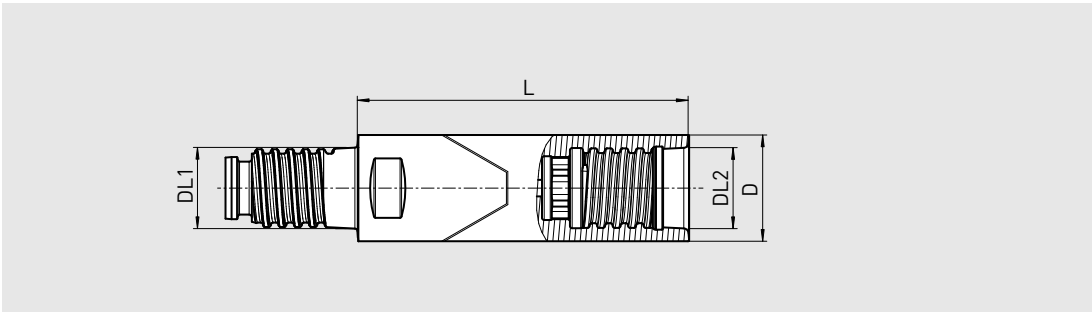
Torque of Duo-Lock interface				
	DL10	DL12	DL16	DL20
Nm	20	30	60	80

Attention: For a long lifetime of the system, the compliance with the torque is required.

DUO-LOCK® CARBIDE/STEEL EXTENSION

METRIC INCH





Cylindrical carbide / steel Duo-Lock extension for fast and effective reaching of cavities.

– With inner coolant bore

Duo-Lock extension for extension

Interface DL1	Order No.	Interface DL2	Outer ⌀ D [mm]	Length L [mm]
DL10	**75.DL10.DL10.030**	**DL10**	9.6	30
DL12	**75.DL12.DL12.040**	**DL12**	11.5	40
DL16	**75.DL16.DL16.050**	**DL16**	15.5	50
DL20	**75.DL20.DL20.060**	**DL20**	19.3	60

Duo-Lock extension for extension

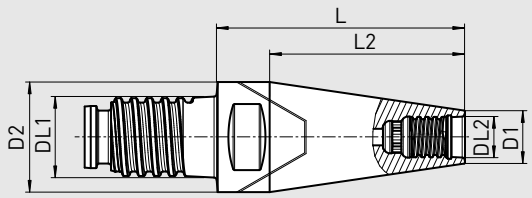
Interface DL1	Order No.	Interface DL2	Outer ⌀ D [inch]	Length L [inch]
DL10	**75.DL10.DL10.030**	**DL10**	0.3780	1.1811
DL12	**75.DL12.DL12.040**	**DL12**	0.4528	1.5748
DL16	**75.DL16.DL16.050**	**DL16**	0.6102	1.9685
DL20	**75.DL20.DL20.060**	**DL20**	0.7598	2.3622

Torque of Duo-Lock interface				
	DL10	DL12	DL16	DL20
Nm	**20**	**30**	**60**	**80**

Attention: For a long lifetime of the system, the compliance with the torque is required.

METRIC INCH

DUO-ΛOCK®
CARBIDE/STEEL REDUCTION





Cylindrical carbide / steel Duo-Lock reduction for fast and effective reaching of cavities.

– With inner coolant bore
– External contour adaptation (L2) possible at extra cost (special request)

Duo-Lock reduction for extension

Interface DL1	Order No.	Interface DL2	Outer ⌀ D1 [mm]	Outer ⌀ D2 [mm]	Length L [mm]
DL12	**75.DL12.DL10.030**	**DL10**	9.6	11.5	30
DL16	**75.DL16.DL10.035**	**DL10**	9.6	15.5	35
DL16	**75.DL16.DL12.035**	**DL12**	11.5	15.5	35
DL20	**75.DL20.DL10.045**	**DL10**	9.6	19.3	45
DL20	**75.DL20.DL12.045**	**DL12**	11.5	19.3	45
DL20	**75.DL20.DL16.045**	**DL16**	15.5	19.3	45

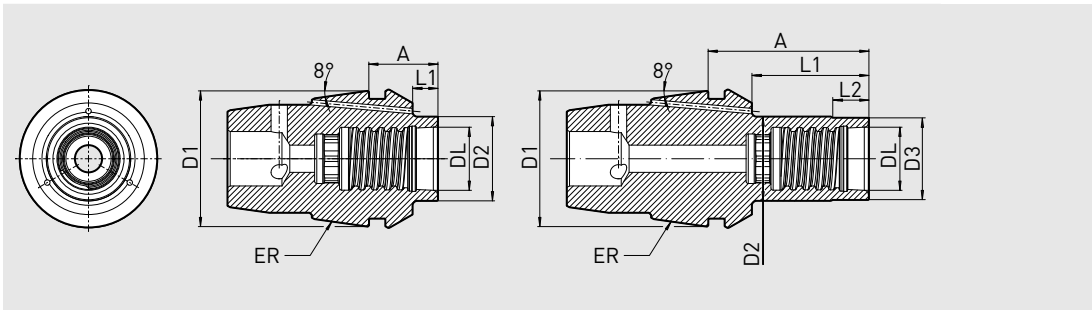
Duo-Lock reduction for extension

Interface DL1	Order No.	Interface DL2	Outer ⌀ D1 [inch]	Outer ⌀ D2 [inch]	Length L [inch]
DL12	**75.DL12.DL10.030**	**DL10**	0.3780	0.4528	1.1811
DL16	**75.DL16.DL10.035**	**DL10**	0.3780	0.6102	1.3780
DL16	**75.DL16.DL12.035**	**DL12**	0.4528	0.6102	1.3780
DL20	**75.DL20.DL10.045**	**DL10**	0.3780	0.7598	1.7717
DL20	**75.DL20.DL12.045**	**DL12**	0.4528	0.7598	1.7717
DL20	**75.DL20.DL16.045**	**DL16**	0.6102	0.7598	1.7717

Torque of Duo-Lock interface				
	DL10	DL12	DL16	DL20
Nm	**20**	**30**	**60**	**80**

Attention: For a long lifetime of the system, the compliance with the torque is required.





– Useable for Duo-Lock milling heads from DL10 – DL25
– Compatible with all established ER systems
– Optional with Cool Jet 3 or 6 bores

– Accessories see page 250

Duo-Lock collets

Order No.	ER Size	Nominal ⌀ D1 [mm]	Length A [mm]	Length L1 [mm]	Length L2 [mm]	Outer ⌀ D2 [mm]	Neck ⌀ D3 [mm]	Duo-Lock Size DL
81.160.0120.DL10	**ER16**	16	12	5.3	–	9.6	–	DL10
81.200.0130.DL10	**ER20**	20	13	5.48	–	9.6	–	DL10
81.200.0140.DL12	**ER20**	20	14	6.48	–	11.5	–	DL12
81.250.0135.DL10	**ER25**	25	13.5	5.5	–	9.6	–	DL10
81.250.0145.DL12	**ER25**	25	14.5	6.5	–	11.5	–	DL12
81.250.0135.DL16	**ER25**	25	13.5	5.5	–	15.5	–	DL16
81.320.0140.DL10	**ER32**	32	14	5	–	9.6	–	DL10
81.320.0355.DL10	**ER32**	32	35.5	26.5	5	10	9.6	DL10
81.320.0150.DL12	**ER32**	32	15	6	–	11.5	–	DL12
81.320.0365.DL12	**ER32**	32	36.5	27.5	6	12	11.5	DL12
81.320.0170.DL16	**ER32**	32	17	8	–	15.5	–	DL16
81.320.0355.DL16	**ER32**	32	35.5	26.5	8	16	15.5	DL16
81.320.0190.DL20	**ER32**	32	19	10	–	19.3	–	DL20
81.320.0355.DL20	**ER32**	32	35.5	26.5	10	20	19.3	DL20
81.320.0215.DL25	**ER32**	32	21.5	12.5	–	24	–	DL25
81.320.0407.DL25	**ER32**	32	40.75	31.75	–	24	–	DL25

Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	**20**	**30**	**60**	**80**	**100**	**130**

Attention: For a long lifetime of the system, the compliance with the torque is required.

Accessories

Cool Jet with 3 coolant bores
Order No. 91.100.25

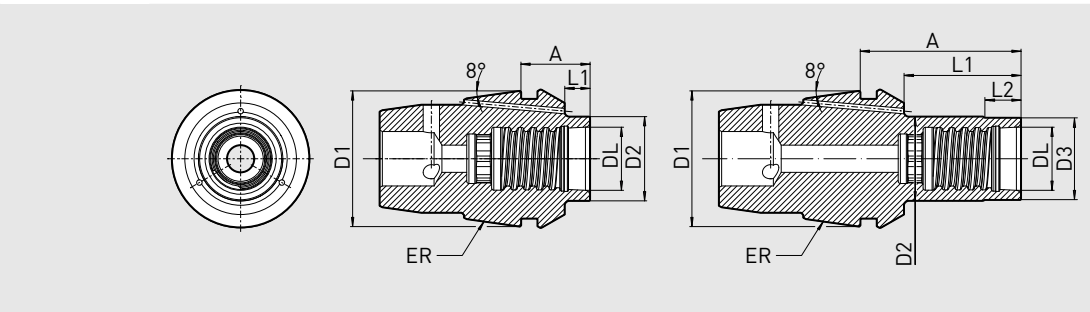
Cool Jet with 6 coolant bores
Order No. 91.100.31



Alternatively we recommend using our shrink fit collets in driven tools.

INCH

DUO-LOCK® COLLETS





- Useable for Duo-Lock milling heads from DL10 – DL25
- Compatible with all established ER systems
- Optional with Cool Jet 3 or 6 bores

- Accessories see page 250

Duo-Lock collets

Order No.	ER Size	Nominal ø D1 [mm]	Length A [inch]	Length L1 [inch]	Length L2 [inch]	Outer ø D2 [inch]	Neck ø D3 [inch]	Duo-Lock Size DL
81.160.0120.DL10	**ER16**	16	0.4724	0.2087	-	0.3780	-	DL10
81.200.0130.DL10	**ER20**	20	0.5118	0.2157	-	0.3780	-	DL10
81.200.0140.DL12	**ER20**	20	0.5512	0.2582	-	0.4528	-	DL12
81.250.0135.DL10	**ER25**	25	0.5315	0.2165	-	0.3780	-	DL10
81.250.0145.DL12	**ER25**	25	0.5709	0.2559	-	0.4528	-	DL12
81.250.0135.DL16	**ER25**	25	0.5315	0.2165	-	0.6102	-	DL16
81.320.0140.DL10	**ER32**	32	0.5512	0.1969	-	0.3780	-	DL10
81.320.0355.DL10	**ER32**	32	1.3976	1.0433	0.1969	0.3937	0.3780	DL10
81.320.0150.DL12	**ER32**	32	0.5906	0.2362	-	0.4528	-	DL12
81.320.0355.DL12	**ER32**	32	1.4370	1.0827	0.2362	0.4724	0.4528	DL12
81.320.0170.DL16	**ER32**	32	0.6693	0.3150	-	0.6102	-	DL16
81.320.0355.DL16	**ER32**	32	1.3976	1.0433	0.315	0.6299	0.6102	DL16
81.320.0190.DL20	**ER32**	32	0.7480	0.3937	-	0.7598	-	DL20
81.320.0355.DL20	**ER32**	32	1.3976	1.0433	0.3937	0.7874	0.7598	DL20
81.320.0215.DL25	**ER32**	32	0.8465	0.4921	-	0.9449	-	DL25
81.320.0407.DL25	**ER32**	32	1.6043	1.25	-	0.9449	-	DL25

Torque of Duo-Lock interface

	DL10	DL12	DL16	DL20	DL25
Nm	**20**	**30**	**60**	**80**	**100**

Attention: For a long lifetime of the system, the compliance with the torque is required.

Accessories

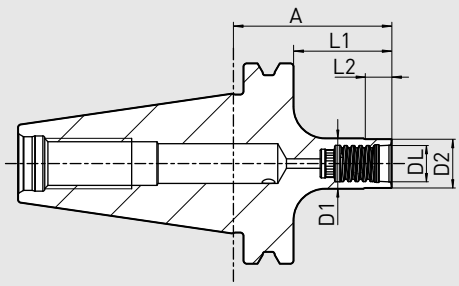
Cool Jet with 3 coolant bores
Order No. **91.100.25**

Cool Jet with 6 coolant bores
Order No. **91.100.31**

DUO-LOCK® MONOBLOCK HOLDER
DIN ISO 7388-1 · SK40

METRIC





CERTIFICATE OF QUALITY

- ☑ *Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm*
- ☑ *All functional surfaces fine machined*
- ☑ *Taper tolerance AT3*
- ☑ *Coolant supply form AD/AF*

Duo-Lock Monoblock holder for direct clamping.
Perfectly suitable for milling with short overhang.

With steep taper SK40 Form AD/AF DIN ISO 7388-1 (formerly DIN 69871).

Form AD/AF means: central coolant supply and coolant channels on the collar which can be sealed again.

– All holders incl. inner coolant
– Hardened 54-2 HRC

SK40

Interface		DL10	DL12	DL16	DL20	DL25	DL32
⌀ D1 [mm]		10	12	16	20	25	32
⌀ D2 [mm]		9.6	11.5	15.5	19.3	24	31
L1 [mm]		21.9	21.9	30.9	30.9	36.9	45.9
L2 [mm]		5	6	8	10	12.5	16
Length A [mm]	short	41	41	50	50	56	65
Order No.	**40.490.DL...**	**10**	**12**	**16**	**20**	**25**	**32**

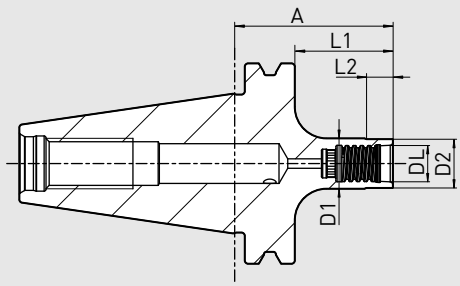
Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	**20**	**30**	**60**	**80**	**100**	**130**

Attention: For a long lifetime of the system, the compliance with the torque is required.

INCH

DUO-ΛOCK® MONOBLOCK HOLDER
CAT 40 · ASME B5.50

CERTIFICATE OF QUALITY
- ☑ *Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm*
- ☑ *All functional surfaces fine machined*
- ☑ *Taper tolerance AT3*
- ☑ *Coolant supply form AD/AF*





Duo-Lock Monoblock holder for direct clamping.
Perfectly suitable for milling with short overhang.

Form AD/AF means: central coolant supply and coolant channels on the collar which can be sealed again.

– All holders incl. inner coolant
– Hardened 54-2 HRC

CAT 40

Interface		DL10	DL12	DL16	DL20	DL25	DL32
⌀ D1 [inch]		3/8	1/2	5/8	3/4	1	1 1/4
⌀ D2 [inch]		0.3593	0.4803	0.6053	0.7303	0.9606	1.2106
L1 [inch]		0.87	0.87	1.25	1.25	1.5	1.75
L2 [inch]		0.1875	0.25	0.3125	0.375	0.5	0.625
Length A [inch]	short	1.6201	1.6201	2.00	2.00	2.25	2.50
Order No.	**40.890.DL...**	**10.i**	**12.i**	**16.i**	**20.i**	**25.i**	**32.i**

Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	**20**	**30**	**60**	**80**	**100**	**130**

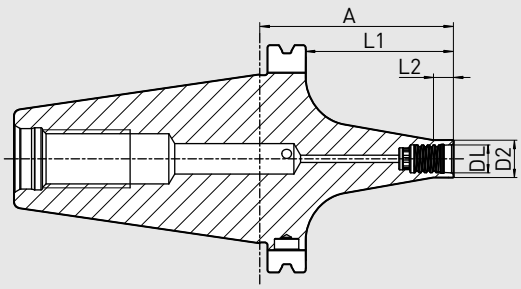
Attention: For a long lifetime of the system, the compliance with the torque is required.

For more Duo-Lock information, please see pages "Torque Master" 247 - 249

DUO-LOCK® MONOBLOCK HOLDER
DIN ISO 7388-1 · SK50

METRIC INCH





CERTIFICATE OF QUALITY

- ☑ *Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm*
- ☑ *All functional surfaces fine machined*
- ☑ *Taper tolerance AT3*
- ☑ *Coolant supply form AD/AF*

Duo-Lock Monoblock holder for direct clamping.
Perfectly suitable for milling and also for grinding Duo-Lock blanks.

With steep taper SK50 Form AD/AF DIN ISO 7388-1 (formerly DIN 69871).

Form AD/AF means: central coolant supply and coolant channels on the collar which can be sealed again.

– All holders incl. inner coolant
– Hardened 54-2 HRC
– Reinforced geometry
– Incl. ground sensor surface and labeled correction value

SK50

Interface		DL10	DL12	DL16	DL20	DL25	DL32
⌀ D2 [mm]		9.6	11.5	15.5	19.3	24	31
L1 [mm]		60.9	60.9	60.9	60.9	60.9	60.9
L2 [mm]		5	6	8	10	12.5	16
Length A [mm]	short	80	80	80	80	80	80
Order No.	**50.490.DL...**	**10**	**12**	**16**	**20**	**25**	**32**

SK50

Interface		DL10	DL12	DL16	DL20	DL25	DL32
⌀ D1 [inch]		0.3780	0.4528	0.6102	0.7598	0.9449	1.2205
⌀ D2 [inch]		2.3976	2.3976	2.3976	2.3976	2.3976	2.3976
L1 [inch]		0.1969	0.2362	0.3150	0.3937	0.4921	0.6299
L2 [inch]		0.1875	0.25	0.3125	0.375	0.5	0.625
Length A [inch]	short	3.1496	3.1496	3.1496	3.1496	3.1496	3.1496
Order No.	**50.490.DL...**	**10**	**12**	**16**	**20**	**25**	**32**

Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	**20**	**30**	**60**	**80**	**100**	**130**

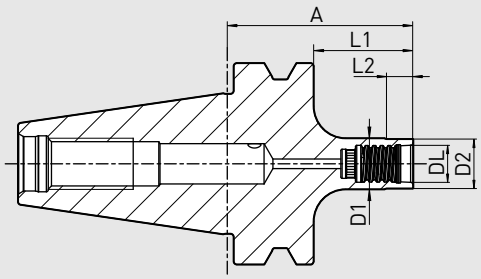
Attention: For a long lifetime of the system, the compliance with the torque is required.

For more Duo-Lock information, please see pages "Torque Master" 247 - 249

METRIC INCH

DUO-LOCK® MONOBLOCK HOLDER
JIS B 6339 · BT40

CERTIFICATE OF QUALITY
- ☑ *Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm*
- ☑ *All functional surfaces fine machined*
- ☑ *Taper tolerance AT3*
- ☑ *Coolant supply form AD/AF*





Duo-Lock Monoblock holder for direct clamping.
Perfectly suitable for milling with short overhang.

With steep taper BT40 Form JIS B 6339.

Form AD/AF means: central coolant supply and coolant channels on the collar which can be sealed again.

– All holders incl. inner coolant
– Hardened 54-2 HRC

BT40

Interface		DL10	DL12	DL16	DL20	DL25	DL32
⌀ D1 [mm]		10	12	16	20	25	32
⌀ D2 [mm]		9.6	11.5	15.5	19.3	24	31
L1 [mm]		22	22	31	31	33	41
L2 [mm]		5	6	8	10	12.5	16
Length A [mm]	short	49	49	58	58	60	68
Order No.	**40.690.DL...**	**10**	**12**	**16**	**20**	**25**	**32**

BT40

Interface		DL10	DL12	DL16	DL20	DL25	DL32
⌀ D1 [inch]		3/8	1/2	5/8	3/4	1	1 1/4
⌀ D2 [inch]		0.3593	0.4803	0.6053	0.7303	0.9606	1.2106
L1 [inch]		0.9370	0.9370	1.1870	1.1870	1.3170	1.6870
L2 [inch]		0.1875	0.25	0.3125	0.375	0.5	0.625
Length A [inch]	short	2.00	2.00	2.25	2.25	2.38	2.75
Order No.	**40.690.DL...**	**10.i**	**12.i**	**16.i**	**20.i**	**25.i**	**32.i**

Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	**20**	**30**	**60**	**80**	**100**	**130**

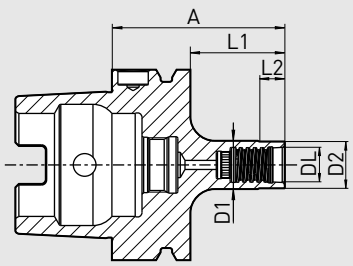
Attention: For a long lifetime of the system, the compliance with the torque is required.

For more Duo-Lock information, please see pages "Torque Master" 247 - 249

DUO-LOCK® MONOBLOCK HOLDER
DIN 69893-1 · HSK-A63

METRIC INCH





CERTIFICATE OF QUALITY

- ☑ *Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm*
- ☑ *All functional surfaces fine machined*
- ☑ *More accurate than DIN*

Duo-Lock Monoblock holder for direct clamping.
Perfectly suitable for milling with short overhang.

– All holders incl. inner coolant
– Hardened 54-2 HRC

HSK-A63

Interface		DL10	DL12	DL16	DL20	DL25	DL32
⌀ D1 [mm]		10	12	16	20	25	32
⌀ D2 [mm]		9.6	11.5	15.5	19.3	24	31
L1 [mm]		22	26	31	31	35	46
L2 [mm]		5	6	8	10	12.5	16
Length A [mm]	short	48	52	57	57	61	72
Order No.	**A63.190.DL...**	**10**	**12**	**16**	**20**	**25**	**32**

HSK-A63

Interface		DL10	DL12	DL16	DL20	DL25	DL32
⌀ D1 [inch]		3/8	1/2	5/8	3/4	1	1 1/4
⌀ D2 [inch]		0.3593	0.4803	0.6053	0.7303	0.9606	1.2106
L1 [inch]		0.9783	1.2283	1.2283	1.2283	1.4783	1.8583
L2 [inch]		0.1875	0.25	0.3125	0.375	0.5	0.625
Length A [inch]	short	2.00	2.25	2.25	2.25	2.50	2.88
Order No.	**A63.190.DL...**	**10.i**	**12.i**	**16.i**	**20.i**	**25.i**	**32.i**

Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	**20**	**30**	**60**	**80**	**100**	**130**

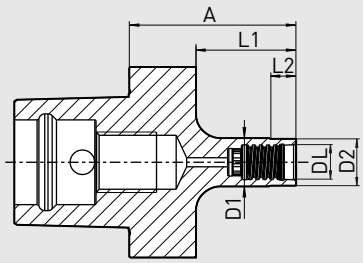
Attention: For a long lifetime of the system, the compliance with the torque is required.

For more Duo-Lock information, please see pages "Torque Master" 247 - 249

METRIC INCH

DUO-LOCK® MONOBLOCK HOLDER
ISO 26623-1 · PSC 63

CERTIFICATE OF QUALITY
- ☑ *Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm*
- ☑ *All functional surfaces fine machined*
- ☑ *More accurate than DIN*





Duo-Lock Monoblock holder for direct clamping.
Perfectly suitable for milling with short overhang.

– All holders incl. inner coolant
– Hardened 54-2 HRC

PSC 63

Interface		DL10	DL12	DL16	DL20	DL25	DL32
⌀ D1 [mm]		10	12	16	20	25	32
⌀ D2 [mm]		9.6	11.5	15.5	19.3	24	31
L1 [mm]		28	28	33	33	38	46
L2 [mm]		5	6	8	10	12.5	16
Length A [mm]	short	50	50	55	55	60	68
Order No.	**CC6.190.DL...**	**10**	**12**	**16**	**20**	**25**	**32**

PSC 63

Interface		DL10	DL12	DL16	DL20	DL25	DL32
⌀ D1 [inch]		3/8	1/2	5/8	3/4	1	1 1/4
⌀ D2 [inch]		0.3593	0.4803	0.6053	0.7303	0.9606	1.2106
L1 [inch]		1.1319	1.1319	1.3819	1.3819	1.5119	1.8819
L2 [inch]		0.1875	0.25	0.3125	0.375	0.5	0.625
Length A [inch]	short	2.00	2.00	2.25	2.25	2.38	2.75
Order No.	**CC6.190.DL...**	**10.i**	**12.i**	**16.i**	**20.i**	**25.i**	**32.i**

Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	**20**	**30**	**60**	**80**	**100**	**130**

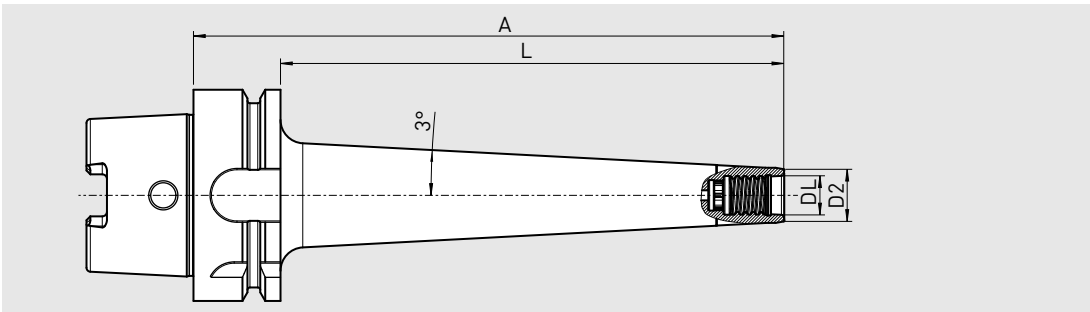
Attention: For a long lifetime of the system, the compliance with the torque is required.

For more Duo-Lock information, please see pages "Torque Master" 247 - 249

DUO-LOCK® DIE AND MOLD CHUCK
DIN 69893-1 · HSK-A63

METRIC





Duo-Lock Die and Mold Chuck for direct Duo-Lock clamping.

– With inner coolant bore
– Stable 3° angle for perfect milling on inclined forms
– Including carbide core for vibration-damped milling with long overhang lengths
– Repair possible at extra cost (if end mill breaks in interface)

HSK-A63

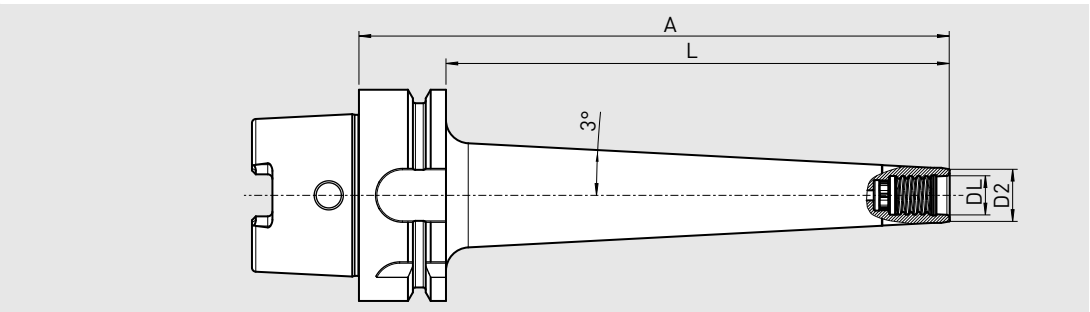
Interface DL	Order No.	Outer ⌀ D2 [mm]	Length L [mm]	Length A [mm]
DL10	**A63.180.DL10.100**	9.6	100	126
DL10	**A63.180.DL10.125**	9.6	125	151
DL10	**A63.180.DL10.150**	9.6	150	176
DL12	**A63.180.DL12.100**	11.5	100	126
DL12	**A63.180.DL12.125**	11.5	125	151
DL12	**A63.180.DL12.150**	11.5	150	176
DL16	**A63.180.DL16.100**	15.5	100	126
DL16	**A63.180.DL16.125**	15.5	125	151
DL16	**A63.180.DL16.150**	15.5	150	176
DL16	**A63.180.DL16.175**	15.5	175	201
DL16	**A63.180.DL16.200**	15.5	200	226
DL16	**A63.180.DL16.250**	15.5	250	276
DL20	**A63.180.DL20.100**	19.3	100	126
DL20	**A63.180.DL20.125**	19.3	125	151
DL20	**A63.180.DL20.150**	19.3	150	176
DL20	**A63.180.DL20.175**	19.3	175	201
DL20	**A63.180.DL20.200**	19.3	200	226
DL20	**A63.180.DL20.250**	19.3	250	276

Torque of Duo-Lock interface				
	DL10	DL12	DL16	DL20
Nm	20	30	60	80

Attention: For a long lifetime of the system, the compliance with the torque is required.

INCH

DUO-LOCK® DIE AND MOLD CHUCK
DIN 69893-1 · HSK-A63





Duo-Lock Die and Mold Chuck for direct Duo-Lock clamping.

– With inner coolant bore
– Stable 3° angle for perfect milling on inclined forms
– Including carbide core for vibration-damped milling with long overhang lengths
– Repair possible at extra cost (if end mill breaks in interface)

HSK-A63

Interface DL	Order No.	Outer ⌀ D2 [inch]	Length L [inch]	Length A [inch]
DL10	**A63.180.DL10.100**	0.3780	3.9370	4.9606
DL10	**A63.180.DL10.125**	0.3780	4.9213	5.9449
DL10	**A63.180.DL10.150**	0.3780	5.9055	6.9291
DL12	**A63.180.DL12.100**	0.4528	3.9370	4.9606
DL12	**A63.180.DL12.125**	0.4528	4.9213	5.9449
DL12	**A63.180.DL12.150**	0.4528	5.9055	6.9291
DL16	**A63.180.DL16.100**	0.6102	3.9370	4.9606
DL16	**A63.180.DL16.125**	0.6102	4.9213	5.9449
DL16	**A63.180.DL16.150**	0.6102	5.9055	6.9291
DL16	**A63.180.DL16.175**	0.6102	6.8898	7.9134
DL16	**A63.180.DL16.200**	0.6102	7.8740	8.8976
DL16	**A63.180.DL16.250**	0.6102	9.8425	10.8661
DL20	**A63.180.DL20.100**	0.7598	3.9370	4.9606
DL20	**A63.180.DL20.125**	0.7598	4.9213	5.9449
DL20	**A63.180.DL20.150**	0.7598	5.9055	6.9291
DL20	**A63.180.DL20.175**	0.7598	6.8898	7.9134
DL20	**A63.180.DL20.200**	0.7598	7.8740	8.8976
DL20	**A63.180.DL20.250**	0.7598	9.8425	10.8661

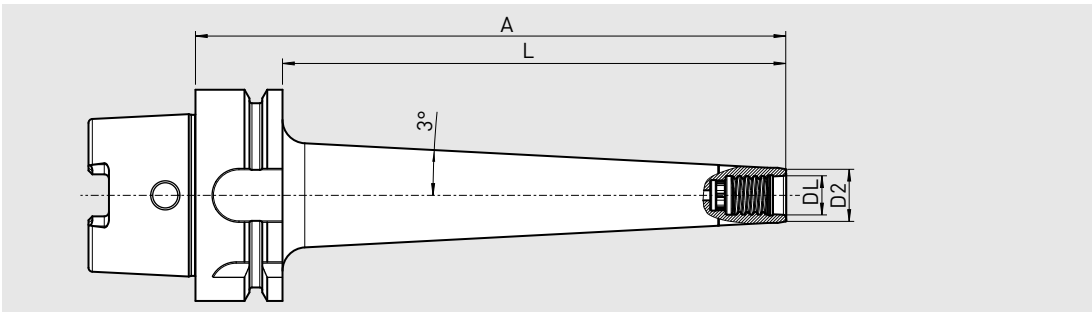
Torque of Duo-Lock interface				
	DL10	DL12	DL16	DL20
Nm	**20**	**30**	**60**	**80**

Attention: For a long lifetime of the system, the compliance with the torque is required.

DUO-LOCK® DIE AND MOLD CHUCK
DIN 69893-1 · HSK-A100

METRIC





Duo-Lock Die and Mold Chuck for direct Duo-Lock clamping.

– With inner coolant bore
– Stable 3° angle for perfect milling on inclined forms
– Including carbide core for vibration-damped milling with long overhang lengths
– Repair possible at extra cost (if end mill breaks in interface)

HSK-A100

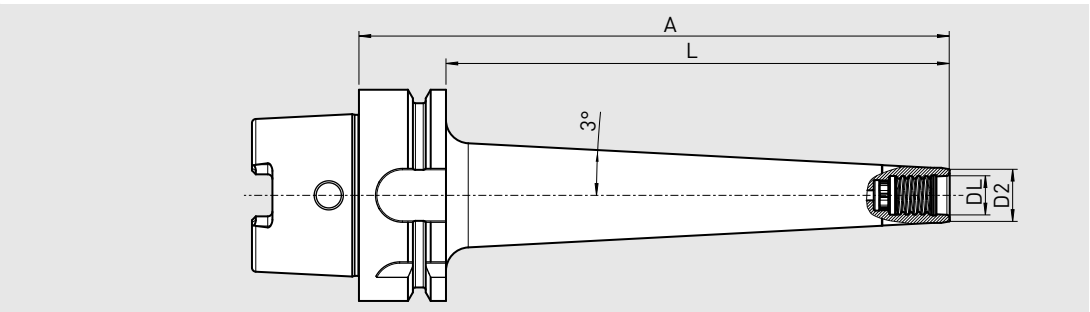
Interface DL	Order No.	Outer ⌀ D2 [mm]	Length L [mm]	Length A [mm]
DL10	**A10.180.DL10.100**	9.6	100	129
DL10	**A10.180.DL10.150**	9.6	150	179
DL12	**A10.180.DL12.100**	11.5	100	129
DL12	**A10.180.DL12.150**	11.5	150	179
DL12	**A10.180.DL12.200**	11.5	200	229
DL12	**A10.180.DL12.250**	11.5	250	279
DL16	**A10.180.DL16.100**	15.5	100	129
DL16	**A10.180.DL16.150**	15.5	150	179
DL16	**A10.180.DL16.200**	15.5	200	229
DL16	**A10.180.DL16.250**	15.5	250	279
DL20	**A10.180.DL20.100**	19.3	100	129
DL20	**A10.180.DL20.150**	19.3	150	179
DL20	**A10.180.DL20.200**	19.3	200	229
DL20	**A10.180.DL20.250**	19.3	250	279

Torque of Duo-Lock interface				
	DL10	DL12	DL16	DL20
Nm	**20**	**30**	**60**	**80**

Attention: For a long lifetime of the system, the compliance with the torque is required.

INCH

DUO-LOCK® DIE AND MOLD CHUCK
DIN 69893-1 · HSK-A100





Duo-Lock Die and Mold Chuck for direct Duo-Lock clamping.

– With inner coolant bore
– Stable 3° angle for perfect milling on inclined forms
– Including carbide core for vibration-damped milling with long overhang lengths
– Repair possible at extra cost (if end mill breaks in interface)

HSK-A100

Interface DL	Order No.	Outer ⌀ D2 [inch]	Length L [inch]	Length A [inch]
DL10	**A10.180.DL10.100**	0.3780	3.9370	5.0787
DL10	**A10.180.DL10.150**	0.3780	5.9055	7.0472
DL12	**A10.180.DL12.100**	0.4528	3.9370	5.0787
DL12	**A10.180.DL12.150**	0.4528	5.9055	7.0472
DL12	**A10.180.DL12.200**	0.4528	7.8740	9.0157
DL12	**A10.180.DL12.250**	0.4528	9.8425	10.9843
DL16	**A10.180.DL16.100**	0.6102	3.9370	5.0787
DL16	**A10.180.DL16.150**	0.6102	5.9055	7.0472
DL16	**A10.180.DL16.200**	0.6102	7.8740	9.0157
DL16	**A10.180.DL16.250**	0.6102	9.8425	10.9843
DL20	**A10.180.DL20.100**	0.7598	3.9370	5.0787
DL20	**A10.180.DL20.150**	0.7598	5.9055	7.0472
DL20	**A10.180.DL20.200**	0.7598	7.8740	9.0157
DL20	**A10.180.DL20.250**	0.7598	9.8425	10.9843

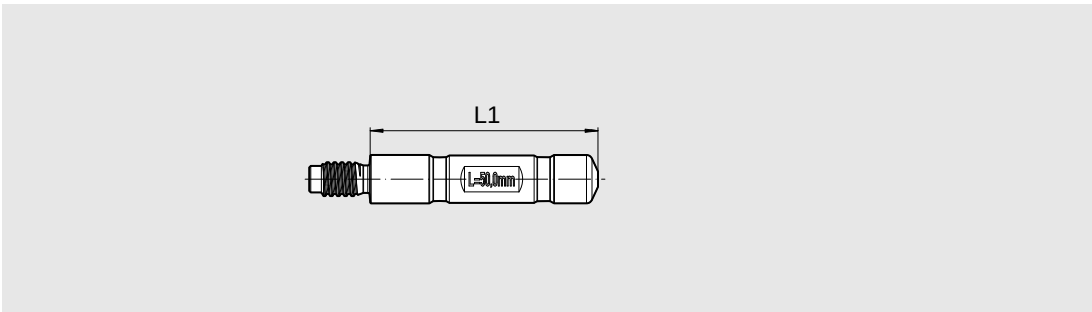
Torque of Duo-Lock interface				
	DL10	DL12	DL16	DL20
Nm	**20**	**30**	**60**	**80**

Attention: For a long lifetime of the system, the compliance with the torque is required.

DUO-LOCK® LENGTH PRESETTING TOOL

METRIC



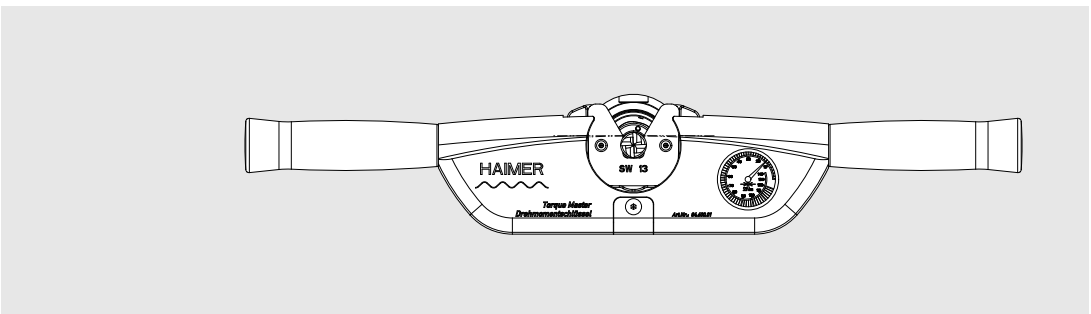


– Presetting aid
– Length presetting

Duo-Lock length presetting tool		
Order No.	**Size**	**L1**
75.000.DL10	**DL10**	**50** $^{\pm 0,01}$
75.000.DL12	**DL12**	**50** $^{\pm 0,01}$
75.000.DL16	**DL16**	**50** $^{\pm 0,01}$
75.000.DL20	**DL20**	**50** $^{\pm 0,01}$
75.000.DL25	**DL25**	**50** $^{\pm 0,01}$
75.000.DL32	**DL32**	**50** $^{\pm 0,01}$

METRIC

DUO-LOCK® TORQUE MASTER





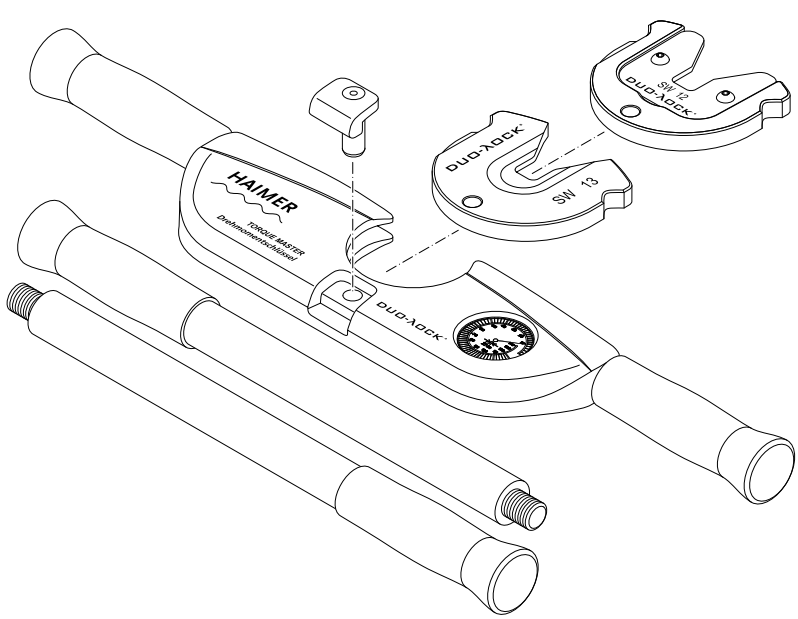
Two-armed torque wrench for Duo-Lock:

- For highest runout accuracy, avoids one-sided clamping
- Optimal power transmission by constant force application
- Torque wrench for highest clamping accuracy and repeatability with dial gauge
- Maximum torque for highest clamping force
- No overloading of smaller clamping diameters
- Changeable inserts, useable also for standard ER-Nuts
- Extended grips for DL16 – DL32

Torque wrench for Duo-Lock	
Torque Master Set Duo-Lock (with case, 6 inserts and grip sets, long)	84.600.20.AK
Torque Master Duo-Lock incl. grip set long (without inserts)	84.600.20
Grip set long for Torque Master Duo-Lock	84.600.10.1

Torque of Duo-Lock interface						
	DL10	DL12	DL16	DL20	DL25	DL32
Nm	20	30	60	80	100	130

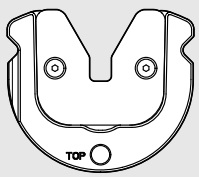
Attention: For a long lifetime of the system, the compliance with the torque is required.



INSERTS FOR DUO-LOCK® TORQUE MASTER

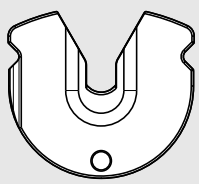
METRIC





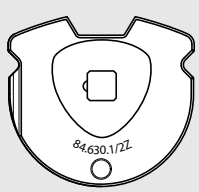
DL10 – DL12: With wear insert





DL16 – DL32: Made of a single piece





To insert all common square socket wrenches with 1/2"

– Exchangeable inserts for Duo-Lock Torque Master
– Suitable for Duo-Lock milling heads

Inserts		
Order No.	**Size**	**AF [mm]**
84.640.10	**DL10**	**8**
84.640.12	**DL12**	**9.5**
84.640.16	**DL16**	**13**
84.640.20	**DL20**	**16**
84.640.25	**DL25**	**21**
84.640.32	**DL32**	**28**
84.630.1/2Z	**To insert all common square socket wrenches with 1/2"**	

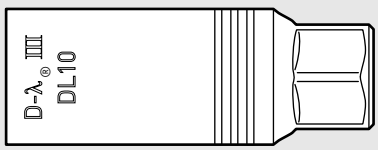
Accessories

Wear insert

Size			DL10	DL12
Order No.	**84.640...**		**.10.1**	**.12.1**

METRIC

ROLLER BEARING WRENCH FOR CLAMPING DUO-ΛOCK® BLANKS



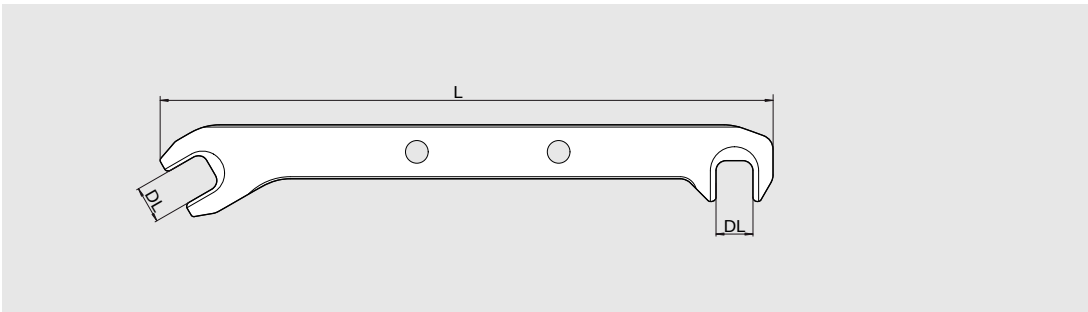


– Useable for Duo-Lock blanks from DL10 – DL20
– For square socket ratchet with 1/2"

Roller Bearing Wrench	
Order No.	**Size**
84.645.DL10	**DL10**
84.645.DL12	**DL12**
84.645.DL16	**DL16**
84.645.DL20	**DL20**

DUO-ΛOCK® HAND WRENCH METRIC



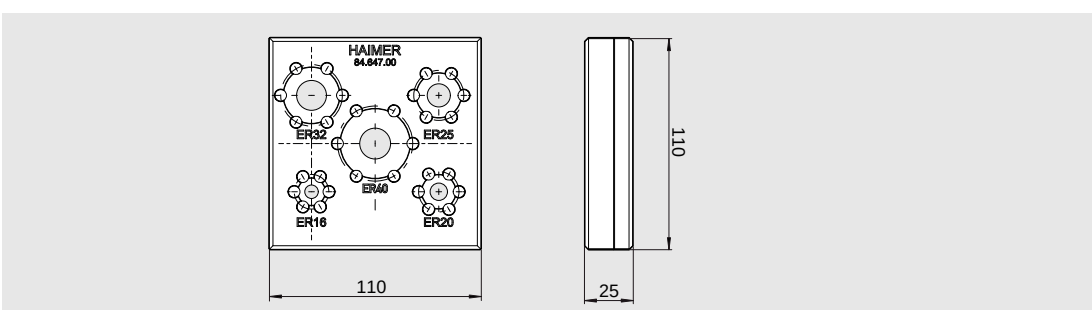


– Useable for Duo-Lock tool heads from DL10 – DL20
– For replacing Duo-Lock tool heads directly in the lathe

Duo-Lock Hand wrench			
Order No.	Size	Overall length L [mm]	Overall length L [inch]
84.647.DL10	DL10	196	7.7165
84.647.DL12	DL12	199	7.8346
84.647.DL16	DL16	217	8.5433
84.647.DL20	DL20	236	9.2913

DUO-ΛOCK® COLLETS CLAMPING DEVICE METRIC



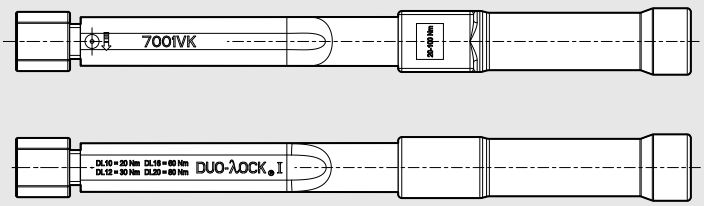


– Useable for Duo-Lock collets from ER16, ER20, ER25, ER32, ER40
– Clamping surfaces for the tension in the vice

Duo-Lock collets clamping device	
Order No.	Size
84.647.00	ER16, ER20, ER25, ER32, ER40

METRIC

7001 TORQUE WRENCH DL10 – DL20





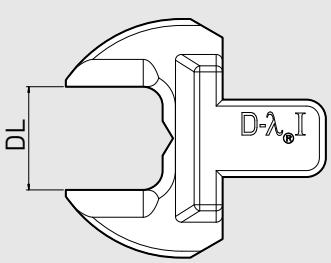
- 7001 torque wrench with changeover ratchet
- For changing Duo-Lock tool heads directly in the lathe
- Torque: 20 – 100 Nm
- Useable for Duo-Lock milling heads from DL10 – DL20
- Connecting size 9 x 12 mm
- Changeable to clockwise and counter clockwise

Torque wrench for Duo-Lock	Order No.
7001 Torque wrench 9 x 12 mm	82.587.00

Torque of Duo-Lock interface				
	DL10	DL12	DL16	DL20
Nm	20	30	60	80

METRIC

DUO-λOCK® INSERTS FOR 7001 TORQUE WRENCH





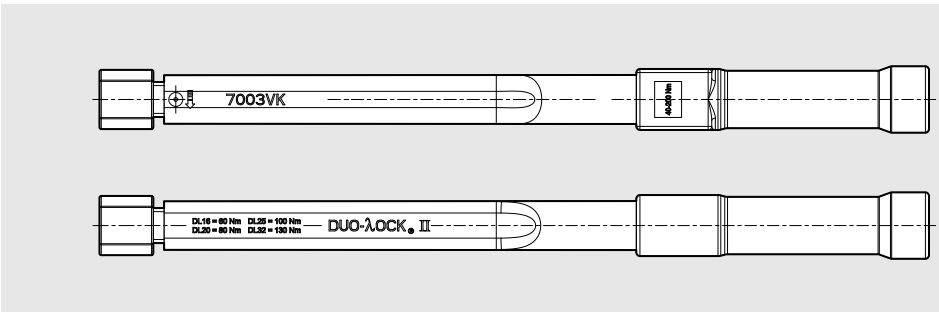
- For changing Duo-Lock tool heads directly in the lathe
- Changeable inserts for 7001 torque wrench
- Useable for Duo-Lock milling heads from DL10 – DL20
- Connecting size 9 x 12 mm

Insert	
Order No.	Size
82.587.DL10	DL10
82.587.DL12	DL12
82.587.DL16	DL16
82.587.DL20	DL20

7003 TORQUE WRENCH DL16 – DL32

METRIC





- 7003 torque wrench with changeover ratchet
- For changing Duo-Lock tool heads directly in the lathe
- Torque: 40 – 200 Nm
- Useable for Duo-Lock milling heads from DL16 – DL32
- Connecting size 14 x 18 mm
- Changeable to clockwise and counter clockwise

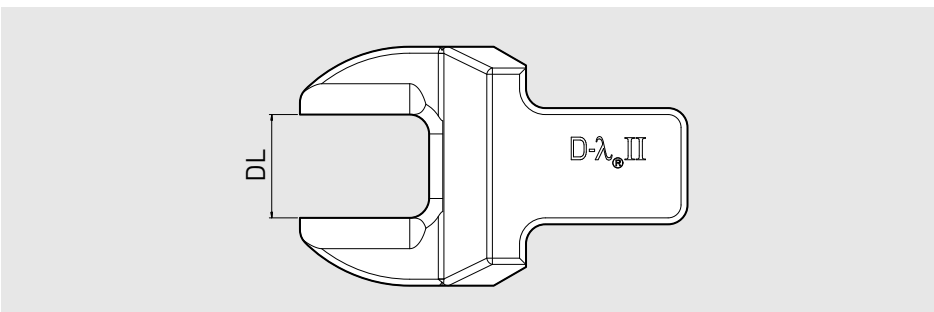
Torque wrench for Duo-Lock	Order No.
7003 Torque wrench 14 x 18 mm	82.588.00

Torque of Duo-Lock interface				
	DL16	DL20	DL25	DL32
Nm	60	80	100	130

DUO-λOCK® INSERTS FOR 7003 TORQUE WRENCH

METRIC





- For changing Duo-Lock tool heads directly in the lathe
- Changeable inserts for 7003 torque wrench
- Useable for Duo-Lock milling heads from DL16 – DL32
- Connecting size 14 x 18 mm

Insert	
Order No.	Size
82.588.DL16	DL16
82.588.DL20	DL20
82.588.DL25	DL25
82.588.DL32	DL32

HAIMER

Tooling Technology



HAIMER DUO-LOCK®

For fastest tool change and highest performance in turning and milling applications

HAIMER

FORM
SPECIAL REQUEST
SOLID CARBIDE END MILL

Special Request Number	
Date	

Company	Customer-No.
Street	Contact Person
City/State	Phone
State/Country	Email

Applications Engineer
External Sales Representative
Internal Sales Representative

Product Groups

- ☐ F1003 – Power Series Z3
- ☐ F1304 – Power Series Z4
- ☐ F2004 – Z4
- ☐ F1004 – Power Series Z4
- ☐ F1005 – Power Series Z5
- ☐ V1002 – Power Series Z2

Standard Article No.

Center Cutting

☐ Yes ☐ No

Chip Breaker

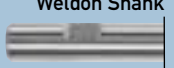
☐ Yes ☐ No

Shank

- ☐ HA Straight Shank



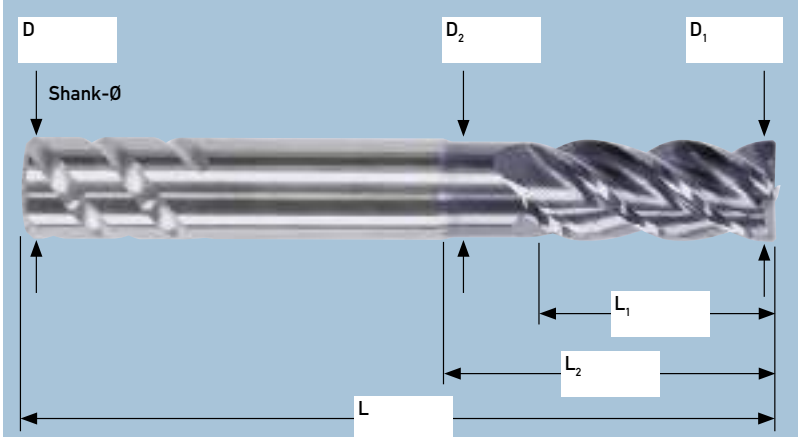
- ☐ HB Weldon Shank



- ☐ Safe-Lock Shank

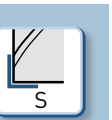


Dimensions



Face Geometry

- ☐ Sharp Corner (S)



- ☐ Radius R



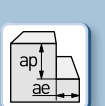
- ☐ Chamfer C



Coating

☐ Yes ☐ No

Areas of Application

Material (Material Number)	Cutting Depth a_p in mm		Cutting Speed Vc in m/min
Hardness/Tensile Strength	Cutting Width a_e in mm		Feed per Tooth Fz in mm

Cooling

- ☐ Dry
- ☐ MQL
- ☐ Air
- ☐ Lubricant:

Calculation

Customer Annual Sales	Quantity	Price	Quantity	Price
Customer Mills Annual Sales				

Competitor

Customer is currently working with
Cost of the tool

Comments / Description of Application

FORM
SPECIAL REQUEST
DUO-λOCK®

Special Request Number	
Date	

Company	Customer-No.
Street	Contact Person
City/State	Phone
State/Country	Email

Applications Engineer
External Sales Representative
Internal Sales Representative

Product Groups

- ☐ E1016/18 – Z6/Z8
- ☐ F1004 – Power Series Z4
- ☐ F2003 – Z3
- ☐ F2004 – Z4
- ☐ F2006/08/00 – Z6/Z8/Z10
- ☐ F2304 – Z4
- ☐ V2002 – Z2 Power Series

Standard Article No.

Center Cutting

☐ Yes ☐ No

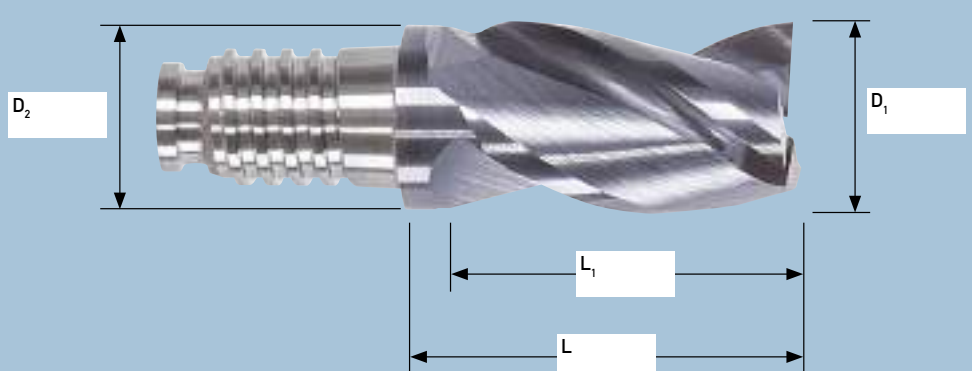
Chip Breaker

☐ Yes ☐ No

Dimensions

DL

DL: 10, 12, 16, 20, 25, 32



Face Geometry

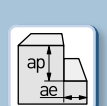
- ☐ Sharp Corner (S)
- ☐ Radius — R
- ☐ Chamfer — C, ∠



Coating

☐ Yes ☐ No

Areas of Application

Material (Material Number)	Cutting Depth a_p in mm		Cutting Speed Vc in m/min
			
Hardness/Tensile Strength	Cutting Width a_e in mm		Feed per Tooth Fz in mm

Cooling

- ☐ Dry
- ☐ MQL
- ☐ Air
- ☐ Lubricant:

Calculation

Customer Annual Sales	Quantity	Price	Quantity	Price
Customer Mills Annual Sales				

Competitor

Customer is currently working with

Cost of the tool

Comments / Description of Application

HAIMER

FORM SPECIAL REQUEST DUO-ΛOCK® BLANK

Special Request Number	
Date	

Company	Customer-No.
Street	Contact Person
City/State	Phone
State/Country	Email

Applications Engineer
External Sales Representative
Internal Sales Representative

Wrench flats

- ☐ Yes
- ☐ No

Oversize

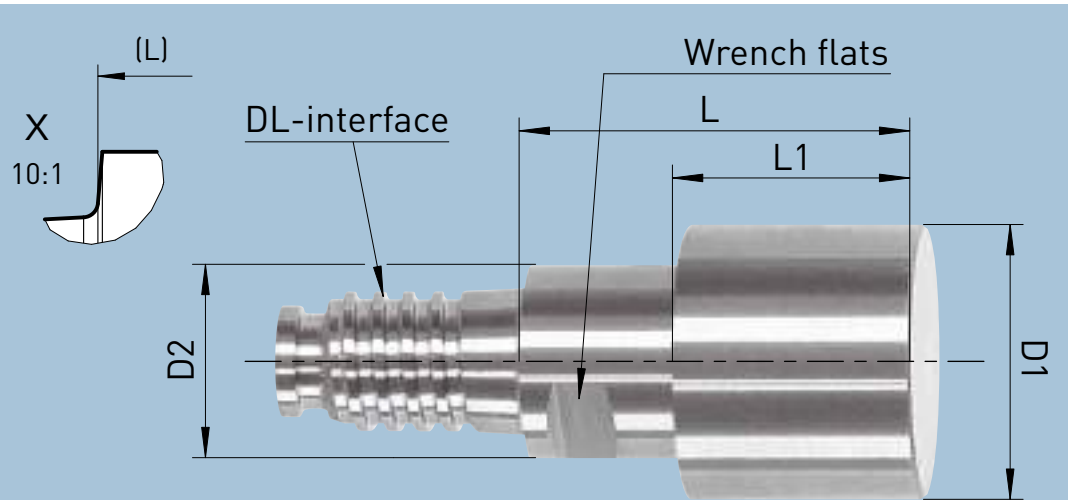
- ☐ Yes
- ☐ No

Inner Cooling

- ☐ No
- ☐ Central Cooling
- ☐ Y Cooling

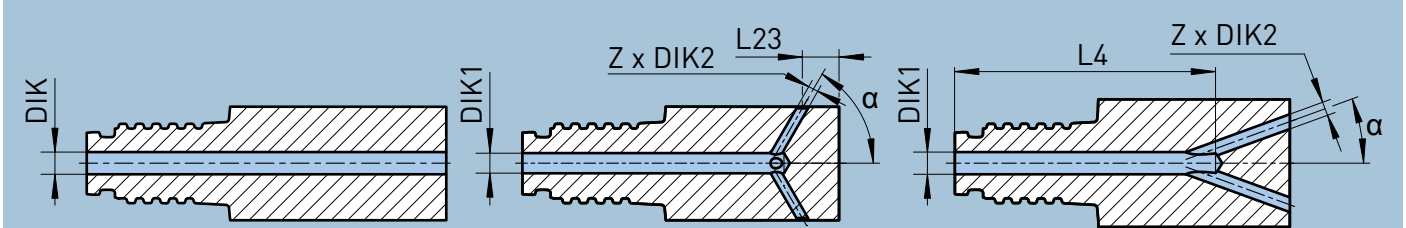
Standard Article No.

Dimensions



DL	L	D1	L1	D2

DIK	DIK1	DIK2	L2	L3



Calculation

Customer Annual Sales	Quantity	Price	Quantity	Price
Customer Mills Annual Sales				

Y-Cooling Angle

α

Y-Cooling Number

Z

Comments / Description of Application

FORM SPECIAL REQUEST RELIEF DUO-λOCK® EXTENSION

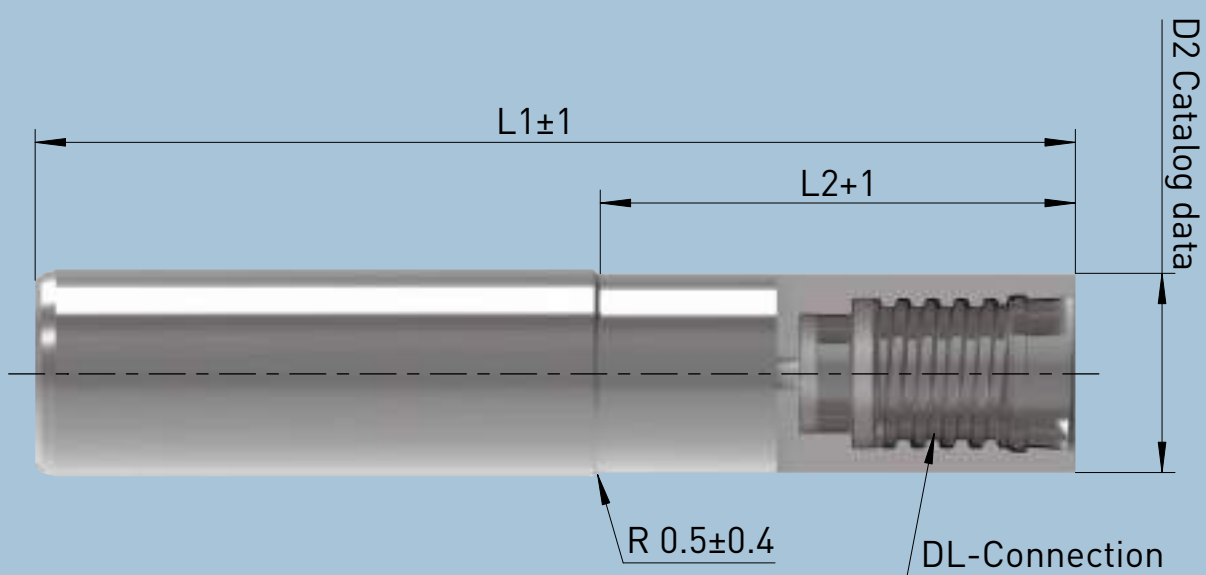
Special Request Number	
Date	

Company	Customer-No.
Street	Contact Person
City/State	Phone
State/Country	Email

Applications Engineer
External Sales Representative
Internal Sales Representative

Standard Article No.

Dimensions



L1	L2	DL

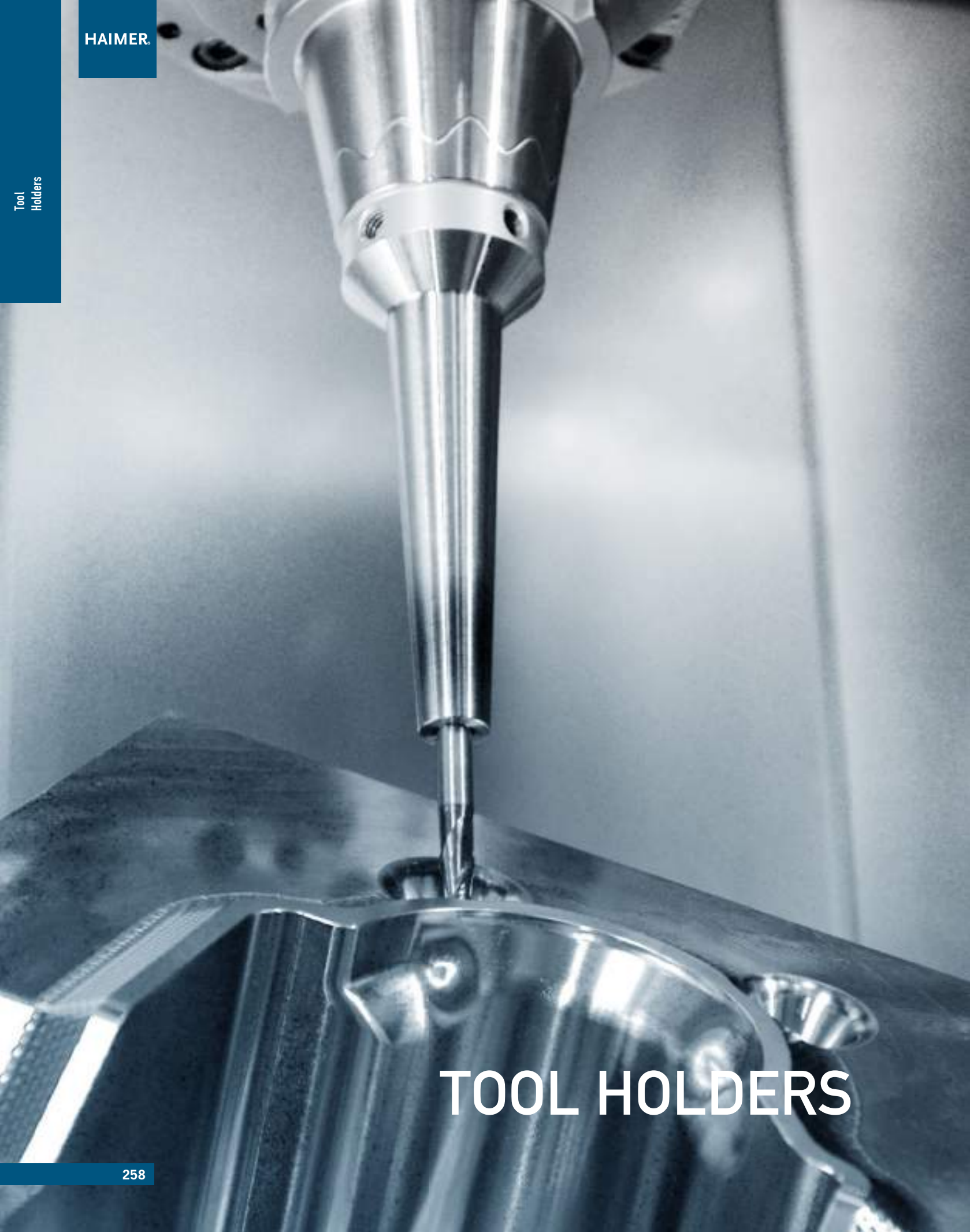
Calculation

Customer Annual Sales	Quantity	Price	Quantity	Price
Customer Mills Annual Sales				

Note

A relief according to the customer's wishes can affect the stability of the DUO-λock® extension.

Comments / Description of Application



TOOL HOLDERS

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THE SUITABLE CLAMPING TECHNIQUE FOR ALL TYPES OF MACHINING APPLICATIONS

Every industry has its specific requirements for tool holding. The range of applications varies from high speed cutting of aluminum to heavy machining of titanium.

For each industry with its typical machining applications HAIMER offers the right clamping technology. To find the suitable product for your specific application, please choose your industry.

Industry



Die and mold, electronics and medical engineering



Automotive engineering



General mechanical engineering



Aerospace industry



Heavy machinery industry

Requirements for tool holding	Suitable tool holder
– High Speed Cutting (HSC) – Slim tooling – Long protruding lengths for deep cavities – Mostly low cutting forces at high rpm – Vibration dampening features – 5-axis machining – High flexibility in tool clamping – Modular system with shrink fit extensions	– Mini Shrink – Power Mini Shrink Chuck – Shrink Fit Chuck standard and extensions – Power Collet Chuck – High-Precision Chuck and extensions – ER Collet Chuck – Duo-Lock Die and Mold Chuck
– Process reliability in the series production – Machining of deep bores – Pull out protection for cutting tools with Safe-Lock – Consistent high quality in the procurement of spare parts	– Shrink Fit Chuck standard and extensions – Power Shrink Chuck – ER Collet Chuck
– High flexibility of tool clamping – Tool holders for universal usage – Vibration-free machining – Modular system with shrink fit extensions	– Shrink Fit Chuck standard and extensions – Power Shrink Chuck – ER Collet Chuck – High-Precision Chuck and extensions – Power Collet Chuck
– Low vibrations at high speed for aluminum cutting – High cutting capacity (High Performance Cutting, HPC) – Extreme rigidity and clamping force for titanium machining – Pull out protection for cutting tools with Safe-Lock	– Shrink Fit Chuck standard and extensions – Power Shrink Chuck – Heavy Duty Chuck and extensions – Power Collet Chuck – High-Precision Chuck and extensions – ER Collet Chuck
– Machining of large steel and cast parts (e.g. gear housings) – High cutting forces at low to medium rpm – High rigidity, even at long protruding lengths	– Shrink Fit Chuck standard – Power Shrink Chuck – Heavy Duty Chuck and extensions – ER Collet Chuck – Power Collet Chuck

ARE YOU READY FOR THE NEXT GENERATION OF MACHINING EFFICIENCY?

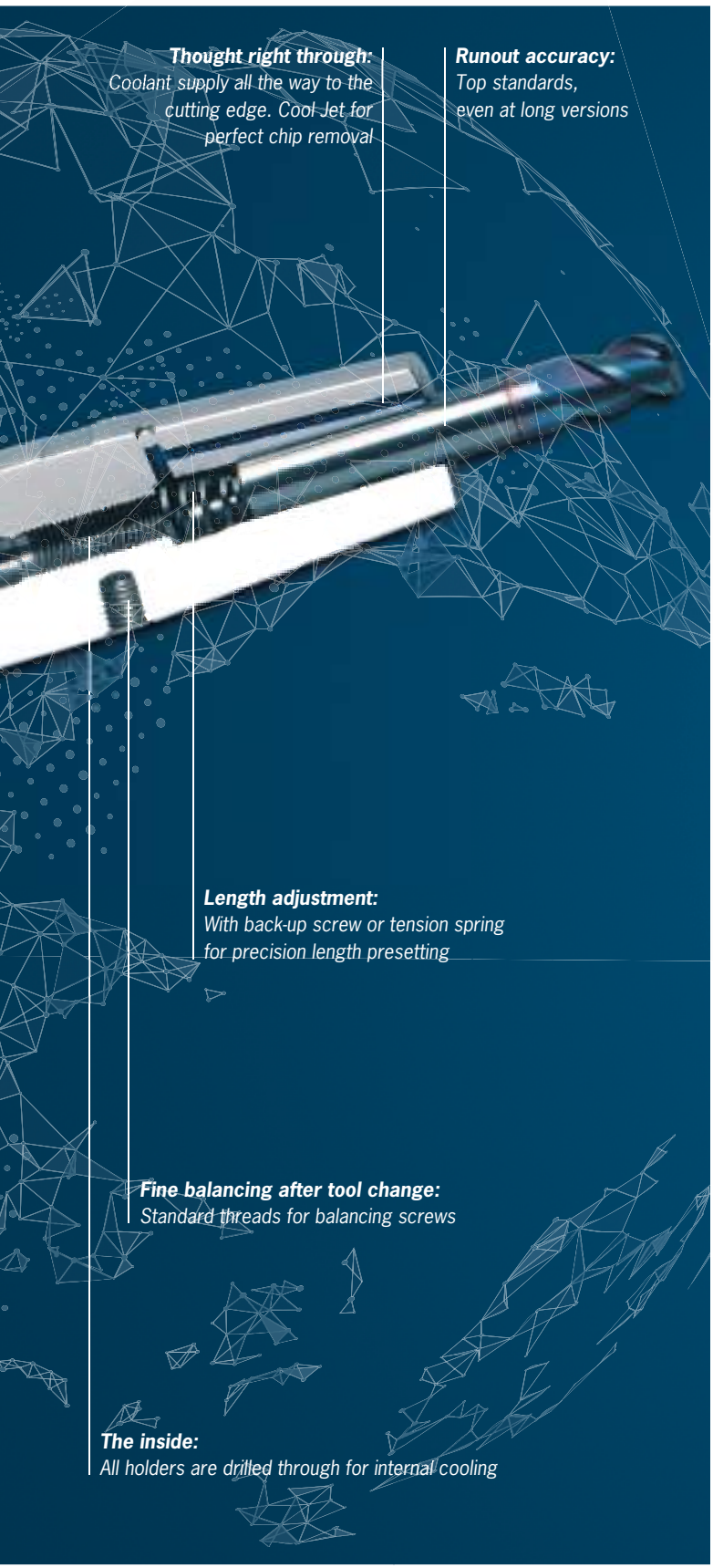
All shrink fit holders are not created equal.
Choose HAIMER holders for best results.

Total quality control
- All made at HAIMER in Germany
- Consistent material
- High-temperature resistant special steel
- High clamping force
- Long clamping bore
- Best runout accuracy
- TIR within 0.00012" at 3 times diameter
- Patented back-up screw
- Prebalanced to G2.5 @ 25,000 RPM
- Fine balancing with set-screws possible
- Cool Jet and Cool Flash coolant delivery available
- Bore for the data chip standard
- "DIN-B"standard
- AT3 taper or better on steep taper
- HSK specialists
- Many tapers available

Shrinking holders from HAIMER
- Power Shrink
- Mini Shrink
- Heavy Duty Shrink
- Safe-Lock
- Extensions

Tapers
- CAT40/CAT50
- CAT40/CAT50 with face contact
- BT30/BT40/BT50
- BT30/BT40/BT50 with face contact
- SK30/SK40/SK50
- HSK-32A/E
- HSK-40A/E
- HSK-50A/E
- HSK-63A/F
- HSK-80A
- HSK-100A
- HSK-80F Makino
- HSK-25E
- HSK-125A
- PSC 63





Are you saving costs at the right place?

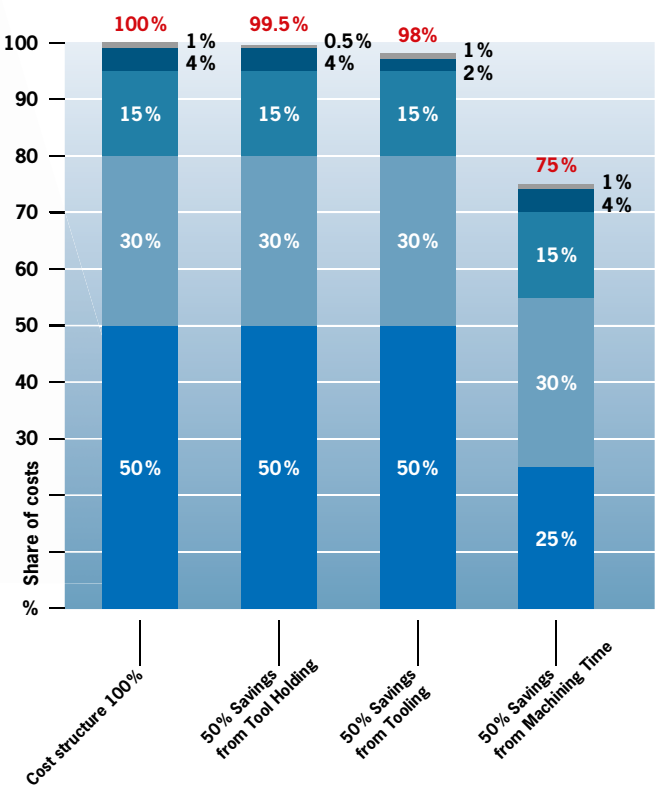
For machining efficiently, potential savings must be explored. But where are these potential savings?

Roughly, the costs of a work piece are composed of the following:

Machine costs with operator (machining time and idle time)	approx. 50%
General costs	approx. 30%
Raw material	approx. 15%
Tooling	approx. 4%
Tool holder	approx. 1%

Assume you could save 50% on tool holders, tooling and machining time.

The resulting potential savings are as follows:



The result: The costs for tooling and tool holders are nearly meaningless. Even with savings of 50%, the total costs remain nearly the same.

Essential savings can be reached by minimizing the machining time. This potential only can be exploited when the cutting process is optimized and the productivity is increased.

Tool holders from HAIMER for more efficiency at high speed machining:

– Higher cutting capacity
– Extended tool life
– Shorter machining times
– High runout accuracy
– Better surface finish
– High reliability of the whole process

THE EVOLUTION OF SHRINK FIT TECHNOLOGY

The **Standard Shrink Fit Chuck** is suitable for a broad range of applications and, based on the needs of our customers with demanding machining challenges, HAIMER developed the **Power Shrink Chuck**.

Thus a much higher metal removal rate and significant tool life increase (e.g. at aluminum machining) could be achieved. With the Power Shrink Chucks, the area of applications for shrinking technology is extended to roughing (still with a runout accuracy of < 0.00012" (0.003 mm) and vibration resistance due to optimized outer geometry).

The extremely rigid outer geometry and the reinforced wall thickness at the clamping bore make the **Heavy Duty Chuck** a profitable chuck for highest performances (e.g. for titanium machining) in the aerospace and heavy machining industry.

Power Shrink and Heavy Duty Shrink Chucks can be equipped with Safe-Lock from diam. ¼" (6 mm) and with the cooling system Cool Flash from diam. ¼" to 1" (6 mm to 25 mm) (optional).

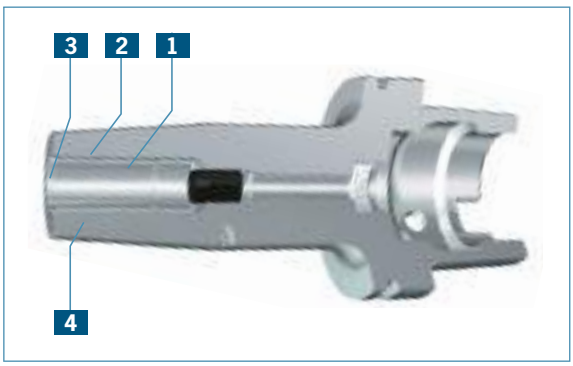
Power
Shrink Chuck

Standard
Shrink Fit Chuck

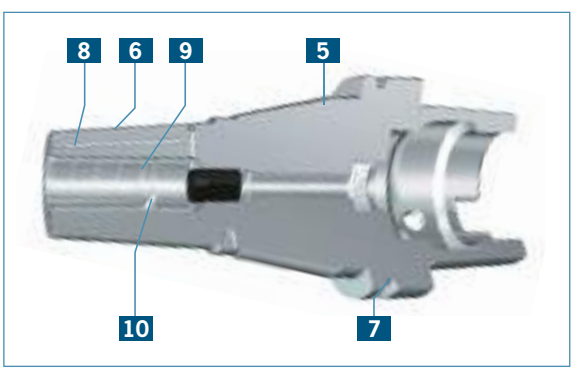


The most important features

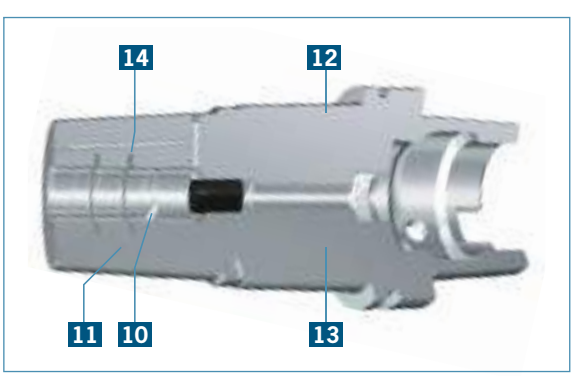
1. High runout accuracy
2. Extreme clamping torque
3. Short chamfer
4. Cool Jet available upon request
5. Low tendency towards vibrations
6. Slim design at the top
7. Very rigid shank
8. Standard with Cool Jet, Cool Flash optional
9. Oil groove in the clamping bore
10. Mounting of Safe-Lock possible
11. Reinforced wall thickness
12. Extremely rigid outer geometry
13. High rigidity
14. Expansion grooves in the clamping bore



HAIMER Standard Shrink Fit Chuck



HAIMER Power Shrink Chuck



HAIMER Heavy Duty Chuck

Heavy Duty Chuck



THE EVOLUTION OF COLLET CHUCK TECHNOLOGY

HAIMER has developed the existing technology of collet chucks further.

The Power Collet Chucks are collet chucks designed for high speed cutting (HSC) – an alternative to the reinforced shrink fit chucks of the Power Series. **Power Collet Chucks** offer a reinforced wall thickness and extra rigid outer contour and are therefore stable and resistant to vibrations. The chucks achieve maximum performance with even more precision with < 0.00012" (0.003 mm) runout accuracy and higher metal removal rate when using the specifically developed HAIMER high-precision collets.

The Power Collets can optionally be equipped with Safe-Lock and Cool Jet.

With the **High Precision Collet Chuck**, a new standard has been set, especially for micro and fine machining. It is featured by the highest runout accuracy of less than 0.00012" (0.003 mm) providing the best surface finish at high rpm.

The specially coated locknuts (fine balanced to < 1 gmm) guarantee vibration dampening and noise-reducing features in high speed cutting (e.g. in the watchmaking or medical industry).

Standard Collet Chuck

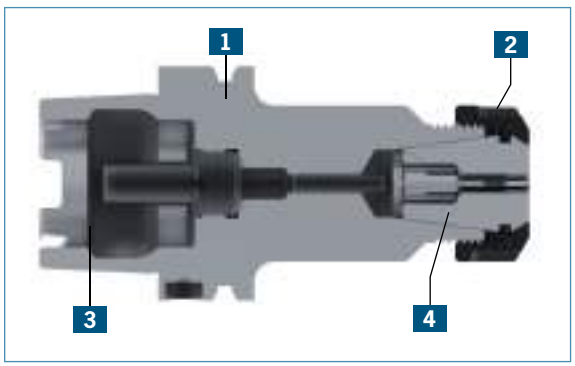


Power Collet Chuck

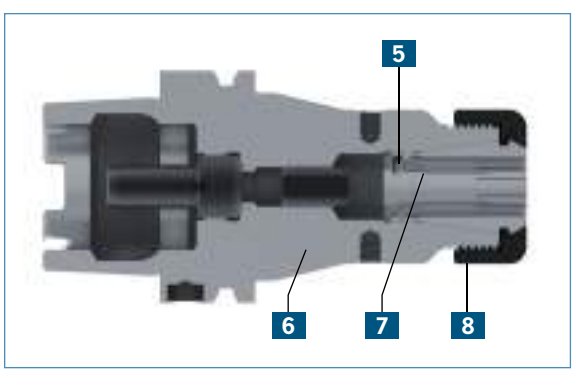


The most important features

1. Fine balanced to G2.5 at 25,000 rpm
2. Fine balanced clamping nut
3. All functional surfaces ground
4. High runout accuracy (< 0.00012" / 0.003 mm)
5. Safe-Lock in the high precision collet (optional)
6. Low tendency towards vibrations by a rigid shank
7. High precision collet
8. Fine balanced Power Collet clamping nut
9. High precision collet with Cool Jet bores (optional)
10. Chuck body fine balanced to G2.5 at 30,000 rpm or U < 1 gmm
11. Thread for balancing screws
12. With specially coated locknut fine balanced < 1 gmm



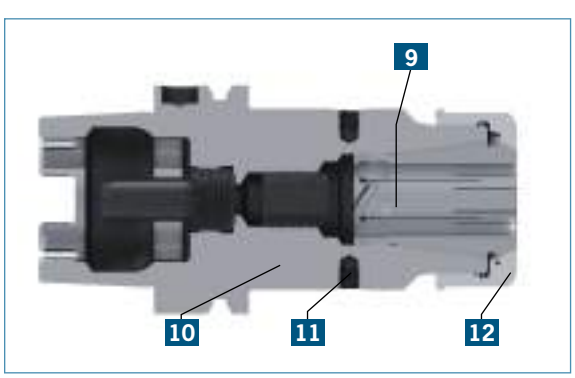
HAIMER Standard Collet Chuck



HAIMER Power Collet Chuck

High Precision Collet Chuck





HAIMER High Precision Collet Chuck

HAIMER

OVERVIEW OF TOOL HOLDER TECHNOLOGY

Tool Holding Systems For Cylindrical Shank Cutting Tools

Application Areas	Shrink Fit Technology					Mechanical
	Shrink Fit Chuck Standard	Power Shrink Chuck	Heavy Duty Shrink Chuck	Power Mini Shrink Chuck	Mini Shrink Chuck	ER Collet Chuck
						
Application						
Drilling	•	•		•	•	•
Finishing	•	•		•	•	•
High Speed Cutting	◐	•	◐	•	•	
Roughing		•	•			
Clamping Range [mm]	3 - 32	6 - 32	16 - 50	3 - 16	3 - 12	0.5 - 25
Runout [mm] at 3xD	0.003 mm	0.003 mm	0.003 mm	0.003 mm	0.003 mm	0.02 mm
Max. RPM	up to 50,000	up to 50,000	up to 50,000	up to 80,000	up to 80,000	up to 15,000
Balancing Grade G	*2.5 @ 25,000 RPM	*2.5 @ 25,000 RPM	*2.5 @ 25,000 RPM	*2.5 @ 25,000 RPM	*2.5 @ 25,000 RPM	*2.5 @ 25,000 RPM
Outer Contour	slim	shank reinforced	clamping area and shank reinforced	very slim, shank reinforced	very slim	medium
Tool Changing Time	60 s	60 s	120 s	60 s	60 s	180 s
Pullout Protection	Safe-Lock	Safe-Lock	Safe-Lock			
Maintenance / Care	none / remove oil	none / remove oil	none / remove oil	none / remove oil	none / remove oil	check collet / cleaning

*HAIMER Standard • applicable ◐ applicable to limited extent

HAIMER Tool Holder Program

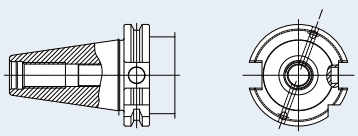
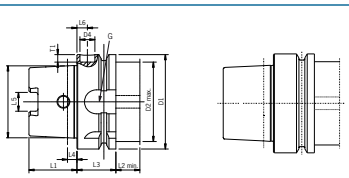
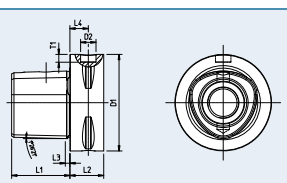
Program Diversity	CAT		CAT with Face Contact		BT			BT with Face Contact			SK			HSK												PSC
	40	50	40	50	30	40	50	30	40	50	30	40	50	A32	A40	A50	A63	A63/80	A80	A100	A125	E25	E32	E40	E50	F63	F80M	63
Shrink Fit Chuck Standard	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•	•	•	•	•
Power Shrink Chuck	•	•	•	•		•	•		•	•		•	•				•	•	•	•	•							•
Heavy Duty Shrink Chuck		•		•			•			•			•				•			•	•							
Power Mini Shrink Chuck	•				•	•		•	•			•	•				•	•										
Mini Shrink Chuck												•					•					•	•	•	•			
ER Collet Chuck	•	•			•	•	•					•	•	•	•	•	•		•	•		•	•	•	•	•	•	•
Power Collet Chuck	•	•			•	•	•					•	•	•	•	•	•	•	•	•	•	•	•	•	•			•
High Precision Collet Chuck			•	•	•	•	•	•	•	•		•	•	•	•	•	•			•			•	•	•			•
High-Precision Chuck						•	•					•					•			•								
Weldon Chuck						•	•					•	•	•	•	•	•		•	•					•			•
Whistle-Notch																	•			•								
Face Mill Arbor	•	•			•	•	•					•	•		•	•	•	•		•	•				•	•	•	•
Combi Shell Endmill Arbor						•	•								•	•	•			•								

Tool Holders

	Power Collet Chuck	High Precision Collet Chuck	HG-Chuck	Weldon Chuck	Whistle-Notch	Hydraulic Chuck**	Milling Chuck**
							
	●	●	●			●	
	●	●	●			●	
	●	●	◐				
	●	●		●	●		●
	2 - 20	2 - 20	2 - 20	6 - 40	6 - 40	3 - 25	6 - 50
	0.003 mm	0.003 mm	0.003 mm	0.03 mm	0.03 mm	0.003 mm	0.01 mm
	up to 25,000	up to 40,000	up to 50,000	up to 15,000	up to 15,000	up to 40,000	up to 15,000
	*2.5 @ 25,000 RPM	*2.5 @ 25,000 RPM	*2.5 @ 25,000 RPM	*2.5 @ 22,000 RPM	*6.3 @ 8,000 RPM	2.5 @ 25,000 RPM	partially fine balanced
	shank reinforced	shank reinforced	medium	medium	medium	very massive	large interference contour
	180 s	180 s	60 s	60 s	120 s	60 s	120 s
	Safe-Lock	Safe-Lock		●	●		
	check collet / cleaning	check collet / cleaning	check collet / cleaning	check clamping screw / remove oil	check clamping screw / remove oil	yearly membrane check / daily test for leaks	accurate and sensitive cleaning necessary

**not in the HAIMER delivery program

Interfaces

	Steep taper CAT, BT, SK	HSK-A/E	PSC Polygon Shank Coupling
Standard	ASME B5.50, JIS B6339, DIN ISO 7388-1	DIN 69893-1, DIN 69893-5	ISO 26623
Drawing			
Info	Traditional interface for milling spindles. Very robust. Also applicable for heavy duty machining. Clamping always with additional pull stud. Centering only via taper surface, without face contact. Therefore limited accuracy. For applications up to 12,000 rpm.	HSK-A: Standard for new machining centers. High precision centering and positioning by taper with face contact. Torque transmission by taper drive keys. For applications up to 35,000 rpm. HSK-E: No drive keys but symmetrical design. Mainly used for high speed machining.	Widespread at multitask (mill-turn centers) machines. Torque transmission and centering due to polygon taper. Exact positioning by face contact. Very high static stiffness.
Quality	HAIMER: 3,000 measuring points guarantee highest taper tolerance of AT3, i.e. all surface tolerances are within 1.5 µm (applies for SK40). HAIMER pull studs from highly precise in-house production made of impact-resistant steel are specially case hardened. For highest breakage and process security.	HAIMER: All functional surfaces at and in the taper (clamping shoulder, wings of drive keys, etc.) fine finished after hardening. For equal axial pull-in, highest runout accuracy and max. rigidity.	Complete ground inner taper for optimal clamping and centering accuracy.

TOOL HOLDERS ARTICLE NUMBER SYSTEM

Explanation article code

Example of article:

Taper size/Type of taper	Clamping system
40.	84
CAT40	Shrink fit chuck

40.

Taper size and type of taper

30	BT/SK
30P	BT with face contact
40	CAT/BT/SK
40P	CAT/BT with face contact
50	CAT/BT/SK
50P	CAT/BT with face contact
A32	HSK-A32
A40	HSK-A40
A50	HSK-A50
A63	HSK-A63
A63/80	HSK-A63/80
A80	HSK-A80
A10	HSK-A100
A125	HSK-A125
E25	HSK-E25
E32	HSK-E32
E40	HSK-E40
E50	HSK-E50
F63	HSK-F63
F80M	HSK-F80M
CC6	PSC 63

84

Clamping system – Key number

CAT	BT	SK	HSK	PSC 63	Clamping system
70	50	30	00	00	Weldon
72	52	32	02	02	ER Collet Chuck
33	53	33	03		Whistle Notch
74	54	34	04		Combination Shell Endmill Arbor
75	55	35	05	05	Face Mill Arbor
37	57	37	07		Quick Change Tapping Chuck
38	58	38	08		Adapter for Morse Taper with Tang
39	59	39	09		Blank Adapter
82	62	42	12		High-Precision Chuck
43	63	43	13		Adapter for Morse Taper with Thread
84	64	44	14	14	Shrink Fit Chuck
85	65	45	15		Shrink Fit Chuck Type S
88	48	47	17		Mini Shrink extra slim
48	68	48	18		Mini Shrink standard

	Length	Size/Clamping diameter	Version
	0.	1Z	.4
	short	1"	with Cool Jet

	0.	1Z		.4
	Length	Size/Clamping diameter		Version
	0. short	INCH	METRIC	.1 Telescope, without slits
	1. long	.1/8Z Ø 1/8"	.02 Ø 2 mm	.2 with Cool Jet
	2. oversize	.3/16Z Ø 3/16"	.03 Ø 3 mm	.26 with Cool Flash
	4. ZG130 (130 mm long)	.1/4Z Ø ¼"	.04 Ø 4 mm	.3 Power Chuck
	5. ultra short	.5/16Z Ø 5/16"	.05 Ø 5 mm	.36 Power Chuck with Cool Flash
	6. ZG200 (200 mm long)	.3/8Z Ø 3/8"	.06 Ø 6 mm	.37 Power Chuck with Safe-Lock
	7. ZG120 (120 mm long)	.7/16Z Ø 7/16"	.07 Ø 7 mm	.38 Power Chuck with Safe-Lock & Cool Flash
		.1/2Z Ø ½"	.08 Ø 8 mm	.3.HP High Precision Collet Chuck
		.5/8Z Ø 5/8"	.10 Ø 10 mm	.4 with Cool Jet bores that can be sealed
		.9/16Z Ø 9/16"	.12 Ø 12 mm	.47 with Cool Jet and Safe-Lock
		.3/4Z Ø ¾"	.14 Ø 14 mm	.6 Heavy Duty Chuck
		.7/8Z Ø 7/8"	.16 Ø 16 mm	.66 Heavy Duty Chuck with Cool Flash
		.1Z Ø 1"	.18 Ø 18 mm	.67 Heavy Duty Chuck with Safe-Lock
		.1 1/4Z Ø 1 ¼"	.20 Ø 20 mm	.68 Heavy Duty Chuck with Safe-Lock & Cool Flash
		.1 1/2Z Ø 1 ½"	.25 Ø 25 mm	.7 Safe-Lock
		.2Z Ø 2"	.32 Ø 32 mm	.8 Power Mini Shrink
			.40 Ø 40 mm	.KKB with Coolant Exit bores
			.50 Ø 50 mm	

PERFECTION REQUIRES PRECISION

Tight tolerances and high quality demands leave no room for compromises. Where quality is concerned, we trust ourselves first and foremost. Not only do we manufacture all our products in-house, the fixtures and vices on our machines are also made by HAIMER. We do so because we know that only **Quality wins.**







ASME B5.50
CAT40 / CAT50

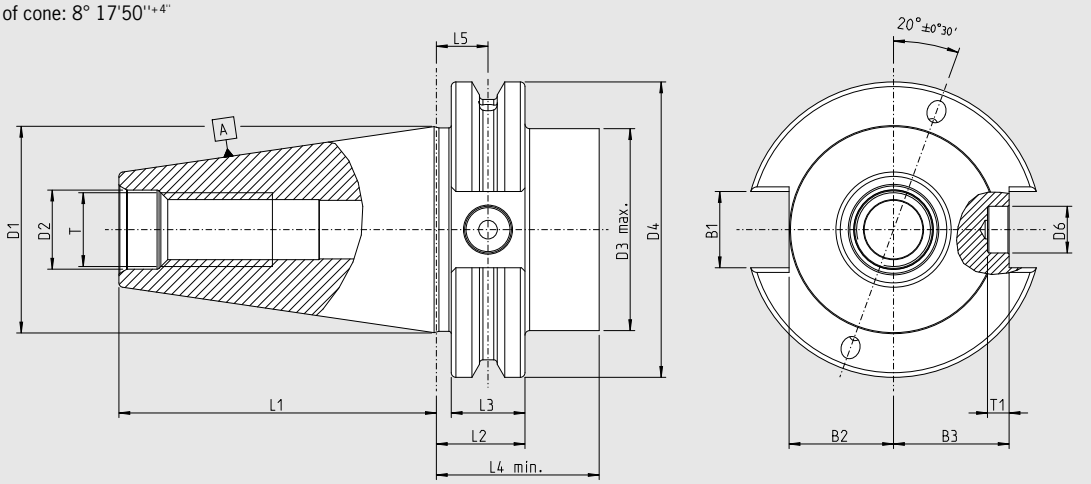
Article	Page
CAT40	
Shrink Fit Chuck	276
Power Shrink Chuck	277
Power Mini Shrink Chuck	278
ER Collet Chuck	280
Power Collet Chuck	281
Face Mill Arbor	282
Blank Adapter – Hardened	283
CAT50	
Shrink Fit Chuck	284
Power Shrink Chuck	285
Heavy Duty Chuck	286
ER Collet Chuck	287
Power Collet Chuck	288
Face Mill Arbor	289
Blank Adapter – Hardened	290

STEEP TAPER
ASME B5.50 · CAT40 / CAT50

Design:
- Tool holders case-hardened 60–2 HRC
- Tensile strength in the core at least 950 N/mm²
- Taper in tolerance quality AT3
- Form AD/AF: interior coolant supply through center (form AD) and through the collar (form AF)
- Incl. bore for data chip Ø 10 mm

CAT40 / CAT50

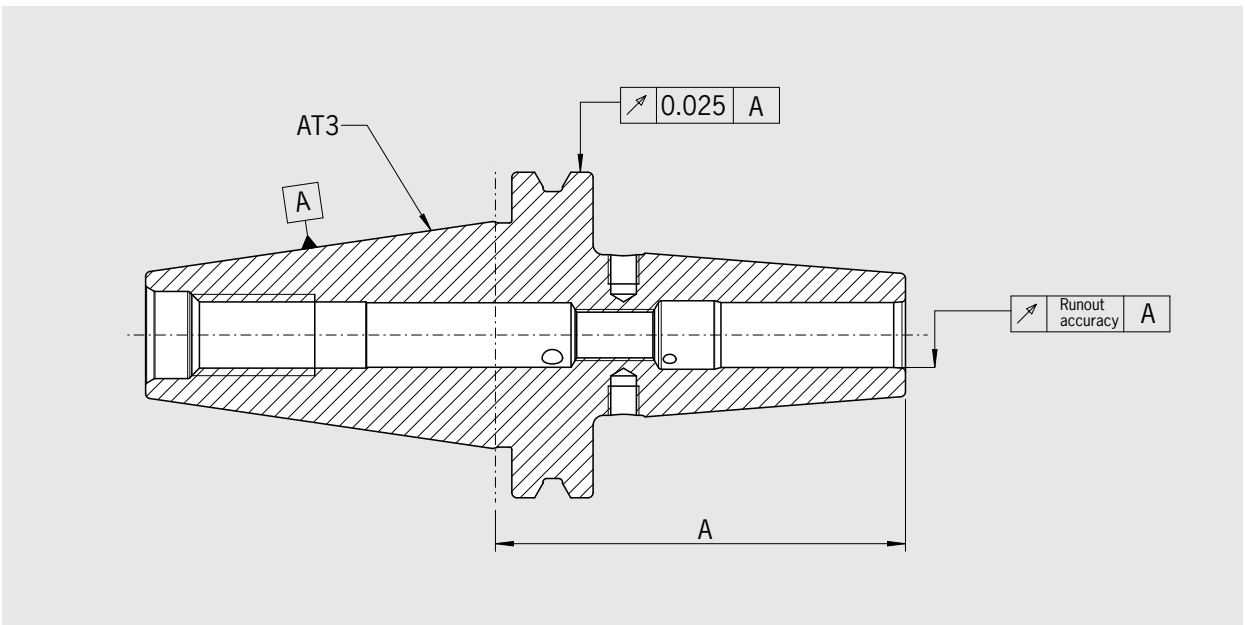
– Angle of cone: 8° 17'50"$^{+4"}$



CAT40	D1	D2	D3 max.	D4	D5	D6	L1	L2	L3	L4 min.	L5	T	T1	B1	B2	B3
inch	1.75	0.669	1.71	2.5	2.126	0.39	2.687	0.75	0.625	1.38	0.44	5/8"–11	0.18	0.646	0.89	0.984

CAT50	D1	D2	D3 max.	D4	D5	D6	L1	L2	L3	L4 min.	L5	T	T1	B1	B2	B3
inch	2.75	1.063	2.71	3.875	3.307	0.39	4.0	0.75	0.625	1.38	0.44	1"–8	0.18	1.02	1.39	1.484

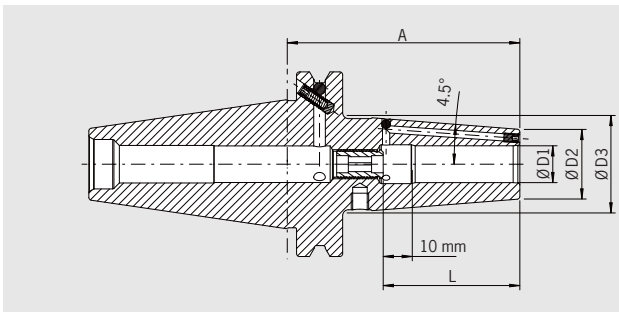
RUNOUT ACCURACY
ASME B5.50 · CAT40 / CAT50



Gage length	A < 160	A ≥ 160
max. runout tolerance in mm		
Shrink Fit Chuck	0.003	0.004
Power Shrink Chuck	0.003	0.004
Heavy Duty Chuck	0.003	0.004
Power Mini Shrink Chuck	0.003	0.004
Collet Chuck ER	0.003	0.004
Power Collet Chuck	0.003	0.004
High Precision Collet Chuck	0.003	0.004
High Precision Chuck	0.003	0.003
Face Mill Arbor	0.006	0.006
Adapter for Morse Taper	0.008	—

SHRINK FIT CHUCK
ASME B5.50 · CAT40





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF
- ☑ Cool Jet, can be sealed

Use:
Shrink fit chuck suitable for use with all available shrink fit units.

CAT40 Form AD/AF
Form AD/AF means central-coolant supply and coolant channels through the flange which can be sealed again

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

Optional:
– Cooling with Cool Flash from ¼"–1" for an extra charge (See pages 502–503)
– Safe-Lock pull out protection (See pages 496–500)

Standard version, similar to DIN 69882-8

INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/4
	Ø D2 [inch]	0.39	0.39	0.83	0.83	0.94	0.94	0.94	1.06	1.30	1.30	1.73	1.73
	Ø D3 [inch]			1.06	1.06	1.26	1.26	1.26	1.34	1.65	1.65	2.09	2.09
	L [inch]	0.35	0.47	1.42	1.42	1.65	1.65	1.85	1.97	2.05	2.05	2.28	2.28
Gage length A [inch]	short	3.15[1)]	3.15[1)]	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.94	3.94
Standard Order No.	**40.840...**	**.1/8Z**	**.3/16Z**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	ZG130	—	—	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Order No.	**40.844...**			**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	oversize	—	—	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Order No.	**40.842...**			**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16	20	25	32
	Ø D2 [mm]	10	10	10	21	21	24	24	27	27	33	44	44
	Ø D3 [mm]				27	27	32	32	34	34	42	53	53
	L [mm]	09	12	15	36	36	42	47	47	50	52	58	58
Gage length A [mm]	short	80[1)]	80[1)]	80[1)]	80	80	80	80	80	80	80	100	100
Order No.	**40.840...**	**.03**	**.04**	**.05**	**.06.4**	**.08.4**	**.10.4**	**.12.4**	**.14.4**	**.16.4**	**.20.4**	**.25.4**	**.32.4**
Gage length A [mm]	ZG130	—	—	—	130	130	130	130	130	130	130	130	130
Order No.	**40.844...**				**.06.4**	**.08.4**	**.10.4**	**.12.4**	**.14.4**	**.16.4**	**.20.4**	**.25.4**	**.32.4**
Gage length A [mm]	oversize	—	—	—	160	160	160	160	160	160	160	160	—
Order No.	**40.842...**				**.06.4**	**.08.4**	**.10.4**	**.12.4**	**.14.4**	**.16.4**	**.20.4**	**.25.4**	

Standard version with Safe-Lock and M3 seal screw installed

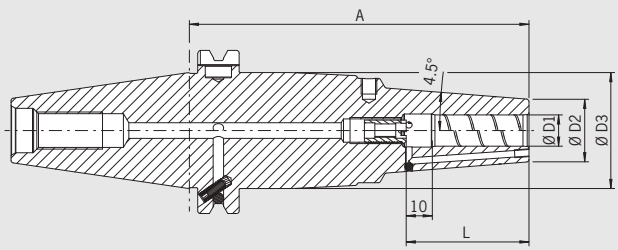
INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8	3/4	1	1 1/4
	Ø D2 [inch]	0.83	0.83	0.94	0.94	1.06	1.30	1.73	1.73
	Ø D3 [inch]	1.06	1.06	1.26	1.26	1.34	1.65	2.09	2.09
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28	2.28
Gage length A [inch]	short	3.15	3.15	3.15	3.15	3.15	3.15	3.94	3.94
Order No.	**40.840...**	**.1/4Z.47**	**.5/16Z.47**	**.3/8Z.47**	**.1/2Z.47**	**.5/8Z.47**	**.3/4Z.47**	**.1Z.47**	**.1 1/4Z.47**

METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	20	25	32
	Ø D2 [mm]	21	21	24	24	27	27	33	44	44
	Ø D3 [mm]	27	27	32	32	34	34	42	53	53
	L [mm]	36	36	42	47	47	50	52	58	58
Gage length A [mm]	short	80	80	80	80	80	80	80	100	100
Order No.	**40.840...**	**.06.47**	**.08.47**	**.10.47**	**.12.47**	**.14.47**	**.16.47**	**.20.47**	**.25.47**	**.32.47**

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for coolant around the tool

POWER SHRINK CHUCK
ASME B5.50 · CAT40

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF
- ☑ Cool Jet, can be sealed





The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

The long versions with slim tips are especially versatile to use.
– High rigidity, slim at the tip, dampen vibrations
– Higher clamping forces
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine

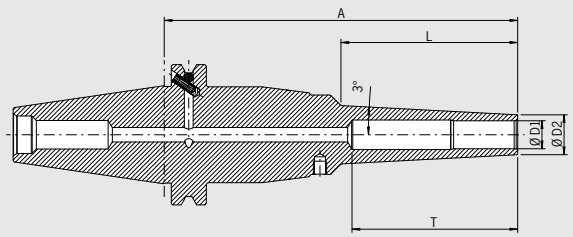
Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)
– Safe-Lock pull out protection (See pages 496–500)

INCH	Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8	3/4	1
	Ø D2 [inch] ultra short	0.87	0.87	1.04	1.04	1.16	1.40	1.79
	Ø D3 [inch] ultra short	1.75	1.75	1.75	1.75	1.75	1.75	1.75
	L [inch] ultra short	1.42	1.42	1.65	1.85	1.97	2.05	2.28
Gage length A [inch]	ultra short	2.56	2.56	2.56	2.56	2.56	2.56	2.95
Standard Order No.	**40.845...**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**
Safe-Lock Order No.	**40.845...**	**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**
	Ø D2 [inch] ZG130/oversize	0.83	0.83	0.94	0.94	1.06	1.30	
	Ø D3 [inch] ZG130/oversize	1.75	1.75	1.75	1.75	1.75	1.75	
	L [inch] ZG130/oversize	1.42	1.42	1.65	1.85	1.97	2.05	
Gage length A [inch]	ZG130	5.12	5.12	5.12	5.12	5.12	5.12	
Standard Order No.	**40.844...**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	
Safe-Lock Order No.	**40.844...**	**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	
Gage length A [inch]	oversize	6.30	6.30	6.30	6.30	6.30	6.30	
Standard Order No.	**40.842.**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	
Safe-Lock Order No.	**40.842...**	**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	

METRIC	Ø D1 [mm]	6	8	10	12	16	20	25
	Ø D2 [mm] ultra short	22	22	26.5	26.5	29.5	35.5	45.5
	L [mm] ultra short	36	36	42	47	50	52	58
Gage length A [mm]	ultra short	65	65	65	65	65	65	75
Standard Order No.	**40.845...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.16.3**	**.20.3**	**.25.3**
Safe-Lock Order No.	**40.845...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.16.37**	**.20.37**	**.25.37**
	Ø D2 [mm] ZG130/oversize	21	21	24	24	27	33	
	Ø D3 [mm] ZG130/oversize	44.45	44.45	44.45	44.45	44.45	44.45	
	L [mm] ZG130/oversize	36	36	42	47	50	52	
Gage length A [mm]	ZG130	130	130	130	130	130	130	
Standard Order No.	**40.844...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.16.3**	**.20.3**	
Safe-Lock Order No.	**40.844...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.16.37**	**.20.37**	
Gage length A [mm]	oversize	160	160	160	160	160	160	
Order No.	**40.842...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.16.3**	**.20.3**	
Safe-Lock Order No.	**40.842...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.16.37**	**.20.37**	

POWER MINI SHRINK CHUCK
ASME B5.50 · CAT40
INCH





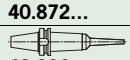
CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Power Mini Shrink Chuck is perfect for 5-axis machining in the die & mold and medical industry. Very slim at the top like the HAIMER Mini Shrink Chucks, the Power Mini Shrink is reinforced at the base. This allows for efficient milling with an angled tool, even at long protruding lengths.

– Extremely slim design
– No disturbing edges
– TIR less than 0.00012" (3 µm)
– Ideal for the HAIMER Power Clamp
– For all solid carbide tools with shank tolerance h6
– With 3° angle for die and mold

Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

INCH	Clamping Ø D1 [inch]		1/8	3/16	1/4	5/16	3/8	1/2	5/8
	Ø D2 [inch] standard		0.35	0.43	0.47	0.55	0.63	0.71	0.95
	Ø D2 [inch] extra slim		0.24	0.32	0.35	0.43	0.51	0.59	—
	T [inch]		—	—	—	—	2.68	2.95	2.95
	L [inch] ZG130		1.97	1.97	1.97	1.97	1.97	1.97	1.97
Gage length A [mm]	ZG130		5.12	5.12	5.12	5.12	5.12	5.12	5.12
Order No.	standard	**40.884...**	**.1/8z.8**	**.3/16z.8**	**.1/4z.8**	**.5/16z.8**	**.3/8z.8**	**.1/2z.8**	**.5/8z.8**
Order No.	extra slim	**40.874...**	**.1/8z.8**	**.3/16z.8**	**.1/4z.8**	**.5/16z.8**	**.3/8z.8**	**.1/2z.8**	—
	L [inch]		3.15	3.15	3.15	3.15	3.15	3.15	3.15
Gage length A [mm]	oversize		6.30	6.30	6.30	6.30	6.30	6.30	6.30
Order No.	standard	**40.882...**	**.1/8z.8**	**.3/16z.8**	**.1/4z.8**	**.5/16z.8**	**.3/8z.8**	**.1/2z.8**	**.5/8z.8**
Order No.	extra slim	**40.872...**	**.1/8z.8**	**.3/16z.8**	**.1/4z.8**	**.5/16z.8**	**.3/8z.8**	**.1/2z.8**	—
Gage length A [mm]	ZG200		7.87	7.87	7.87	7.87	7.87	7.87	7.87
Order No.	standard	**40.886...**	**.1/8z.8**	**.3/16z.8**	**.1/4z.8**	**.5/16z.8**	**.3/8z.8**	**.1/2z.8**	**.5/8z.8**
Order No.	extra slim	**40.876...**	**.1/8z.8**	**.3/16z.8**	**.1/4z.8**	**.5/16z.8**	**.3/8z.8**	**.1/2z.8**	—

Power Mini Shrink Chuck short version

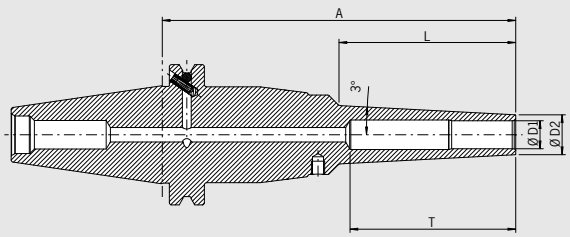
INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	3/8	1/2
	Ø D2 [inch]	0.35	0.43	0.47	0.63	0.81
	L [inch]	1.97	1.97	1.97	1.97	1.42
Gage length A [inch]		3.94	3.94	3.94	3.94	3.15
Order No.	**40.889...**	**.1/8z.0002**	**.3/16z.0002**	**.1/4z.0001**	**.3/8z.0001**	**.1/2z.0001**
Suitable Shrink and cooling sleeves						
Order No.	**80.105.14...**	**.2.04**	**.2.05**	**.2.09**	**.2.11**	—
Suitable cooling sleeve						
Order No.	**80.105.16...**	—	—	—	—	**.0033**

Accessories

Shrink and cooling adapter for Mini Shrink See page 593

POWER MINI SHRINK CHUCK
ASME B5.50 · CAT40
METRIC

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

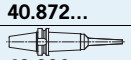




Power Mini Shrink Chuck is perfect for 5-axis machining in the die & mold and medical industry. Very slim at the top like the HAIMER Mini Shrink Chucks, the Power Mini Shrink is reinforced at the base. This allows for efficient milling with an angled tool, even at long protruding lengths.

- Extremely slim design
- No disturbing edges
- TIR less than 0.00012" (3 µm)
- Ideal for the HAIMER Power Clamp
- For all solid carbide tools with shank tolerance h6
- With 3° angle for die and mold

Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

METRIC	Clamping Ø D1 [mm]		03	04	05	06	08	10	12	16
	Ø D2 [mm] standard		09	10	11	12	14	16	18	24
	Ø D2 [mm] extra slim		06	07	08	09	11	13	15	—
	T [mm]		—	—	—	—	—	68	75	75
	L [mm] ZG130		50	50	50	50	50	50	50	50
Gage length A [mm]	ZG130		130	130	130	130	130	130	130	130
Order No.	standard	**40.884...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**40.874...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**–**
	L [mm]		80	80	80	80	80	80	80	80
Gage length A [mm]	oversize		160	160	160	160	160	160	160	160
Order No.	standard	**40.882...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**40.872...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	—
Gage length A [mm]	ZG200		200	200	200	200	200	200	200	200
Order No.	standard	**40.886...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**40.876...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	—

Power Mini Shrink Chuck short version

METRIC	Clamping Ø D1 [mm]	04	06
	Ø D2 [mm]	10	12
	L [mm]	50	50
Gage length A [mm]		100	100
Order No.	**40.889...**	**.04.8.1001**	**.06.8.1002**[1)]
Suitable Shrink and cooling sleeves			
Order No.	**80.105.14...**	**.2.08**	**.2.09**

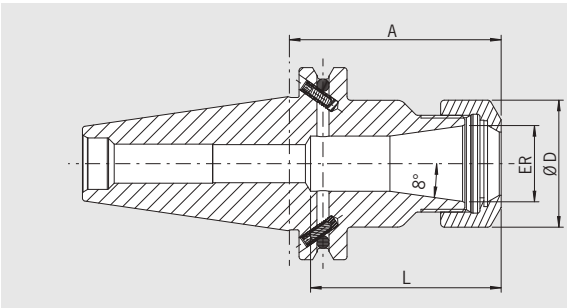
Accessories

Shrink and cooling adapter for Mini Shrink See page 593

1) With EDM slits

ER COLLET CHUCK
ASME B5.50 · CAT40





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 22,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Use:
For clamping tools with cylindrical shank in ER collets according to ISO 15488.

CAT40 Form AD/AF
Form AD/AF means central-coolant supply and coolant channels through the flange which can be sealed again

– Balanced collet nuts with special slide coating for low friction and higher clamping forces
– Included in delivery: ER collet chuck with pre-balanced collet nut

INCH	Ø ER	ER11	ER16	ER20	ER25	ER32	ER40
	Ø D [inch]	0.75	1.1	1.34	1.65	1.97	2.48
	Clamping range [inch]	0.02–0.28	0.02–0.39	0.04–0.51	0.04–0.63	0.04–0.79	0.08–1.02
	Clamping range [mm]	0.5–7.0	0.5–10.0	1.0–13.0	1.0–16.0	1.0–20.0	2.0–26.0
L [inch]		—	[2]	1.63	2.44	2.52	2.87
Gage length A [inch]	short	—	2.76	2.76	2.76	2.76	2.76
Order No.	**40.720...**		**.16**	**.20**	**.25**	**.32**	**.40**
L [inch]		[2]	[2]	1.63	2.24	2.52	2.87
Gage length A [inch]	long	3.94	3.94	3.94	3.94	3.94	3.94
Order No.	**40.721...**	**.11**	**.16**	**.20**	**.25**	**.32**	**.40**
L [inch]		—	[2]	1.63	2.24	2.52	2.87
Gage length A [inch]	oversize	—	6.30	6.30	6.30	6.30	6.30
Order No.	**40.722...**		**.16**	**.20**	**.25**	**.32**	**.40**
L [inch]		—	[2]	1.63	2.24	2.52	—
Gage length A [inch]	ZG200	—	7.87	7.87	7.87	7.87	—
Order No.	**40.726...**		**.16**	**.20**	**.25**	**.32**	

Accessories

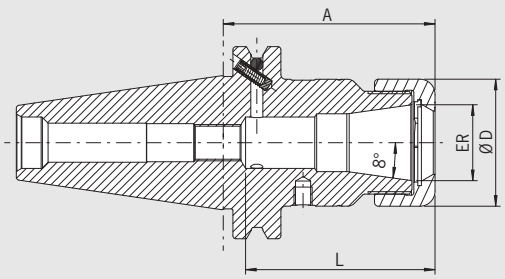
Collet nut, pre-balanced							
Ø ER		ER11	ER16	ER20	ER25	ER32	ER40
Order No.	**83.912...**	**.11**	**.16**	**.20**	**.25**	**.32**	**.40**
Collet nut HS (High Speed), fine-balanced							
Ø ER		—	ER16	ER20	ER25	ER32	ER40
Order No.	**83.912...**		**.16.HS**	**.20.HS**	**.25.HS**	**.32.HS**	**.40.HS**
Wrench							
Ø ER		ER11	ER16	ER20	—	—	—
Order No.	**84.200...**	**.11**	**.16**	**.20**			
Wrench							
Ø ER		—	—	—	ER25	ER32	ER40
Order No.	**84.200...**				**.25**	**.32**	**.40**
Balancing index rings							
Ø ER		ER11	ER16	ER20	ER25	ER32	ER40[1]
Order No.	**79.350...**	**.19**	**.28**	**.34**	**.42**	**.1.71Z**	**.50**
Collets ER							See pages 768–773
Pull Studs							See pages 787–791

1) Not for 40.720.40
2) Drilled through

POWER COLLET CHUCK
ASME B5.50 · CAT40

CERTIFICATE OF QUALITY

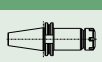
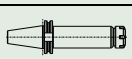
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine-machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF



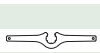
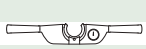


The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

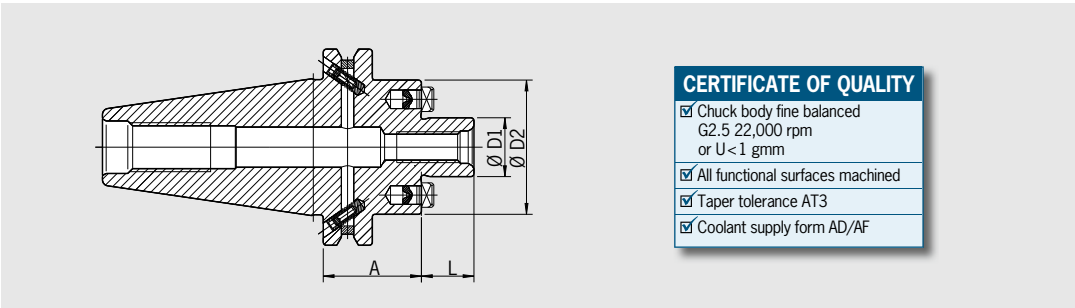
INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch] short		1.69	2.42	2.44
Gage length A [inch]	short		2.76	2.76	2.76
Order No.	**40.720...**		**.16.3**	**.25.3**	**.32.3**
	L [inch]		1.69	2.01	2.09
Gage length A [inch]	long		3.94	3.94	3.94
Order No.	**40.721...**		**.16.3**	**.25.3**	**.32.3**
Gage length A [inch]	oversize		6.30	6.30	6.30
Order No.	**40.722...**		**.16.3**	**.25.3**	**.32.3**

Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No. 83.914...		**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No. 84.600.00				
Power Collets				See page 774
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No. 91.100.27				
Shrink Fit Collets				See pages 759–766

FACE MILL ARBOR
ASME B5.50 · CAT40



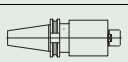


CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 22,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Use:
For clamping face mill cutters.

CAT40 FORM AD/AF
Form AD/AF means central-coolant supply and coolant channels through the flange which can be sealed again

– Included in delivery: Face Mill Arbor and clamping screw

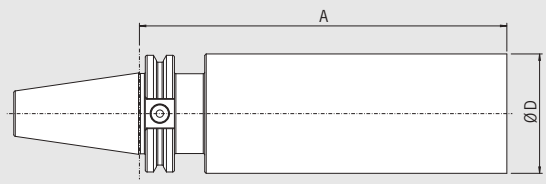
INCH	Ø D1 [inch]		3/4	1	1 1/4	1 1/2
	L [inch]		0.67	0.67	0.67	0.94
	Ø D2 [inch]		1.71	2.17	2.75	3.78
Gage length A [inch]	short		1.38	1.97	1.97	1.97
Order No.	**40.750...**		**.3/4Z**	**.1Z**	**.1 1/4Z**	**.1 1/2Z**
Gage length A [inch]	long		3.94	3.94	—	—
Order No.	**40.751...**		**.3/4Z**	**.1Z**		

Accessories

Clamping Screw						
Ø D1 [inch]			3/4	1	1 1/4	1 1/2
Order No.	**85.300...**		**.3/4Z**	**.1Z**	**.11/4Z**	**.11/2Z**
Wrench						
Ø D1 [inch]			3/4	1	1 1/4	1 1/2
Order No.	**84.400...**		**.3/4Z**	**.1Z**	**.11/4Z**	**.11/2Z**
Balancing index rings						
ØD1 [inch]			3/4	1	1 1/4	1 1/2
Order No.	**79.350...**		**.1.71Z**	**.55**	**.70**	**.96**
Pull Studs						See pages 787–791
Coolant bores						
Order No.	**91.100.03**					

BLANK ADAPTER – HARDENED
ASME B5.50 · CAT40

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3

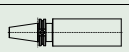




Use:
For manufacturing special tools in your factory.

Version:
– Taper and groove hardened and ground
– Cylindrical part hardened to 52+2 HRC

Taper **ASME B5.50 CAT40** prepared for Form AD.
Form AD means central coolant supply

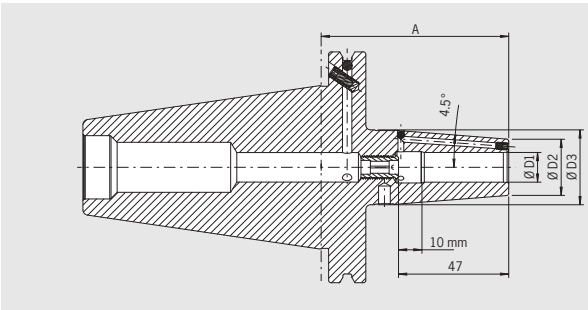
INCH	Ø D [inch]		2.56
Gage Length A [inch]	ZG100		3.94
Order No.	**R40.796.0650...**		**.0100**
Gage Length A [inch]	ZG200		7.87
Order No.	**R40.796.0650...**		**.0200**
Gage Length A [inch]	ZG300		11.81
Order No.	**R40.796.0650...**		**.0300**

Accessories

Pull studs  See pages 787 – 791

SHRINK FIT CHUCK
ASME B5.50 · CAT50





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF
- ☑ Cool Jet, can be sealed

Use:
Shrink fit chuck suitable for use with all available shrink fit units.

CAT50 Form AD/AF
Form AD/AF means central coolant supply and coolant channels through the flange which can be sealed again

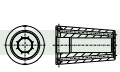
– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/4
	Ø D2 [inch]	0.83	0.83	0.94	0.94	0.94	1.06	1.30	1.30	1.73	1.73
	Ø D3 [inch]	1.06	1.06	1.26	1.26	1.26	1.34	1.65	1.65	2.09	2.09
	L [inch]	1.42	1.42	1.65	1.65	1.85	1.97	2.05	2.05	2.28	2.28
Gage length A [inch]	short	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.94	3.94
Order No.	**50.840...**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	ZG130	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Order No.	**50.844...**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	oversize	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Order No.	**50.842...**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**

METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	27	27	32	32	34	34	42	42	53	53
	L [mm]	36	36	42	47	47	50	50	52	58	58
Gage length A [mm]	short	80	80	80	80	80	80	80	80	100	—
Order No.	**50.840...**	**.06.4**	**.08.4**	**.10.4**	**.12.4**	**.14.4**	**.16.4**	**.18.4**	**.20.4**	**.25.4**	
Gage length A [mm]	ZG130	130	130	130	130	130	130	130	130	130	130
Order No.	**50.844...**	**.06.4**	**.08.4**	**.10.4**	**.12.4**	**.14.4**	**.16.4**	**.18.4**	**.20.4**	**.25.4**	**.32.4**
Gage length A [mm]	oversize	160	160	160	160	160	160	—	160	160	160
Order No.	**50.842...**	**.06.4**	**.08.4**	**.10.4**	**.12.4**	**.14.4**	**.16.4**		**.20.4**	**.25.4**	**.32.4**

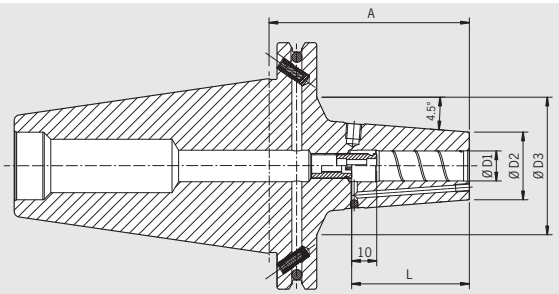
Accessories

Cool Flash		**Order No. 91.100.40**	See pages 502–503

POWER SHRINK CHUCK
ASME B5.50 · CAT50

CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF
- ☑ Cool Jet, can be sealed





The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

The long versions (A=160 and 200) with slim tips are especially versatile to use.

– High rigidity, slim at the tip, dampen vibrations
– Higher clamping forces
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine

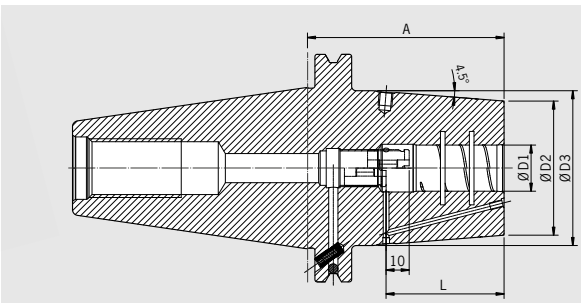
Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)
– Safe-Lock pull out protection (See pages 496–500)

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8	3/4	1
	Ø D2 [inch] short	0.83	0.83	1.06	1.06	1.31	1.76	1.73
	Ø D3 [inch] short	2.68	2.68	2.17	2.17	—	—	—
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28
Gage length A [inch]	short	3.15	3.15	3.15	3.15	3.15	3.15	3.94
Order No.	**50.840...**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**
Safe-Lock Order No.	**50.840...**	**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**
	Ø D2 [inch] oversize/ZG200	0.83	0.83	1.06	1.06	1.30	1.73	1.73
	Ø D3 [inch] oversize/ZG200	2.75	2.75	2.75	2.75	2.75	2.75	2.75
Gage length A [inch]	oversize	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Order No.	**50.842...**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**
Safe-Lock Order No.	**50.842...**	**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**
Gage length A [inch]	ZG200	7.87	7.87	7.87	7.87	7.87	7.87	7.87
Order No.	**50.846...**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**
Safe-Lock Order No.	**50.846...**	**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**

METRIC	Ø D1 [mm]	06	08	10	12	14	16	18	20	25
	Ø D2 [mm] short	21	21	27	27	33.3	33.3	44.7	44.7	44
	Ø D3 [mm] short	68	68	55	55	—	—	—	—	—
	L [mm]	36	36	42	47	47	50	50	52	58
Gage length A [mm]	short	80	80	80	80	80	80	80	80	100
Order No.	**50.840...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**
Safe-Lock Order No.	**50.840...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**
	Ø D2 [mm] oversize/ZG200	21	21	27	27	33	33	44	44	44.7
	Ø D3 [mm] oversize/ZG200	69.85	69.85	69.85	69.85	69.85	69.85	69.85	69.85	69.85
Gage length A [mm]	oversize	160	160	160	160	160	160	160	160	160
Order No.	**50.842...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**
Safe-Lock Order No.	**50.842...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**
Gage length A [mm]	ZG200	200	200	200	200	200	200	200	200	200
Order No.	**50.846...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**
Safe-Lock Order No.	**50.846...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**

HEAVY DUTY CHUCK
ASME B5.50 · CAT50





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF
- ☑ Cool Jet, can be sealed

The Heavy Duty Chuck is a shrink fit chuck designed for extreme cases and Heavy Duty machining. The contour is optimized for highest rigidity and clamping force.

– Smooth clamping of the tool shank
– TIR less than 0.00012" (3 µm)
– Reinforced outer contour
– To shrink with 13 kW HD coil (see page 600) or with high performance shrink fit unit HAIMER Power Clamp Profi Plus (20 kW)
– With internal groove in the clamping bore
– Cool Jet coolant bores that can be sealed included
– With threaded holes in order to balance with balancing screws

Optional:
– Cooling with Cool Flash from 5/8"–1" for an extra charge
– Safe-Lock pull out protection

INCH	Clamping Ø D1 [inch]	5/8	3/4	1	1 1/4	1 1/2	2
	Ø D2 [inch]	2.01	2.28	2.48	2.76	3.23	3.23
	Ø D3 [inch]	—	2.64	—	3.07	3.54	3.70
	L [inch]	1.97	2.05	2.28	2.40	3.46	3.46
Gage length A [inch]	short	3.15	3.35	3.54	3.54	3.94	5.51
Order No.	**50.850...**	**.5/8z.6**	**.3/4z.6**	**.1z.6**	**.11/4z.6**	**.11/2z.6**	**.2z.6**
Safe-Lock Order No.	**50.850...**	**.5/8z.67**	**.3/4z.67**	**.1z.67**	**.11/4z.67**	**.11/2z.67**	**.2z.67**

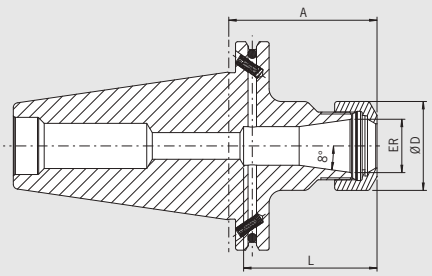
METRIC	Clamping Ø D1 [mm]	16	20	25	32	40	50
	Ø D2 [mm]	51	58	63	70	82	82
	Ø D3 [mm] short	—	67	—	78	90	94
	L [mm]	50	52	58	61	88	88
Gage length A [mm]	short	80	85	90	90	100	140
Order No.	**50.850...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Safe-Lock Order No.	**50.850...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**
	Ø D3 [mm] oversize/ZG200	69.85	69.85	78	85	94	94
Gage length A [mm]	oversize	160	160	160	160	160	160
Order No.	**50.852...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Safe-Lock Order No.	**50.852...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**
Gage length A [mm]	ZG200	200	200	200	200	200	200
Order No.	**50.856...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Safe-Lock Order No.	**50.856...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**

Accessories

Cool Flash **Order No. 91.100.40** See pages 502–503

ER COLLET CHUCK
ASME B5.50 · CAT50

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 22,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF





Use:
For clamping tools with cylindrical shank in ER collets according to ISO 15488.

CAT50 Form AD/AF
Form AD/AF means central-coolant supply and coolant channels through the flange which can be sealed again

– Balanced collet nuts with special slide coating for low friction and higher clamping forces
– Included in delivery: ER collet chuck with pre-balanced collet nut

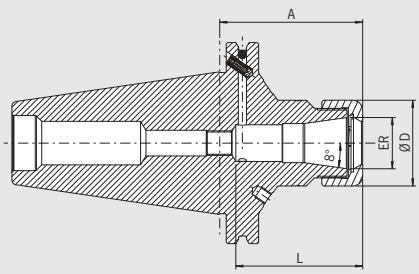
INCH	ER	ER16	ER20	ER25	ER32	ER40
	Ø D [inch]	1.1	1.34	1.65	1.97	2.48
	Clamping range [inch]	0.02–0.39	0.04–0.51	0.04–0.63	0.04–0.79	0.08–1.02
	Clamping range [mm]	0.5–10.0	1.0–13.0	1.0–16.0	1.5–20.0	2.5–26.0
L [inch]		[4]	1.63	2.44	2.52	2.87
Gage length A [inch]	short	2.76	2.76	2.76	2.76	2.76
Order No.	**50.720...**	**.16**	**.20**	**.25**	**.32**	**.40**
L [inch]		[4]	1.63	2.24	2.52	2.87
Gage length A [inch]	long	3.94	3.94	3.94	3.94	3.94
Order No.	**50.721...**	**.16**	**.20**	**.25**	**.32**	**.40**
L [inch]		[4]	1.63	2.24	2.52	2.87
Gage length A [inch]	oversize	6.30	6.30	6.30	6.30	6.30
Order No.	**50.722...**	**.16**	**.20**	**.25**	**.32**	**.40**

Accessories						
Collet nut, pre-balanced						
Ø ER		ER16	ER20	ER25	ER32	ER40
Order No.	**83.912...**	**.16**	**.20**	**.25**	**.32**	**.40**
Collet nut HS (Highspeed), fine-balanced						
Ø ER		ER16	ER20	ER25	ER32	ER40
Order No.	**83.912...**	**.16.HS**	**.20.HS**	**.25.HS**	**.32.HS**	**.40.HS**
Wrench						
Ø ER		ER16	ER20	–	–	–
Order No.	**84.200...**	**.16**	**.20**			
Wrench						
Ø ER		–	–	ER25	ER32	ER40
Order No.	**84.200...**			**.25**	**.32**	**.40**
Balancing index rings						
Ø ER		ER16	ER20	ER25[1]	ER32[2]	ER40[3]
Order No.	**79.350...**	**.28**	**.34**	**.42**	**.48**	**.63**
Collets ER						See pages 768–773
Pull Studs						See pages 787–791

1) Not for 50.720.25 2) Not for 50.720.32 3) Not for 50.720.40 4) Drilled through

POWER COLLET CHUCK
ASME B5.50 · CAT50



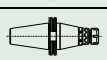
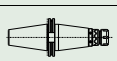


CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine-machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

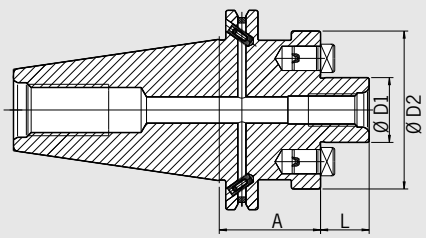
INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch] short		1.69	2.44	2.46
Gage length A [inch]	short		2.76	2.76	2.76
Order No.	**50.720...**		**.16.3**	**.25.3**	**.32.3**
	L [inch]		1.69	2.01	2.09
Gage length A [inch]	long		3.94	3.94	3.94
Order No.	**50.721...**		**.16.3**	**.25.3**	**.32.3**
Gage length A [inch]	ZG130		5.12	5.12	5.12
Order No.	**50.724...**		**.16.3**	**.25.3**	**.32.3**
Gage length A [inch]	oversize		6.30	6.30	6.30
Order No.	**50.722...**		**.16.3**	**.25.3**	**.32.3**

Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 774
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 759–766

FACE MILL ARBOR
ASME B5.50 · CAT50

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 22,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

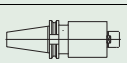




Use:
For clamping face mill cutters.

CAT50 FORM AD/AF
Form AD/AF means central coolant supply and coolant channels through the flange which can be sealed again

– Included in delivery: Face Mill Arbor and clamping screw

INCH	Ø D1 [inch]		3/4	1	1 1/4	1 1/2
	L [inch]		0.67	0.67	0.67	0.94
	Ø D2 [inch]		1.71	2.17	2.71	3.78
Gage length A [inch]	short		1.38	1.38	1.38	2.36
Order No.	**50.750...**		**.3/4Z**	**.1Z**	**.1 1/4Z**	**.1 1/2Z**
Gage length A [inch]	long		3.94	3.94	—	—
Order No.	**50.751...**		**.3/4Z**	**.1Z**		

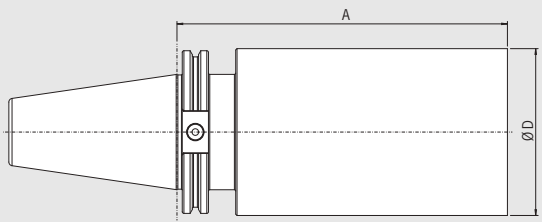
Accessories

Clamping Screw						
Ø D1 [inch]			3/4	1	1 1/4	1 1/2
Order No.	**85.300...**		**.3/4Z**	**.1Z**	**.11/4Z**	**.11/2Z**
Wrench						
Ø D1 [inch]			3/4	1	1 1/4	1 1/2
Order No.	**84.400...**		**.3/4Z**	**.1Z**	**.11/4Z**	**.11/2Z**
Balancing index rings						
Ø D1 [inch]			3/4	1	—	—
Order No.	**79.350...**		**.1.71Z**	**.55**		
Pull Studs						
Coolant bores						
Order No.	**91.100.03**					

See pages 787–791

BLANK ADAPTER – HARDENED
ASME B5.50 · CAT50





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3

Use:
For manufacturing special tools in your factory.

Version:
– Taper and groove hardened and ground
– Cylindrical part hardened to 52+2 HRC

Taper **ASME B5.50 CAT50** prepared for Form AD.
Form AD means central coolant supply

INCH	Ø D [inch]	
Gage Length A [inch]	ZG100	3.94
Order No.	**R50.796.1010...**	**.0100**
Gage Length A [inch]	ZG200	7.87
Order No.	**R50.796.1010...**	**.0200**
Gage Length A [inch]	ZG300	11.81
Order No.	**R50.796.1010...**	**.0300**

Accessories

Pull studs		See pages 787–791



Similar ASME B5.50 CAT with Face Contact

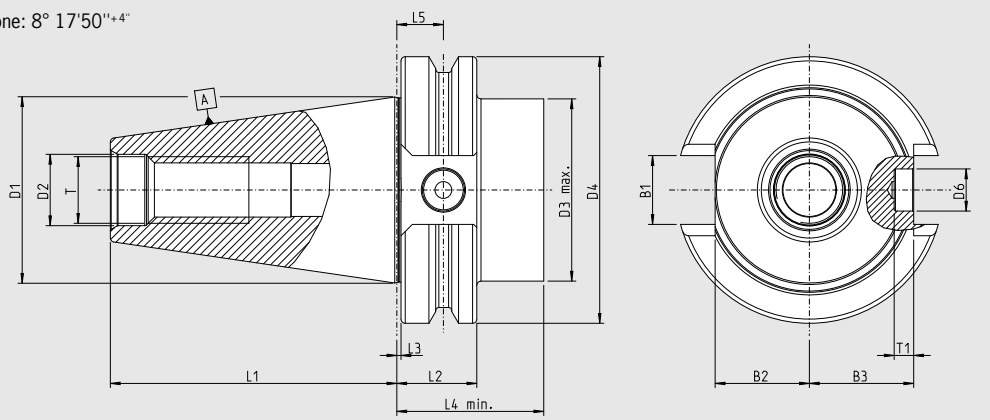
Article	Page
CAT40 with Face Contact	
Shrink Fit Chuck	294
Power Shrink Chuck	295
High Precision Collet Chuck	296
CAT50 with Face Contact	
Shrink Fit Chuck	297
Power Shrink Chuck	298
Heavy Duty Chuck	299
High Precision Collet Chuck	300

STEEP TAPER
SIMILAR ASME B5.50 · CAT WITH FACE CONTACT

Design:
– Additional support on the flange surface for more rigidity
– Tool holders case-hardened 60–2 HRC
– Tensile strength in the core at least 950 N/mm²
– Taper in tolerance quality AT3
– Form AD: interior coolant supply through center
– Incl. bore for data chip Ø 10 mm
– Compatible with Big-Plus* spindles

CAT40 / CAT50 with face contact

– Angle of cone: 8° 17'50''+4''

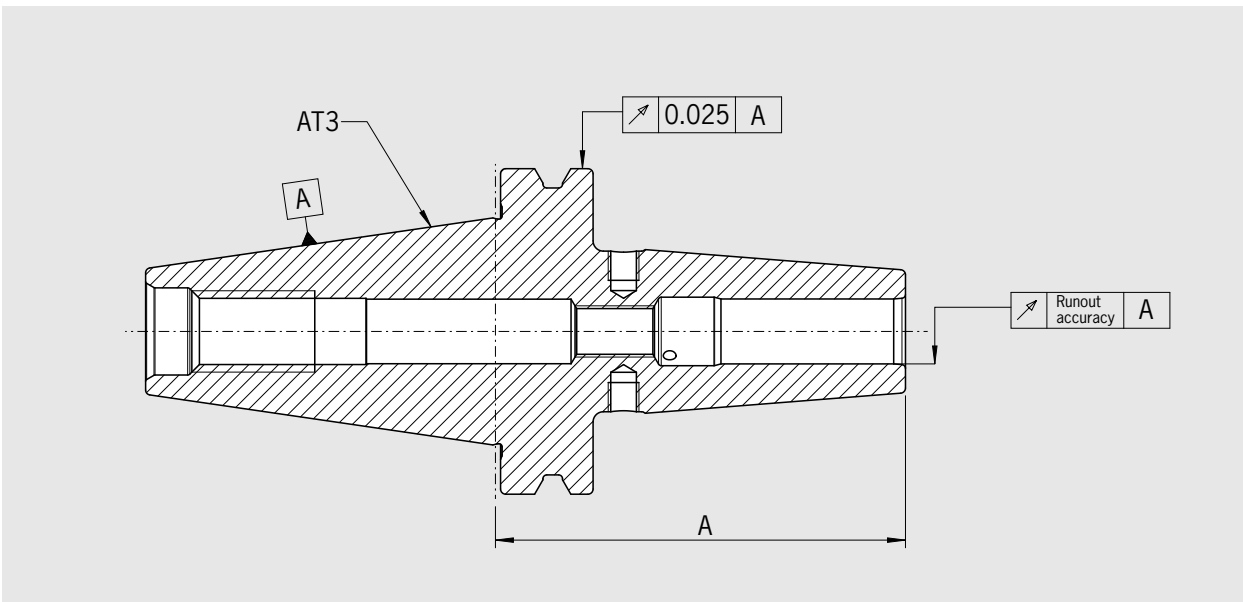


CAT40	D1	D2	D3 max.	D4	D6	L1	L2	L3	L4 min.	L5	T	T1	B1	B2	B3
inch	1.750	0.669	1.711	2.502	0.394	2.687	0.752	0.039	1.382	0.437	5/8"–11 UNC	0.183	0.646	0.890	0.984

CAT50	D1	D2	D3 max.	D4	D6	L1	L2	L3	L4 min.	L5	T	T1	B1	B2	B3
inch	2.750	1.063	2.711	3.875	0.394	4.000	0.752	0.059	1.382	0.437	1"–8 UNC	0.183	1.020	1.390	1.484

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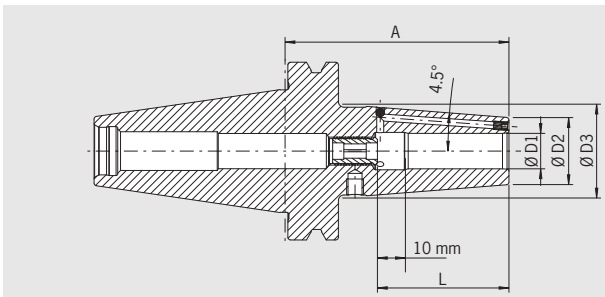
RUNOUT ACCURACY
SIMILAR ASME B5.50 · CAT WITH FACE CONTACT



Gage length A [mm]	A < 160	A ≥ 160
max. runout tolerance in mm		
Shrink Fit Chuck	0.003	0.004
Power Shrink Chuck	0.003	0.004
Heavy Duty Chuck	0.003	0.004
High Precision Collet Chuck	0.003	0.004

SHRINK FIT CHUCK
SIMILAR ASME B5.50 · CAT40 WITH FACE CONTACT





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD
- ☑ Cool Jet, can be sealed

Use:
Shrink fit chuck suitable for use with all available shrink fit units.
Additional support on the flange surface for more rigidity.

Similar ASME B5.50 CAT40 Form AD with face contact
Form AD means central coolant supply

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included
– Compatible with Big-Plus* spindles

Optional:
– Cooling with Cool Flash from ¼"–1" for an extra charge (See pages 502–503)
– Safe-Lock pull out protection (See pages 496–500)

Standard version, similar to DIN 69882-8

INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/4
	Ø D2 [inch]	0.39	0.39	0.83	0.83	0.95	0.95	0.95	1.06	1.30	1.30	1.73	1.73
	Ø D3 [inch]			1.06	1.06	1.26	1.26	1.26	1.34	1.65	1.65	2.09	2.09
	L [inch]	0.35	0.47	1.42	1.42	1.65	1.65	1.85	1.97	2.05	2.05	2.28	2.28
Gage length A [inch]	short	3.15[1)]	3.15[1)]	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.94	3.94
Standard Order No.	**40P.840...**	**.1/8Z**	**.3/16Z**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	ZG130	—	—	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Order No.	**40P.844...**			**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	oversize	—	—	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Order No.	**40P.842...**			**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**

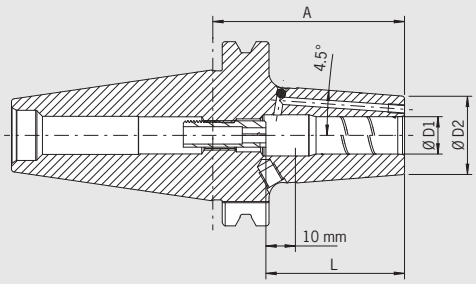
Accessories

Shrink fit extensions			See page 750
Balancing screws			See page 784
Pull studs			See pages 787–791
Reduction sleeves			See page 794
Back-up screws			See pages 796–799
Cool Flash		**Order No. 91.100.40**	See pages 502–503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for coolant around the tool
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POWER SHRINK CHUCK
SIMILAR ASME B5.50 · CAT40 WITH FACE CONTACT

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD
- ☑ Cool Jet, can be sealed





The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Additional support on the flange surface for more rigidity
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included
– High rigidity, slim at the tip, dampen vibrations
– Higher clamping forces
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine
– Compatible with Big-Plus* spindles

Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)
– Safe-Lock pull out protection (See pages 496–500)

INCH	Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8	3/4	1
	Ø D2 [inch]	0.87	0.87	1.04	1.04	1.16	1.40	1.79
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28
Gage length A [inch]	ultra short	2.56	2.56	2.56	2.56	2.56	2.56	2.95
Standard Order No.	**40.845...**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**
Safe-Lock Order No.	**40.845...**	—	—	—	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**

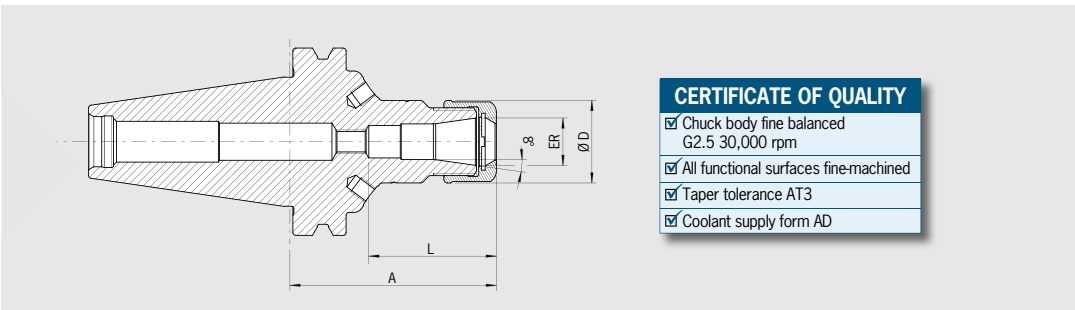
Accessories

Shrink fit extensions		See page 750
Balancing screws		See page 784
Pull studs		See pages 787–791
Back-up screws		See pages 796–799
Cool Flash	**Order No. 91.100.40**	See pages 502–503

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HIGH PRECISION COLLET CHUCK
SIMILAR ASME B5.50 · CAT40 WITH FACE CONTACT



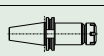
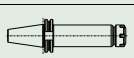


CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 30,000 rpm
- ☑ All functional surfaces fine-machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD

The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools.

– Additional support on the flange surface for more rigidity
– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776
– Compatible with Big-Plus* spindles

INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch] short		1.69	2.01	2.09
Gage length A [inch]	short		2.76	2.76	2.76
Order No.	**40P.720...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	ZG130		5.12	5.12	5.12
Order No.	**40P.724...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	oversize		6.30	6.30	6.30
Order No.	**40P.722...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

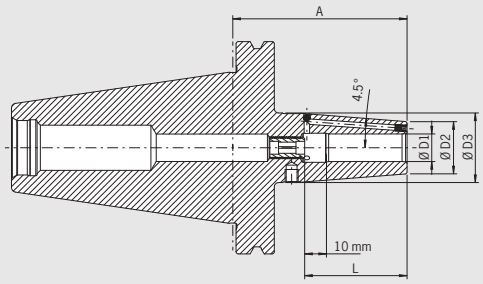
Accessories

High Precision Smooth Locknut (fine-balanced)					See page 779
Size			ER 16	ER 25	ER 32
Order No.	**83.914...**		**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench					See page 782
Order No.	**84.650...**		**.16.1**	**.25.1**	**.32.1**
Collets ER					See pages 768–773
Shrink Fit Collets					See pages 759–766
Power Collets					See page 774
Power Collets with Safe-Lock					See page 776
Cool Jet bores for Power Collets					See page 777
Order No.	**91.100.27**				

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SHRINK FIT CHUCK
SIMILAR ASME B5.50 · CAT50 WITH FACE CONTACT

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD
- ☑ Cool Jet, can be sealed





Use:
Shrink fit chuck suitable for use with all available shrink fit units.
Additional support on the flange surface for more rigidity.

Similar ASME B5.50 CAT50 Form AD with face contact
Form AD means central coolant supply

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included
– Compatible with Big-Plus* spindles

Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/4
	Ø D2 [inch]	0.83	0.83	0.94	0.94	0.94	1.06	1.30	1.30	1.73	1.73
	Ø D3 [inch]	1.06	1.06	1.26	1.26	1.26	1.34	1.65	1.65	2.09	2.09
	L [inch]	1.42	1.42	1.65	1.65	1.85	1.97	2.05	2.05	2.28	2.28
Gage length A [inch]	short	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.94	3.94
Order No.	**50P.840...**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	ZG130	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Order No.	**50P.844...**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	oversize	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Order No.	**50P.842...**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**

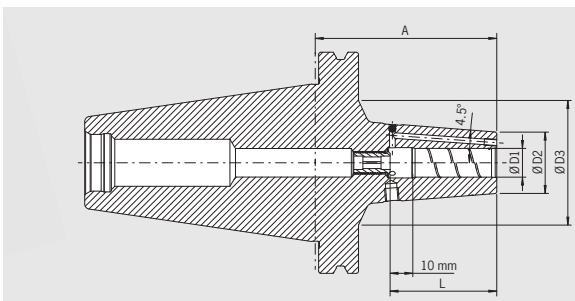
Accessories

Shrink fit extensions			See page 750
Balancing screws			See page 784
Pull studs			See pages 787–791
Reduction sleeves			See page 794
Back-up screws			See pages 796–799
Cool Flash		**Order No. 91.100.40**	See pages 502–503

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POWER SHRINK CHUCK
SIMILAR ASME B5.50 · CAT50 WITH FACE CONTACT





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD
- ☑ Cool Jet, can be sealed

The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Additional support on the flange surface for more rigidity
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included
– High rigidity, slim at the tip, dampen vibrations
– Higher clamping forces
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine
– Compatible with Big-Plus* spindles

Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)
– Safe-Lock pull out protection (See pages 496–500)

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8	3/4	1
	Ø D2 [inch] short	0.83	0.83	1.06	1.06	1.31	1.76	1.73
	Ø D3 [inch] short	2.68	2.68	2.17	2.17	—	—	—
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28
Gage length A [inch]	short	3.15	3.15	3.15	3.15	3.15	3.15	3.94
Order No.	**50P.840…**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**
Safe-Lock Order No.	**50P.840…**	—	—	—	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**

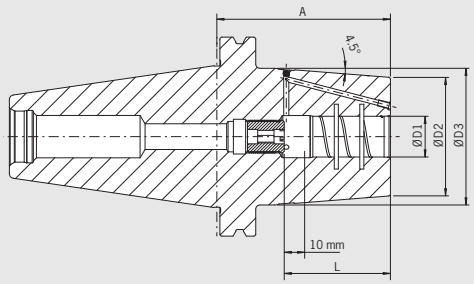
Accessories

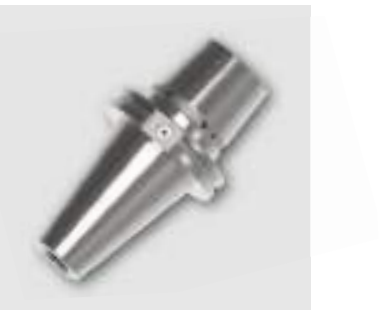
Shrink fit extensions			See page 750
Balancing screws			See page 784
Pull studs			See pages 787–791
Back-up screws			See pages 796–799
Cool Flash		**Order No. 91.100.40**	See pages 502–503

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HEAVY DUTY CHUCK
SIMILAR ASME B5.50 · CAT50 WITH FACE CONTACT

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD
- ☑ Cool Jet, can be sealed





The Heavy Duty Chuck is a shrink fit chuck designed for extreme cases and Heavy Duty machining. The contour is optimized for highest rigidity and clamping force.

– Additional support on the flange surface for more rigidity
– Smooth clamping of the tool shank
– TIR less than 0.00012" (3 µm)
– Reinforced outer contour
– To shrink with 13 kW HD coil (see page 600) or with high performance shrink fit unit HAIMER Power Clamp Profi Plus (20 kW)
– With internal groove in the clamping bore
– Cool Jet coolant bores that can be sealed included
– With threaded holes in order to balance with balancing screws
– Compatible with Big-Plus* spindles

Optional:
– Cooling with Cool Flash from 5/8"–1" for an extra charge (See pages 502–503)
– Safe-Lock pull out protection (See pages 496–500)

INCH	Clamping Ø D1 [inch]	5/8	3/4	1	1 1/4	1 1/2	2
	Ø D2 [inch]	2.01	2.28	2.48	2.76	3.23	3.23
	Ø D3 [inch]	—	2.64	—	3.07	3.54	3.70
	L [inch]	1.97	2.05	2.28	2.40	3.46	3.46
Gage length A [inch]	short	3.15	3.35	3.54	3.54	3.94	5.51
Order No.	**50P.850...**	**.5/8z.6**	**.3/4z.6**	**.1z.6**	**.11/4z.6**	**.11/2z.6**	**.2z.6**
Safe-Lock Order No.	**50P.850...**	**.5/8z.67**	**.3/4z.67**	**.1z.67**	**.11/4z.67**	**.11/2z.67**	**.2z.67**

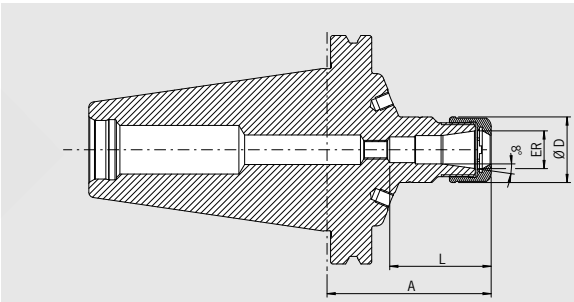
Accessories

Shrink fit extensions		See page 750
Balancing screws		See page 784
Pull studs		See pages 787–791
Back-up screws		See pages 796–799
Cool Flash	**Order No. 91.100.40**	See pages 502–503

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HIGH PRECISION COLLET CHUCK
SIMILAR ASME B5.50 · CAT50 WITH FACE CONTACT



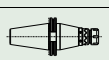
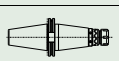


CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine-machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD

The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools.

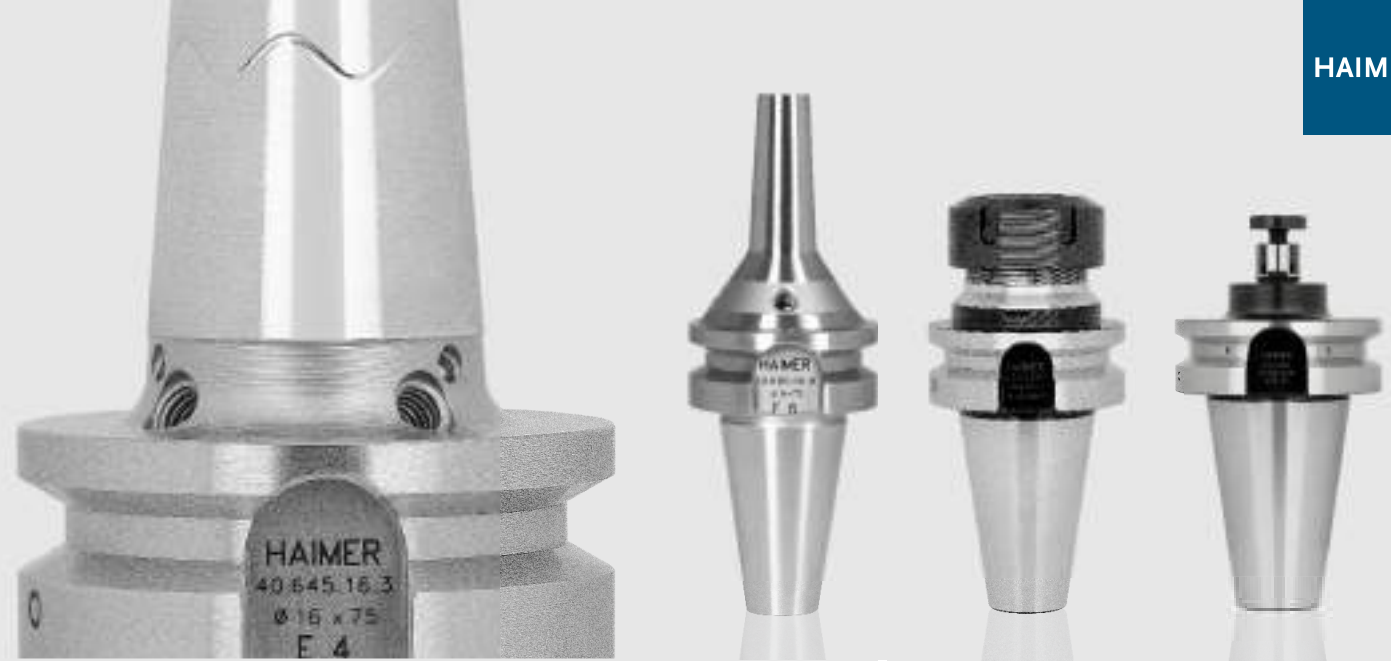
– Additional support on the flange surface for more rigidity
– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776
– Compatible with Big-Plus* spindles

INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]		1.69	2.01	2.09
Gage length A [inch]	short		3.94	3.94	3.94
Order No.	**50P.720...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	ZG130		5.12	5.12	5.12
Order No.	**50P.724...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	oversize		6.30	6.30	6.30
Order No.	**50P.722...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

Accessories

High Precision Smooth Locknut (fine-balanced)					See page 779
Size			ER 16	ER 25	ER 32
Order No.	**83.914...**		**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench					See page 782
Order No.	**84.650...**		**.16.1**	**.25.1**	**.32.1**
Collets ER					See pages 768–773
Shrink Fit Collets					See pages 759–767
Power Collets					See page 774
Power Collets with Safe-Lock					See page 776
Cool Jet bores for Power Collets					See page 777
Order No.	**91.100.27**				

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JIS B 6339 (MAS 403) BT30 / BT40 / BT50

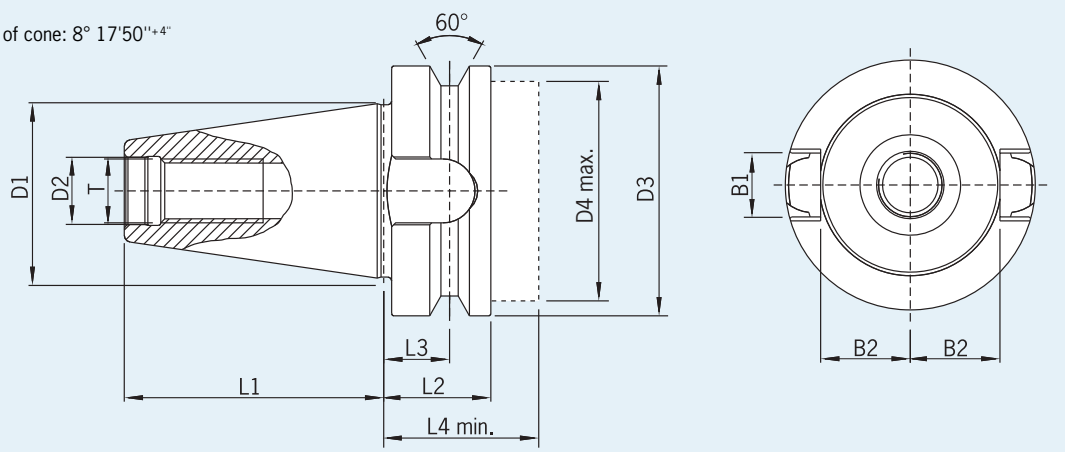
Article	Page
JIS B 6339 BT30	
Shrink Fit Chuck	304
Power Mini Shrink Chuck	305
Collet Chuck ER	306
Power Collet Chuck	307
High Precision Collet Chuck	308
Face Mill Arbor	309
Blank Adapter – Hardened	310
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STEEP TAPER
JIS B 6339 · BT30/BT40

Design:
– Tool holders case-hardened 60–2 HRC
– Tensile strength in the core at least 950 N/mm²
– Taper in tolerance quality AT3
– Form AD/AF: interior coolant supply through center (form AD) and through the collar (form AF)
– Without bore for data chip

BT30

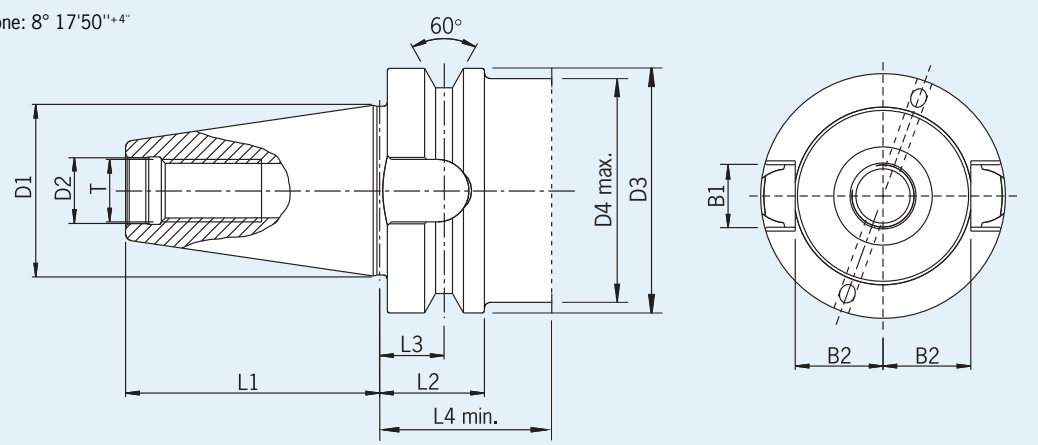
– Angle of cone: 8° 17'50"+4"



[mm]	D1	D2	D3	D4	L1	L2	L3	L4	T	B1	B2
BT30	31.75	12.5	46	42	48.4	22	13.6	34.5	M12	16.1	16.3

BT40

– Angle of cone: 8° 17'50"+4"



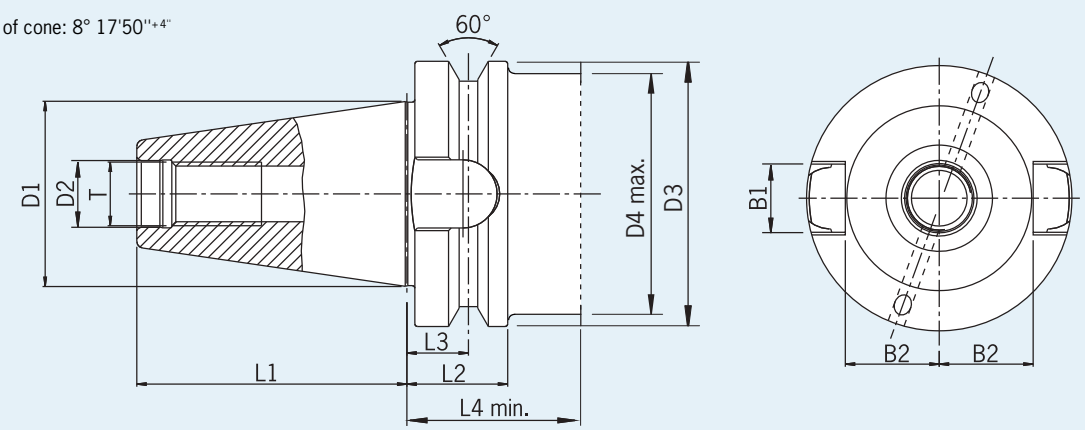
[mm]	D1	D2	D3	D4	L1	L2	L3	L4	T	B1	B2
BT40	44.45	17	63	59	65.4	27	16.6	45	M16	16.1	22.6

STEEP TAPER
JIS B 6339 · BT50

Design:
– Tool holders case-hardened 60–2 HRC
– Tensile strength in the core at least 950 N/mm²
– Taper in tolerance quality AT3
– Form AD/AF: interior coolant supply through center (form AD) and through the collar (form AF)
– Without bore for data chip

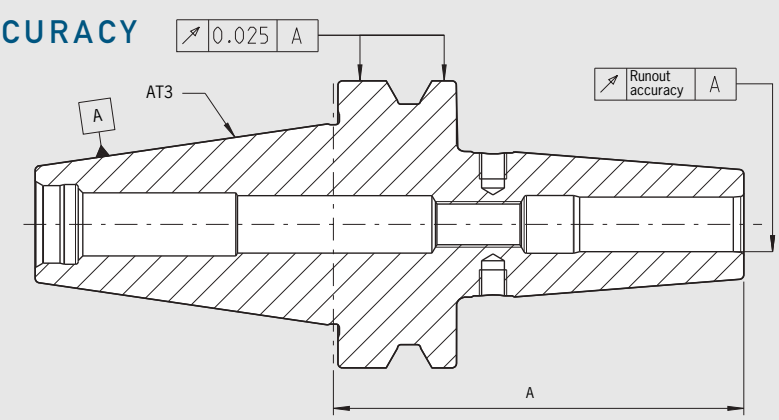
BT50

– Angle of cone: 8° 17'50"+4"



[mm]	D1	D2	D3	D4	L1	L2	L3	L4	T	B1	B2
BT50	69.85	25	100	95.5	101.8	38	23.2	51	M24	25.7	35.4

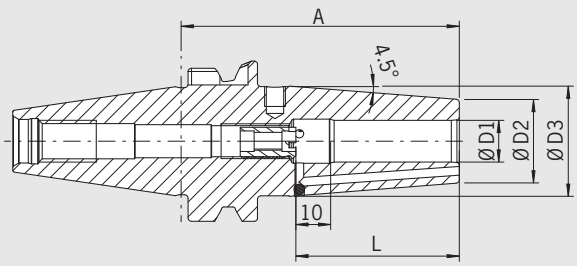
RUNOUT ACCURACY
JIS B 6339



Gage length	A < 160	A ≥ 160
max. runout tolerance in mm		
Shrink Fit Chuck	0.003	0.004
Collet Chuck ER	0.003	0.004
Power Collet Chuck	0.003	0.004
High Precision Collet Chuck	0.003	0.004
High-Precision Chuck	0.003	0.003
Face Mill Arbor	0.006	0.006
Adapter for Morse Taper	0.008	—

SHRINK FIT CHUCK
JIS B 6339 · BT30





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD

Use:
Shrink fit chuck suitable for use with all available shrink fit units.

JIS B 6339 BT30 FORM AD
Form AD means central coolant supply

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– Included in delivery: with back-up screw
– With threaded holes in order to balance with balancing screws
– Cool Jet bores that can be sealed included (INCH sizes)

Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)

Short

INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
	Ø D2 [inch]	0.39	0.39	0.83	0.83	0.94	0.94	0.94	1.06	1.30
	Ø D3 [inch]	—	—	1.06	1.06	1.26	1.26	1.26	1.34	1.65
	L [inch]	0.35	0.59	1.42	1.42	1.65	1.65	1.85	1.97	2.05
Gage Length A [inch]	short	3.15[1]	3.15[1]	3.15	3.15	3.15	3.15	3.15	3.15	3.54
Order No.	**30.640...**	**.1/8Z**	**.3/16Z**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**

Standard version, similar to DIN 69882-8

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16	18	20
	Ø D2 [mm]	10	10	10	21	21	24	24	27	27	33	33
	Ø D3 [mm]	—	—	—	27	27	32	32	34	34	40.5	40.5
	L [mm]	09	12	15	36	36	42	47	47	50	50	52
Gage Length A [mm]	short	80[1]	80[1]	80[1]	80	80	80	80	80	80	90	90
Order No.	**30.640...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**

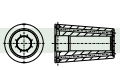
Ultra Short

INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
	Ø D2 [inch]	0.39	0.39	0.91	0.91	1.06	1.06	1.06	1.18	1.39
	L [inch]	0.35	0.59	1.42	1.42	1.65	1.65	1.85	1.97	2.05
Gage Length A [inch]	ultra short	2.36[1]	2.36[1]	2.36	2.36	2.36	2.36	2.36	2.56	2.75
Order No.	**30.645...**	**.1/8Z**	**.3/16Z**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**

Ultra Short

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16	18	20
	Ø D2 [mm]	10	10	10	23	23	27	27	30	30	35.5	35.5
	Ø D3 [mm]	—	—	—	—	—	—	—	—	—	40.5	40.5
	L [mm]	09	12	15	36	36	42	47	47	50	50	52
Gage Length A [mm]	ultra short	60[1]	60[1]	60[1]	60[2]	60[2]	60[2]	60[2]	65[2]	65[2]	70[2]	70[2]
Order No.	**30.645...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**

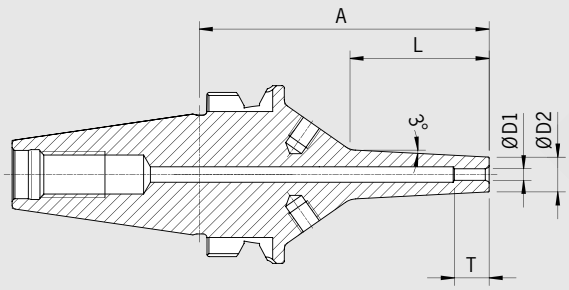
Accessories

Cool Flash		**Order No. 91.100.40**	See pages 502–503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for cooling from outside, without Cool Jet bores
2) Without threads for balancing screws

POWER MINI SHRINK CHUCK
JIS B 6339 · BT30

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD



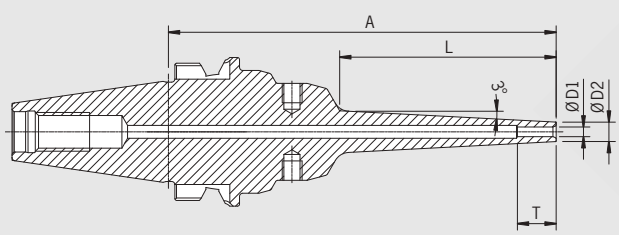


Power Mini Shrink Chuck is perfect for 5-axis machining in the die & mold and in the medical industry. Very slim at the top like the HAIMER Mini Shrink Chucks, the Power Mini Shrink is reinforced at the base. This allows for efficient milling with an angled tool, even at long protruding lengths.

– 3° angle at the top
– With threaded holes in order to balance with balancing screws
– For solid carbide tools with shank tolerance h6

Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD





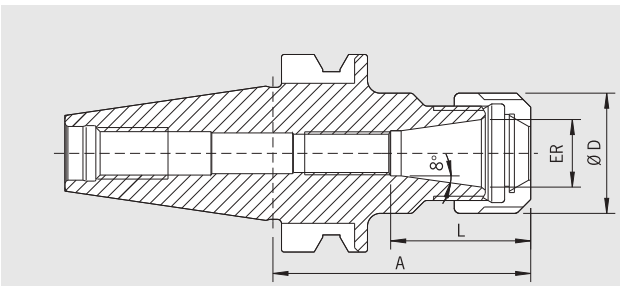
METRIC	Clamping Ø D1 [mm]	03	04	06	08	10	12
	T [mm]	—	—	—	—	68	75
	Ø D2 [mm] short	09	10	12	14	16	18
	L [mm] short	36	36	36	36	36	36
Gage Length A [mm]	short	75	75	75	75	75	75
Order No.	**30.680...**	**.03.8**	**.04.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**
	Ø D2 [mm] ZG95	06	07	09			
	L [mm] ZG95	42	42	42			
Gage Length A [mm]	ZG95	95	95	95			
Order No.	**30.671...**	**.03.8**	**.04.8**	**.06.8**			
	Ø D2 [mm] ZG120	06	07	09			
	L [mm] ZG120	67	67	67			
Gage Length A [mm]	ZG120	120	120	120			
Order No.	**30.677...**	**.03.8**	**.04.8**	**.06.8**			

Accessories

Shrink and cooling adapter for Mini Shrink See page 593

ER COLLET CHUCK
JIS B 6339 · BT30

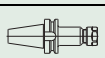
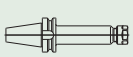




CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3

Use:
For clamping tools with cylindrical shank in ER collets according to ISO 15488.

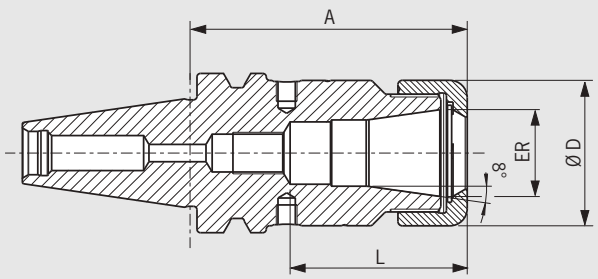
JIS B 6339 BT 30
– Included in delivery: Locknut type HS (High Speed, fine balanced, with slide coating for higher clamping forces)
– Increasing size L possible upon request

INCH	ER		11	16	20	25	32
	Ø D [inch]		0.75	1.10	1.34	1.65	1.97
	Clamping range [inch]		0.02–0.28	0.02–0.39	0.04–0.51	0.04–0.63	0.06–0.79
	Clamping range [mm]		0.5–7.0	0.5–10.0	1.5–13.0	1.0–16.0	1.5–20.0
	L [inch]		1.04	1.28	1.51	1.61	2.05
Gage Length A [inch]	ultra short		1.97	1.97	1.97		2.36
Order No.	**30.525…**		**.11**	**.16**	**.20**	**—**	**.32**
Gage Length A [inch]	short		2.36	2.36	2.36	2.36	
Order No.	**30.520…**		**.11**	**.16**	**.20**	**.25**	**—**
Gage Length A [inch]	ZG80			3.15	3.15	3.15	
Order No.	**30.523…**		**—**	**.16**	**.20**	**.25**	**—**
Gage Length A [inch]	ZG90			3.54	3.54	3.54	
Order No.	**30.528…**		**—**	**.16**	**.20**	**.25**	**—**
Gage Length A [inch]	long		3.94	3.94	3.94	3.94	
Order No.	**30.521…**		**.11**	**.16**	**.20**	**.25**	**—**

Accessories							
Collets ER							See pages 768–773
Shrink Fit Collets							See pages 758–767
Locknut (pre-balanced)							
Size			ER 11	ER 16	ER 20	ER 25	ER 32
Order No.	**83.912…**		**.11**	**.16**	**.20**	**.25**	**.32**
Locknut HS (fine-balanced)							
Size			—	ER 16	ER 20	ER 25	ER 32
Order No.	**83.912…**			**.16.HS**	**.20.HS**	**.25.HS**	**.32.HS**
Fork wrench							
Size			ER 11	ER 16	ER 20	—	—
Order No.	**84.200…**		**.11**	**.16**	**.20**		
Clamping wrench							
Size			—	—	—	ER 25	ER 32
Order No.	**84.200…**					**.25**	**.32**
Balancing index rings							
Size	long/oversize		ER 11	ER 16	ER 20	ER 25	ER 32
Order No.	**79.350…**		**.19**	**.28**	**.34**	**.42**	**.48**
Pull studs							See pages 787–791
Shrink fit extensions							See pages 751–753

POWER COLLET CHUCK
JIS B 6339 · BT30

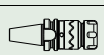
CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD



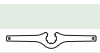
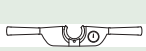


The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D withHAIMER Power Collets
– Also for standard collets ER according to ISO 15488
(Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]		1.69	2.01	2.08
Gage length A [inch]	ultra short		2.16[1)]	2.16[1)]	2.16[1)]
Order No.	**30.525...**		**.16.3**	**.25.3**	**.32.3**
Gage length A [inch]	short		3.15	3.15	3.15
Order No.	**30.520...**		**.16.3**	**.25.3**	**.32.3**

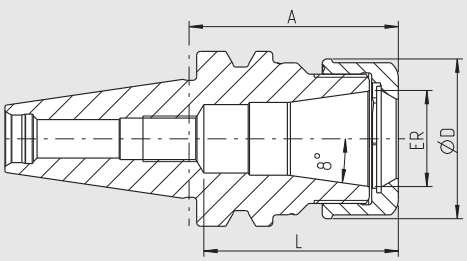
Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 759–767

1) Without threaded holes

HIGH PRECISION COLLET CHUCK
JIS B 6339 · BT30





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD

The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools. The chuck is especially suitable for micro and fine machining (e.g. in the medical or watchmaking industry).

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

INCH	ER		16	25	32
	Ø D [inch]		1.10	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]		1.69	2.01	2.08
Gage length A [inch]	ultra short		2.16[1)]	2.16[1)]	2.16[1)]
Order No.	**30.525…**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	short		3.15	3.15	3.15
Order No.	**30.520…**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

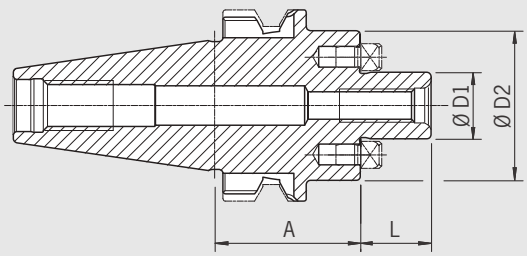
Accessories

High Precision Smooth Locknut (fine-balanced)					See page 779
Size			ER 16	ER 25	ER 32
Order No.	**83.914…**		**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench					See page 782
Order No.	**84.650…**		**.16.1**	**.25.1**	**.32.1**
Collets ER					See pages 768–773
Shrink Fit Collets					See pages 759–767
Power Collets					See page 775
Power Collets with Safe-Lock					See page 776
Cool Jet bores for Power Collets					See page 777
Order No.	**91.100.27**				

1) Without threaded holes

FACE MILL ARBOR
JIS B 6339 · BT30

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3





Use:
For holding face mill cutters and milling cutters with radial driving slot DIN 1880.
With coolant exit bores on the end face for milling cutters with central cooling.

Similar to DIN 6357 with taper **JIS B 6339 BT30 form AD.**

– Included in delivery: complete with tightening bolt

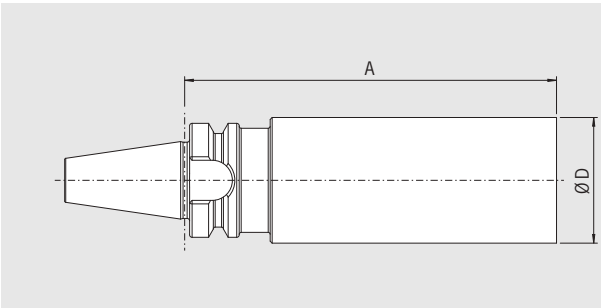
METRIC	Clamping Ø D1 [mm]	16	22	27
	Ø D2 [mm]	36	42	42
	L [mm]	17	19	21
Gage length A [mm]	short	35	35	35
Order No.	**30.550...**	**.16.KKB**	**.22.KKB**	**.27.KKB**

Accessories

Tightening bolt				
Size D1		16	22	27
Order No.	**85.300...**	**.16**	**.22**	**.27**
Wrench				
Size D1		16	22	27
Order No.	**84.400...**	**.16**	**.22**	**.27**
Pull studs				See pages 787–791
Coolant bores				
Order No.	**91.100.03**			

BLANK ADAPTER – HARDENED
JIS B 6339 · BT30





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3

Use:
For manufacturing special tools in your factory.

Version:
– Taper and groove hardened and ground
– Cylindrical part hardened to 52+2 HRC

Taper **JIS B 6339 BT30 prepared for Form AD.**
Form AD means central coolant supply

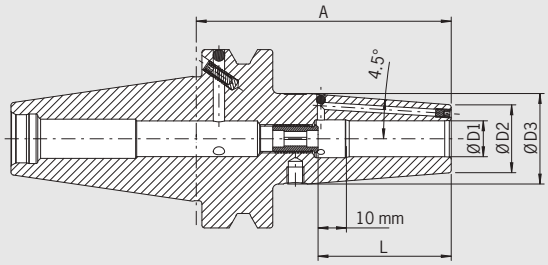
METRIC	Ø D [mm]	50.7
Gage Length A [mm]	ZG150	150
Order No.	**R30.596.0507...**	**.0150**

Accessories

Pull studs		See pages 787–791

SHRINK FIT CHUCK
JIS B 6339 · BT40
INCH

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF
- ☑ Cool Jet, can be sealed





Use:
Shrink fit chuck suitable for use with all available shrink fit units.

JIS B 6339 **BT40 Form AD/AF**
Form AD/AF means central coolant supply and coolant channels through the flange which can be sealed again

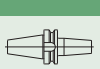
– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– Included in delivery: Shrink fit chuck with back-up screw
– With threaded holes in order to balance with balancing screws
– Cool Jet bores that can be sealed included

Optional:
– Cooling with Cool Flash from ¼"–1" for an extra charge (See pages 502–503)

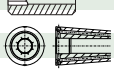
Standard version

INCH Clamping Ø D1 [inch]		1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/4
	Ø D2 [inch]	0.39	0.39	0.83	0.83	0.94	0.94	0.94	1.06	1.30	1.30	1.73	1.73
	Ø D3 [inch]	—	—	1.06	1.06	1.26	1.26	1.26	1.34	1.65	1.65	2.09	2.09
	L [inch]	0.35	0.47	1.42	1.42	1.65	1.65	1.85	1.97	2.05	2.05	2.28	2.28
Gage length A [inch]	short	3.54[1]	3.54[1]	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.94	3.94
Order No.	**40.640...**	**.1/8Z**	**.3/16Z**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	ZG130	—	—	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Order No.	**40.644...**			**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	oversize	—	—	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Order No.	**40.642...**			**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**

Standard version with Safe-Lock and M3 seal screw installed

INCH Clamping Ø D1 [inch]			1/4	5/16	3/8	1/2	5/8	3/4	1	1 1/4
	Ø D2 [inch]		0.83	0.83	0.94	0.94	1.06	1.30	1.73	1.73
	Ø D3 [inch]		1.06	1.06	1.26	1.26	1.34	1.65	2.09	2.09
	L [inch]		1.42	1.42	1.65	1.85	1.97	2.05	2.28	2.28
Gage length A [inch]	short		3.54[2]	3.54[2]	3.54[2]	3.54[2]	3.54[2]	3.54[2]	3.94[2]	3.94[2]
Order No.	**40.640...**		**.1/4Z.47**	**.5/16Z.47**	**.3/8Z.47**	**.1/2Z.47**	**.5/8Z.47**	**.3/4Z.47**	**.1Z.47**	**.1 1/4Z.47**

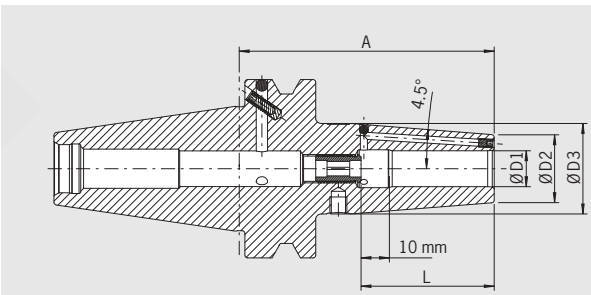
Accessories

Shrink fit extensions			See page 750
Balancing screws			See page 784
Pull studs			See pages 787–791
Reduction sleeves			See page 794
Back-up screws			See pages 796–799
Cool Flash		**Order No. 91.100.40**	See pages 502–503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for coolant around the tool
2) With tension spring

SHRINK FIT CHUCK
JIS B 6339 · BT40
METRIC





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

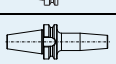
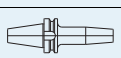
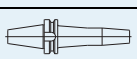
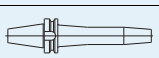
Use:
Shrink fit chuck suitable for use with all available shrink fit units.

JIS B 6339 **BT40 Form AD/AF**
Form AD/AF means central coolant supply and coolant channels through the flange which can be sealed again

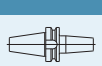
– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– Included in delivery: Shrink fit chuck with back-up screw
– With threaded holes in order to balance with balancing screws

Optional:
– Cooling with Cool Jet for an extra charge (See page 501)
– Cooling with Cool Flash for an extra charge (See pages 502–503)

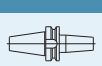
Standard version, similar to DIN 69882-8

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]	10	10	10	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	—	—	—	27	27	32	32	34	34	42	42	53	53
	L [mm]	9	12	15	36	36	42	47	47	50	50	52	58	58
Gage length A [mm]	short 	90[1]	90[1]	90[1]	90	90	90	90	90	90	90	90	100	100
Order No.	**40.640...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Gage length A [mm]	ZG120 	120[1]	120[1]	120[1]	120	120	120	120	120	120	120	120	120	120
Order No.	**40.647...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Gage length A [mm]	ZG130 	130[1]	130[1]	130[1]	130	130	130	130	130	130	130	130	130	—
Order No.	**40.644...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	
Gage length A [mm]	extra long 	—	—	—	160	160	160	160	160	160	160	160	160	—
Order No.	**40.642...**				**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	
Gage length A [mm]	ZG200 	—	—	—	200	200	200	200	200	200	200	200	200	—
Order No.	**40.646...**				**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	

Standard version, with Cool Jet (Ø 3–5 mm Cooling with slits)

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16	20	25
	Ø D2 [mm]	10	10	10	21	21	24	24	27	27	33	44
	Ø D3 [mm]	—	—	—	27	27	32	32	34	34	42	53
	L [mm]	9	12	15	36	36	42	47	47	50	52	58
Gage length A [mm]	short 	90[2]	90[2]	90[2]	90	90	90	90	90	90	90	100
Order No.	**40.640...**	**.03**	**.04**	**.05**	**.06.2**	**.08.2**	**.10.2**	**.12.2**	**.14.2**	**.16.2**	**.20.2**	**.25.2**

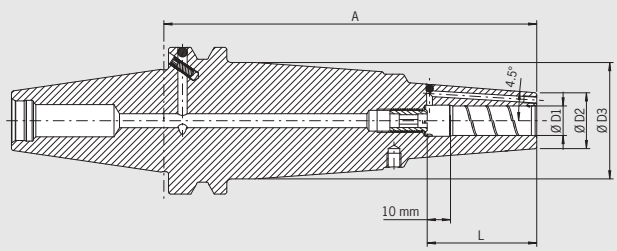
Standard version, with Safe-Lock pull out protection

METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	27	27	32	32	34	34	42	42	53	53
	L [mm]	36	36	42	47	47	50	50	52	58	58
Gage length A [mm]	short 	90[3]	90[3]	90[3]	90[3]	90[3]	90[3]	90[3]	90[3]	100[3]	100[3]
Order No.	**40.640...**	**.06.7**	**.08.7**	**.10.7**	**.12.7**	**.14.7**	**.16.7**	**.18.7**	**.20.7**	**.25.7**	**.32.7**

1) Without back-up screw, without threads for balancing screws, without slits along the clamping bore for cooling from outside
2) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for cooling from outside
3) With tension spring

POWER SHRINK CHUCK
JIS B 6339 · BT40

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF
- ☑ Cool Jet, can be sealed





The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– Higher machining accuracy
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

The long versions (A=130 and 160) with slim tips are especially versatile to use.

– High rigidity
– Slim at the tip
– Dampen vibrations
– Higher clamping forces
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine

Optional:
– Cooling with Cool Flash from 1/4"–1" for an extra charge (See pages 502–503)
– Safe-Lock pull out protection (See pages 496–500)

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8	3/4	1	1 1/4
	Ø D2 [inch]	0.87	0.87	1.04	1.04	1.16	1.39	1.79	1.79
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28	2.28
Gage length A [inch]	ultra short	2.76	2.76	2.76	2.76	2.95	2.95	3.35	3.35
Order No.	**40.645...**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**	**.1 1/4z.3**
Safe-Lock Order No.	**40.645...**	**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**	**.1 1/4z.37**

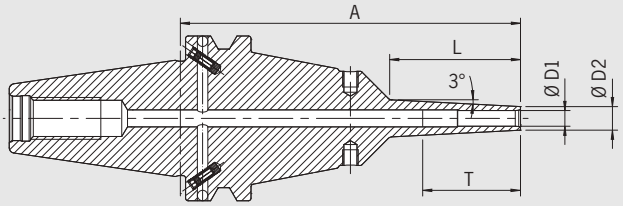
METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm] ultra short	22	22	26.5	26.5	29.5	29.5	35.5	35.5	45.5	45.5
	L [mm] ultra short	36	36	42	47	47	50	50	52	58	58
Gage length A [mm]	ultra short	70	70	70	70	75	75	75	75	85	85
Order No.	**40.645...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**	**.32.3**
Safe-Lock Order No.	**40.645...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**	**.32.37**
	Ø D2 [mm] ZG130/oversize	21	21	24	24	27	27	33	33		
	Ø D3 [mm] ZG130/oversize	50	50	50	50	50	50	50	50		
	L [mm]	36	36	42	47	47	50	50	52		
Gage length A [mm]	ZG130	130	130	130	130	130	130	130	130		
Order No.	**40.644...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**		
Safe-Lock Order No.	**40.644...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**		
Gage length A [mm]	oversize	160	160	160	160	160	160	160	160		
Order No.	**40.642...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**		
Safe-Lock Order No.	**40.642...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**		

Accessories

Cool Flash	**Order No. 91.100.40**	See pages 502–503

POWER MINI SHRINK CHUCK
JIS B 6339 · BT40





Drawing shows standard version

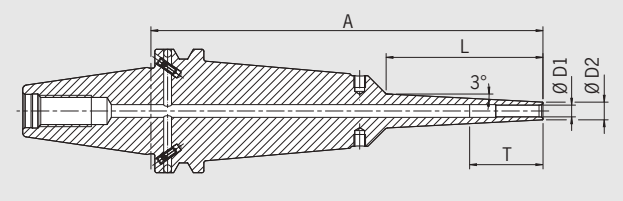
CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Power Mini Shrink Chuck is perfect for 5-axis machining in the die & mold and in the medical industry. Very slim at the top like the HAIMER Mini Shrink Chucks, the Power Mini Shrink is reinforced at the base. This allows for efficient milling with an angled tool, even at long protruding lengths.

– 2 types: Standard (3 mm wall thickness) and extra slim (1.5 mm wall thickness)
– 3° angle at the top
– With threaded holes in order to balance with balancing screws
– For solid carbide tools with shank tolerance h6

Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.





Drawing shows extra slim version

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

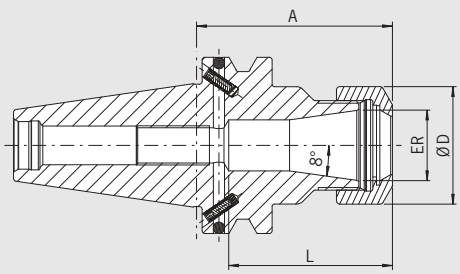
METRIC	Clamping Ø D1 [mm]		03	04	05	06	08	10	12	16
	Ø D2 [mm] standard		09	10	11	12	14	16	18	24
	Ø D2 [mm] extra slim		06	07	08	09	11	13	15	—
	T [mm]		—	—	—	—	—	68	75	75
	L [mm] ZG130		50	50	50	50	50	50	50	50
Gage length A [mm]	ZG130		130	130	130	130	130	130	130	130
Order No.	standard	**40.684...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**40.674...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**—**
	L [mm]		**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**
Gage length A [mm]	oversize		160	160	160	160	160	160	160	160
Order No.	standard	**40.682...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**40.672...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**—**
Gage length A [mm]	ZG200		200	200	200	200	200	200	200	200
Order No.	standard	**40.686...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**40.676...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**—**

Accessories

Shrink and cooling adapter for Mini Shrink See page 593

ER COLLET CHUCK
JIS B 6339 · BT40

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 22,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF





Use:
For clamping tools with cylindrical shank in ER collets according to ISO 15488.

BT40 Form AD/AF
Form AD/AF means central-coolant supply and coolant channels through the flange which can be sealed again

– Included in delivery: Locknut (balanced, with slide coating for higher clamping forces)
– Locknut type HS (High Speed, fine balanced, with slide coating for higher clamping forces) for an extra charge
– Increasing size L possible upon request

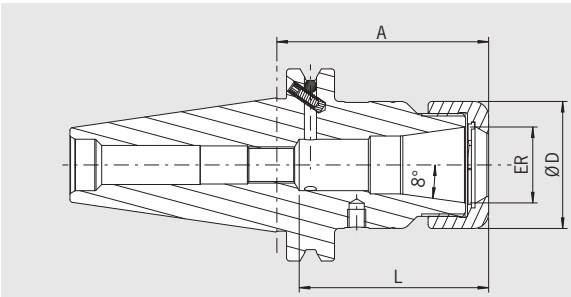
INCH	ER	16	20	25	32	40
	Ø D [inch]	1.1	1.34	1.65	1.97	2.48
	Clamping range [inch]	0.02–0.39	0.04–0.51	0.04–0.63	0.04–0.79	0.08–1.02
	Clamping range [mm]	0.5–10.5	1.5–13.0	1.0–16.0	1.5–20.0	2.5–26.0
L [inch]		[1]	1.63	2.24	2.52	2.83
Gage length A [inch]	short	2.76	2.76	2.76	2.76	2.76
Order No.	**40.520...**	**.16**	**.20**	**.25**	**.32**	**.40**[2]
L [inch]		[1]	1.63	2.24	2.52	2.87
Gage length A [inch]	long	3.94	3.94	3.94	3.94	3.94
Order No.	**40.521...**	**.16**	**.20**	**.25**	**.32**	**.40**
L [inch]		[1]	1.63	2.24	2.52	2.87
Gage length A [inch]	oversize	6.30	6.30	6.30	6.30	6.30
Order No.	**40.522...**	**.16**	**.20**	**.25**	**.32**	**.40**

Accessories						
Collets ER						See pages 768–773
Shrink Fit Collets						See pages 759–767
Locknut (pre-balanced)						
Size		ER 16	ER 20	ER 25	ER 32	ER 40
Order No.	**83.912...**	**.16**	**.20**	**.25**	**.32**	**.40**
Locknut HS (fine-balanced)						
Size		ER 16	ER 20	ER 25	ER 32	ER 40
Order No.	**83.912...**	**.16.HS**	**.20.HS**	**.25.HS**	**.32.HS**	**.40.HS**
Fork wrench						
Size		ER 16	ER 20	—	—	—
Order No.	**84.200...**	**.16**	**.20**			
Clamping wrench						
Size		—	—	ER 25	ER 32	ER 40
Order No.	**84.200...**			**.25**	**.32**	**.40**
Balancing index rings						
Size	long/oversize	ER 16	ER 20	ER 25	ER 32	ER 40
Order No.	**79.350...**	**.28**	**.34**	**.42**	**.48**	**.52**
Pull studs						See pages 787–791
Shrink fit extensions						See pages 751–753

1) Drilled through

POWER COLLET CHUCK
JIS B 6339 · BT40





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine-machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

INCH	ER	16	25	32
	Ø D [inch]	1.1	1.65	1.97
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]	1.69	2.01	2.09
Gage length A [inch]	short	2.76	2.76	2.76 (L=2.52 inch)
Order No.	**40.520...**	**.16.3**	**.25.3**	**.32.3**
Gage length A [inch]	long	3.94	3.94	3.94
Order No.	**40.521...**	**.16.3**	**.25.3**	**.32.3**
Gage length A [inch]	oversize	6.30	6.30	6.30
Order No.	**40.522...**	**.16.3**	**.25.3**	**.32.3**

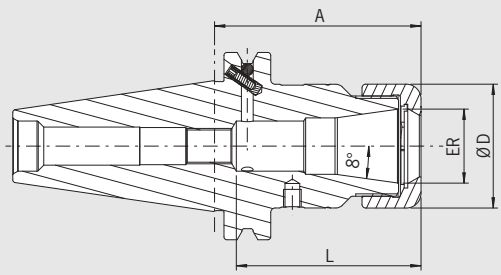
Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 759–767

HIGH PRECISION COLLET CHUCK
JIS B 6339 · BT40

CERTIFICATE OF QUALITY

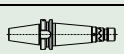
- ☑ Chuck body fine balanced G2.5 30,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF





The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools.

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

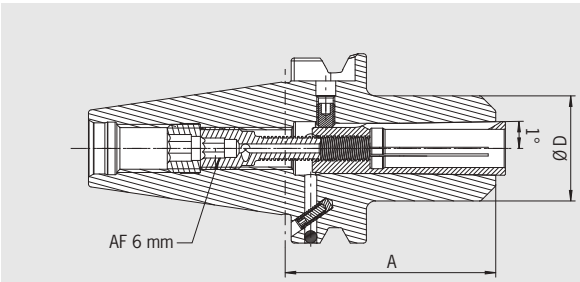
INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]		1.69	2.01	2.09
Gage length A [inch]	short		2.76	2.76	2.76 (L=2.52 inch)
Order No.	**40.520...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	long		3.94	3.94	3.94
Order No.	**40.521...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	oversize		6.30	6.30	6.30
Order No.	**40.522...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

Accessories

High Precision Smooth Locknut (fine-balanced)					See page 779
Size			ER 16	ER 25	ER 32
Order No.	**83.914...**		**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench					See page 782
Order No.	**84.650...**		**.16.1**	**.25.1**	**.32.1**
Collets ER					See pages 768–773
Shrink Fit Collets					See pages 759–767
Power Collets					See page 775
Power Collets with Safe-Lock					See page 776
Cool Jet bores for Power Collets					See page 777
Order No.	**91.100.27**				

HIGH-PRECISION CHUCK
JIS B 6339 · BT40





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

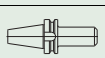
Use:

For highly precise clamping of tools with cylindrical shank with special collets. Also for shanks with clamping flats. Very useful for High Speed machining.

BT40 Form AD/AF

Form AD/AF means central-coolant supply and coolant channels through the flange which can be sealed again

– Included in delivery: High-Precision Chuck with clamping screw and pull-out hook without collet
– Shank tolerance h6
– Extensions available for High-Precision Chuck
– Optional: Cool Jet bores on HG Collets from Ø 1/4"

INCH	HG		01	02	03
	Ø D [inch]		1.18	1.38	1.89
	Clamping Ø shank tolerance h6 [inch]		0.08–0.35	0.39–0.57	0.63–0.79
	Clamping Ø shank tolerance h6 [mm]		2 | 3 | 4 | 5 | 6 | 8	10 | 12 | 14	16 | 18 | 20
Gage length A [inch]	short		2.56	2.76	2.95
Order No.	**40.620...**		**.01**	**.02**	**.03**
Gage length A [inch]	long		3.94	3.94	3.94
Order No.	**40.621...**		**.01**	**.02**	**.03**

Accessories

Clamping screw 

Collets HG INCH See page 783

HG 01 Ø D [inch]			Ø 1/8	Ø 3/16	Ø 1/4	Ø 5/16									
Order No.	**82.510...**		**.1/8Z**	**.3/16Z**	**.1/4Z**	**.5/16Z**									
HG 02 Ø D [inch]							Ø 3/8	Ø 7/16	Ø 1/2	Ø 9/16					
Order No.	**82.520...**						**.3/8Z**	**.7/16Z**	**.1/2Z**	**.9/16Z**					
HG 03 Ø D [inch]													Ø 5/8	Ø 3/4	
Order No.	**82.530...**												**.5/8Z**	**.3/4Z**	

Collets HG METRIC See page 783

HG 01 Ø D [mm]			Ø 02	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	—	—	—	—	—	—	
Order No.	**82.510...**		**.02**	**.03**	**.04**	**.05**	**.06**	**.08**							
HG 02 Ø D [mm]			—	—	—	—	—	—	Ø 10	Ø 12	Ø 14	—	—	—	
Order No.	**82.520...**								**.10**	**.12**	**.14**				
HG 03 Ø D [mm]			—	—	—	—	—	—	—	—	—	Ø 16	Ø 18	Ø 20	
Order No.	**82.530...**											**.16**	**.18**	**.20**	

Pull-out hook

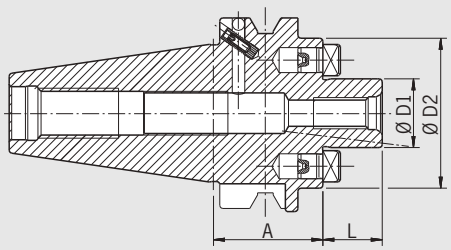
HG			HG 01	HG 02	HG 03
Order No.	**82.570...**		**.00**	**.00**	**.00**

Balancing index rings

HG			HG 01	HG 02	HG 03
Order No.	**79.350...**		**.30**	**.35**	**.48**

FACE MILL ARBOR
JIS B 6339 · BT40

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 22,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF



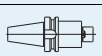


Use:
For holding face mill cutters and milling cutters with radial driving slot DIN 1880 and exceeding Ø 40 clamping according to DIN 2079 (4 additional tapped holes).
Metric sizes:
With coolant exit bores on the end face for milling cutters with central cooling

BT40 FORM AD/AF
Form AD/AF means central-coolant supply and coolant channels through the flange which can be sealed again

– Included in delivery: complete with tightening bolt
– Coolant bores on front side for an extra charge (Inch sizes)

INCH	Clamping Ø D1 [inch]		3/4	1	1 1/4
	Ø D2 [inch]		1.71	2.17	2.75
	L [inch]		0.67	0.67	0.67
Gage length A [inch]	short		1.38	1.97	2.36
Order No.	**40.550...**		**.3/4Z**	**.1Z**	**.1 1/4Z**

METRIC	Clamping Ø D1 [mm]		16	22	27	32	40
	Ø D2 [mm]		36	48	59	78	87
	L [mm]		17	19	21	24	27
Length A [mm]	short		35	35	35[1)]	65	70
Order No.	**40.550...**		**.16.KKB**	**.22.KKB**	**.27.KKB**	**.32.KKB**	**.40.KKB**
Length A [mm]	long		—	100	100	—	—
Order No.	**40.551...**			**.22.KKB**	**.27.KKB**		

Accessories							
Clamping Screw							
Ø D1 [inch]			3/4	1	1 1/4		
Order No.	**85.300...**		**.3/4Z**	**.1Z**	**.11/4Z**		
Wrench							See page 781
Ø D1 [inch]			3/4	1	1 1/4		
Order No.	**84.400...**		**.3/4Z**	**.1Z**	**.11/4Z**		
Balancing index rings							See page 785
Ø D1 [inch]			3/4	1	—		
Order No.	**79.350...**		**.1.71Z**	**.55**			
Pull Studs							See pages 787–791
Coolant bores							
Order No.	**91.100.03**						

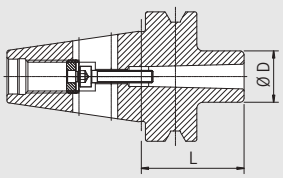
Accessories							
Tightening bolt							
Size D1			16	22	27	32	40
Order No.	**85.300...**		**.16**	**.22**	**.27**	**.32**	**.40**
Wrench							See page 781
Size D1			16	22	27	32	40
Order No.	**84.400...**		**.16**	**.22**	**.27**	**.32**	**.40**
Balancing index rings							See page 785
Size D1	short		—	—	—	32	40
Order No.	**79.350...**					**.78**	**.87**
Pull studs							See pages 787–791

1) ØD2 = 48 mm

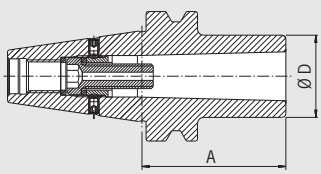
ADAPTER FOR MORSE TAPER WITH THREAD
JIS B 6339 · BT40



Type 1



Type 2



CERTIFICATE OF QUALITY

- ☑ Chuck body balanced G6.3 8,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3

Use:
For clamping tools with Morse taper and thread according to DIN 228-1 form A.

Similar to DIN 6383 with taper **JIS B 6339 BT40 form AD.**

– Included in delivery: tightening bolt
– Fine-balancing for an extra charge

MK3 and MK4 without bore for tang Form AD

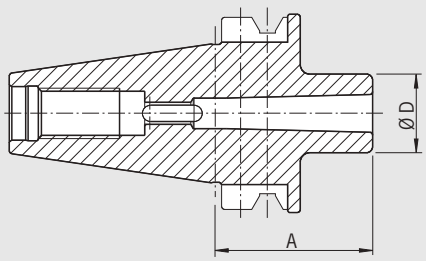
Type			**1**	**1**	**2**	**2**
MK			**01**	**02**	**03**	**04**
Ø D [mm]			**25**	**32**	**40**	**48**
Gage Length A [mm]	short		50	50	70	95
Order No.	**40.630...**		**.01**	**.02**	**.03**	**.04**

Accessories

Balancing index rings						See page 785
MK			01	02	03	04
Order No.	**79.350...**		**.25**	**.32**	**.40**	**.48**
Pull studs						See pages 787–791

ADAPTER FOR MORSE TAPER WITH TANG
JIS B 6339 · BT40

CERTIFICATE OF QUALITY
- ☑ Chuck balanced G6.3 8,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3





Use:
For holding tools with Morse taper and tang according to DIN 228-11 form AF.

Similar to DIN 6383 with taper **JIS B 6339 BT40 form AD.**

– Fine-balancing for an extra charge

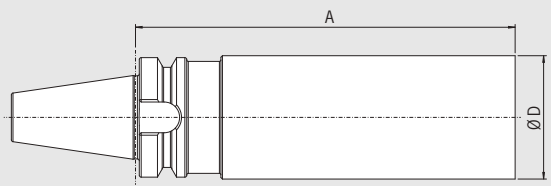
MK			01	02	03	04
Ø D [mm]			25	32	40	48
Gage Length A [mm]	short		50	50	70	95
Order No.	**40.580...**		**.01**	**.02**	**.03**	**.04**

Accessories

Balancing index rings						See page 785
MK			01	02	03	04
Order No.	**79.350...**		**.25**	**.32**	**.40**	**.48**
Pull studs						See pages 787–791

BLANK ADAPTER – HARDENED
JIS B 6339 · BT40



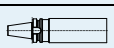
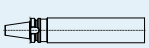


CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3

Use:
For manufacturing special tools in your factory.

Version:
– Taper and groove hardened and ground
– Cylindrical part hardened to 52+2 HRC

Taper **JIS B 6339 BT40 prepared for Form AD.**
Form AD means central coolant supply

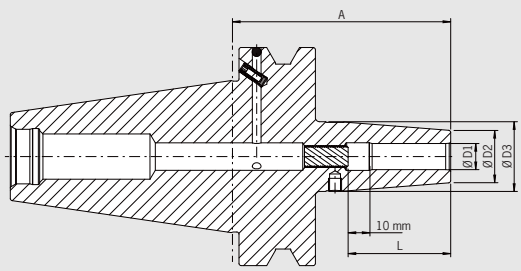
METRIC	Ø D [mm]		65
Gage Length A [mm]	ZG100		100
Order No.	**R40.596.0650...**		**.0100**
Gage Length A [mm]	ZG200		200
Order No.	**R40.596.0650...**		**.0200**
Gage Length A [mm]	ZG300		300
Order No.	**R40.596.0650....**		**.0300**

Accessories

Pull studs		See pages 787–791

SHRINK FIT CHUCK
JIS B 6339 · BT50

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U< 1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF





Use:
Shrink fit chuck suitable for use with all available shrink fit units.

JIS B 6339 **BT50 Form AD/AF**
Form AD/AF means central coolant supply and coolant channels through the flange which can be sealed again

– Heat resistant hot-working steel
– Hardened 54 – 2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– Included in delivery: Shrink fit chuck with back-up screw
– With threaded holes in order to balance with balancing screws

Optional:
– Cooling with Cool Jet for an extra charge (See page 501)
– Cooling with Cool Flash from diam. 6 mm – 25 mm for an extra charge (See pages 502 – 503)

Standard version, similar to DIN 69882-8

METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	27	27	32	32	34	34	42	42	53	53
	L [mm]	36	36	42	47	47	50	50	52	58	58
Gage length A [mm]	short	100	100	100	100	100	100	100	100	100[1)]	100[1)]
Order No.	**50.640...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Gage length A [mm]	ZG120	120	120	120	120	120	120	120	120	120	120
Order No.	**50.647...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Gage length A [mm]	ZG130	130	130	130	130	130	130	130	130	130	130
Order No.	**50.644...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Gage length A [mm]	oversize	160	160	160	160	160	160	160	160	160	160
Order No.	**50.642...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Gage length A [mm]	ZG200	200	200	200	200	200	200	200	200	200	200
Order No.	**50.646...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**

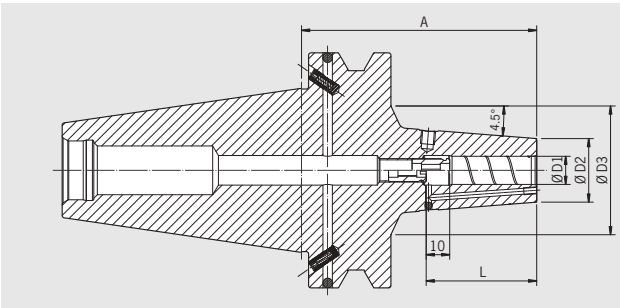
Accessories

Shrink fit extensions		See pages 751 – 753
Balancing screws		See page 784
Pull studs		See pages 787 – 791
Reduction sleeves		See page 794
Back-up screws		See pages 796 – 799
Cool Jet bores		See page 501
Cool Flash	**Order No. 91.100.40**	See pages 502 – 503
Cool Flash Upgrade incl. Cool Jet	**Order No. 91.100.41**	See pages 502 – 503

1) Clamping diam. D2 = 45 mm

POWER SHRINK CHUCK
JIS B 6339 · BT50





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF
- ☑ Cool Jet, can be sealed

The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

The oversize and ZG200 versions (A=160 and 200) with slim tips are especially versatile to use.

– High rigidity, slim at the tip, dampen vibrations
– Higher clamping forces
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine

Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8	3/4	1
	Ø D2 [inch]	0.83	0.83	1.06	1.06	1.31	1.76	1.76
	Ø D3 [inch]	2.76	2.76	2.17	2.17	—	—	—
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28
Gage length A [inch]	short	3.94	3.94	3.94	3.94	3.94	3.94	3.94
Order No.	**50.640...**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**
Safe-Lock Order No.	**50.640...**	**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**

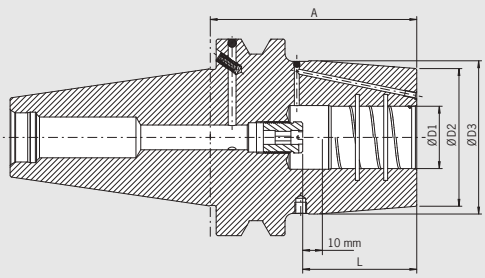
METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	18	20	25
	Ø D2 [mm] short	21	21	27	27	33.3	33.3	44.7	44.7	44.7
	Ø D3 [mm] short	70	70	55	55	–	–	–	–	–
	L [mm]	36	36	42	47	47	50	50	52	58
Gage length A [mm]	short	100	100	100	100	100	100	100	100	100
Order No.	**50.640...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**
Safe-Lock Order No.	**50.640...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**
	Ø D2 [mm] oversize/ZG200	21	21	27	27	33	33	44	44	44
	Ø D3 [mm] oversize/ZG200	83	83	83	83	83	83	83	83	83
Gage length A [mm]	oversize	160	160	160	160	160	160	160	160	160
Order No.	**50.642...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**
Safe-Lock Order No.	**50.642...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**
Gage length A [mm]	ZG200	200	200	200	200	200	200	200	200	200
Order No.	**50.646...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**
Safe-Lock Order No.	**50.646...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**

Accessories

Cool Flash **Order No. 91.100.40** See pages 502–503

HEAVY DUTY CHUCK
JIS B 6339 · BT50

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF
- ☑ Cool Jet, can be sealed





The Heavy Duty Chuck is a shrink fit chuck designed for extreme cases and Heavy Duty machining. The contour is optimized for highest rigidity and clamping force.

– Smooth clamping of the tool shank
– No deformation at the tool shank after shrink process
– TIR less than 0.00012" (3 µm)
– Reinforced outer contour
– To shrink with 13 kW HD coil (see page 600) or with high performance shrink fit unit HAIMER Power Clamp Profi Plus (20 kW)
– With internal groove in the clamping bore
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

Optional:
– Cooling with Cool Flash from 5/8"–1" for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]	5/8	3/4	1	1 1/4	1 1/2	2
	Ø D2 [inch]	2.01	2.28	2.48	2.76	3.24	3.24
	Ø D3 [inch]	—	2.63	2.83	3.07	—	—
	L [inch]	1.97	2.05	2.28	2.40	3.46	3.46
Gage length A [inch]	short	3.94	3.94	4.13	4.13	4.53	4.72
Order No.	**50.650...**	**.5/8z.6**	**.3/4z.6**	**.1z.6**	**.11/4z.6**	**.11/2z.6**	**.2z.6**
Safe-Lock Order No.	**50.650...**	**.5/8z.67**	**.3/4z.67**	**.1z.67**	**.11/4z.67**	**.11/2z.67**	**.2z.67**

METRIC	Clamping Ø D1 [mm]	16	20	25	32	40	50
	Ø D2 [mm]	51	58	63	70	82	82
	Ø D3 [mm] short	—	67	72	78	—	—
	L [mm]	50	52	58	61	88	88
Gage length A [mm]	short	100	100	105	105	115[1)]	120
Order No.	**50.650...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Safe-Lock Order No.	**50.650...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**
	Ø D3 [mm] oversize/ZG200	**85**	**85**	**85**	**85**	**94**	**94**
Gage length A [mm]	oversize	160	160	160	160	160	160
Order No.	**50.652...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Safe-Lock Order No.	**50.652...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**
Gage length A [mm]	ZG200	200	200	200	200	200	200
Order No.	**50.656...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Safe-Lock Order No.	**50.656...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**

Heavy Duty Chuck – For 13 kW shrink fit machine

Clamping	Ø D1 [mm]	16
	Ø D2 [mm]	46
	L [mm]	50
Gage length A [mm]	short	100
Order No.	**50.640...**	**.16.6**
Safe-Lock Order No.	**50.640...**	**.16.67**

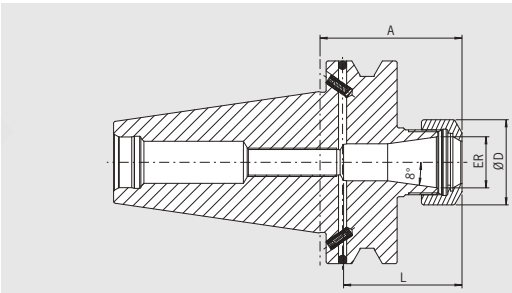
Accessories

Cool Flash		**Order No. 91.100.40**	See pages 502–503

1) Clamping diam. D2 = 82.3 mm

ER COLLET CHUCK
JIS B 6339 · BT50





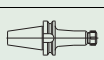
CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 22,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Use:
For clamping tools with cylindrical shank in ER collets according to ISO 15488 (formerly DIN 6499).

BT50 Form AD/AF
Form AD/AF means central-coolant supply and coolant channels through the flange which can be sealed again

– Included in delivery: ER collet chuck with pre-balanced collet nut
– Balanced Collet nuts HS with special slide coating for low friction and higher clamping forces
Enlarging of size L on request

INCH	ER		ER16	ER20	ER25	ER32	ER40
	Ø D [inch]		1.1	1.33	1.65	1.97	2.48
	Clamping range [inch]		0.02–0.39	0.05–0.51	0.04–0.63	0.04–0.79	0.08–1.02
	Clamping range [mm]		0.5–10.0	1.5–13.0	1.0–16.0	1.5–20.0	2.5–26.0
	L [inch]		[1]	1.63	2.24	2.52	2.87
Gage length A [inch]	short		2.76	2.76	2.76	2.76	3.15
Order No.	**50.520...**		**.16**	**.20**	**.25**	**.32**	**.40**
Gage length A [inch]	long		3.94	3.94	3.94	3.94	3.94
Order No.	**50.521...**		**.16**	**.20**	**.25**	**.32**	**.40**
Gage length A [inch]	oversize		6.30		6.30	6.30	6.30
Order No.	**50.522...**		**.16**	**—**	**.25**	**.32**	**.40**

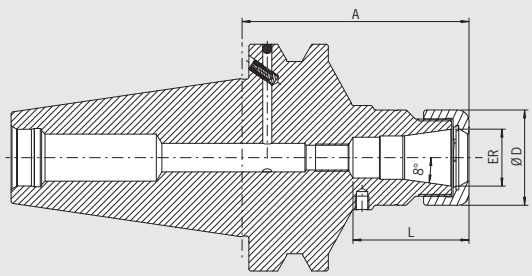
Accessories

Collet nut, pre-balanced							
Ø ER			ER16	—	ER25	ER32	ER40
Order No.	**83.912...**		**.16**		**.25**	**.32**	**.40**
Collet nut HS (Highspeed), fine-balanced							
Ø ER			ER16	—	ER25	ER32	ER40
Order No.	**83.912...**		**.16.HS**		**.25.HS**	**.32.HS**	**.40.HS**
Wrench							
Ø ER			ER16	—	—	—	—
Order No.	**84.200...**		**.16**				
Wrench							
Ø ER			—	—	ER25	ER32	ER40
Order No.	**84.200...**				**.25**	**.32**	**.40**
Balancing index rings							
Ø ER long/oversize			ER16	—	ER25	ER32	ER40
Order No.	**79.350...**		**.28**		**.42**	**.48**	**.52**
Collet							
Pull Stud							See pages 787–791

1) Drilled through

POWER COLLET CHUCK
JIS B 6339 · BT50

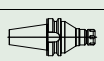
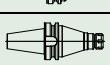
CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine-machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF





The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

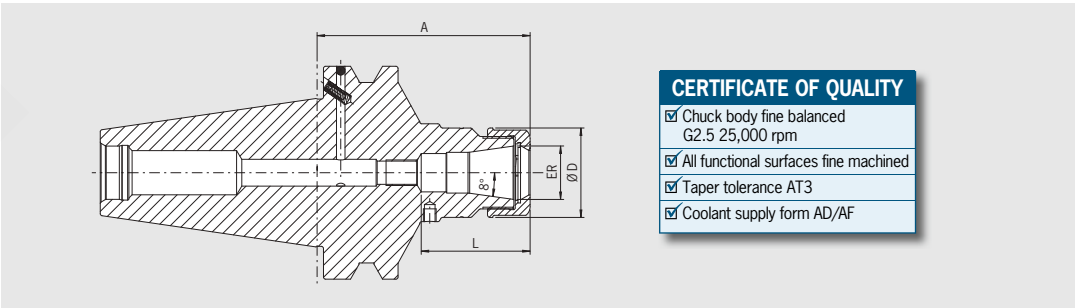
INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]		1.69	2.01	2.09
Gage length A [inch]	short		3.94	3.94	3.94
Order No.	**50.520...**		**.16.3**	**.25.3**	**.32.3**
Gage length A [inch]	ZG130		5.12	5.12	5.12
Order No.	**50.524...**		**.16.3**	**.25.3**	**.32.3**
Gage length A [inch]	oversize		6.30	6.30	6.30
Order No.	**50.522...**		**.16.3**	**.25.3**	**.32.3**

Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 759–767

HIGH PRECISION COLLET CHUCK
JIS B 6339 · BT50





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools.

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

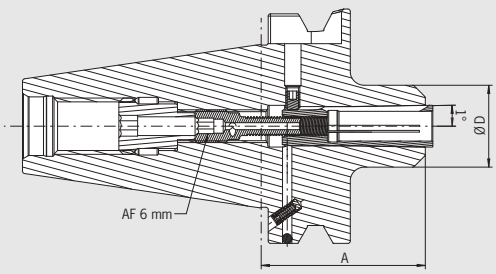
INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]		1.69	2.01	2.09
Gage length A [inch]	short		3.94	3.94	3.94
Order No.	**50.520…**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	ZG130		5.12	5.12	5.12
Order No.	**50.524…**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	oversize		6.30	6.30	6.30
Order No.	**50.522…**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

Accessories

High Precision Smooth Locknut (fine-balanced)					See page 779
Size			ER 16	ER 25	ER 32
Order No.	**83.914…**		**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench					See page 782
Order No.	**84.650…**		**.16.1**	**.25.1**	**.32.1**
Collets ER					See pages 768–773
Shrink Fit Collets					See pages 759–767
Power Collets					See page 775
Power Collets with Safe-Lock					See page 776
Cool Jet bores for Power Collets					See page 777
Order No.	**91.100.27**				

HIGH-PRECISION CHUCK
JIS B 6339 · BT50

CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF





Use:
For highly precise clamping of tools with cylindrical shank with special collets.
Very useful for High Speed machining.

BT50 Form AD/AF
Form AD/AF means central-coolant supply and coolant channels through the flange which can be sealed again

– Included in delivery: High-Precision Chuck with clamping screw and pull-out hook without collet
– Shank tolerance h6
– Extensions available for High-Precision Chuck

INCH	HG	01	02	03
	Ø D [inch]	1.18	1.38	1.89
	Clamping Ø shank tolerance h6 [inch]	0.08–0.35	0.39–0.57	0.63–0.79
	Clamping Ø shank tolerance h6 [mm]	2 | 3 | 4 | 5 | 6 | 8	10 | 12 | 14	16 | 18 | 20
Gage length A [inch]	short	—	2.76	2.95
Order No.	**50.620...**		**.02**	**.03**
Gage length A [inch]	long	—	3.94	—
Order No.	**50.621...**		**.02**	
Gage length A [inch]	oversize	6.3	6.3	—
Order No.	**50.622...**	**.01**	**.02**	

Accessories

Clamping screw

Collets HG INCH See page 783

HG 01 Ø D [inch]		Ø 1/8	Ø 3/16	Ø 1/4	Ø 5/16								
Order No.	**82.510...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.5/16Z**								
HG 02 Ø D [inch]						Ø 3/8	Ø 7/16	Ø 1/2	Ø 9/16				
Order No.	**82.520...**					**.3/8Z**	**.7/16Z**	**.1/2Z**	**.9/16Z**				
HG 03 Ø D [inch]												Ø 5/8	Ø 3/4
Order No.	**82.530...**											**.5/8Z**	**.3/4Z**

Collets HG METRIC See page 783

HG 01 Ø D [mm]		Ø 02	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	—	—	—	—	—	—		
Order No.	**82.510...**	**.02**	**.03**	**.04**	**.05**	**.06**	**.08**								
HG 02 Ø D [mm]		—	—	—	—	—	—	Ø 10	Ø 12	Ø 14	—	—	—		
Order No.	**82.520...**							**.10**	**.12**	**.14**					
HG 03 Ø D [mm]		—	—	—	—	—	—	—	—	—	Ø 16	Ø 18	Ø 20		
Order No.	**82.530...**										**.16**	**.18**	**.20**		

Pull-out hook

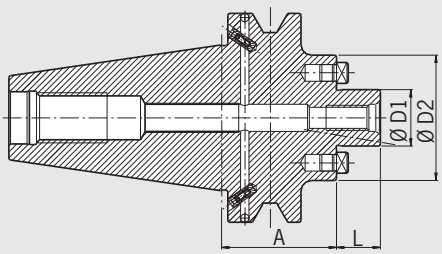
HG		HG 01	HG 02	HG 03
Order No.	**82.570...**	**.00**	**.00**	**.00**

Balancing index rings

HG		HG 01	HG 02	HG 03
Order No.	**79.350...**	**.30**	**.35**	**.48**

FACE MILL ARBOR
JIS B 6339 · BT50





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 22,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Use:

For holding face mill cutters and milling cutters with radial driving slot DIN 1880 and exceeding Ø 40 clamping according to DIN 2079 (4 additional tapped holes).
With coolant exit bores on the end face for milling cutters with central cooling.

Similar to DIN 6357 with taper **JIS B 6339 BT50 form AD/AF.**
Form AD/AF means central-coolant supply and coolant channels through the flange which can be sealed again.

– Included in delivery: complete with tightening bolt

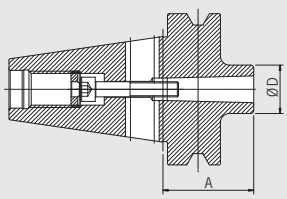
METRIC	Clamping Ø D1 [mm]		22	27	32	40
	Ø D2 [mm]		48	60	78	89
	L [mm]		19	21	24	27
Gage length A [mm]	short		55	55	55	55
Order No.	**50.550…**		**.22.KKB**	**.27.KKB**	**.32.KKB**	**.40.KKB**
Gage length A [mm]	long		100	100	100	—
Order No.	**50.551…**		**.22.KKB**	**.27.KKB**	**.32.KKB**	

Accessories						
Tightening bolt						
Size D1			22	27	32	40
Order No.	**85.300…**		**.22**	**.27**	**.32**	**.40**
Wrench						
Size D1			22	27	32	40
Order No.	**84.400…**		**.22**	**.27**	**.32**	**.40**
Balancing index rings						
Size D1	short		—	—	32	40
Order No.	**79.350…**				**.78**	**.89**
Size D1	long		22	27	32	40
Order No.	**79.350…**		**.48**	**.60**	**.78**	**.89**
Pull studs						See pages 787–791

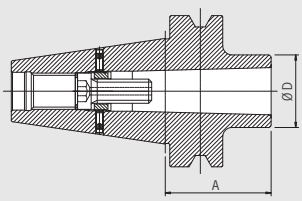
ADAPTER FOR MORSE TAPER WITH THREAD
JIS B 6339 · BT50

CERTIFICATE OF QUALITY
- ☑ Chuck body balanced G6.3 8,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3

Type 1



Type 2





Use:
For clamping tools with Morse taper with drawbar thread according to DIN 228-1 form A.

Similar to DIN 6383 with taper **JIS B 6339 BT50 form A.**

– Included in delivery: tightening bolt
– Fine-balancing for an extra charge

MK3 and MK4 without bore for tang form AD

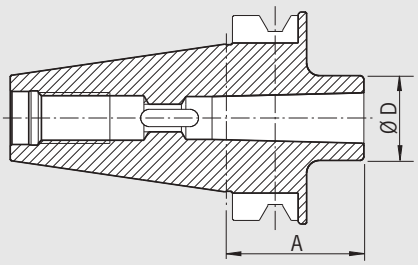
METRIC	Type	1	1	2
	MK	02	03	04
	Ø D [mm]	32	40	48
Gage length A [mm]	short	60	65	70
Order No.	**50.630...**	**.02**	**.03**	**.04**

Accessories

Balancing index rings				
MK		02	03	04
Order No.	**79.350...**	**.32**	**.40**	**.48**
Pull studs				

ADAPTER FOR MORSE TAPER WITH TANG
JIS B 6339 · BT50





CERTIFICATE OF QUALITY

- ☑ Chuck balanced G6.3 8,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3

Use:
For holding tools with Morse taper and tang according to DIN 228-11 form AF.

Similar to DIN 6383 with taper **JIS B 6339 BT50 Form AD.**

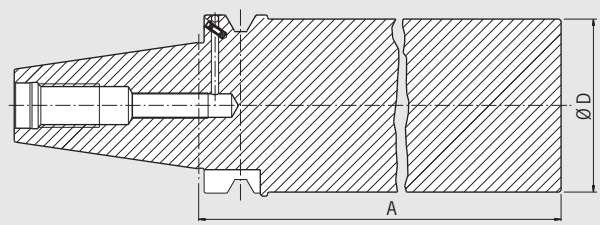
– Fine-balancing for an extra charge

METRIC	MK		02	03	04
	Ø D [mm]		32	40	48
Gage Length A [mm]			60	65	95
Order No.	**50.580...**		**.02**	**.03**	**.04**

Accessories						
Balancing index rings						
MK			02	03	04	
Order No.	**79.350...**		**.32**	**.40**	**.48**	
Pull studs						See pages 787–791

BLANK ADAPTER
JIS B 6339 · BT50

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3





Use:
For manufacturing special tools in your factory.

Design:
Taper and groove are hardened and ground, the cylindrical part is soft.

With taper **JIS B 6339 BT50 Form AD/AF.**
Form AD/AF means central coolant supply and coolant channels on the collar which can be sealed again.

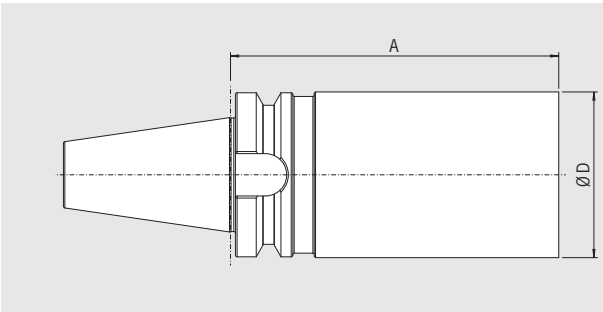
METRIC	Ø D [mm]	95.5
Gage Length A [mm]		315
Order No.	**50.590...**	**.95**

Accessories

Pull studs		See pages 787–791

BLANK ADAPTER – HARDENED
JIS B 6339 · BT50



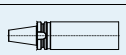


CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3

Use:
For manufacturing special tools in your factory.

Version:
– Taper and groove hardened and ground
– Cylindrical part hardened to 52+2 HRC

Taper **JIS B 6339 BT50 prepared for Form AD.**
Form AD means central coolant supply

METRIC	Ø D [mm]		101
Gage Length A [mm]	ZG100		100
Order No.	**R50.596.1010...**		**.0100**
Gage Length A [mm]	ZG200		200
Order No.	**R50.596.1010...**		**.0200**
Gage Length A [mm]	ZG300		300
Order No.	**R50.596.1010...**		**.0300**

Accessories

Pull studs		See pages 787–791



Similar JIS B 6339 BT with Face Contact

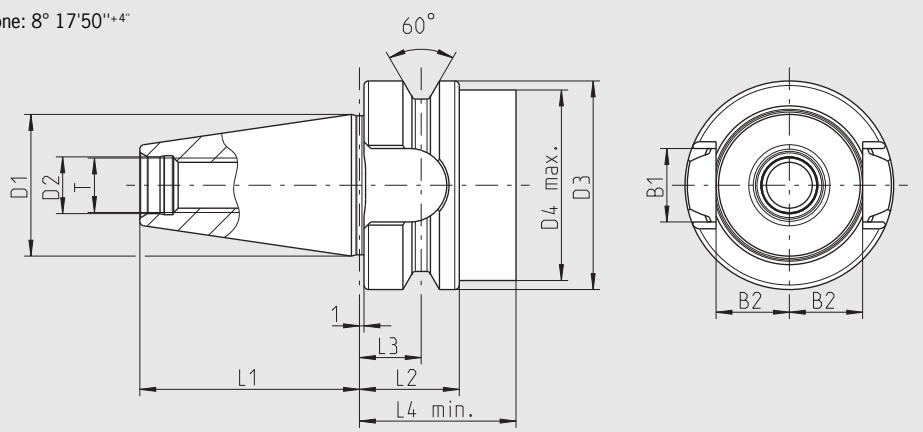
Article	Page
BT30 with Face Contact	
Shrink Fit Chuck	338
Power Mini Shrink Chuck	340
High Precision Collet Chuck	341
Blank Adapter – Hardened	342
BT40 with Face Contact	
Shrink Fit Chuck	343
Power Shrink Chuck	344
Power Mini Shrink Chuck	345
High Precision Collet Chuck	346
Blank Adapter – Hardened	347
BT50 with Face Contact	
Shrink Fit Chuck	348
Power Shrink Chuck	349
Heavy Duty Chuck	350
High Precision Collet Chuck	351

STEEP TAPER
SIMILAR JIS B 6339 · BT WITH FACE CONTACT

Design:
– Additional support on the flange surface for more rigidity
– Tool holders case-hardened 60–2 HRC
– Tensile strength in the core at least 950 N/mm²
– Taper in tolerance quality AT3
– Form AD: interior coolant supply through center
– Without bore for data chip
– Compatible with Big-Plus* spindles

BT30 with face contact

– Angle of cone: 8° 17'50"+4"

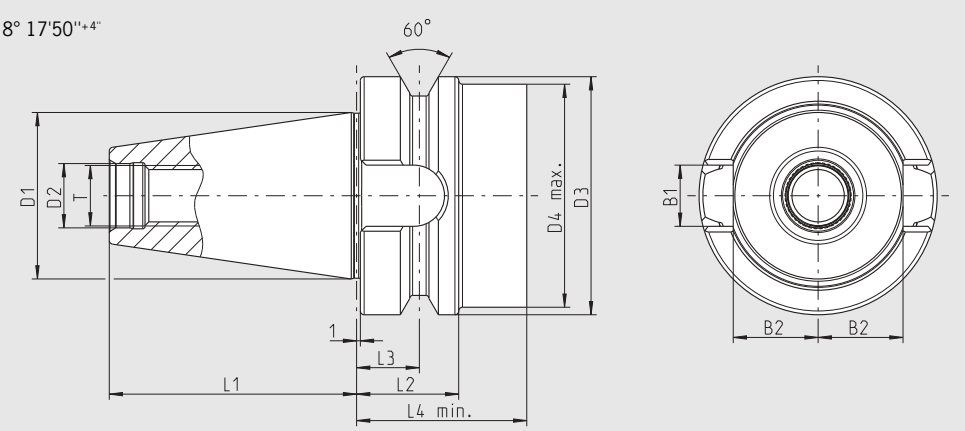


INCH [inch]	D1	D2	D3	D4	L1	L2	L3	L4	T	B1	B2
BT30 with face contact	1.25	0.492	1.811	1.653	1.906	0.866	0.535	1.358	M12	0.633	0.641

METRIC [mm]	D1	D2	D3	D4	L1	L2	L3	L4	T	B1	B2
BT30 with face contact	31.75	12.5	46	42	48.4	22	13.6	34.5	M12	16.1	16.3

BT40 with face contact

– Angle of cone: 8° 17'50"+4"



INCH [inch]	D1	D2	D3	D4	L1	L2	L3	L4	T	B1	B2
BT40 with face contact	1.75	0.669	2.480	2.323	2.575	1.063	0.654	1.772	M16	0.633	0.889

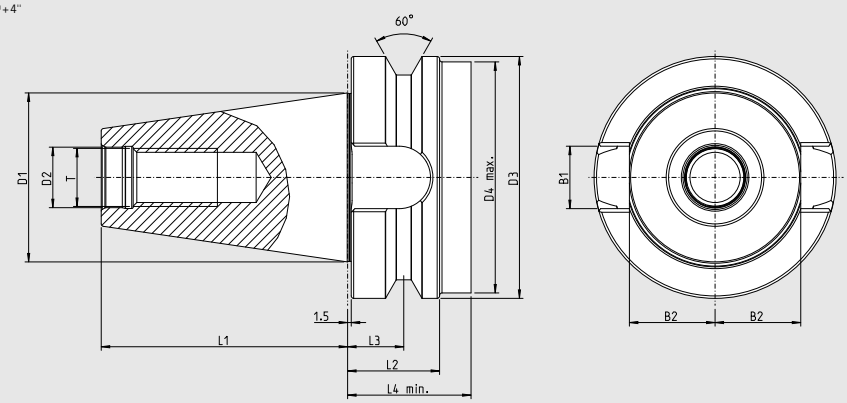
METRIC [mm]	D1	D2	D3	D4	L1	L2	L3	L4	T	B1	B2
BT40 with face contact	44.45	17	63	59	65.4	27	16.6	45	M16	16.1	22.6

*BIG-PLUS® is a registered trademark/tradename of Big Daishowa Co. Ltd./Big Daishowa Seiki Co. Ltd.

RUNOUT ACCURACY
SIMILAR JIS B 6339 · BT WITH FACE CONTACT

BT50 with face contact

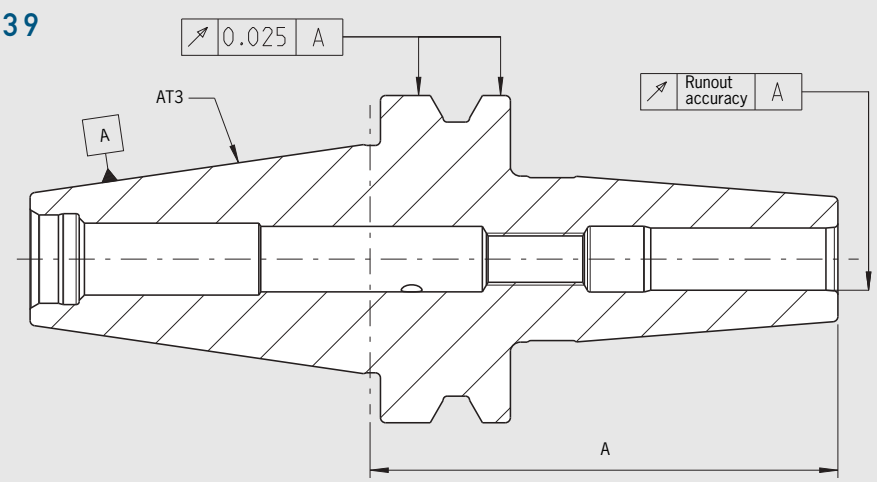
– Angle of cone: 8° 17'50''$^{+4''}$



INCH [inch]	D1	D2	D3	D4	L1	L2	L4	T	B1	B2
BT50 with face contact	2.750	0.984	3.937	3.760	4.008	1.496	2.008	M24	1.012	1.394

METRIC [mm]	D1	D2	D3	D4	L1	L2	L4	T	B1	B2
BT50 with face contact	69.85	25	100	95.5	101.8	38	51	M24	25.7	35.4

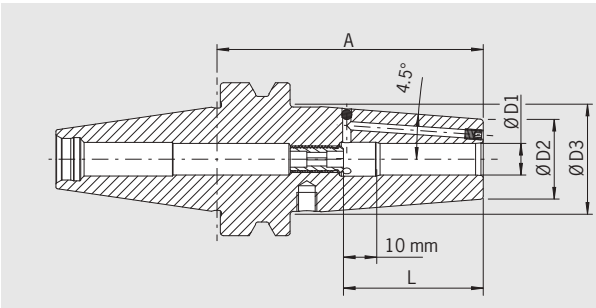
RUNOUT ACCURACY
JIS B 6339



Gage length A [mm]	A < 160	A ≥ 160
max. runout tolerance in mm		
Shrink Fit Chuck	0.003	0.004
Power Shrink Chuck	0.003	0.004
Heavy Duty Chuck	0.003	0.004
Power Mini Shrink Chuck	0.003	0.004
High Precision Collet Chuck	0.003	0.004

SHRINK FIT CHUCK
SIMILAR JIS B 6339 · BT30 WITH FACE CONTACT
INCH





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3

Use:
Shrink fit chuck suitable for use with all available shrink fit units.
Additional support on the flange surface for more rigidity.

Similar JIS B 6339 BT30 with face contact form AD
Form AD means central coolant supply

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– Included in delivery: with back-up screw
– With threaded holes in order to balance with balancing screws
– Cool Jet bores that can be sealed included
– Cooling with Cool Flash for an extra charge (See pages 502–503)
– Compatible with Big-Plus* spindles

Ultra short version

INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
	Ø D2 [inch]	0.39	0.39	0.83	0.83	0.95	0.95	0.95	1.06	1.30
	Ø D3 [inch]	—	—	—	—	—	—	—	—	1.59
	L [inch]	0.35	0.47	1.42	1.42	1.65	1.65	1.85	1.97	2.05
Gage Length A [inch]	ultra short	2.36[1]	2.36[1]	2.36[2]	2.36[2]	2.36[2]	2.36[2]	2.36[2]	2.56[2]	2.76[2]
Order No.	**30P.645...**	**.1/8Z**	**.3/16Z**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**

Short version

INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
	Ø D2 [inch]	0.39	0.39	0.83	0.83	0.95	0.95	0.95	1.06	1.30
	Ø D3 [inch]	—	—	1.06	1.06	1.26	1.26	1.26	1.34	1.59
	L [inch]	0.35	0.47	1.42	1.42	1.65	1.65	1.85	1.97	2.05
Gage Length A [inch]	short	3.15[1]	3.15[1]	3.15	3.15	3.15	3.15	3.15	3.15	3.54
Order No.	**30P.640...**	**.1/8Z**	**.3/16Z**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**

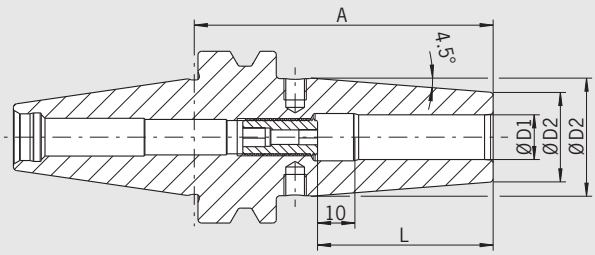
Accessories

Shrink fit extensions			See page 750
Balancing screws			See page 784
Pull studs			See pages 787–791
Reduction sleeves			See page 794
Back-up screws			See pages 796–799
Cool Flash		**Order No. 91.100.40**	See pages 502–503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for cooling from outside
2) With back-up screw, without thread for balancing screws
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SHRINK FIT CHUCK
SIMILAR JIS B 6339 · BT30 WITH FACE CONTACT
METRIC

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3





Use:
Suitable for all inductive, contact and hot air shrink fit units.
Additional support on the flange surface for more rigidity.

Similar JIS B 6339 BT30 with face contact form AD
Form AD means central coolant supply

- Heat resistant hot-working steel
- Hardened 54–2 HRC
- For HSS and solid carbide tools
- Shank tolerance h6
- Included in delivery: with back-up screw
- With threaded holes in order to balance with balancing screws
- Cooling with Cool Jet for an extra charge (See page 501)
- Cooling with Cool Flash for an extra charge (See pages 502–503)
- Compatible with Big-Plus* spindles

Ultra short version

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16	20
	Ø D2 [mm]	10	10	10	23	23	27	27	30	30	35.5
	Ø D3 [mm]	—	—	—	—	—	—	—	—	—	40,5
	L [mm]	09	12	15	36	36	42	47	47	50	52
Length A [mm]	ultra short	60[1]	60[1]	60[1]	60[2]	60[2]	60[2]	60[2]	65[2]	65[2]	70[2]
Order No.	**30P.645...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.20**

Standard version, similar to DIN 69882-8

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16	20
	Ø D2 [mm]	10	10	10	21	21	24	24	27	27	33
	Ø D3 [mm]	—	—	—	27	27	32	32	34	34	40.5
	L [mm]	09	12	15	36	36	42	47	47	50	52
Length A [mm]	short	80[1]	80[1]	80[1]	80	80	80	80	80	80	90
Order No.	**30P.640...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.20**

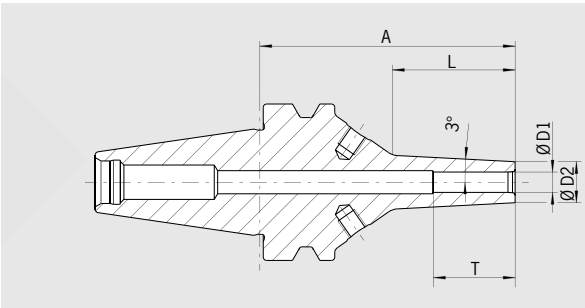
Accessories

Shrink fit extensions		See pages 751–753
Balancing screws		See page 784
Pull studs		See pages 787–791
Reduction sleeves		See page 794
Back-up screws		See pages 796–799
Cool Jet bores		See page 501
Cool Flash	**Order No. 91.100.40**	See pages 502–503
Cool Flash Upgrade incl. Cool Jet	**Order No. 91.100.41**	See pages 502–503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for cooling from outside
2) With back-up screw, without threads for balancing screws
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POWER MINI SHRINK CHUCK
SIMILAR JIS B 6339 · BT30 WITH FACE CONTACT





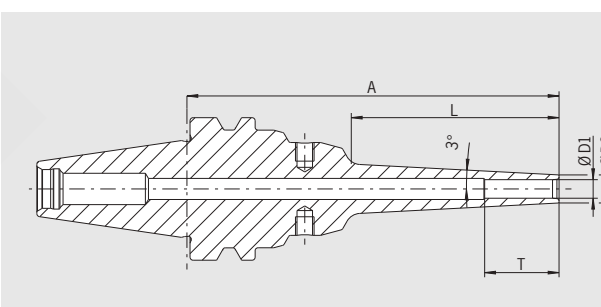
CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD

Power Mini Shrink Chuck is perfect for 5-axis machining in the die & mold and in the medical industry. Very slim at the top like the HAIMER Mini Shrink Chucks, the Power Mini Shrink is reinforced at the base. Therefore efficient milling is possible with an angled tool, even at long protruding lengths.

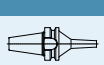
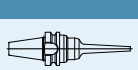
– Additional support on the flange surface for more rigidity
– 3° angle at the top
– With threaded holes in order to balance with balancing screws
– For solid carbide tools with shank tolerance h6
– Compatible with Big-Plus* spindles

Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD

METRIC	Clamping Ø D1 [mm]	03	04	06	08	10	12
	T [mm]	—	—	—	—	68	75
	Ø D2 [mm] short	09	10	12	14	16	18
	L [mm] short	36	36	36	36	36	36
Length A [mm]	short 	75	75	75	75	75	75
Order No.	**30P.680...**	**.03.8**	**.04.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**
	Ø D2 [mm] ZG95	06	07	09			
	L [mm] ZG95	42	42	42			
Length A [mm]	ZG95 	95	95	95			
Order No.	**30P.671...**	**.03.8**	**.04.8**	**.06.8**			
	Ø D2 [mm] ZG120	06	07	09			
	L [mm] ZG120	67	67	67			
Length A [mm]	ZG120 	120	120	120			
Order No.	**30P.677...**	**.03.8**	**.04.8**	**.06.8**			

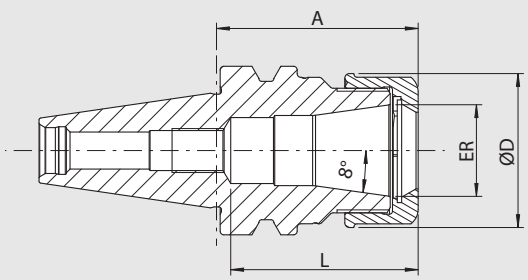
Accessories

Shrink and cooling adapter for Mini Shrink See page 593

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HIGH PRECISION COLLET CHUCK
SIMILAR JIS B 6339 · BT30 WITH FACE CONTACT

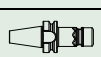
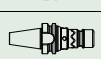
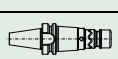
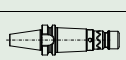
CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD





The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools. The chuck is especially suitable for micro and fine machining (e.g. in the medical or watchmaking industry).

– Additional support on the flange surface for more rigidity
– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776
– Compatible with Big-Plus* spindles

INCH	ER		16	25	32
	Ø D [inch]		1.10	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]		1.69	2.01	2.09
Gage length A [inch]	ultra short		2.16[1]	2.16[1]	2.16[1]
Order No.	**30P.525...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	ZG60		2.36[2]	2.36[2]	2.36[2]
Order No.	**30P.529...**		**.16.3.060.HP**	**.25.3.060.HP**	**.32.3.060.HP**
Gage length A [inch]	ZG75		2.95	2.95	2.95
Order No.	**30P.529...**		**.16.3.075.HP**	**.25.3.075.HP**	**.32.3.075.HP**
Gage length A [inch]	short		3.15	3.15	3.15
Order No.	**30P.520...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	ZG105		4.13	4.13	4.13
Order No.	**30P.529...**		**.16.3.105.HP**	**.25.3.105.HP**	**.32.3.105.HP**
Gage length A [inch]	ZG120		4.72	4.72	4.72
Order No.	**30P.527...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

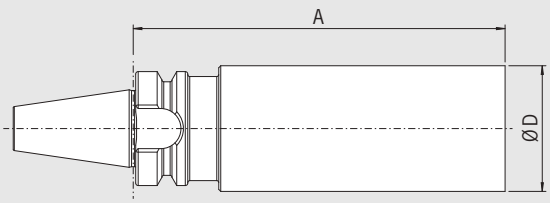
Accessories

High Precision Smooth Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No. 83.914...		**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench				See page 782
Order No. 84.650...		**.16.1**	**.25.1**	**.32.1**
Collets ER				See pages 768–773
Shrink Fit Collets				See pages 759–767
Power Collets				See pages 770–771
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No. 91.100.27				

1) Without threaded holes
2) Without balancing thread
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BLANK ADAPTER – HARDENED
SIMILAR JIS B 6339 · BT30 WITH FACE CONTACT





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD

Use:
For manufacturing special tools in your factory.

Version:
– Taper and groove hardened and ground
– Cylindrical part hardened to 52+2 HRC
– Compatible with Big-Plus* spindles

Taper **similar to JIS B 6339 BT30** with face contact
prepared for Form AD.
Form AD means central coolant supply

METRIC	Ø D [mm]	50.7
Gage Length A [mm]	ZG150	150
Order No.	**RP30.596.0507...**	**.0150**

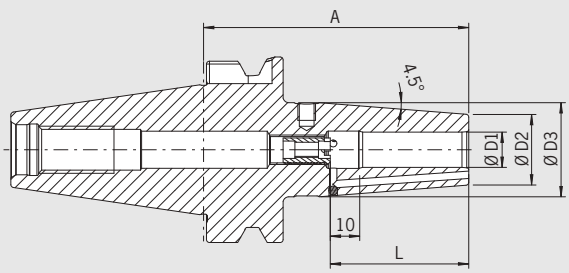
Accessories

Pull studs	See pages 787–791

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SHRINK FIT CHUCK
SIMILAR JIS B 6339 · BT40 WITH FACE CONTACT

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD





Use:
Suitable for all shrinking units.
Additional support on the flange surface for more rigidity.

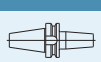
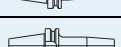
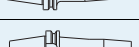
Similar JIS B 6339 BT40 with face contact form AD
Form AD means central coolant supply

- Heat resistant hot-working steel
- Hardened 54 – 2 HRC
- For HSS and solid carbide tools
- Shank tolerance h6
- With threaded holes in order to balance with balancing screws
- Included in delivery: Shrink fit chuck with back-up screw
- Inch version: Cool Jet bores that can be sealed included (Metric optional)
- Cooling with Cool Flash for an extra charge (See pages 502 – 503)
- Compatible with Big-Plus* spindles

INCH Standard version

INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/4
	Ø D2 [inch]	0.39	0.39	0.83	0.83	0.94	0.94	0.94	1.06	1.30	1.30	1.73	1.73
	Ø D3 [inch]	—	—	1.06	1.06	1.26	1.26	1.26	1.34	1.65	1.65	2.09	2.09
	L [inch]	0.35	0.47	1.42	1.42	1.65	1.65	1.85	1.97	2.05	2.05	2.28	2.28
Gage length A [inch]	short	3.15[2]	3.15[2]	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.54	3.94	3.94
Order No.	**40P.640...**	**.1/8Z**	**.3/16Z**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	ZG130	—	—	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Order No.	**40P.644...**			**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	oversize	—	—	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Order No.	**40P.642...**			**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**	**.1Z.4**	**.1 1/4Z.4**

METRIC Standard version, similar to DIN 69882-8

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]	10	10	10	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	—	—	—	27	27	32	32	34	34	42	42	53	53
	L [mm]	9	12	15	36	36	42	47	47	50	50	52	58	58
Length A [mm]	short 	90[1]	90[1]	90[1]	90	90	90	90	90	90	90	90	100	100
Order No.	**40P.640...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Length A [mm]	ZG130 	—	—	—	130	130	130	130	130	130	130	130	130	—
Order No.	**40P.644...**				**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	
Length A [mm]	extra long 	—	—	—	160	160	160	160	160	160	160	160	160	—
Order No.	**40P.642...**				**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	

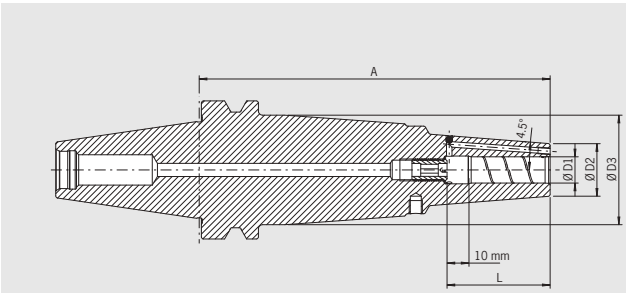
METRIC Standard version, with Cool Jet (Ø 3 – 5 mm Cooling with slits)

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16	20	25
	Ø D2 [mm]	10	10	10	21	21	24	24	27	27	33	44
	Ø D3 [mm]	—	—	—	27	27	32	32	34	34	42	53
	L [mm]	9	12	15	36	36	42	47	47	50	52	58
Length A [mm]	short 	90[2]	90[2]	90[2]	90	90	90	90	90	90	90	100
Order No.	**40P.640...**	**.03**	**.04**	**.05**	**.06.2**	**.08.2**	**.10.2**	**.12.2**	**.14.2**	**.16.2**	**.20.2**	**.25.2**

1) Without back-up screw, without thread for balancing screws, without slits along the clamping bore for cooling from outside
2) Without back-up screw, without thread for balancing screws, with slits along the clamping bore for cooling from outside
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POWER SHRINK CHUCK
SIMILAR JIS B 6339 · BT40 WITH FACE CONTACT





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD
- ☑ Cool Jet, can be sealed

The Power Shrink Chuck is the shrink fit chuck for highest machining capacity in High Speed machining. The optimized design combines high rigidity with dampening vibrations, therefore giving more protection to machines, spindles and tools.

– Additional support on the flange surface for more rigidity
– Increased machining capacity due to higher spindle speed, higher feed and larger cutting depth
– Shorter processing times, higher machining accuracy
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– With threaded holes in order to balance with balancing screws
– Cool Jet bores that can be sealed included
– Cooling with Cool Flash for an extra charge (See pages 502–503)

The long versions (A=130 and 160) with slim tips are especially versatile to use.

– High rigidity, slim at the tip, dampen vibrations
– High clamping force
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine
– Compatible with Big-Plus* spindles

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8	3/4	1	1 1/4
	Ø D2 [inch]	0.87	0.87	1.04	1.04	1.16	1.40	1.79	1.79
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28	2.28
Gage length A [inch]	ultra short	2.76	2.76	2.76	2.76	2.95	2.95	3.35	3.35
Order No.	**40P.645...**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**	**.1 1/4z.3**
Safe-Lock Order No.	**40P.645...**	—	—	—	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**	**.1 1/4z.37**

METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm] ultra short	22	22	26.5	26.5	29.5	29.5	35.5	35.5	45.5	45.5
	L [mm] ultra short	36	36	42	47	47	50	50	52	58	58
Length A [mm]	ultra short	70	70	70	70	75	75	75	75	85	85
Order No.	**40P.645...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**	**.32.3**
	Ø D2 [mm]	21	21	24	24	27	27	33	33		
	Ø D3 [mm]	50	50	50	50	50	50	50	50		
	L [mm]	36	36	42	47	47	50	50	52		
Length A [mm]	ZG130	130	130	130	130	130	130	130	130		
Order No.	**40P.644...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**		
Length A [mm]	oversize	160	160	160	160	160	160	160	160		
Order No.	**40P.642...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**		

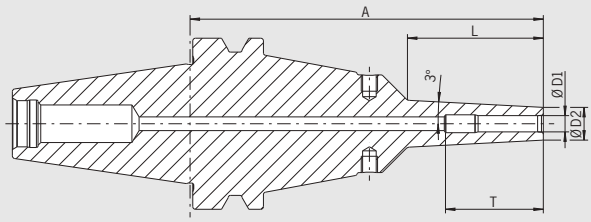
Power Shrink Chuck with Safe-Lock

METRIC	Clamping Ø D1 [mm]	12	16	20	25	32
	Ø D2 [mm] ultra short	26.5	29.5	35.5	45.5	45.5
	L [mm] ultra short	47	50	52	58	58
Length A [mm]	ultra short	70	75	75	85	85
Order No.	**40P.645...**	**.12.37**	**.16.37**	**.20.37**	**.25.37**	**.32.37**
	Ø D2 [mm]	24	27	33		
	Ø D3 [mm]	50	50	50		
	L [mm]	47	50	52		
Length A [mm]	ZG130	130	130	130		
Order No.	**40P.644...**	**.12.37**	**.16.37**	**.20.37**		
Length A [mm]	oversize	160	160	160		
Order No.	**40P.642...**	**.12.37**	**.16.37**	**.20.37**		

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POWER MINI SHRINK CHUCK
SIMILAR JIS B 6339 · BT40 WITH FACE CONTACT

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD



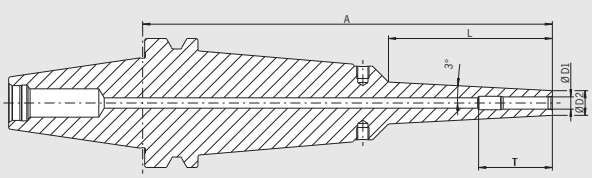


Power Mini Shrink Chuck is perfect for 5-axis machining in the die & mold and in the medical industry. Very slim at the top like the HAIMER Mini Shrink Chucks, the Power Mini Shrink is reinforced at the base. Therefore efficient milling is possible with an angled tool, even at long protruding lengths.

- Additional support on the flange surface for more rigidity
- 2 types: Standard (3 mm wall thickness) and extra slim (1.5 mm wall thickness)
- 3° angle at the top
- With threaded holes in order to balance with balancing screws
- For solid carbide tools with shank tolerance h6
- Compatible with Big-Plus* spindles

Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD





Clamping	Ø D1 [mm]		03	04	05	06	08	10	12	16
	Ø D2 [mm] standard		09	10	11	12	14	16	18	24
	Ø D2 [mm] extra slim		06	07	08	09	11	13	15	—
	T [mm]		—	—	—	—	—	68	75	75
	L [mm] ZG130		50	50	50	50	50	50	50	50
Length A [mm]	ZG130		130	130	130	130	130	130	130	130
Order No.	standard	**40P.684...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**40P.674...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**—**
	L [mm]		**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**
Length A [mm]	oversize		160	160	160	160	160	160	160	160
Order No.	standard	**40P.682...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**40P.672...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**—**

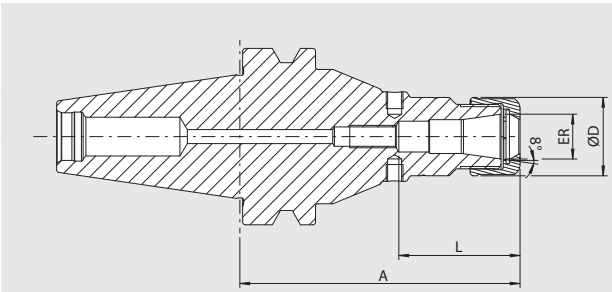
Accessories

Shrink and cooling adapter for Mini Shrink See page 593

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HIGH PRECISION COLLET CHUCK
SIMILAR JIS B 6339 · BT40 WITH FACE CONTACT





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 30,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD

The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools.

– Additional support on the flange surface for more rigidity
– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776
– Compatible with Big-Plus* spindles

INCH	ER	16	25	32
	Ø D [inch]	1.1	1.65	1.97
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]	1.69	2.01	2.09
Gage length A [inch]	short	2.76	2.76	2.76
Order No.	**40P.520...**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	long	3.94	3.94	3.94
Order No.	**40P.521...**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	ZG4.72	4.72	4.72	4.72
Order No.	**40P.527...**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	oversize	6.30	6.30	6.30
Order No.	**40P.522...**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

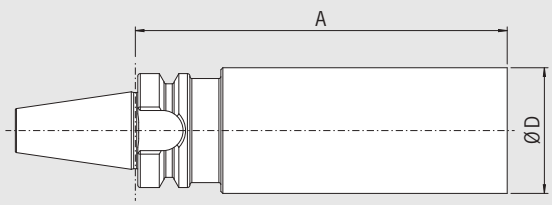
Accessories

High Precision Smooth Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench				See page 782
Order No.	**84.650...**	**.16.1**	**.25.1**	**.32.1**
Collets ER				See pages 768–773
Shrink Fit Collets				See pages 759–767
Power Collets				See pages 770–771
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			

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BLANK ADAPTER – HARDENED
SIMILAR JIS B 6339 · BT40 WITH FACE CONTACT

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD

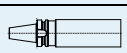




Use:
For manufacturing special tools in your factory.

Version:
– Taper and groove hardened and ground
– Cylindrical part hardened to 52+2 HRC
– Compatible with Big-Plus* spindles

Taper **similar to JIS B 6339 BT40** with face contact
prepared for Form AD.
Form AD means central coolant supply

METRIC	Ø D [mm]	65
Gage Length A [mm]	ZG100 	100
Order No.	**RP40.596.0650...**	**.0100**
Gage Length A [mm]	ZG200 	200
Order No.	**RP40.596.0650...**	**.0200**
Gage Length A [mm]	ZG300 	300
Order No.	**RP40.596.0650...**	**.0300**

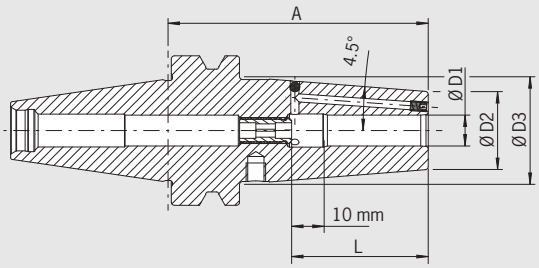
Accessories

Pull studs		See pages 787–791

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SHRINK FIT CHUCK
SIMILAR JIS B 6339 · BT50 WITH FACE CONTACT





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD
- ☑ Cool Jet, can be sealed

Use:
Shrink fit chuck suitable for use with all available shrink fit units.
Additional support on the flange surface for more rigidity.

Similar JIS B 6339 BT40 with face contact form AD
Form AD means central coolant supply

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– Included in delivery: Shrink fit chuck with back-up screw
– With threaded holes in order to balance with balancing screws
– Cool Jet bores that can be sealed included
– Compatible with Big-Plus* spindles

Optional:
– Cooling with Cool Flash from ¼"–1" for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8	3/4	1	1 1/4
	Ø D2 [inch]	0.83	0.83	0.95	0.95	1.06	1.30	1.73	1.73
	Ø D3 [inch]	1.06	1.06	1.26	1.26	1.34	1.65	2.09	2.09
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28	2.28
Gage Length A [inch]	short	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94
Order No.	**50P.640...**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.1Z.4**	**.1 1/4Z.4**

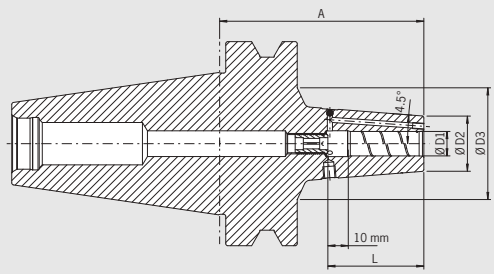
Accessories

Shrink fit extensions			See page 750
Balancing screws			See page 784
Pull studs			See pages 787–791
Reduction sleeves			See page 794
Back-up screws			See pages 796–799
Cool Flash		**Order No. 91.100.40**	See pages 502–503

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POWER SHRINK CHUCK
SIMILAR JIS B 6339 · BT50 WITH FACE CONTACT

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD
- ☑ Cool Jet, can be sealed





The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Additional support on the flange surface for more rigidity
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included
– High rigidity, slim at the tip, dampen vibrations
– Higher clamping forces
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine
– Compatible with Big-Plus* spindles

Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8	3/4	1
	Ø D2 [inch]	0.83	0.83	1.06	1.06	1.31	1.76	1.76
	Ø D3 [inch]	2.76	2.76	2.17	2.17	—	—	—
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28
Gage length A [inch]	short	3.94	3.94	3.94	3.94	3.94	3.94	3.94
Order No.	**50P.640...**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**
Safe-Lock Order No.	**50P.640...**	—	—	—	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**

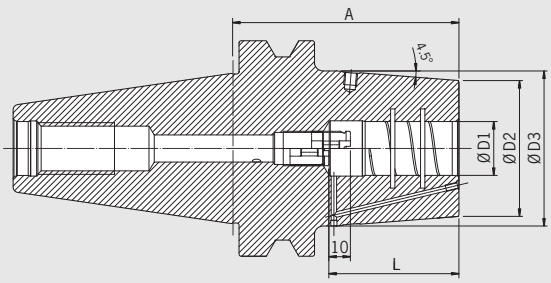
Accessories

Shrink fit extensions		See page 750
Balancing screws		See page 784
Pull studs		See pages 787–791
Reduction sleeves		See page 794
Back-up screws		See pages 796–799
Cool Flash	**Order No. 91.100.40**	See pages 502–503

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HEAVY DUTY CHUCK
SIMILAR JIS B 6339 · BT50 WITH FACE CONTACT





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD
- ☑ Cool Jet, can be sealed

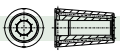
The Heavy Duty Chuck is a shrink fit chuck designed for extreme cases and Heavy Duty machining. The contour is optimized for highest rigidity and clamping force.

– Additional support on the flange surface for more rigidity
– Smooth clamping of the tool shank
– No deformation at the tool shank after shrink process
– TIR less than 0.00012" (3 µm)
– Reinforced outer contour
– To shrink with 13 kW HD coil (see page 600) or with high performance shrink fit unit HAIMER Power Clamp Profi Plus (20 kW)
– With internal groove in the clamping bore
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included
– Compatible with Big-Plus* spindles

Optional:
– Cooling with Cool Flash from 5/8"–1" for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]	5/8	3/4	1	1 1/4	1 1/2	2
	Ø D2 [inch]	2.01	2.28	2.48	2.76	3.23	3.23
	Ø D3 [inch]	—	2.64	2.84	3.07	—	—
	L [inch]	1.97	2.05	2.28	2.40	3.47	3.47
Gage length A [inch]	short 	3.94	3.94	4.13	4.13	4.53	4.72
Order No.	**50P.650...**	**.5/8z.6**	**.3/4z.6**	**.1z.6**	**.11/4z.6**	**.11/2z.6**	**.2z.6**
Safe-Lock Order No.	**50P.650...**	**.5/8z.67**	**.3/4z.67**	**.1z.67**	**.11/4z.67**	**.11/2z.67**	**.2z.67**

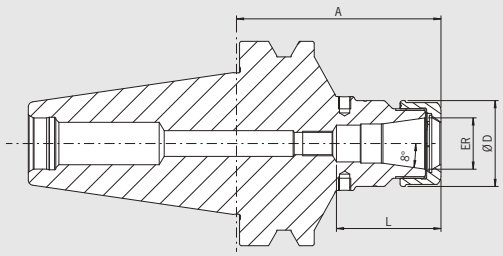
Accessories

Shrink fit extensions			See page 750
Balancing screws			See page 784
Pull studs			See pages 787–791
Reduction sleeves			See page 794
Back-up screws			See pages 796–799
Cool Flash		**Order No. 91.100.40**	See pages 502–503

1) Clamping diam. D2 = 82.3 mm
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HIGH PRECISION COLLET CHUCK
SIMILAR JIS B 6339 · BT50 WITH FACE CONTACT

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD





The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools.

– Additional support on the flange surface for more rigidity
– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776
– Compatible with Big-Plus* spindles

INCH	ER	16	25	32
	Ø D [inch]	1.1	1.65	1.97
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]	1.69	2.01	2.09
Gage length A [inch]	short	3.94	3.94	3.94
Order No.	**50P.520...**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	ZG130	5.12	5.12	5.12
Order No.	**50P.524...**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	oversize	6.30	6.30	6.30
Order No.	**50P.522...**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

Accessories

High Precision Smooth Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench				See page 782
Order No.	**84.650...**	**.16.1**	**.25.1**	**.32.1**
Collets ER				See pages 768–773
Shrink Fit Collets				See pages 760–767
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			

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HAIMER Power Series

For highest precision and maximum productivity in milling applications



DIN ISO 7388-1 SK30/SK40/SK50

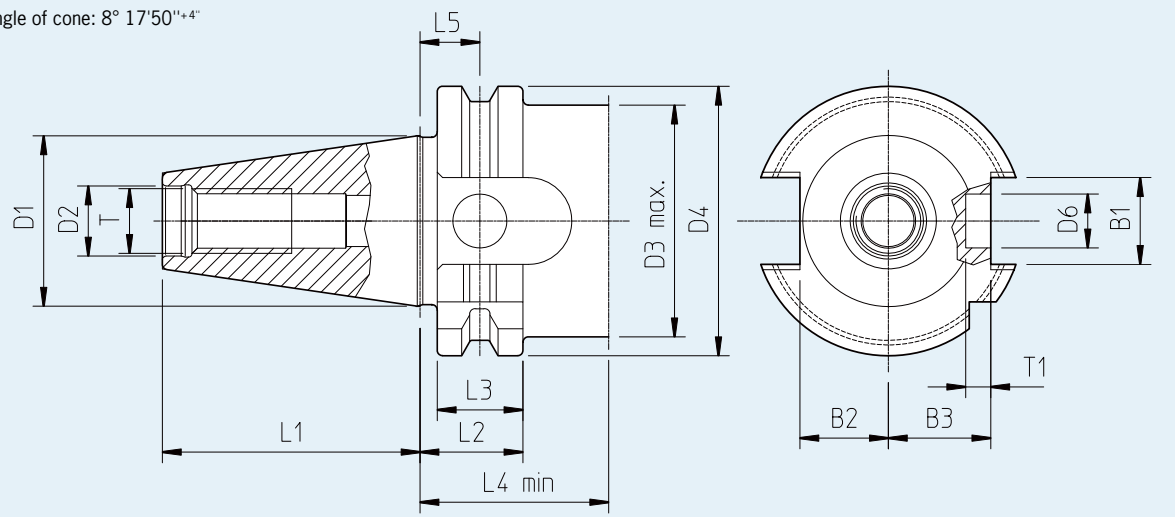
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STEEP TAPER
DIN ISO 7388-1 · SK30/SK40
(FORMERLY DIN 69871)

Design:
– Tool holders case-hardened 60–2 HRC
– Tensile strength in the core at least 950 N/mm²
– Taper in tolerance quality AT3
– Form AD/AF: interior coolant supply through center (form AD) and through the collar, (form AF)
– Incl. bore for data chip Ø 10 mm

SK30

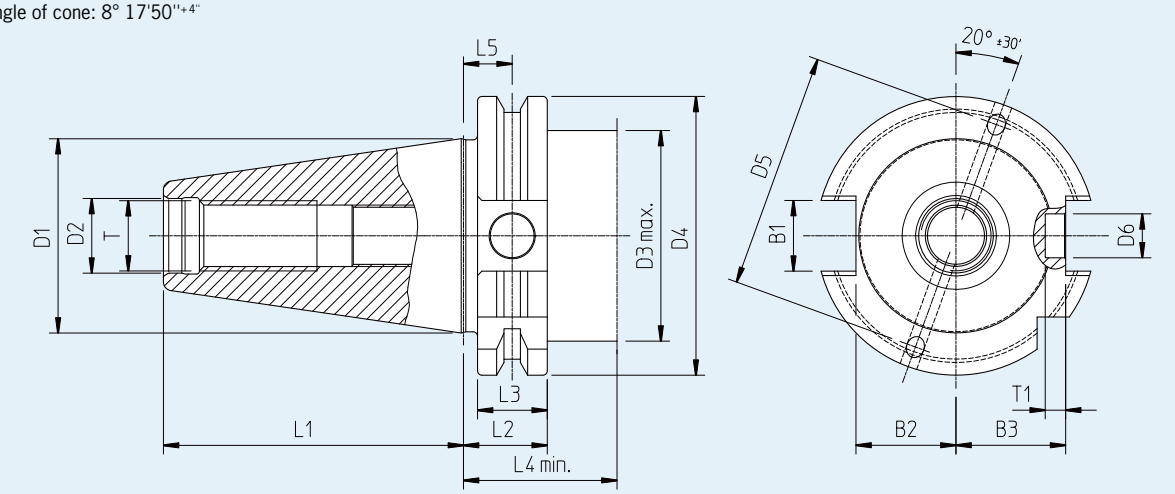
– Angle of cone: 8° 17'50''+4''



SK30	D1	D2	D3 max.	D4	D5	D6	L1	L2	L3	L4 min.	L5	T	T1	B1	B2	B3
[mm]	31.75	13	43	50	—	10	47.	19.1	15.9	35	11.1	M12	4.65	16.1	16.4	19

SK40

– Angle of cone: 8° 17'50''+4''



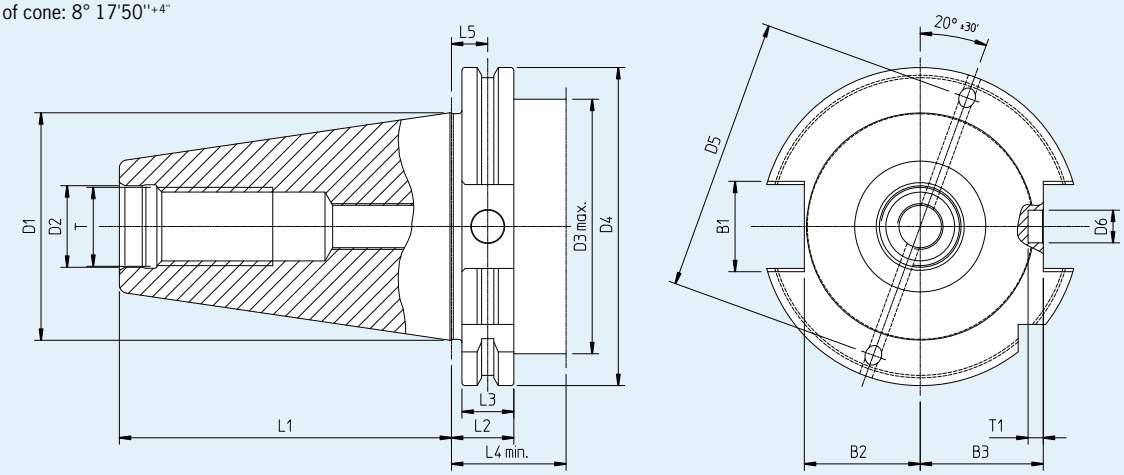
SK40	D1	D2	D3 max.	D4	D5	D6	L1	L2	L3	L4 min.	L5	T	T1	B1	B2	B3
[mm]	44.45	17	48	63.55	54	10	68.4	19.1	15.9	35	11.1	M16	4.65	16.1	22.8	25

STEEP TAPER
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)

Design:
– Tool holders case-hardened 60 – 2 HRC
– Tensile strength in the core at least 950 N/mm²
– Taper in tolerance quality AT3
– Form AD/AF: interior coolant supply through center (form AD) and through the collar, (form AF)
– Incl. bore for data chip Ø 10 mm

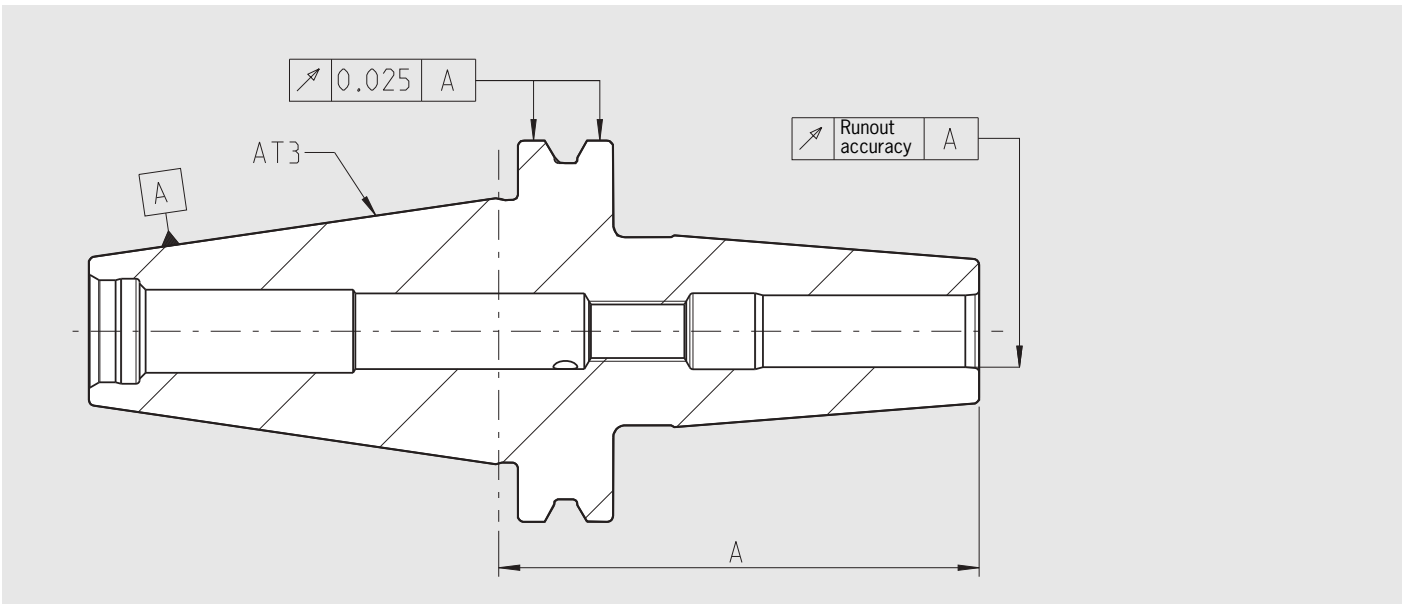
SK50

– Angle of cone: 8° 17'50''$^{+4''}$



SK50	D1	D2	D3 max.	D4	D5	D6	L1	L2	L3	L4 min.	L5	T	T1	B1	B2	B3
[mm]	69.85	25	78	97.5	84	10	101.75	19.1	15.9	35	11.1	M24	4.65	25.7	35.5	37.7

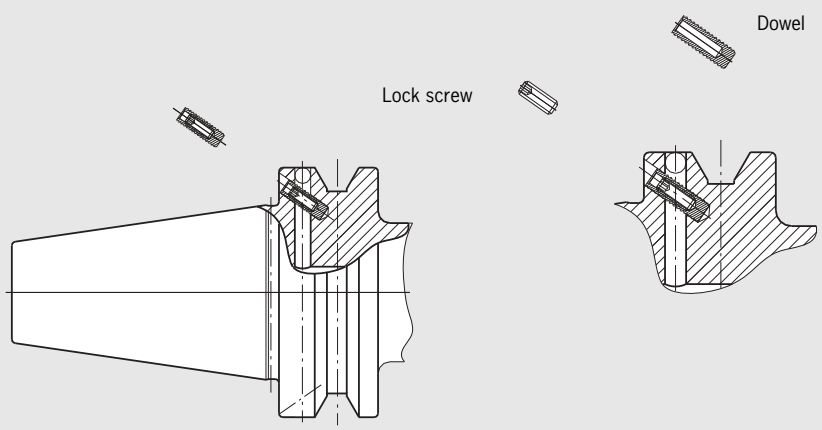
RUNOUT ACCURACY
DIN ISO 7388-1
(FORMERLY DIN 69871)



Gage length	A < 160	A ≥ 160
max. runout tolerance in mm		
Shrink Fit Chuck	0.003	0.004
Collet Chuck ER	0.003	0.004
Power Collet Chuck	0.003	0.004
High Precision Collet Chuck	0.003	0.004
High Precision Chuck	0.003	0.003
Weldon Tool Holder	0.003	0.004
Face Mill Arbor	0.006	0.006
Adapter for Morse Taper	0.008	—
Adapter SK40/SK50	0.005	—
Drill Chuck Adapter	0.005	—

COOLANT
DIN ISO 7388-1
(FORMERLY DIN 69871)

Attention: each dowel for single use only!



According to DIN ISO 7388-1, 3 possibilities of inner coolant supply are available:

– **Form A:** no inner coolant supply

– **Form AD:** central coolant supply through retention knob.
A retention knob with centralized bore is required.

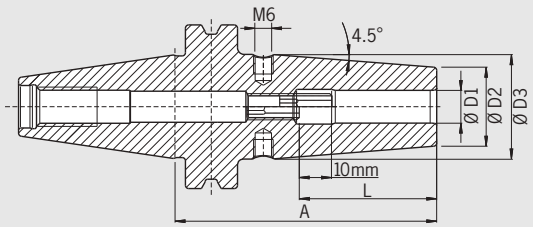
– **Form AF:** lateral coolant supply via the collar.
A sealed retention knob is required.

HAIMER tool holders with taper according to DIN ISO 7388-1 are produced in form AD/AF unless otherwise noted.
Form AD/AF means the tool holders are equipped with bores for form AD as well as for form AF. Unless otherwise requested, the tool holders are delivered in form AD. The bores on the flange, for form AF are then sealed with plastic-dowels and secured with lock screws.
For changing to form AF, the bores at the collar, must be opened by unscrewing the lock screw halfway. Removal of screws together with the dowels are done by using pliers.
The bores also can be sealed again. A conversion kit consisting of dowels and lock screws is available (please refer to accessories).

– **Spare part**
Dowel
Order No. 85.600.40 (SK40)
Order No. 85.600.50 (SK50)
(incl. 50 pcs)

SHRINK FIT CHUCK
DIN ISO 7388-1 · SK30
(FORMERLY DIN 69871)





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3

Use:
Suitable for all shrinking units.

With taper **DIN ISO 7388-1 SK30 form AD.**
– Heat resistant hot-working steel
– Hardened 54–2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws
– Included in delivery: Shrink fit chuck with back-up screw
– Cooling with Cool Jet for an extra charge (see page 501)
– Cooling with Cool Flash for an extra charge (See pages 502–503)

Standard version, similar to DIN 69882-8

Clamping	Ø D1 [mm]		03	04	05	06	08	10	12	16
	Ø D2 [mm]		10	10	10	21	21	24	24	27
	Ø D3 [mm]		—	—	—	27	27	32	32	34
	L [mm]		09	12	15	36	36	42	47	50
Length A [mm]	short		80[1)]	80[1)]	80[1)]	80	80	80	80	80
Order No.	**30.440...**		**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**.16**

Ultra short version

Clamping	Ø D1 [mm]		03	04	06	08	10	12	16	20
	Ø D2 [mm]		10	10	23	23	27	27	30	35.5
	Ø D3 [mm]		—	—	—	—	—	—	—	40.5
	L [mm]		09	12	36	36	42	47	50	52
Length A [mm]	ultra short		60[1)]	60[1)]	60[2)]	60[2)]	60[2)]	60[2)]	65[2)]	70[2)]
Order No.	**30.445...**		**.03**	**.04**	**.06**	**.08**	**.10**	**.12**	**.16**	**.20**

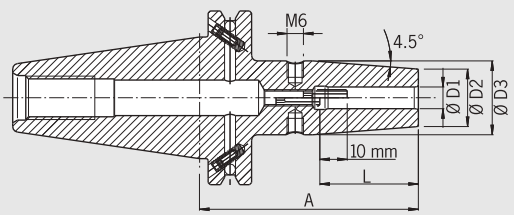
Accessories

Shrink fit extensions			See pages 751–753
Balancing screws			See page 784
Pull studs			See pages 789–791
Reduction sleeves			See page 794
Back-up screws			See pages 796–799
Cool Jet bores			See page 501
Cool Flash		**Order No. 91.100.40**	See pages 502–503
Cool Flash Upgrade incl. Cool Jet		**Order No. 91.100.41**	See pages 502–503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for cooling from outside
2) Without thread for balancing screws

SHRINK FIT CHUCK
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF





Use:
Suitable for all shrinking units.

With taper **DIN ISO 7388-1 SK40 form AD/AF.**
Form AD/AF means central coolant supply and coolant channels through the flange which can be sealed again.
– Heat resistant hot-working steel
– Hardened 54–2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws
– Included in delivery: Shrink fit chuck with back-up screw
– Cooling with Cool Jet for an extra charge (see page 501)
– Cooling with Cool Flash for an extra charge (See pages 502–503)

Standard version, similar to DIN 69882-8

Clamping	Ø D1 [mm]		03	04	05	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]		10	10	10	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]		—	—	—	27	27	32	32	34	34	42	42	53	53
	L [mm]		09	12	15	36	36	42	47	47	50	50	52	58	58
Length A [mm]	short		80[1]	80[1]	80[1]	80	80	80	80	80	80	80	80	100	100
Order No.	**40.440...**		**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Length A [mm]	ZG120		120[1]	120[1]	120[1]	120	120	120	120	120	120	120	120	120	120
Order No.	**40.447...**		**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Length A [mm]	ZG130		130[1]	130[1]	130[1]	130	130	130	130	130	130	130	130	130	130
Order No.	**40.444...**		**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Length A [mm]	oversize		—	—	—	160	160	160	160	160	160	160	160	160	—
Order No.	**40.442...**					**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	
Length A [mm]	ZG200		—	—	—	200	200	200	200	200	200	200	200	200	—
Order No.	**40.446...**					**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	

Standard version, with Cool Jet (Ø 3–5 mm cooling with slits)

Clamping	Ø D1 [mm]		03	04	05	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]		10	10	10	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]		—	—	—	27	27	32	32	34	34	42	42	53	53
	L [mm]		09	12	15	36	36	42	47	47	50	50	52	58	58
Length A [mm]	short		80[2]	80[2]	80[2]	80	80	80	80	80	80	80	80	100	100
Order No.	**40.440...**		**.03**	**.04**	**.05**	**.06.2**	**.08.2**	**.10.2**	**.12.2**	**.14.2**	**.16.2**	**.18.2**	**.20.2**	**.25.2**	**.32.2**

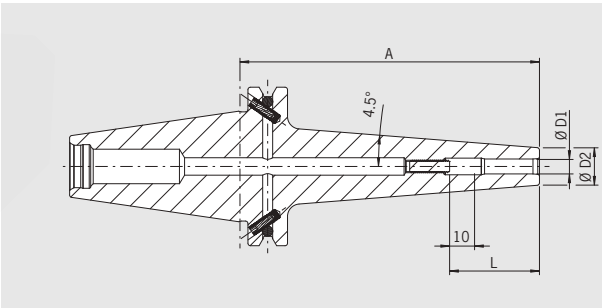
Standard version, with Safe-Lock pull out protection

Clamping	Ø D1 [mm]		06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]		21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]		27	27	32	32	34	34	42	42	53	53
	L [mm]		36	36	42	47	47	50	50	52	58	58
Length A [mm]	short		80[3]	80[3]	80[3]	80[3]	80[3]	80[3]	80[3]	80[3]	100[3]	100[3]
Order No.	**40.440...**		**.06.7**	**.08.7**	**.10.7**	**.12.7**	**.14.7**	**.16.7**	**.18.7**	**.20.7**	**.25.7**	**.32.7**

1) Without back-up screw, without thread for balancing screws, without slits along the clamping bore for cooling from outside
2) Without back-up screw, without thread for balancing screws, with slits along the clamping bore for cooling from outside
3) With tension spring

SHRINK FIT CHUCK EXTRA SLIM
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)





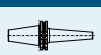
CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Use:
Suitable for all shrinking units.
Extra slim version with smaller diameter D2, 4.5°.

With taper **DIN ISO 7388-1 SK40 form AD/AF.**
Form AD/AF means central coolant supply and coolant channels through the flange which can be sealed again.
– Heat resistant hot-working steel
– Hardened 54 – 2 HRC
– For solid carbide tools with shank tolerance h6
– Shank tolerance h6
– Included in delivery: Shrink fit chuck with back-up screw (Ø 6 – 12 mm)
– Cooling with slits for an extra charge

Standard version, similar to DIN 69882-8

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12
	Ø D2 [mm]	09	09	09	15	15	18	18
	L [mm]	—	—	—	36	36	42	47
Length A [mm]	ZG120 	120[1)]	120[1)]	120[1)]	120	120	120	120
Order No.	**40.447...**	**.03.10**	**.04.10**	**.05.10**	**.06.10**	**.08.10**	**.10.10**	**.12.10**

Accessories

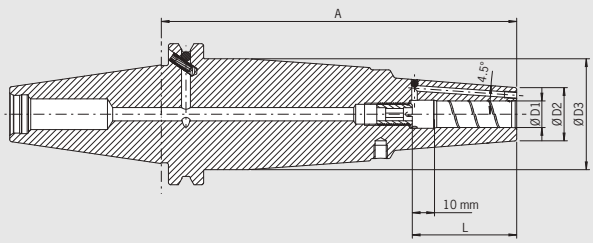
Shrink fit extensions				See pages 751 – 753
Reduction sleeves				See page 794
Back-up screws				See pages 796 – 799
Cooling adapter		**Ø 3 – 5 mm**	**Ø 6 – 12 mm**	See page 592
Order No.		**80.105.14.1.3**	**80.105.14.1.2**	

1) Without back-up screw

POWER SHRINK CHUCK
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF
- ☑ Cool Jet, can be sealed





The Power Shrink Chuck is the shrink fit chuck for highest cutting performance in High Speed machining. The optimized design combines high rigidity with dampening vibrations, therefore giving more protection to machines, spindles and tools.

– Increased machining capacity due to higher spindle speed, higher feed and larger cutting depth
– Shorter processing times, higher machining accuracy
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– With threaded holes in order to balance with balancing screws
– Cool Jet bores that can be sealed included
– Cooling with Cool Flash for an extra charge (See pages 502–503)

The long versions (A=130 and 160) with slim tips are especially versatile to use.

– High rigidity, slim at the tip, dampen vibrations
– High clamping force
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine

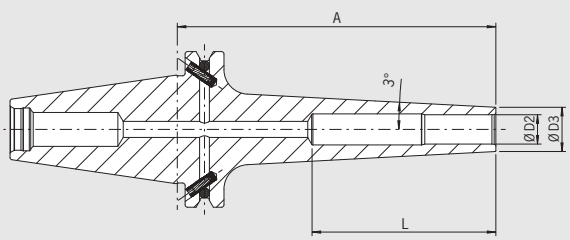
Clamping	Ø D1 [mm]	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm] ultra short	22	22	26.5	26.5	29.5	29.5	35.5	35.5	45.5	45.5
	L [mm] ultra short	36	36	42	47	47	50	50	52	58	58
Length A [mm]	ultra short	65	65	65	65	65	65	65	65	75	80
Order No.	**40.445...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**	**.32.3**
	Ø D2 [mm]	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	50	50	50	50	50	50	50	50	53	53
	L [mm]	36	36	42	47	47	50	50	52	58	58
Length A [mm]	ZG130	130	130	130	130	130	130	130	130	130	130
Order No.	**40.444...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**	**.32.3**
Length A [mm]	oversize	160	160	160	160	160	160	160	160	160	160
Order No.	**40.442...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**	**.32.3**

Power Shrink Chuck with Safe-Lock

Clamping	Ø D1 [mm]	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm] ultra short	22	22	26.5	26.5	29.5	29.5	35.5	35.5	45.5	45.5
	L [mm] ultra short	36	36	42	47	47	50	50	52	58	58
Length A [mm]	ultra short	65	65	65	65	65	65	65	65	75	80
Order No.	**40.445...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**	**.32.37**
	Ø D2 [mm]	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	50	50	50	50	50	50	50	50	53	53
	L [mm]	36	36	42	47	47	50	50	52	58	58
Length A [mm]	ZG130	130	130	130	130	130	130	130	130	130	130
Order No.	**40.444...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**	**.32.37**
Length A [mm]	oversize	160	160	160	160	160	160	160	160	160	160
Order No.	**40.442...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**	**.32.37**

MINI SHRINK
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

SK40
- No disturbing edges
- Highest runout accuracy: 3 µm
- Also jobs difficult to access can be reached
- Optimum rigidity
- Ideal to shrink with the HAIMER Power Clamp
- For all solid carbide tools with shank tolerance h6
- Heat resistant hot-working steel
- Hardened 54–2 HRC
- With 3° angle for die and mold
- Tool holders fine balanced
- Delivery without coolant tube
- **Extra slim version:** extremely slim for fine machining and for jobs very difficult to reach
- **Standard version:** with high clamping force

Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	16
	Ø D2 extra slim [mm]	06	07	08	09	11	13	15	—
	Ø D2 standard [mm]	09	10	11	12	14	16	18	22
Gage Length A [mm]	ZG120	120	120	120	120	120	120	120	
Order No.	extra slim **40.477...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**—**
Gage Length A [mm]	ZG120	120	120	120	120	120	120	120	120
Order No.	standard **40.487...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**.16**

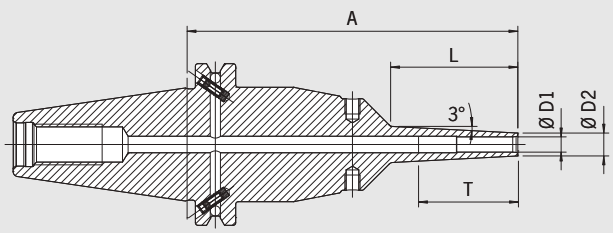


Mini Shrink shrink and cooling sleeve
- Protect Mini Shrink chucks from overheating
- Extend lifetime of shrink fit chucks
- Secure and user friendly handling
- Cooling with standard cooling body

Shrinking and cooling sleeves for Mini Shrink chucks								Order No.
Extra slim								
Size [mm]	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12	
Size [inch]	Ø 1/8	—	Ø 3/16	Ø 1/4	Ø 5/16	Ø 3/8	Ø 1/2	
Order No. 80.105.14...	**.2.01**	**.2.02**	**.2.03**	**.2.04**	**.2.05**	**.2.06**	**.2.07**	
Standard								
Size [mm]	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12	Ø 16
Size [inch]	Ø 1/8	—	Ø 3/16	Ø 1/4	Ø 5/16	Ø 3/8	Ø 1/2	Ø 5/8
Order No. 80.105.14...	**.2.04**	**.2.08**	**.2.05**	**.2.09**	**.2.10**	**.2.11**	**.2.12**	**.2.16**
Base								**80.105.14.2.99**
Set with base (12 pcs., diameter 3 – 12 mm)								**80.105.14.2.00**

POWER MINI SHRINK CHUCK
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF



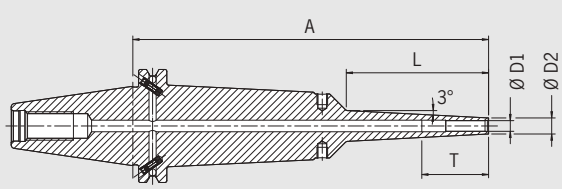


Power Mini Shrink Chuck is perfect for 5-axis-machining in the die & mold and in the medical industry. Very slim at the top like the HAIMER Mini Shrink Chuck, the Power Mini Shrink is reinforced at the base. Therefore, efficient milling is possible with an angled tool even at long protruding lengths.

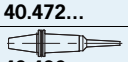
– 2 types: Standard (3 mm wall thickness) and extra slim (1.5 mm wall thickness)
– 3° angle at the top
– With threaded holes in order to balance with balancing screws
– For solid carbide tools with shank tolerance h6

Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF





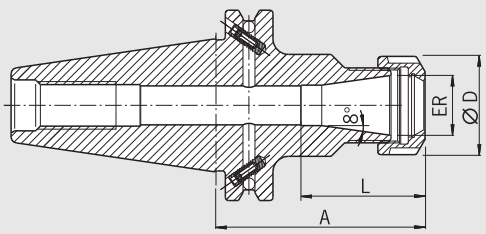
Clamping	Ø D1 [mm]		03	04	05	06	08	10	12	16
	Ø D2 [mm] standard		09	10	11	12	14	16	18	24
	Ø D2 [mm] extra slim		06	07	08	09	11	13	15	—
	T [mm]		—	—	—	—	—	68	75	75
	L [mm] ZG130		50	50	50	50	50	50	50	50
Length A [mm]	ZG130		130	130	130	130	130	130	130	130
Order No.	standard	**40.484...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**40.474...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**—**
	L [mm]		**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**
Length A [mm]	oversize		160	160	160	160	160	160	160	160
Order No.	standard	**40.482...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**40.472...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**—**
Length A [mm]	ZG200		200	200	200	200	200	200	200	200
Order No.	standard	**40.486...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**40.476...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**—**

Accessories

Shrink and cooling adapter for Mini Shrink See page 593

COLLET CHUCK ER
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)





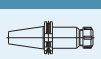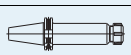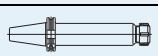
CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 22,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF
- ☑ Cool Jet, can be sealed

Use:
For clamping tools with cylindrical shank in collets according to ISO 15488 (formerly DIN 6499).

With taper **DIN ISO 7388-1 SK40 form AD/AF.**
Form AD/AF means central coolant supply and coolant channels on the collar, which can be sealed again.

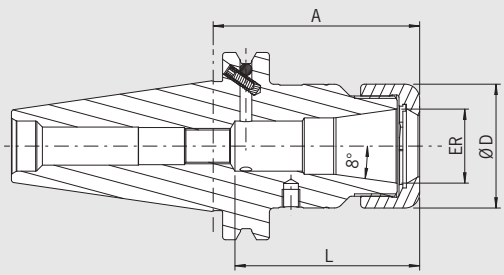
– Included in delivery: locknut (balanced, with slide coating for higher clamping forces)
– Locknut type HS (High-Speed, fine balanced, with slide coating for higher clamping forces) for an extra charge
– Enlarging of size L upon request

	ER		16	20	25	32	40
	Ø D [mm]		28	34	42	50	63
	Clamping range [mm]		0.5–10.0	1.5–13.0	1.0–16.0	1.5–20.0	2.5–26.0
	Clamping range [inch]		0.02–0.39	0.06–0.51	0.04–0.63	0.06–0.79	0.1–1.02
	L [mm]		[2]	41.5	62	64	73
Length A [mm]	short		70[1]	70[1]	70[1]	70	70
Order No.	**40.320…**		**.16**	**.20**	**.25**	**.32**	**.40**
	L [mm]		[2]	41.5	57	64	73
Length A [mm]	long		100[1]	100[1]	100[1]	100	100
Order No.	**40.321…**		**.16**	**.20**	**.25**	**.32**	**.40**
Length A [mm]	oversize		160[1]		160[1]	160	160
Order No.	**40.322…**		**.16**	—	**.25**	**.32**	**.40**
Length A [mm]	ZG200		200[1]		200[1]	200	
Order No.	**40.326…**		**.16**	—	**.25**	**.32**	—

Accessories							
Collets ER							See pages 768–773
Shrink Fit Collets							See pages 760–767
Locknut (pre-balanced)							
Size			ER 16	ER 20	ER 25	ER 32	ER 40
Order No.	**83.912…**		**.16**	**.20**	**.25**	**.32**	**.40**
Locknut HS (fine-balanced)							
Size			ER 16	ER 20	ER 25	ER 32	ER 40
Order No.	**83.912…**		**.16.HS**	**.20.HS**	**.25.HS**	**.32.HS**	**.40.HS**
Fork wrench							
Size			ER 16	ER 20	—	—	—
Order No.	**84.200…**		**.16**	**.20**			
Clamping wrench							
Size			—	—	ER 25	ER 32	ER 40
Order No.	**84.200…**				**.25**	**.32**	**.40**
Balancing index rings							
Size	short		ER 16	ER 20	—	—	—
Order No.	**79.350…**		**.28**	**.34**			
Size	long/oversize/ZG200		ER 16	ER 20	ER 25	ER 32	ER 40
Order No.	**79.350…**		**.28**	**.34**	**.42**	**.48**	**.50**
Pull studs							See pages 789–791
Shrink fit extensions							See pages 751–753

POWER COLLET CHUCK
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)

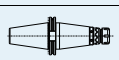
CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF





The Power Collet Chuck is the collet chuck for the highest machining capacity in High Speed machining. The optimized design with better construction combines high rigidity with vibration dampening features, giving more protection to machines, spindles and tools. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: 0.003 mm at 3×D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet ER, length A will get longer)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Product range of Power Collets on pages 774 – 776

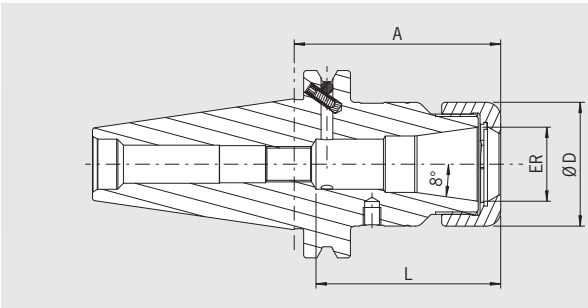
	ER		16	25	32
	Ø D [mm]		28	42	50
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	L [mm]		43	61.5	62
Length A [mm]	short		70	70	70
Order No.	**40.320...**		**.16.3**	**.25.3**	**.32.3**
	L [mm]		43	51	53
Length A [mm]	long		100	100	100
Order No.	**40.321...**		**.16.3**	**.25.3**	**.32.3**
Length A [mm]	oversize		160	160	160
Order No.	**40.322...**		**.16.3**	**.25.3**	**.32.3**

Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 760–767

HIGH PRECISION COLLET CHUCK
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)



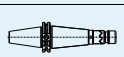


CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 30,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

The High Precision Collet Chuck is the collet chuck for highest metal removal rates in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools.

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: 0.003 mm at 3×D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet ER, length A will get longer)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Product range of Power Collets on pages 774 – 776

	ER		16	25	32
	Ø D [mm]		28	42	50
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	L [mm]		43	61.5	62
Length A [mm]	short		70	70	70
Order No.	**40.320…**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
	L [mm]		43	51	53
Length A [mm]	long		100	100	100
Order No.	**40.321…**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Length A [mm]	oversize		160	160	160
Order No.	**40.322…**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

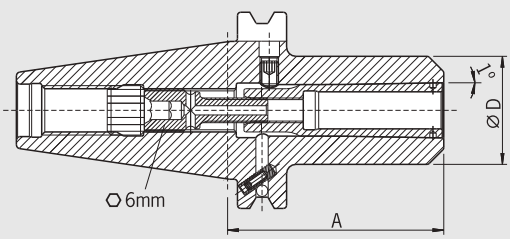
Accessories

High Precision Smooth Locknut (fine-balanced)					See page 779
Size			ER 16	ER 25	ER 32
Order No.	**83.914…**		**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench					See page 782
Order No.	**84.650…**		**.16.1**	**.25.1**	**.32.1**
Collets ER					See pages 768–773
Shrink Fit Collets					See pages 760–767
Power Collets					See page 775
Power Collets with Safe-Lock					See page 776
Cool Jet bores for Power Collets					See page 777
Order No.	**91.100.27**				

HIGH-PRECISION CHUCK
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF





Use:
For highly precise clamping of tools with cylindrical shank with special collets and also for shanks with clamping flats. Very useful for high-speed machining.

With taper **DIN ISO 7388-1 SK40 form AD/AF.**
Form AD/AF means central coolant supply and coolant channels on the collar, which can be sealed again.

– Included in delivery: High-Precision Chuck with clamping screw and pull-out hook without collet
– Shank tolerance h6

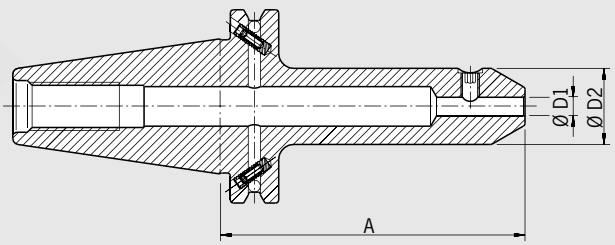
	HG	01						02			03		
	Ø D [mm]	30						35			48		
	Clamping diameter	2	3	4	5	6	8	10	12	14	16	18	20
Length A [mm]	short	65[1]						70[1]			75		
Order No.	**40.420...**	**.01**						**.02**			**.03**		
Length A [mm]	long	100[1]						100[1]			100		
Order No.	**40.421...**	**.01**						**.02**			**.03**		
Length A [mm]	oversize	160[1]						160[1]			160		
Order No.	**40.422...**	**.01**						**.02**			**.03**		

Accessories														
Clamping screw														
Collets HG INCH														See page 783
HG 01 Ø D [inch]		Ø 1/8	Ø 3/16	Ø 1/4	Ø 5/16									
Order No.	**82.510...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.5/16Z**									
HG 02 Ø D [inch]							Ø 3/8	Ø 7/16	Ø 1/2	Ø 9/16				
Order No.	**82.520...**						**.3/8Z**	**.7/16Z**	**.1/2Z**	**.9/16Z**				
HG 03 Ø D [inch]											Ø 5/8	Ø 3/4		
Order No.	**82.530...**										**.5/8Z**	**.3/4Z**		
Collets HG METRIC														See page 783
HG 01		Ø 02	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	—	—	—	—	—	—	
Order No.	**82.510...**	**.02**	**.03**	**.04**	**.05**	**.06**	**.08**							
HG 02		—	—	—	—	—	—	Ø 10	Ø 12	Ø 14	—	—	—	
Order No.	**82.520...**							**.10**	**.12**	**.14**				
HG 03		—	—	—	—	—	—	—	—	—	Ø 16	Ø 18	Ø 20	
Order No.	**82.530...**										**.16**	**.18**	**.20**	
Pull-out hook														
HG		HG 01						HG 02			HG 03			
Order No.	**82.570...**	**.00**						**.00**			**.00**			
Balancing index rings														
HG		HG 01						HG 02			HG 03			
Order No.	**79.350...**	**.30**						**.35**			**.48**			
Pull studs														See pages 789–791
Shrink fit extensions														See pages 751–753
Cool Jet bores														See page 501
Order No.	**91.100.24**													

1) Also suitable for ANSI-CAT

WELDON TOOL HOLDER
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)



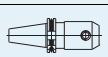
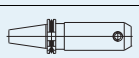


CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 22,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Use:
For clamping cutters with cylindrical shank and Weldon flat similar to DIN 1835-B and DIN 6535-HB.

Similar to DIN 6359-2 with taper **DIN ISO 7388-1 SK40 form AD/AF.** Form AD/AF means central coolant supply and coolant channels on the collar, which can be sealed again.

– Delivery: with clamping screw
– Extra short design only available in form AD
– Cooling with Cool Jet for an extra charge (See page 501)

Clamping	Ø D1 [mm]		06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]		25	28	35	42	42	48	48	52	65	72
Length A [mm]	ultra short		—	—	—	—	—	35	35	40	60	70
Order No.	**40.305...**							**.16**	**.18**	**.20**	**.25**	**.32**
Length A [mm]	short		50[1)]	50[1)]	50[1)]	50[1)]	50[1)]	63	63	63	100	100
Order No.	**40.300...**		**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Length A [mm]	long		100[1)]	100[1)]	100[1)]	100[1)]	100[1)]	100	100	100	—	—
Order No.	**40.301...**		**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**		
Length A [mm]	oversize		160[1)]	160[1)]	160[1)]	160[1)]	160[1)]	160	160	160	160	—
Order No.	**40.302...**		**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	

Standard version, with Cool Jet

Clamping	Ø D1 [mm]		06	08	10	12	14	16	20	25
	Ø D2 [mm]		25	28	35	42	42	48	52	65
Length A [mm]	short		50[1)]	50[1)]	50[1)]	50[1)]	50[1)]	63	63	100
Order No.	**40.300...**		**.06.2**	**.08.2**	**.10.2**	**.12.2**	**.14.2**	**.16.2**	**.20.2**	**.25.2**

Accessories

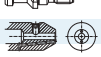
Clamping screw

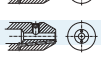
Clamping Ø			06	08	10	12	14	16	18	20	25	32
Order No.	**85.100...**		**.06**	**.08**	**.10**	**.12**	**.12**	**.14**	**.14**	**.16**	**.18**	**.20**

Balancing index rings

Clamping Ø	long/ZG130/oversize/ZG200		06	08	10	12	14	16	18	20	25	32
Order No.	**79.350...**		**.25**	**.28**	**.35**	**.42**	**.42**	**.48**	**.48**	**.52**	**.65**	**.72**

Pull studs  See pages 789–791

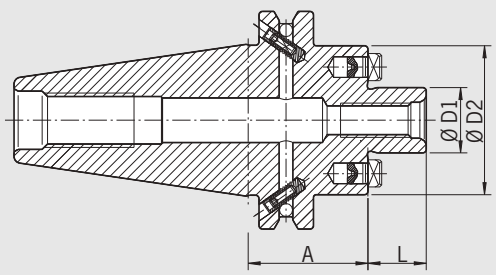
Cool Jet bores from Ø 6mm – Ø 20mm  See page 501
Order No. **91.100.24**

Cool Jet bores from Ø 25mm – Ø 32mm  See page 501
Order No. **91.100.26**

1) Also suitable for ANSI-CAT

FACE MILL ARBOR
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 22,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

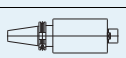




Use:
For holding face mill cutters and cutters with radial driving slot DIN 1880 and exceeding clamping diameter 40 clamping according to DIN 2079 is possible, too (4 additional tapping holes).

According to DIN 6357 with taper **DIN ISO 7388-1 SK40 form AD/AF.**
Form AD/AF means central coolant supply and coolant channels on the collar, which can be sealed again.

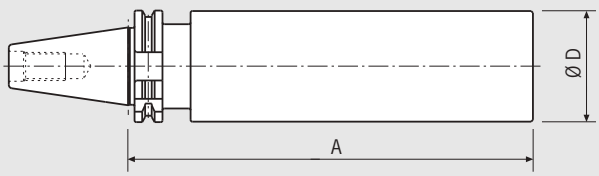
– Included in delivery: tightening bolt, size 16.1 with reduced contact diameter
– With coolant exit bores on the end face for milling cutters with central cooling

Clamping	Ø D1 [mm]		16	22	27	32	40
	Ø D2 [mm] short		32	48	48	78	87
	L [mm]		17	19	21	24	27
Length A [mm]	short		35	35	35	50	50
Order No.	**40.350...**		**.16.KKB**	**.22.KKB**	**.27.KKB**	**.32.KKB**	**.40.KKB**
	Ø D2 [mm]		36	48	60	78	
Length A [mm]	long		100	100	100	100	
Order No.	**40.351...**		**.16.KKB**	**.22.KKB**	**.27.KKB**	**.32.KKB**	
Length A [mm]	oversize		—	160	160	160	
Order No.	**40.352...**			**.22.KKB**	**.27.KKB**	**.32.KKB**	

Accessories							
Tightening bolt							
Size D1			—	22	27	32	40
Order No.	**85.300...**			**.22**	**.27**	**.32**	**.40**
Wrench							
Size D1			—	22	27	32	40
Order No.	**84.400...**			**.22**	**.27**	**.32**	**.40**
Balancing index rings							
Size D1	short		—	22	27	—	—
Order No.	**79.350...**				**.48**		**.48**
Pull studs							See pages 789–791

BLANK ADAPTER
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)



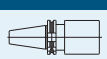
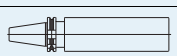


CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Use:
For manufacturing special tools in your factory.
Also suitable for ANSI-CAT.

Design:
Taper and groove are hardened and ground, the cylindrical part is soft.

With taper **SK40 form AD/AF** DIN ISO 7388-1.
Form AD/AF means central coolant supply and coolant channels on the collar, which can be sealed again.

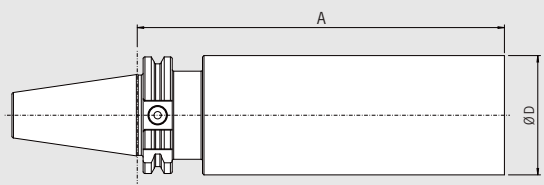
	Ø D [mm]		63
Length A [mm]	ZG100		100
Order No.	**40.395...**		**.63**
Length A [mm]	ZG230		230
Order No.	**40.390...**		**.63**

Accessories

Pull studs		See pages 789–791

BLANK ADAPTER – HARDENED
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3





Use:
For manufacturing special tools in your factory.

Version:
– Taper and groove hardened and ground
– Cylindrical part hardened to 52+2 HRC

Taper **DIN ISO 7388-1 SK40** prepared for Form AD.
Form AD means central coolant supply

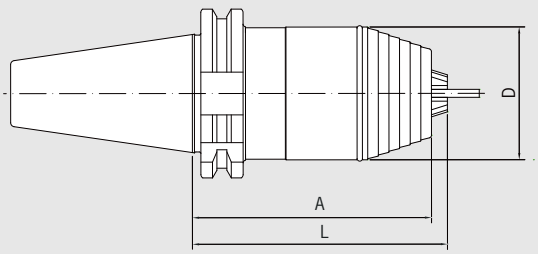
	Ø D [mm]		65
Gage Length A [mm]	ZG100		100
Order No.	**R40.396.0650...**		**.0100**
Gage Length A [mm]	ZG200		200
Order No.	**R40.396.0650...**		**.0200**
Gage Length A [mm]	ZG300		300
Order No.	**R40.396.0650...**		**.0300**

Accessories

Pull studs		See pages 789–791

SHORT DRILL CHUCK
DIN ISO 7388-1 · SK40
(FORMERLY DIN 69871)



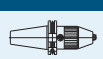


CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 22,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Use:
For clamping tools with cylindrical shank, for left and right hand turn, clamping and loosening with a hexagon socket wrench.

With **DIN ISO 7388-1 SK40 From AD/AF.**
Form AD/AF means central coolant supply and coolant channels on the collar which can be sealed again

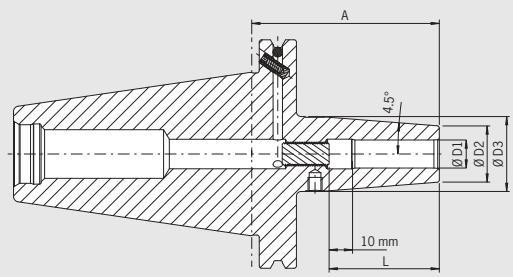
	Clamping range [mm]	**0.5–13**
	Ø D [mm]	**50**
	L [mm]	**96**
Length A [mm]		90
Order No.	**40.411…**	**.13**

Accessories

Pull studs		See pages 789–791

SHRINK FIT CHUCK
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

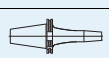
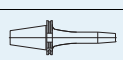




Use:
Suitable for all shrinking units.

With taper **DIN ISO 7388-1 SK40 form AD/AF.**
Form AD/AF means central coolant supply and coolant channels through the flange which can be sealed again.
– Heat resistant hot-working steel
– Hardened 54–2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws
– Included in delivery: Shrink fit chuck with back-up screw
– Cooling with Cool Jet for an extra charge (See page 501)
– Cooling with Cool Flash for an extra charge (See pages 502–503)

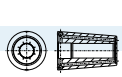
Standard version, similar to DIN 69882-8

Clamping	Ø D1 [mm]		06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]		21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]		27	27	32	32	34	34	42	42	53	53
	L [mm]		36	36	42	47	47	50	50	52	58	58
Length A [mm]	short		80	80	80	80	80	80	80	80	100	100
Order No.	**50.440...**		**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Length A [mm]	ZG120		120	120	120	120	120	120	120	120	120	120
Order No.	**50.447...**		**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Length A [mm]	ZG130		130	130	130	130	130	130	130	130	130	130
Order No.	**50.444...**		**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Length A [mm]	oversize		160	160	160	160	160	160	160	160	160	160
Order No.	**50.442...**		**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Length A [mm]	ZG200		200	200	200	200	200	200	200	200	200	200
Order No.	**50.446...**		**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**

Standard version, with Cool Jet

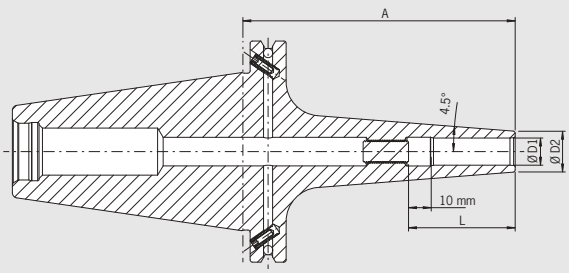
Clamping	Ø D1 [mm]		06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]		21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]		27	27	32	32	34	34	42	42	53	53
	L [mm]		36	36	42	47	47	50	50	52	58	58
Length A [mm]	short		80	80	80	80	80	80	80	80	100	100
Order No.	**50.440...**		**.06.2**	**.08.2**	**.10.2**	**.12.2**	**.14.2**	**.16.2**	**.18.2**	**.20.2**	**.25.2**	**.32.2**

Accessories

Cool Flash		**Order No. 91.100.40**	See pages 502–503
Cool Flash Upgrade incl. Cool Jet		**Order No. 91.100.41**	See pages 502–503

SHRINK FIT CHUCK EXTRA SLIM
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Use:
Suitable for all shrinking units.
Extra slim version with smaller diameter D2, 4.5°.

With taper **DIN ISO 7388-1 SK40 form AD/AF.**
Form AD/AF means central coolant supply and coolant channels through the flange which can be sealed again.
– Heat resistant hot-working steel
– Hardened 54 – 2 HRC
– For solid carbide tools with shank tolerance h6
– Shank tolerance h6
– Included in delivery: Shrink fit chuck with back-up screw
– Cooling with slits for an extra charge

Standard version, similar to DIN 69882-8

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12
	Ø D2 [mm]	09	09	09	15	15	18	18
	L [mm]	—	—	—	36	36	42	47
Length A [mm]	ZG120	120[1)]	120[1)]	120[1)]	120	120	120	120
Order No.	**50.447...**	**.03.10**	**.04.10**	**.05.10**	**.06.10**	**.08.10**	**.10.10**	**.12.10**

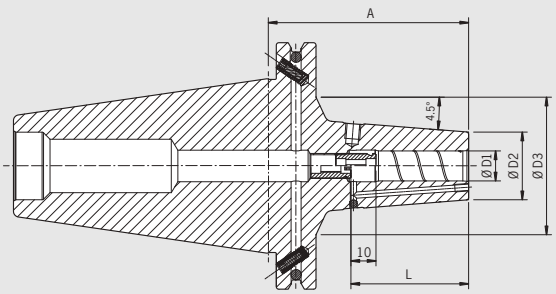
Accessories

Shrink fit extensions				See pages 751 – 753
Pull studs				See pages 789 – 791
Reduction sleeves				See page 794
Back-up screws				See pages 796 – 799
Cooling adapter		**Ø 3 – 5 mm**	**Ø 6 – 12 mm**	See page 592
Order No.		**80.105.14.1.3**	**80.105.14.1.2**	

1) Without back-up screw

POWER SHRINK CHUCK
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF
- ☑ Cool Jet, can be sealed





The Power Shrink Chuck is the shrink fit chuck for highest cutting performance in High Speed machining. The optimized design combines high rigidity with dampening vibrations, therefore giving more protection to machines, spindles and tools.

– Increased machining capacity due to higher spindle speed, higher feed and larger cutting depth
– Shorter processing times, higher machining accuracy
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– With threaded holes in order to balance with balancing screws
– Cool Jet bores that can be sealed included
– Cooling with Cool Flash for an extra charge (See pages 502–503)

The long versions (A=160 and 200 mm) with slim tips are especially versatile to use.

– High rigidity, slim at the tip, dampen vibrations
– High clamping force
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine

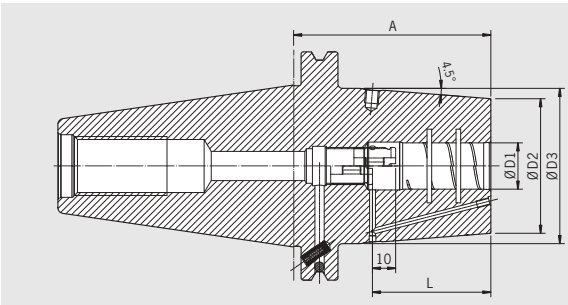
Clamping	Ø D1 [mm]	06	08	10	12	14	16	18	20	25
	Ø D2 [mm] short	21	21	27	27	33.3	33.3	44.7	44.7	44
	Ø D3 [mm] short	70	70	55	55	—	—	—	—	78
	L [mm]	36	36	42	47	47	50	50	52	58
Length A [mm]	short	80	80	80	80	80	80	80	80	100
Order No.	**50.440...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**
	Ø D2 [mm]	21	21	27	27	33	33	44	44	44
	Ø D3 [mm]	78	78	78	78	78	78	78	78	78
Length A [mm]	oversize	160	160	160	160	160	160	160	160	160
Order No.	**50.442...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**
Length A [mm]	ZG200	200	200	200	200	200	200	200	200	200
Order No.	**50.446...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**

Power Shrink Chuck with Safe-Lock

Clamping	Ø D1 [mm]	06	08	10	12	14	16	18	20	25
	Ø D2 [mm] short	21	21	27	27	33.3	33.3	44.7	44.7	44
	Ø D3 [mm] short	70	70	55	55	—	—	—	—	78
	L [mm]	36	36	42	47	47	50	50	52	58
Length A [mm]	short	80	80	80	80	80	80	80	80	100
Order No.	**50.440...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**
	Ø D2 [mm]	21	21	27	27	33	33	44	44	44
	Ø D3 [mm]	78	78	78	78	78	78	78	78	78
Length A [mm]	oversize	160	160	160	160	160	160	160	160	160
Order No.	**50.442...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**
Length A [mm]	ZG200	200	200	200	200	200	200	200	200	200
Order No.	**50.446...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**

HEAVY DUTY CHUCK
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF
- ☑ Cool Jet, can be sealed

For heavy machining applications it is now possible to replace the Weldon tool holders finally. Heavy Duty Chuck is the shrink fit chuck for extreme cases. The contour is optimized for highest rigidity and clamping force.

– Smooth clamping of the tool shank
– No deformation at the tool shank after shrink process
– High runout accuracy: 3 µm
– Reinforced outer contour
– To shrink with 13 kW HD coil (see page 600) or with high performance shrink fit unit HAIMER Power Clamp Profi Plus (20 kW)
– With internal groove in the clamping bore
– With threaded holes in order to balance with balancing screws
– Cool Jet bores that can be sealed included
– Cooling with Cool Flash for an extra charge (See pages 502–503)

Clamping	Ø D1 [mm]	16	20	25	32	40	50
	Ø D2 [mm]	51	58	63	70	82	82
	Ø D3 [mm] short	—	67	72	78	90	94
	Ø D3 [mm]	78	78	78	85	94	94
	L [mm]	50	52	58	61	88	88
Length A [mm]	short	80	85	90	90	100	140
Order No.	**50.450...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Length A [mm]	oversize	160	160	160	160	160	160
Order No.	**50.452...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Length A [mm]	ZG200	200	200	200	200	200	200
Order No.	**50.456...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**

Heavy Duty Chuck with Safe-Lock

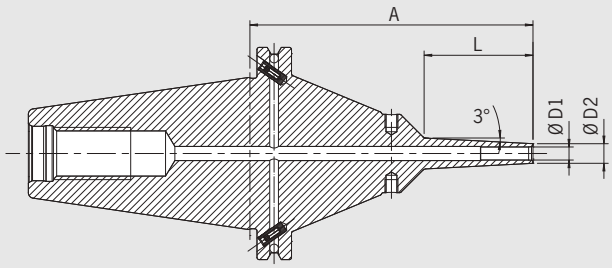
Clamping	Ø D1 [mm]	16	20	25	32	40	50
	Ø D2 [mm]	51	58	63	70	82	82
	Ø D3 [mm] short	—	67	72	78	90	94
	Ø D3 [mm]	78	78	78	85	94	94
	L [mm]	50	52	58	61	88	88
Length A [mm]	short	80	85	90	90	100	140
Order No.	**50.450...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**
Length A [mm]	oversize	160	160	160	160	160	160
Order No.	**50.452...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**
Length A [mm]	ZG200	200	200	200	200	200	200
Order No.	**50.456...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**

For 13 kW shrink fit machine

Clamping	Ø D1 [mm]	16
	Ø D2 [mm]	46
	L [mm]	50
Length A [mm]	short	80
Order No.	Standard **50.440...**	**.16.6**
Order No.	Safe-Lock **50.440...**	**.16.67**

POWER MINI SHRINK CHUCK
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF



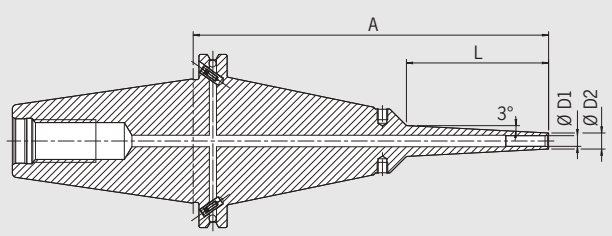


Power Mini Shrink Chuck is perfect for 5-axis-machining in the die & mold and in the medical industry. Very slim at the top like the HAIMER Mini Shrink Chuck, the Power Mini Shrink is reinforced at the base. Therefore, efficient milling is possible with an angled tool even at long protruding lengths.

– 2 types: Standard (3 mm wall thickness) and extra slim (1.5 mm wall thickness)
– 3° angle at the top
– With threaded holes in order to balance with balancing screws
– For solid carbide tools with shank tolerance h6

Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint or Air machines with the motorized coil and scanner, sleeves are not necessary.

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF





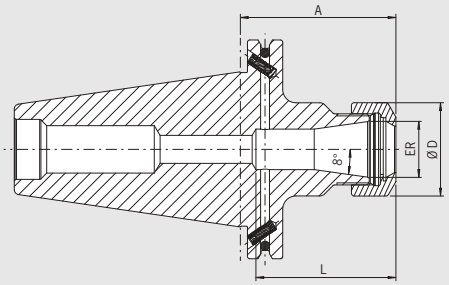
Clamping	Ø D1 [mm]		06	08
	Ø D2 [mm] standard		12	14
	Ø D2 [mm] extra slim		09	11
	L [mm] ZG130		50	50
Length A [mm]	ZG130		130	130
Order No.	standard	**50.484...**	**.06.8**	**.08.8**
Order No.	extra slim	**50.474...**	**.06.8**	**.08.8**
	L [mm]		80	80
Length A [mm]	oversize		160	160
Order No.	standard	**50.482...**	**.06.8**	**.08.8**
Order No.	extra slim	**50.472...**	**.06.8**	**.08.8**
Length A [mm]	ZG200		200	200
Order No.	standard	**50.486...**	**.06.8**	**.08.8**
Order No.	extra slim	**50.476...**	**.06.8**	**.08.8**

Accessories

Shrink and cooling adapter for Mini Shrink See page 593

COLLET CHUCK ER
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 22,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Use:
For clamping tools with cylindrical shank in collets according to ISO 15488 (formerly DIN 6499).

With taper **SK50 form AD/AF** DIN ISO 7388-1.
Form AD/AF means central coolant supply and coolant channels on the collar, which can be sealed again.

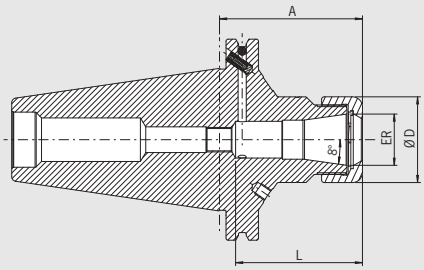
– Included in delivery: locknut (balanced, with slide coating for higher clamping forces)
– Locknut type HS (High-Speed, fine balanced, with slide coating for higher clamping forces) for an extra charge
– Enlarging of size L upon request

	ER		16	20	25	32	40
	Ø D [mm]		28	34	42	50	63
	Clamping range [mm]		0.5–10.0	1.5–13.0	1.0–16.0	1.5–20.0	2.5–26.0
	Clamping range [inch]		0.02–0.39	0.06–0.51	0.04–0.63	0.06–0.79	0.10–1.02
	L [mm]		[2]	41.5	62	64	73
Length A [mm]	short		70[1]	70[1]	70[1]	70[1]	70[1]
Order No.	**50.320…**		**.16**	**.20**	**.25**	**.32**	**.40**
	L [mm]		[2]	41.5	57	64	73
Length A [mm]	long		100[1]	100[1]	100[1]	100[1]	100[1]
Order No.	**50.321…**		**.16**	**.20**	**.25**	**.32**	**.40**
Length A [mm]	oversize		160[1]		160[1]	160[1]	160
Order No.	**50.322…**		**.16**	—	**.25**	**.32**	**.40**
Length A [mm]	ZG200		200[1]		200[1]	200[1]	200
Order No.	**50.326…**		**.16**	—	**.25**	**.32**	**.40**

Accessories							
Collets ER							See pages 768–773
Shrink Fit Collets							See pages 760–767
Locknut (pre-balanced)							
Size			ER 16	ER 20	ER 25	ER 32	ER 40
Order No.	**83.912…**		**.16**	**.20**	**.25**	**.32**	**.40**
Locknut HS (fine-balanced)							
Size			ER 16	ER 20	ER 25	ER 32	ER 40
Order No.	**83.912…**		**.16.HS**	**.20.HS**	**.25.HS**	**.32.HS**	**.40.HS**
Fork wrench							
Size			ER 16	ER 20	—	—	—
Order No.	**84.200…**		**.16**	**.20**			
Clamping wrench							
Size			—	—	ER 25	ER 32	ER 40
Order No.	**84.200…**				**.25**	**.32**	**.40**
Balancing index rings							
Size	short		ER 16	ER 20	—	—	—
Order No.	**79.350…**		**.28**	**.34**			
Size	long/oversize/ZG200		ER 16	ER 20	ER 25	ER 32	ER 40
Order No.	**79.350…**		**.28**	**.34**	**.42**	**.48**	**.50**
Pull studs							See pages 789–791
Shrink fit extensions							See pages 751–753

POWER COLLET CHUCK
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF





The Power Collet Chuck is the collet chuck for the highest machining capacity in High Speed machining. The optimized design with better construction combines high rigidity with vibration dampening features, giving more protection to machines, spindles and tools. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: 0.003 mm at 3×D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet ER, length A will get longer)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Product range of Power Collets on pages 774 – 776

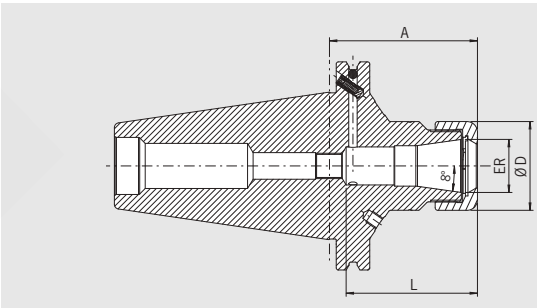
	ER	16	25	32
	Ø D [mm]	28	42	50
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	L [mm]	43	62	62.5
Length A [mm]	short	70	70	70
Order No.	**50.320…**	**.16.3**	**.25.3**	**.32.3**
	L [mm]	43	51	53
Length A [mm]	long	100	100	100
Order No.	**50.321…**	**.16.3**	**.25.3**	**.32.3**
Length A [mm]	ZG130	130	130	130
Order No.	**50.324…**	**.16.3**	**.25.3**	**.32.3**
Length A [mm]	oversize	160	160	160
Order No.	**50.322…**	**.16.3**	**.25.3**	**.32.3**

Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914…**	**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 760–767

HIGH PRECISION COLLET CHUCK
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

The High Precision Collet Chuck is the collet chuck for highest metal removal rates in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools.

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: 0.003 mm at 3×D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet ER, length A will get longer)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Product range of Power Collets see page 668

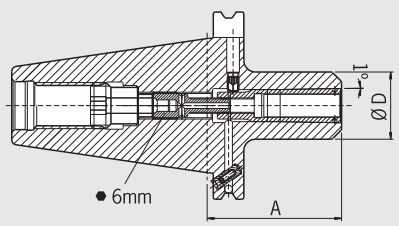
	ER	16	25	32
	Ø D [mm]	28	42	50
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	L [mm]	43	62	62.5
Length A [mm]	short	70	70	70
Order No.	**50.320…**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
	L [mm]	43	51	53
Length A [mm]	long	100	100	100
Order No.	**50.321…**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Length A [mm]	ZG130	130	130	130
Order No.	**50.324…**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Length A [mm]	oversize	160	160	160
Order No.	**50.322…**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

Accessories

High Precision Smooth Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914…**	**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench				See page 782
Order No.	**84.650…**	**.16.1**	**.25.1**	**.32.1**
Collets ER				See pages 768–773
Shrink Fit Collets				See pages 760–767
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			

HIGH-PRECISION CHUCK
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF





Use:
For highly precise clamping of tools with cylindrical shank with special collets.
Very useful for high-speed machining.
Also suitable for ANSI-CAT.

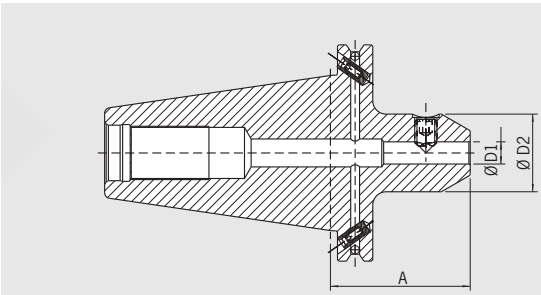
With taper **SK50 form AD/AF** DIN ISO 7388-1.
Form AD/AF means central coolant supply and coolant channels on the collar, which can be sealed again.

– Included in delivery: High-Precision Chuck with clamping screw and pull-out hook without collet
– Shank tolerance h6

HG			01						02			03		
Ø D [mm]			30						35			48		
Clamping diameter			2	3	4	5	6	8	10	12	14	16	18	20
Length A [mm]	short		65						70			75		
Order No.	**50.420...**		**.01**						**.02**			**.03**		
Length A [mm]	long		100						100			100		
Order No.	**50.421...**		**.01**						**.02**			**.03**		
Length A [mm]	oversize		160						160			160		
Order No.	**50.422...**		**.01**						**.02**			**.03**		
Accessories														
Clamping screw														
Collets HG INCH														See page 783
HG 01 Ø D [inch]			Ø 1/8	Ø 3/16	Ø 1/4	Ø 5/16								
Order No.	**82.510...**		**.1/8Z**	**.3/16Z**	**.1/4Z**	**.5/16Z**								
HG 02 Ø D [inch]								Ø 3/8	Ø 7/16	Ø 1/2	Ø 9/16			
Order No.	**82.520...**							**.3/8Z**	**.7/16Z**	**.1/2Z**	**.9/16Z**			
HG 03 Ø D [inch]												Ø 5/8	Ø 3/4	
Order No.	**82.530...**											**.5/8Z**	**.3/4Z**	
Collets HG METRIC														See page 783
HG 01			Ø 02	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	—	—	—	—	—	—
Order No.	**82.510...**		**.02**	**.03**	**.04**	**.05**	**.06**	**.08**						
HG 02			—	—	—	—	—	—	Ø 10	Ø 12	Ø 14	—	—	—
Order No.	**82.520...**								**.10**	**.12**	**.14**			
HG 03			—	—	—	—	—	—	—	—	—	Ø 16	Ø 18	Ø 20
Order No.	**82.530...**											**.16**	**.18**	**.20**
Pull-out hook														
HG			HG 01						HG 02			HG 03		
Order No.	**82.570...**		**.00**						**.00**			**.00**		
Balancing index rings														
HG			HG 01						HG 02			HG 03		
Order No.	**79.350...**		**.30**						**.35**			**.48**		
Pull studs														See pages 789–791
Shrink fit extensions														See pages 751–753
Cool Jet bores														See page 501
Order No.	**91.100.24**													

WELDON TOOL HOLDER
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)





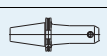
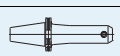
CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 22,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Use:
For clamping cutters with cylindrical shank and Weldon flat similar to DIN 1835-B and DIN 6535-HB.

Similar to DIN 6359-2 with taper **SK50 form AD/AF** DIN ISO 7388-1. Form AD/AF means central coolant supply and coolant channels on the collar, which can be sealed again.

Included in delivery: with clamping screw
– Cooling with Cool Jet for an extra charge (See page 501)

Clamping	Ø D1 [mm]		06	08	10	12	14	16	18	20	25	32	40
	Ø D2 [mm]		25	28	35	42	42	48	48	52	65	72	78
Length A [mm]	short		63[1)]	63[1)]	63[1)]	63[1)]	63[1)]	63[1)]	63[1)]	63[1)]	80[1)]	100	100
Order No.	**50.300…**		**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**	**.40**
Length A [mm]	long		100[1)]	100[1)]	100[1)]	100[1)]	100[1)]	100[1)]	100[1)]	100[1)]	100[1)]	—	—
Order No.	**50.301…**		**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**		
Length A [mm]	ZG130		130[1)]	130[1)]	130[1)]	130[1)]	130[1)]	130[1)]	130[1)]	130[1)]	130[1)]	130	130
Order No.	**50.304…**		**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**	**.40**
Length A [mm]	oversize		160[1)]	160[1)]	160[1)]	160[1)]	160[1)]	160[1)]	160[1)]	160[1)]	160	160	160
Order No.	**50.302…**		**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**	**.40**
Length A [mm]	ZG200		200[1)]	200[1)]	200[1)]	200[1)]	200[1)]	200[1)]	200[1)]	200[1)]	—	—	—
Order No.	**50.306…**		**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**			

Standard version, with Cool Jet

Clamping	Ø D1 [mm]		10	12	16	20
	Ø D2 [mm]		35	42	48	52
Length A [mm]	short		63[1)]	63[1)]	63[1)]	63[1)]
Order No.	**50.300…**		**.10.2**	**.12.2**	**.16.2**	**.20.2**

Accessories

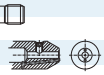
Clamping screw

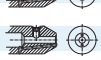
Clamping Ø			06	08	10	12	14	16	18	20	25	32
Order No.	**85.100…**		**.06**	**.08**	**.10**	**.12**	**.12**	**.14**	**.14**	**.16**	**.18**	**.20**

Balancing index rings

Clamping Ø	long/ZG130/oversize/ZG200		06	08	10	12	14	16	18	20	25	32
Order No.	**79.350…**		**.25**	**.28**	**.35**	**.42**	**.42**	**.48**	**.48**	**.52**	**.65**	**.72**

Pull studs  See pages 789–791

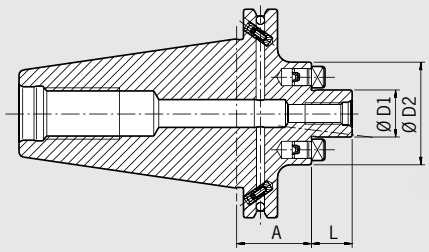
Cool Jet bores from Ø 6 mm – Ø 20 mm  **Order No. 91.100.24** See page 501

Cool Jet bores from Ø 25 mm – Ø 32 mm  **Order No. 91.100.26** See page 501

1) Also suitable for ANSI-CAT

FACE MILL ARBOR
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 22,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

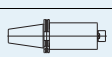




Use:
For holding face mill cutters and cutters with radial driving slot DIN 1880 and exceeding clamping diameter 40 clamping according to DIN 2079 is possible, too (4 additional tapping holes).

According to DIN 6357 with taper **SK50 form AD/AF** DIN ISO 7388-1. Form AD/AF means central coolant supply and coolant channels on the collar, which can be sealed again.

– Included in delivery: tightening bolt
– With coolant exit bores on the end face for milling cutters with central cooling

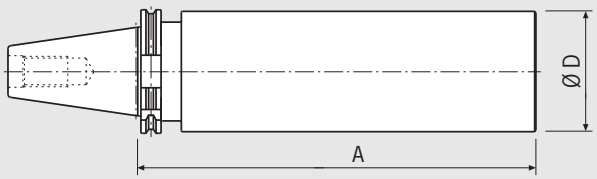
Clamping	Ø D1 [mm]		22	27	32	40	50	60
	Ø D2 [mm]		48	60	78	89	120	127
	L [mm]		19	21	24	27	30	40
Length A [mm]	short		35[1)]	35[1)]	35	50	70	70
Order No.	**50.350...**		**.22.KKB**	**.27.KKB**	**.32.KKB**	**.40.KKB**	**.50.KKB**	**.60.KKB**
Length A [mm]	long		100[1)]	100[1)]	100	100	—	—
Order No.	**50.351...**		**.22.KKB**	**.27.KKB**	**.32.KKB**	**.40.KKB**		
Length A [mm]	oversize		160[1)]	160[1)]	160	160	—	—
Order No.	**50.352...**		**.22.KKB**	**.27.KKB**	**.32.KKB**	**.40.KKB**		

Accessories								
Tightening bolt								
Size D1			22	27	32	40	50	60
Order No.	**85.300...**		**.22**	**.27**	**.32**	**.40**	**.50**	**.60**
Wrench								
Size D1			22	27	32	40	50	60
Order No.	**84.400...**		**.22**	**.27**	**.32**	**.40**	**.50**	**.60**
Balancing index rings								
Size D1	short		22	27	—	—	—	—
Order No.	**79.350...**		**.48**	**.60**				
Size D1	long/oversize		22	27	32	40	—	—
Order No.	**79.350...**		**.48**	**.60**	**.78**	**.89**		
Pull studs								See pages 789–791

1) Also suitable for ANSI-CAT

BLANK ADAPTER
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Use:
For manufacturing special tools in your factory.

Design:
Taper and groove are hardened and ground, the cylindrical part is soft.

With taper **SK50 form AD/AF** DIN ISO 7388-1.
Form AD/AF means central coolant supply and coolant channels on the collar, which can be sealed again.

	Ø D [mm]		95
Length A [mm]	ZG315		315[1)]
Order No.	**50.390...**		**.95**

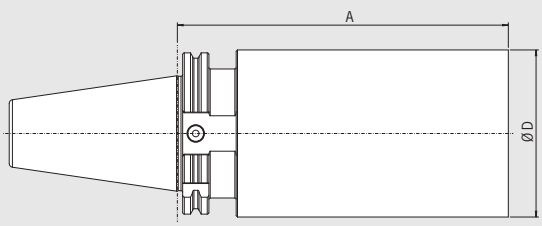
Accessories

Pull studs		See pages 789–791

1) Also suitable for ANSI-CAT

BLANK ADAPTER – HARDENED
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3

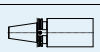




Use:
For manufacturing special tools in your factory.

Version:
– Taper and groove hardened and ground
– Cylindrical part hardened to 52+2 HRC

Taper **DIN ISO 7388-1 SK50** prepared for Form AD.
Form AD means central coolant supply

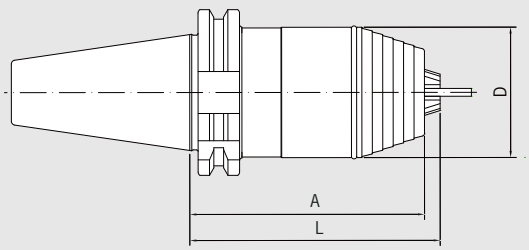
	Ø D [mm]		101
Gage Length A [mm]	ZG100		100
Order No.	**R50.396.1010...**		**.0100**
Gage Length A [mm]	ZG200		200
Order No.	**R50.396.1010...**		**.0200**
Gage Length A [mm]	ZG300		300
Order No.	**R50.396.1010...**		**.0300**

Accessories

Pull studs		See pages 789–791

SHORT DRILL CHUCK
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G6.3 22,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3
- ☑ Coolant supply form AD/AF

Use:
For clamping tools with cylindrical shank, for left and right hand turn, clamping and loosening with a hexagon socket wrench.

With **DIN ISO 7388-1 SK50 From AD/AF.**
Form AD/AF means central coolant supply and coolant channels on the collar which can be sealed again

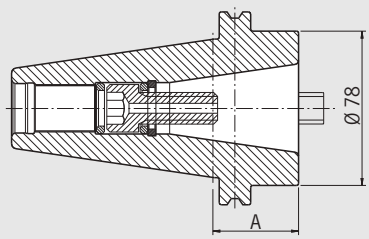
Clamping range [mm]		**0.5–13**
Ø D [mm]		**50**
L [mm]		**106**
Length A [mm]		112
Order No.	**50.411...**	**.13**

Accessories

Pull studs		See pages 789–791

ADAPTER
DIN ISO 7388-1 · SK50
(FORMERLY DIN 69871)

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G6.3 8,000 rpm
- ☑ All functional surfaces fine machined
- ☑ Taper tolerance AT3





Use:
For holding tapers according to DIN ISO 7388-1 AD SK40 and JIS B 6339 BT40.

With taper **SK50 form AD** DIN ISO 7388-1.

– Included in delivery: mounted tightening bolt
– Fine-balancing for an extra charge

Holding Taper	SK	40
Length A [mm]	short	43
Order No.	**50.360...**	**.40**

Accessories

Pull studs	See pages 789–791



HAIMER SAFE-LOCK®

For reliable roughing and trochoidal milling processes, combined with the highest precision and without any risk of tool pull out



DIN 69893
HSK-A / HSK-E / HSK-F

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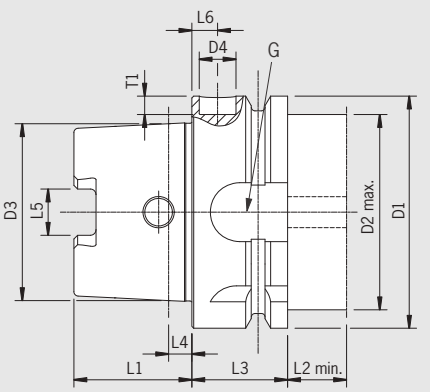
HSK-A/HSK-E/HSK-F
DIN 69893

Compared to the steep taper the HSK has the following advantages:

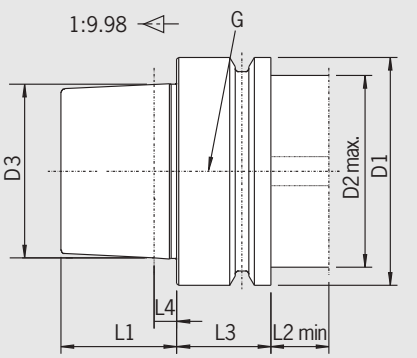
– Highly repeatable accuracy when clamping tools into spindle
– Fixed axial positioning with flat contact surface
– Suitable for high speed cutting
– No pull stud necessary
– Incl. bore for data chip (only HSK-A)

Material:
– Special case-hardening steel for highly stressed parts
– Surface hardness: 58–2 HRC
– **Tensile strength in core min. 1000 N/mm²**

HSK-A

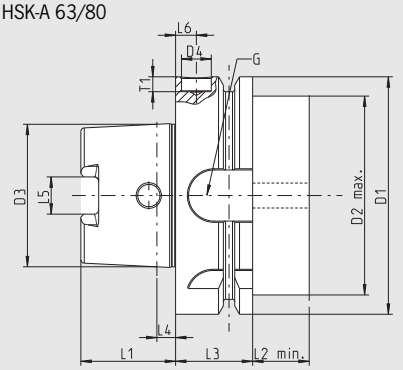


HSK-E

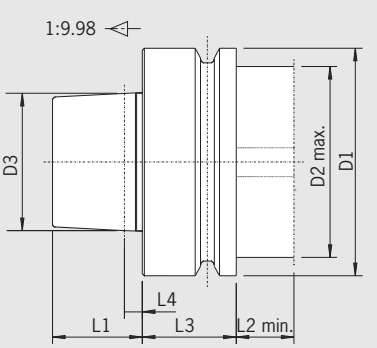


Length [mm]	D1	D2 max.	D3	D4	L1	L2 min.	L3	L4	L5	L6	G	T1
HSK-E 25	25	20	19.006	–/–	13	10	10	2.5	—	—	M8x1	–/–
HSK-A/E 32	32	26	24.007	10/–	16	15	20	3.2	7.05	7	M10x1	5.4/–
HSK-A/E 40	40	34	30.007	10/–	20	15	20	4	8.05	7	M12x1	5.3/–
HSK-A/E 50	50	42	38.009	10/–	25	16	26	5	10.54	7	M16x1	5.2/–
HSK-A 63	63	53	48.010	10/–	32	16	26	6.3	12.54	7	M18x1	5/–
HSK-A 80	80	67	60.012	10/–	40	16	26	8	16.04	7	M20x1.5	5/–
HSK-A 100	100	85	75.013	10/–	50	16	29	10	20.02	7	M24x1.5	4.9/–
HSK-A 125	125	111	95.016	10/–	63	16	29	12.5	25.02	7	M30x1.5	4.8/–

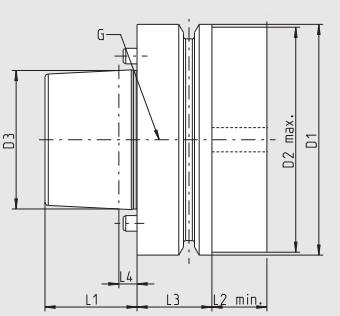
HSK-A 63/80



HSK-F

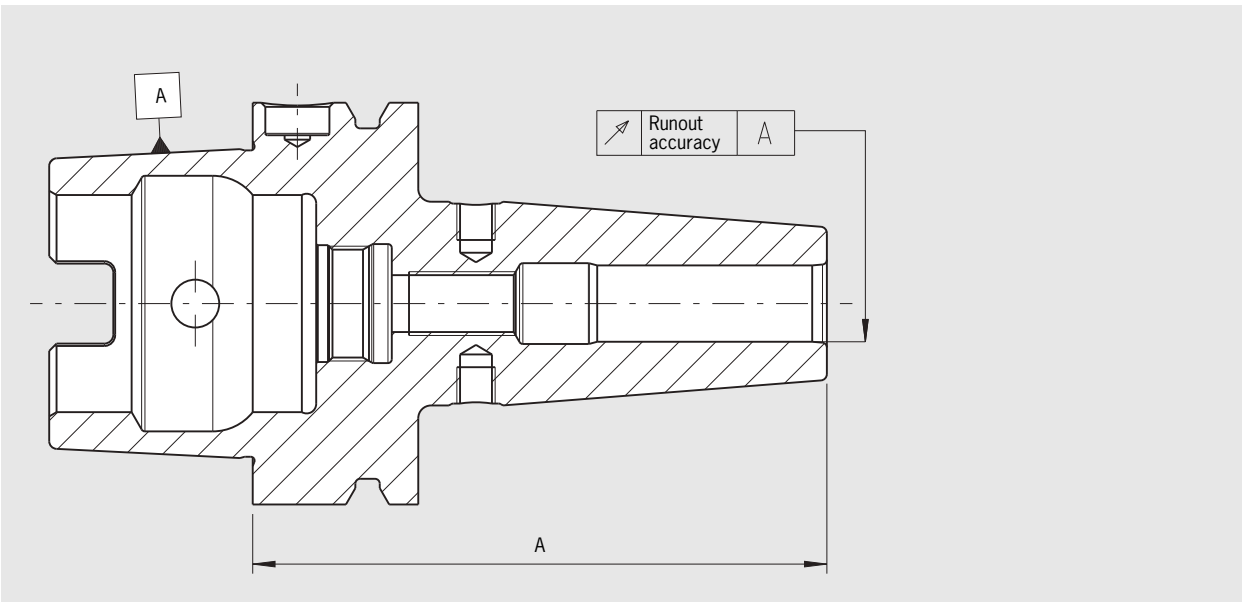


HSK-F 80M



Length [mm]	D1	D2 max.	D3	D4	L1	L2 min.	L3	L4	L5	L6	G	T1
HSK-A 63/80	80	67	48.010	10/–	32	16	26	6.3	12.54	7	M18x1	5/–
HSK-F 63	63	53	38.009	—	25	16	26	5	—	—	—	—
HSK-F 80M	80	78	48.010	—	32	16	26	6.3	—	—	M18x1	—

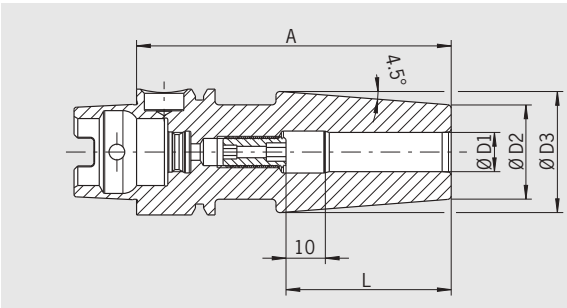
RUNOUT ACCURACY
DIN 69893



Gage length A [mm]	A < 160	A ≥ 160
max. runout tolerance in mm		
Shrink Fit Chuck	0.003	0.004
Mini Shrink	0.003	0.004
Collet Chuck ER	0.003	0.004
Power Collet Chuck	0.003	0.004
High Precision Collet Chuck	0.003	0.004
High Precision Chuck	0.003	0.003
Face Mill Arbor	0.006	0.006
Whistle Notch Tool Holder	0.003	0.004
Adapter for Morse Taper	0.008	—

SHRINK FIT CHUCK
DIN 69893-1 · HSK-A32





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Use:
Shrink fit chuck suitable for use with all available shrink fit units.

DIN 69893-1
– Included in delivery: Shrink fit chuck with back-up screw, without coolant tube
– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6

Optional:
– Cooling with Cool Jet for an extra charge (See page 501)
– Cooling with Cool Flash from diam. 6 mm for an extra charge (See pages 502–503)

Standard version, similar to DIN 69882-8

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10
	Ø D2 [mm]	10	10	10	21	21	24
	Ø D3 [mm]	—	—	—	27	27	32
	L [mm]	09	12	15	36	36	42
Length A [mm]	short	60[1]	60[1]	60[1]	70[2]	70[2]	80[2]
Order No.	**A32.140...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**

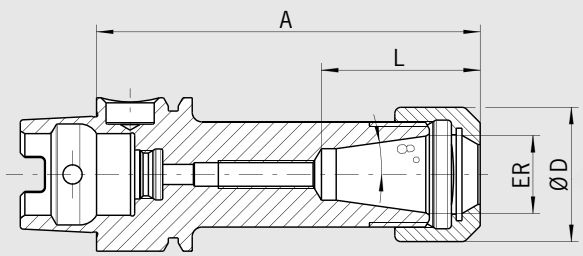
Accessories

Shrink fit extensions			See pages 751–753
Balancing screws			See page 784
Coolant tube		**Order No. 85.700.32**	See page 793
Reduction sleeves			See page 794
Back-up screws			See pages 796–799
Cool Jet bores			See page 501
Cool Flash		**Order No. 91.100.40**	See pages 502–503
Cool Flash Upgrade incl. Cool Jet		**Order No. 91.100.41**	See pages 502–503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for cooling from outside
2) Without threads for balancing screws

ER COLLET CHUCK
DIN 69893-1 · HSK-A32

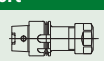
CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For clamping tools with cylindrical shank in collets according to ISO 15488 (formerly DIN 6499).

DIN 69882-6
– Hardened 54–2 HRC
Included in delivery:
– Locknut type HS (High-Speed, fine balanced, with slide coating for higher clamping forces)
– Enlarging of size L upon request

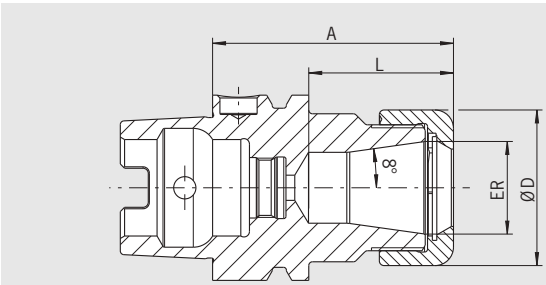
INCH	ER		16	25
	Ø D [inch]		1.1	1.65
	Clamping range [inch]		0.02–0.39	0.04–0.51
	Clamping range [mm]		0.5–10.0	1.0–16.0
	L [inch] ultra short		1.28	1.61
Gage length A [inch]	ultra short		2.17[1]	
Order No.	**A32.025...**		**.16**	—
Gage length A [inch]	short		3.15	3.15
Order No.	**A32.020...**		**.16**	**.25**

Accessories				
Collets ER				See pages 768–773
Shrink Fit Collets				See pages 759–763
Locknut (pre-balanced)				
Size			ER 16	ER 25
Order No.	**83.912...**		**.16**	**.25**
Chuck nut HS (fine-balanced)				
Size			ER 16	ER 25
Order No.	**83.912...**		**.16.HS**	**.25.HS**
Fork wrench				
Size			ER 16	—
Order No.	**84.200...**		**.16**	
Clamping wrench				
Size			—	ER 25
Order No.	**84.200...**			**.25**
Balancing index rings				
Size	long/oversize		ER 16	ER 25
Order No.	**79.350...**		**.22**	**.32**
Adjusting screw				
Size			ER 16	ER 25
Order No.	**85.800...**		**.34**	**.34**
Coolant tube				
Order No.	**85.700.32**			
Shrink fit extensions				See pages 751–753

1) Without thread for back-up screw

POWER COLLET CHUCK
DIN 69893-1 · HSK-A32





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488
(Attention: By using standard collet, ER length A will increase)
– High rigidity
– Hardened 54-2 HRC
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

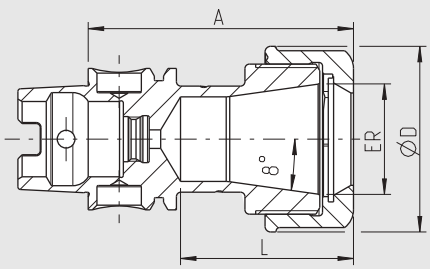
INCH	ER	16	25
	Ø D [inch]	1.1	1.65
	Clamping range [inch]	1/8–3/8	1/8–5/8
	Clamping range [mm]	2.0–10.0	2.0–16.0
	L [inch]	1.26	1.53
Gage length A [inch]	ultra short	1.97	2.36
Order No.	**A32.025...**	**.16.3**	**.25.3**

Accessories

Locknut (fine-balanced)			See page 779
Size		ER 16	ER 25
Order No. 83.914...		**.16**	**.25**
Power Collet clamping wrench			See page 781
Torque Master torque wrench			See page 780
Order No. 84.600.00			
Power Collets			See page 775
Power Collets with Safe-Lock			See page 776
Cool Jet bores for Power Collets			See page 777
Order No. 91.100.27			
Shrink Fit Collets			See pages 759–763

HIGH PRECISION COLLET CHUCK
DIN 69893-1 · HSK-A32

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools. The chuck is especially suitable for micro and fine machining (e.g. in the medical or watchmaking industry).

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3×D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488
(Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

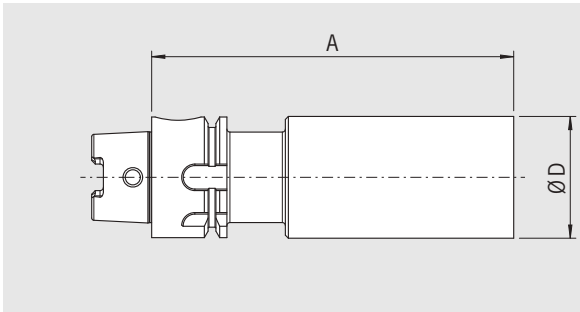
INCH	ER	16	25
	Ø D [inch]	1.1	1.65
	Clamping range [inch]	1/8–3/8	1/8–5/8
	Clamping range [mm]	2.0–10.0	2.0–16.0
	L [inch]	1.26	1.53
Gage length A [inch]	ultra short	1.97	2.36
Order No.	**A32.025...**	**.16.3.HP**	**.25.3.HP**

Accessories

High Precision Smooth Locknut (fine-balanced)			See page 779
Size		ER 16	ER 25
Order No. 83.914...		**.16.1**	**.25.1**
Roller bearing wrench			See page 782
Order No. 84.650...		**.16.1**	**.25.1**
Collets ER			See pages 768–773
Shrink Fit Collets			See pages 759–763
Power Collets			See page 775
Power Collets with Safe-Lock			See page 776
Cool Jet bores for Power Collets			See page 777
Order No. 91.100.27			

BLANK ADAPTER – HARDENED
DIN 69893-1 · HSK-A32





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

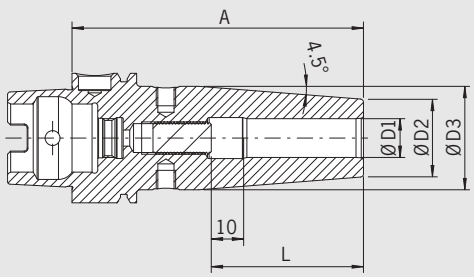
Use:
For manufacturing special tools in your own factory.

Version:
– HSK hardened and ground
– Cylindrical part hardened to 52+2 HRC

METRIC	Ø D [mm]	32.3
Gage Length A [mm]	ZG96	96
Order No.	**RA32.096.0323...**	**.0096**

SHRINK FIT CHUCK
DIN 69893-1 · HSK-A40

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
Shrink fit chuck suitable for use with all available shrink fit units.

DIN 69893-1
– Included in delivery: Shrink fit chuck with back-up screw, without coolant tube
– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws

Optional:
– Cooling with Cool Jet for an extra charge (See page 501)
– Cooling with Cool Flash from 1/4" for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	3/8	7/16	1/2	5/8
	Ø D2 [inch]	0.39	0.39	0.83	0.94	0.94	0.94	1.06
	Ø D3 [inch]	—	—	1.06	1.26	1.26	1.26	1.30
	L [inch]	0.35	0.59	1.42	1.65	1.65	1.85	1.97
Gage length A [inch]	short	2.36[1]	2.36[1]	3.15	3.15	3.15	3.54	3.54
Order No.	**A40.140...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.3/8Z**	**.7/16Z**	**.1/2Z**	**.5/8Z**

Standard version, similar to DIN 69882-8

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16
	Ø D2 [mm]	10	10	10	21	21	24	24	27	27
	Ø D3 [mm]	—	—	—	27	27	32	32	34	34
	L [mm]	09	12	15	36	36	42	47	47	50
Length A [mm]	short	60[1]	60[1]	60[1]	80	80	80	90	90	90
Order No.	**A40.140...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**
Length A [mm]	ZG120	120[2]	120[2]	120[2]	120	120	120	120	—	—
Order No.	**A40.147...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**		
Length A [mm]	ZG130	130[2]	130[2]	130[2]	130	130	130	130	—	—
Order No.	**A40.144...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**		

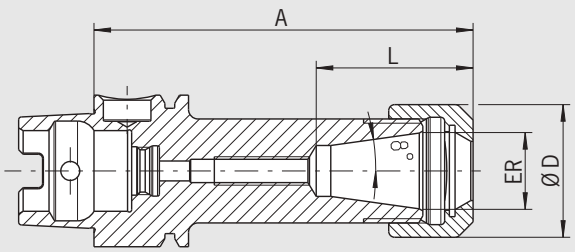
Accessories

Shrink fit extensions		See pages 750–753
Balancing screws		See page 784
Coolant tube	**Order No. 85.700.40**	See page 793
Reduction sleeves		See page 794
Back-up screws		See pages 796–799
Cool Jet bores		See page 501
Cool Flash	**Order No. 91.100.40**	See pages 502–503
Cool Flash Upgrade incl. Cool Jet	**Order No. 91.100.41**	See pages 502–503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for cooling from outside
2) Without back-up screw, without threads for balancing screws, without slits along the clamping bore for cooling from outside

ER COLLET CHUCK
DIN 69893-1 · HSK-A40





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Use:
For clamping tools with cylindrical shank in collets according to ISO 15488 (formerly DIN 6499).

DIN 69882-6
– Hardened 54 – 2 HRC
Included in delivery:
– Locknut type HS (High Speed, fine balanced, with slide coating for higher clamping forces)
– Enlarging of size L upon request

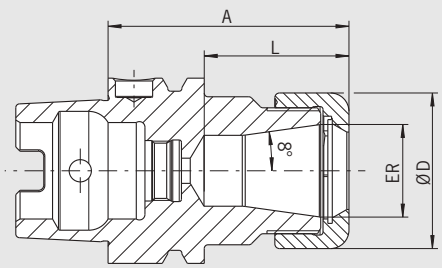
INCH	ER		11	16	25	32
	Ø D [inch]		0.75	1.10	1.65	1.97
	Clamping range [inch]		0.02–0.28	0.02–0.39	0.04–0.63	0.04–0.79
	Clamping range [mm]		0.5–7.0	0.5–10.0	1.0–16.0	1.5–20.0
	L [inch]		0.93	1.28	1.61	1.85
Gage length A [inch]	ultra short		2.36[1)]	2.36[1)]	2.76[1)]	2.76[1)]
Order No.	**A40.025...**		**.11**	**.16**	**.25**	**.32**
Gage length A [inch]	short		—	3.15	3.15	—
Order No.	**A40.020...**			**.16**	**.25**	

Accessories						
Collets ER						See pages 768–773
Shrink Fit Collets						See pages 758–767
Locknut (pre-balanced)						
Size			ER 11	ER 16	ER 25	ER 32
Order No.	**83.912...**		**.11**	**.16**	**.25**	**.32**
Chuck nut HS (fine-balanced)						
Size			—	ER 16	ER 25	ER 32
Order No.	**83.912...**			**.16.HS**	**.25.HS**	**.32.HS**
Fork wrench						
Size			ER 11	ER 16	—	—
Order No.	**84.200...**		**.11**	**.16**		
Clamping wrench						
Size			—	—	ER 25	ER 32
Order No.	**84.200...**				**.25**	**.32**
Balancing index rings						
Size	long/oversize		—	ER 16	ER 25	ER 32
Order No.	**79.350...**			**.19**	**.28**	**.32**
Adjusting screw						
Size			—	ER 16	ER 25	ER 32
Order No.	**85.800...**			**.34**	**.34**	**.35**
Coolant tube						
Order No.	**85.700.40**					
Shrink fit extensions						See pages 751–753

1) Drilled through

POWER COLLET CHUCK
DIN 69893-1 · HSK-A40

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488
(Attention: By using standard collet, ER length A will increase)
– High rigidity
– Hardened 54 – 2 HRC
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

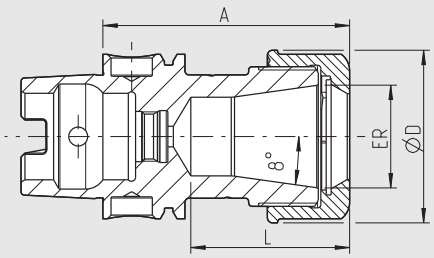
INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch] ultra short		1.22	1.51	1.85
Gage length A [inch]	ultra short		1.97	2.36	2.76
Order No.	**A40.025...**		**.16.3**	**.25.3**	**.32.3**
	L [inch] short		1.69	2.01	2.09
Gage length A [inch]	short		3.15	3.15	3.15
Order No.	**A40.020...**		**.16.3**	**.25.3**	**.32.3**

Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 759–767
Coolant tube				See page 793
Order No.	**85.700.40**			

HIGH PRECISION COLLET CHUCK
DIN 69893-1 · HSK-A40





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools. The chuck is especially suitable for micro and fine machining (e.g. in the medical or watchmaking industry).

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488
(Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

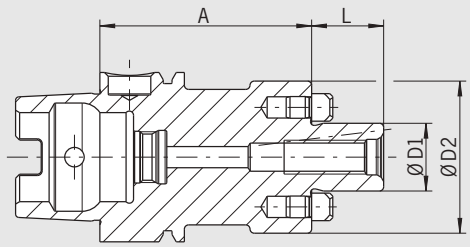
INCH	ER	16	25	32
	Ø D [inch]	1.1	1.65	1.97
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	L [inch] ultra short	1.22	1.51	1.85
Gage length A [inch]	ultra short	1.97	2.36	2.76
Order No.	**A40.025...**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
	L [inch] short	1.69	2.01	2.09
Gage length A [inch]	short	3.15	3.15	3.15
Order No.	**A40.020...**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

Accessories

High Precision Smooth Locknut (fine-balanced)					See page 779
Size		ER 16	ER 25	ER 32	
Order No.	**83.914...**	**.16.1**	**.25.1**	**.32.1**	
Roller bearing wrench					See page 782
Order No.	**84.650...**	**.16.1**	**.25.1**	**.32.1**	
Collets ER					See pages 768–773
Shrink Fit Collets					See pages 759–767
Power Collets					See page 775
Power Collets with Safe-Lock					See page 776
Cool Jet bores for Power Collets					See page 777
Order No.	**91.100.27**				
Coolant tube					See page 793
Order No.	**85.700.40**				

FACE MILL ARBOR
DIN 69893-1 · HSK-A40

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For holding face mill cutters and cutters with radial driving slot DIN 1880.

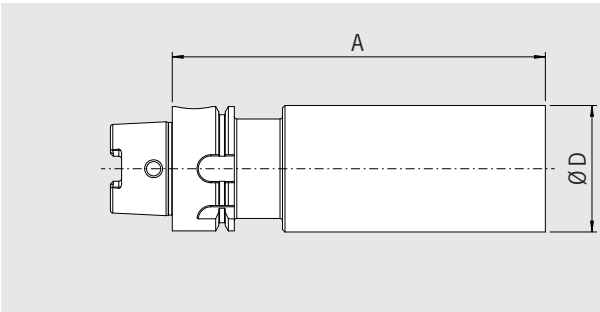
DIN 69882-3
– Hardened 54–2 HRC
– Included in delivery: tightening bolt, without coolant tube
– With coolant exit bores on the end face for milling cutters with central cooling

METRIC	Clamping Ø D1 [mm]	16	22
	Ø D2 [mm]	36	48
	L [mm]	17	19
Length A [mm]	short	50	60
Order No.	**A40.050...**	**.16.KKB**	**.22.KKB**

Accessories			
Tightening bolt			
Size D1		16	22
Order No.	**85.300...**	**.16**	**.22**
Wrench			
Size D1		16	22
Order No.	**84.400...**	**.16**	**.22**
Balancing index rings			
Size D1		16	22
Order No.	**79.350...**	**.36**	**.48**
Coolant tube			
Order No.	**85.700.40**		

BLANK ADAPTER – HARDENED
DIN 69893-1 · HSK-A40





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

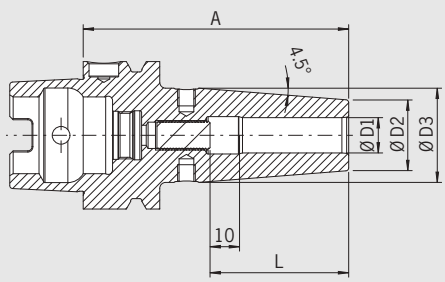
Use:
For manufacturing special tools in your own factory.

Version:
– HSK hardened and ground
– Cylindrical part hardened to 52+2 HRC

METRIC	Ø D [mm]	40.7
Gage Length A [mm]	ZG120	120
Order No.	**RA40.096.0407...**	**.0120**

SHRINK FIT CHUCK
DIN 69893-1 · HSK-A50

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN



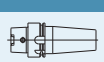
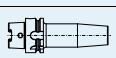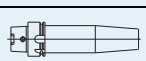


Use:
Shrink fit chuck suitable for use with all available shrink fit units.

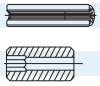
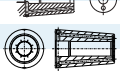
DIN 69893-1
– Included in delivery: Shrink fit chuck with back-up screw, without coolant tube
– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws

Optional:
– Cooling with Cool Jet for an extra charge (See page 501)
– Cooling with Cool Flash from diam. 6 mm for an extra charge (See pages 502–503)

Standard version, similar to DIN 69882-8

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16
	Ø D2 [mm]	10	10	10	21	21	24	24	27	27
	Ø D3 [mm]	—	—	—	27	27	32	32	34	34
	L [mm]	09	12	15	36	36	42	47	47	50
Length A [mm]	short 	60[1]	60[1]	60[1]	80	80	85	90	90	95
Order No.	**A50.140...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**
Length A [mm]	ZG120 	120[2]	120[2]	120[2]	120	120	120	120	—	120
Order No.	**A50.147...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**		**.16**
Length A [mm]	ZG130 	130[2]	130[2]	130[2]	130	130	130	130	—	130
Order No.	**A50.144...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**		**.16**

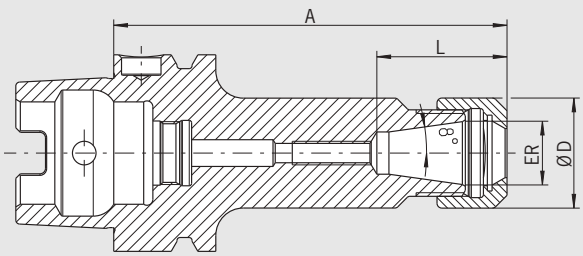
Accessories

Shrink fit extensions			See pages 751–753
Balancing screws			See page 784
Coolant tube		**Order No. 85.700.50**	See page 793
Reduction sleeves			See page 794
Back-up screws			See pages 796–799
Cool Jet bores			See page 501
Cool Flash		**Order No. 91.100.40**	See pages 502–503
Cool Flash Upgrade incl. Cool Jet		**Order No. 91.100.41**	See pages 502–503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for cooling from outside
2) Without back-up screw, without threads for balancing screws, without slits along the clamping bore for cooling from outside

ER COLLET CHUCK
DIN 69893-1 · HSK-A50

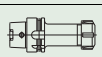




CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Use:
For clamping tools with cylindrical shank in collets according to ISO 15488 (formerly DIN 6499).

DIN 69882-6
– Hardened 54–2 HRC
Included in delivery:
– Locknut type HS (High-Speed, fine balanced, with slide coating for higher clamping forces)
– Enlarging of size L upon request

INCH	ER		11	16	25	32	40
	Ø D [inch]		0.75	1.10	1.65	1.97	2.48
	Clamping range [inch]		0.02–0.28	0.02–0.39	0.04–0.63	0.06–0.79	0.10–1.02
	Clamping range [mm]		0.5–7.0	0.5–10.0	1.0–16.0	1.5–20.0	2.5–26.0
	L [inch]		1.04	1.28	1.61	1.85	2.09
Gage length A [inch]	ultra short		2.36[1]	2.36[1]	2.76[1]	3.15[1]	3.15[1]
Order No.	**A50.025...**		**.11**	**.16**	**.25**	**.32**	**.40**
Gage length A [inch]	short		—	3.94	3.94	3.94	4.72
Order No.	**A50.020...**			**.16**	**.25**	**.32**	**.40**

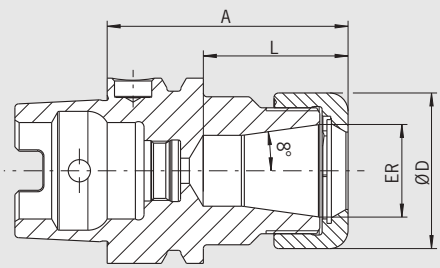
Accessories

Collets ER							See pages 768–773
Shrink Fit Collets							See pages 758–767
Locknut (pre-balanced)							
Size				ER 16	ER 25	ER 32	
Order No.	**83.912...**			**.16**	**.25**	**.32**	
Chuck nut HS (fine-balanced)							
Size				ER 16	ER 25	ER 32	
Order No.	**83.912...**			**.16.HS**	**.25.HS**	**.32.HS**	
Fork wrench							
Size				ER 16	—	—	
Order No.	**84.200...**			**.16**			
Clamping wrench							
Size				—	ER 25	ER 32	
Order No.	**84.200...**				**.25**	**.32**	
Balancing index rings							
Size	long/oversize		ER11	ER 16	ER 25	ER 32	ER 40
Order No.	**79.350...**[2]		**.19**	**.22**	**.32**	**.40**	**.50**
Adjusting screw							
Size				ER 16	ER 25	ER 32	
Order No.	**85.800...**			**.34**	**.34**	**.35**	
Coolant tube							
Order No.	**85.700.50**						
Shrink fit extensions							See pages 751–753

1) Drilled through
2) Suitable balancing index rings Order No. 79.350.28

POWER COLLET CHUCK
DIN 69893-1 · HSK-A50

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Hardened 54 – 2 HRC
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

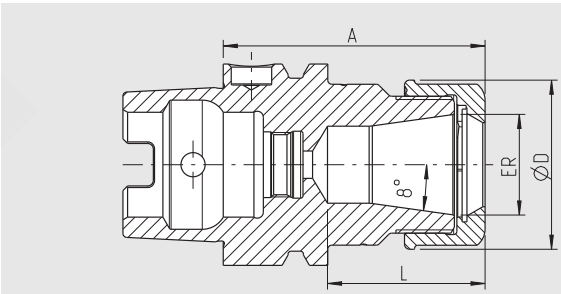
INCH	ER	16	25	32
	Ø D [inch]	1.1	1.65	1.97
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]	1.26	1.53	1.89
Gage length A [inch]	ultra short	2.36	2.56	2.95
Order No.	**A50.025...**	**.16.3**	**.25.3**	**.32.3**

Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 760–767
Coolant tube				See page 793
Order No.	**85.700.50**			

HIGH PRECISION COLLET CHUCK
DIN 69893-1 · HSK-A50





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools. The chuck is especially suitable for micro and fine machining (e.g. in the medical or watchmaking industry).

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

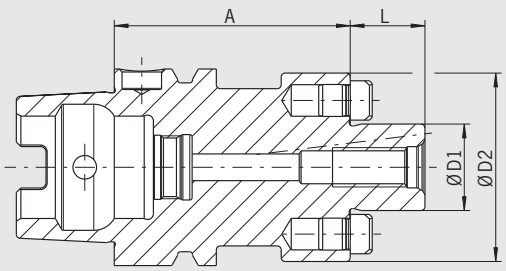
INCH	ER	16	25	32
	Ø D [inch]	1.1	1.65	1.97
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]	1.26	1.53	1.89
Gage length A [inch]	ultra short	2.36	2.56	2.95
Order No.	**A50.025...**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

Accessories

High Precision Smooth Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench				See page 782
Order No.	**84.650...**	**.16.1**	**.25.1**	**.32.1**
Collets ER				See pages 768–773
Shrink Fit Collets				See pages 760–767
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Coolant tube				See page 793
Order No.	**85.700.50**			

FACE MILL ARBOR
DIN 69893-1 · HSK-A50

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For holding face mill cutters and cutters with radial driving slot DIN 1880 and exceeding clamping diameter 40 clamping according to DIN 2079 is possible, too (4 additional tapped holes).
With coolant exit bores on the end face for milling cutters with central cooling.

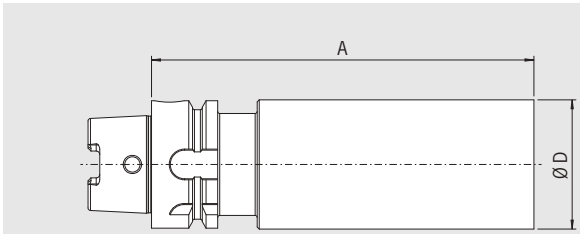
DIN 69882-3
– Included in delivery: tightening bolt, without coolant tube

METRIC	Clamping Ø D1 [mm]		16	22	27	32
	Ø D2 [mm]		36	48	60	78
	L [mm]		17	19	21	24
Length A [mm]	short		50	60	60	
Order No.	**A50.050...**		**.16.KKB**	**.22.KKB**	**.27.KKB**	—
Length A [mm]	long		100	100	100	100
Order No.	**A50.051...**		**.16.KKB**	**.22.KKB**	**.27.KKB**	**.32.KKB**
Length A [mm]	oversize		160			
Order No.	**A50.052...**		**.16.KKB**	—	—	—

Accessories					
Tightening bolt					
Size D1			16	22	27
Order No.	**85.300...**		**.16**	**.22**	**.27**
Wrench					
Size D1			16	22	27
Order No.	**84.400...**		**.16**	**.22**	**.27**
Balancing index rings					
Size D1			16	22	27
Order No.	**79.350...**		**.36**	**.48**	**.60**
Coolant tube					
Order No.	**85.700.50**				

BLANK ADAPTER – HARDENED
DIN 69893-1 · HSK-A50





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

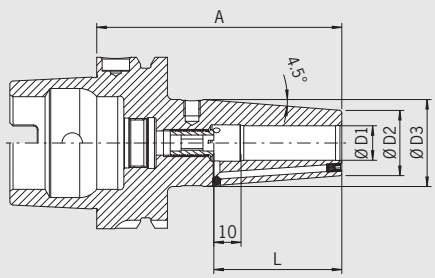
Use:
For manufacturing special tools in your own factory.

Version:
– HSK hardened and ground
– Cylindrical part hardened to 52+2 HRC

METRIC	Ø D [mm]	50.7
Gage Length A [mm]	ZG150	150
Order No.	**RA50.096.0507…**	**.0150**

SHRINK FIT CHUCK
DIN 69893-1 · HSK-A63
INCH

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ More accurate than DIN
- ☑ Cool Jet, can be sealed





Use:
Shrink fit chuck suitable for use with all available shrink fit units.

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

DIN 69893-1
Optional:
– Cooling with Cool Flash from ¼"–1" for an extra charge (See pages 502–503)

Standard version

INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	1 1/4
	Ø D2 [inch]	0.39	0.39	0.83	0.83	0.94	0.94	0.94	1.06	1.30	1.73	1.73
	Ø D3 [inch]	–	–	1.06	1.06	1.26	1.26	1.26	1.34	1.65	2.09	2.09
	L [inch]	0.35	0.47	1.42	1.42	1.65	1.65	1.85	1.97	2.05	2.28	2.28
Gage length A [inch]	short	3.15[1]	3.15[1]	3.15	3.15	3.35	3.35	3.54	3.74	3.94	4.53	4.72
Order No.	**A63.140...**	**.1/8Z**	**.3/16Z**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	ZG130	—	—	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Order No.	**A63.144...**			**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	oversize	—	—	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	—
Order No.	**A63.142...**			**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.1Z.4**	

Standard version with Safe-Lock and M3 seal screw installed

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8	3/4	1	1 1/4
	Ø D2 [inch]	0.83	0.83	0.94	0.94	1.06	1.30	1.73	1.73
	Ø D3 [inch]	1.06	1.06	1.26	1.26	1.34	1.65	2.09	2.09
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28	2.28
Gage length A [inch]	short	3.15[2]	3.15[2]	3.35[2]	3.54[2]	3.74[2]	3.94[2]	4.53[2]	4.72[2]
Order No.	**A63.140...**	**.1/4Z.47**	**.5/16Z.47**	**.3/8Z.47**	**.1/2Z.47**	**.5/8Z.47**	**.3/4Z.47**	**.1Z.47**	**.1 1/4Z.47**

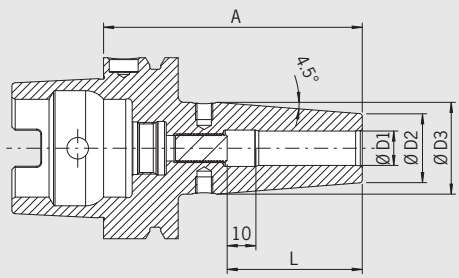
Accessories

Coolant tube	**Order No. 85.700.63**	See page 793
Set of Balancing Screws	**Order No. 80.203.00**	See pages 784
Back-up screws		See pages 796–799
Cool Flash	**Order No. 91.100.40**	See pages 502–503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for coolant around the tool
2) With tension spring

SHRINK FIT CHUCK
DIN 69893-1 · HSK-A63
METRIC





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Use:
Shrink fit chuck suitable for use with all available shrink fit units.

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws
– Included in delivery: Shrink fit chuck with back-up screw, without coolant tube

DIN 69893-1
Optional:
– Cooling with Cool Jet for an extra charge (See page 501)
– Cooling with Cool Flash for an extra charge (See pages 502–503)

Standard version, similar to DIN 69882-8

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]	10	10	10	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	—	—	—	27	27	32	32	34	34	42	42	53	53
	L [mm]	09	12	15	36	36	42	47	47	50	50	52	58	58
Length A [mm]	short	80[1]	80[1]	80[1]	80	80	85	90	90	95	95	100	115	120
Order No.	**A63.140...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Length A [mm]	ZG120	120[1]	120[1]	120[1]	120	120	120	120	120	120	120	120	—	—
Order No.	**A63.147...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**		
Length A [mm]	ZG130	130[1]	130[1]	130[1]	130	130	130	130	130	130	130	130	130	—
Order No.	**A63.144...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	
Length A [mm]	oversize	—	—	—	160	160	160	160	160	160	160	160	160	160
Order No.	**A63.142...**				**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Length A [mm]	ZG200	—	—	—	200	200	200	200	200	200	200	200	200	200
Order No.	**A63.146...**				**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**

Standard version, with Cool Jet (Ø 3–5 mm Cooling with slits)

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]	10	10	10	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	—	—	—	27	27	32	32	34	34	42	42	53	53
	L [mm]	09	12	15	36	36	42	47	47	50	50	52	58	58
Length A [mm]	short	80[2]	80[2]	80[2]	80	80	85	90	90	95	95	100	115	120
Order No.	**A63.140...**	**.03**	**.04**	**.05**	**.06.2**	**.08.2**	**.10.2**	**.12.2**	**.14.2**	**.16.2**	**.18.2**	**.20.2**	**.25.2**	**.32.2**
Length A [mm]	ZG130	—	—	—	130	130	130	130	130	130	130	130	130	—
Order No.	**A63.144...**				**.06.2**	**.08.2**	**.10.2**	**.12.2**	**.14.2**	**.16.2**	**.18.2**	**.20.2**	**.25.2**	

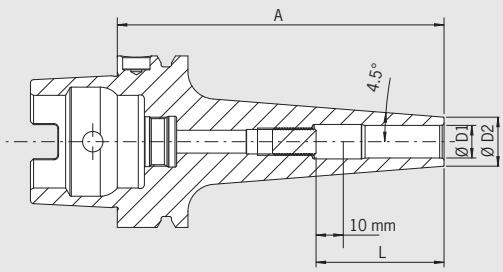
Standard version, with Safe-Lock pull out protection

METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	27	27	32	32	34	34	42	42	53	53
	L [mm]	36	36	42	47	47	50	50	52	58	58
Length A [mm]	short	80[3]	80[3]	85[3]	90[3]	90[3]	95[3]	95[3]	100[3]	115[3]	120[3]
Order No.	**A63.140...**	**.06.7**	**.08.7**	**.10.7**	**.12.7**	**.14.7**	**.16.7**	**.18.7**	**.20.7**	**.25.7**	**.32.7**

1) Without back-up screw, without threads for balancing screws, without slits along the clamping bore for cooling from outside
2) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for cooling from outside
3) With tension spring

SHRINK FIT CHUCK – EXTRA SLIM
DIN 69893-1 · HSK-A63
METRIC

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

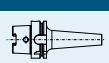




Use:
Shrink fit chuck suitable for use with all available shrink fit units.
Extra slim version with smaller diameter D2, 4.5°.

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For solid carbide tools with shank tolerance h6
– Shank tolerance h6
– Included in delivery: Shrink fit chuck with back-up screw, without coolant tube
– Cooling with slits for an extra charge

Standard version, similar to DIN 69882-8

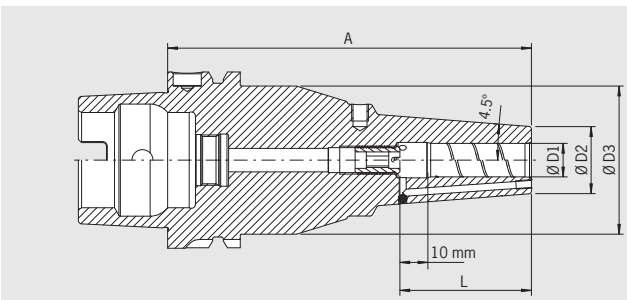
METRIC	Clamping Ø D1 [mm]	06	08	10	12
	Ø D2 [mm]	15	15	18	18
	L [mm]	36	36	42	47
Length A [mm]	ZG120 	120	120	120	120
Order No.	**A63.147...**	**.06.10**	**.08.10**	**.10.10**	**.12.10**

Accessories

Shrink fit extensions			See pages 751 – 753
Coolant tube		**Order No. 85.700.63**	See page 793
Reduction sleeves			See page 794
Back-up screws			See pages 796 – 799
Cooling adapter		**Ø 6 – 12 mm**	See page 592
Order No.		**80.105.14.1.2**	

POWER SHRINK CHUCK
DIN 69893-1 · HSK-A63





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Cool Jet, can be sealed

The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Heat resistant hot-working steel
– Hardened 54–2 HRC
– Increased machining capacity due to higher spindle speed, higher feed and larger cutting depth
– Shorter processing times, higher machining accuracy
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– With threaded holes in order to balance with balancing screws

The long versions (A=120, 130 and 160) with slim tips are especially versatile to use.

– High rigidity, slim at the tip, dampen vibrations
– High clamping force
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine
– Cool Jet coolant bores that can be sealed included

Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)
– Safe-Lock pull out protection (See pages 496–500)

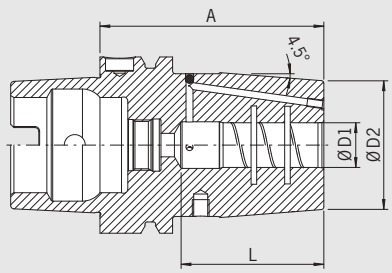
INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8	3/4	1	11/4
	Ø D2 [inch] ultra short	0.87	0.87	1.04	1.04	1.16	1.40	1.77	1.77
	Ø D3 [inch] ultra short	—	—	—	—	—	—	2.01	2.01
	L [inch] ultra short	1.49	1.49	1.70	1.81	1.93	1.93	2.24	2.32
Gage length A [inch]	ultra short	2.76[1]	2.76[1]	2.76[1]	2.76[1]	2.95[1]	2.95[1]	3.35[1]	3.35[1]
Order No.	**A63.145...**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**	**.1 1/4z.3**
Safe-Lock Order No.	**A63.145...**	**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**	**.1 1/4z.37**
	Ø D2 [inch]	0.83	0.83	0.94	0.94	1.06	1.30	1.73	1.73
	Ø D3 [inch]	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09
	L [inch]	1.42	1.42	1.65	1.85	1.97	2.05	2.28	2.28
Gage length A [inch]	ZG130	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Order No.	**A63.144...**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**	**.1 1/4z.3**
Safe-Lock Order No.	**A63.144...**	**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**	**.1 1/4z.37**
Gage length A [inch]	oversize	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Order No.	**A63.142...**	**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**	**.1 1/4z.3**
Safe-Lock Order No.	**A63.142...**	**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**	**.1 1/4z.37**

METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm] ultra short	22	22	26.5	26.5	29.5	29.5	35.5	35.5	45	45
	Ø D3 [mm] ultra short	—	—	—	—	—	—	—	—	51	51
	L [mm] ultra short	38	38	43	46	48	49	49	49	57	59
Gage length A [mm]	ultra short	70[1]	70[1]	70[1]	70[1]	75[1]	75[1]	75[1]	75[1]	85[1]	85[1]
Order No.	**A63.145...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**	**.32.3**
Safe-Lock Order No.	**A63.145...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**	**.32.37**
	Ø D2 [mm]	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	53	53	53	53	53	53	53	53	53	53
	L [mm]	36	36	42	47	47	50	50	52	58	58
Gage length A [mm]	ZG120	120	120	120	120	120	120	120	120	120	120
Order No.	**A63.147...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**	**.32.3**
Safe-Lock Order No.	**A63.147...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**	**—**
Gage length A [mm]	ZG130	130	130	130	130	130	130	130	130	130	130
Order No.	**A63.144...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**	**.32.3**
Safe-Lock Order No.	**A63.144...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**	**.32.37**
Gage length A [mm]	oversize	160	160	160	160	160	160	160	160	160	160
Order No.	**A63.142...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**	**.32.3**
Safe-Lock Order No.	**A63.142...**	**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**	**.32.37**

1) *Without back-up screw*

HEAVY DUTY CHUCK
DIN 69893-1 · HSK-A63

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Cool Jet, can be sealed





The Heavy Duty Chuck is a shrink fit chuck designed for extreme cases and Heavy Duty machining. The contour is optimized for highest rigidity and clamping force.

– Heat resistant hot-working steel
– Hardened 54–2 HRC
– Smooth clamping of the tool shank
– No deformation at the tool shank after shrink process
– TIR less than 0.00012" (3 µm)
– Reinforced outer contour
– To shrink with 13 kW HD coil (see page 600) or with high performance shrink fit unit HAIMER Power Clamp Profi Plus (20 kW)
– With internal groove in the clamping bore
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included
– Without back-up screws

Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)
– Safe-Lock pull out protection (See pages 496–500)

INCH	Clamping Ø D1 [inch]	5/8	3/4
	Ø D2 [inch]	1.81	1.81
	L [inch]	2.01	2.08
Gage length A [inch]	ultra short	3.15	3.15
Order No.	**A63.145...**	**.5/8z.6**	**.3/4z.6**
Safe-Lock Order No.	**A63.145...**	**.5/8z.67**	**.3/4z.67**
Gage length A [inch]	short	3.35	3.35
Order No.	**A63.140...**	**.5/8z.6**	**.3/4z.6**
Safe-Lock Order No.	**A63.140...**	**.5/8z.67**	**.3/4z.67**

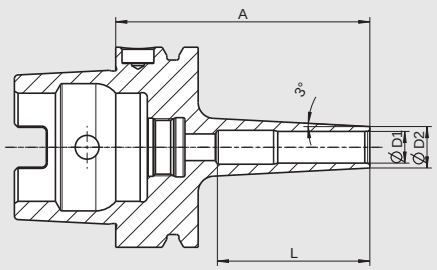
METRIC	Clamping Ø D1 [mm]	16	20
	Ø D2 [mm]	46	46
	L [mm]	51	53
Gage length A [mm]	ultra short	80	80
Order No.	**A63.145...**	**.16.6**	**.20.6**
Safe-Lock Order No	**A63.145...**	**.16.67**	**.20.67**
Gage length A [mm]	short	85	85
Order No.	**A63.140...**	**.16.6**	**.20.6**
Safe-Lock Order No	**A63.140...**	**.16.67**	**.20.67**

Accessories

Cool Flash	**Order No. 91.100.40**	See pages 502–503

MINI SHRINK
DIN 69893-1 · HSK-A63





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

– Extremely slim design
– No disturbing edges
– Highest runout accuracy: 3 µm
– Also jobs difficult to access can be reached
– Optimum rigidity
– Ideal to shrink with the HAIMER Power Clamp
– For all solid carbide tools with shank tolerance h6
– Heat resistant hot-working steel
– Hardened 54 – 2 HRC
– With 3° angle for die and mold

– Tool holders fine balanced
– Delivery without coolant tube
– **Extra slim version:** extremely slim for fine machining and for jobs very difficult to reach
– **Standard version:** with high clamping force

Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	16
	Ø D2 [mm] extra slim	06	07	08	09	11	13	15	—
	Ø L [mm] extra slim	—	—	—	—	—	48	48	—
Gage length A [mm]	ZG80				80	80	80	80	
Order No.	extra slim **A63.173…**	—	—	—	**.06**	**.08**	**.10**	**.12**	—
Gage length A [mm]	ZG120	120	120	120	120	120	120	120	
Order No.	extra slim **A63.177…**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	—
	Ø D2 [mm] standard	09	10	11	12	14	16	18	24
	Ø L [mm] standard	—	—	—	—	—	68	75	75
Length A [mm]	standard	120	120	120	120	120	120	120	120
Order No.	extra slim **A63.187…**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**.16**

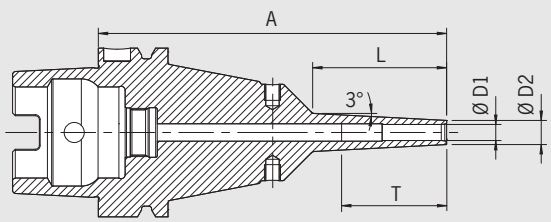


Mini Shrink shrink and cooling sleeve
– Protect Mini Shrink chucks from overheating
– Extend lifetime of shrink fit chucks
– Secure and user friendly handling
– Cooling with standard cooling body

Shrinking and cooling sleeves for Mini Shrink chucks								Order No.
Extra slim								
Size [mm]	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12	
Order No. 80.105.14…	**.2.01**	**.2.02**	**.2.03**	**.2.04**	**.2.05**	**.2.06**	**.2.07**	
Standard								
Size [mm]	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12	Ø 16
Order No. 80.105.14…	**.2.04**	**.2.08**	**.2.05**	**.2.09**	**.2.10**	**.2.11**	**.2.12**	**.2.16**
Base								**80.105.14.2.99**
Set with base (12 pcs., diameter 3 – 12 mm)								**80.105.14.2.00**

POWER MINI SHRINK CHUCK
DIN 69893-1 · HSK-A63

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

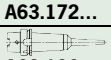


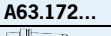


The Power Mini Shrink Chuck is perfect for 5-axis machining in the die & mold and in the medical industry. Very slim at the top like the HAIMER Mini Shrink Chucks, the Power Mini Shrink is reinforced at the base. This allows for efficient milling with an angled tool, even at long protruding lengths.

- 2 types: Standard (3 mm wall thickness) and extra slim (1.5 mm wall thickness)
- 3° angle at the top
- With threaded holes in order to balance with balancing screws
- For solid carbide tools with shank tolerance h6
- Heat resistant hot-working steel
- Hardened 54–2 HRC

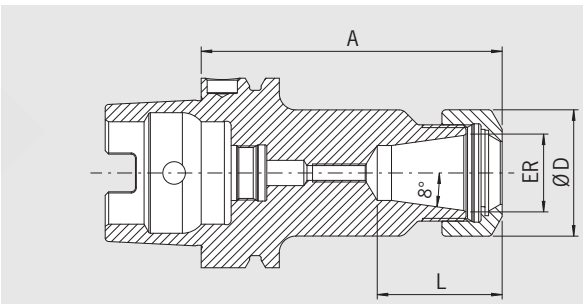
Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

INCH	Clamping Ø D1 [inch]		1/8	3/16	1/4	5/16	3/8	1/2	5/8
	Ø D2 [inch] standard		0.35	0.43	0.47	0.55	0.63	0.71	0.94
	Ø D2 [inch] extra slim		0.24	0.32	0.35	0.43	0.51	0.59	—
	T [inch]		—	—	—	—	2.68	2.95	2.95
	L [inch] ZG130		1.97	1.97	1.97	1.97	1.97	1.97	1.97
Gage length A [inch]	ZG130		5.12	5.12	5.12	5.12	5.12	5.12	5.12
Order No.	standard	**A63.184...**	**.1/8z.8**	**.3/16z.8**	**.1/4z.8**	**.5/16z.8**	**.3/8z.8**	**.1/2z.8**	**.5/8z.8**
Order No.	extra slim	**A63.174...**	**.1/8z.8**	**.3/16z.8**	**.1/4z.8**	**.5/16z.8**	**.3/8z.8**	**.1/2z.8**	**—**
	L [inch] oversize/ZG200		3.15	3.15	3.15	3.15	3.15	3.15	3.15
Gage length A [inch]	oversize		160	160	160	160	160	160	160
Order No.	standard	**A63.182...**	**.1/8z.8**	**.3/16z.8**	**.1/4z.8**	**.5/16z.8**	**.3/8z.8**	**.1/2z.8**	**.5/8z.8**
Order No.	extra slim	**A63.172...**	**.1/8z.8**	**.3/16z.8**	**.1/4z.8**	**.5/16z.8**	**.3/8z.8**	**.1/2z.8**	**—**
Gage length A [inch]	ZG200		200	200	200	200	200	200	200
Order No.	standard	**A63.186...**	**.1/8z.8**	**.3/16z.8**	**.1/4z.8**	**.5/16z.8**	**.3/8z.8**	**.1/2z.8**	**.5/8z.8**
Order No.	extra slim	**A63.176...**	**.1/8z.8**	**.3/16z.8**	**.1/4z.8**	**.5/16z.8**	**.3/8z.8**	**.1/2z.8**	**—**

METRIC	Clamping Ø D1 [mm]		03	04	05	06	08	10	12	16
	Ø D2 [mm] standard		09	10	11	12	14	16	18	24
	Ø D2 [mm] extra slim		06	07	08	09	11	13	15	—
	T [mm]		—	—	—	—	—	68	75	75
	L [mm] ZG130		50	50	50	50	50	50	50	50
Gage length A [mm]	ZG130		130	130	130	130	130	130	130	130
Order No.	standard	**A63.184...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**A63.174...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**—**
	L [mm] oversize/ZG200		80	80	80	80	80	80	80	80
Gage length A [mm]	oversize		160	160	160	160	160	160	160	160
Order No.	standard	**A63.182...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**A63.172...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**—**
Gage length A [mm]	ZG200		200	200	200	200	200	200	200	200
Order No.	standard	**A63.186...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**.16.8**
Order No.	extra slim	**A63.176...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**	**—**

ER COLLET CHUCK
DIN 69893-1 · HSK-A63





CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Use:
For clamping tools with cylindrical shank in ER collets according to ISO 15488.

– Locknut (balanced, with slide coating for higher clamping forces); without coolant tube
– Locknut type HS (High Speed, fine balanced, with slide coating for higher clamping forces) for an extra charge

– Increasing size L possible upon request

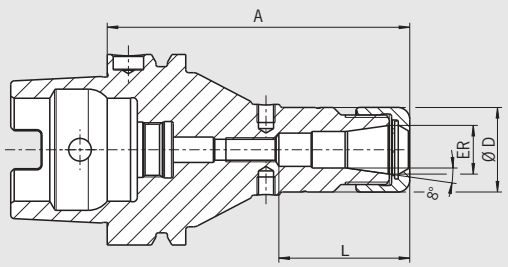
INCH	ER		11	16	25	32	40
	Ø D [inch]		0.75	1.1	1.65	1.97	2.48
	Clamping range [inch]		0.02–0.28	0.02–0.39	0.04–0.63	0.06–0.79	0.09–1.02
	Clamping range [mm]		0.5–7.0	0.5–10.0	1.0–16.0	1.5–20.0	2.5–26.0
L [inch]			1.03	1.81	1.83	1.85	2.09
Gage length A [inch]	ultra short		2.95	2.95	2.95	2.95	3.35
Order No.	**A63.025...**		**.11**[1]	**.16**[1]	**.25**[1]	**.32**[1]	**.40**[1]
L [inch]			[2]	1.28	1.61	1.85	2.09
Gage length A [inch]	short		3.94	3.94	3.94	3.94	4.72
Order No.	**A63.020...**		**.11**	**.16**	**.25**	**.32**	**.40**
L [inch]				1.28	1.61	1.85	2.09
Gage length A [inch]	oversize			6.30	6.30	6.30	6.30
Order No.	**A63.022...**		**—**	**.16**	**.25**	**.32**	**.40**

Accessories							
Collets ER							See pages 768–773
Shrink Fit Collets							See pages 758–767
Locknut (pre-balanced)							
Size			ER 11	ER 16	ER 25	ER 32	ER 40
Order No.	**83.912...**		**.11**	**.16**	**.25**	**.32**	**.40**
Chuck nut HS (fine-balanced)							
Size			—	ER 16	ER 25	ER 32	ER 40
Order No.	**83.912...**			**.16.HS**	**.25.HS**	**.32.HS**	**.40.HS**
Fork wrench							
Size			ER 11	ER 16	—	—	—
Order No.	**84.200...**		**.11**	**.16**			
Clamping wrench							
Size			—	—	ER 25	ER 32	ER 40
Order No.	**84.200...**				**.25**	**.32**	**.40**
Balancing index rings							
Size	long/oversize		—	ER 16	ER 25	ER 32	ER 40
Order No.	**79.350...**			**.28**	**.42**	**.48**	**.50**
Adjusting screw							
Size			—	ER 16	ER 25	ER 32	ER 40
Order No.	**85.800...**			**.34**	**.34**	**.35**	**.35**
Coolant tube							See page 793
Order No.	**85.700.63**						
Shrink fit extensions							See pages 751–753

1) Without thread for back-up screw 2) Drilled through

POWER COLLET CHUCK
DIN 69893-1 · HSK-A63

CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

INCH	ER	16	25	32
	Ø D [inch]	1.1	1.65	1.97
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	L [inch] ultra short	1.12	1.41	1.65
Gage length A [inch]	ultra short	2.95	2.95	2.95
Order No.	**A63.025...**	**.16.3**[1)]	**.25.3**[1)]	**.32.3**[1)]
	L [inch]	1.69	2.01	2.09
Gage length A [inch]	short	3.94	3.94	3.94
Order No.	**A63.020...**	**.16.3**	**.25.3**	**.32.3**
Gage length A [inch]	oversize	6.30	6.30	6.30
Order No.	**A63.022...**	**.16.3**	**.25.3**	**.32.3**

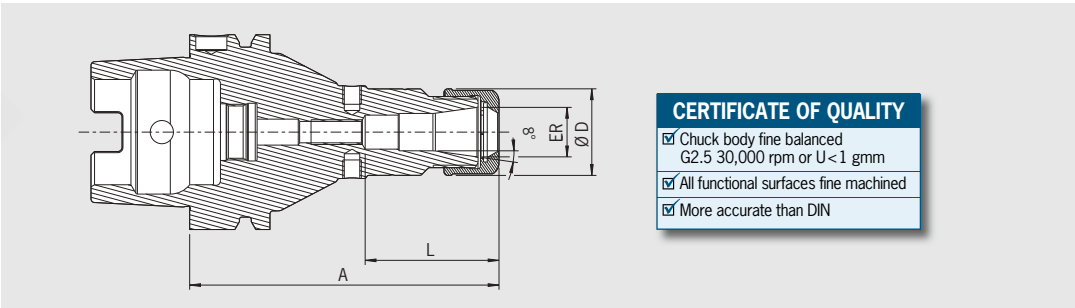
Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 760–767
Coolant tube				See page 793
Order No.	**85.700.63**			

1) Without thread for back-up screw

HIGH PRECISION COLLET CHUCK
DIN 69893-1 · HSK-A63





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 30,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools.

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

INCH	ER	16	25	32
	Ø D [inch]	1.1	1.65	1.97
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	L [inch] ultra short	1.12	1.41	1.65
Gage length A [inch]	ultra short	2.95	2.95	2.95
Order No.	**A63.025...**	**.16.3.HP**[1)]	**.25.3.HP**[1)]	**.32.3.HP**[1)]
	L [inch]	1.69	2.01	2.09
Gage length A [inch]	short	3.94	3.94	3.94
Order No.	**A63.020...**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	oversize	6.30	6.30	6.30
Order No.	**A63.022...**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

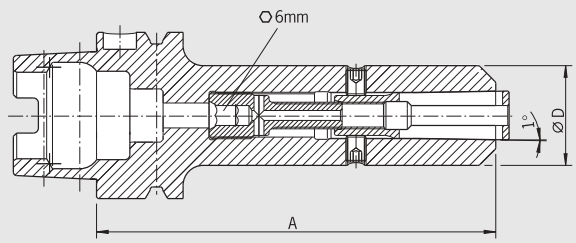
Accessories

High Precision Smooth Locknut (fine-balanced)					See page 779
Size		ER 16	ER 25	ER 32	
Order No.	**83.914...**	**.16.1**	**.25.1**	**.32.1**	
Roller bearing wrench					See page 782
Order No.	**84.650...**	**.16.1**	**.25.1**	**.32.1**	
Collets ER					See pages 768–773
Shrink Fit Collets					See pages 759–767
Power Collets					See page 775
Power Collets with Safe-Lock					See page 776
Cool Jet bores for Power Collets					See page 777
Order No.	**91.100.27**				
Coolant tube					See page 793
Order No.	**85.700.63**				

1) With back-up screw

HIGH-PRECISION CHUCK
DIN 69893-1 · HSK-A63

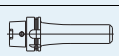
CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For high-precision clamping of tools with cylindrical shank, also with clamping flats. Very useful for High Speed machining.

– Included in delivery: High-Precision Chuck with clamping screw and pull-out hook, without collet, without coolant tube
– Shank tolerance h6
– Optional: Cool Jet bores on HG Collets from diam. 1/4" (6 mm)
– Extensions for High-Precision Chuck available

METRIC	HG		01						02			03		
	Ø D [mm]		30						35			48		
	Clamping diameter		2	3	4	5	6	8	10	12	14	16	18	20
Length A [mm]	short		120						120			120		
Order No.	**A63.120...**		**.01**						**.02**			**.03**		
Length A [mm]	oversize		160						160			160		
Order No.	**A63.122...**		**.01**						**.02**			**.03**		

Accessories

Clamping screw 

Collets HG INCH See page 783

HG 01 Ø D [inch]			Ø 1/8	Ø 3/16	Ø 1/4	Ø 5/16								
Order No.	**82.510...**		**.1/8Z**	**.3/16Z**	**.1/4Z**	**.5/16Z**								
HG 02 Ø D [inch]								Ø 3/8	Ø 7/16	Ø 1/2	Ø 9/16			
Order No.	**82.520...**							**.3/8Z**	**.7/16Z**	**.1/2Z**	**.9/16Z**			
HG 03 Ø D [inch]												Ø 5/8	Ø 3/4	
Order No.	**82.530...**											**.5/8Z**	**.3/4Z**	

Collets HG METRIC See page 783

HG 01 Ø D [mm]			Ø 02	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	—	—	—	—	—	—
Order No.	**82.510...**		**.02**	**.03**	**.04**	**.05**	**.06**	**.08**						
HG 02 Ø D [mm]			—	—	—	—	—	—	Ø 10	Ø 12	Ø 14	—	—	—
Order No.	**82.520...**								**.10**	**.12**	**.14**			
HG 03 Ø D [mm]			—	—	—	—	—	—	—	—	—	Ø 16	Ø 18	Ø 20
Order No.	**82.530...**											**.16**	**.18**	**.20**

Pull-out hook

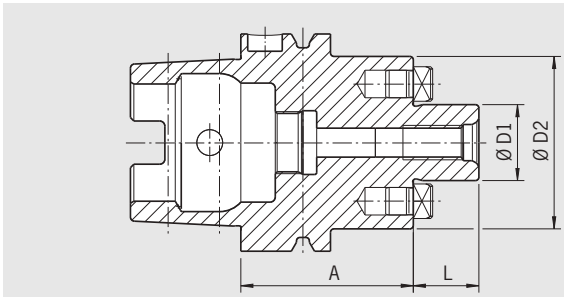
HG			HG 01	HG 02	HG 03
Order No.	**82.570...**		**.00**	**.00**	**.00**

Balancing index rings

HG			HG 01	HG 02	HG 03
Order No.	**79.350...**		**.30**	**.35**	**.48**

FACE MILL ARBOR
DIN 69893-1 · HSK-A63





CERTIFICATE OF QUALITY

- ☑ Chuck fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Use:

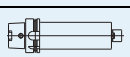
For clamping face mill cutters.

Metric version: With coolant exit bores on the end face for milling cutters with central cooling

– Included in delivery: tightening bolt, without coolant tube

– Inch sizes: Coolant bores on front side for an extra charge

INCH	Clamping Ø D1 [inch]		3/4	1	1 1/4	1 1/2
	L [inch]		0.70	0.70	0.70	0.94
	Ø D2 [inch]		1.67	1.67	1.67	3.78
Gage length A [inch]	short		1.97	2.36	2.36	2.36
Order No.	**A63.050...**		**.3/4Z**	**.1Z**	**.1 1/4Z**	**.1 1/2Z**
Gage length A [inch]	long		3.94	3.94	3.94	3.94
Order No.	**A63.051...**		**.3/4Z**	**.1Z**	**.1 1/4Z**	**.1 1/2Z**
Gage length A [inch]	oversize		6.30	6.30	—	—
Order No.	**A63.052...**		**.3/4Z**	**.1Z**		

METRIC	Clamping Ø D1 [mm]		16	22	27	32	40
	Ø D2 [mm]		36	48	60	78	87
	L [mm]		17	19	21	24	27
Length A [mm]	short		50	50	60	60	60
Order No.	**A63.050...**		**.16.KKB**	**.22.KKB**	**.27.KKB**	**.32.KKB**	**.40.KKB**
Length A [mm]	long		—	100	100	100	100
Order No.	**A63.051...**			**.22.KKB**	**.27.KKB**	**.32.KKB**	**.40.KKB**
Length A [mm]	oversize		—	160	160	160	—
Order No.	**A63.052...**			**.22.KKB**	**.27.KKB**	**.32.KKB**	

Accessories

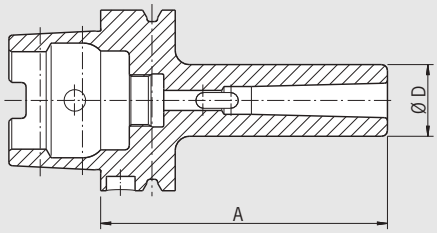
Clamping Screw						
Ø D1 [inch]			3/4	1	1 1/4	1 1/2
Order No.	**85.300...**		**.3/4Z**	**.1Z**	**.11/4Z**	**.11/2Z**
Wrench						
Ø D1 [inch]			3/4	1	1 1/4	1 1/2
Order No.	**84.400...**		**.3/4Z**	**.1Z**	**.11/4Z**	**.11/2Z**
Balancing index ring						
Ø D1 [inch]			3/4	1	—	—
Order No.	**79.350...**		**.1.71Z**	**.55**		
Coolant tube						
Ø D1 [inch]			3/4	1	1 1/4	1 1/2
Order No.	**85.700...**		**.63**	**.63**	**.63**	**.63**
Coolant bores						
Order No.	**91.100.03**					

Accessories

Tightening bolt							
Size D1			16	22	27	32	40
Order No.	**85.300...**		**.16**	**.22**	**.27**	**.32**	**.40**
Wrench							
Size D1			16	22	27	32	40
Order No.	**84.400...**		**.16**	**.22**	**.27**	**.32**	**.40**
Balancing index rings							
Size D1			16	22	27	32	40
Order No.	**79.350...**		**.36**	**.48**	**.60**	**.78**	**.87**

ADAPTER FOR MORSE TAPER WITH TANG
DIN 69893-1 · HSK-A63

CERTIFICATE OF QUALITY
- ☑ Chuck balanced G6.3 8,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For holding tools with morse taper and tang according to DIN 228-1 form AF.

– Fine-balancing for an extra charge

METRIC	MK	01	02	03	04
	Ø D [mm]	25	32	40	48
Gage Length A [mm]	short	100	120	140	160
Order No.	**A63.080...**	**.01**	**.02**	**.03**	**.04**

Accessories

Balancing index rings

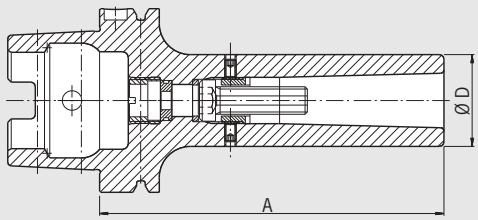
MK		01	02	03	04
Order No.	**79.350...**	**.25**	**.32**	**.40**	**.48**

Coolant tube See page 793

Order No. **85.700.63**

ADAPTER FOR MORSE TAPER WITH THREAD
DIN 69893-1 · HSK-A63





CERTIFICATE OF QUALITY

- ☑ Chuck balanced G6.3 8,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Use:
For holding tools with morse taper with thread according to DIN 228-1 form A.

– Fine-balancing for an extra charge
– Delivery with tightening bolt without coolant tube

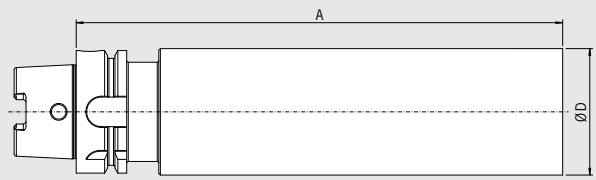
METRIC	MK	02	03	04
	Ø D [mm]	32	40	48
Gage Length A [mm]	short	120	140	160
Order No.	**A63.130...**	**.02**	**.03**	**.04**

Accessories

Balancing index rings				
MK		02	03	04
Order No.	**79.350...**	**.32**	**.40**	**.48**
Coolant tube				
Order No.	**85.700.63**			

BLANK ADAPTER
DIN 69893-1 · HSK-A63

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





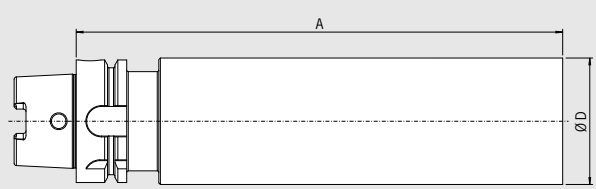
Use:
For manufacturing special tools in your own factory.

Design:
HSK is hardened and ground, the cylindrical part is soft.

METRIC	Ø D [mm]	64
Gage Length A [mm]	ZG250	250
Order No.	**A63.090...**	**.64**

BLANK ADAPTER – HARDENED
DIN 69893-1 · HSK-A63

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





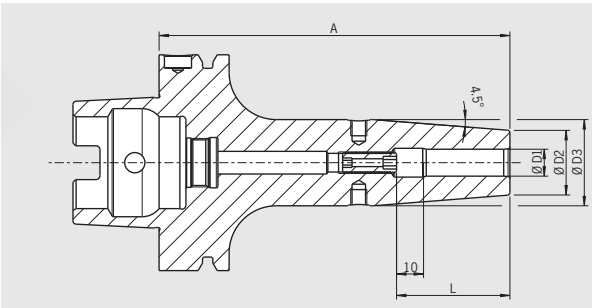
Use:
For manufacturing special tools in your own factory.

Version:
– HSK hardened and ground
– Cylindrical part hardened to 52+2 HRC

METRIC	Ø D [mm]	65
Gage Length A [mm]	ZG100	100
Order No.	**RA63.096.0650...**	**.0100**
Gage Length A [mm]	ZG250	250
Order No.	**RA63.096.0650...**	**.0250**

STANDARD SHRINK FIT CHUCK
SIMILAR DIN 69893-1 · HSK-A63/80 (TAPER A63/FLANGE 80MM)





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 33,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Use:
Suitable for all shrinking units.

DIN 69893-1
– With threaded holes in order to balance with balancing screws
– Included in delivery: Shrink fit chuck with back-up screw, without coolant tube
– Heat resistant hot-working steel
– Hardened 54 – 2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– Incl. pocket for data chip
– Cooling systems Cool Jet and Cool Flash available on request

Standard version, similar to DIN 69882-8

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8
	Ø D2 [inch]	0.83	0.83	0.94	0.94	1.06
	Ø D3 [inch]	1.06	1.06	1.26	1.26	1.34
	L [inch]	1.42	1.42	1.65	1.85	1.97
Length A [inch]	ZG130	5	5	5	5	5
Order No.	**A63/80.144...**	**.1/4z.i**	**.5/16z.i**	**.3/8z.i**	**.1/2z.i**	**5/8z.i**

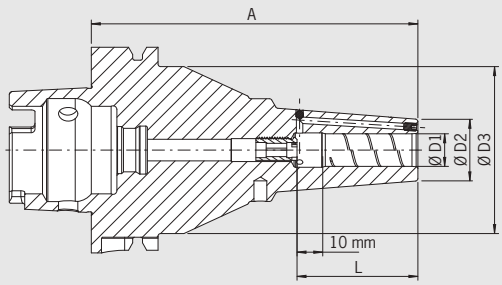
METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	18
	Ø D2 [mm]	21	21	24	24	27	27	33
	Ø D3 [mm]	27	27	32	32	34	34	42
	L [mm]	36	36	42	47	47	50	50
Length A [mm]	ZG130	130	130	130	130	130	130	130
Order No.	**A63/80.144...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**

Accessories

Shrink fit extensions		See pages 750 – 753
Balancing screws	**Order No. 80.203.00**	See page 784
Cool Jet bores	**Order No. 91.100.24**	See page 501
Cool Flash Upgrade incl. Cool Jet	**Order No. 91.100.41**	See pages 502 – 503
Balluff-Chip BIS-C-122-04/L	**Order No. 909009-0002**	
Data-Lock mechanical data carrier locking system	**Order No. 91.100.06**	See page 504
Coolant tube	**Order No. 85.700.63**	See page 793
Reduction sleeves		See page 794
Back-up screws		See pages 796 – 799
Cooling grooves on request		

POWER SHRINK CHUCK
SIMILAR DIN 69893-1 · HSK-A63/80 (TAPER A63/FLANGE 80MM)
INCH

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 33,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy
– Heat resistant hot-working steel
– Hardened 54–2 HRC

Delivery includes:
– Cool Jet bores (sealed)
– With threaded holes in order to balance with balancing screws
– Incl. pocket for data chip
– With thread for coolant tube

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8	3/4	1
	Ø D2 [inch]	0.87	0.87	1.04	1.04	1.16	1.40	1.81
	L [inch] extra ultra short	—	—	—	—	—	1.71	1.85
Length A [inch]	extra ultra short						2.75	2.75
Order No.	**A63/80.145...**						**.3/4z.5.i**	**.1z.5.i**
	Ø D2 [inch]	0.87	0.87	1.04	1.04	1.16	1.40	1.77
	L [inch] ultra short	1.50	1.50	1.69	1.81	1.93	1.93	2.24
Length A [inch]	ultra short	3	3	3	3	3	3	3
Order No.	**A63/80.145...**	**.1/4z.3.i**	**.5/16z.3i**	**.3/8z.3.i**	**.1/2z.3.i**	**.5/8z.3.i**	**.3/4z.3.i**	**.1z.3.i**
Length A [inch]	short							3.5
Order No.	**A63/80.140...**							**.1z.3.i**

Length A = ZG130

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	1/2	5/8
	Ø D2 [inch]	0.83	0.83	0.94	0.94	1.06
	Ø D2 [inch]	2.56	2.56	2.56	2.56	2.56
	L [inch]	1.42	1.42	1.65	1.85	1.97
Length A [inch]	ZG130	5[1)]	5[1)]	5[1)]	5[1)]	5[1)]
Order No.	**A63/80.144...**	**.1/4z.3.i**	**.5/16z.3.i**	**.3/8z.3.i**	**.1/2z.3.i**	**.5/8z.3.i**

Accessories

Shrink fit extensions		See page 750
Balancing screws	**Order No. 80.203.00**	See page 784
Cool Flash	**Order No. 91.100.40**	See pages 502–503
Balluff-Chip BIS-C-122-04/L	**Order No. 909009-0002**	
Data-Lock mechanical data carrier locking system	**Order No. 91.100.06**	See page 504
Coolant tube	**Order No. 85.700.63**	See page 793

Cooling adapters for extra ultra short holders

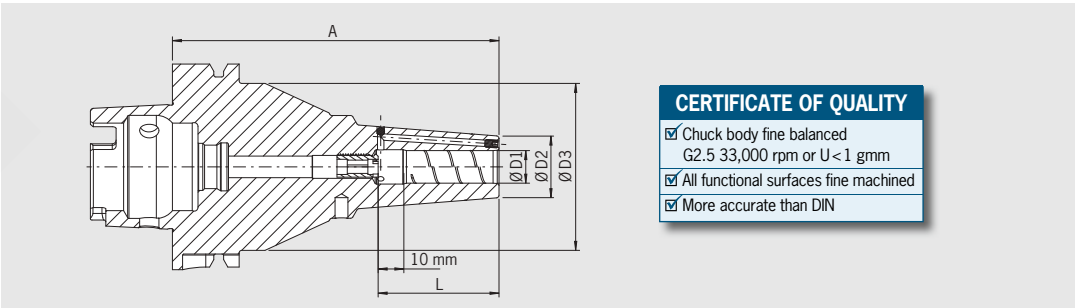
Size		Ø 20	Ø 25
Order No.	**80.105...**	**.16.0045**	**.18.0011**

Cooling grooves on request

1) With back-up screw

POWER SHRINK CHUCK WITH SAFE-ΛOCK®
SIMILAR DIN 69893-1 · HSK-A63/80 (TAPER A63/FLANGE 80MM)
INCH





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 33,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy
– Heat resistant hot-working steel
– Hardened 54 – 2 HRC

Delivery includes:
– Safe-Lock pull-out protection
– Cool Jet bores (sealed)
– With threaded holes in order to balance with balancing screws
– Incl. pocket for data chip
– With thread for coolant tube

INCH	Clamping Ø D1 [inch]	1/2	5/8	3/4	1
	Ø D2 [inch] extra ultra short	—	—	1.40	1.77
	L [inch] extra ultra short	—	—	1.93	2.24
Length A [inch]	extra ultra short	—	—	2.75	2.75
Order No.	**A63/80.145...**			**.3/4z.57.i**	**.1z.57.i**
	Ø D2 [inch]	1.04	1.16	1.40	1.77
	L [inch]	1.81	1.93	1.93	2.24
Length A [inch]	ultra short	3	3	3	3
Order No.	**A63/80.145...**	**.1/2z.37.i**	**.5/8z.37.i**	**.3/4z.37.i**	**.1z.37.i**
Length A [inch]	short	—	—	—	3.5
Order No.	**A63/80.140...**				**.1z.37.i**

Length A = ZG130

INCH	Clamping Ø D1 [inch]	1/2	5/8
	Ø D2 [inch]	0.94	1.06
	Ø D3 [inch]	2.56	2.56
	L [inch]	1.85	1.97
Length A [inch]	ZG130	5[1)]	5[1)]
Order No.	**A63/80.144...**	**.1/2z.37.i**	**.5/8z.37.i**

Accessories

Shrink fit extensions		See page 750
Balancing screws	**Order No. 80.203.00**	See page 784
Cool Flash	**Order No. 91.100.40**	See pages 502–503
Balluff-Chip BIS-C-122-04/L	**Order No. 909009-0002**	
Data-Lock mechanical data carrier locking system	**Order No. 91.100.06**	See page 504
Coolant tube	**Order No. 85.700.63**	See page 793

Cooling adapters for extra ultra short holders

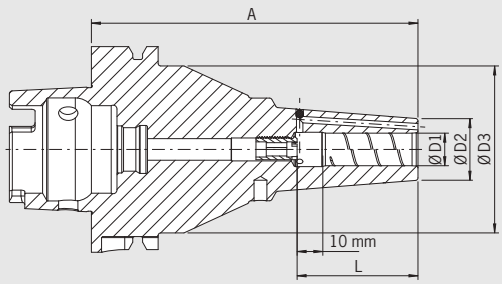
Size		Ø 20	Ø 25
Order No.	**80.105...**	**.16.0045**	**.18.0011**

Cooling grooves on request

1) With back-up screw

POWER SHRINK CHUCK
SIMILAR DIN 69893-1 · HSK-A63/80 (TAPER A63/FLANGE 80MM)
METRIC

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 33,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy
– Heat resistant hot-working steel
– Hardened 54–2 HRC

Delivery includes:
– Cool Jet bores (sealed)
– With threaded holes in order to balance with balancing screws
– Incl. pocket for data chip
– With thread for coolant tube

METRIC	Clamping Ø D1 [mm]	06	08	10	12	16	20	25	32
	Ø D2 [mm] extra ultra short	22	22	27	26.5	29.5	35.5	46	—
	L [mm] extra ultra short	—	—	41	—	—	43.5	47	—
Length A [mm]	extra ultra short			65			70[2]	70[3]	
Order No.	**A63/80.145...**			**.10.5**			**.20.5**	**.25.5**	
	Ø D2 [mm]	22	22	26.5	26.5	29.5	35.5	45	45
	L [mm]	38	38	43	46	49	49	57	59
Length A [mm]	ultra short	70	70	70	70	75	75	80[3]	—
Order No.	**A63/80.145...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.16.3**	**.20.3**	**.25.3**	
Length A [mm]	short							90	90
Order No.	**A63/80.140...**							**.25.3**	**.32.3**

Length A = ZG130

METRIC	Clamping Ø D1 [mm]	06	08	10	12	16
	Ø D2 [mm]	21	21	24	24	27
	Ø D3 [mm]	65	65	65	65	65
	L [mm]	36	36	42	47	50
Length A [mm]	ZG130	130	130	130	130	130
Order No.	**A63/80.144...**	**.06.3**[1]	**.08.3**[1]	**.10.3**[1]	**.12.3**[1]	**.16.3**[1]

Accessories

Shrink fit extensions			See pages 751–753
Balancing screws		**Order No. 80.203.00**	See page 784
Cool Flash		**Order No. 91.100.40**	See pages 502–503
Balluff-Chip BIS-C-122-04/L		**Order No. 909009-0002**	
Data-Lock mechanical data carrier locking system		**Order No. 91.100.06**	See page 504
Coolant tube		**Order No. 85.700.63**	See page 793

Cooling adapters for extra ultra short holders

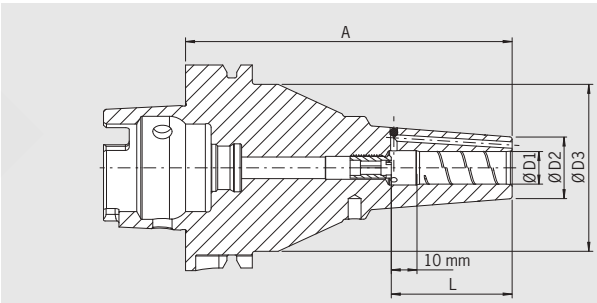
Size		Ø 20	Ø 25
Order No.	**80.105...**	**.16.0045**	**.18.0011**

Cooling grooves on request

1) With back-up screw
2) Cooling adapter for Ø 20 mm
3) Cooling adapter for Ø 25 mm

POWER SHRINK CHUCK WITH SAFE-ΛOCK®
SIMILAR DIN 69893-1 · HSK-A63/80 (TAPER A63/FLANGE 80MM)
METRIC





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 33,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy
– Heat resistant hot-working steel
– Hardened 54 – 2 HRC

Delivery includes:
– Safe-Lock pull-out protection
– Cool Jet bores (sealed)
– With threaded holes in order to balance with balancing screws
– Incl. pocket for data chip
– With thread for coolant tube

METRIC	Clamping Ø D1 [mm]	08	10	12	16	20	25
	Ø D2 [mm] extra ultra short	—	—	—	—	35.5	46
	L [mm] extra ultra short	—	—	—	—	43.5	47
Length A [mm]	extra ultra short					70[2]	70[3]
Order No.	**A63/80.145...**					**.20.57**	**.25.57**
	Ø D2 [mm]	22	26.5	26.5	29.5	35.5	45
	L [mm]	38	43	46	49	49	57
Length A [mm]	ultra short	70	70	70	75	75	80[3]
Order No.	**A63/80.145...**	**.08.37**	**.10.37**	**.12.37**	**.16.37**	**.20.37**	**.25.37**
Length A [mm]	short						90
Order No.	**A63/80.140...**						**.25.37**

Length A = ZG130

METRIC	Clamping Ø D1 [mm]	12	16
	Ø D2 [mm]	24	27
	Ø D3 [mm]	65	65
	L [mm]	47	50
Length A [mm]	ZG130	130[1]	130[1]
Order No.	**A63/80.144...**	**.12.37**	**.16.37**

Accessories

Shrink fit extensions		See pages 751 – 753
Balancing screws		See page 784
Cool Flash	**Order No. 91.100.40**	
Balluff-Chip BIS-C-122-04/L	**Order No. 909009-0002**	
Data-Lock mechanical data carrier locking system	**Order No. 91.100.06**	See page 504
Coolant tube	**Order No. 85.700.63**	See page 793

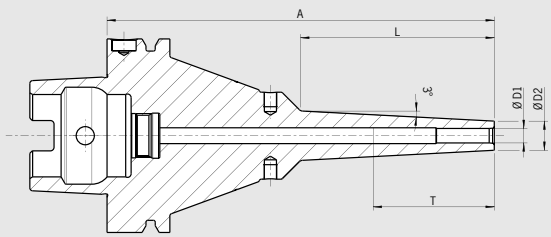
Cooling adapters for extra ultra short holders

Size	[2] Ø 20	[3] Ø 25
Order No. 80.105...	**.16.0045**	**.18.0011**

1) With back-up screw
2) Cooling adapter for Ø 20 mm
3) Cooling adapter for Ø 25 mm

POWER MINI SHRINK
SIMILAR DIN 69893-1 · HSK-A63/80 (TAPER A63/FLANGE 80MM)

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 33,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Power Mini Shrink Chuck is perfect for 5-axis machining of parts that are difficult to access. Very slim at the top like the HAIMER Mini Shrink Chucks, the Power Mini Shrink is reinforced at the base. This allows for efficient milling with an angled tool, even at long protruding lengths.

- 3 mm wall thickness
- 3° angle at the top
- With threaded holes in order to balance with balancing screws
- For solid carbide tools with shank tolerance h6
- Incl. pocket for data chip
- Heat resistant hot-working steel
- Hardened 54–2 HRC

Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

INCH	Clamping Ø D1 [inch]	1/8	1/4	5/16	3/8	1/2
	Ø D2 [inch]	0.35	0.47	0.55	0.63	0.71
	T [inch]	—	—	—	2.68	2.95
	L [inch]	3.15	3.15	3.15	3.15	3.15
Length A [inch]	oversize	6.5	6.5	6.5	6.5	6.5
Order No.	**A63/80.182...**	**.1/8z.8.i**	**.1/4z.8.i**	**.5/16z.8.i**	**.3/8z.8.i**	**.1/2z.8.i**

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12
	Ø D2 [mm]	09	10	11	12	14	16	18
	T [mm]	—	—	—	—	—	68	75
	L [mm]	80	80	80	80	80	80	80
Length A [mm]	oversize	160	160	160	160	160	160	160
Order No.	**A63/80.182...**	**.03.8**	**.04.8**	**.05.8**	**.06.8**	**.08.8**	**.10.8**	**.12.8**

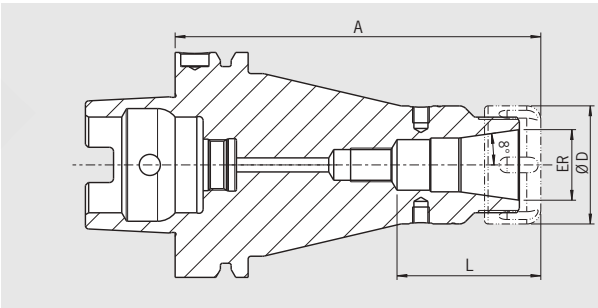
Mini Shrink shrink and cooling sleeve
- Protect Mini Shrink chucks from overheating
- Extend lifetime of shrink fit chucks
- Secure and user friendly handling
- Cooling with standard cooling body



Fitting sleeves for Mini Shrink chucks							Order No.
Size [mm]		Ø 03	Ø 06	Ø 08	Ø 10	Ø 12	
Size [inch]		Ø 1/8	Ø 1/4	Ø 5/16	Ø 3/8	Ø 1/2	
Order No.	**80.105.14.2...**	**.04**	**.09**	**.10**	**.11**	**.12**	
Base							**80.105.14.2.99**
Set with base (12 pcs., diameter 3 – 12 mm)							**80.105.14.2.00**

POWER COLLET CHUCK
SIMILAR DIN 69893-1 · HSK-A63/80 (TAPER A63/FLANGE 80MM)





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 33,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488
(Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, high clamping force
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Incl. pocket for data chip
– Optional: Cool Jet bores on Power Collets from ER 25, Ø 6 mm
– Program of Power Collets on pages 774 – 777

INCH	ER	16	25	32
	Ø D [inch]	1.10	1.65	1.97
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]	1.69	1.97	1.87
Length A [inch]	ultra short	2.95	2.95	2.95
Order No.	**A63/80.025...**	**.16.3**	**.25.3**	**.32.3**
Length A [inch]	ZG130	5.12	5.12	5.12
Order No.	**A63/80.024...**	**.16.3**	**.25.3**	**.32.3**

Accessories

Locknut (fine-balanced) — See page 779

Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**

Power Collet clamping wrench — See page 781

Torque Master torque wrench — See page 780
Order No. **84.600.00**

Power Collets — See page 775

Power Collets with Safe-Lock — See page 776

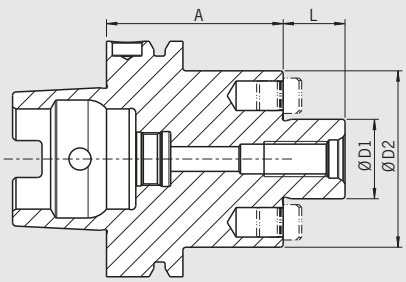
Cool Jet bores for Power Collets — See page 777
Order No. **91.100.27**

Shrink Fit Collets — See pages 759–767

Coolant tube — See page 793
Order No. **85.700.63**

FACE MILL ARBOR
SIMILAR DIN 69893-1 · HSK-A63/80 (TAPER A63/FLANGE 80MM)

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 33,000 rpm or U< 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For holding face mill cutters and cutters with radial driving slot DIN 1880 and exceeding clamping diameter 40 clamping according to DIN 2079 is possible, too (4 additional tapped holes).

DIN 69882-3
– Included in delivery: tightening bolt, without coolant tube
– INCH Version: With coolant exit bores on the end face for milling cutters with central cooling
– METRIC Version: Coolant exit bores optional

INCH	Clamping Ø D1 [inch]		3/4	1
	Ø D2 [inch]		1.71	2.17
	L [inch]		0.67	0.67
Length A [inch]	short		1.97	2.36
Order No.	**A63/80.050...**		**.3/4z.i**	**.1z.i**

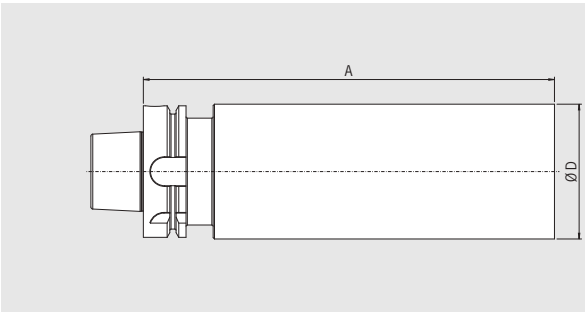
METRIC	Clamping Ø D1 [mm]		22	27
	Ø D2 [mm]		48	60
	L [mm]		19	21
Length A [mm]	short		50	60
Order No.	**A63/80.050...**		**.22**	**.27**

Accessories				
Tightening bolt				
Size D1			22	27
Order No.	**85.300...**		**.22**	**.27**
Wrench				
Size D1			22	27
Order No.	**84.400...**		**.22**	**.27**
Balancing index rings				
Size D1			22	27
Order No.	**79.350...**		**.50**	**.60**

Accessories			
Cool Jet bores		**Order No. 91.100.24**	See page 501

BLANK ADAPTER – HARDENED
SIMILAR DIN 69893-1 · HSK-A63/80 (TAPER A63/FLANGE 80MM)





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

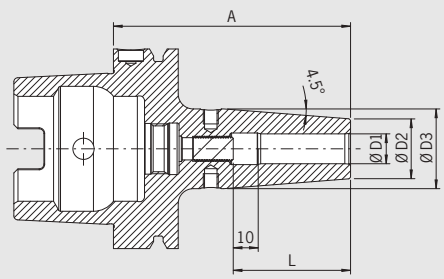
Use:
For manufacturing special tools in your own factory.

Version:
– HSK hardened and ground
– Cylindrical part hardened to 52+2 HRC

METRIC	Ø D [mm]	82
Gage Length A [mm]	ZG250	250
Order No.	**RA63/80.096.0820...**	**.0250**

SHRINK FIT CHUCK
DIN 69893-1 · HSK-A80

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
Shrink fit chuck suitable for use with all available shrink fit units.

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws
– Included in delivery: Shrink fit chuck with backup screw, without coolant tube

Optional:
– Cooling with Cool Jet for an extra charge (See page 501)
– Cooling with Cool Flash for an extra charge (See pages 502–503)

Standard version, similar to DIN 69882-8

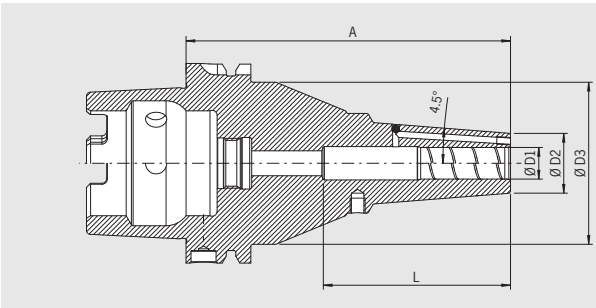
METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	27	27	32	32	34	34	42	42	53	53
	L [mm]	36	36	42	47	47	50	50	52	58	58
Length A [mm]	short	85	85	90	95	95	100	100	105	115	120
Order No.	**A80.140...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**

Accessories

Shrink fit extensions			See pages 751–753
Balancing screws			See page 784
Coolant tube		**Order No. 85.700.80**	See page 793
Reduction sleeves			See page 794
Back-up screws			See pages 796–799
Cool Jet bores		**Order No. 91.100.24**	See page 501
Cool Flash		**Order No. 91.100.40**	See pages 502–503

POWER SHRINK CHUCK
DIN 69893-1 · HSK-A80





CERTIFICATE OF QUALITY

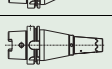
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

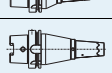
The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– Higher machining accuracy
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

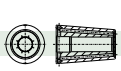
The long versions with slim tips are especially versatile to use.
– High rigidity
– Slim at the tip
– Dampen vibrations
– Higher clamping forces
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine

Optional:
– Cooling with Cool Flash from for an extra charge (See pages 502–503)
– Safe-Lock pull out protection

INCH	Clamping Ø D1 [inch]	½	¾
	Ø D2 [inch]	0.944	1.299
	Ø D3 [inch] short	2.598	2.598
	Ø D3 [inch] ZG130/oversize	2.559	2.559
	L [inch] short	2.795	2.716
	L [inch] ZG130	2.952	3.779
	L [inch] oversize	2.952	3.976
Gage length A [inch]	short 	3.94	3.94
Order No.	**A80.149...**	**.1/2z.3.2140**	**.3/4z.3.2140**
Gage length A [inch]	ZG130 	5.12	5.12
Order No.	**A80.149...**	**.1/2z.3.2144**	**.3/4z.3.2144**
Gage length A [inch]	oversize 	6.3	6.3
Order No.	**A80.149...**	**.1/2z.3.2142**	**.3/4z.3.2142**

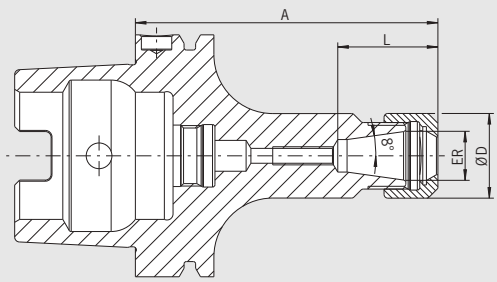
METRIC	Clamping Ø D1 [mm]	08	10	12	16	20
	Ø D2 [mm]	21	24	24	27	33
	Ø D3 [mm] short	66	66	66	66	66
	Ø D3 [mm] ZG130/oversize	65	65	65	65	65
	L [mm] short	—	68	71	70	69
	L [mm] ZG130	—	70	75	75	96
	L [mm] oversize	—	70	75	75	101
Gage length A [mm]	short 	100	100	100	100	100
Order No.	**A80.149...**	**.08.3.2140**	**.10.3.2140**	**.12.3.2140**	**.16.3.2140**	**.20.3.2140**
Gage length A [mm]	ZG130 	130	130	130	130	130
Order No.	**A80.149...**	**.08.3.2144**	**.10.3.2144**	**.12.3.2144**	**.16.3.2144**	**.20.3.2144**
Gage length A [mm]	oversize 	160	160	160	160	160
Order No.	**A80.149...**	**.08.3.2142**	**.10.3.2142**	**.12.3.2142**	**.16.3.2142**	**.20.3.2142**

Accessories

Cool Flash		**Order No. 91.100.40**	See pages 502–503

ER COLLET CHUCK
DIN 69893-1 · HSK-A80

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For clamping tools with cylindrical shank in ER collets according to ISO 15488.

– Included in delivery: locknut (balanced, with slide coating for higher clamping forces); without coolant tube
– Locknut type HS (High Speed, fine balanced, with slide coating for higher clamping forces) for an extra charge
– Increasing size L possible upon request

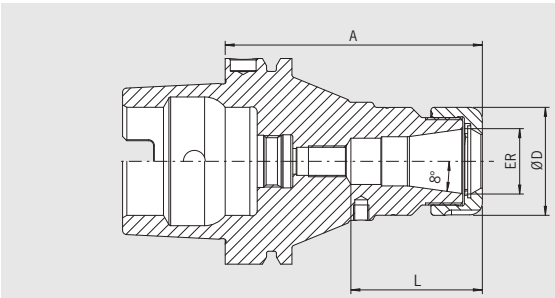
INCH	Ø ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		0.02–0.39	0.04–0.63	0.59–0.79
	Clamping range [mm]		0.5–10.0	1.0–16.0	1.5–20.0
	L [inch]		1.26	1.62	1.85
Gage length A [inch]	short		3.94	3.94	3.94
Order No.	**A80.020...**		**.16**	**.25**	**.32**

Accessories

Collets ER					See pages 768–773
Shrink Fit Collets					See pages 759–767
Locknut (pre-balanced)					
Size			ER 16	ER 25	ER 32
Order No.	**83.912...**		**.16**	**.25**	**.32**
Chuck nut HS (fine-balanced)					
Size			ER 16	ER 25	ER 32
Order No.	**83.912...**		**.16.HS**	**.25.HS**	**.32.HS**
Fork wrench					
Size			ER 16	—	—
Order No.	**84.200...**		**.16**		
Clamping wrench					
Size			—	ER 25	ER 32
Order No.	**84.200...**			**.25**	**.32**
Balancing index rings					
Size	long/oversize		ER 16	ER 25	ER 32
Order No.	**79.350...**		**.28**	**.42**	**.48**
Adjusting screw					
Size			ER 16	ER 25	ER 32
Order No.	**85.800...**		**.34**	**.34**	**.35**
Coolant tube					
Order No.	**85.700.80**				
Shrink fit extensions					See pages 751–753

POWER COLLET CHUCK
DIN 69893-1 · HSK-A80



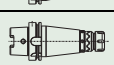


CERTIFICATE OF QUALITY

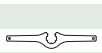
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool.
The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488
(Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

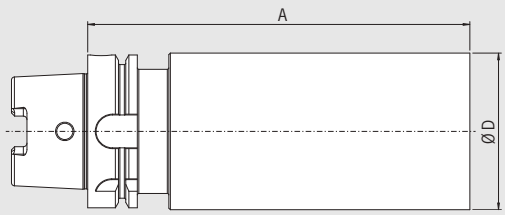
INCH	ER		25	32
	Ø D1 [inch]		1.653	1.968
	Clamping range [inch]		1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–16.0	2.0–20.0
	L [inch] short		2.755	2.716
	L [inch] ZG130		3.248	3.543
	L [inch] oversize		3.248	3.858
Gage length A [inch]	short		3.94	3.94
Order No.	**A80.029...**		**.25.3.2021**	**.32.3.2021**
Gage length A [inch]	ZG130		5.12	5.12
Order No.	**A80.029...**		**.25.3.2024**	**.32.3.2024**
Gage length A [inch]	oversize		6.3	6.3
Order No.	**A80.029...**		**.25.3.2022**	**.32.3.2022**

Accessories

Locknut (fine-balanced)				See page 779
Size			ER 25	ER 32
Order No.	**83.914...**		**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 774
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 763–766
Coolant tube				See page 793
Order No.	**85.700.80**			

BLANK ADAPTER – HARDENED
DIN 69893-1 · HSK-A80

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





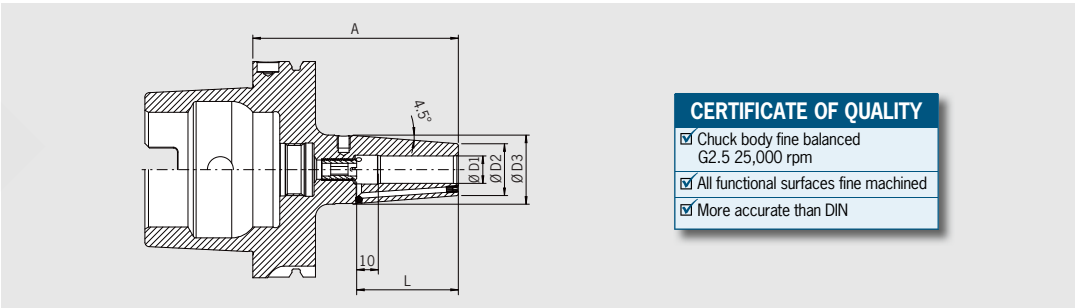
Use:
For manufacturing special tools in your own factory.

Version:
– HSK hardened and ground
– Cylindrical part hardened to 52+2 HRC

METRIC	Ø D [mm]	82
Gage Length A [mm]	ZG100	100
Order No.	**RA80.096.0820...**	**.0100**
Gage Length A [mm]	ZG200	200
Order No.	**RA80.096.0820...**	**.0200**
Gage Length A [mm]	ZG300	300
Order No.	**RA80.096.0820...**	**.0300**

SHRINK FIT CHUCK
DIN 69893-1 · HSK-A100





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Use:
Shrink fit chuck suitable for use with all available shrink fit units.

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws
– Inch sizes with Cool Jet, metric sizes with Cool Jet optional
– Included in delivery: Back-up screw, without coolant tube

Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	1 1/4
	Ø D2 [inch]	0.83	0.83	0.94	0.94	0.94	1.06	1.30	1.73	1.73
	Ø D3 [inch]	1.06	1.06	1.26	1.26	1.26	1.34	1.65	2.09	2.09
	L [inch]	1.42	1.42	1.65	1.65	1.85	1.97	2.05	2.28	2.28
Gage length A [inch]	short	3.35	3.35	3.54	3.54	3.74	3.94	4.13	4.53	4.72
Order No.	**A10.140...**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	ZG130	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12
Order No.	**A10.144...**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	oversize	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Order No.	**A10.142...**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.1Z.4**	**.1 1/4Z.4**
Gage length A [inch]	ZG200	7.87		7.87		7.87	7.87	7.87	7.87	7.87
Order No.	**A10.146...**	**.1/4Z.4**	—	**.3/8Z.4**	—	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.1Z.4**	**.1 1/4Z.4**

Standard version, similar to DIN 69882-8

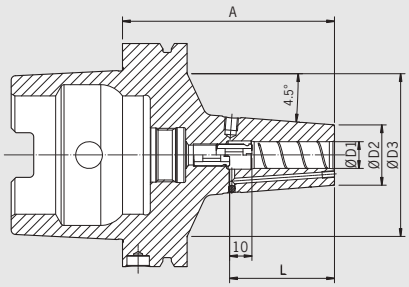
METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	27	27	32	32	34	34	42	42	53	53
	L [mm]	36	36	42	47	47	50	50	52	58	58
Gage length A [mm]	short	85	85	90	95	95	100	100	105	115	120
Order No.	**A10.140...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Gage length A [mm]	ZG120	120	120	120	120	120	120	120	120	120	
Order No.	**A10.147...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	—
Gage length A [mm]	ZG130	130	130	130	130	130	130	130	130	130	130
Order No.	**A10.144...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Gage length A [mm]	oversize	160	160	160	160	160	160	160	160	160	160
Order No.	**A10.142...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Gage length A [mm]	ZG200	200	200	200	200	200	200	200	200	200	200
Order No.	**A10.146...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**

Accessories

Shrink fit extensions			See pages 750–753
Balancing screws			See page 784
Coolant tube		**Order No. 85.700.10**	See page 793
Reduction sleeves			See page 794
Back-up screws			See pages 796–799
Cool Flash		**Order No. 91.100.40**	See pages 502–503
Cool Flash Upgrade incl. Cool Jet		**Order No. 91.100.41**	See pages 502–503

POWER SHRINK CHUCK
DIN 69893-1 · HSK-A100

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces machined
- ☑ More accurate than DIN
- ☑ Cool Jet, can be sealed





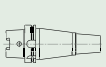
The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

The long versions (A=160 and 200) with slim tips are especially versatile to use.

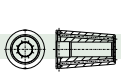
– High rigidity, slim at the tip, dampen vibrations
– High clamping forces
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine

Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]		1/4	5/16	3/8	1/2	5/8	3/4	1
	Ø D2 [inch]		0.83	0.83	1.06	1.06	1.3	1.73	1.73
	Ø D3 [inch] ultra short		2.36	2.36	2.09	2.87	3.07	3.35	3.35
	Ø D3 [inch]		3.27	3.27	3.27	3.27	3.27	3.27	3.27
	L [inch]		1.42	1.42	1.65	1.85	1.97	2.05	2.28
Gage length A [inch]	short		3.35	3.35	3.54	3.74	3.94	4.13	4.53
Standard Order No.	**A10.140...**		**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**
Safe-Lock Order No.	**A10.140...**		**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**
Gage length A [inch]	oversize		6.30	6.30	6.30	6.30	6.30	6.30	6.30
Standard Order No.	**A10.142...**		**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**
Safe-Lock Order No.	**A10.142...**		**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**
Gage length A [inch]	ZG200		7.87	7.87	7.87	7.87	7.87	7.87	7.87
Standard Order No.	**A10.146...**		**.1/4z.3**	**.5/16z.3**	**.3/8z.3**	**.1/2z.3**	**.5/8z.3**	**.3/4z.3**	**.1z.3**
Safe-Lock Order No.	**A10.146...**		**.1/4z.37**	**.5/16z.37**	**.3/8z.37**	**.1/2z.37**	**.5/8z.37**	**.3/4z.37**	**.1z.37**

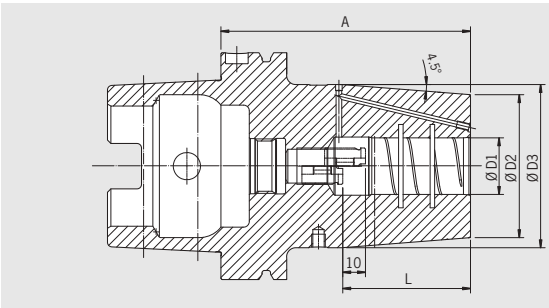
METRIC	Clamping Ø D1 [mm]		06	08	10	12	14	16	18	20	25
	Ø D2 [mm]		21	21	27	27	33	33	44	44	44
	Ø D3 [mm] ultra short		60	60	53	73	60	78	76	85	85
	Ø D3 [mm]		83	83	83	83	83	83	83	83	83
	L [mm]		36	36	42	47	47	50	50	52	58
Gage length A [mm]	short		85	85	90	95	95	100	100	105	115
Standard Order No.	**A10.140...**		**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**
Safe-Lock Order No.	**A10.140...**		**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**
Gage length A [mm]	oversize		160	160	160	160	160	160	160	160	160
Standard Order No.	**A10.142...**		**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**
Safe-Lock Order No.	**A10.142...**		**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**
Gage length A [mm]	ZG200		200	200	200	200	200	200	200	200	200
Standard Order No.	**A10.146...**		**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**
Safe-Lock Order No.	**A10.146...**		**.06.37**	**.08.37**	**.10.37**	**.12.37**	**.14.37**	**.16.37**	**.18.37**	**.20.37**	**.25.37**

Accessories

Cool Flash		**Order No. 91.100.40**	See pages 502–503

HEAVY DUTY CHUCK
DIN 69893-1 · HSK-A100





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Cool Jet, can be sealed

The Heavy Duty Chuck is a shrink fit chuck designed for extreme cases and Heavy Duty machining. The contour is optimized for highest rigidity and clamping force.

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– Smooth clamping of the tool shank
– TIR less than 0.00012" (3 µm)
– Reinforced outer contour
– To shrink with 13 kW HD coil (see page 600) or with high performance shrink fit unit HAIMER Power Clamp Profi Plus (20 kW)
– With internal groove in the clamping bore
– With threaded holes in order to balance with balancing screws
– Cool Jet coolant bores that can be sealed included

Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]	5/8	3/4	1	1 1/4	1 1/2	2
	Ø D2 [inch]	2.01	2.28	2.48	2.76	3.22	3.22
	Ø D3 [inch]	—	2.64	2.83	3.07	3.70	3.70
	L [inch]	1.97	2.05	2.28	2.4	3.46	3.46
Gage length A [inch]	short	3.94	3.94	4.33	4.33	5.51	5.51
Order No.	**A10.150...**	**.5/8z.6**	**.3/4z.6**	**.1z.6**	**.11/4z.6**	**.11/2z.6**	**.2z.6**
Safe-Lock Order No.	**A10.150...**	**.5/8z.67**	**.3/4z.67**	**.1z.67**	**.11/4z.67**	**.11/2z.67**	**.2z.67**

METRIC	Clamping Ø D1 [mm]	16	20	25	32	40	50
	Ø D2 [mm]	51	58	63	70	82	82
	Ø D3 [mm] short	—	67	72	78	94	94
	Ø D3 [mm]	85	85	85	85	94	94
	L [mm]	50	52	58	61	88	88
Gage length A [mm]	short	100	100	110	110	140	140
Order No.	**A10.150...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Safe-Lock Order No.	**A10.150...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**
Gage length A [mm]	oversize	160	160	160	160	160	160
Order No.	**A10.152...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Safe-Lock Order No.	**A10.152...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**
Gage length A [mm]	ZG200	200	200	200	200	200	200
Order No.	**A10.156...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Safe-Lock Order No.	**A10.156...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**

Heavy Duty Chuck – For 13 kW shrink fit machine

METRIC	Clamping Ø D1 [mm]	16	20
	Ø D2 [mm]	46	46
	L [mm]	51	53
Gage length A [mm]	short	100	100
Order No.	**A10.140...**	**.16.6**	**.20.6**[1)]
Safe-Lock Order No.	**A10.140...**	**.16.67**	**.20.67**[1)]

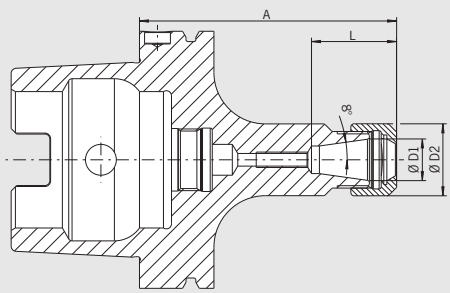
Accessories

Cool Flash		**Order No. 91.100.40**	See pages 502–503

1) Without back-up screw

ER COLLET CHUCK
DIN 69893-1 · HSK-A100

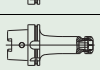
CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN



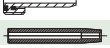


Use:
For clamping tools with cylindrical shank in collets according to ISO 15488 (formerly DIN 6499).

DIN 69882-6
Included in delivery:
– Locknut (balanced, with slide coating for higher clamping forces); without coolant tube
– Locknut Type HS (High-Speed, fine balanced, with slide coating for higher clamping forces) for an extra charge
– Enlarging of size L upon request

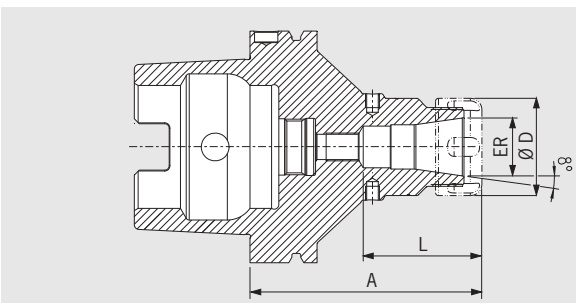
INCH	ER		16	25	32	40
	Ø D [inch]		1.1	1.65	1.97	2.48
	Clamping range [inch]		0.02–0.39	0.04–0.63	0.06–0.79	0.10–1.02
	Clamping range [mm]		0.5–10.0	1.0–16.0	1.5–16.0	2.5–26.0
	L [inch]		1.28	1.62	1.85	2.09
Gage length A [inch]	short		3.94	3.94	3.94	4.72
Order No.	**A10.020...**		**.16**	**.25**	**.32**	**.40**
Gage length A [inch]	oversize		6.30	6.30	6.30	6.30
Order No.	**A10.022...**		**.16**	**.25**	**.32**	**.40**

Accessories

Collets ER						See pages 768–773
Shrink Fit Collets						See pages 759–767
Locknut (pre-balanced)						
Size			ER 16	ER 25	ER 32	ER 40
Order No.	**83.912...**		**.16**	**.25**	**.32**	**.40**
Chuck nut HS (fine-balanced)						
Size			ER 16	ER 25	ER 32	ER 40
Order No.	**83.912...**		**.16.HS**	**.25.HS**	**.32.HS**	**.40.HS**
Fork wrench						
Size			ER 16	—	—	—
Order No.	**84.200...**		**.16**			
Clamping wrench						
Size			—	ER 25	ER 32	ER 40
Order No.	**84.200...**			**.25**	**.32**	**.40**
Balancing index rings						
Size	long/oversize		ER 16	ER 25	ER 32	ER 40
Order No.	**79.350...**		**.28**	**.42**	**.48**	**.50**
Adjusting screw						
Size			ER 16	ER 25	ER 32	ER 40
Order No.	**85.800...**		**.34**	**.34**	**.35**	**.35**
Coolant tube						
Order No.	**85.700.10**					
Shrink fit extensions						See pages 751–753

POWER COLLET CHUCK
DIN 69893-1 · HSK-A100





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

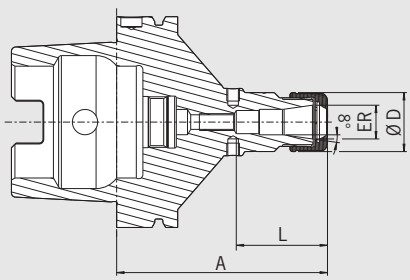
INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]		1.69	2.01	2.09
Gage length A [inch]	ultra short		3.35	3.35	3.35
Order No.	**A10.025...**		**.16.3**	**.25.3**	**.32.3**
Gage length A [inch]	short		3.93	3.93	3.93
Order No.	**A10.020...**		**.16.3**	**.25.3**	**.32.3**
Gage length A [inch]	ZG130		5.12	5.12	5.12
Order No.	**A10.024...**		**.16.3**	**.25.3**	**.32.3**
Gage length A [inch]	oversize		6.30	6.30	6.30
Order No.	**A10.022...**		**.16.3**	**.25.3**	**.32.3**

Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 759–767
Coolant tube				See page 793
Order No.	**85.700.10**			

HIGH PRECISION COLLET CHUCK
DIN 69893-1 · HSK-A100

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools.

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

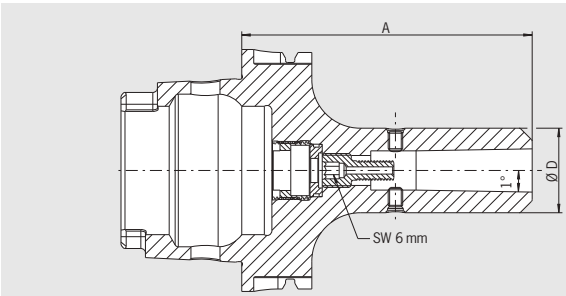
INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]		1.69	2.01	2.09
Gage length A [inch]	ultra short		3.35	3.35	3.35
Order No.	**A10.025...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	short		3.93	3.93	3.93
Order No.	**A10.020...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	ZG130		5.12	5.12	5.12
Order No.	**A10.024...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
Gage length A [inch]	oversize		6.30	6.30	6.30
Order No.	**A10.022...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

Accessories

High Precision Smooth Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench				See page 782
Order No.	**84.650...**	**.16.1**	**.25.1**	**.32.1**
Collets ER				See pages 768–773
Shrink Fit Collets				See pages 759–767
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Coolant tube				See page 793
Order No.	**85.700.10**			

HIGH-PRECISION CHUCK
DIN 69893-1 · HSK-A100





CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Use:
For high-precision clamping of tools with cylindrical shank, also with clamping flats. Very useful for High Speed machining.

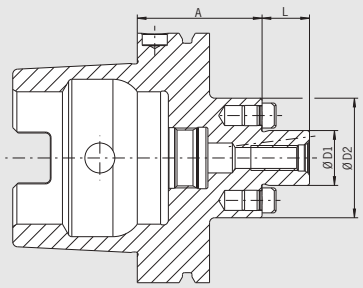
– Included in delivery: High-Precision Chuck with clamping screw and pull-out hook, without collet, without coolant tube
– Shank tolerance h6
– Optional: Cool Jet bores on HG Collets from diam. 0.25" – 0.78"
– Extensions for High-Precision Chuck available

INCH	HG	01	02	03
	ØD [inch]	1.18	1.38	1.89
	Clamping Ø [inch]	0.08–0.35	0.39–0.57	0.63–0.79
	Clamping Ø [mm]	2 | 3 | 4 | 5 | 6 | 8	10 | 12 | 14	16 | 18 | 20
Gage length A [inch]	short	4.72	4.72	5.12
Order No.	**A10.120...**	**.01**	**.02**	**.03**
Gage length A [inch]	oversize	6.30	6.30	6.30
Order No.	**A10.122...**	**.01**	**.02**	**.03**

Accessories														
Clamping screw														
Collets HG INCH														See page 783
HG 01 Ø D [inch]		Ø 1/8	Ø 3/16	Ø 1/4	Ø 5/16									
Order No.	**82.510...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.5/16Z**									
HG 02 Ø D [inch]						Ø 3/8	Ø 7/16	Ø 1/2	Ø 9/16					
Order No.	**82.520...**					**.3/8Z**	**.7/16Z**	**.1/2Z**	**.9/16Z**					
HG 03 Ø D [inch]												Ø 5/8	Ø 3/4	
Order No.	**82.530...**											**.5/8Z**	**.3/4Z**	
Collets HG METRIC														See page 783
HG 01 Ø D [mm]		Ø 02	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	—	—	—	—	—	—	
Order No.	**82.510...**	**.02**	**.03**	**.04**	**.05**	**.06**	**.08**							
HG 02 Ø D [mm]		—	—	—	—	—	—	Ø 10	Ø 12	Ø 14	—	—	—	
Order No.	**82.520...**							**.10**	**.12**	**.14**				
HG 03 Ø D [mm]		—	—	—	—	—	—	—	—	—	Ø 16	Ø 18	Ø 20	
Order No.	**82.530...**										**.16**	**.18**	**.20**	
Pull-out hook														
HG		HG 01						HG 02			HG 03			
Order No.	**82.570...**	**.00**						**.00**			**.00**			
Balancing index rings														
HG		HG 01						HG 02			HG 03			
Order No.	**79.350...**	**.30**						**.35**			**.48**			

FACE MILL ARBOR
DIN 69893-1 · HSK-A100

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For clamping face mill cutters.
Metric version: With coolant exit bores on the end face for milling cutters with central cooling.

– Included in delivery: Face Mill Arbor with clamping screw
– Inch sizes: Coolant bores on front side for an extra charge

INCH	Ø D1 [inch]		3/4	1	1 1/4	1 1/2
	L [inch]		0.67	0.67	0.67	0.94
	Ø D2 [inch]		1.71	2.17	2.75	3.78
Gage length A [inch]	long		3.94	3.94	3.94	3.94
Order No.	**A10.051...**		**.3/4Z**	**.1Z**	**.1 1/4Z**	**.1 1/2Z**
Gage length A [inch]	oversize		6.30	6.30	6.30	6.30
Order No.	**A10.052...**		**.3/4Z**	**.1Z**	**.1 1/4Z**	**.1 1/2Z**

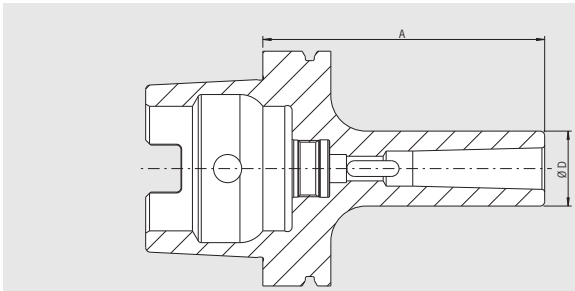
METRIC	Ø D1 [mm]		16	22	27	32	40
	L [mm]		17	19	21	24	27
	Ø D2 [mm]		36	48	60	78	87
Gage length A [mm]	short		50	50	50	50	60
Order No.	**A10.050...**		**.16.KKB**	**.22.KKB**	**.27.KKB**	**.32.KKB**	**.40.KKB**
Gage length A [mm]	long		100	100	100	100	100
Order No.	**A10.051...**		**.16.KKB**	**.22.KKB**	**.27.KKB**	**.32.KKB**	**.40.KKB**
Gage length A [mm]	oversize		160	160	160	160	160
Order No.	**A10.052...**		**.16.KKB**	**.22.KKB**	**.27.KKB**	**.32.KKB**	**.40.KKB**

Accessories						
Clamping Screw						
Ø D1 [inch]		3/4	1	1 1/4	1 1/2	
Order No.	**85.300...**	**.3/4Z**	**.1Z**	**.11/4Z**	**.11/2Z**	
Wrench						
Ø D1 [inch]		3/4	1	1 1/4	1 1/2	
Order No.	**84.400...**	**.3/4Z**	**.1Z**	**.11/4Z**	**.11/2Z**	
Balancing index ring						
Ø D1 [inch]		3/4	1	—	—	
Order No.	**79.350...**	**.1.71Z**	**.55**			
Coolant tube						
Ø D1 [inch]		3/4	1	1 1/4	1 1/2	
Order No.	**85.700...**	**.10**	**.10**	**.10**	**.10**	
Coolant bores						
Order No.	**91.100.03**					

Accessories						
Clamping Screw						
Ø D1 [mm]		16	22	27	32	40
Order No.	**85.300...**	**.16**	**.22**	**.27**	**.32**	**.40**
Wrench						
Ø D1 [mm]		16	22	27	32	40
Order No.	**84.400...**	**.16**	**.22**	**.27**	**.32**	**.40**
Balancing index ring						
Ø D1 [mm]		16	22	27	32	40
Order No.	**79.350...**	**.36**	**.48**	**.60**	**.78**	**.87**
Coolant tube						
Ø D1 [mm]		16	22	27	32	40
Order No.	**85.700...**	**.10**	**.10**	**.10**	**.10**	**.10**

ADAPTER FOR MORSE TAPER WITH TANG
DIN 69893-1 · HSK-A100





CERTIFICATE OF QUALITY

- ☑ Chuck balanced G6.3 8,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Use:
For holding tools with morse taper and tang according to DIN 228-1 form AF.

– Fine-balancing for an extra charge

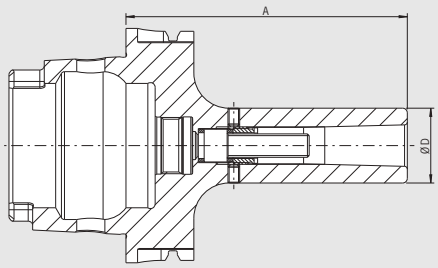
MK			01	02	03	04
Ø D [mm]			25	32	40	48
Gage Length A [mm]	short		110	120	150	170
Order No.	**A10.080...**		**.01**	**.02**	**.03**	**.04**

Accessories

Balancing index rings						
MK			01	02	03	04
Order No.	**79.350...**		**.25**	**.32**	**.40**	**.48**
Coolant tube						
Order No.	**85.700.10**					

ADAPTER FOR MORSE TAPER WITH THREAD
DIN 69893-1 · HSK-A100

CERTIFICATE OF QUALITY
- ☑ Chuck balanced G6.3 8,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For holding tools with morse taper with thread according to DIN 228-1 form A.

– Fine-balancing for an extra charge
– Delivery with tightening bolt without coolant tube

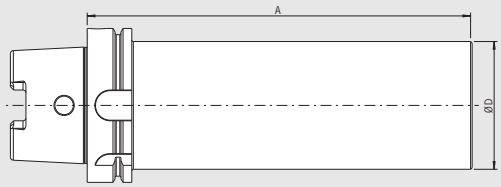
MK			01	02	03	04
Ø D [mm]			25	32	40	48
Gage Length A [mm]	short		110	120	150	170
Order No.	**A10.130...**		**.01**	**.02**	**.03**	**.04**

Accessories

Balancing index rings						
MK			01	02	03	04
Order No.	**79.350...**		**.25**	**.32**	**.40**	**.48**
Coolant tube						
Order No.	**85.700.10**					

BLANK ADAPTER
DIN 69893-1 · HSK-A100





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

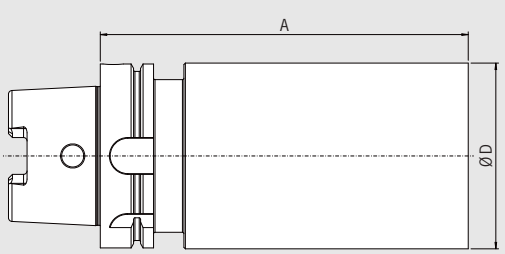
Use:
For manufacturing special tools in your own factory.

Design:
HSK is hardened and ground, the cylindrical part is soft.

	Ø D [mm]	83
Gage Length A [mm]	ZG250	250
Order No.	**A10.090...**	**.83**

BLANK ADAPTER – HARDENED
DIN 69893-1 · HSK-A100





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

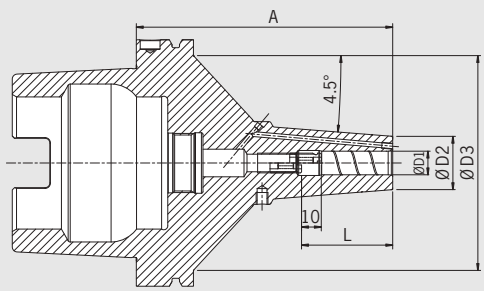
Use:
For manufacturing special tools in your own factory.

Version:
– HSK hardened and ground
– Cylindrical part hardened to 52+2 HRC

METRIC	Ø D [mm]	101
Gage Length A [mm]	ZG100	100
Order No.	**RA100.096.1010....**	**.0100**
Gage Length A [mm]	ZG200	200
Order No.	**RA100.096.1010....**	**.0200**

POWER SHRINK CHUCK
DIN 69893-1 · HSK-A125

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U< 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Cool Jet, can be sealed





The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy
– Quieter running, therefore better surface quality and protection of tools, spindles and machines
– With Cool Jet bores that can be sealed (Thread M4) and 6 bores
– With internal groove in the clamping bore
– Higher coolant flow rate due to optimized coolant bores
– With threaded holes in order to balance with balancing screws

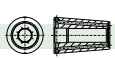
The long versions (A = oversize and ZG9 inch) with slim tips are especially versatile to use.

– High rigidity, slim at the tip, dampen vibrations
– Higher clamping forces
– Equally suited to High Speed and Heavy Duty machining
– Universal usage, saves space in tool magazine

Optional:
– Cooling with Cool Flash for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]		3/8	1/2	5/8	3/4	1
	Ø D2 [inch]		1.06	1.06	1.30	1.73	1.73
	Ø D3 [inch]		4.29	4.29	4.29	4.29	4.29
	L [inch]		1.65	1.85	1.97	2.05	2.28
Gage length A [inch] **Order No.** **Safe-Lock Order No.**	ZG5 inch **A125.140...** **A125.140...**		5[1)] **.3/8Z.3.I** **.3/8Z.37.I**	5[1)] **.1/2Z.3.I** **.1/2Z.37.I**	5 [1)] **.5/8Z.3.I** **.5/8Z.37.I**	5 **.3/4Z.3.I** **.3/4Z.37.I**	5 **.1Z.3.I** **.1Z.37.I**
Gage length A [inch] **Order No.** **Safe-Lock Order No.**	oversize **A125.142...** **A125.142...**		7[1)] **.3/8Z.3.I** **.3/8Z.37.I**	7[1)] **.1/2Z.3.I** **.1/2Z.37.I**	7[1)] **.5/8Z.3.I** **.5/8Z.37.I**	7 **.3/4Z.3.I** **.3/4Z.37.I**	7 **.1Z.3.I** **.1Z.37.I**
Gage length A [inch] **Order No.** **Safe-Lock Order No.**	ZG9 inch **A125.146...** **A125.146...**		9[1)] **.3/8Z.3.I** **.3/8Z.37.I**	9[1)] **.1/2Z.3.I** **.1/2Z.37.I**	9[1)] **.5/8Z.3.I** **.5/8Z.37.I**	9 **.3/4Z.3.I** **.3/4Z.37.I**	9 **.1Z.3.I** **.1Z.37.I**

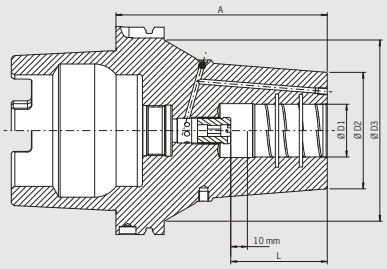
METRIC	Clamping Ø D1 [mm]		10	12	16	20	25
	Ø D2 [mm]		27	27	33	44	44
	Ø D3 [mm]		109	109	109	109	109
	L [mm]		42	47	50	52	58
Gage length A [mm] **Order No.** **Safe-Lock Order No.**	ZG130 **A125.140...** **A125.140...**		130[1)] **.10.3** **.10.37**	130[1)] **.12.3** **.12.37**	130 **.16.3** **.16.37**	130 **.20.3** **.20.37**	130 **.25.3** **.25.37**
Gage length A [mm] **Order No.** **Safe-Lock Order No.**	oversize **A125.142...** **A125.142...**		160[1)] **.10.3** **.10.37**	160[1)] **.12.3** **.12.37**	160 **.16.3** **.16.37**	160 **.20.3** **.20.37**	160 **.25.3** **.25.37**
Gage length A [mm] **Order No.** **Safe-Lock Order No.**	ZG200 **A125.146...** **A125.146...**		200[1)] **.10.3** **.10.37**	200[1)] **.12.3** **.12.37**	200 **.16.3** **.16.37**	200 **.20.3** **.20.37**	200 **.25.3** **.25.37**

Accessories			
Cool Flash		**Order No. 91.100.40**	See pages 502–503
Coolant tube		**Order No. 85.700.125**	See page 793

1) Thread M3, 2 bores

HEAVY DUTY SHRINK CHUCK
DIN 69893-1 · HSK-A125





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Cool Jet, can be sealed

The Heavy Duty Chuck is a shrink fit chuck designed for extreme cases and Heavy Duty machining. The contour is optimized for highest rigidity and clamping force.

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– No deformation at the tool shank after shrink process
– TIR less than 0.00012" (3 µm)
– Reinforced outer contour
– To shrink with 13 kW HD coil (see page 600) or with high performance shrink fit unit HAIMER Power Clamp Profi Plus (20 kW)
– With internal groove in the clamping bore
– With Cool Jet bores that can be sealed (Thread M4) and 6 bores
– Higher coolant flow rate due to optimized coolant bores
– With threaded holes in order to balance with balancing screws

Optional:
– Cooling with Cool Flash from 5/8"–1" for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]	5/8	3/4	1	1 1/4	1 1/2	2
	Ø D2 [inch]	2.01	2.28	2.48	2.76	3.23	3.23
	Ø D3 [inch]	4.29	4.29	4.29	4.29	4.29	4.29
	L [inch]	1.97	2.05	2.28	2.28	3.46	3.46
Gage length A [inch]	ZG5 inch	5	5	5	5	5[1)2)]	5[1)2)]
Order No.	**A125.150...**	**.5/8Z.6.I**	**.3/4Z.6.I**	**.1Z.6.I**	**.11/4Z.6.I**	**.11/2Z.6.I**	**.2Z.6.I**
Safe-Lock Order No.	**A125.150...**	**.5/8Z.67.I**	**.3/4Z.67.I**	**.1Z.67.I**	**.11/4Z.67.I**	**.11/2Z.67.I**	**.2Z.67.I**
Gage length A [inch]	oversize	7	7	7	7	7	7
Order No.	**A125.152...**	**.5/8Z.6.I**	**.3/4Z.6.I**	**.1Z.6.I**	**.11/4Z.6.I**	**.11/2Z.6.I**	**.2Z.6.I**
Safe-Lock Order No.	**A125.152...**	**.5/8Z.67.I**	**.3/4Z.67.I**	**.1Z.67.I**	**.11/4Z.67.I**	**.11/2Z.67.I**	**.2Z.67.I**
Gage length A [inch]	ZG9 inch	9	9	9	9	9	9
Order No.	**A125.156...**	**.5/8Z.6.I**	**.3/4Z.6.I**	**.1Z.6.I**	**.11/4Z.6.I**	**.11/2Z.6.I**	**.2Z.6.I**
Safe-Lock Order No.	**A125.156...**	**.5/8Z.67.I**	**.3/4Z.67.I**	**.1Z.67.I**	**.11/4Z.67.I**	**.11/2Z.67.I**	**.2Z.67.I**

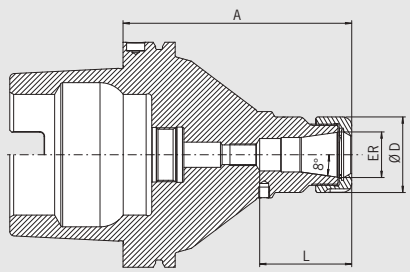
METRIC	Clamping Ø D1 [mm]	16	20	25	32	40	50
	Ø D2 [mm]	51	58	63	70	82	82
	Ø D3 [mm]	109	109	109	109	109	109
	L [mm]	50	52	58	61	88	88
Gage length A [mm]	ZG130	130	130	130	130	130[1)2)]	130[1)2)]
Order No.	**A125.150...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Safe-Lock Order No.	**A125.150...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**
Gage length A [mm]	oversize	160	160	160	160	160	160
Order No.	**A125.152...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Safe-Lock Order No.	**A125.152...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**
Gage length A [mm]	ZG200	200	200	200	200	200	200
Order No.	**A125.156...**	**.16.6**	**.20.6**	**.25.6**	**.32.6**	**.40.6**	**.50.6**
Safe-Lock Order No.	**A125.156...**	**.16.67**	**.20.67**	**.25.67**	**.32.67**	**.40.67**	**.50.67**

Accessories			
Coolant tube	**Order No. 85.700.125**		See page 793
Back-up screws			See pages 796–798
Cool Flash	**Order No. 91.100.40**		See pages 502–503

1) Without back-up screws
2) Gage L = 87.5 mm /3.43"

POWER COLLET CHUCK
DIN 69893-1 · HSK-A125

CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

INCH	ER		25	32
	Ø D [inch]		1.65	1.97
	Clamping range [inch]		1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–16.0	2.0–20.0
	L [inch]		2.01	2.09
Gage length A [inch]	short		4	4
Order No.	**A125.020...**		**.25.3.I**	**.32.3.I**
Gage length A [inch]	ZG5 inch		5	5
Order No.	**A125.024...**		**.25.3.I**	**.32.3.I**
Gage length A [inch]	oversize		7	7
Order No.	**A125.022...**		**.25.3.I**	**.32.3.I**
Gage length A [inch]	ZG9 inch		9	9
Order No.	**A125.026...**		**.25.3.I**	**.32.3.I**

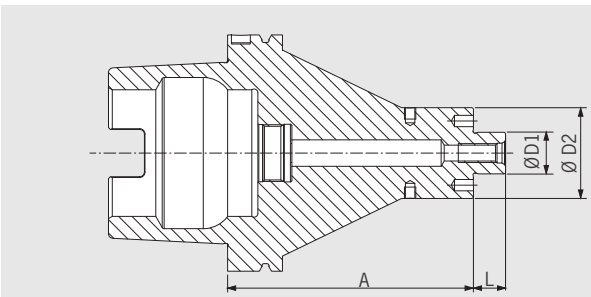
METRIC	ER		25	32
	Ø D [mm]		42	50
	Clamping range [mm]		2.0–16.0	2.0–20.0
	L [mm]		51	53
Gage length A [mm]	short		100	100
Order No.	**A125.020...**		**.25.3**	**.32.3**
Gage length A [mm]	ZG130		130	130
Order No.	**A125.024...**		**.25.3**	**.32.3**
Gage length A [mm]	oversize		160	160
Order No.	**A125.022...**		**.25.3**	**.32.3**
Gage length A [mm]	ZG200		200	200
Order No.	**A125.026...**		**.25.3**	**.32.3**

Accessories

Power Collets			See pages 774–775
Power Collets with Safe-Lock			See page 776
Cool Jet bores for Power Collets		**Order No. 91.100.27**	See page 777
Shrink Fit Collets			See pages 763–767

FACE MILL ARBOR
DIN 69893-1 · HSK-A125

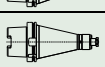




CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ More accurate than DIN

Use:
For holding face mill cutters and cutters with radial driving slot DIN 1880.

DIN 69882-3
– Reinforced outer contour
– Included in delivery: tightening bolt, with threaded holes in order to balance with balancing screws, without coolant tube
– Metric sizes: With coolant exit bores on the end face for milling cutters with central cooling

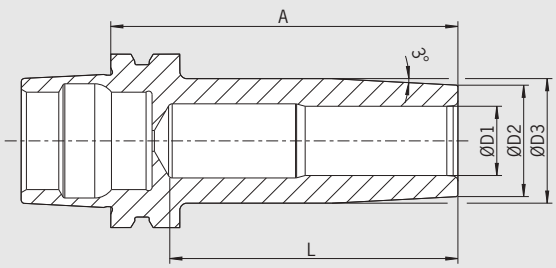
INCH	Clamping Ø D1 [inch]		3/4	1
	Ø D2 [inch]		1.71	2.17
	L [inch]		0.67	0.67
Gage length A [inch]	short		4	4
Order No.	**A125.050…**		**.3/4Z.3.I**	**.1Z.3.I**
Gage length A [inch]	ZG5 inch		5	5
Order No.	**A125.054…**		**.3/4Z.3.I**	**.1Z.3.I**
Gage length A [inch]	oversize		7	7
Order No.	**A125.052…**		**.3/4Z.3.I**	**.1Z.3.I**
Gage length A [inch]	ZG9 inch		9	9
Order No.	**A125.056…**		**.3/4Z.3.I**	**.1Z.3.I**

METRIC	Clamping Ø D1 [mm]		22	27
	Ø D2 [mm]		48	60
	L [mm]		19	21
Gage length A [mm]	short		100	100
Order No.	**A125.050…**		**.22.3.KKB**	**.27.3.KKB**
Gage length A [mm]	ZG130		130	130
Order No.	**A125.054…**		**.22.3.KKB**	**.27.3.KKB**
Gage length A [mm]	oversize		160	160
Order No.	**A125.052…**		**.22.3.KKB**	**.27.3.KKB**
Gage length A [mm]	ZG200		200	200
Order No.	**A125.056…**		**.22.3.KKB**	**.27.3.KKB**

Accessories				
Tightening bolt				
Size D1			22	27
Order No.	**85.300…**		**.22**	**.27**
Wrench				
Size D1			22	27
Order No.	**84.400…**		**.22**	**.27**
Balancing index rings				
Size D1			22	27
Order No.	**79.350…**		**.48**	**.60**
Coolant bores				
Order No.	**91.100.03**			
Coolant tube				See page 793
Order No.	**85.700.125**			

MINI SHRINK
DIN 69893-5 · HSK-E25

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Low cutting forces at high rpm are typical in micro machining (die & mold, medical engineering, micro mechanical engineering). The slim and short design of the all new HSK–E25 series from HAIMER – which is well known from the HAIMER Mini Shrink tool holders – is perfectly suitable for the requirements of micro machining.

– No disturbing edges, also jobs difficult to access can be reached
– Highest runout accuracy: < 0.00012" (3 µm)
– Ideal to shrink with the HAIMER Power Clamp Nano
– Heat resistant hot-working steel
– Hardened 54–2 HRC

Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

METRIC	Clamping Ø D1 [mm]	03	04	05	06	06	06	08	10	10	10	12
	Ø D2 [mm]	09	10	11	12	12	12	14	16	16	16	18
	Ø D3 [mm]	—	—	—	—	—	—	—	18	18	18	20
	L [mm] ultra short	15	18	23	27.5	—	—	27	26.5	—	—	26
	L [mm] standard	15	18	28	37.5	32.5	37.5	27	41.5	36.5	41.5	35.5
Gage length A [mm]	ultra short	35[1]	35[1]	35[1]	40[1]	—	—	40[1]	40[1]	—	—	40[1]
Order No.	**E25.185...**	**.03**	**.04**	**.05**	**.06**			**.08**	**.10**			**.12**
Gage length A [mm]	standard	45	45	45	45[2]	45	50	50	50[2]	50	55	50
Order No.	**E25.180...**	**.03**	**.04**	**.05**	**.06**	**.06.V2**	**.06.V3**	**.08**	**.10**	**.10.V2**	**.10.V3**	**.12**

1) Only shrinkable with Power Clamp Nano
2) Without thread for coolant tube

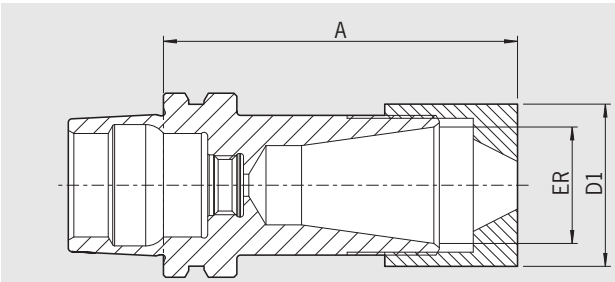
Mini Shrink shrink and cooling sleeves
– Protect Mini Shrink chucks from overheating
– Extend lifetime of shrink fit chucks
– Secure and user friendly handling
– Cooling with standard cooling body



Shrinking and cooling sleeves for Mini Shrink chucks								Order No.
Extra slim								
Size [mm]	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12	
Order No. 80.105.14...	**.2.01**	**.2.02**	**.2.03**	**.2.04**	**.2.05**	**.2.06**	**.2.07**	
Standard								
Size [mm]	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12	
Order No. 80.105.14...	**.2.04**	**.2.08**	**.2.05**	**.2.09**	**.2.10**	**.2.11**	**.2.12**	
Base								**80.105.14.2.99**
Set with base (12 pcs., diameter 3 – 12 mm)								**80.105.14.2.00**

COLLET CHUCK MINI ER
DIN 69893-5 · HSK-E25





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Low cutting forces at high RPMs are typical in micro machining (die & mold, medical engineering, micro mechanical engineering). The slim and short design of the all new HSK–E25 series from HAIMER is perfectly suitable for the requirements of micro machining.

– Included in delivery: Locknut

Available as:
– Mini-ER collet chuck (Mini-ER 16) in two different lengths

Standard version, similar to DIN 69882-8

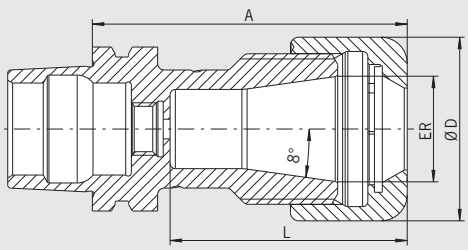
INCH	Mini-ER	16
	Ø D [inch]	0.87
	Clamping range [inch]	0.02–0.39
	Clamping range [mm]	0.50–10.0
Gage length A [inch]	ultra short	1.69
Order No.	**E25.025...**	**.16.7**[1)]
Gage length A [inch]	short	1.89
Order No.	**E25.020...**	**.16.7**

Accessories			
Clamping nut			
Size			Mini ER 16
Order No.	**915010-**		**.0002**
Torque Master torque wrench			
Order No.	**84.600.00**		
Insert torque wrench			Mini ER 16
Order No.	**84.620...**		**.16.1**

1) Without thread for coolant tube

HIGH PRECISION COLLET CHUCK
DIN 69893-5 · HSK-E25

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools. The chuck is especially suitable for micro and fine machining (e.g. in the medical or watchmaking industry).

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

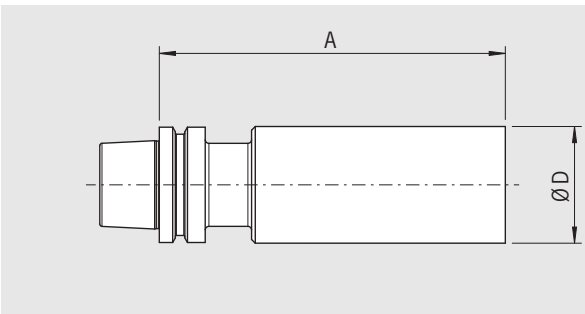
INCH	ER	16
	Ø D [inch]	1.1
	Clamping range [inch]	1/8–3/8
	Clamping range [mm]	2.0–10.0
	L [inch]	1.22
Gage length A [inch]	ultra short	1.77
Order No.	**E25.025...**	**.16.3.HP**

Accessories

High Precision Smooth Locknut (fine-balanced)			See page 779
Size		ER 16	
Order No.	**83.914...**	**.16.1**	
Roller bearing wrench			See page 782
Order No.	**84.650...**	**.16.1**	
Collets ER			See pages 768–773
Shrink Fit Collets			See pages 759–765
Power Collets			See page 775
Power Collets with Safe-Lock			See page 776
Cool Jet bores for Power Collets			See page 777
Order No.	**91.100.27**		

BLANK ADAPTER – HARDENED
DIN 69893-5 · HSK-E25





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

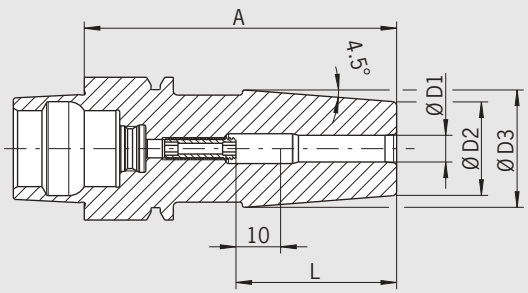
Use:
For manufacturing special tools in your own factory.

Version:
– HSK hardened and ground
– Cylindrical part hardened to 52+2 HRC

METRIC	Ø D [mm]	25.3
Gage Length A [mm]	ZG75	75
Order No.	**RE25.096.0253...**	**.0075**

SHRINK FIT CHUCK
DIN 69893-5 · HSK-E32

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
Shrink fit chuck suitable for use with all available shrink fit units.

DIN 69893-5
– With threaded holes in order to balance with balancing screws
– Included in delivery: Shrink fit chuck with backup screw, without coolant tube
– Heat resistant hot-working steel
– Hardened 54 – 2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6

Optional:
– Cooling with Cool Jet for an extra charge (See page 501)
– Cooling with Cool Flash for an extra charge (See pages 502 – 503)

Standard version, similar to DIN 69882-8

INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	3/8
	Ø D2 [inch]	0.39	0.39	0.83	0.94
	L [inch]	0.35	0.59	1.42	1.65
Gage length A [inch]	short	2.36[1]	2.36[1]	2.76	3.15
Order No.	**E32.140...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.3/8Z**

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10
	Ø D2 [mm]	10	10	10	21	21	24
	Ø D3 [mm]	—	—	—	27	27	32
	L [mm]	09	12	15	36	36	42
Length A [mm]	short	60[1]	60[1]	60[1]	70[2]	70[2]	80[2]
Order No.	**E32.140...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**

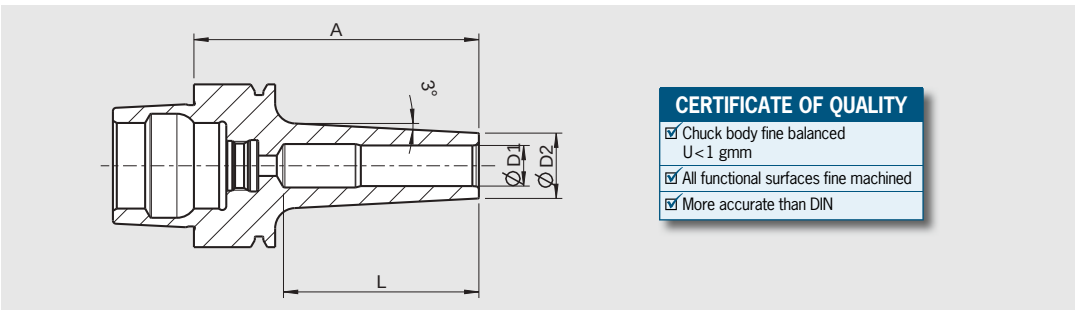
Accessories

Balancing screws			See page 784
Back-up screws			See pages 796 – 799
Cool Jet bores			See page 501
Cool Flash		**Order No. 91.100.40**	See pages 502 – 503
Cool Flash Upgrade incl. Cool Jet		**Order No. 91.100.41**	See pages 502 – 503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for coolant around the tool
2) Without threads for balancing screws

MINI SHRINK
DIN 69893-5 · HSK-E32





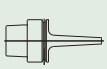
CERTIFICATE OF QUALITY

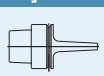
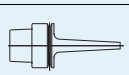
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

– Extremely slim design
– No disturbing edges
– Highest runout accuracy: 3 µm
– Also jobs difficult to access can be reached
– Optimum rigidity
– Heat resistant hot-working steel
– Hardened 54–2 HRC
– Ideal to shrink with the HAIMER Power Clamp
– For all solid carbide tools with shank tolerance h6
– With 3° angle for die and mold

– **Standard version:** with high clamping force
– Tool holders fine balanced
– Delivery without coolant tube

Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

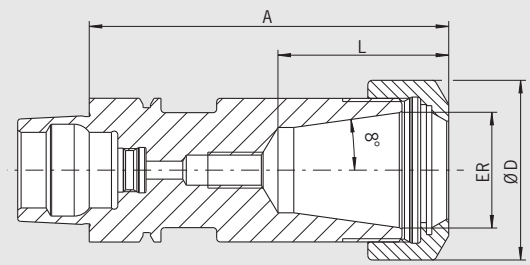
INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	3/8	1/2
	Ø D2 [inch]	0.35	0.43	0.47	0.63	0.71
Gage length A [inch]	ultra short 	2.37	2.37	2.37	2.37	2.37
Length L [inch]		1.81	1.69	1.69	1.65	1.63
Order No.	**E32.185...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.3/8Z**	**.1/2Z**
Gage length A [inch]	short 	2.76	2.76	2.76	2.76	2.76
Length L [inch]		2.6	2.48	2.48	1.89	1.89
Order No.	**E32.183...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.3/8Z**	**.1/2Z**

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12
	Ø D2 Standard [mm]	09	10	11	12	14	16	18
Gage length A [mm]	ultra short 	60	60	60	60	60	60	60
Length L [mm]		46	43	43	43	38	42	41.5
Order No.	**E32.185...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**
Gage length A [mm]	ZG80 	80	80	80	80	80	80	80
Length L [mm]		66	63	63	63	38	48	48
Order No.	**E32.183...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**

Shrinking and cooling sleeves for Mini Shrink chucks							Order No.
Extra slim							
Size [mm]	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12
Size [inch]	Ø 1/8	—	Ø 3/16	Ø 1/4	Ø 5/16	Ø 3/8	Ø 1/2
Order No. 80.105.14...	**.2.01**	**.2.02**	**.2.03**	**.2.04**	**.2.05**	**.2.06**	**.2.07**
Standard							
Size [mm]	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12
Size [inch]	Ø 1/8	—	Ø 3/16	Ø 1/4	Ø 5/16	Ø 3/8	Ø 1/2
Order No. 80.105.14...	**.2.04**	**.2.08**	**.2.05**	**.2.09**	**.2.10**	**.2.11**	**.2.12**
Base							**80.105.14.2.99**
Set with base (12 pcs., diameter 3 – 12 mm)							**80.105.14.2.00**

ER COLLET CHUCK
DIN 69893-5 · HSK-E32

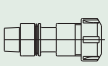
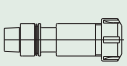
CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U<1 gmm
- ☑ All functional surfaces machined
- ☑ More accurate than DIN





Use:
For clamping tools with cylindrical shank in ER collets.

– Locknut type HS (High Speed, fine balanced, with slide coating for higher clamping forces)
– Balanced collet nuts with special slide coating for low friction and higher clamping forces

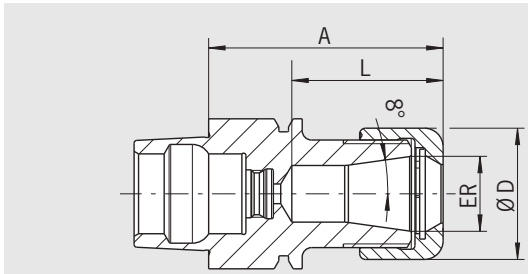
INCH	ER		16	25
	Ø D [inch]		1.1	1.65
	Clamping range [inch]		0.02–0.39	0.04–0.63
	Clamping range [mm]		0.5–10.0	1.0–16.0
L [inch]			1.28	1.61
Gage length A [inch]	short		3.15	3.15
Order No.	**E32.020...**		**.16**	**.25**
L [inch]			1.28	
Gage length A [inch]	long		3.94	
Order No.	**E32.021...**		**.16**	**—**

Accessories

Collet nut HS (Highspeed), fine-balanced				
Ø ER			ER16	ER25
Order No.	**83.912...**		**.16.HS**	**.25.HS**
Wrench				
Ø ER			ER16	
Order No.	**84.200...**		**.16**	
Wrench				
Ø ER				ER25
Order No.	**84.200...**			**.25**
Balancing index rings				
Ø ER			ER16	ER25
Order No.	**79.350...**		**.22**	**.32**
Back-up screw				
Ø ER			ER16	ER25
Order No.	**85.800...**		**.34**	**.34**
Coolant tube				
Ø ER			ER16	ER25
Order No.	**85.700...**		**.32**	**.32**

POWER COLLET CHUCK
DIN 69893-5 · HSK-E32





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced or U < 1 gmm
- ☑ All functional surfaces machined
- ☑ More accurate than DIN

The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– Without thread for set screw
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

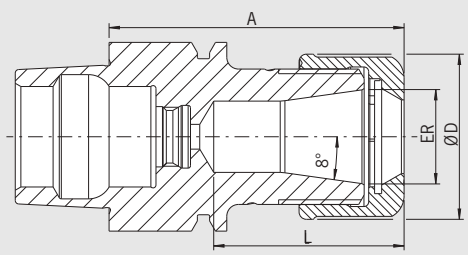
INCH	ER	16	25
	Ø D [inch]	1.1	1.65
	Clamping range [inch]	1/8–3/8	1/8–5/8
	Clamping range [mm]	2.0–10.0	2.0–16.0
	L [inch]	1.26	1.53
Gage length A [inch]	ultra short	1.97	2.36
Order No.	**E32.025...**	**.16.3**	**.25.3**

Accessories

Locknut (fine-balanced)				See page 779
Size			ER 16	ER 25
Order No.	**83.914...**		**.16**	**.25**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 759–765
Coolant tube				See page 793
Order No.	**85.700.32**			

HIGH PRECISION COLLET CHUCK
DIN 69893-5 · HSK-E32

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools. The chuck is especially suitable for micro and fine machining (e.g. in the medical or watchmaking industry).

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: 0.00012" (3 µm) at 3×D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

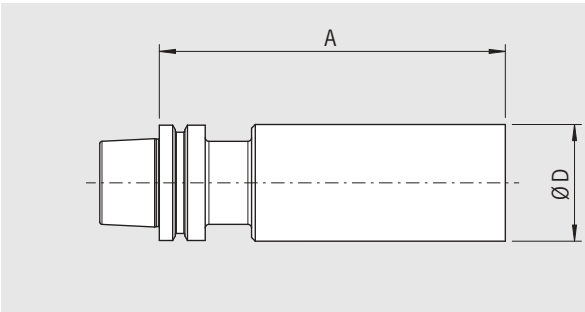
INCH	ER	16	25
	Ø D [inch]	1.1	1.65
	Clamping range [inch]	1/8–3/8	1/8–5/8
	Clamping range [mm]	2.0–10.0	2.0–16.0
	L [inch]	1.26	1.53
Gage length A [inch]	ultra short	1.97	2.36
Order No.	**E32.025...**	**.16.3.HP**	**.25.3.HP**

Accessories

High Precision Smooth Locknut (fine-balanced)				See page 779
Size			ER 16	ER 25
Order No.	**83.914...**		**.16.1**	**.25.1**
Roller bearing wrench				See page 782
Order No.	**84.650...**		**.16.1**	**.25.1**
Collets ER				See pages 768–773
Shrink Fit Collets				See pages 759–765
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Coolant tube				See page 793
Order No.	**85.700.32**			

BLANK ADAPTER – HARDENED
DIN 69893-5 · HSK-E32





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

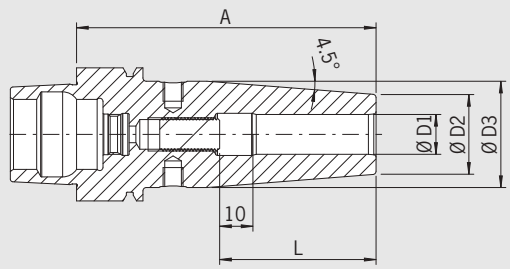
Use:
For manufacturing special tools in your own factory.

Version:
– HSK hardened and ground
– Cylindrical part hardened to 52+2 HRC

METRIC	Ø D [mm]	32.3
Gage Length A [mm]	ZG96	96
Order No.	**RE32.096.0323...**	**.0096**

SHRINK FIT CHUCK
DIN 69893-5 · HSK-E40

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
Shrink fit chuck suitable for use with all available shrink fit units.

– With threaded holes in order to balance with balancing screws
– Included in delivery: Shrink fit chuck with backup screw, without coolant tube
– Heat resistant hot-working steel
– Hardened 54 – 2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6

Optional:
– Cooling with Cool Jet for an extra charge (See page 501)
– Cooling with Cool Flash for an extra charge (See pages 502 – 503)

INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	5/16	3/8	1/2	5/8
	Ø D2 [inch]	0.39	0.39	0.83	0.83	0.94	0.94	1.06
	Ø D3 [inch]	–	–	1.06	1.06	1.26	1.26	1.34
	L [inch]	0.35	0.59	1.42	1.42	1.65	1.85	1.97
Gage length A [inch]	short	2.36[1]	2.36[1]	3.15	3.15	3.15	3.54	3.54
Order No.	**E40.140...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.5/16Z**	**.3/8Z**	**.1/2Z**	**.5/8Z**

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16
	Ø D2 [mm]	10	10	10	21	21	24	24	27	27
	Ø D3 [mm]	—	—	—	27	27	32	32	34	34
	Ø D2 [mm] E40.145...	—	—	—	22.5	22.5	26.5	26.5	30	30
	Ø D3 [mm] E40.145...	—	—	—	28.7	28.7	32	32	33	33
	L [mm]	09	12	15	36	36	42	47	47	50
Length A [mm]	ultra short	—	—	—	60[2]	60[2]	60[3]	60[3]	60[3]	60[3]
Order No.	**E40.145...**				**.06**	**.08**	**.10**	**.12**	**.14**	**.16**
Length A [mm]	short	60[1]	60[1]	60[1]	80	80	80	90	90	90
Order No.	**E40.140...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**

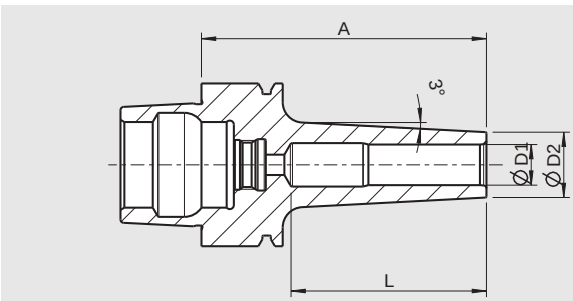
Accessories

Balancing screws		See page 784
Back-up screws		See pages 796 – 799
Cool Jet bores		See page 501
Cool Flash	**Order No. 91.100.40**	See pages 502 – 503
Cool Flash Upgrade incl. Cool Jet	**Order No. 91.100.41**	See pages 502 – 503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for coolant around the tool
2) Without back-up screw, without threads for balancing screws
3) Without back-up screw, without threads for balancing screws, without thread for coolant tube

MINI SHRINK
DIN 69893-5 · HSK-E40





CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

– Extremely slim design
– No disturbing edges
– TIR less than 0.00012" (3 µm)
– Also jobs difficult to access can be reached
– Optimum rigidity
– Heat resistant hot-working steel
– Hardened 54 – 2 HRC
– Ideal for the HAIMER Power Clamp
– For all solid carbide tools with shank tolerance h6
– With 3° angle for die and mold

– **Standard version:** with high clamping force
– **Extra slim version:** extremely slim for fine machining and for jobs very difficult to reach
– Tool holders fine balanced
– Delivery without coolant tube

Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

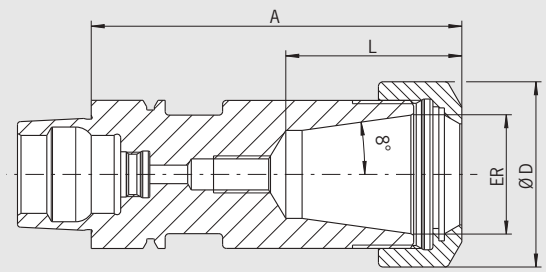
INCH	Clamping Ø D1 [inch]		1/8	3/16	1/4	3/8	1/2
	Ø D2 [inch]		0.35	0.43	0.47	0.63	0.71
Gage length A [inch]	ultra short		2.36	2.36	2.36	2.36	2.36
Length L [inch]			—	—	1.61	1.65	1.61
Order No.	Standard	**E40.185...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.3/8Z**	**.1/2Z**
Gage length A [inch]	short		2.76	2.76	2.76	2.76	2.76
Length L [inch]			—	—	2.01	1.89	1.89
Order No.	Standard	**E40.180...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.3/8Z**	**.1/2Z**

METRIC	Clamping Ø D1 [mm]		03	04	05	06	08	10	12
	Ø D2 Standard [mm]		09	10	11	12	14	16	18
	Ø D2 Extra slim [mm]		06	07	08	09	11	13	15
Length A [mm]	ultra short		60	60	60	60	60	60	60
Length L [mm]			—	—	—	41	41	42	41,5
Order No.	Standard	**E40.185...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**
Order No.	Extra slim	**E40.175...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**
Length A [mm]	short		70	70	70	70	70	70	70
Length L [mm]			—	—	—	51	51	48	48
Order No.	Standard	**E40.180...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**
Order No.	Extra slim	**E40.170...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**
Length A [mm]	ZG80		80	80	80	80	80	80	80
Length L [mm]			—	—	—	61	61	48	48
Order No.	Standard	**E40.183...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**
Order No.	Extra slim	**E40.173...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**

Shrinking and cooling sleeves for Mini Shrink chucks								Order No.
Extra slim								
Size [mm]	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12	
Size [inch]	Ø 1/8	—	Ø 3/16	Ø 1/4	Ø 5/16	Ø 3/8	Ø 1/2	
Order No. 80.105.14...	**.2.01**	**.2.02**	**.2.03**	**.2.04**	**.2.05**	**.2.06**	**.2.07**	
Standard								
Size [mm]	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12	Ø 16
Size [inch]	Ø 1/8	—	Ø 3/16	Ø 1/4	Ø 5/16	Ø 3/8	Ø 1/2	Ø 5/8
Order No. 80.105.14...	**.2.04**	**.2.08**	**.2.05**	**.2.09**	**.2.10**	**.2.11**	**.2.12**	**.2.16**
Base								**80.105.14.2.99**
Set with base (12 pcs., diameter 3 – 12 mm)								**80.105.14.2.00**

ER COLLET CHUCK
DIN 69893-5 · HSK-E40

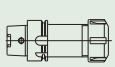
CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For clamping tools with cylindrical shank in ER collets.

– Locknut type HS (High Speed, fine balanced, with slide coating for higher clamping forces)
– Balanced collet nuts with special slide coating for low friction and higher clamping forces

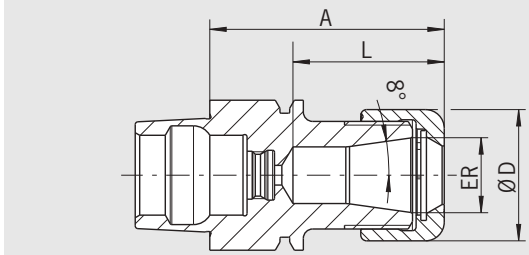
INCH	ER		11	16	25	32
	Ø D [inch]		0.75	1.1	1.65	1.97
	Clamping range [inch]		0.02–0.28	0.02–0.39	0.04–0.63	0.04–0.79
	Clamping range [mm]		0.5–7.0	0.5–10.0	1.0–16.0	1.5–20.0
L [inch]			1.05	1.28	1.61	1.85
Gage length A [inch]	ultra short		2.36	2.36	2.76	2.76
Order No.	**E40.025...**		**.11**[1]	**.16**[1]	**.25**[1]	**.32**[1]
L [inch]				1.30	1.61	
Gage length A [inch]	short			3.15	3.15	
Order No.	**E40.020...**		—	**.16**	**.25**	—

Accessories						
Collet nut HS (Highspeed), fine-balanced						
Ø ER			—	ER16	ER25	ER32
Order No.	**83.912...**			**.16.HS**	**.25.HS**	**.32.HS**
Wrench						
Ø ER			ER11	ER16	—	—
Order No.	**84.200...**		**.11**	**.16**		
Wrench						
Ø ER			—	—	ER25	ER32
Order No.	**84.200...**				**.25**	**.32**
Balancing index rings						
Ø ER			ER11	ER16	ER25	ER32
Order No.	**79.350...**		**.19**	**.28**	**.32**	**.40**
Back-up screw						
Ø ER			—	ER16	ER25	ER32
Order No.	**85.800...**			**.34**	**.34**	**.35**
Coolant tube						
Ø ER			ER11	ER16	ER25	ER32
Order No.	**85.700...**		**.40**	**.40**	**.40**	**.40**

1) Without thread for back-up screw

POWER COLLET CHUCK
DIN 69893-5 · HSK-E40





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– Without thread for set screw
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

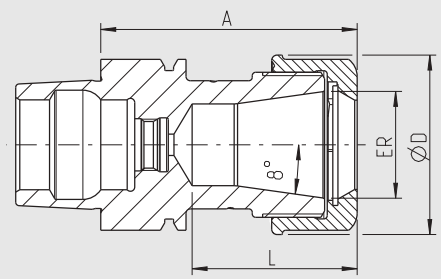
INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]		1.22	1.51	1.85
Gage length A [inch]	ultra short		1.97	2.36	2.76
Order No.	**E40.025...**		**.16.3**	**.25.3**	**.32.3**
	L [inch]		1.69	2.01	2.09
Gage length A [inch]	short		3.15	3.15	3.15
Order No.	**E40.020...**		**.16.3**	**.25.3**	**.32.3**

Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 759–767
Coolant tube				See page 793
Order No.	**85.700.40**			

HIGH PRECISION COLLET CHUCK
DIN 69893-5 · HSK-E40

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools. The chuck is especially suitable for micro and fine machining (e.g. in the medical or watchmaking industry).

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

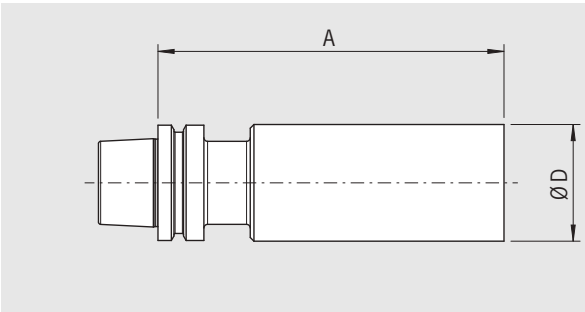
INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]		1.22	1.51	1.85
Gage length A [inch]	ultra short		1.97	2.36	2.76
Order No.	**E40.025...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**
	L [inch]		1.69	2.01	2.09
Gage length A [inch]	short		3.15	3.15	3.15
Order No.	**E40.020...**		**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

Accessories

High Precision Smooth Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench				See page 782
Order No.	**84.650...**	**.16.1**	**.25.1**	**.32.1**
Collets ER				See pages 768–773
Shrink Fit Collets				See pages 759–767
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Coolant tube				See page 793
Order No.	**85.700.40**			

BLANK ADAPTER – HARDENED
DIN 69893-5 · HSK-E40





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

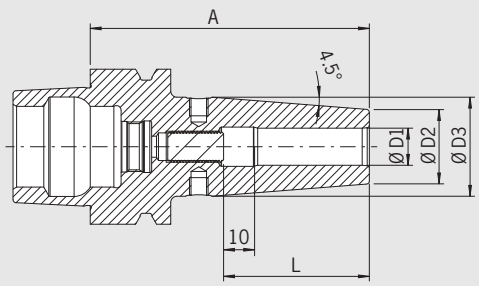
Use:
For manufacturing special tools in your own factory.

Version:
– HSK hardened and ground
– Cylindrical part hardened to 52+2 HRC

METRIC	Ø D [mm]	40.7
Gage Length A [mm]	ZG120	120
Order No.	**RE40.096.0407...**	**.0120**

SHRINK FIT CHUCK
DIN 69893-5 · HSK-E50

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





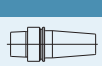
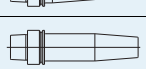
Use:
Shrink fit chuck suitable for use with all available shrink fit units.

DIN 69893-5
– Included in delivery: Shrink fit chuck with back-up screw, without coolant tube
– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6

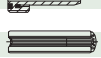
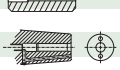
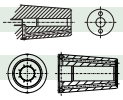
Optional:
– Cooling with Cool Jet for an extra charge (See page 501)
– Cooling with Cool Flash for an extra charge (See pages 502–503)

INCH	Clamping Ø D1 [inch]		1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
	Ø D2 [inch]		0.39	0.39	0.83	0.83	0.94	0.94	0.94	1.06	1.30
	Ø D3 [inch]		—	—	1.06	1.06	1.26	1.26	1.26	1.34	1.65
	L [inch]		0.35	0.59	1.42	1.42	1.65	1.65	1.85	1.97	2.05
Gage length A [inch]	short		2.36[1]	2.36[1]	3.15	3.15	3.35	3.35	3.54	3.74	3.94
Order No.	**E50.140...**		**.1/8Z**	**.3/16Z**	**.1/4Z**	**.5/16Z**	**.3/8Z**	**.7/16Z**	**.1/2Z**	**.5/8Z**	**.3/4Z**
Gage length A [inch]	ZG130				5.12	5.12	5.12	5.12	5.12	5.12	5.12
Order No.	**E50.144...**		—	—	**.1/4Z**	**.5/16Z**	**.3/8Z**	**.7/16Z**	**.1/2Z**	**.5/8Z**	**.3/4Z**

Standard version, similar to DIN 69882-8

METRIC	Clamping Ø D1 [mm]		03	04	05	06	08	10	12	14	16
	Ø D2 [mm]		10	10	10	21	21	24	24	27	27
	Ø D3 [mm]		—	—	—	27	27	32	32	34	34
	L [mm]		09	12	15	36	36	42	47	47	50
Length A [mm]	short		60[1]	60[1]	60[1]	80	80	85	90	90	95
Order No.	**E50.140...**		**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**
Length A [mm]	ZG130					130	130	130	130	130	130
Order No.	**E50.144...**		—	—	—	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**

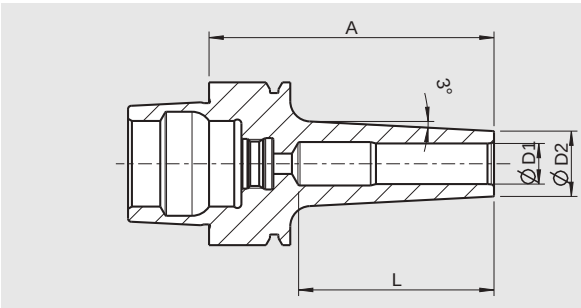
Accessories

Shrink fit extensions			See pages 750–753
Set of Balancing Screws		**Order No. 80.203.00**	See page 784
Coolant tube		**Order No. 85.700.50**	See page 793
Reduction sleeves			See page 794
Back-up Screws			See pages 796–799
Cool Jet bores		**Order No. 91.100.24**	See page 501
Cool Flash Upgrade		**Order No. 91.100.41**	See pages 502–503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for coolant around the tool

MINI SHRINK
DIN 69893-5 · HSK-E50





CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

– Extremely slim design
– No disturbing edges
– TIR less than 0.00012" (3 µm)
– Also jobs difficult to access can be reached
– Ideal for the HAIMER Power Clamp
– For all solid carbide tools with shank tolerance h6
– With 3° angle for die and mold
– With high clamping force
– Tool holders fine balanced
– Delivery without coolant tube

Attention: Heating and cooling sleeves are needed when shrinking on most shrink fit machines (see accessories). However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

INCH	Clamping Ø D1 [inch]		1/8	3/16	1/4	3/8	1/2
	Ø D2 standard [inch]		0.35	0.43	0.47	0.63	0.71
	Ø D2 extra slim [inch]		0.24	0.31	0.35	0.51	0.59
	L [inch]		1)	1)	1)	1.89	1.89
Gage length A [inch]	short		2.76	2.76	2.76	2.76	2.76
Order No.	Standard	**E50.180...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.3/8Z**	**.1/2Z**
Order No.	extra slim	**E50.170...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.3/8Z**	**.1/2Z**
Gage length A [inch]	ZG100		3.94	3.94	3.94	3.94	3.94
Order No.	**Standard**	**E50.181...**	–	**.3/16Z**	**.1/4Z**	**.3/8Z**	**.1/2Z**
Order No.	**extra slim**	**E50.171...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.3/8Z**	**.1/2Z**

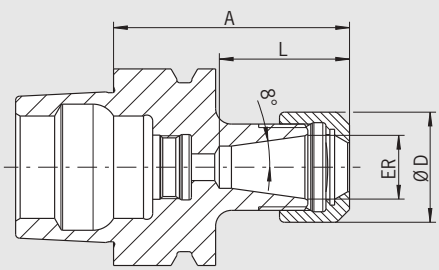
METRIC	Clamping Ø D1 [mm]		03	04	05	06	08	10	12
	Ø D2 Standard [mm]		09	10	11	12	14	16	18
	Ø D2 extra slim [mm]		06	07	08	09	11	13	15
Gage length A [mm]	short		70	70	70	70	70	70	70
Gage length L [mm]			—	—	—	—	—	48	48
Order No.	Standard	**E50.180...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**
Order No.	extra slim	**E50.170...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**
Gage length A [mm]	ZG80		80	80	80	80	80	80	80
Gage length L [mm]			—	—	—	—	—	48	48
Order No.	Standard	**E50.183...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**
Order No.	extra slim	**E50.173...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**
Gage length A [mm]	ZG100				100	100	100	100	100
Gage length L [mm]					—	—	—	48	48
Order No.	Standard	**E50.181...**	**—**	**—**	**.05**	**.06**	**.08**	**.10**	**.12**
Order No.	extra slim	**E50.171...**	**—**	**—**	**.05**	**.06**	**.08**	**.10**	**.12**

Shrinking and cooling sleeves for Mini Shrink chucks								Order No.
Extra slim								
Size [mm]		Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12
Size [inch]		Ø 1/8	—	Ø 3/16	Ø 1/4	Ø 5/16	Ø 3/8	Ø 1/2
Order No.	**80.105.14...**	**.2.01**	**.2.02**	**.2.03**	**.2.04**	**.2.05**	**.2.06**	**.2.07**
Standard								
Size [mm]		Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12
Size [inch]		Ø 1/8	—	Ø 3/16	Ø 1/4	Ø 5/16	Ø 3/8	Ø 1/2
Order No.	**80.105.14...**	**.2.04**	**.2.08**	**.2.05**	**.2.09**	**.2.10**	**.2.11**	**.2.12**
Base								**80.105.14.2.99**
Set with base (12 pcs., diameter 3 – 12 mm)								**80.105.14.2.0**0

1) Drilled through

ER COLLET CHUCK
DIN 69893-5 · HSK-E50

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For clamping tools with cylindrical shank in ER collets.

– Locknut type HS (High Speed, fine balanced, with slide coating for higher clamping forces)
– Balanced collet nuts with special slide coating for low friction and higher clamping forces

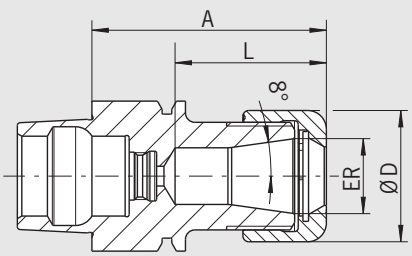
INCH	ER		11	16	20	25	32
	Ø D [inch]		0.75	1.1	1.34	1.65	1.97
	Clamping range [inch]		0.02–0.28	0.02–0.39	0.04–0.51	0.04–0.63	0.04–0.79
	Clamping range [mm]		0.5–7.0	0.5–10.0	1.5–13.0	1.0–16.0	1.5–20.0
L [inch]			1.05	1.28	1.73	1.61	1.85
Gage length A [inch]	ultra short		2.36	2.36	2.76	2.76	3.15
Order No.	**E50.025...**		**.11**[1]	**.16**[1]	**.20**[1]	**.25**[1]	**.32**[1]
L [inch]				1.28		1.61	1.85
Gage length A [inch]	short			3.94		3.94	3.94
Order No.	**E50.020...**		**—**	**.16**	**—**	**.25**	**.32**

Accessories							
Collets ER							See pages 768–773
Shrink Fit Collets							See pages 758–767
Chuck nut HS (fine-balanced)							
Size				ER 16	ER 20	ER 25	ER 32
Order No.	**83.912...**			**.16.HS**	**.20.HS**	**.25.HS**	**.32.HS**
Fork wrench							
Size			ER 11	ER 16	ER 20	—	—
Order No.	**84.200...**		**.11**	**.16**	**.20**		
Clamping wrench							
Size				—	—	ER 25	ER 32
Order No.	**84.200...**					**.25**	**.32**
Balancing index rings							
Size	oversize		ER 11	ER 16	ER 20	ER 25	ER 32
Order No.	**79.350...**		**.19**	**.22**	**.34**	**.32**	**.40**
Adjusting screw							
Size				ER 16	—	ER 25	ER 32
Order No.	**85.800...**			**.34**		**.34**	**.35**
Coolant tube							See page 793
Order No.	**85.700.50**						
Shrink fit extensions							See pages 751–753

1) Without thread for back-up screw
2) Suitable balancing index rings Order No. 79.350.28

POWER COLLET CHUCK
DIN 69893-5 · HSK-E50





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– Without thread for set screw
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

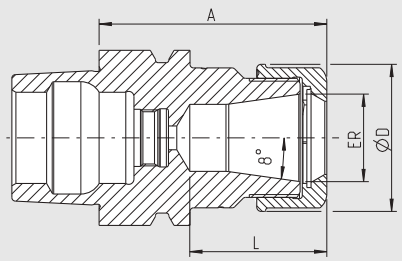
INCH	ER		16	25	32
	Ø D [inch]		1.1	1.65	1.97
	Clamping range [inch]		1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]		2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]		1.26	1.53	1.89
Gage length A [inch]	ultra short		2.36	2.56	2.95
Order No.	**E50.025...**		**.16.3**	**.25.3**	**.32.3**

Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 759–767
Coolant tube				See page 793
Order No.	**85.700.50**			

HIGH PRECISION COLLET CHUCK
DIN 69893-5 · HSK-E50

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools. The chuck is especially suitable for micro and fine machining (e.g. in the medical or watchmaking industry).

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (formerly DIN 6499) (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

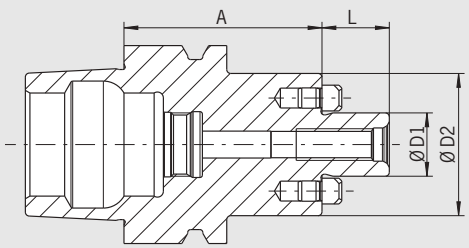
INCH	ER	16	25	32
	Ø D [inch]	1.1	1.65	1.97
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]	1.26	1.53	1.89
Gage length A [inch]	ultra short	2.36	2.56	2.95
Order No.	**E50.025...**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

Accessories

High Precision Smooth Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench				See page 782
Order No.	**84.650...**	**.16.1**	**.25.1**	**.32.1**
Collets ER				See pages 768–773
Shrink Fit Collets				See pages 759–767
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Coolant tube				See page 793
Order No.	**85.700.50**			

FACE MILL ARBOR
DIN 69893-5 · HSK-E50





CERTIFICATE OF QUALITY

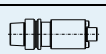
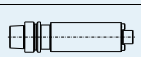
- ☑ Chuck body fine balanced G2.5 25,000 1/min or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Use:

For holding face mill cutters and cutters with radial driving slot DIN 1880 and exceeding clamping diameter 40 clamping according to DIN 2079 is possible, too (4 additional tapping holes).

DIN 69882-3

– Included in delivery: tightening bolt, without coolant tube
– With coolant exit bores on the end face for milling cutters with central cooling

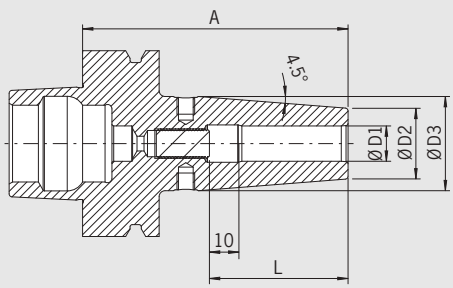
METRIC	Clamping Ø D1 [mm]		16	22	27	32
	Ø D2 [mm]		36	48	60	78
	L [mm]		17	19	21	24
Length A [mm]	short		50	60	60	60
Order No.	**E50.050...**		**.16.KKB**	**.22.KKB**	**.27.KKB**	**.32.KKB**
Length A [mm]	long		100	100	100	100
Order No.	**E50.051...**		**.16.KKB**	**.22.KKB**	**.27.KKB**	**.32.KKB**
Length A [mm]	oversize			160		
Order No.	**E50.052...**		**—**	**.22.KKB**	**—**	**—**

Accessories

Tightening bolt						
Size D1			16	22	27	32
Order No.	**85.300...**		**.16**	**.22**	**.27**	**.32**
Wrench						
Size D1			16	22	27	32
Order No.	**84.400...**		**.16**	**.22**	**.27**	**.32**
Balancing index rings						
Size D1			16	22	27	32
Order No.	**79.350...**		**.36**	**.48**	**.60**	**.78**
Coolant tube						See page 793
Order No.	**85.700.50**					

SHRINK FIT CHUCK
DIN 69893-6 · HSK-F63

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
Shrink fit chuck suitable for use with all available shrink fit units.

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With threaded holes in order to balance with balancing screws
– Included in delivery: Shrink fit chuck with back-up screw
– Cool Jet option available upon request (See page 501)

INCH	Clamping Ø D1 [inch]	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	1
	Ø D2 [inch]	0.39	0.39	0.83	0.83	0.94	0.94	1.06	1.3	1.73
	Ø D3 [inch]	–	–	1.06	1.06	1.26	1.26	1.34	1.65	2.09
	L [inch]	0.35	0.59	1.42	1.42	1.65	1.85	1.97	2.05	2.28
Gage length A [inch]	short	3.15[1]	3.15[1]	3.15	3.15	3.35	3.54	3.74	3.94	4.53
Order No.	**F63.140...**	**.1/8Z**	**.3/16Z**	**.1/4Z**	**.5/16Z**	**.3/8Z**	**.1/2Z**	**.5/8Z**	**.3/4Z**	**.1Z**
Gage length A [inch]	ZG130			5.12	5.12	5.12	5.12		5.12	
Order No.	**F63.144...**	**—**	**—**	**.1/4Z**	**.5/16Z**	**.3/8Z**	**.1/2Z**	**—**	**.3/4Z**	**—**

Standard version, similar to DIN 69882-8

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	16	20	25
	Ø D2 [mm]	10	10	10	21	21	24	24	27	33	44
	Ø D3 [mm]	—	—	—	27	27	32	32	34	42	53
	L [mm]	09	12	15	36	36	42	47	50	52	58
Length A [mm]	short	80[1]	80[1]	80[1]	80	80	85	90	95	100	115
Order No.	**F63.140...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**.16**	**.20**	**.25**
Length A [mm]	ZG120	120[2]	120[2]	120[2]	120	120	120	120	120	120	120
Order No.	**F63.147...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**	**.16**	**.20**	**.25**
Length A [mm]	ZG130				130	130	130	130	130	130	130
Order No.	**F63.144...**	**—**	**—**	**—**	**.06**	**.08**	**.10**	**.12**	**.16**	**.20**	**.25**

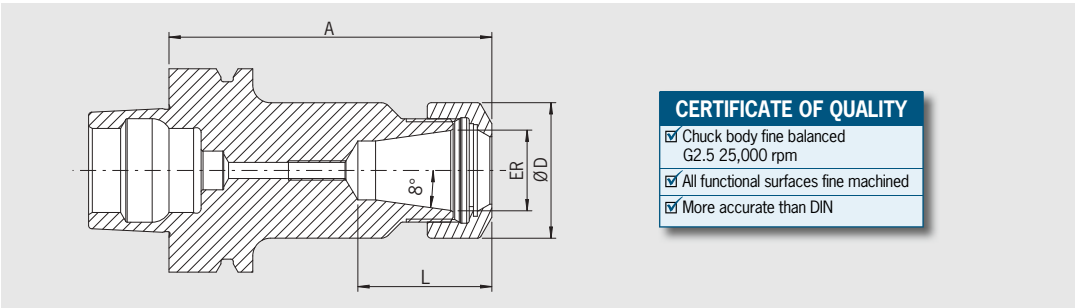
Accessories

Shrink fit extensions	See pages 750–753
Balancing screws	See page 784
Back-up screws	See pages 796–799

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for coolant around the tool
2) Without slits along the clamping bore

ER COLLET CHUCK
DIN 69893-6 · HSK-F63





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Use:
For clamping tools with cylindrical shank in ER collets according to ISO 15488.

DIN 69882-6
– Included in delivery: locknut (balanced, with slide coating for higher clamping forces)
– Locknut type HS (High Speed, fine balanced, with slide coating for higher clamping forces) for an extra charge

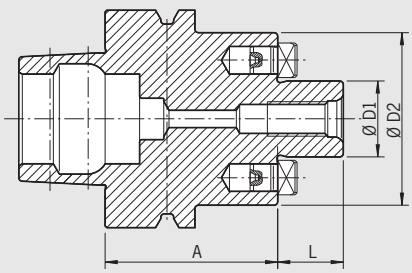
INCH	ER		11	16	20	25	32	40
	ØD [inch]		0.75	1.1	1.34	1.65	1.97	2.48
	Clamping range [inch]		0.02–0.28	0.02–0.39	0.06–0.51	0.04–0.63	0.06–0.79	0.10–1.02
	Clamping range [mm]		0.5–7.0	0.5–10.0	1.5–13.0	1.0–16.0	1.5–20.0	2.5–26.0
L [inch]			1.93	1.93	1.93	1.89	1.98	209
Gage length A [inch]	ultra short		2.95	2.95	2.95	2.95	2.95	2.95
Order No.	**F63.025...**		**.11**	**.16**	**.20**	**.25**	**.32**	**.40**
L [inch]			0.91	1.28	1.51	1.61	1.85	.09
Gage length A [inch]	short		3.94	3.94	3.94	3.94	3.94	4.72
Order No.	**F63.020...**		**.11**	**.16**	**.20**	**.25**	**.32**	**.40**

Accessories

Collets ER								See pages 768–773
Shrink Fit Collets								See pages 758–767
Locknut (pre-balanced)								
Size			ER 11	ER 16	ER 20	ER 25	ER 32	ER 40
Order No.	**83.912...**		**.11**	**.16**	**.20**	**.25**	**.32**	**.40**
Chuck nut HS (fine-balanced)								
Size			—	ER 16	ER 20	ER 25	ER 32	ER 40
Order No.	**83.912...**			**.16.HS**	**.20.HS**	**.25.HS**	**.32.HS**	**.40.HS**
Balancing index rings								
Size	short/oversize		ER 11	ER 16	ER 20	ER 25	ER 32	ER 40
Order No.	**79.350...**		**.19**	**.28**	**.34**	**.42**	**.48**	**.50**
Adjusting screw								
Size			—	ER 16	ER 20	ER 25	ER 32	ER 40
Order No.	**85.800...**			**.34**	**.34**	**.34**	**.35**	**.35**

FACE MILL ARBOR
DIN 69893 · HSK-F63

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For holding face mill cutters and cutters with radial driving slot DIN 1880 and exceeding clamping diameter 40 according to DIN 2079 is also possible (4 additional tapped holes).
With coolant exit bores on the end face for milling cutters with central cooling.
Special modification available: Mounting thread for coolant tube for an extra charge.

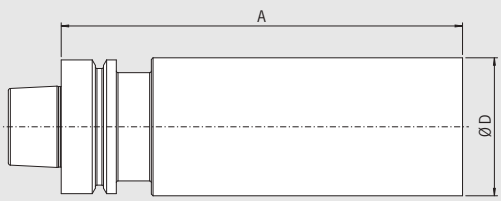
DIN 69882
– Included in delivery: tightening bolt, without coolant tube

METRIC	Clamping Ø D1 [mm]		22	27
	Ø D2 [mm]		48	60
	L [mm]		19	21
Gage length A [mm]	short		50	60
Order No.	**F63.050...**		**.22.KKB**	**.27.KKB**

Accessories					
Tightening bolt					
Size D1			22	27	
Order No.	**85.300...**		**.22**	**.27**	
Wrench					See page 781
Size D1			22	27	
Order No.	**84.400...**		**.22**	**.27**	
Balancing index rings					See page 785
Size D1			22	27	
Order No.	**79.350...**		**.48**	**.60**	
Thread for coolant tube	**91.100.18**				

BLANK ADAPTER – HARDENED
DIN 69893-6 · HSK-F63





CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

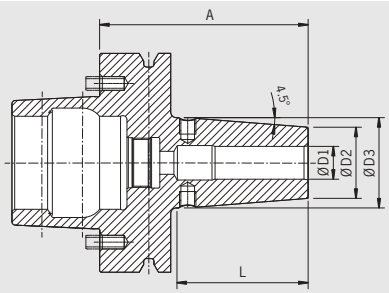
Use:
For manufacturing special tools in your own factory.

Version:
– HSK hardened and ground
– Cylindrical part hardened to 52+2 HRC

METRIC	Ø D [mm]	65
Gage Length A [mm]	ZG250	189
Order No.	**RF63.096.0650...**	**.0189**

SHRINK FIT CHUCK
SIMILAR DIN 69893-6 - HSK-F80 MAKINO
INCH

CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced G2.5 33,000 rpm or U< 1 gmm
- ☑ Balanceable via screws M6
- ☑ All functional surfaces fine machined
- ☑ With thread for coolant tube





The HAIMER HSK-F80 Makino shrink fit chucks provide the highest machining capacity in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects machine, spindle and tool.

- All pre-balanced to G2.5@33,000 rpm or U < 1 gmm
- All standard balanceable via set screws
- Short gage length per machine builders recommendation
- Dampen vibrations, high clamping force
- Equally suited to High Speed machining and heavy milling
- Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
- Shorter cycle times
- Quieter running, therefore better surface quality and protection of cutting tools, machine spindles and machines
- Higher machining accuracy
- Heat resistant hot-working steel
- Hardened 54-2 HRC
- For HSS and solid carbide tools
- Shank tolerance h6
- With thread for coolant tube
- Cooling with Cool Jet for an extra charge (See page 501)
- Cooling with Cool Flash for an extra charge (See pages 502–503)

Standard version

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	7/16	1/2	5/8	3/4	1	1 1/4
	Ø D2 [inch]	0.826	0.826	1.003	1.023	1.023	1.141	1.397	1.83	1.772
	Ø D3 [inch]	1.063	1.063	1.220	1.260	1.300	1.417	1.614	2.047	2.087
	L [inch]	1.417	1.417	1.693	1.693	1.890	2.008	2.008	1.930	2.560
Gage length A [inch]	ultra short	3	3	3	3	3	3	3	3	3.5
Order No.	**F80M.145...**	**.1/4z**[1)]	**.5/16z**[1)]	**.3/8z**	**.7/16z**	**.1/2z**	**.5/8z**	**.3/4z**	**.1z**	**.11/4z**

Extra ultra short version

INCH	Clamping Ø D1 [inch]	3/4	1
	Ø D2 [inch]	1.398	1.811
	Ø D3 [inch]	—	—
	L [inch]	1.713	1.850
Gage length A [inch]	extra ultra short	2.75	2.75
Order No.	**F80M.145...**	**.3/4z.5.i**	**.1z.5.i**
Suitable Cooling adapter	**80.105...**	**.16.0045**	**.18.0011**

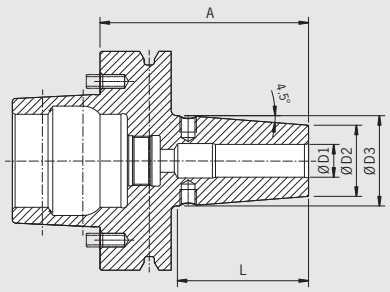
Accessories

Shrink fit extensions		See page 750
Coolant tube	**Order No. 85.700.63**	See page 793
Reduction sleeves		See page 794
Back-up screws		See pages 796–799
Set of balancing screws	**Order No. 80.203.00**	See page 784
Cool Flash	**Order No. 91.100.40**	See pages 502–503
Cool Flash Upgrade incl. Cool Jet	**Order No. 91.100.41**	See pages 502–503

1) With back-up screw

SHRINK FIT CHUCK
SIMILAR DIN 69893-6 - HSK-F80 MAKINO
METRIC





CERTIFICATE OF QUALITY

- ☑ Chuck fine balanced G2.5 33,000 rpm or U< 1gmm
- ☑ Balanceable via screws M6
- ☑ All functional surfaces fine machined
- ☑ With thread for coolant tube

The HAIMER HSK-F80 Makino shrink fit chucks provide the highest machining capacity in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects machine, spindle and tool.

– All pre-balanced to G2.5@33,000 RPM or U < 1gmm
– All standard balanceable via set screws
– Short gage length per machine builders recommendation
– Dampen vibrations, high clamping force
– Equally suited to High Speed machining and heavy milling
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times
– Quieter running, therefore better surface quality and protection of cutting tools, machine spindles and machines
– Higher machining accuracy

Use:
Shrink fit chuck suitable for use with all available shrink fit units.

– Heat resistant hot-working steel
– Hardened 54-2 HRC
– For HSS and solid carbide tools
– Shank tolerance h6
– With thread for coolant tube
– Safe-Lock pull-out protection for an extra charge
– Cooling with Cool Jet for an extra charge (See page 501)
– Cooling with Cool Flash for an extra charge (See pages 502–503)

Standard version

METRIC	Clamping Ø D1 [mm]	6	8	10	12	14	16	20	25
	Ø D2 [mm]	21	21	26	26	29	29	35.5	46.5
	Ø D3 [mm]	27	27	32	33	36	36	41	52
	L [mm]	36	36	43	48	48	51	50.5	49
Length A [mm]	ultra short	76.2	76.2	76.2	76.2	76.2	76.2	76.2	76.2
Order No.	**F80M.145...**	**.06**[1)]	**.08**[1)]	**.10**	**.12**	**.14**	**.16**	**.20**	**.25**

Extra ultra short version

METRIC	Clamping Ø D1 [mm]	6	8	10	12	16	20	25
	Ø D2 [mm]	22	22	26.5	26.5	29.5	35.5	46
	Ø D3 [mm]	—	—	—	—	—	—	—
	L [mm]	38	38	43	36	44.5	43.5	47
Length A [mm]	extra ultra short	70	70	70	70	70	70	70
Order No.	**F80M.145...**	**06.5**	**08.5**	**10.5**	**12.5**	**16.5**	**.20.5**	**.25.5**
Suitable Cooling adapter	**80.105...**	—	—	—	—	—	**.16.0045**	**.18.0011**

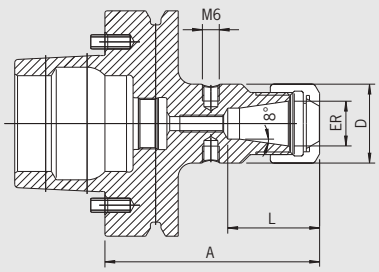
Accessories

Shrink fit extensions		See pages 751–753
Coolant tube	**Order No. 85.700.63**	See page 793
Reduction sleeves		See page 794
Back-up screws		See pages 796–799
Set of balancing screws	**Order No. 80.203.00**	See page 784
Cool Flash	**Order No. 91.100.40**	See pages 502–503
Cool Flash Upgrade incl. Cool Jet	**Order No. 91.100.41**	See pages 502–503

1) With back-up screw

ER COLLET CHUCK
SIMILAR DIN 69893-6 - HSK-F80 MAKINO

CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced G2.5 33,000 rpm or U< 1gmm
- ☑ Balanceable via screws M6
- ☑ All functional surfaces fine machined
- ☑ With thread for coolant tube





The HAIMER HSK-F80 Makino ER collet chucks provide a universal clamping solution for High Speed machining. The optimized design combines a highly accurate universal clamping system for cutting tools.

– All pre-balanced to G2.5@33,000 RPM or U < 1 gmm
– All standard balanceable via screws
– Short gage length per machine builders recommendation
– Balanced nuts with special slide coating for low friction and high clamping forces
– Great for drilling
– Good clamping force
– Higher machining accuracy

Use:
For clamping tools with cylindrical shank in collets according to ISO 15488.

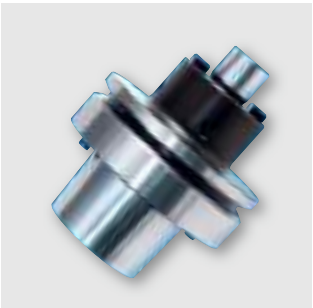
– Included in delivery: Locknut (balanced, with slide coating for higher clamping forces)
– Locknut type HS (High Speed, fine-balanced, with slide coating for higher clamping forces) available for an extra charge
– With threaded holes in order to balance with balancing screws

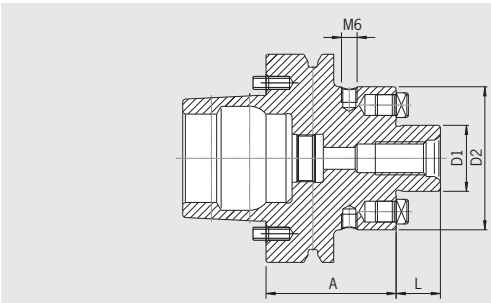
INCH	ER	11	16	20	25	32	40
	Ø D [inch]	1.062	1.102	1.574	1.653	1.968	2.483
	Clamping range [inch]	0.02–0.276	0.02–0.394	0.059–0.512	0.039–0.63	0.02–0.787	0.098–1.024
	Clamping range [mm]	0.5–7.0	0.5–10.0	1.5–13.0	1.0–16.0	1.5–20.0	2.5–26.0
	L [inch]	1.043	1.279	1.515	1.889	1.850	2.086
Gage length A [inch]	ultra short	3	3	3	3	3	3
Order No.	**F80M.025...**	**.11**	**.16**	**.20**	**.25**	**.32**	**.40**

Accessories

Collets ER							See pages 768–773
Shrink Fit Collets							See pages 758–767
Locknut (pre-balanced)							
Size		ER11	ER16	ER20	ER25	ER32	ER40
Order No.	**83.912...**	**.11**	**.16**	**.20**	**.25**	**.32**	**.40**
Chuck nut HS (fine-balanced)							
Size		ER11	ER16	ER20	ER25	ER32	ER40
Order No.	**83.912...**	**.11.HS**	**.16.HS**	**.20.HS**	**.25.HS**	**.32.HS**	**.40.HS**
Set of balancing screws		**Order No. 80.203.00**					See page 784
Coolant tube		**Order No. 85.700.63**					See page 793

FACE MILL ARBOR
SIMILAR DIN 69893-6 - HSK-F80 MAKINO





CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced G2.5 33,000 rpm
- ☑ Balanceable via screws M6
- ☑ Integrated thread for coolant tube

The HAIMER HSK-F80 Makino Face mill arbors provide a solid base for face mill cutters for High Speed machining. The optimized design combines a highly accurate universal clamping system for cutting tools.

Use:
For holding face mill cutters and milling cutters with radial driving slot DIN 1880.

– All pre-balanced to G2.5@33,000 RPM
– All standard as a balanceable for fine tune balancing capability
– Short gage length per machine builders recommendation
– Higher machining accuracy due to proper construction
– Included in delivery: Tightening bolt, without coolant tube
– Coolant bores on front side available for an extra charge
– With threaded holes in order to balance with balancing screws

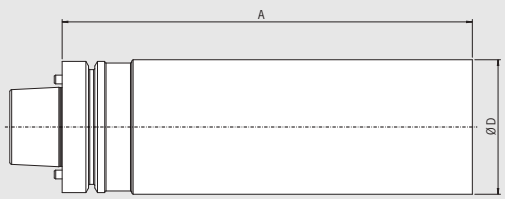
INCH	Clamping Ø D1 [inch]		3/4	1
	Ø D2 [inch]		1.710	2.165
	L [inch]		0.669	0.669
Gage length A [inch]	ultra short		1.968	1.968
Order No.	**F80M.050...**		**.3/4z**	**.1z**
Gage length A [inch]	short		3.937	3.937
Order No.	**F80M.051...**		**.3/4z**	**.1z**

Accessories

Tightening bolt				
Ø D1 [inch]			3/4	1
Order No.	**85.300...**		**.3/4z**	**.1z**
Coolant bores			**Order No. 91.100.03**	
Set of Balancing Screws			**Order No. 80.203.00**	See page 784
Coolant tube			**Order No. 85.700.63**	See page 793

BLANK ADAPTER – HARDENED
SIMILAR DIN 69893-6 - HSK-F80 MAKINO

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For manufacturing special tools in your own factory.

Version:
– HSK hardened and ground
– Cylindrical part hardened to 52+2 HRC

METRIC	Ø D [mm]	82
Gage Length A [mm]	ZG250	250
Order No.	**RF80M.096.0820...**	**.0250**

FOR YOUR NOTES



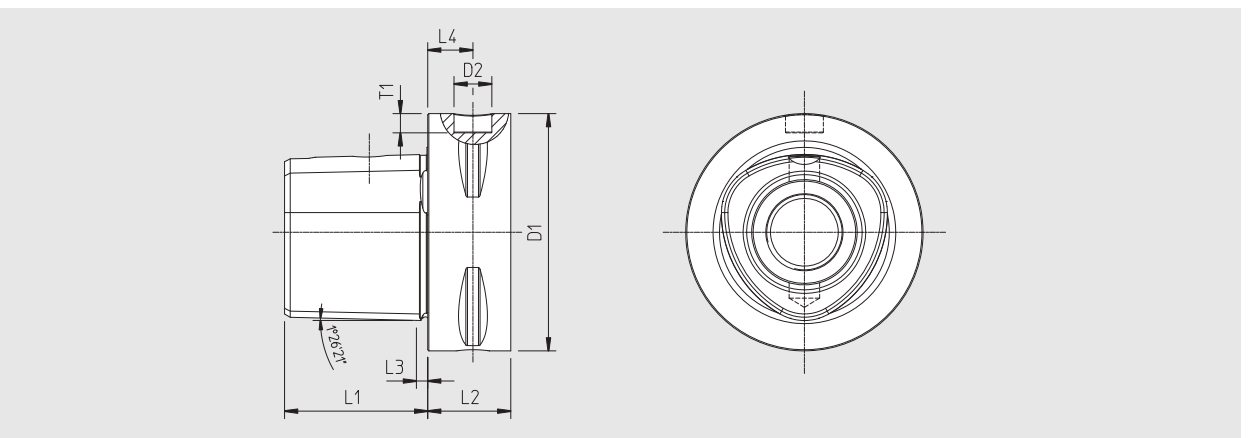
ISO 26623
PSC 63

Article	Page
ISO 26623 PSC 63	
Technical Details of Interface	486
Shrink Fit Chuck	488
Power Shrink Chuck	489
Collet Chuck ER	490
Power Collet Chuck	491
High Precision Collet Chuck	492
Weldon Holder	493
Face Mill Arbor	494
Blank Adapter – Hardened	495

POLYGON SHANK COUPLING PSC 63
ISO 26623

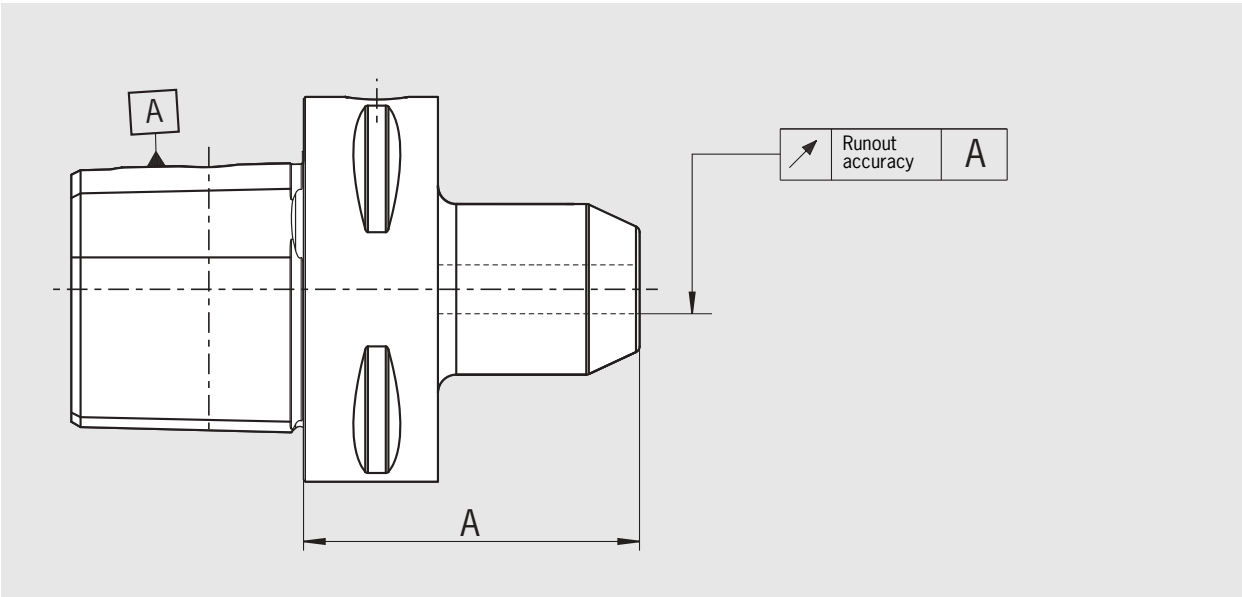
Compared to steep tapers, PSC has the following advantages:
– Highly repeatable accuracy when clamping tools into spindle
– Fixed axial positioning with face contact surface
– Suitable for high speed cutting
– No pull stud necessary
– Interface with a unique tapered polygon and flange face contact
– Exact positioning in the circumferential direction
– Highest runout accuracy, torque and rigidity
– Innovative modular tool system with highest precision
– Suitable for both turning and milling centers
– Incl. bore for data chip Ø 10 mm

Material:
– Special case-hardening steel for highly stressed parts
– Surface hardness: 60–2 HRC
– **Tensile strength in core min. 950 N/mm²**



Length [mm]	D1	D2	L1	L2	L3	L4	T1
PSC 63	63	10	38	22	3	12	5

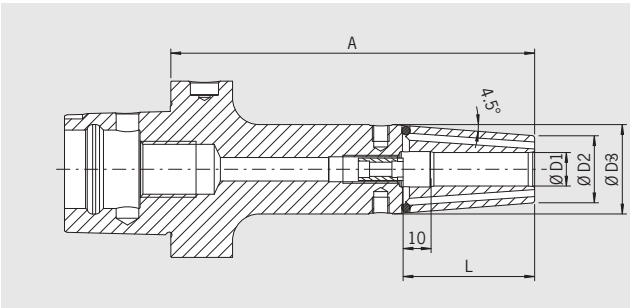
RUNOUT ACCURACY
ISO 26623



Gage length A [mm]	A < 160	A ≥ 160
max. runout tolerance in mm		
Shrink Fit Chuck	0.003	0.004
Collet Chuck ER	0.003	0.004
Power Collet Chuck	0.003	0.004
High Precision Collet Chuck	0.003	0.004
Weldon Tool Holder	0.003	0.004
Face Mill Arbor	0.006	0.006

SHRINK FIT CHUCK
ISO 26623-1 · PSC 63





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

Shrink fit chuck suitable for use with all available shrink fit units.
– Interface with a unique tapered polygon and flange location face
– Exact positioning in the spindle
– Highest runout accuracy, torque and rigidity
– Innovative modular tool system with highest precision
– Suitable for both turning and milling centers
– With threaded holes in order to balance with balancing screws
– Inch sizes with Cool Jet, metric sizes without Cool Jet (optional available)

Optional:
– Metric sizes: Cooling with Cool Jet for an extra charge (See page 501)
– Cooling with Cool Flash for an extra charge (See pages 502–503)

ISO 26623
– Delivery: With back-up screw

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/4
	Ø D2 [inch]	0.83	0.83	0.94	0.94	0.94	1.06	1.30	1.30	1.73	1.73
	Ø D3 [inch]	1.06	1.06	1.26	1.26	1.26	1.34	1.65	1.65	2.09	2.09
	L [inch]	1.42	1.42	1.65	1.65	1.85	1.97	2.05	2.05	2.28	2.28
Gage length A [inch]	short	3.15	—	3.15	—	3.15	3.35	3.35	—	3.54	—
Order No.	**CC6.140...**	**.1/4Z.4**		**.3/8Z.4**		**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**		**.1Z.4**	
Gage length A [inch]	long	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	—	—
Order No.	**CC6.141...**	**.1/4Z.4**	**.5/16Z.4**	**.3/8Z.4**	**.7/16Z.4**	**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**	**.7/8Z.4**		
Gage length A [inch]	ZG130	5.12	—	5.12	—	5.12	5.12	5.12	—	5.12	5.12
Order No.	**CC6.144...**	**.1/4Z.4**		**.3/8Z.4**		**.1/2Z.4**	**.5/8Z.4**	**.3/4Z.4**		**.1Z.4**	**.11/4Z.4**

METRIC	Clamping Ø D1 [mm]	03	04	05	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm]	10	10	10	21	21	24	24	27	27	33	33	44	44
	Ø D3 [mm]	—	—	—	27	27	32	32	34	34	42	42	53	53
	L [mm]	09	12	15	36	36	42	47	47	50	50	52	58	58
Gage length A [mm]	short	80[1]	80[1]	80[1]	80	80	80	80	85	85	85	85	90	95
Order No.	**CC6.140...**	**.03**	**.04**	**.05**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Gage length A [mm]	long	—	—	—	100	100	100	100	100	100	100	100	—	—
Order No.	**CC6.141...**				**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**		
Gage length A [mm]	ZG120	120[2]	120[2]	120[2]	120	120	120	120	120	120	—	120	120	—
Order No.	**CC6.147...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**		**.20**	**.25**	
Gage length A [mm]	ZG130	130[2]	130[2]	130[2]	130	130	130	130	130	130	130	130	130	130
Order No.	**CC6.144...**	**.03.1**	**.04.1**	**.05.1**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Gage length A [mm]	oversize	—	—	—	160	160	160	160	160	160	160	160	160	160
Order No.	**CC6.142...**				**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**32**

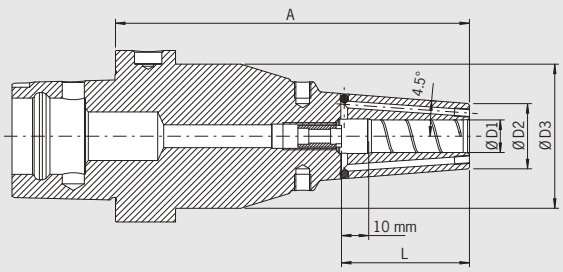
Accessories

Cool Flash	**Order No. 91.100.40**		See pages 502–503

1) Without back-up screw, without threads for balancing screws, with slits along the clamping bore for cooling from outside
2) Without slits along the clamping bore

POWER SHRINK CHUCK
ISO 26623-1 · PSC 63

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The Power Shrink Chuck is designed for the highest cutting performance in High Speed machining. The optimized design combines high rigidity with vibration dampening, which protects the machine, spindle and tool.
- – Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
- – Shorter cycle times, higher machining accuracy
- – Quieter running, therefore better surface quality and protection of tools, spindles and machines
- – With threaded holes in order to balance with balancing screws
- – Cool Jet bores that can be sealed included
- – Cooling with Cool Flash for an extra charge (See pages 502–503)

The long versions (A=130) with slim tips are especially versatile to use.
- – High rigidity, slim at the tip, dampen vibrations
- – High clamping force
- – Equally suited to High Speed and Heavy Duty machining
- – Universal usage, saves space in tool magazine

INCH	Clamping Ø D1 [inch]	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/4
	Ø D2 [inch] ultra short	0.87	0.87	1.04	1.04	1.04	1.16	1.40	1.40	1.77	1.77
	Ø D3 [inch] ultra short	—	—	—	—	—	—	—	—	—	—
	L [inch] ultra short	1.50	1.50	1.69	1.81	1.81	2.00	2.09	2.09	2.36	2.56
Gage length A [inch]	ultra short	2.56	2.56	2.56	2.56	2.56	2.76	2.76	2.76	3.15	3.15
Order No.	**CC6.145...**	**.1/4Z.3**	**.5/16Z.3**	**.3/8Z.3**	**.7/16Z.3**	**.1/2Z.3**	**.5/8Z.3**	**.3/4Z.3**	**.7/8Z.3**	**.1Z.3**	**.11/4Z.3**
Safe-Lock Order No.	**CC6.145...**	—	—	—	—	**.1/2Z.37**	**.5/8Z.37**	**.3/4Z.37**	—	—	—
	Ø D2 [inch] ZG130	0.83		0.94		0.94	1.06	1.30			
	Ø D3 [inch] ZG130	2.09		2.09		2.09	2.09	2.09			
	L [inch] ZG130	1.42		1.65		1.65	1.97	1.97			
Gage length A [inch]	ZG130	5.12		5.12		5.12	5.12	5.12			
Order No.	**CC6.144...**	**.1/4Z.3**	—	**.3/8Z.3**	—	**.1/2Z.3**	—	—			
Safe-Lock Order No.	**CC6.144...**	**.1/4Z.37**	—	**.3/8Z.37**	—	**.1/2Z.37**	**.5/8Z.37**	**.3/4Z.37**			

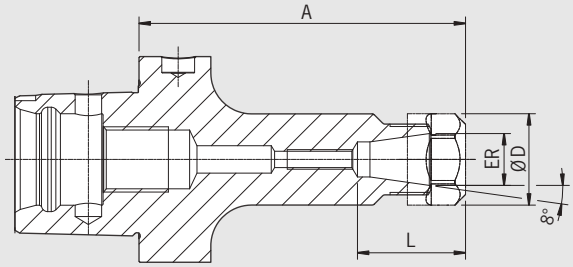
METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	18	20	25	32
	Ø D2 [mm] ultra short	22	22	26.5	26.5	29.5	29.5	35.5	35.5	45	45
	Ø D3 [mm] ultra short	—	—	—	—	—	—	—	—	—	—
	L [mm] ultra short	38	38	43	46	48	51	51	53	60	65
Gage Length A [mm]	ultra short	65	65	65	65	70	70	70	70	80	80
Order No.	**CC6.145...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**	**.14.3**	**.16.3**	**.18.3**	**.20.3**	**.25.3**	**.32.3**
Safe-Lock Order No.	**CC6.145...**	—	—	—	**.12.37**	—	**.16.37**	—	**.20.37**	**.25.37**	**.32.37**
	Ø D2 [mm] ZG130	21	21	24	24		27		33		
	Ø D3 [mm] ZG130	53	53	53	53		53		53		
	L [mm] ZG130	36	36	42	47		50		52		
Gage Length A [mm]	ZG130	130	130	130	130		130		130		
Order No.	**CC6.144...**	**.06.3**	**.08.3**	**.10.3**	**.12.3**		**.16.3**		**.20.3**		
Safe-Lock Order No.	**CC6.144...**	—	—	**.10.37**	**.12.37**		**.16.37**		**.20.37**		

Accessories

Cool Flash	**Order No. 91.100.40**	See pages 502–503

COLLET CHUCK ER
ISO 26623-1 · PSC 63





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ More accurate than DIN

Use:
For clamping tools with cylindrical shank in collets according to ISO 15488 (formerly DIN 6499). Available from ER 16 to 40.

ISO 26623
– Included in delivery: With locknut (balanced, with slide coating for higher clamping forces)
– In four different lengths available, additionally Mini-ER 11 and Mini-ER 16 in two lengths

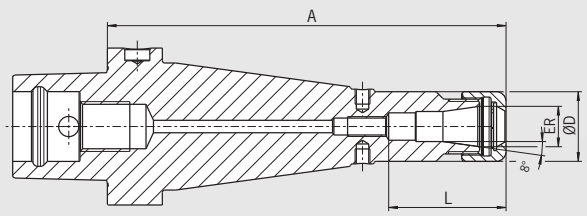
INCH	ER		16	20	25	32	40
	Ø D [inch]		1.1	1.34	1.65	1.97	2.48
	Clamping range [inch]		0.02–0.39	0.06–0.51	0.04–0.63	0.06–0.79	0.98–1.02
L [inch]			2)	2)	1.91	1.87	2.11
Gage length A [inch]	ultra short		2.36	2.36	2.36	2.36	2.56
Order No.	**CC6.025...**		**.16**[1)]	**.20**[1)]	**.25**[1)]	**.32**[1)]	**.40**[1)]
L [inch]			1.30	1.54	1.63	1.87	2.11
Gage length A [inch]	long		3.94	3.94	3.94	3.94	3.94
Order No.	**CC6.021...**		**.16**	**.20**	**.25**	**.32**	**.40**
L [inch]			1.30	1.54	1.63	1.87	2.11
Gage length A [inch]	ZG130		5.12	5.12	5.12	5.12	5.12
Order No.	**CC6.024...**		**.16**	**.20**	**.25**	**.32**	**.40**
L [inch]			1.30	1.54	1.63	1.87	2.11
Gage length A [inch]	oversize		6.30	6.30	6.30	6.30	6.30
Order No.	**CC6.022...**		**.16**	**.20**	**.25**	**.32**	**.40**

INCH	Collet Chuck Mini-ER		11	16
	Ø D1 [inch]		0.63	0.87
	L [inch]		1.00	1.56
Gage length A [inch]	long		3.94	3.94
Order No.	**CC6.021...**		**.11.7**[1)]	**.16.7**[1)]
Gage length A [inch]	oversize		6.30	6.30
Order No.	**CC6.022...**		**.11.7**[1)]	**.16.7**[1)]

1) Without thread for back-up screw

POWER COLLET CHUCK
ISO 26623-1 · PSC 63

CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U < 1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





The Power Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with improved construction combines high rigidity with vibration dampening features, giving more protection to the machine, spindle and tool. The universal Power Collet Chuck is a unique high performance chuck that can also be used with standard collets.

– TIR less than 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, high clamping force
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

INCH	ER	16	25	32
	Ø D [inch]	1.1	1.65	1.97
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]	1.69	2.01	2.09
Gage length A [inch]	oversize	6.30[1)]	6.30[1)]	6.30[1)]
Order No.	**CC6.024...**	**.16.3**	**.25.3**	**.32.3**

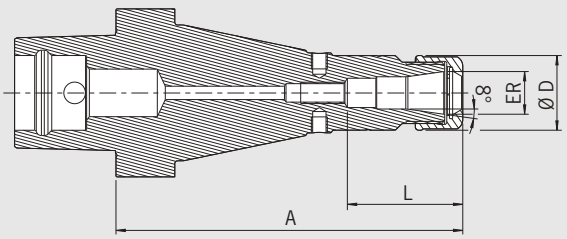
Accessories

Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**
Power Collet clamping wrench				See page 781
Torque Master torque wrench				See page 780
Order No.	**84.600.00**			
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No.	**91.100.27**			
Shrink Fit Collets				See pages 759–767

1) With back-up screw

HIGH PRECISION COLLET CHUCK
ISO 26623-1 · PSC 63





CERTIFICATE OF QUALITY

- ☑ Chuck body fine balanced G2.5 30,000 rpm or U<1 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

The High Precision Collet Chuck is designed for the highest cutting performance in High Speed machining. The optimized design with better construction and a special coated smooth locknut combines high rigidity with vibration dampening and noise-reducing features, giving more protection to machines, spindles and tools.

– With a specially coated smooth locknut, balanced at < 1 gmm
– High runout accuracy: < 0.00012" (3 µm) at 3 × D with HAIMER Power Collets
– Also for standard collets ER according to ISO 15488 (Attention: By using standard collet, ER length A will increase)
– High rigidity
– Runs smoother thanks to vibration absorbing geometry, yielding better surface finish and increased tool, spindle and machine protection
– Highest cutting performance with higher spindle speeds, higher feeds and larger cutting depths
– Shorter cycle times, higher machining accuracy, higher clamping forces
– Equally suited to High Speed and dynamic machining
– With threaded holes in order to balance with balancing screws
– Optional: Cool Jet bores on Power Collets
– Program of Power Collets on pages 774 – 776

INCH	ER	16	25	32
	Ø D [inch]	1.1	1.65	1.97
	Clamping range [inch]	1/8–3/8	1/8–5/8	1/8–3/4
	Clamping range [mm]	2.0–10.0	2.0–16.0	2.0–20.0
	L [inch]	1.69	2.01	2.09
Gage length A [inch]	oversize	6.30[1)]	6.30[1)]	6.30[1)]
Order No.	**CC6.024…**	**.16.3.HP**	**.25.3.HP**	**.32.3.HP**

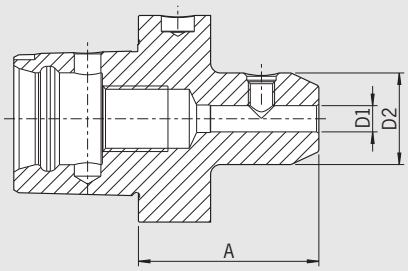
Accessories

High Precision Smooth Locknut (fine-balanced)				See page 779
Size		ER 16	ER 25	ER 32
Order No. 83.914…		**.16.1**	**.25.1**	**.32.1**
Roller bearing wrench				See page 782
Order No. 84.650…		**.16.1**	**.25.1**	**.32.1**
Collets ER				See pages 768–773
Shrink Fit Collets				See pages 759–767
Power Collets				See page 775
Power Collets with Safe-Lock				See page 776
Cool Jet bores for Power Collets				See page 777
Order No. 91.100.27				

1) With back-up screw

WELDON TOOL HOLDER
ISO 26623-1 · PSC 63

CERTIFICATE OF QUALITY
- ☑ Chuck fine balanced G2.5 25,000 rpm
- ☑ All functional surfaces machined
- ☑ More accurate than DIN





Use:
For clamping cutters with cylindrical shanks and Weldon flats according to DIN 1835-B and DIN 6935-HB.
From Ø 6 to Ø 40 mm.
– Interface with a unique tapered polygon and flange location face
– Exact positioning in the spindle
– Highest runout accuracy, torque and rigidity
– Innovative modular tool system with highest precision
– Suitable for both turning and milling centers

ISO 26623
– Included in delivery: with clamping screw

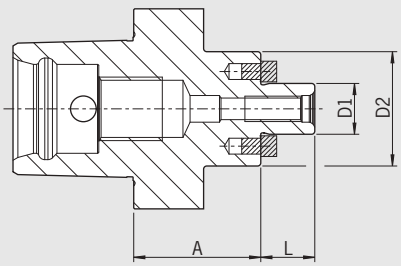
METRIC	Clamping Ø D1 [mm]	06	08	10	12	14	16	18	20	25	32	40
	Ø D2 [mm]	25	28	35	42	44	48	50	52	64	72	80
Gage length A [mm]	short	55	55	60	60	60	65	65	65	80	90	100
Order No.	**CC6.000...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**	**.40**

Accessories

Clamping screw												
Clamping Ø		06	08	10	12	14	16	18	20	25	32	40
Order No.	**85.100...**	**.06**	**.08**	**.10**	**.12**	**.12**	**.14**	**.14**	**.16**	**.18**	**.20**	**.25**
Balancing index rings												
Clamping Ø	long/oversize	06	08	10	12	14	16	18	20	25	32	40
Order No.	**79.350...**	**.25**	**.28**	**.35**	**.42**	**.44**	**.48**	**.50**	**.52**	**.64**	**.72**	**.80**
Cool Jet bores from Ø 6 mm – Ø 20 mm												See page 501
Order No.	**91.100.24**											
Cool Jet bores from Ø 25 mm – Ø 32 mm												See page 501
Order No.	**91.100.26**											

FACE MILL ARBOR
ISO 26623-1 · PSC 63





CERTIFICATE OF QUALITY
- ☑ Chuck body fine balanced G2.5 25,000 rpm or U<1 gmm
- ☑ All functional surfaces machined
- ☑ More accurate than DIN

Use:
For clamping face mill cutters and cutters with radial driving slot DIN 1880.
– Interface with a unique tapered polygon and flange location face
– Exact positioning in the spindle
– Highest runout accuracy, torque and rigidity
– Innovative modular tool system with highest precision
– Suitable for both turning and milling centers

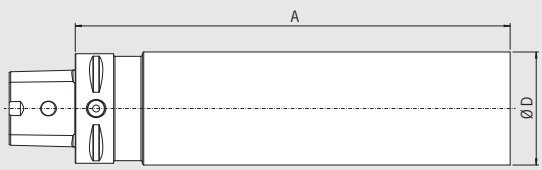
ISO 26623
– Included in delivery: tightening bolt
– With coolant exit bores on the end face for milling cutters with central cooling

METRIC	Clamping Ø D1 [mm]	16	22	27	32	40
	Ø D2 [mm]	36	48	60	63	70
	L [mm]	17	19	21	24	27
Gage length A [mm]	short	40	25	25	25	40
Order No.	**CC6.050...**	**.16.KKB**	**.22.KKB**	**.27.KKB**	**.32.KKB**	**.40.KKB**

Accessories						
Tightening bolt						
Size D1		16	22	27	32	40
Order No.	**85.300...**	**.16**	**.22**	**.27**	**.32**	**.40**
Wrench						
Size D1		16	22	27	32	40
Order No.	**84.400...**	**.16**	**.22**	**.27**	**.32**	**.40**
Balancing index rings						
Size D1		16	—	—	—	40
Order No.	**79.350...**	**.36**				**.70**

BLANK ADAPTER – HARDENED
ISO 26623-1 · PSC 63

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN





Use:
For manufacturing special tools in your own factory.

Version:
– Polygon taper and groove hardened and ground
– Cylindrical part hardened to 52+2 HRC

METRIC	Ø D [mm]		65
Gage Length A [mm]	ZG100		100
Order No.	**RCC6.096.0650...**		**.0100**
Gage Length A [mm]	ZG250		250
Order No.	**RCC6.096.0650...**		**.0250**

SAFE-ΛOCK® PULL OUT PROTECTION – THE SYSTEM







No tool pull out with Safe-Lock

SAFE-LOCK:
The safety belt for your tools

In high performance cutting (HPC), it is possible for the cutting tool to be pulled out of the chuck. The reason is a slow micro-creeping motion. It happens when cutting at high speeds and with high pull out forces. Even chucks with extremely high clamping force cannot prevent micro-creeping. High-quality work pieces become scrap as a result. **The Safe-Lock system offers a solution.**

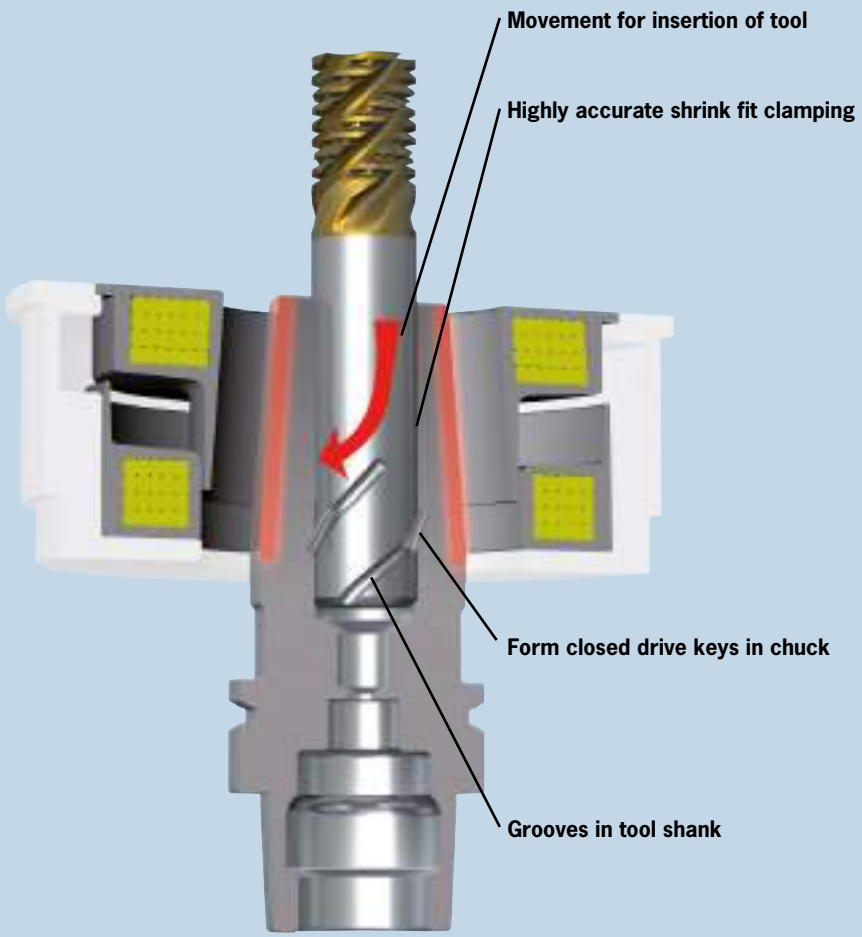
The revolutionary system secures the cutting tool via the high accuracy frictional clamping in conjunction with a positive locking form fit connection with the grooves in the cutting tools and the corresponding form fit in the tool holder. This creates a connection in which all potential movements of the cutting tool are prevented.

Your advantages –
Be on the safe side with SAFE-LOCK

- For High Performance Cutting (HPC)
- Highly accurate clamping due to shrink fit or collet chuck technology, runout accuracy < 0.00012" (3 µm)
- High torque due to form closed clamping
- No pull out of the tool, thus no damages to the work piece or machine
- No spinning of the tool
- The groove on the tool shank is directed so that the tool will be pulled into the chuck (depending on direction of rotation)
- Patent granted: licensing possible

Maximum metal removal rate with absolute process reliability

SAFE-ΛOCK® PULL OUT PROTECTION – FUNCTIONALITY



The following tool manufacturers are officially licensed by HAIMER and offer their shank cutting tools with Safe-Lock grooves in the tool shank as a standard.

SAFE-ΛOCK® APPLICATION EXAMPLES



Safe-Lock: Application in the aerospace industry at a large aircraft manufacturer in the USA

Problem:

- Low metal removal rate (especially for roughing)
- Low cutting tool life
- Expensive scrap at titanium and aluminum work pieces
- All tests with different systems failed: Milling Chucks, Press-Fit Chucks, Hydraulic Chucks or reinforced shrink fit chucks could not prevent cutting tool pull-out, despite higher clamping forces
- As a result they only used Whistle Notch / Weldon

Target:

- Needed to increase metal removal rate – especially for roughing
- Wanted to increase cutting tool life
- Increase of process reliability to avoid expensive scrap

Application: Roughing Titanium

Work piece:	Critical airplane component made of Ti6Al4V, a titanium alloy
Machine:	Vertical portal milling machine
Machine tool:	HSK-A100
Tool holder:	Shrink Fit Chuck HAIMER Safe-Lock , Ø 32 mm, length 120 mm
Roughing/ Fine machining:	One and the same coated solid carbide tool, effective cutting length of 83 mm

Result:

- Cutting tool was securely held due to Safe-Lock in all tests, no movement in the chuck during the entire machining process
- No danger of the tool being pulled out of the chuck
- Tool life more than doubled
- During roughing and finishing operations no vibrations, and consequently no chatter marks – unlike the Weldon chuck
- Significant productivity increases through the increase in material removal rates of **30%**

100% MORE TOOL LIFE WITH

SAFE-ΛOCK®

SAFE-LOCK® APPLICATION EXAMPLES

Safe-Lock: Application at a leading provider in the industrial sealing technology

Problem:

- Tool pull-out at high precision tool holder
- Only Weldon holders could be used

Target:

- Process reliability in machining with highly precise tool holding

Application: Roughing VA Steel

Work piece:	Gasket ring
Material:	1.4571 (VA)
Machine:	Mazak
Interface:	SK40
Tool:	Solid carbide, variable flute end mill, Ø 16 mm

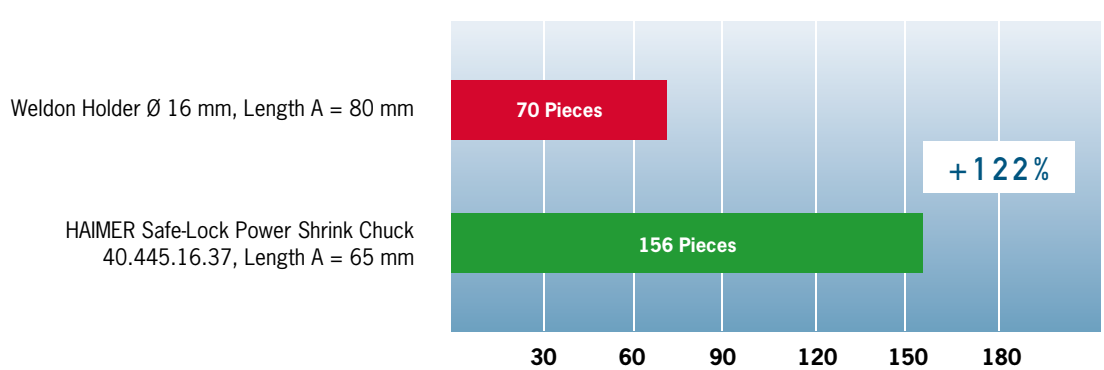
Application parameters:

Cutting Depth:	Axial (a_p) 19.8 mm
Radial (a_e) Slot:	29.8 mm
RPM:	1194 rpm
Cutting speed (vc):	60 m/min
Feed rate/flute (fz):	0.2 mm/r

Result:

- With Weldon holder and tooling, 50–70 parts per cutter
- With Safe-Lock, 150 parts per cutter and no pull-out issue
- Machine runs much smoother with less vibrations

Test:



Test result: Higher output by 86 pieces in the same time or an increase by 122%.

SAFE-LOCK® APPLICATION EXAMPLES

Safe-Lock: Roughing application in the packing machine industry

Problem:

– High tool wear on one flute (tool breakout)
– Only Weldon holders could be used

Target:

– Increase of tool life
– Usage of high precision tool holding instead of Weldon

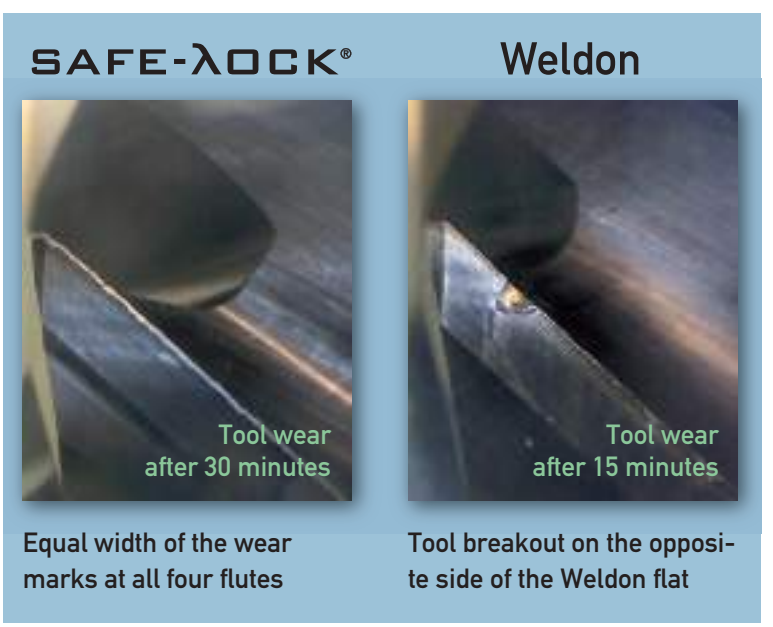
Application: Contour milling

Material work piece: Steel

Cutting tool: HPC solid carbide cutter with variable flutes, Ø = 20 mm, Z=4

Application parameters:

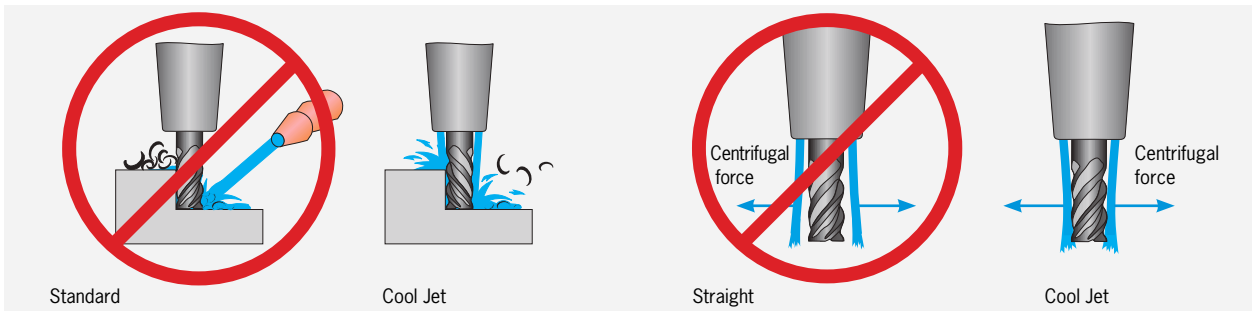
Cutting depth radial (a_e) = 10 mm
Cutting depth axial (a_p) = 0.75xD
Cutting speed (v_c) = 180 m/min
Feed rate/flute (f_z) = 0.07 mm



Result

This comparison shows the wear characteristics of the cutting tools at various machining times. It is worth noting that, in the case of Safe-Lock, even at double the machining time, wear is less prevalent and more controlled than the Weldon – **with 100% protection against pull-out.**

COOL JET – CUT THE CHIP ONLY ONCE!

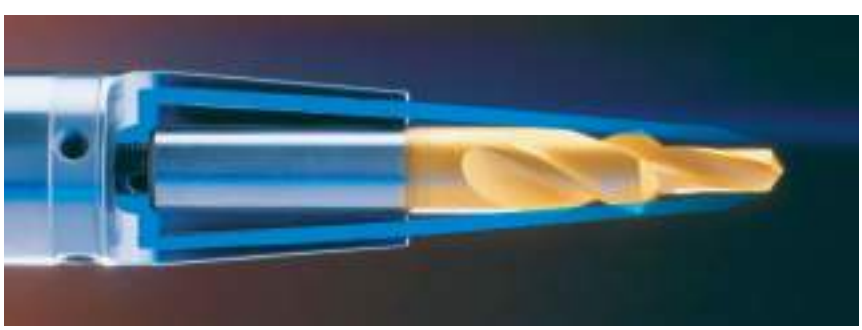


– Coolant directly to the cutting edge
– Extended tool life up to 100%
– Higher reliability of cutting process
– Eliminates chips packing and chip welding

Function at high spindle speed

Previous coolant bores: straight
Optimized coolant bores: aimed at center

Cool Jet available in following versions	Order No.
Cool Jet with 2 Coolant bores for Shrink fit chucks (Ø 6–14mm), Weldon (Ø 6–20mm) and HG Collets	**91.100.24**
Cool Jet with 3 Coolant bores (Shrink fit chuck Ø 16mm–32mm)	**91.100.25**
Cool Jet with 4 Coolant bores for Weldon (Ø 25–40mm) and Whistle Notch (Ø 25–40mm)	**91.100.26**

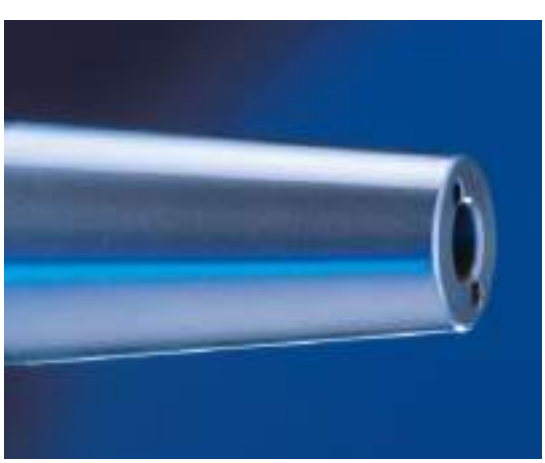




Shrink Fit Chuck

Examples

For use in:
– Shrink Fit Chuck
– High-Precision Chuck
– Face Mill Arbor
– Weldon Chucks
– Power Collets
– Duo-Lock Collets
– Duo-Lock Extensions

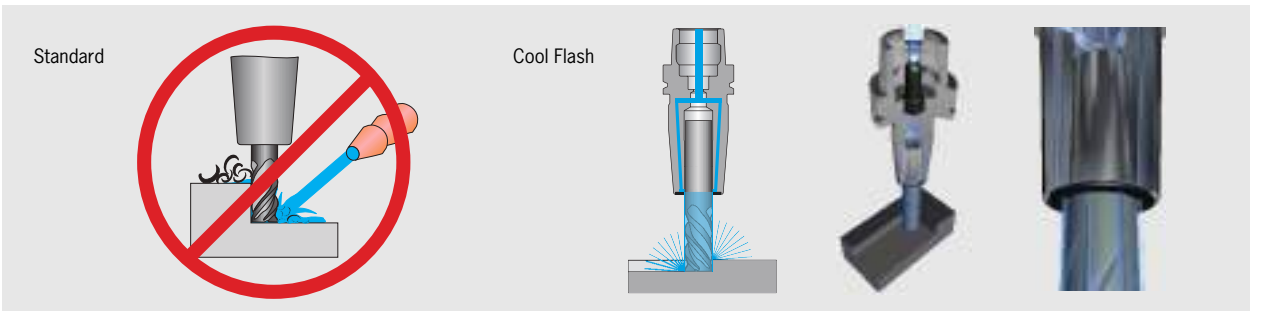


Coolant bores aimed at center
Cool Jet by HAIMER



Weldon

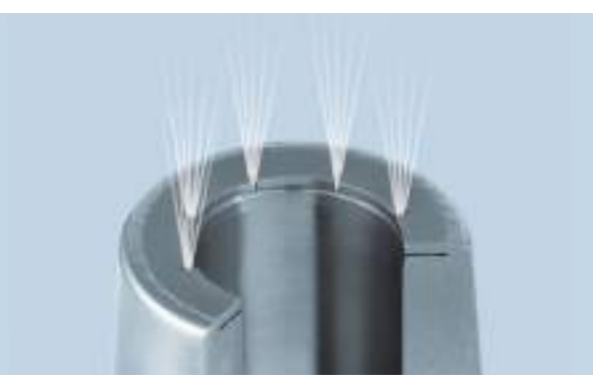
COOLING SYSTEM COOL FLASH – COOLANT TAKEN TO THE TOP



True to the slogan “make good things even better”, HAIMER has developed the Cool Flash system out of the existing Cool Jet system. The Cool Flash design directs coolant into T-slots at the nose of the holder and works with the centrifugal force of the rotating tool to lead the coolant along the shank of the cutter and directly to the flutes at any speed.

- Coolant directly to the cutting edge
- Extended tool life up to 100%
- Eliminates chip packing and chip welding
- Also for high rpm
- Optimized runout accuracy! No additional unbalance! No disturbing clearance!
- Low acquisition costs & can be added later
- For tools from diam. ¼"–1" (6 mm up to diam. 25 mm)





Optimized coolant bores with coolant outlet through slots Cool Flash by HAIMER

Cool Flash vs. internal tool cooling

	Cool Flash	internal tool cooling
Cooling range at the cutting edge	✓ 100%	✗ max. 30–40%
Tool stability	✓ maximum	✗ reduced
Application range	✓ variable	✗ per cutting tool
Diameter area	✓ from 6 mm	✗ from 12 mm
Acquisition cost	✓ per tool holder	✗ per cutting tool

Cool Flash

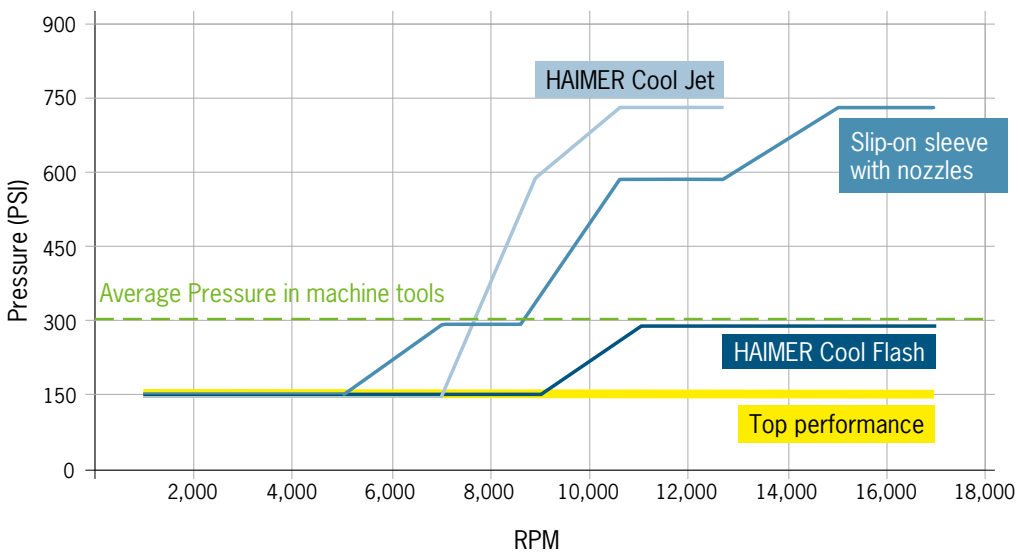
Cool Flash		**Order No. 91.100.40**
Cool Flash Upgrade incl. Cool Jet		**Order No. 91.100.41**

COOLING SYSTEM COOL FLASH – SIMULATION

The goal of the development of the Cool Flash system was to transport the coolant directly to the cutting edges. Even for existing machine tools with an average pressure of approx. 290 psi, Cool Flash allows for reliable and precise cooling without any changes to the cooling system of the machine tool.

The graphic shows the optimized coolant supply to the cutting edges for different systems by comparing dependence of pressure and rpm. Even at low pressure and high rpm Cool Flash assures precise cooling. On competitive systems, higher rpm require higher pressure to generate effective cooling.

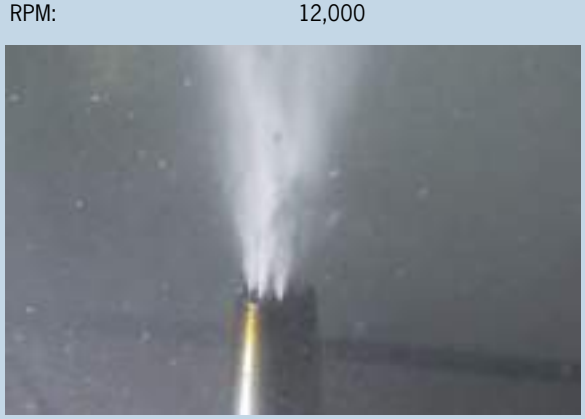
Optimized coolant supply to the top of the cutting tool
(Protruding length: 28 mm, Tool Ø 6 mm)



COOL FLASH COMPARED TO COMPETITIVE SYSTEMS

Test Results

Tool:	Endmill (two flutes)
Tool diameter:	20 mm
Protruding length:	50 mm
Pressure:	290 psi (20 bar)
RPM:	12,000



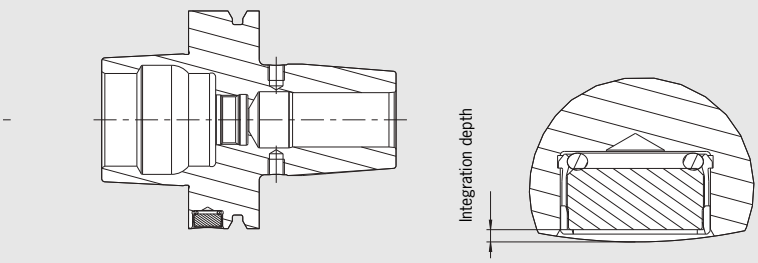
Cool Flash – effective cooling at the cutting edges



Slip-on sleeve with nozzles –
ineffective cooling, coolant does not reach the cutting edges

DATA-λOCK
MECHANICAL DATA CARRIER LOCKING SYSTEM





The mechanical data carrier locking system locks the data carrier by a form and press fit into the tool holder. Especially for higher rpm ranges the new system provides high process reliability.

Advantages:
- Process reliability even at high rotations thanks to mechanical locking (60,000 – 120,000 rpm)
- Less integration depth than comparable mechanical locking systems
- Process reliability at the reading/writing process thanks to the reduced integration depth
- Fine balanced tool holder after data carrier assembly
- Immediately ready to use
- Possible also for non-HAIMER holders
- Patent pending

Delivery includes:
- Modification of the data carrier bore
- Sleeve for the data carrier
- Seal ring
- Mounting of data carrier
- Fine balancing





	Order No.
Mounting on HAIMER holders incl. fine balancing	**91.100.06**
Mounting on different holders incl. fine balancing	**91.100.07**

ULTRA-PRECISION SHRINK FIT CHUCK WITH RUNOUT <0.001MM



CERTIFICATE OF QUALITY

- ☑ Chuck body ultra fine balanced G2.5 33,000 rpm or U<0.5 gmm
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN

HAIMER offers the opportunity to supply Ultra-Precision Shrink Fit Chucks with a runout accuracy < 1 µm.
The Ultra-Precision Shrink Fit Chucks with additional ultra fine balancing are ideal for ultra high speed and high precision machining centers to achieve even better surface finish.

Your advantages are:

– No extra wear of the tool
– Higher accuracy
– Better surface finish
– Higher cutting volume
– Smooth running, low vibration
– Optional available for all shrink chucks
– With additional ultra fine balancing G2.5 33,000 rpm or U < 0.5 gmm

	Order No.
Ultra-Precision Shrink Fit Chuck	**91.100.45**

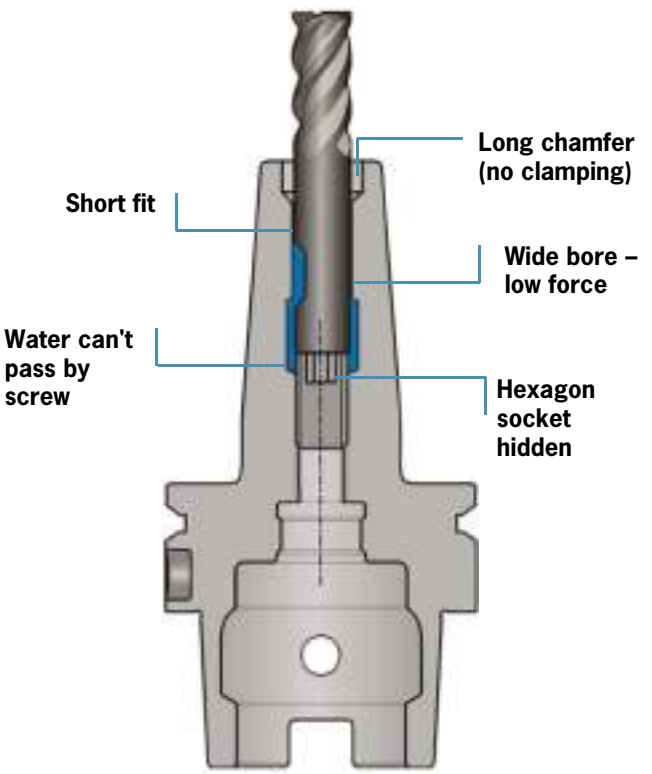


Now available: Ultra-Precision Shrink Fit Chuck with runout accuracy < 1 µm

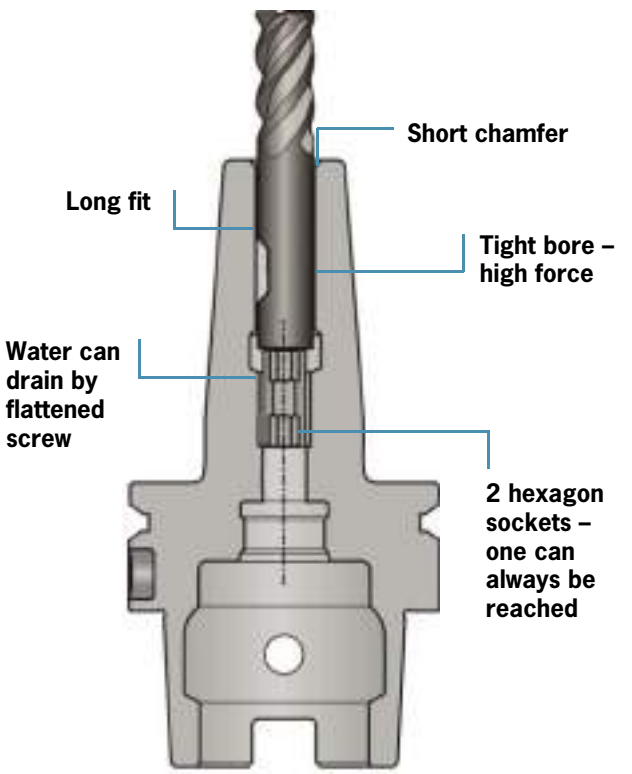


COMPARISON SHRINK FIT CHUCKS – HAIMER VS. COMPETITOR

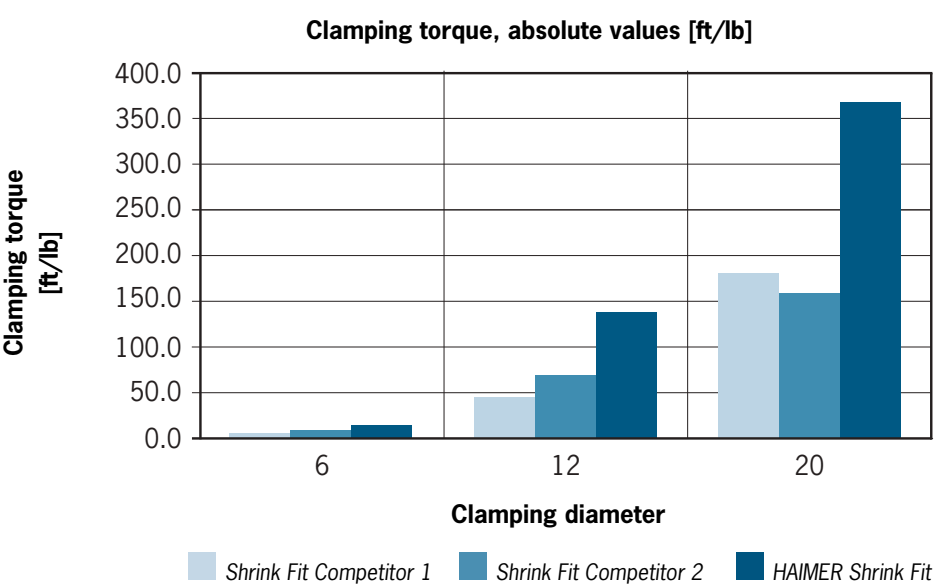
Competitor



HAIMER



Comparison Shrink Fit Clamping Torque



HAIMER SHRINK FIT CHUCKS ADVANTAGES

Total quality control

– All shrink chucks built by HAIMER in-house
– HAIMER is a true innovator – making shrink fit an even better solution for everyone
– Shrinking of carbide and HSS tools from diameter 3 – 50 mm (1/8" to 2") in tolerance h6
– Even small clamping diameter 3 – 5 mm (1/8", 3/16") suitable for HSS tools with shank tolerance h6

Highest clamping force due to extreme pressure on shank

– Highest pull out force
– Highest torque (See diagram)
– Secure clamping even when tool shank is at lower range of tolerance
– Optimum process security

Optimum support of tool

– Short chamfer for inserting tool – clamping up to the top (See sketch)
– Long fit – support of tool on whole length (See sketch)
– Extreme rigidity
– Long tool life
– No movement of tool in tool holder

Patented security set screw (See sketch)

– No dangerous development of steam when heating due to total drainage of water
– Precise length adjustment due to fine pitch thread (small clearance)
– Hexagon socket on both ends
– Simple tool removal after breakage (on hexagon socket always can be reached)

Long life of tool holder

– High-temperature resistant special steel (tested more than 2,000 times)
– No wear of clamping bore due to high clamping forces and short chamfer
– No distortion due to special hardening method

More

– For heavy-duty machining reinforced chucks type Power Shrink or Heavy Duty
– Flexible tool length with shrink fit extensions – no more special tool holders
– Optimum coolant supply by Cool Jet or Cool Flash system (no interruption of the bore)
– Balanced to G2.5 at 25,000 RPMs or under 1 gmm of unbalance (dependent upon taper)
– Fine balancing with set screws possible
– Several lengths in stock
– Slender shape – “Mini-Shrink” available
– Outer shape can be machined by user
– Dimensions according to DIN 69882-8 - Inch and metric bore diameters standard
– TIR 0.00012" (0.003 mm) at 3 times diameter
– Steep taper in tolerance AT 3, form AD/AF (coolant through center and through collar)
– All DIN and HSK-A include pocket for data chip
– CAT40 and CAT50 holders have ground pilot for pull-stud connection
– CAT40 and CAT50 standard with DIN-B coolant delivery option



GRINDING WHEEL ADAPTERS

CONTENT

General

Why balance grinding wheels? 510

How to balance your grinding wheels correctly 511

Grinding Wheel Adapters for

ISOG 512

UWS (Reinecker) 513

Rollomatic 514

Walter 515

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Schütte 518

Adapter for

Tool Grinding Machines 520

Dressing Machines 520

Tool Presetters 520

Balancing Machines 520

Accessories

For Grinding Wheel Adapters 521

Set of Balancing Screws and Heavy Metal Balancing Screws 522

Balancing Rings 523

Torque Wrench 524

Tool Assembly Device Tool Clamp 525

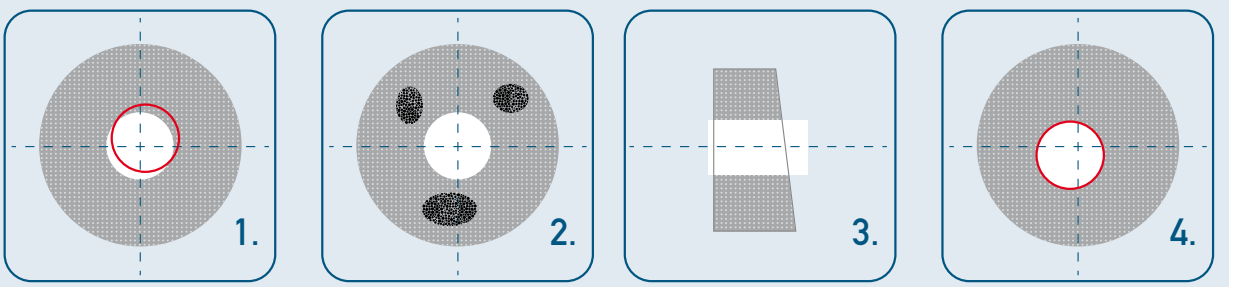
WHY BALANCE GRINDING WHEELS?

Why balance grinding wheels?

Dressing ≠ Balancing

Balancing of grinding wheels is essential no matter if you dress them or not!

Causes of unbalance on a grinding wheel:



1. Tolerance of the grinding wheel bore
2. Uniformity of the grinding wheel
3. Parallelism of the grinding wheel
4. Concentricity of the grinding wheel

– Tolerance of the grinding wheel arbor
– Dressing of the grinding wheel
– Wear of the grinding wheel
– Profiling of the grinding wheel

Consequences of unbalance

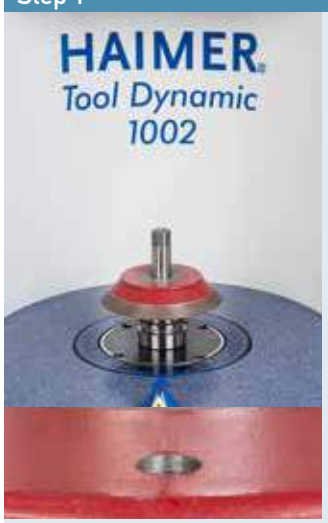
1. Reduced surface quality ➔ Chatter marks
2. Reduced dimensional accuracy on the work piece ➔ Increased costs for wheel dressing
3. Extremely high grinding wheel wear ➔ Reduced tool life
4. Spindle head wear out ➔ Danger of machine down time ➔ Unnecessary repairs ➔ Expensive inspections

As a result, the grinding parameters are reduced and productivity is decreased

HOW TO BALANCE AND DRESS YOUR GRINDING WHEELS CORRECTLY

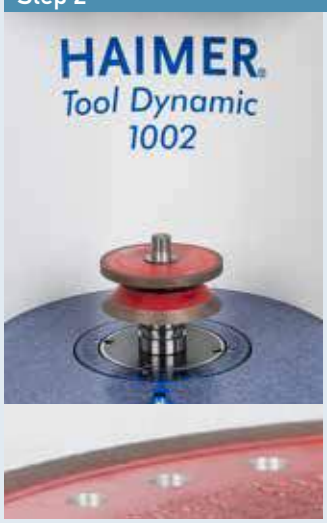
Guideline for initial balancing of a new grinding wheel pack

Step 1



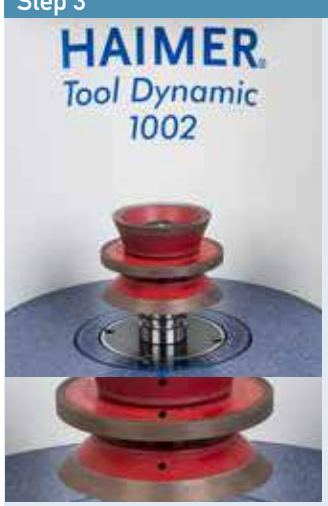
1. Add first grinding wheel on arbor
2. Add distance disk
3. Tighten nut
4. Measure unbalance
5. Correct unbalance (e.g. by axial drilling)

Step 2



1. Add 2nd grinding wheel to arbor
2. Add position reference marking on both grinding wheels
3. Tighten nut
4. Measure unbalance
5. Correct unbalance (e.g. by axial drilling)

Step 3



1. Add 3rd grinding wheel to arbor
2. Add position reference marking on all three grinding wheels
3. Tighten nut
4. Measure unbalance
5. Correct unbalance (e.g. by axial drilling)

➔ Prebalancing finished

Step 4

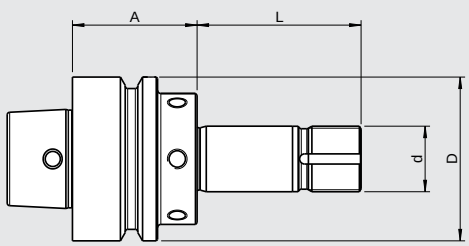


1. Dressing of complete grinding wheel
2. Measure unbalance
3. Correct unbalance
   (e.g. by balancing screws see page 522)

➔ Fine-balancing and dressing finished

ISOG GRINDING WHEEL ADAPTER HSK-F50 (WITH ACCESS HOLE) Ø 20 MM FOR SPACERS Ø 40 MM



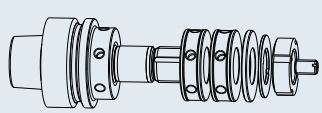


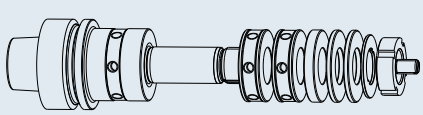
CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Body with balancing threads
- ☑ Balanced

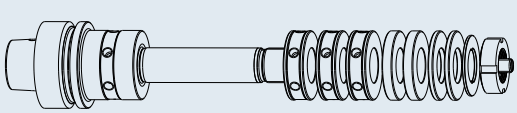
Use:
Grinding wheel adapter HSK-F50 (with access hole) / Ø 20 mm suitable for ISOG tool grinding machines for spacers Ø 40 mm

Delivery:
Spacer pack, clamping nut, sealing pin, lock plate

Clamping	Ø d [mm]	20
Length A [mm]		**38**
	Ø D [mm]	40
	L [mm]	50
Order No.	**F50.160.20.3** incl. spacers + 1 sealing pin (2x L=12, 1x L=3 [mm])	
Length A [mm]		**58**
	Ø D [mm]	40
	L [mm]	60
Order No.	**F50.163.20.3** incl. spacers + 1 sealing pin (2x L=12, 1x L=6, 2x L=3 [mm])	
Length A [mm]		**58**
	Ø D [mm]	40
	L [mm]	90
Order No.	**F50.161.20.3** incl. spacers + 1 sealing pin (3x L=12, 2x L=6, 2x L=3 [mm])	







Accessories		
Spacers Ø 40 mm		
Length L [mm]		3
Order No.	**999001-1135**	*1
Length L [mm]		6
Order No.	**999001-1136**	*1
Length L [mm]		12
Order No.	**999001-1137**	*2
Lock plate		
Length		35x20x1.5
Order No.	**999001-1134**	
Clamping nut		
Thread		M20x1
Order No.	**915005-0004**	
Set of balancing screws		
Order No.	**80.203.00**	
Sealing pin - POM/white		
Order No.	**900052-0007**	M8







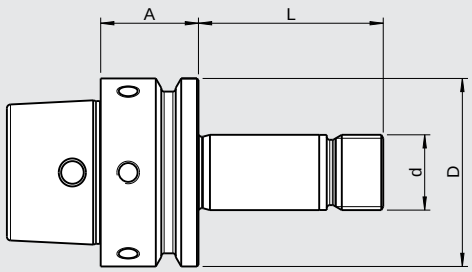


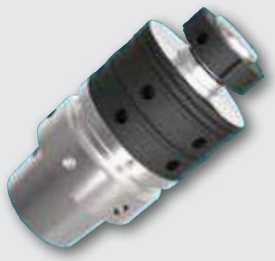
*1= without balancing thread *2= with balancing thread

See page 521 for additional spacers

UWS (REINECKER) GRINDING WHEEL ADAPTER HSK-E50 (WITH ACCESS HOLE) Ø 20 MM FOR SPACERS Ø 50 MM

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Body with balancing threads
- ☑ Balanced

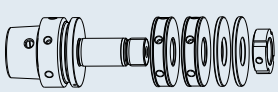


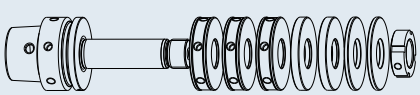


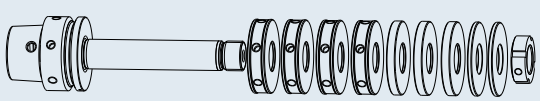
Use:
Grinding wheel adapter HSK-E50 (with access hole) / Ø 20 mm suitable for Reinecker tool grinding machines for spacers Ø 50 mm

Delivery:
Spacer pack, clamping nut

Clamping	Ø d [mm]	20
Length A [mm]		**26**
	Ø D [mm]	50
	L [mm]	49
Order No.	**E50.160.20.2** Incl. spacers (2x L=12, 2x L=3 [mm])	
Length A [mm]		**26**
	Ø D [mm]	50
	L [mm]	74
Order No.	**E50.163.20.2** Incl. spacers (3x L=12, 2x L=6, 2x L=3 [mm])	
Length A [mm]		**26**
	Ø D [mm]	50
	L [mm]	109
Order No.	**E50.161.20.2** Incl. spacers (4x L=12, 3x L=6, 2x L=3 [mm])	







Accessories		
Spacers Ø 50 mm		
Length L [mm]		3
Order No.	**999001-1139**	*1
Length L [mm]		6
Order No.	**999001-1140**	*1
Length L [mm]		12
Order No.	**999001-1138**	*2
Clamping nut		
Thread		M20x1.5
Order No.	**915005-0001**	
Set of balancing screws		
Order No.	**80.203.00**	



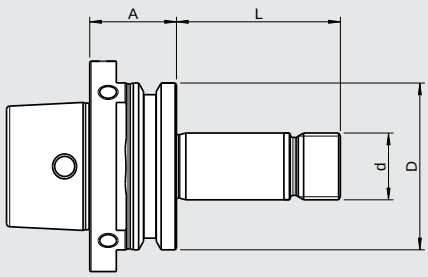


**1= without balancing thread *2= with balancing thread*

See page 521 for additional spacers

ROLLOMATIC GRINDING WHEEL ADAPTER HSK-E50 (Ø 20 MM WITH ACCESS HOLE) FOR SPACERS Ø 50 MM



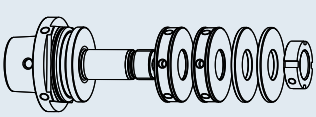


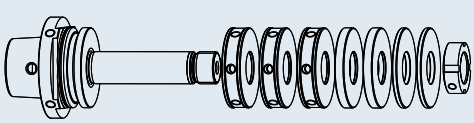
CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Body with balancing threads
- ☑ Balanced

Use:
Grinding wheel adapter HSK-E50 (with access hole) / Ø 20 mm suitable for Rollomatic tool grinding machines for spacers Ø 50 mm

Delivery:
Spacer pack, clamping nut

Clamping	Ø d [mm]	20
Length A [mm]		**26**
	Ø D [mm]	50
	L [mm]	49
Order No.	**E50.160.20.1**	
	Incl. spacers (2x L=12, 2x L=3 [mm])	
Length A [mm]		**26**
	Ø D [mm]	50
	L [mm]	81
Order No.	**E50.163.20.1**	
	Incl. spacers (3x L=12, 2x L=6, 2x L=3 [mm])	





Accessories		
Spacers Ø 50 mm		
Length L [mm]		3
Order No.	**999001-1139**	*1
Length L [mm]		6
Order No.	**999001-1140**	*1
Length L [mm]		12
Order No.	**999001-1138**	*2
Clamping nut		
Thread		M20x1.5
Order No.	**915005-0001**	
Set of balancing screws		
Order No.	**80.203.00**	



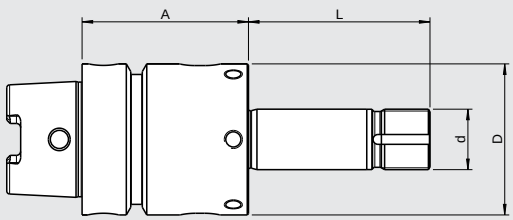


*1= without balancing thread *2= with balancing thread

See page 521 for additional spacers

WALTER GRINDING WHEEL ADAPTER HSK-C50 Ø 20 MM FOR SPACERS Ø 50 MM

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Body with balancing threads
- ☑ Balanced

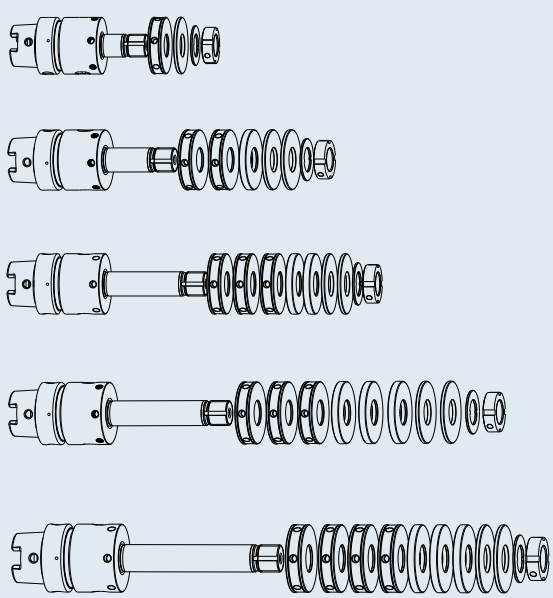




Use:
Grinding wheel adapter HSK-C50 / Ø 20 mm suitable for Walter tool grinding machines for spacers Ø 50 mm

Delivery:
Spacer pack, clamping nut, lock plate

Clamping	Ø d [mm]	20
Length A [mm]		**55**
	Ø D [mm]	50
	L [mm]	40
Order No.	**C50.165.20.4**	
Incl. spacers	(1x L=12, 1x L=3 [mm])	
Length A [mm]		**55**
	Ø D [mm]	50
	L [mm]	60
Order No.	**C50.160.20.4**	
Incl. spacers	(2x L=12, 1x L=6, 2x L=3 [mm])	
Length A [mm]		**55**
	Ø D [mm]	50
	L [mm]	85
Order No.	**C50.163.20.4**	
Incl. spacers	(3x L=12, 2x L=6, 2x L=3 [mm])	
Length A [mm]		**55**
	Ø D [mm]	50
	L [mm]	100
Order No.	**C50.161.20.4**	
Incl. spacers	(3x L=12, 3x L=6, 2x L=3 [mm])	
Length A [mm]		**55**
	Ø D [mm]	50
	L [mm]	120
Order No.	**C50.167.20.4**	
Incl. spacers	(4x L=12, 3x L=6, 2x L=3 [mm])	



Accessories		
Spacers Ø 50 mm		
Length L [mm]		3
Order No.	**999001-1139**	*1
Length L [mm]		6
Order No.	**999001-1140**	*1
Length L [mm]		12
Order No.	**999001-1138**	*2
Lock plate		
Length L [mm]		35x20x1.5
Order No.	**999001-1134**	
Clamping nut		
Thread		M20x1
Order No.	**915005-0004**	
Set of balancing screws		
Order No.	**80.203.00**	

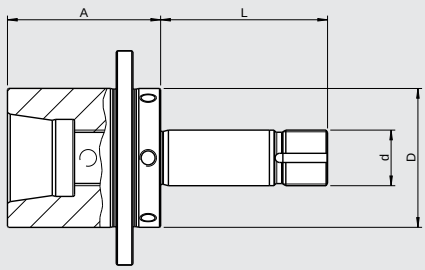


**1= without balancing thread *2= with balancing thread*

See page 521 for additional spacers

WALTER GRINDING WHEEL ADAPTER Z50 Ø 20 MM FOR SPACERS Ø 50 MM



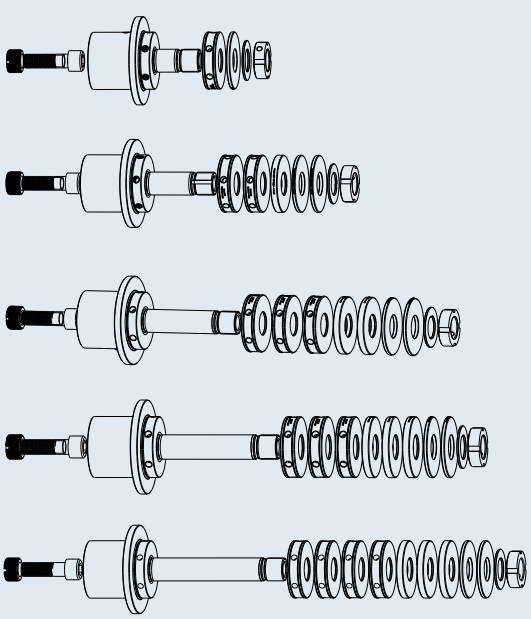


CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ Body with balancing threads
- ☑ Balanced

Use:
Grinding wheel adapter Z50 / Ø 20 mm suitable for Walter tool grinding machines for spacers Ø 50 mm

Delivery:
Spacer pack, clamping nut, lock plate, thread piece, cylinder screw, thread pin

Clamping	Ø d [mm]	20
Length A [mm]		**55**
	Ø D [mm]	50
	L [mm]	40
Order No.	**Z50.165.20.5**	
Incl. spacers	(1x L=12, 1x L=3 [mm])	
Length A [mm]		**55**
	Ø D [mm]	50
	L [mm]	60
Order No.	**Z50.160.20.5**	
Incl. spacers	(2x L=12, 1x L=6, 2x L=3 [mm])	
Length A [mm]		**55**
	Ø D [mm]	50
	L [mm]	85
Order No.	**Z50.163.20.5**	
Incl. spacers	(3x L=12, 2x L=6, 2x L=3 [mm])	
Length A [mm]		**55**
	Ø D [mm]	50
	L [mm]	100
Order No.	**Z50.161.20.5**	
Incl. spacers	(3x L=12, 3x L=6, 2x L=3 [mm])	
Length A [mm]		**55**
	Ø D [mm]	50
	L [mm]	120
Order No.	**Z50.167.20.5**	
Incl. spacers	(4x L=12, 3x L=6, 2x L=3 [mm])	



Accessories		
Spacers Ø 50 mm		
Length L [mm]		3
Order No.	**999001-1139**	*1
Length L [mm]		6
Order No.	**999001-1140**	*1
Length L [mm]		12
Order No.	**999001-1138**	*2
Lock plate		
Length L [mm]		35x20x1.5
Order No.	**999001-1134**	
Clamping nut		
Thread		M20x1
Order No.	**915005-0004**	
Set of balancing screws		
Order No.	**80.203.00**	

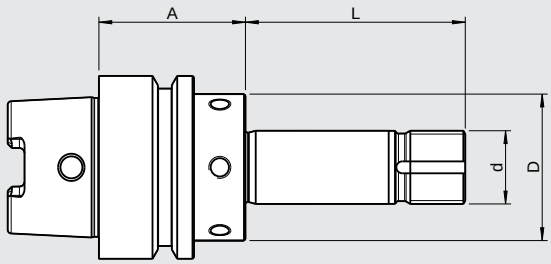


*1= without balancing thread *2= with balancing thread

See page 521 for additional spacers

SAACKE/VOLLMER GRINDING WHEEL ADAPTER HSK-C50 (WITH GROOVES FOR TOOL CHANGER) Ø 20 MM FOR SPACERS Ø 50 MM

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Body with balancing threads
- ☑ Balanced

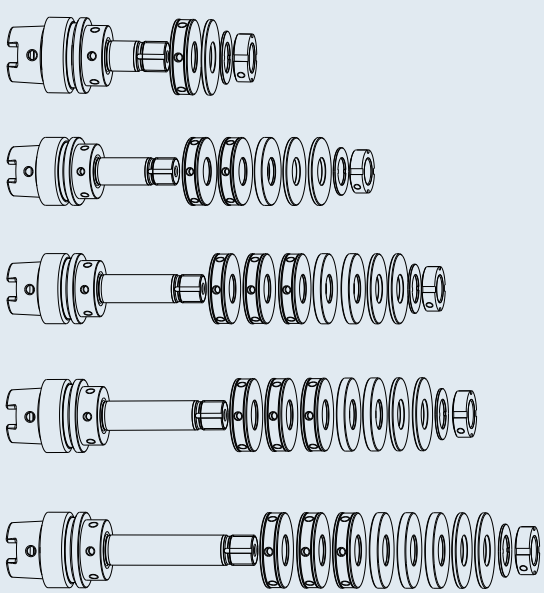




Use:
Grinding wheel adapter HSK-C50 (with gripper groove for tool changer) / Ø 20 mm suitable for Saacke and Vollmer tool grinding machines for spacers Ø 50 mm

Delivery:
Spacer pack, clamping nut, lock plate

Clamping	Ø d [mm]	20
Length A [mm]		**40**
	Ø D [mm]	40
	L [mm]	40
Order No.	**C50.165.20.6**	
Incl. spacers	(1x L=12, 1x L=3 [mm])	
Length A [mm]		**40**
	Ø D [mm]	40
	L [mm]	60
Order No.	**C50.160.20.6**	
Incl. spacers	(2x L=12, 1x L=6, 2x L=3 [mm])	
Length A [mm]		**40**
	Ø D [mm]	40
	L [mm]	75
Order No.	**C50.168.20.6**	
Incl. spacers	(3x L=12, 2x L=6, 2x L=3 [mm])	
Length A [mm]		**40**
	Ø D [mm]	40
	L [mm]	85
Order No.	**C50.163.20.6**	
Incl. spacers	(3x L=12, 2x L=6, 2x L=3 [mm])	
Length A [mm]		**40**
	Ø D [mm]	40
	L [mm]	100
Order No.	**C50.161.20.6**	
Incl. spacers	(3x L=12, 3x L=6, 2x L=3 [mm])	



Accessories		
Spacers Ø 50 mm		
Length L [mm]		3
Order No.	**999001-1139**	*1
Length L [mm]		6
Order No.	**999001-1140**	*1
Length L [mm]		12
Order No.	**999001-1138**	*2
Lock plate		
Length L [mm]		35x20x1.5
Order No.	**999001-1134**	
Clamping nut		
Thread		M20x1
Order No.	**915005-0004**	
Set of balancing screws		
Order No.	**80.203.00**	

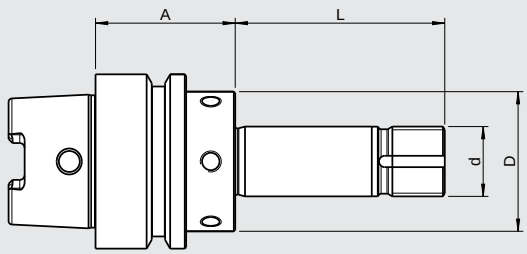


**1= without balancing thread *2= with balancing thread*

See page 521 for additional spacers

SCHÜTTE GRINDING WHEEL ADAPTER HSK-C50 (WITH GRIPPER GROOVE HSK-E50) Ø 20 MM FOR SPACERS Ø 50 MM





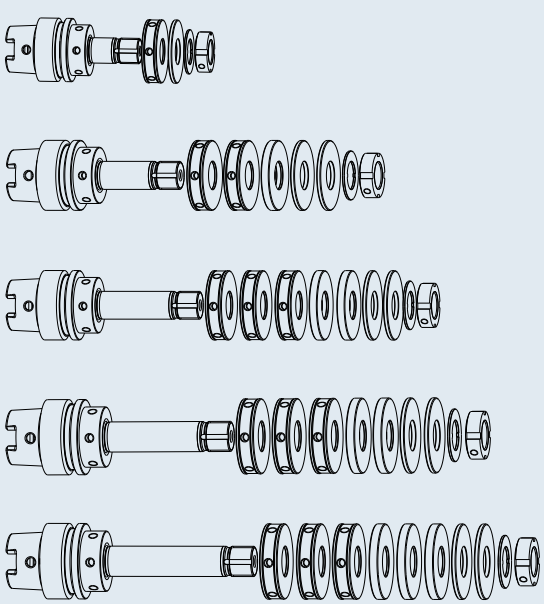
CERTIFICATE OF QUALITY

- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Body with balancing threads
- ☑ Balanced

Use:
Grinding wheel adapter HSK-C50 (with gripper groove HSK-E50) / Ø 20 mm
suitable for Schütte tool grinding machines (205 series) for spacers Ø 50 mm

Delivery:
Spacer pack, clamping nut, lock plate

Clamping	Ø d [mm]	20
Length A [mm]		**40**
	Ø D [mm]	40
	L [mm]	40
Order No.	**C50.165.20.6**	
Incl. spacers	(1x L=12, 5x L=3 [mm])	
Length A [mm]		**40**
	Ø D [mm]	40
	L [mm]	60
Order No.	**C50.160.20.6**	
Incl. spacers	(2x L=12, 1x L=6, 2x L=3 [mm])	
Length A [mm]		**40**
	Ø D [mm]	40
	L [mm]	75
Order No.	**C50.168.20.6**	
Incl. spacers	(3x L=12, 2x L=6, 2x L=3 [mm])	
Length A [mm]		**40**
	Ø D [mm]	40
	L [mm]	85
Order No.	**C50.163.20.6**	
Incl. spacers	(3x L=12, 2x L=6, 2x L=3 [mm])	
Length A [mm]		**40**
	Ø D [mm]	40
	L [mm]	100
Order No.	**C50.161.20.6**	
Incl. spacers	(3x L=12, 3x L=6, 2x L=3 [mm])	



Accessories		
Spacers Ø 50 mm		
Length L [mm]		3
Order No.	**999001-1139**	*1
Length L [mm]	6	
Order No.	**999001-1140**	*1
Length L [mm]	12	
Order No.	**999001-1138**	*2
Lock plate		
Length L [mm]		35x20x1.5
Order No.	**999001-1134**	
Clamping nut		
Thread		M20x1
Order No.	**915005-0004**	
Set of balancing screws		
Order No.	**80.203.00**	





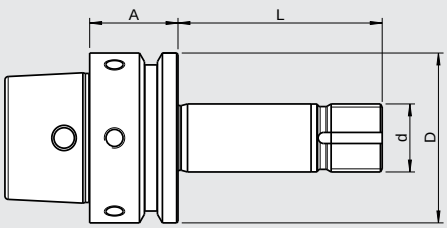


*1= without balancing thread *2= with balancing thread

See page 521 for additional spacers

SCHÜTTE GRINDING WHEEL ADAPTER HSK-E50 (WITH ACCESS BORE) Ø 20 MM FOR SPACERS Ø 50 MM

CERTIFICATE OF QUALITY
- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Body with balancing threads
- ☑ Balanced

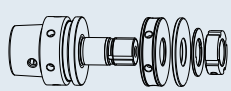


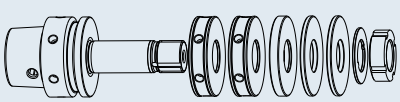


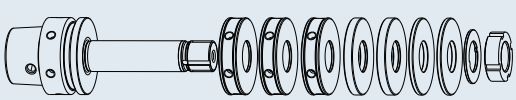
Use:
Grinding wheel adapter HSK-E50 (with access bore) / Ø 20 mm suitable for Schütte tool grinding machines (305 series) for spacers Ø 50 mm

Delivery:
Spacer pack, clamping nut, lock plate

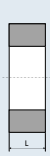
Clamping	Ø d [mm]	20
Length A [mm]		**26**
	Ø D [mm]	50
	L [mm]	40
Order No.	**E50.165.20.8**	
Incl. spacers	(1x L=12, 1x L=3 [mm])	
Length A [mm]		**26**
	Ø D [mm]	50
	L [mm]	55
Order No.	**E50.160.20.8**	
Incl. spacers	(2x L=12, 1x L=6, 2x L=3 [mm])	
Length A [mm]		**26**
	Ø D [mm]	50
	L [mm]	85
Order No.	**E50.163.20.8**	
Incl. spacers	(3x L=12, 2x L=6, 2x L=3 [mm])	







Accessories		
Spacers Ø 50 mm		
Length L [mm]		3
Order No.	**999001-1139**	*1
Length L [mm]		6
Order No.	**999001-1140**	*1
Length L [mm]		12
Order No.	**999001-1138**	*2
Lock plate		
Length L [mm]		35x20x1.5
Order No.	**999001-1134**	
Clamping nut		
Thread		M20x1
Order No.	**915005-0004**	
Set of balancing screws		
Order No.	**80.203.00**	





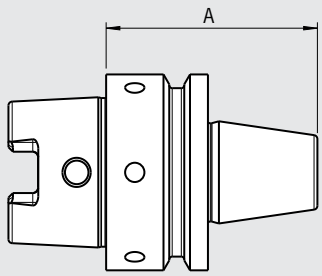


**1= without balancing thread *2= with balancing thread*

See page 521 for additional spacers

ADAPTER HSK-A50 FOR TOOL GRINDING MACHINES, DRESSING MACHINES, TOOL PRESETTERS, BALANCING MACHINES



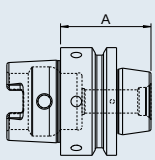


CERTIFICATE OF QUALITY

- ☑ All functional surfaces fine machined
- ☑ More accurate than DIN
- ☑ Body with balancing threads
- ☑ Balanced

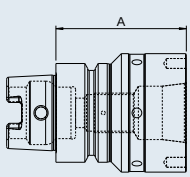
Use:
Adapter HSK-A50 for tool grinding machines, dressing machines, tool presetters, balancing machines

Adapter		
Length A [mm]		**42**
Walter, Haas	Thread	M12x1.25
Order No.	**A50.165.Z50.5**	



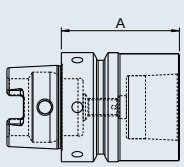


Length A [mm]		**66**
Saacke	Thread	M20x1.5
Order No.	**A50.165.Z50.7**	



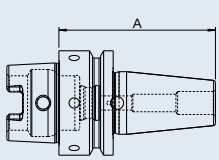


Length A [mm]		**54**
Strausak Promat	Thread	M8
Order No.	**A50.165.Z50.9**	



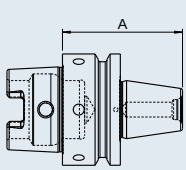


Length A [mm]		**75**
Strausak Fleximat	Thread	M10
Order No.	**A50.165.Z50.10**	



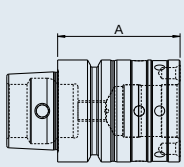


Length A [mm]		**54**
Anca	Thread	M8
Order No.	**A50.165.Z50.11**	



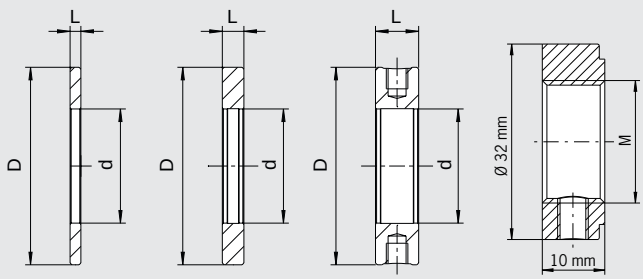


Length A [mm]		**60**
Rollomatic Perfect Arbor	Thread	M10
Order No.	**A50.165.Z50.12**	





ACCESSORIES FOR GRINDING WHEEL ADAPTERS





Summary of the accessories for HAIMER grinding wheel adapters

Accessories		
Spacers Ø D 40 mm/d 20 mm		**L [mm]**
Order No.		
999001-1135	without balancing thread	3
999001-1136	without balancing thread	6
999001-1137	with balancing thread	12
Spacers Ø D 50 mm/d 20 mm		**L [mm]**
Order No.		
999001-1139	without balancing thread	3
999001-1140	without balancing thread	6
999001-1138	with balancing thread	12
Spacers Ø D 40 mm/d ¾"		**L [mm]**
Order No.		
999001-1149	without balancing thread	3
999001-1150	without balancing thread	6
999001-1151	with balancing thread	12
Spacers Ø D 55 mm/d 1¼"		**L [mm]**
Order No.		
999001-1153	without balancing thread	3
999001-1154	without balancing thread	6
999001-1152	with balancing thread	12
Spacers Ø D 35 mm/d 20 mm		**L [mm]**
Order No.		
999001-1155	without balancing thread	3
999001-1156	without balancing thread	6
999001-1157	with balancing thread	12
Lock plate		
Order No.		
999001-1134		35x20x1.5
Clamping nut		
Order No.		**Thread**
915005-0004		M20x1
915005-0001	(only Rollomatic+Reinecker)	M20x1.5
Sealing pin POM white		
Order No.		**Thread**
900052-0007		M8







SET OF BALANCING SCREWS







Use:
For fine-balancing grinding wheel adapter and spacers with balancing threads M6.

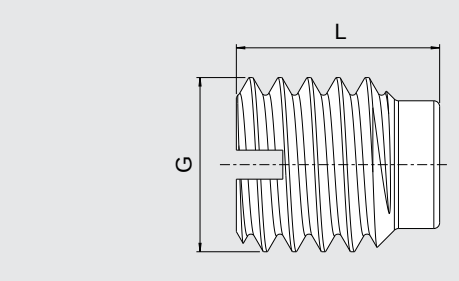
The screws have different weights in fine increments.
They are screwed into the balancing threads of the tool holder so that their weight compensates the unbalance of the tool holder.
– Set consisting of screws of 11 different sizes and weights
– The screws are tightened to the bottom of the thread. No additional fixing of screws necessary
– Balance quickly and precisely
– No damage of tool holders
– Can be repeated as often as necessary
– Suitable for tool holders of all brands
– The balancing machine calculates the necessary weight of the screws
(e. g. HAIMER Tool Dynamic)

Delivery:
Case with 11 x 10 balancing screws, screwdriver

Set of balancing screws	
Order No.	**80.203.00**

HEAVY METAL BALANCING SCREWS

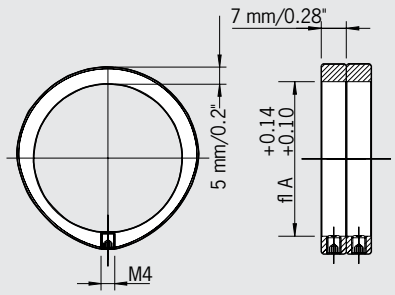




Heavy metal balancing screws (thread M6) for manual balancing of tool holders.

Length L [mm]		07	07	08	08	10	10
Size G [mm]		M6x7	M6x7 (5 pcs.)	M6x8	M6x8 (5 pcs.)	M6x10	M6x10 (5 pcs.)
Mass		ca. 2.3 g	ca. 2.3 g	ca. 2.7 g	ca. 2.7 g	ca. 3.5 g	ca. 3.5 g
Order No.	**85.502...**	**.7.0**	**.7.0.SET**	**.8.0**	**.8.0.SET**	**.10.0**	**.10.0.SET**

BALANCING RINGS





For fine-balancing all tool holders with cylindrical outer diameter (diam. A).

The balancing index rings have a defined unbalance in themselves. They are turned in such a position that the unbalance of the tool holder will be compensated. There are always 2 rings needed per balancing plane.

- Balancing quickly and precisely
- No damage to tool holder
- Can be repeated as often as necessary
- Simply fixed by clamping screw
- Suitable for tool holders of all brands
- The balancing machine determines the position of the rings

– Included in delivery: 2 balancing index rings with screws (without hex wrench)
– Tightening torque: 1 ft lb (1.4 Nm)

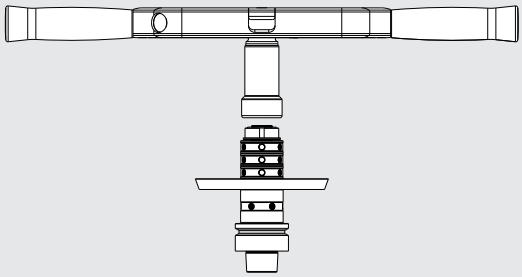
Order No.	Ø A [mm]	Ø A [inch]	unbalance[1)]	rpm [1/min]
79.350.15	15	0.59	14 g·mm	max. 55,000
79.350.16	16	0.63	14 g·mm	max. 55,000
79.350.17	17	0.67	16 g·mm	max. 55,000
79.350.18	18	0.71	17 g·mm	max. 55,000
79.350.19	19	0.75	19 g·mm	max. 55,000
79.350.20	20	0.79	21 g·mm	max. 55,000
79.350.22	22	0.87	23 g·mm	max. 55,000
79.350.23	23	0.91	25 g·mm	max. 55,000
79.350.24	24	0.94	27 g·mm	max. 55,000
79.350.25	25	0.98	28 g·mm	max. 55,000
79.350.26	26	1.02	32 g·mm	max. 50,000
79.350.27	27	1.06	32.5 g·mm	max. 50,000
79.350.28	28	1.10	34 g·mm	max. 50,000
79.350.30	30	1.18	37 g·mm	max. 45,000
79.350.32	32	1.26	43 g·mm	max. 45,000
79.350.34	34	1.34	46 g·mm	max. 40,000
79.350.35	35	1.38	48 g·mm	max. 40,000
79.350.36	36	1.42	51 g·mm	max. 40,000
79.350.38	38	1.50	56 g·mm	max. 35,000
79.350.40	40	1.57	60 g·mm	max. 35,000
79.350.42	42	1.65	65 g·mm	max. 35,000
79.350.43	43	1.69	69 g·mm	max. 35,000
79.350.1.71Z	43.45	1.71	68 g·mm	max. 35,000
79.350.44	44	1.73	72 g·mm	max. 35,000
79.350.46	46	1.81	80 g·mm	max. 35,000
79.350.48	48	1.89	85 g·mm	max. 30,000
79.350.50	50	1.97	90 g·mm	max. 30,000
79.350.52	52	2.05	100 g·mm	max. 30,000
79.350.53	53	2.09	100 g·mm	max. 30,000
79.350.54	54	2.13	103 g·mm	max. 30,000

Order No.	Ø A [mm]	Ø A [inch]	unbalance[1)]	rpm [1/min]
79.350.55	55	2.17	105 g·mm	max. 30,000
79.350.56	56	2.20	110 g·mm	max. 30,000
79.350.58	58	2.28	120 g·mm	max. 30,000
79.350.60	60	2.36	128 g·mm	max. 25,000
79.350.62	62	2.44	132 g·mm	max. 25,000
79.350.63	63	2.48	135 g·mm	max. 25,000
79.350.64	64	2.52	147 g·mm	max. 25,000
79.350.65	65	2.56	147 g·mm	max. 25,000
79.350.66	66	2.60	145 g·mm	max. 25,000
79.350.68	68	2.68	161 g·mm	max. 25,000
79.350.70	70	2.76	165 g·mm	max. 25,000
79.350.72	72	2.83	170 g·mm	max. 25,000
79.350.74	74	2.91	184 g·mm	max. 25,000
79.350.76	76	2.99	186 g·mm	max. 20,000
79.350.78	78	3.07	206 g·mm	max. 20,000
79.350.80	80	3.15	215 g·mm	max. 20,000
79.350.82	82	3.23	213 g·mm	max. 20,000
79.350.84	84	3.31	229 g·mm	max. 20,000
79.350.86	86	3.39	249 g·mm	max. 20,000
79.350.87	87	3.43	256 g·mm	max. 20,000
79.350.88	88	3.46	251 g·mm	max. 20,000
79.350.89	89	3.50	260 g·mm	max. 20,000
79.350.90	90	3.54	265 g·mm	max. 20,000
79.350.92	92	3.62	275 g·mm	max. 20,000
79.350.94	94	3.70	286 g·mm	max. 20,000
79.350.96	96	3.78	300 g·mm	max. 20,000
79.350.98	98	3.86	305 g·mm	max. 20,000
79.350.100	100	3.94	320 g·mm	max. 15,000
79.350.125	125	4.92	500 g·mm	max. 15,000

1) Unbalance g·mm are reference values, small variances possible
Additional sizes may be available – please contact Haimer USA for more information

TORQUE WRENCH WITH EXTENSION AND BOX NUT FOR HAIMER GRINDING WHEEL ADAPTERS





Use:
- For highest runout accuracy (no one-side clamping)
- Optimal power transmission (consistent force application)
- For highest clamping accuracy and repeatability with dial gauge
- Maximum torque for highest clamping force
- Changeable inserts

Torque wrench with extension and box nut extension

Torque wrench

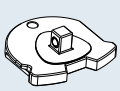
Order No. **84.600.01**



Extension

To accommodate all standard square socket wrench inserts 1/2"

Order No. **84.630.1/2z**



Box nut 4-KM4

Suitable for all HAIMER clamping nuts

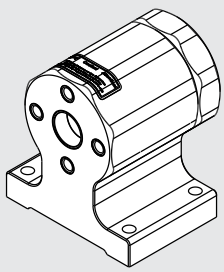
Order No. **915005-0005**







ASSEMBLY STATION – ACCESSORIES





Tool Clamp – Tool-assembly device:

– Secure tool assembly with minimal physical effort
– Quick-change function for different taper interfaces – without additional tools
– Accident-free assembly of cutting tools
– Elastic locking bolt
– Mechanical security pin
– Better tool clamping, thanks to optimum ergonomics
– Replaceable brass inserts protect the taper surface
– Required space 140 x 100 mm



Tool Clamp



Tool holder SK



Vice

Tool Clamp – without tool holder, 4 x 90° indexable	
Order No.	**84.700.00**
Tool holder CAT/BT/SK	
Order No.	**Type**
84.701.30	CAT/BT/SK 30
84.701.40	CAT/BT/SK 40
84.701.50	CAT/BT/SK 50
Tool holder HSK-A	
Order No.	**Type**
84.702.40	HSK-A40
84.702.50	HSK-A50
84.702.63	HSK-A63
84.702.80	HSK-A80
84.702.10	HSK-A100
Tool holder HSK-C/HSK-E	
Order No.	**Type**
84.703.32	HSK-C/E32
84.703.40	HSK-C/E40
84.703.50	HSK-C/E50
84.703.63	HSK-C/E63
84.703.80	HSK-C/E80
Tool holder HSK-F	
Order No.	**Type**
84.704.63.M	HSK-F63 MAKINO
84.704.80.M	HSK-F80 MAKINO
Tool holder PSC	
Order No.	**Type**
84.705.32	PSC 32
84.705.40	PSC 40
84.705.50	PSC 50
84.705.60	PSC 63
Tool holder KM4X100*	
Order No.	**Type**
84.706.4X.100	KM4X*
Vice	
Order No.	**84.810.22**

**KM4X is a registered trademark/tradename of Kennametal Inc.*



Tool Dynamic TD 1002



Tool Dynamic TD Comfort / Comfort Plus

Want to get the full potential of your grinding machine? Then balance your grinding wheels!

You can find our balancing machines for balancing grinding wheel adapters on page 610 of the catalog



Tool Dynamic TD 800



Tool Dynamic TD Preset Microset



SHRINKING TECHNOLOGY

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See the HAIMER Power Clamp Shrink Fit System in Action:

Top 10 Reasons to Use HAIMER Shrink Fit Technology

1

Unsurpassed machining accuracy

We guarantee < 0.00012" (3µm) run-out at 3xD.
This degree of accuracy is consistently repeatable for any number of operators from shift to shift.

2

Slim profiles – perfect for 5-axis machining

HAIMER Shrink Fit tool holders have very slim profiles.
They can also be modified to a straight-walled design if needed in order to prevent tool holder collision with the work piece.

3

Gripping torque

Our shrink fit chucks grip the cutting tool 360° around the shank on multiple planes,
delivering very high gripping torque that prevents chatter during roughing or finishing operations.

4

Consistency of setup

A unique benefit of HAIMER shrink fit is that it eliminates any variation between tool changes.
Removing these variables means regardless of the operator and their experience level,
you will get repeatable uniformity in tooling setup and equally consistent results.

5

Extended reach options

Shrink fit extensions provide many options. For example, when machining deep cavities,
you can place shrink fit extensions into standard shrink fit chucks, getting unsurpassed gage lengths with minimal run-out.

6

Balance accuracy and repeatability

We hold our shrink fit holders to the highest balance accuracy standards (G2.5 @ 25,000 RPM).
Since shrink fit holders have no moving parts, it offers the best balance repeatability of any tool holding system on the market.

7

Reduction of tool changing time & less tool holder accessory inventory

Nothing beats the tool change time of our shrink fit chucks when combined with the HAIMER Power Clamp shrink fit machines. Tool changes can be done in less than 5 seconds.

8

Clean bores

Run-out accuracy is often compromised if contaminants are introduced to the bore of a tool holder during machining.
A shrink fit chuck is a sealed system by design. This minimizes the introduction of contaminants.

9

Coolant options

Our shrink fit chucks are available with a variety of coolant options, including our Cool Jet and Cool Flash technology,
which delivers coolant down to the cutting edge of the tool.
This helps clean out chips and can aid in providing better part finishes.

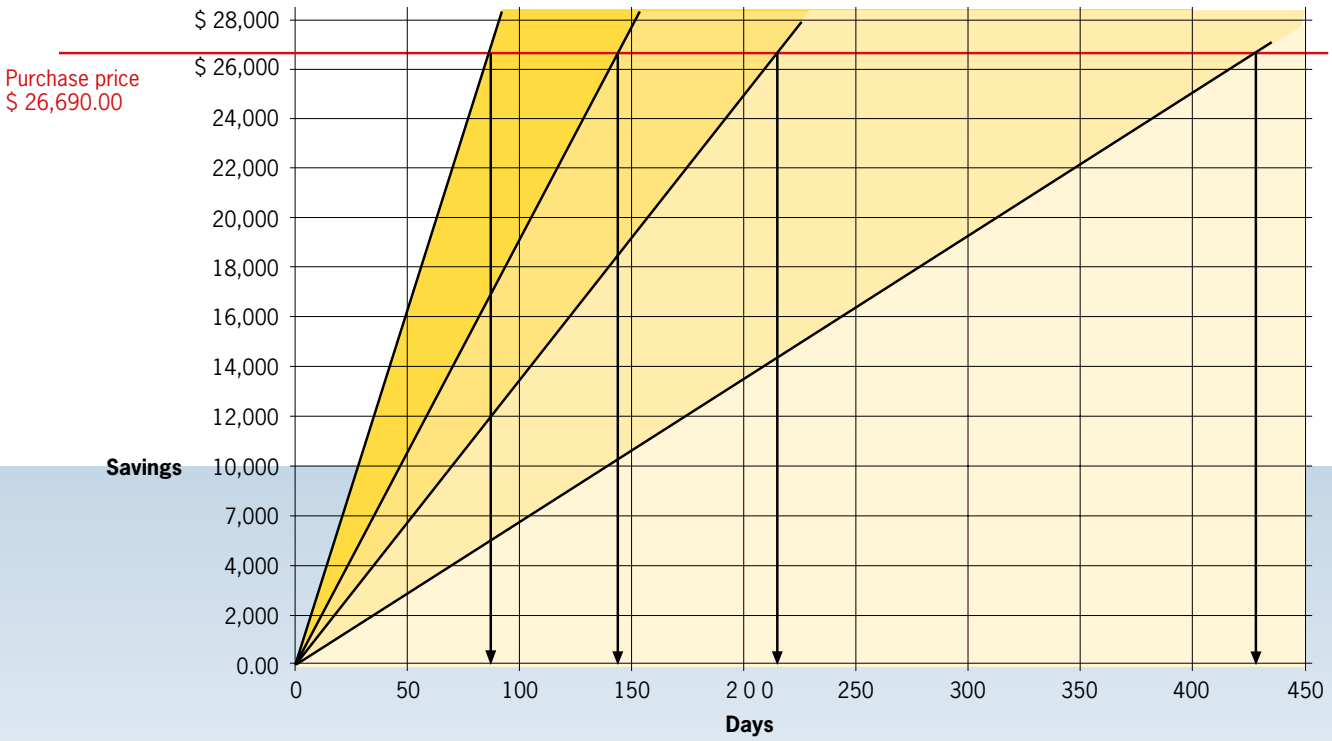
10

Availability

Bestseller machines are available and stocked locally.
All other configurations and modifications are available per order within just a couple of weeks.
Shrink fit holders are available in stock in a wide variety of lengths in the most common spindle interfaces.

Amortization HAIMER Power Clamp

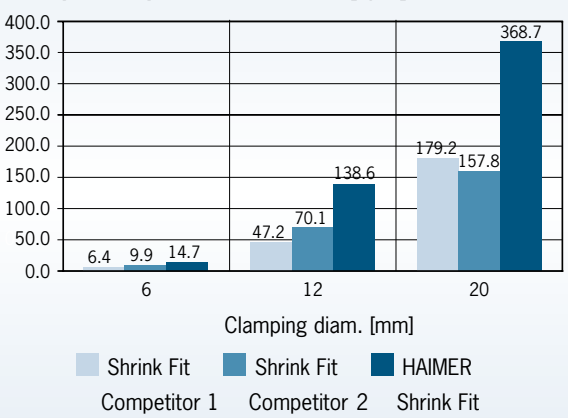
The following diagram shows the amortization of the Power Clamp Comfort NG with Speed Cooler in relation to the number of shrink cycles per day.



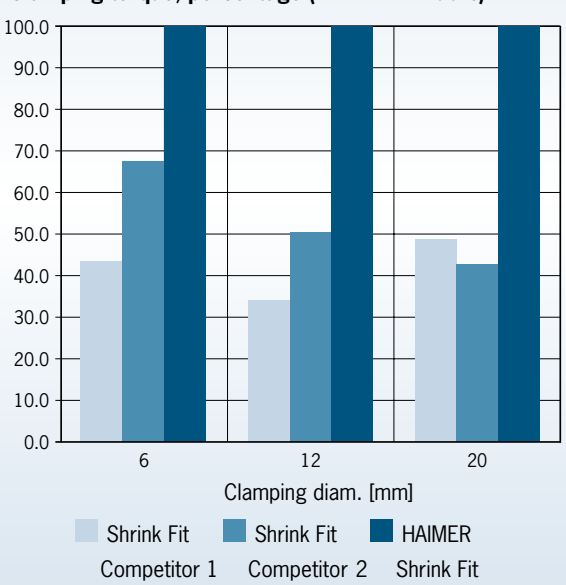
Time Savings: 5 min. per cycle
Cost per Employee/Hour: $50.00/h

Gripping Torque Data:

Clamping torque, absolute values [ft/lb]



Clamping torque, percentage (HAIMER = 100%)



The Contact Cooling

The patented cooling system from HAIMER is the quickest and cleanest method of cooling shrink fit chucks. There is a suitable cooling body for every chuck.
The cooling body has full surface contact with the shrink fit chuck and extracts the heat smoothly. A water cycle cools the cooling body.

The cooling procedure takes place evenly and gently. There is no deformation of the chuck. The runout accuracy is preserved. The chucks do not come into contact with the water. They remain dry and do not rust. The work place also remains clean and dry.





Cooling body for rapid cooling

- Cooling in record time: approx. 30 sec.
- Tool holders remain dry
- No build-up of rust
- No time lost through drying process
- Even cooling, runout accuracy is maintained
- Hot points are always covered, no risk of injury
- Hot parts don't need to be touched
- Gentle handling of chuck, no shocking
- No heating of cooling body, even after lots of shrink fit procedures: heat is removed with contact cooling
- 5 cooling bodies for all standardized chucks
- No messy water = a clean work space

The Coil Technology

The induction coil is the core of inductive shrink fit technology. HAIMER has been the leading developer of inductive shrink fit technology for tool holders for years. A number of patents, predominantly in the field of induction coils, is the visible proof of our innovation and advancement.

Power electronics

The second component of shrink fit technology is power electronics. It supplies the coil with power. Frequency and current must be exactly coordinated with one another to do this. Heating must take place within seconds, without overheating the chuck. A specially developed procedure for power regulation makes sure this is the case, independent of the main voltage. HAIMER offers shrink fit equipment with an output of 10 to 20 kW.

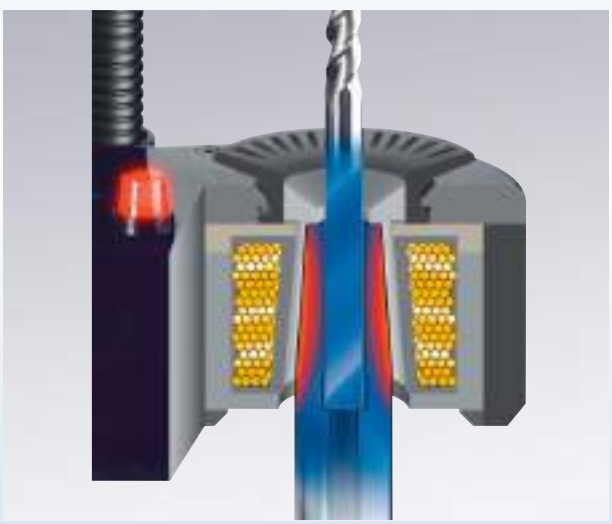
Operation

Equally decisive for the success of an investment is its acceptance among your employees. A machine, which is used happily and frequently, pays for itself within a short period of time. HAIMER shrink fit equipment can be equipped for any purpose and need. From a simple device with one shrink fit station and no cooling, up to fully equipped machines with rotary table, integrated contact cooling and system cart.



The standard coil

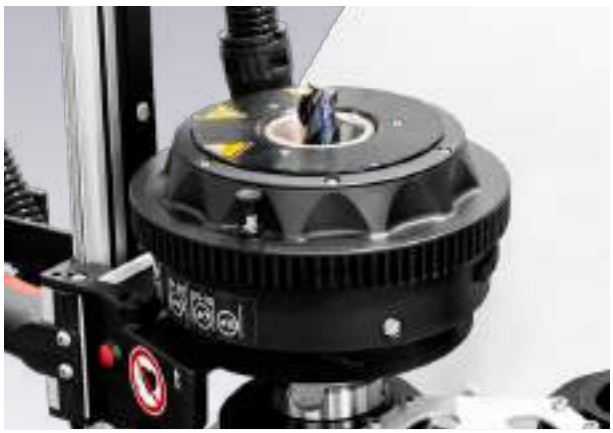
The standard coils have been proven for years with inter-changeable stop disks. All shrink fit chucks with a diameter of 1/8" – 1 ¼" (3 to 32 mm) can be heated with a single coil. Just 5 stop disks are enough to adapt the coil to each chuck, from the smallest to the largest.



The standard coil

With over 20 years of experience in making inductive shrink fit machine coils, HAIMER has evolved our standard coil to be a very solid and efficient component on our machines. Through our intelligent control, the coil only activates the inductive zones that will most effectively heat up the shrink fit chuck in order to give long lasting tool holder life.

The New Generation Coil Technology



The NG (New Generation) coils

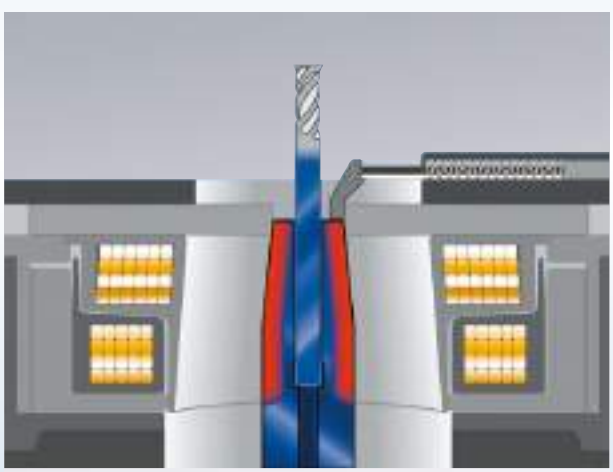
The intelligent NG coils are particularly flexible, comfortable and adjustable. With one turn, you can set the coil to the size of the shrink fit chucks, both in length and diameter. Stop disks are no longer necessary. This means the chuck is only heated where it is intended, even with special sizes.



Picture shows motorized coil with auxiliary fume extraction unit

The motorized New Generation (NG) coil

For the most convenient and automated shrinking process the motorized NG coil on a HAIMER i4.0 shrink machine is highly recommended in conjunction with a hand scanner.
The intelligent, motorized NG coil adjusts automatically to the correct tool diameter and length for heating up the tool holder / shrink fit collet with the right parameters.
Just scan the tool holder or shrink fit collet's data-matrix code and the coil's motor starts to move the coil to the right position.
Place the motorized NG coil on the shrink fit chuck / collet and start inductive heating at the push of a button.
This leads to a very smooth, consistent and operator independent shrinking process.



The NG Coils have two heating zones

In an effort to maximize the efficiency of the heating process, HAIMER has a revolutionary two heating zone design in their NG (New Generation) intelligent coils.
This allows for even and efficient heating across the nose of the shrink fit chuck – leading to longer tool holder life.
These coils also can adapt themselves to ultra-short shrink fit chucks easily and ultra-short shrink fit chucks can often provide a benefit in the machining process.

Basic Line / Profi Line / i4.0 Line

HAIMER has the right shrink fit technology for any need. Take advantage of the largest range of shrink fit equipment and coils in the world.



Basic Line: Concentrating on the basics.

The Basic Line is the economical entrance into inductive shrink fit technology. The power electronics enables problem free shrinking. The mechanical construction of the equipment has been kept deliberately simple and functional. There are just single chuck solutions.

The Basic Line equipment is exclusively designed for operation with standard coils. It is not possible to upgrade.

The Basic Line is ideal for the price-conscious user, who only wants to shrink a few tools on a daily basis.

For micro machining purposes, the special horizontal shrink fit machine Power Clamp Nano is part of the program. It combines perfectly easy tool handling of small diameters and fast tool exchange.

THE POWER CLAMP SYSTEM



Profi Line: Modular Versatility.

The Profi Line offers the full range of performance and is unbeatable in efficiency. High performance coils, contact cooling and a rotary table guarantees simultaneous shrinking and cooling in record time. No wishes remain unfulfilled.

The machines of the Profi Line work with both the standard coils and the intelligent, comfortable NG coils. Of course, the equipment recognizes each coil and chooses the correct shrink fit parameters automatically.

The shrink fit machines of the Profi Line form a modular system. The start-up Power Clamp Economic machine can gradually be upgraded to the high-end Power Clamp Comfort NG.

i4.0 Line: Network-compatible and communicative.

In addition to the well-known machines of the Basic and Profi line, the all-new Industry 4.0-ready and network-compatible series was developed with its Power Clamp Premium i4.0, Sprint i4.0, Preset i4.0, Air i4.0, Comfort i4.0 and Nano i4.0 models.

The machines are equipped with a workshop friendly 7" touch display and new intuitive software, which makes machine operation with or without gloves even easier. Upon request, the Power Clamp i4.0 devices can also be equipped with a hand-held scanner that is able to read the shrinking parameters of Data-Matrix codes. This way automated shrinking is easier than ever before.

The new and ergonomic shrinking stations have a modern and high-quality design. Due to their patented NG coil, they are suited for both solid carbide and HSS tools with diameters from 1/8" – 1 ¼" (3 to 32 mm).

EQUIPMENT FEATURES

Line		Basic Line			Profi Line				
Symbol	Feature	Nano	Mini	Basic	Economic	Economic NG	Economic Plus	Economic Plus NG	Comfort
									
	Single chuck version	•	•	•	•	•	•	•	—
	Cooling and Shrinking simultaneously	—	—	—	○	○	○	○	•
	Rotary table	—	—	—	○	○	○	○	•
	Cooling	•	—	—	○	○	•	•	•
	Speed Cooler with Cooling Manager	—	—	—	○	○	•	•	•
	TME Cooling system	—	—	—	—	—	○	○	○
	Modular system	—	—	—	•	•	•	•	•
	Standard coil	—	•	•	•	○	•	○	•
	Variable NG coil	—	—	—	○	•	○	•	○
	Intelligent motor coil	—	—	—	○	○	○	○	○
	13 kW HD coil	—	—	—	○	○	○	○	○
	20 kW coil	—	—	—	—	—	—	—	—
	5 keys membrane keypad	•	•	•	•	•	•	•	•
	Industry 4.0 ready	—	—	—	—	—	—	—	—
	7" Touchscreen	—	—	—	—	—	—	—	—
	Hand-held scanner	—	—	—	—	—	—	—	—
	Length presetting	•	—	—	○*	○*	○*	○*	○*
	System cart	○	○	○	○	○	○	○	○
	Auxiliary fume extraction unit	—	○	○	○	○	○	○	○

* Only available in combination with Preset Upgrade Kit (Order No. 80.117.00)

● included ○ optional — not available

Comfort NG	Profi Plus NG	Preset NG	Premium Plus	i4.0 Line Nano NG i4.0	Air i4.0 Eco	Air i4.0 Comfort	Comfort i4.0	Preset i4.0	Premium i4.0	Sprint i4.0
										
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Power Clamp Nano

Horizontal shrink fit machine for small tools.





Air cooling
Cooling by compressed air, regardless of contour and safest handling for small tool holders



Stop disk



Chuck support for tool holders with bayonet clamping

Length presetting
Horizontal length presetting unit
Tolerance 0.05 mm

POWER CLAMP BASIC LINE
POWER CLAMP NANO

Power Clamp Nano

– Easy tool handling by horizontal shrinking
– With Power Clamp Nano air cooling
– With length presetting
– With calibration adapter
– Power: 13 kW
– Mains voltage: 3x400–480V, 16A
– Tools: solid carbide and HSS from Ø 1/8" – 5/8" (3 – 16 mm)

Technical details	
– Mains voltage	3x400–480 Volt, 16 Ampere, 13 kW
– Compressed Air	6 bar
– Tools	solid carbide and HSS
– Tool diameter	1/8" – 5/8" (3 – 16 mm)
– Maximum length of shrink fit chuck with tool	9" (230 mm)
– Dimensions WxDxH	28" x 24" x 25" (715 x 600 x 630 mm)
– Weight	165 lbs (75 kg)
– **Order No.**	**80.160.01.3**

Accessories	Order No.
– Chuck support for Power Clamp Nano	see page 583
– Cooling nozzle for Mini Shrink Ø3–12 mm	80.164.02
– Clips for tools for length presetting	
– Ø3 mm	80.166.03
– Ø4 mm	80.166.04
– Ø5 mm	80.166.05
– Ø6 mm	80.166.06
– Ø8 mm	80.166.08
– Ø10 mm	80.166.10
– Ø12 mm	80.166.12
– Set of clips incl. plate	80.166.00



Calibration adapter for length presetting
For resetting the measuring device



Clips for tools (optional)
For safest and precise handling of high quality carbide tools – especially with smaller diameters

Power Clamp Mini
Power Clamp Basic

Entry-level shrink fit machine without cooling.



Power Clamp Mini



Power Clamp Basic

POWER CLAMP BASIC LINE
POWER CLAMP MINI
POWER CLAMP BASIC

Power Clamp Mini

– Power: 10 kW
– Mains voltage: 3 x 400–480 V, 16 A
– Tools: solid carbide and HSS from Ø 1/8" – 5/8" (3 – 16 mm)
– With 1 base holder
– With 1 chuck support

Technical details	
– Mains voltage	3 x 400–480 Volt, 16 Ampere, 10 kW
– Tools	Solid carbide and HSS
– Tool diameter	1/8" – 5/8" (3 – 16 mm)
– Maximum total length	13.8" (350 mm)
– Dimensions WxDxH	25" x 35" x 24" (650 x 900 x 600 mm)
– Weight	99 lbs (45 kg)
– **Order No.**	**80.143.00.3**

Power Clamp Basic

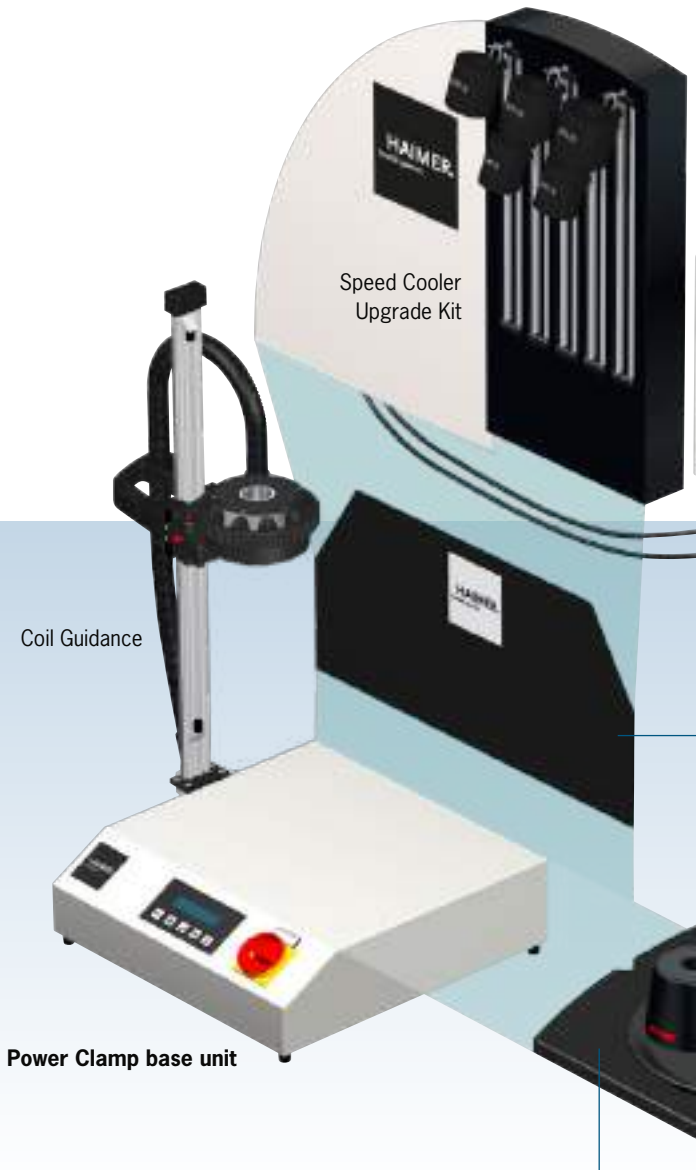
– Power: 10 kW
– Mains voltage: 3 x 400–480 V, 16 A
– Tools: solid carbide and HSS from Ø 1/8" – 1 ¼" (3 – 32 mm)
– With 1 base holder
– With 1 chuck support

Technical details	
– Mains voltage	3 x 400–480 Volt, 16 Ampere, 10 kW
– Tools	Solid carbide and HSS
– Tool diameter	Ø 1/8" – 1 ¼" (3 – 32 mm)
– Maximum total length	13.8" (350 mm)
– Dimensions WxDxH	26" x 35" x 24" (650 x 900 x 600 mm)
– Weight	99 lbs (45 kg)
– **Order No.**	**80.150.00.3**

Accessories	Order No.
– Chuck support for single-chuck system	See page 584

Power Clamp Profi Line: The modular system

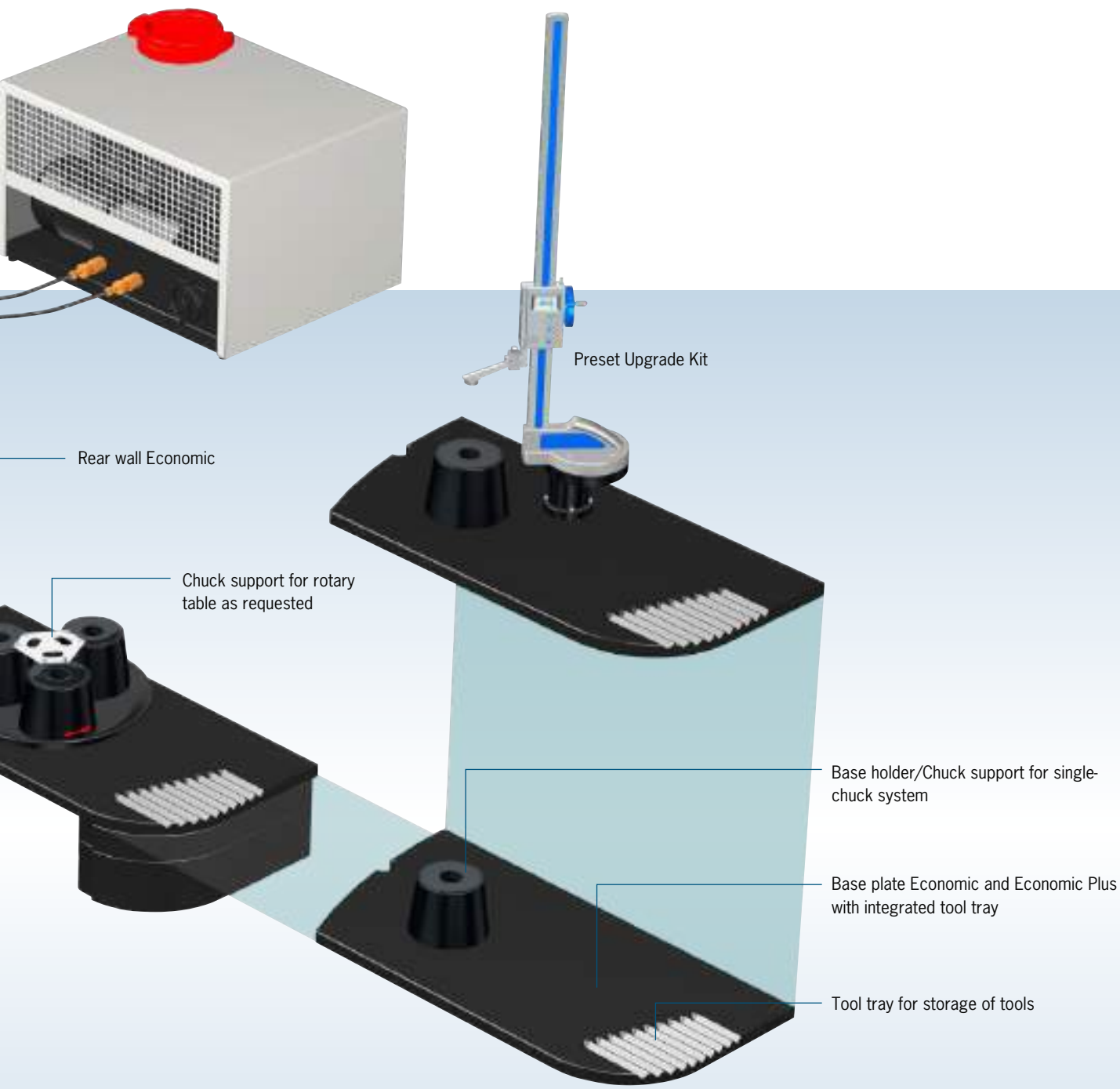
Step by step more shrink fit technology
Basic unit can be combined with two rear walls and two base plates. The chuck support for the rotary table will be supplied as requested.



Accessories

- **Speed-Cooler Upgrade Kit: Expansion Plane 1**
  Speed-Cooler with rear wall incl. 5 cooling bodies
  Order No. 80.115.01
- **Rotary table Upgrade Kit: Expansion Plane 2 (= Power Clamp Comfort)**
  Base plate with rotary table for 3 chucks incl. craning boxes
  (For a full Comfort machine, both expansion planes #1 and #2 are required)
  Order No. 80.116.00
- **Preset Upgrade Kit**
  Measuring plate, height gage, 2 precision base holders incl. craning boxes
  Order No. 80.117.00

POWER CLAMP PROFI LINE



Power Clamp Profi Line Program

Start with the essential, then upgrade as needed: Keep an eye on the future.
An entrance into modern shrink fit technology: State-of-the-art coil technology at low costs. The question is not "Should I invest in shrink fit technology" but rather "When will I invest in shrink fit technology". It is now time to invest in the technology of the future.

Our modular system offers the ideal start-up solution.



Power Clamp Economic NG without cooling, without rotary table, with integrated tool tray

POWER CLAMP PROFI LINE

Technical details

– **Basic unit Comfort**	3x400–480 Volt, 16A, 13 kW
– Maximum length of shrink fit chuck (longer chucks upon request)	20" (510 mm)
– Dimensions WxDxH	33" x 24" x 38" (840 x 600 x 970 mm)
– Weight	154 lbs (70 kg)
– **Speed-Cooler unit**	115 Volt/60 Hz, 1 kW
– Dimensions WxDxH	22" x 18" x 16" (565 x 450 x 400 mm)
– Weight	99 lbs (45 kg)



Power Clamp Economic Plus NG
with cooling, without rotary table, incl. 1 base holder and 1 chuck support, with integrated tool tray



Power Clamp Comfort NG
with cooling, rotary table, 1 chuck support, integrated tool tray and craning boxes



Power Clamp Profi Plus NG
High powered shrink fit machine
- Heating power 20 kW
- For shrinking of tools from Ø 1/8" – 2" (3 – 50 mm)
- For HSS- and solid carbide tools
- Big coil for Ø 1 ½" – 2" (40 – 50 mm) optional
- Incl. rotary table and chuck support
- Incl. tool tray
- With craning boxes for accessories

Power Clamp Profi Line

HAIMER Power Clamp New Generation

1 Single hand operation
- Positioning of coil and starting of shrink process with one hand

2 Cooling bodies for rapid cooling
- Chucks remain dry
- No rust
- Hot spots always covered, no danger of injury
- Hot parts don't need to be touched

3 The turning table
- Work fast and efficiently
- Heating and cooling at the same time on 3 stations
- No idle periods



Chuck support

4 Chuck support for 3 chucks
- For all actual tapers
- Different taper combinations possible



Picture shows Power Clamp Comfort NG with accessories and system cart

5 The tool tray
- For laying down cutting tools
- Integrated in base plate

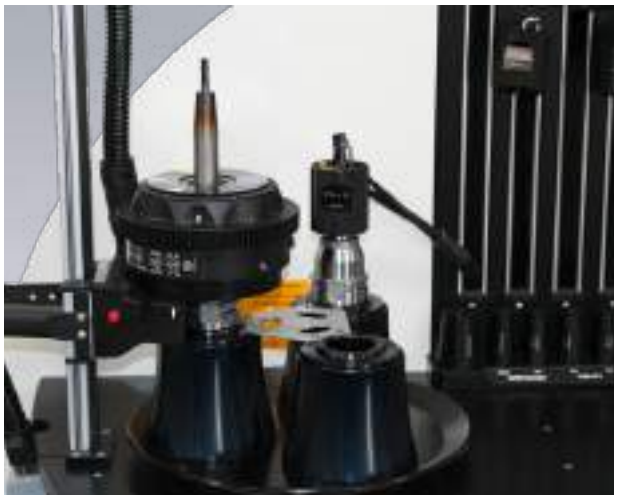
6 The craning boxes
- For accessories
- Everything close at hand

7 The display
- User-friendly operating panel
- Clear, compact and easy to handle

8 The system cart
- For a clearly arranged and ergonomic work place

9 The drawer
- Profiled inserts for accessories
- Everything in its place

POWER CLAMP PROFI LINE
HAIMER POWER CLAMP NEW GENERATION



Safe, dry, fast cooling
- Efficient: Shrink one holder while cooling another
- Water-cooled cooling bodies
- Concentrated cooling efficiency due to contact cooling
- Even cooling: No material deformation

Intelligent patented coil technology:
The coil adjusts itself to the chuck in length and diameter. Therefore only the shrinking area of the chuck will be warmed – nothing else. Shrinking and cooling will be much faster.





More efficiency, more flexibility, easier handling.
- Coil adjusts itself to the chuck
- Perfect magnetic flow due to length adjustment of the coil
- Optimal heat distribution due to length adjustment of the coil
- Lower chuck warming
- Shorter shrinking time
- Shorter cooling time
- Simple operation
- Contact disks are no longer necessary
- Suitable for T-shaped groove milling cutters
- Suitable for ultra-short chucks
- Suitable for special shape



Small tool



Big tool

Power Clamp Economic/ Power Clamp Economic NG

Profi Line entry-level shrink fit machine without cooling.



Power Clamp Economic

Power Clamp Economic NG

POWER CLAMP PROFI LINE
POWER CLAMP ECONOMIC
POWER CLAMP ECONOMIC NG

Power Clamp Ecomonic

– With standard coil
– Single chuck version
– Without cooling
– With 1 base holder
– With 1 chuck support
– Power: 13 kW
– Mains voltage: 3x400–480V, 16A
– Tools: solid carbide and HSS from Ø 1/8" – 1 ¼" (3 – 32 mm)

Power Clamp Ecomonic NG

– With intelligent NG coil
– Single chuck version
– Without cooling
– With 1 base holder
– With 1 chuck support
– Power: 13 kW
– Mains voltage: 3x400–480V, 16A
– Tools: solid carbide and HSS from Ø 1/8" – 1 ¼" (3 – 32 mm)

Technical details	
– Mains voltage	3x400–480 Volt, 16 Ampere, 13 kW
– Tools	Solid carbide and HSS
– Tool diameter	Ø 1/8" – 1 ¼" (3 – 32 mm)
– Maximum length of shrink fit chuck	Economic: 20" (510 mm)/Economic NG: 22" (570 mm)
– Dimensions WxDxH	33" x 24" x 38" (840 x 600 x 970 mm)
– Weight	132 lbs (60 kg)
– **Power Clamp Economic Order No.**	**80.110.00.3**
– **Power Clamp Economic NG Order No.**	**80.110.00NG.3**

Accessories	Order No.
– Craning boxes	80.134.00NG
– Chuck support for single-chuck system	See page 584

Power Clamp Economic Plus/ Power Clamp Economic Plus NG

Advanced Profi Line shrink fit machine with cooling.



Power Clamp Economic Plus



Power Clamp Economic Plus NG

POWER CLAMP PROFI LINE
POWER CLAMP ECONOMIC PLUS
POWER CLAMP ECONOMIC PLUS NG

Power Clamp Ecomonic Plus

– With standard coil
– Single chuck version
– With integrated contact cooling
– With 1 base holder
– With 1 chuck support
– Incl. Cooling Manager
– Power: 13 kW
– Mains voltage: 3x400–480V, 16A
– Tools: solid carbide and HSS from Ø 1/8" – 1 ¼" (3 – 32 mm)

Power Clamp Ecomonic Plus NG

Upgrade possible with HD coil for shrinking of Heavy Duty Shrink Chucks up to Ø 50 mm (optional)

– With intelligent NG coil
– Single chuck version
– With integrated contact cooling
– With 1 base holder
– With 1 chuck support
– Incl. Cooling Manager
– Power: 13 kW
– Mains voltage: 3x400–480V, 16A
– Tools: solid carbide and HSS from Ø 1/8" – 1 ¼" (3 – 32 mm)

Technical details	
– Mains voltage	3x400–480 Volt, 16 Ampere, 13 kW
– Tools	Solid carbide and HSS
– Tool diameter	Ø 1/8" – 1 ¼" (3 – 32 mm)
– Maximum length of shrink fit chuck	Economic Plus: 20" (510 mm)/Economic Plus NG: 22" (570 mm)
– Dimensions WxDxH	33" x 24" x 38" (840 x 600 x 970 mm)
– Weight	243 lbs (110 kg)
– **Power Clamp Economic Plus Order No.**	**80.110.11.3**
– **Power Clamp Economic Plus NG Order No.**	**80.110.11NG.3**

Accessories	Order No.
– Craning boxes	80.134.00NG
– Chuck support for single-chuck system	See page 584
– Upgrade Kit 13 kW HD coil for Economic Plus NG	80.151.30.10

Power Clamp Comfort/ Power Clamp Comfort NG

Profi Line high performance shrink fit machine for the ambitious with 3 stations and cooling.



Power Clamp Comfort



Power Clamp Comfort NG

POWER CLAMP PROFI LINE
POWER CLAMP COMFORT
POWER CLAMP COMFORT NG

Power Clamp Comfort

– With standard coil
– Rotary table with 3 stations
– With integrated contact cooling
– Incl. Cooling Manager
– With 1 chuck support for rotary table
– With craning boxes
– Power: 13 kW
– Mains voltage: 3x400–480V, 16A
– Tools: solid carbide and HSS from Ø 1/8" – 1 ¼" (3 – 32 mm)

Power Clamp Comfort NG

Upgrade possible with HD coil for shrinking of Heavy Duty Shrink Chucks up to Ø 50 mm (optional)

– With intelligent NG coil
– Rotary table with 3 stations
– With integrated contact cooling
– Incl. Cooling Manager
– With 1 chuck support for rotary table
– With craning boxes
– Power: 13 kW
– Mains voltage: 3x400–480V, 16A
– Tools: solid carbide and HSS from Ø 1/8" – 1 ¼" (3 – 32 mm)

Technical details	
– Mains voltage	3x400–480 Volt, 16 Ampere, 13 kW
– Tools	Solid carbide and HSS
– Tool diameter	Ø 1/8" – 1 ¼" (3 – 32 mm)
– Maximum length of shrink fit chuck	Power Clamp Comfort: 20" (510 mm)/Comfort NG: 22" (570 mm)
– Dimensions WxDxH	33" x 24" x 38" (840 x 600 x 970 mm)
– Weight	254 lbs (115 kg)
– **Power Clamp Comfort Order No.**	**80.100.01.3**
– **Power Clamp Comfort NG Order No.**	**80.100.01NG.3**

Accessories	Order No.
– Chuck support for rotary table	See page 587
– Upgrade Kit 13 kW HD coil for Power Clamp Comfort NG	80.151.30.10

Power Clamp Profi Plus NG

High performance shrink fit machine for professionals up to Ø 2" (50 mm) and with cooling.



POWER CLAMP PROFI LINE
POWER CLAMP PROFI PLUS NG

Power Clamp Profi Plus NG

– With intelligent NG coil
– Rotary table with 3 stations
– With integrated contact cooling
– Incl. Cooling Manager
– Second coil for Ø 1 ½" – 2" (40 – 50mm)
– With 1 chuck support for rotary table
– Power: 20 kW
– Mains voltage: 3 x 400 – 480 V, 32 A
– Tools: solid carbide and HSS from Ø 1/8" – 2" (3 – 50 mm)

Technical details	
– Mains voltage	3 x 400 – 480 Volt, 32 Ampere, 20 kW
– Tools	Solid carbide and HSS
– Tool diameter	Ø 1/8" – 2" (3 – 50 mm)
– Maximum length of shrink fit chuck	22" (570 mm)
– Dimensions WxDxH	39" x 24" x 38" (1000 x 600 x 970 mm)
– Weight	282 lbs (128 kg)
– **Power Clamp Profi Plus NG Order No.**	**80.100.11NG.3**

Accessories	Order No.
– Chuck support for rotary table	See page 587

Power Clamp Preset NG

High performance shrink fit machine for professionals with length presetting and cooling.



POWER CLAMP PROFI LINE
POWER CLAMP PRESET NG

Power Clamp Preset NG

Upgrade possible with HD coil for shrinking of Heavy Duty Shrink Chucks up to Ø 2" (50mm) (optional)

- With vertical stop for length presetting
- With intelligent NG coil
- Single chuck version
- With integrated contact cooling
- Incl. Cooling Manager
- With 2 precision base holders
- With 2 precision chuck supports
- Power: 13 kW
- Mains voltage: 3x400–480V, 16A
- Tools: solid carbide and HSS from Ø 1/8" – 1 ¼" (3 – 32 mm)

Technical details	
– Mains voltage	3x400–480 Volt, 16 Ampere, 13 kW
– Tools	Solid carbide and HSS
– Tool diameter	Ø 1/8" – 1 ¼" (3 – 32 mm)
– Maximum length of shrink fit chuck	22" (570 mm)
– Dimensions WxDxH	33" x 24" x 43" (840 x 600 x 1110 mm)
– Weight	243 lbs (110 kg)
– **Power Clamp Preset NG Order No.**	**80.130.01NG.3**

Accessories	Order No.
– Precision chuck support	See page 585
– Upgrade Kit 13 kW HD coil	80.151.30.10

Power Clamp Premium Plus

High-end shrink fit machine for absolute process reliability.



POWER CLAMP PROFI LINE
POWER CLAMP PREMIUM PLUS

High-end shrink fit machine with two separate electronic units and two coils

- Power: 33 kW
- Mains voltage: 3 x 400 V, 63 A
- Tools: solid carbide and HSS from Ø 1/8" – 2" (3 – 50 mm)
- With intelligent coil VS32 m and 20 kW coil
- TME Intelligent Cooling System with temperature control
- Automatic move-up of the cooling bodies after the termination of the cooling process (temperature-time controlled)
- Integrated contact cooling with six cooling bodies
- Linear guided cooling bodies
- No damage at the edges of the cutting tool
- Incl. Cooling Manager
- Two length presetting units with height stop
- Incl. 2 precision base holders and 2 precision chuck supports
- 3 integrated drawers

Technical details	
– Mains voltage	3 x 400 Volt, 63 Ampere, 33 kW
– Compressed Air	87 psi (6 bar)
– Tools	Solid carbide and HSS
– Tool diameter	Ø 1/8" – 2" (3 – 50 mm)
– Maximum length of shrink fit chuck	21" (535 mm)
– Dimensions WxDxH	63" x 35" x 91" (1601 x 890 x 2300 mm)
– Weight	1,676 lbs (760 kg)
– **Power Clamp Premium Plus Order No.**	**80.170.10.3**

Accessories	Order No.
– Precision chuck support	See page 586
– Precision base holder for chuck support	80.131.01



Power Clamp Nano NG i4.0



Power Clamp Air i4.0 Eco/Comfort



Power Clamp Comfort i4.0



Power Clamp Preset i4.0

POWER CLAMP i4.0 Line:
Shrinking Technology Industry 4.0-ready

With the new Power Clamp i4.0 series, HAIMER is setting new standards regarding digital connectivity and communication of tools and machines in the world of manufacturing.



Power Clamp Premium i4.0



Power Clamp Sprint i4.0

Power Clamp i4.0 Line Highlights

With the new Power Clamp i4.0 series, HAIMER is setting new standards regarding digital connectivity and communication between tools and machines in the world of manufacturing.

All Power Clamp i4.0 shrink fit machines are equipped with the following features:

- 7" Touch-Display and new intuitive software for simplified usability
- Network-compatible and Industry 4.0-ready for communication on the shopfloor
- Scanner to readout shrinking parameters from Data-Matrix codes (optional)
- Patented NG-coil for tool diameters from Ø 1/8" – 1 ¼" (3 – 32 mm)



Touch-Display

- 7" Touch-Display and new intuitive software
- User-friendly Interface
- Illustrated functions
- Clear symbols, large font
- Robust color display
- Water, scratch and impact resistant



Hand-held scanner

Scanner to readout shrinking parameters from Data-Matrix codes for easiest automatic shrinking (optional)

Cooling i4.0





POWER CLAMP PREMIUM i4.0

Contact cooling with signaling of the right cooling station

- Cooling body for rapid cooling
- Automatic signaling of the right cooling station for easy, fast and safe cooling
- Cooling in record time: approx. 30 sec.
- Tool holders remain dry, no build-up of rust
- Gentle handling of chuck by even cooling; runout accuracy is maintained
- Hot points are always covered, no risk of injury

POWER CLAMP SPRINT i4.0

Cooling regardless of the outside contour

- One size fits all – cooling for all kinds of cutting tools, no more selecting of cooling bodies
- Safe, smooth and clean cooling without dirt and water residue
- Intelligent cooling system with temperature control

Power Clamp Nano NG i4.0

Horizontal i4.0 shrink fit machine for tool holders and shrink fit collets.



Intelligent motor coil

Air cooling



Chuck support for tool holders with bayonet clamping

Hand-held scanner

Length presetting
Horizontal length presetting unit
Tolerance 0.05 mm



Clips for tools (optional)
For safest and precise handling of high quality carbide tools – especially with smaller diameters



Calibration adapter for length presetting
For resetting the measuring device

POWER CLAMP i4.0 LINE
POWER CLAMP NANO NG i4.0

Power Clamp Nano NG i4.0 is especially suitable for small tool holders in high frequency spindles, for shrink fit collets and for shrink fit chucks up to CAT40/HSK-A63.

- Easy tool handling by horizontal shrinking
- With intelligent motor coil
- With scanner to readout shrinking parameters from tool holders (Data-Matrix code)
- With air cooling for tools up to outer diam. 1 ¼" (32 mm)
- With length presetting
- With calibration adapter
- With 7" Touch-Display and new intuitive software
- Industry 4.0-ready due to scanner connection
- With 1 chuck support
- Power: 13 kW
- Mains voltage: 3x400–480V, 16A
- Tools: solid carbide and HSS from Ø 1/8"–1 ¼" (3–32 mm)

Technical details

– Mains voltage	3x400–480 Volt, 16 Ampere, 13 kW
– Compressed Air	58 psi (4 bar)
– Tools	solid carbide and HSS
– Tool diameter	1/8" – 1 ¼" (3 – 32 mm)
– Maximum length of shrink fit chuck with tool	9.8" (250 mm)
– Dimensions WxDxH	31'' x 34'' x 26'' (800 x 860 x 670 mm)
– Weight	209 lbs (94 kg)
– **Power Clamp Nano NG i4.0 Order No.**	**80.160.21NGM.3**

Accessories	Order No.
– Chuck support for Power Clamp Nano NG i4.0	see page 583
– Set of clips incl. plate	80.166.00
– System Cart	80.124.00.4
– Insert for System Cart	80.124.07

Application example



Shrink Fit Collets
Power Clamp Nano NG i4.0 is perfectly suitable for process reliable shrinking and cooling of shrink fit collets. See pages 758 – 767 to find the shrink fit collet program.

Power Clamp Air i4.0 Eco

Economic i4.0 shrink fit machine for tool holders and shrink fit collets.



POWER CLAMP i4.0 LINE
POWER CLAMP AIR i4.0 ECO

Power Clamp Air i4.0 Eco is a high performance shrink fit machine with integrated cooling for all tools (solid carbide and HSS).
It is perfectly suitable for process reliable shrinking and cooling of shrink fit collets and tool holders.
Smooth and clean cooling of all kinds of tool holders by air – without dirt and water residue.

- Contour independent air cooling with temperature control
- Pneumatic brake of cooling hood with release-by-touch
- Cooling process finishes automatically
- With 7" Touch-Display and new intuitive software
- Industry 4.0-ready due to scanner connection
- With intelligent NG coil
- Single chuck version
- With 2 precision base holders and 2 precision chuck supports
- With craning boxes
- Incl. Cooling Manager

Technical details

– Mains voltage	3x400–480 Volt, 16 Ampere, 13 kW
– Compressed Air	58 psi (4 bar)
– Tools	Solid carbide and HSS
– Tool diameter	1/8" – 1 ¼" (3 – 32 mm)
– Maximum length of shrink fit chuck (shrinking)	22" (570 mm)
– Maximum length of shrink fit chuck (cooling)	10" (260 mm)
– Dimensions WxDxH	35" x 30" x 43" (880 x 750 x 1100 mm)
– Weight	231 lbs (105 kg)
– **Power Clamp Air i4.0 Eco Order No.**	**80.180.41NG.3**

Accessories

	Order No.
– Scanner to readout shrinking parameters from Data-Matrix codes	80.185.01
– Precision chuck support	See page 585
– Length presetting	80.188.40
– Intelligent motor coil	80.101.03NG
– Auxiliary Fume Extraction Unit	80.101.02NG.01
– System Cart	80.124.00.4
– Insert for System Cart	80.124.06

Application example



Shrink Fit Collets
Power Clamp Air i4.0 Eco is perfectly suitable for process reliable shrinking and cooling of shrink fit collets. See pages 758 – 767 to find the shrink fit collet program.

Power Clamp Air i4.0 Comfort

Comfort i4.0 shrink fit machine for tool holders and shrink fit collets.



Picture shows 80.180.41NG.3 with length presetting (optional)

POWER CLAMP i4.0 LINE
POWER CLAMP AIR i4.0 COMFORT

Power Clamp Air i4.0 Comfort is a high performance shrink fit machine with integrated cooling for all tools (solid carbide and HSS).
It is perfectly suitable for process reliable shrinking and cooling of shrink fit collets and tool holders.
Smooth and clean cooling of all kinds of tool holders by air – without dirt and water residue.

- Contour independent air cooling with temperature control
- Pneumatic brake of cooling hood with release-by-touch
- Cooling process finishes automatically
- With 7" Touch-Display and new intuitive software
- Industry 4.0-ready due to scanner connection
- With scanner to readout shrinking parameters from tool holders (Data-Matrix code)
- With intelligent motor coil
- Single chuck version
- With 2 precision base holders and 2 precision chuck supports
- With craning boxes
- Incl. Cooling Manager

Technical details

– Mains voltage	3x400–480 Volt, 16 Ampere, 13 kW
– Compressed Air	58 psi (4 bar)
– Tools	Solid carbide and HSS
– Tool diameter	1/8" – 1 ¼" (3 – 32 mm)
– Maximum length of shrink fit chuck (shrinking)	22" (570 mm)
– Maximum length of shrink fit chuck (cooling)	10" (260 mm)
– Dimensions WxDxH	35" x 30" x 43" (880 x 750 x 1100 mm)
– Weight	231 lbs (105 kg)
– **Power Clamp Air i4.0 Comfort Order No.**	**80.180.41NGM.3**

Accessories	Order No.
– Length presetting	80.188.40
– Precision chuck support	See page 585
– Auxiliary Fume Extraction Unit	80.101.02NG.01
– System Cart	80.124.00.4
– Insert for System Cart	80.124.06

Application example



Shrink Fit Collets
Power Clamp Air i4.0 Comfort is perfectly suitable for process reliable shrinking and cooling of shrink fit collets. See pages 758 – 767 to find the shrink fit collet program.

Power Clamp Comfort i4.0

i4.0 shrink fit machine for the ambitious.



POWER CLAMP i4.0 LINE
POWER CLAMP COMFORT i4.0

With the new Power Clamp i4.0 series, HAIMER is setting new standards regarding digital connectivity and communication in the world of shrink technology.

A 7" Touch-Display and new intuitive software provide simplified usability.

Upgrade possible with HD coil for shrinking of Heavy Duty Shrink Chucks up to Ø 50 mm (optional)

- Industry 4.0-ready due to scanner connection
- With 7" Touch-Display and new intuitive software
- With intelligent NG coil
- Rotary table with 3 stations
- With integrated contact cooling
- Incl. Cooling Manager
- With 1 chuck support for rotary table
- With craning boxes
- Power: 13 kW
- Mains voltage: 3x400–480V, 16A
- Tools: solid carbide and HSS from Ø 1/8" – 1 ¼" (3–32 mm)
- Scanner to readout shrinking parameters from tool holders (Data-Matrix code) (optional)
- TME Cooling System (optional)

Technical details	
– Mains voltage	3x400–480 Volt, 16 Ampere, 13 kW
– Tools	Solid carbide and HSS
– Tool diameter	1/8" – 1 ¼" (3 – 32 mm)
– Maximum length of shrink fit chuck	22" (570 mm)
– Dimensions WxDxH	33" x 26" x 38" (850 x 660 x 970 mm)
– Weight	254 lbs (115 kg)
– **Power Clamp Comfort i4.0 Order No.**	**80.100.21NG.3**

Accessories	Order No.
– Scanner to readout shrinking parameters from Data-Matrix codes	80.185.01
– Chuck support for rotary table	See page 587
– Upgrade Kit 13 kW HD coil for Power Clamp Comfort i4.0	80.151.30.10
– Auxiliary Fume Extraction Unit	80.101.02NG.01
– System Cart	80.124.00.4
– TME Cooling System for 13 kW machines (optional)	80.105.19.01

Power Clamp Preset i4.0

i4.0 shrink fit machine for the ambitious with length presetting.



POWER CLAMP i4.0 LINE
POWER CLAMP PRESET i4.0

With the new Power Clamp i4.0 series, HAIMER is setting new standards regarding digital connectivity and communication in the world of shrink technology.

A 7" Touch-Display and new intuitive software provide simplified usability.

Upgrade possible with HD coil for shrinking of Heavy Duty Shrink Chucks up to Ø 50 mm (optional)

- Industry 4.0-ready due to scanner connection
- With 7" Touch-Display and new intuitive software
- With vertical stop for length presetting
- With intelligent NG coil
- Single chuck version
- With integrated contact cooling
- Incl. Cooling Manager
- With 2 precision base holders and 2 precision chuck supports
- With craning boxes
- Power: 13 kW
- Mains voltage: 3x400–480V, 16A
- Tools: solid carbide and HSS from Ø 1/8" – 1 ¼" (3–32 mm)
- Scanner to readout shrinking parameters from tool holders (Data-Matrix code) (optional)
- TME Cooling System (optional)

Technical details	
– Mains voltage	3x400–480 Volt, 16 Ampere, 13 kW
– Tools	Solid carbide and HSS
– Tool diameter	1/8" – 1 ¼" (3 – 32 mm)
– Maximum length of shrink fit chuck	22" (570 mm)
– Dimensions WxDxH	34" x 26" x 38" (860 x 660 x 970 mm)
– Weight	254 lbs (115 kg)
– **Power Clamp Preset i4.0 Order No.**	**80.130.21NG.3**

Accessories	Order No.
– Scanner to readout shrinking parameters from Data-Matrix codes	80.185.01
– Precision chuck support	See page 585
– Precision base holder for chuck support	80.131.01
– Upgrade Kit 13 kW HD coil for Power Clamp Preset i4.0	80.151.30.10
– Auxiliary Fume Extraction Unit	80.101.02NG.01
– System Cart	80.124.00.4
– TME Cooling System for 13 kW machines (optional)	80.105.19.01

Power Clamp Premium i4.0

Ergonomic i4.0 high-end shrink station.



Picture shows 80.180.01NG with length presetting and scanner (optional)

POWER CLAMP i4.0 LINE
POWER CLAMP PREMIUM i4.0

Ergonomic high-end shrink station in new, premium quality industrial design with integrated contact cooling for all cutting tools (solid carbide and HSS) and for perfect handling and simultaneous cool-down at max. five cooling stations.

- With 7" Touch-Display and new intuitive software
- Industry 4.0-ready due to scanner connection
- Power: 13 kW
- Mains voltage: 3 x 400–480 V, 16 A
- Tools: solid carbide and HSS from Ø 1/8" – 1 ¼" (3–32 mm)
- With intelligent NG coil
- TME Intelligent Cooling System with temperature control
- Integrated contact cooling with five cooling bodies
- Linear guided cooling bodies with automatic signaling of the right cooling station for easy, fast and safe cooling
- No damage at the edges of the cutting tool
- Incl. Speed Cooler and Cooling Manager
- Incl. 2 precision base holders and 2 precision chuck supports
- Integrated drawer in base cabinet
- Scanner to readout shrinking parameters from tool holders (Data-Matrix code) (optional)
- Length presetting (optional)

Technical details	
– Mains voltage	3 x 400–480 Volt, 16 Ampere, 13 kW
– Tools	Solid carbide and HSS
– Tool diameter	1/8" – 1 ¼" (3 – 32 mm)
– Maximum length of shrink fit chuck	21" (535 mm)
– Dimensions WxDxH	53" x 36" x71" (1340 x 914 x 1816 mm)
– Weight	1,179 lbs / (535 kg) incl. base cabinet
– **Power Clamp Premium i4.0 Order No.**	**80.180.01NG**

Accessories	Order No.
– Scanner to readout shrinking parameters from Data-Matrix codes	80.185.00
– Intelligent motor coil for Power Clamp Premium i4.0	80.101.03S
– Precision chuck support	See page 585
– Precision base holder for chuck support	80.131.01
– Length presetting	80.188.00
– Auxiliary Fume Extraction Unit	80.101.02NG.03

Power Clamp Sprint i4.0

Ergonomic i4.0 shrink station for cooling all geometries.



Picture shows 80.180.21NG with length presetting and scanner (optional)

POWER CLAMP i4.0 LINE
POWER CLAMP SPRINT i4.0

Ergonomic shrink station in new, premium quality industry design with integrated cooling for all kinds of cutting tools (solid carbide and HSS) and shrink fit collets in record time.

- With 7" Touch-Display and new intuitive software
- Industry 4.0-ready due to scanner connection
- With intelligent NG coil
- Smooth and clean cooling of all kinds of shrink fit chucks and shrink fit collets regardless of the outside contour by air nozzles and drizzle – without dirt and water residue
- Temperature control for optimized and safe cooling
- No damage at the edges of the cutting tool
- Incl. 2 precision base holders and 2 precision chuck supports
- Integrated drawer in base cabinet
- Scanner to readout shrinking parameters from tool holders (Data-Matrix code) (optional)
- Length presetting (optional)

Technical details

– Mains voltage	3 x 400–480 Volt, 16 Ampere, 13 kW
– Compressed Air	87 psi (6 bar)
– Tools	Solid carbide and HSS
– Tool diameter	1/8" – 1 ¼" (3 – 32 mm)
– Maximum length of shrink fit chuck	21" (535 mm)
– Dimensions WxDxH	53" x 38" x 101" (1340 x 962 x 2560 mm) (max. work height) 53" x 38" x 77" (1340 x 962 x 1960 mm) (transportation height)
– Weight	1,213 lbs (550 kg) incl. base cabinet
– **Power Clamp Sprint i4.0 Order No.**	**80.180.21NG**

Accessories

	Order No.
– Scanner to readout shrinking parameters from Data-Matrix codes	80.185.00
– Intelligent motor coil for Power Clamp Sprint i4.0	80.101.03S
– Precision chuck support	See page 585
– Precision base holder for chuck support	80.131.01
– Length presetting	80.188.00
– Auxiliary Fume Extraction Unit	80.101.02NG.03

Application example



Shrink Fit Collets
Power Clamp Sprint i4.0 is perfectly suitable for process reliable shrinking and cooling of shrink fit collets. See pages 758 – 767 to find the shrink fit collet program.

Accessories



Drawer insert for system cart
(Accessories not included)

Technical details

– Drawer Order No.	80.124.04



System cart
- Cart for shrinking machine and accessories
- For a clear and tidy work space
- Ergonomic work height
- Everything at hand
- Optional: Drawers with inserts to store accessories

Technical details

– **System cart**	
Dimensions	1000 x 620 x 840 mm
Order No.	80.124.00.4



Cart for shrink fit machine

Technical details

– Cart Order No.	80.106.00.3

BASE HOLDER



To hold chuck supports of all sizes.
Available in two versions:

Base holder for Power Clamp Basic/Economic/ Economic Plus



Precision base holder for Power Clamp Preset/ Premium Plus/Preset i4.0/Premium i4.0/Sprint i4.0

High precision version with fine machined functional surfaces for maximum precision at length presetting.

	Order No.
– Base holder for Power Clamp Basic/Economic/Economic Plus	80.155.01
– Precision base holder for Power Clamp Preset/Premium Plus/ Preset i4.0/Premium i4.0/Sprint i4.0	80.131.01

BASE HOLDER



Precision base holder for HAIMER ER shrink fit collets.

High precision version with fine machined functional surfaces for maximum precision at length presetting.
Open base design for optimal access to adjust the length.

Precision base holder for HAIMER ER shrink fit collets

	Order No.
– Precision base holder for HAIMER ER shrink fit collets	80.131.02

CHUCK SUPPORT FOR POWER CLAMP NANO



Chuck support for horizontal shrink fit machine Power Clamp Nano.
Available in taper sizes SK30 – SK40, CAT30 – CAT50, BT30 – BT40, JBS T15, HSK-25 – HSK-63, PSC 40 – PSC 63

Precision chuck support for Power Clamp Nano/Nano NG i4.0

For taper size	Order No.
– BT30/CAT30 (also for version with Face Contact) with pull stud DIN69872/MAS40	80.162.30
– BT30/SK30 (also for version with Face Contact) without pull stud with thread M12	80.162.30.01
– BT40/SK40 (also for version with Face Contact) without pull stud with thread M16	80.162.40.01
– CAT40 (also for version with Face Contact) with pull stud DIN 69872	80.162.40.02
– CAT40 (also for version with Face Contact) with pull stud ISO 7388-B	80.162.40.04
– BT40 (also for version with Face Contact) with pull stud MAS 403	80.162.40.06
– JBS T15 with pull stud JBS R15-45	80.162.T15
– HSK-25	80.163.25
– HSK-32	80.163.32
– HSK-40	80.163.40
– HSK-50	80.163.50
– HSK-63	80.163.63
– PSC 40	80.167.C4
– PSC 50	80.167.C5
– PSC 63	80.167.C6
– ER11	80.168.ER11
– ER16	80.168.ER16
– ER20	80.168.ER20
– ER25	80.168.ER25
– ER32	80.168.ER32

CHUCK SUPPORT



Chuck support for single-chuck system.
Available in taper sizes CAT30 – CAT50, BT30 – BT50, HSK-25 – HSK-125, PSC 32 – PSC 80, Makino F63, Makino F80

Precision chuck support for Power Clamp Mini, Basic, Economic/NG, Economic Plus/NG

For taper size	Order No.
– CAT/BT/SK30 (also for version with Face Contact)	80.112.30
– CAT/BT/SK40 (also for version with Face Contact)	80.112.40
– CAT/BT/SK45 (also for version with Face Contact)	80.112.45
– CAT/BT/SK50 (also for version with Face Contact)	80.112.50
– HSK-25	80.113.25
– HSK-32	80.113.32
– HSK-40	80.113.40
– HSK-50/HSK-63F	80.113.50
– HSK-63/KM4X63*	80.113.63
– HSK-80	80.113.80
– HSK-100/KM4X100*	80.113.10
– HSK-125	80.113.125
– PSC 32	80.114.30
– PSC 40	80.114.40
– PSC 50	80.114.50
– PSC 63	80.114.60
– PSC 80	80.114.80
– Makino F63	80.113.F63M
– Makino F80	80.113.F80M

** KM4X is a registered trademark/tradename of Kennametal Inc.*

PRECISION CHUCK SUPPORT



Precision chuck support for single-chuck system.

– Fine machined functional surfaces

Available in taper sizes CAT30 – CAT50, HSK-25 – HSK-125, PSC 32 – PSC 80, Makino F63, Makino F80

Precision chuck support for Power Clamp Preset NG/Power Clamp Premium Plus/Power Clamp Air i4.0 Eco/Comfort/Power Clamp Preset i4.0/Power Clamp Premium i4.0/Power Clamp Sprint i4.0

For taper size	Order No.
– CAT/BT/SK30 (also for version with Face Contact)	80.132.30
– CAT/BT/SK40 (also for version with Face Contact)	80.132.40
– CAT/BT/SK45 (also for version with Face Contact)	80.132.45
– CAT/BT/SK50 (also for version with Face Contact)	80.132.50
– HSK-25	80.133.25
– HSK-32	80.133.32
– HSK-40	80.133.40
– HSK-50/HSK-63F	80.133.50
– HSK-63/KM4X63*	80.133.63
– HSK-80	80.133.80
– HSK-100/KM4X100*	80.133.10
– HSK-125	80.133.125
– PSC 32	80.134.30
– PSC 40	80.134.40
– PSC 50	80.134.50
– PSC 63	80.134.60
– PSC 80	80.134.80
– Makino F63	80.133.F63M
– Makino F80	80.133.F80M

** KM4X is a registered trademark/tradename of Kennametal Inc.*

PRECISION CHUCK SUPPORT FOR POWER CLAMP PREMIUM PLUS



Precision chuck support for Power Clamp Premium Plus.

– Fine machined functional surfaces

– With pin for protection of the chuck

Available in taper sizes CAT30 – CAT50, BT30 – BT50, HSK-25 – HSK-125, PSC 32 – PSC 80

Precision chuck support for Power Clamp Premium Plus

For taper size	Order No.
– CAT/SK30	80.172.30
– CAT/SK40	80.172.40
– CAT/SK45	80.172.45
– CAT/SK50	80.172.50
– BT30	80.175.30
– BT40	80.175.40
– BT45	80.175.45
– BT50	80.175.50
– HSK-25	80.173.25
– HSK-32	80.173.32
– HSK-40	80.173.40
– HSK-50	80.173.50
– HSK-63	80.173.63
– HSK-80	80.173.80
– HSK-100	80.173.10
– HSK-125	80.173.125
– HSK-F63M	80.173.F63M
– HSK-F80M	80.173.F80M
– PSC 32	80.174.30
– PSC 40	80.174.40
– PSC 50	80.174.50
– PSC 63	80.174.60
– PSC 80	80.174.80

CHUCK SUPPORT FOR ROTARY TABLE



Chuck support for rotary table.

Available in taper sizes CAT30 – CAT50, BT30 – BT50, HSK-25 – HSK-100, PSC 32 – PSC 80

Chuck support for Power Clamp Profi Plus NG/Comfort/Comfort NG/Comfort i4.0

For taper size	Order No.
– CAT/BT/SK30 (also for version with Face Contact)	80.102.30
– CAT/BT/SK40 (also for version with Face Contact)	80.102.40
– CAT/BT/SK45 (also for version with Face Contact)	80.102.45
– CAT/BT/SK50 (also for version with Face Contact)	80.102.50
– Various sizes	80.103.00
– HSK-25	80.103.25
– HSK-32	80.103.32
– HSK-40	80.103.40
– HSK-50	80.103.50
– HSK-63	80.103.63
– HSK-80	80.103.80
– HSK-100	80.103.10
– PSC 32	80.104.30
– PSC 40	80.104.40
– PSC 50	80.104.50
– PSC 63	80.104.60
– PSC 80	80.104.80

CHUCK SUPPORT FOR ER SHRINK FIT COLLETS



Chuck support for ER shrink fit collets with integrated length presetting.

- Precise clamping of the collet
- Fast and repeatable length adjustment with stop pin
- Adjustment with set screw and counter nut
- Integrated in chuck support, thus very space-saving
- Easy handling by turning of set screw and counter nut
- Application suitable also at multi-spindle machines for repeatable length presetting of twin tools

Chuck support for	Order No.
– ER11	80.135.11
– ER16	80.135.16
– ER20	80.135.20
– ER25	80.135.25
– ER32	80.135.32
– Base holder for Power Clamp Basic/Economic/Economic Plus	80.155.01

CHUCK SUPPORT FOR HAIMER ER SHRINK FIT COLLETS



Chuck support for HAIMER ER shrink fit collets with integrated length presetting.

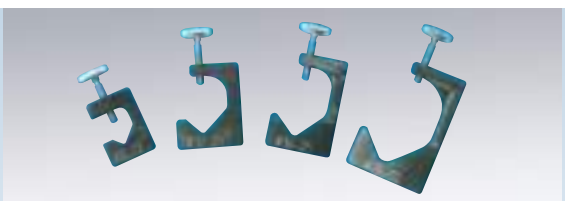
- Fixture of collet by screwing on chuck support
- High process stability, no movement of collet possible
- Fast and repeatable length adjustment with stop pin
- Adjustment with set screw and counter nut
- Integrated in chuck support, thus very space-saving
- Easy handling by turning of set screw and counter nut
- Application suitable also at multi-spindle machines for repeatable length presetting of twin tools

Chuck support for	Order No.
– ER11	80.137.ER11
– ER16	80.137.ER16
– ER20	80.137.ER20
– ER25	80.137.ER25
– ER32	80.137.ER32
– Precision base holder for HAIMER ER shrink fit collets	80.131.02

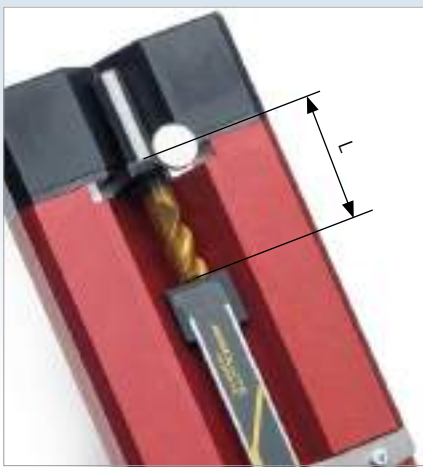
EASY SET
SIMPLE PRESETTING

Simple presetting
- Quick and simple presetting tool overhang
- Maximum overhang length: 150 mm
- Accuracy: ±0.05 mm
- Suitable for all shrink fit chucks and machines (flame, hot air, contact, induction)
- Space-saving
- Excellent relationship between price and efficiency
- Can be added at any time
- Included in delivery: 3 stop clips (Ø 3–12, Ø 12–20, Ø 16–25 mm), Optional: Ø 25–32 mm

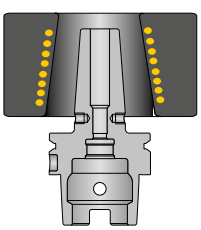




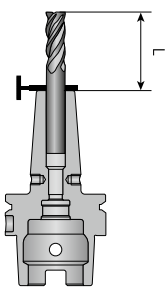
Stop clips



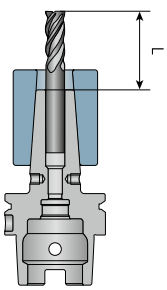
Function



Heat up shrink fit chuck.



Insert tool until stop. Let chuck cool down until tool is clamped.



Cool down chuck completely with cooling body.

Easy Set	Order No.
– Easy Set 100 mm protruding length	80.123.00
– Easy Set 150 mm protruding length	80.125.00
– Stop clip for clamping Ø 3–12 mm	80.123.01
– Stop clip for clamping Ø 12–20 mm	80.123.02
– Stop clip for clamping Ø 16–25 mm	80.123.03
– Stop clip for clamping Ø 25–32 mm	80.123.04

QUICK SET
LENGTH PRESETTING

Length adjustment for shrink fit chucks without back-up screw, e. g. Mini Shrink

- Fast, repeatable length adjustment of the total tool assembly with stop pin
- Adjustment with set screw and counter nut
- Integrated in chuck support, thus very space-saving
- Easy handling by turning of set screw and counter nut
- Application suitable also at multi-spindle machines for repeatable length presetting of twin tools





Picture shows: Quick Set with base holder (Base holder not included in delivery)

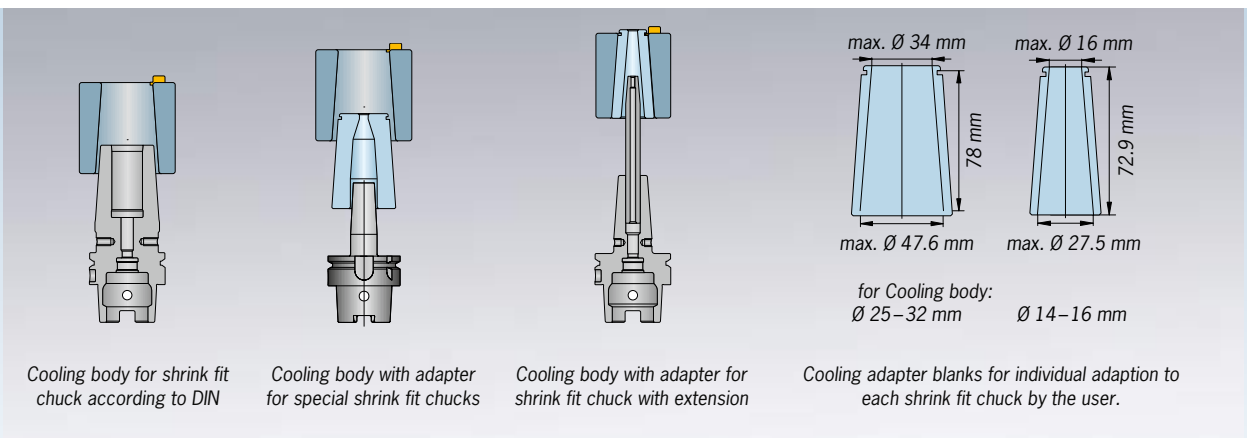
Length Presetting Quick Set for	Order No.
– CAT/SK/BT40	80.136.240
– HSK-E25	80.136.325
– HSK-E32	80.136.332
– HSK-E40	80.136.340
– HSK-E50	80.136.350
– HSK-A63	80.136.363
– HSK-A100	80.136.310
– PSC 40	80.136.440
– PSC 50	80.136.450
– Base holder for Power Clamp Basic/Economic/Economic Plus	80.155.01
– Pin L = 150 mm	80.136.001
– Pin L = 200 mm	80.136.002
– Pin L = 125 mm	80.136.003
– Pin L = 175 mm	80.136.004
– Pin L = 310 mm	80.136.006
– Pin L = 270 mm	80.136.007

COOLING ADAPTER AND COOLING ADAPTER BLANKS



Cooling adapters fit and cool an expanded selection of shrink fit chucks and extensions. The adapter is inserted into the cooling body and locked. Then it can be placed onto the shrink fit chuck.

– Cooling bodies for Ø 14–16 mm and Ø 25–32 mm with side lock



Cooling body for shrink fit chuck according to DIN

Cooling body with adapter for special shrink fit chucks

Cooling body with adapter for shrink fit chuck with extension

Cooling adapter blanks for individual adaption to each shrink fit chuck by the user.

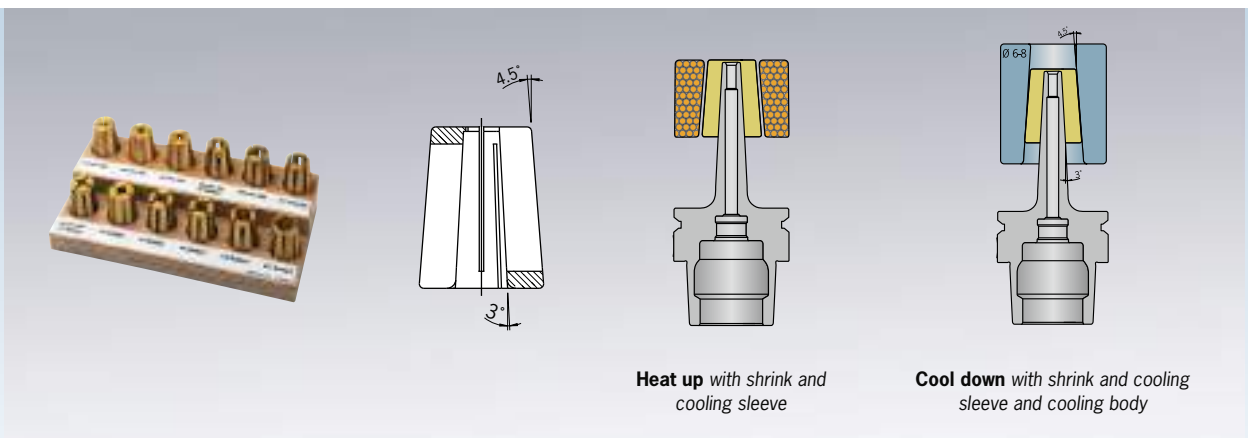
Accessories		Order No.
– Cooling adapter blanks for cooling body	Ø 14–16 mm	80.105.14.0
– Cooling adapter blanks for cooling body	Ø 25–32 mm	80.105.16.0
– Cooling adapter blanks for cooling body	Ø 40–50 mm	80.105.19.3.0
– Cooling adapter for extensions	Ø 12 mm/Ø 16 mm	80.105.14.1.1
– Cooling adapter for extensions	Ø 20 mm	80.105.14.1.2
– Cooling adapter for shrink fit chucks	Ø 3–5 mm	80.105.14.1.3
– Cooling adapter Heavy Duty Ø16 mm for cooling body 80.105.19.1		80.105.19.3.1
– Cooling adapter Heavy Duty Ø20 mm for cooling body 80.105.19.1		80.105.19.3.2
– Cooling adapter Heavy Duty Ø25 mm for cooling body 80.105.19.1		80.105.19.3.3
– Cooling adapter Heavy Duty Ø32 mm for cooling body 80.105.19.1		80.105.19.3.4
– Base for cooling adapters		80.105.14.1.99

MINI SHRINK SHRINK AND COOLING SLEEVES



For shrinking and cooling of Mini Shrink chucks.

- Protect Mini Shrink chucks from overheating
- Extend lifetime of shrink fit chucks
- Secure and user-friendly handling
- Cooling with standard cooling body Ø 6–8 mm



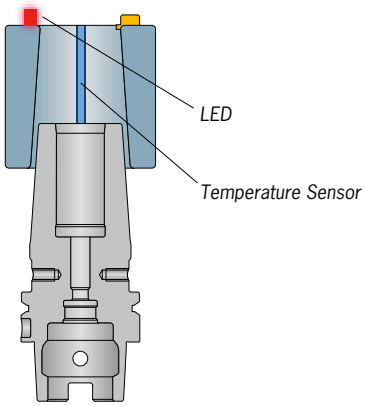
Heat up *with shrink and cooling sleeve*

Cool down *with shrink and cooling sleeve and cooling body*

Fitting sleeves for Mini Shrink chucks									Order No.
– **Extra slim**									
Size [mm]		Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12	
Size [inch]		Ø 1/8	—	Ø 3/16	Ø 1/4	Ø 5/16	Ø 3/8	Ø 1/2	
Order No.	80.105.14…	.2.01	.2.02	.2.03	.2.04	.2.05	.2.06	.2.07	
– **Standard**									
Size [mm]		Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12	Ø 16
Size [inch]		Ø 1/8	—	Ø 3/16	Ø 1/4	Ø 5/16	Ø 3/8	Ø 1/2	Ø 5/8
Order No.	80.105.14…	.2.04	.2.08	.2.05	.2.09	.2.10	.2.11	.2.12	.2.16
– Base									80.105.14.2.99
– Set with base (12 pcs., diameter 3 – 12 mm)									80.105.14.2.00

TME COOLING SYSTEM WITH TEMPERATURE CONTROL





Temperature control of the shrink fit chuck during the cooling process for safe handling

- Sensor in aluminum body measures temperature
- If temperature is too high: red light
- If temperature is at right level: green light
- Minimizes danger of injury due to hot chucks
- Patented temperature control

TME Cooling System	Order No.
– TME Intelligent Cooling System for 13 kW machines	80.105.19.01
– TME Intelligent Cooling System for 20 kW machines	80.105.19.11

TENSION SPRINGS FOR LENGTH PRESETTING FOR SHRINK FIT CHUCKS





Tension spring for length presetting

- Spring is set into clamping bore
- Spring presses tool against stop disk
- Backup screw can remain in chuck
- Fits all common shrink fit chucks

Tension Springs										Order No.
– Size [mm]	Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20	Ø 25	Ø 32	
Size [inch]	Ø ¼	Ø 5/16	Ø 3/8	Ø ½	—	Ø 5/8	—	Ø ¾	Ø 1	Ø 1 ¼	
Order No. 85.830...	.06	.08	.10	.12	.14	.16	.18	.20	.25	.32	
– Tension spring set (10 pcs. of each size) incl. pull-out gripper											85.830.00

SHRINK-OUT DEVICE



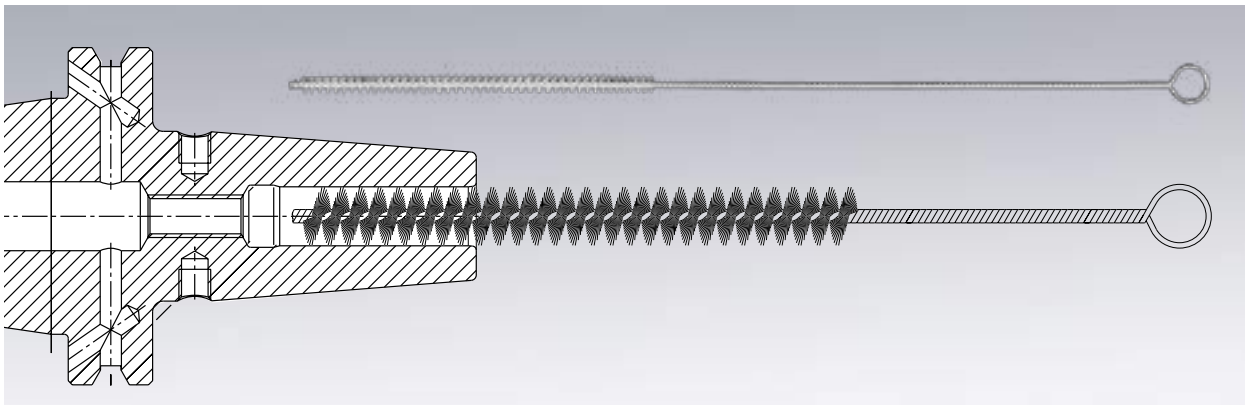
Shrink-out device for broken tools.

- Set includes 1 base plate and 6 pins (3 diameters in 2 lengths each), without pliers
- Rubber plate for saving the chuck
- Drawer insert for craning box
- Suitable for all Power Clamp shrink fit machines

	Order No.
– Shrink-out device	80.126.00
– Combination pliers	80.107.00

Accessories	Order No.
– Pin 160 mm x 2.3 mm	113027–0004
– Pin 160 mm x 4.7 mm	113027–0005
– Pin 160 mm x 6.0 mm	113027–0006
– Pin 275 mm x 2.3 mm	113027–0007
– Pin 275 mm x 4.7 mm	113027–0008
– Pin 275 mm x 6.0 mm	113027–0009

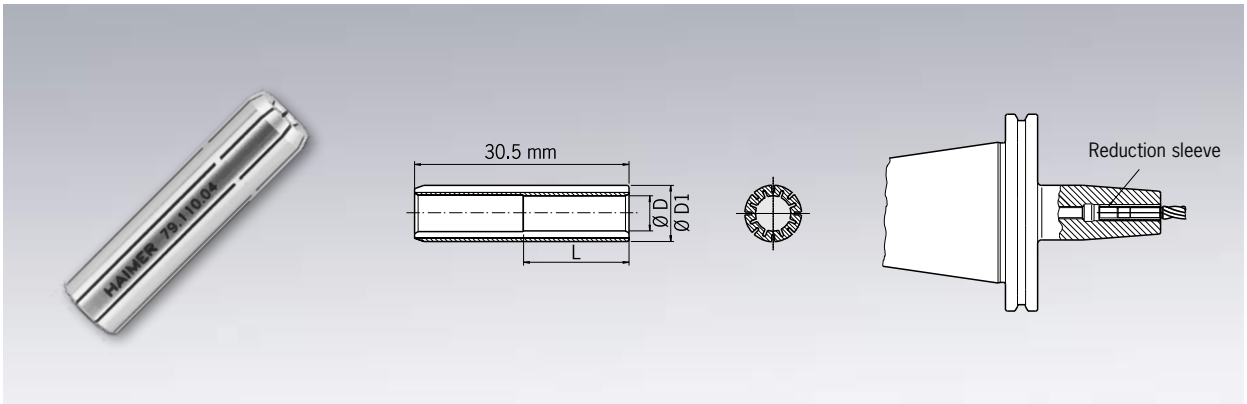
SHRINK FIT BRUSH



In order to achieve the best possible shrink fit connection, a grease-free socket and shank is necessary. The cleaning can be done by a dry solvent (e.g. brake cleaner). An appropriate cleaning brush is necessary to clean the socket of the Shrink Fit Chuck.

Shrink Fit Brush	Order No.
– Ø 1/8" (3 mm)	86.200.01
– Ø 3/16" / 3.5 mm / 4 mm / 4.5 mm / 5 mm	86.200.02
– Ø 1/4" – 5/16" / 6 mm / 8 mm	86.200.03
– Ø 3/8" – 1/2" / 10 mm / 12 mm	86.200.04
– Ø 5/8" / 14 mm / 16 mm	86.200.06
– Ø 3/4" / 18 mm / 20 mm	86.200.07
– Ø 1" / 25 mm	86.200.08

REDUCTION SLEEVES



Use:
For clamping small shanks in chucks with Ø 5/16" or 8 mm ID's.

First step: shrink sleeve into bore of chuck.
Second step: shrink tool shank in reduction sleeve.

- Shank tolerance h6
- Sealed (ready for internal coolant)

For use in all chucks as reducers.
- Shrink fit chucks
- High-Precision chucks
- Collet chucks
- Hydraulic chucks
- Other high precision mechanical chucks

INCH	Ø D	Ø D1	L	Order No.
– Clamping Ø	3/32"	5/16"	0.27"	79.110.3/32Z
– Clamping Ø	1/8"	5/16"	0.35"	79.110.1/8Z
– Clamping Ø	5/32"	5/16"	0.47"	79.110.5/32Z
– Clamping Ø	3/16"	5/16"	0.56"	79.110.3/16Z
– Clamping Ø	7/32"	5/16"	0.65"	79.110.7/32Z

METRIC	Ø D	Ø D1	L	Order No.
– Clamping Ø	2.5 mm	8 mm	7.5 mm	79.110.2.5
– Clamping Ø	3.0 mm	8 mm	9.0 mm	79.110.03
– Clamping Ø	3.5 mm	8 mm	10.5 mm	79.110.3.5
– Clamping Ø	4.0 mm	8 mm	12.0 mm	79.110.04
– Clamping Ø	4.5 mm	8 mm	13.5 mm	79.110.4.5
– Clamping Ø	5.0 mm	8 mm	15.0 mm	79.110.05
– Clamping Ø	5.5 mm	8 mm	16.5 mm	79.110.5.5

AUXILIARY FUME EXTRACTION UNIT





Auxiliary fume extraction unit to remove and filter vapors, which are produced during the shrink process.

For process reliable functionality, we recommend the assembly of the extraction unit directly on to a HAIMER system cart.

Auxiliary fume extraction unit	Shrink fit machine Power Clamp	Order No.
For coil		
– VS32-H/M	Comfort (i4.0)/Comfort NG/Preset (NG/i4.0)/Profi Plus NG	80.101.02NG.01
– VS32-H	Premium Plus	80.101.02NG.02
– VS32-M	Premium Plus	80.101.03NG.02
– VS32-S	Premium i4.0/Sprint i4.0	80.101.02NG.03
– V2008	Economic/Economic Plus/Comfort (i4.0)	80.151.00.01
– 13 kW HD/20 kW	Economic Plus NG/Comfort NG/Preset NG (i4.0)	80.151.10.01

UPGRADE KIT 13 KW HD COIL



Use:
For shrinking of Heavy Duty Shrink Chucks up to Ø 50 mm.

Delivery includes:
– 13 kW HD coil
– Coil base
– Set of stop disks
– Latest software
– HD cooling body Ø 1 ½"–2" (40–50 mm)
– Hose set for HD cooling body
– Coolant Manifold Connection
– Optional: Cooling adapter for HD cooling body

Upgrade only possible for existing shrink fit machine Power Clamp Economic Plus (NG), Comfort (NG) or Preset (NG) that were **produced after 01/2012.**

	Order No.
– Upgrade Kit 13 kW HD coil	80.151.30.10

STOP DISKS

Clamping Ø D [mm]	Stop disks	Order No.
For coil N29 (Power Clamp Nano)		
– 3 – 5 mm		80.162.03
– 6 – 8 mm		80.162.06
– 10 – 16 mm		80.162.10
– 10 – 12 mm		80.162.10.2
–	Stop disk set N29	80.162.00
– 3 – 5 mm	Stop disk split	80.162.03.1
– 6 – 8 mm	Stop disk split	80.162.06.1
– 10 – 16 mm	Stop disk split	80.162.10.1
– 10 – 12 mm	Stop disk split	80.162.10.2.1
For 13 kW coil V2008		
– 3 – 5 mm		80.152.03
– 6 – 12 mm		80.152.06
– 14 – 16 mm		80.152.14
– 18 – 20 mm		80.152.18
– 25 – 32 mm		80.152.25
–	Set of stop disks 13 kW V2008	80.152.00
– 3 – 5 mm	Stop disk split	80.152.03.1
– 6 – 12 mm	Stop disk split	80.152.06.1
– 14 – 16 mm	Stop disk split	80.152.14.1
– 18 – 20 mm	Stop disk split	80.152.18.1
– 25 – 32 mm	Stop disk split	80.152.25.1
–	Set of stop disks 13 kW V2008 (split)	80.152.00.1
– 6 – 12 mm	Stop disk for ultra short Power Shrink Chucks	80.152.06.2
– 14 – 20 mm	Stop disk for ultra short Power Shrink Chucks	80.152.14.2
– 25 – 32 mm	Stop disk for ultra short Power Shrink Chucks	80.152.25.2
For 20 kW coil and 13 kW HD coil		
– 16 – 20 mm		80.151.10.42
– 20 – 32 mm		80.151.10.41
– 40 – 50 mm		80.151.40.40
– 16 – 20 mm	Stop disk 20 kW/13 kW split	80.151.10.42.1
– 25 – 32 mm	Stop disk 20 kW/13 kW split	80.151.10.41.1
– 40 – 50 mm	Stop disk 20 kW/13 kW split	80.151.40.40.1





Use:

Changeable stop disks for positioning the coil above the chuck.

BALANCING TECHNOLOGY



CONTENT

Modular Balancing System

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Why Should I Buy a Balancing Machine? 606
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Balancing Machines

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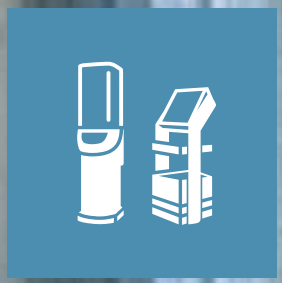
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Top 10 Reasons to Use HAIMER Balancing Technology

1

Faster Speed and Higher Productivity

Vibration is often the reason higher speeds and feeds are not realized.
Balanced assemblies permit 10~15% faster spindle speeds and higher productivity without degradation of sound or tool life.

2

Longer Tool Life

On average, balanced tools (tools, inserts and grinding wheels) last 20% longer when the entire tooling assembly is balanced. Depending on the amount of unbalance, the tool life increase can be much greater.

3

Repeatable Tool Performance

The elimination of vibration dramatically reduces problems like chatter and tool chipping, thereby stabilizing tool performance and making lights out machining possible.

4

Longer Spindle Life

Unbalance in a tool assembly creates excessive centrifugal forces that can damage spindle bearings.
Such damage reduces spindle life and can lead to costly unplanned downtime.

5

Better Surface Finishes

Unbalance creates excessive vibration that can be translated to the finished part in the form of chatter and poorer finishes.
To achieve the best finish, balance the full assembly.

6

Improved Accuracy

At higher speeds, unbalance can actually induce runout during rotation where none was measured statically.
Without balance, the result is slower speeds, less productivity and lower accuracy.

7

Fewer Tool Changes

When tool life increases 20% to 100%, tool changing time is reduced.
This means less time needed for tool changes in the tool room and less set up times of the machine.

8

Accurate Process

A solid concrete base construction, centrifugal force sensors for measuring, patented spindle that clamps the tools identical to the machine tool, and a simple/reliable machine calibration process.

9

Ease of use

Simple software and clear compensation options (removing, adding or displacing weight) make the balancing process fast and simple for all users.

10

Industry 4.0 Success

Industry 4.0 is all about using gathered data to automate changes on the fly that optimize the machining process.
Without balance, the optimal machining logic will ultimately require a reduction of speeds until the problem is resolved, thereby reducing productivity.

WHY SHOULD I BUY A BALANCING MACHINE?



"I'm only running tools at 1,500 RPM. Is balancing really necessary?"

You are running only at 1,500 RPM, but the real question is why?

Is that because you have always machined your part at that spindle speed with the appropriately related feed rate, or is it due to the fact that if you tried to increase your spindle speeds and your feeds, you heard vibration, noticed chatter marks on the work piece, cut oversize, bored oval holes, etc.?

Naturally, this would cause you to slow things down in order to create good parts, while giving away potential productivity.
There is always a benefit to having balanced tool holder assemblies, even at low spindle speeds. In fact, some of the most eye-opening benefits of running balanced tools can be found in traditionally lower speed applications, such as face-milling, machining with boring heads, or in use with special form tools.
With balancing the full tooling assembly, you can really get the most potential out of your machine tool and gain productivity in order to machine your parts faster, with greater tool life and higher accuracy – regardless of the RPM you are running.

"I don't need balanced tool holders."

Modern milling machines operate with high spindle speeds. An unbalance causes centrifugal forces. The centrifugal forces increase squared to the spindle speed. Older machines have spindle speeds of about 2,000 rpm. Even at 10,000 rpm, the unbalance in the same exact tool holder causes a centrifugal force that is 25 times higher.

– The centrifugal force stresses the spindle bearings. The lifetime of the bearings decreases with excessive stress. Consequently, the spindle bearings become damaged and unnecessary repair costs are incurred.
– The manufacturers of milling machines and spindles specify the use of balanced tools. Often times, if unbalanced tools are used, there will be no warranty on the machine spindle.
– The direction of the centrifugal force is changing steadily as it rotates with the spindle. This is why centrifugal force causes vibrations.
– Vibrations shorten the life of the cutting tools. This causes higher cutting tool costs and a decrease in the quality of the surface finish.

"I only have a few parts to balance. For this purpose a simple machine is sufficient."

When balancing is not done regularly, the operators have no experience. The risk of incorrect measurement due to improper handling of the machine is very high. Therefore, in such cases, it is important to have a balancing machine that guides the user through the procedure.
Plus, it would be unfortunate to have an inferior balancing machine that limits your balancing potential for the future.

"Balancing is too complicated."

It depends. Simple balancing systems often aren't handled correctly because the operators don't know the physical background of unbalance and balancing. Sometimes the existing unbalance is increased instead of reduced, since some balancing machines are not adjusted or calibrated correctly for the specific tool. Overall it is rather difficult to have a specialist just for balancing and this is not necessary.

With a good machine, balancing is simple. The operator only has to choose the type of tool he or she wants to balance. From then on the machine tells the operator what to do. The machine has the expert knowledge, not the operator.



“A balancing machine is too expensive for me.”

A balancing machine is an investment. An investment must provide a quick return on investment. The purchasing price only has a small influence on the payback of an investment.

A balancing machine will quickly pay for itself as:

– the process reliability in the production can be improved
– the life time of the spindle can be extended (one single replacement of a spindle costs more than a balancing machine)
– The frequency of the downtime of the machines is decreased. The most expensive factor in a production is machine standstill
– the result of the production is improved (better surface finish)
– the maximum spindle speeds and feeds can be utilized on your machine (quicker throughput)
– the tool life is extended
– the cutting capacity is improved

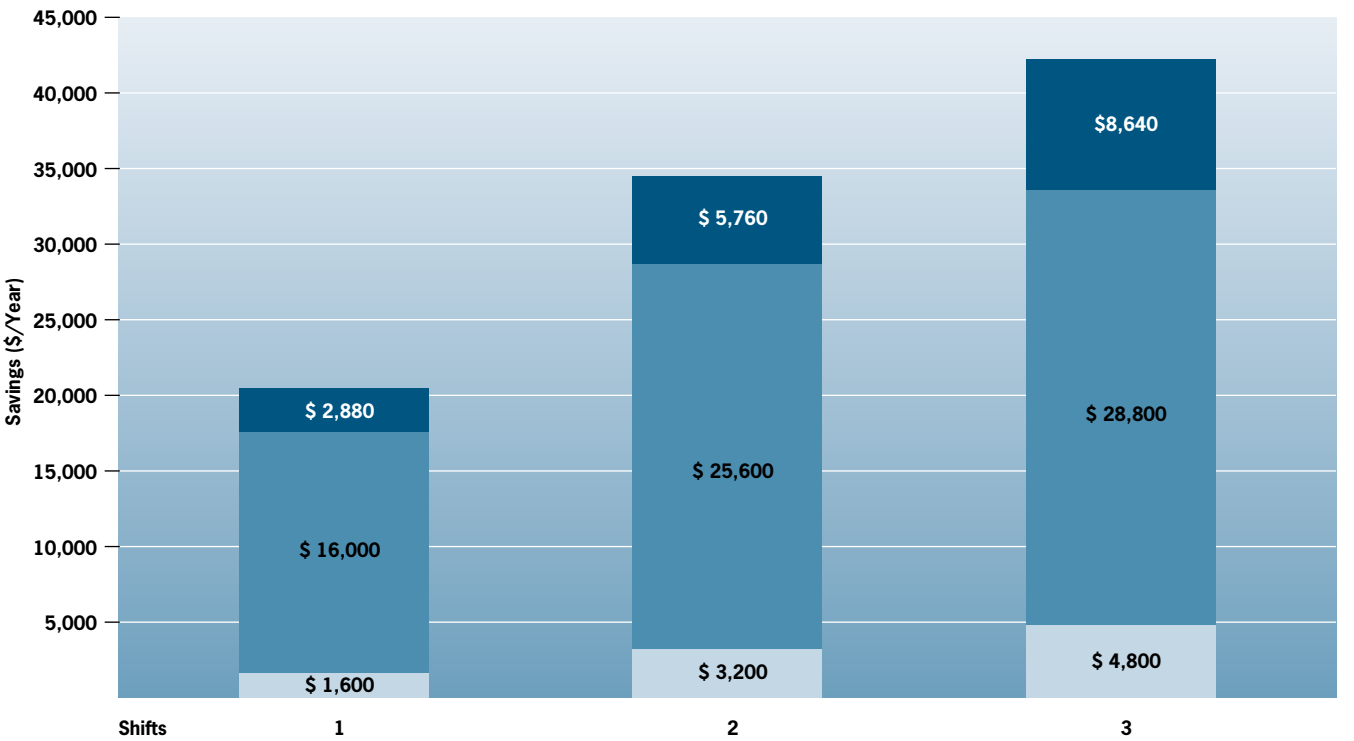
Overall, it is important that a balancing machine is easy to handle and that it gives you reliable and repeatable results. Ultimately, it should provide the easiest method to find your desired balance level to run at a safe and productive rate in your facility. It is possible to get all of that with a balancing machine that is easy and secure to handle, insuring that you reach the desired results.

“The tool holders that I buy are already balanced.”

Generally a good idea. The manufacturer of tool holders normally can balance quicker and more efficiently. However:

– What happens when you clamp a cutting tool into a balanced tool holder? The cuttings tools often are unsymmetrical (e.g. side lock shanks). Many tool holders have movable parts which can have different positions after being mounted (e.g. pull studs, clamping screws, bearing races, collets, locknuts). Tool holders for high speed machining should always be balanced when mounted as one complete set-up (tool holder, pull stud, collet, cutting tool, etc.). Once tool holder elements have been modified, the balance level changes.
– Most tool holder manufacturers stock products in a “Pre-Balanced” condition. A pre-balanced condition means that the tool holders are fully balanced without components such as cutting tools, pull studs, collets, clamping nuts, moveable bearings or data chips. Once these other components are added to the tool holder assembly, the tool holder may need to be re-balanced in order to conform to ISO balance specifications.
– What about the tool holders which are already in your factory? It is nearly impossible to avoid a mixing up of balanced and unbalanced tool holders. One single process with an unbalanced tool at high spindle speed can damage the spindle bearings. This is why the “old” tool holders should be balanced as well.
– How do you know your tool holders are balanced? After all, when one receives a shipment from a vendor they first check the items in the box and insure that selection and quantity of the items in the box is correct. Why not check that the balance of the tools is correct as well? What balance level does your “pre-balanced” tool holders come to you? Checking the balance of tool holders should always be part of the quality control of incoming goods, particularly if you are paying a premium for “fine-balanced” tools.

COST REDUCTION BY THE USE OF BALANCED TOOL HOLDERS (PER MACHINING CENTER)



Savings by raising spindle lifetime by 100%

Savings by raising cutting volume by 10%

Savings by extending tool life by 10%

Basics of the calculation	runtime h/year	cost rate $/h	tooling costs $/h
1 shift	1,600	100	10
2 shifts	3,200	80	10
3 shifts	4,800	60	10

Spindle lifetime (n_{max} = 15,000 rpm):
Tools not balanced: 5,000 hrs.
Tools balanced: 10,000 hrs.
Cost for spindle replacement: $ 18,000

Not taken into account:
– Improved surface quality
– Costs for unplanned downtime of the machine (spindle replacement)
– Improved accuracy
– Real savings may be much higher than calculated

ON THE SAFE SIDE: BALANCE YOUR TOOLS QUICKLY AND EFFICIENTLY WITH THE TOOL DYNAMIC SYSTEM

Reliable, quick and efficient – the perfect balancing system for tool holders, grinding wheels and other rotors.
– Flexibility for future requirements due to modular construction
– 4 versions available, offering a perfect solution for every need
– Balancing in 1 or 2 planes
– Unique high precision spindle taper adapter system with automatic clamping for all common tooling systems and tapers
– Highest measuring accuracy and repeatability
– Even low cost chucks (steep taper with low precision) can be clamped accurately due to elastic centering
– Adapters for rotors with a center bore (e.g. grinding wheels)
– Unbalance correction by drilling, milling, balancing rings and weights
– Unbalance correction using fixed components (e.g. balancing screws in threads)
– Easy service due to modular construction with plug connectors
– Calibration function for testing equipment control according to ISO 9001
– Single machine calibration for all tools, thanks to hard bearing technology (force measuring vertical balancing machine)

Simple and self-explanatory operation. User-friendly menu guidance on PC screen or integrated display. All languages possible.
– Excellent relationship between price and efficiency
– Multiple methods of measuring: simple measuring, index measuring, measuring with spindle compensation, measuring with zero setting
– Tool management for more than 5,000 tools, storing the most recent balancing results
– Interface to the local computer network
– Input of balancing tolerance in balancing quality grades (G or Q)
– Graphically displayed measuring results
– Printout of measuring results on label or certificate
– Clear indication if balancing tolerance has been reached
– Indication of actual balancing quality grade and permissible spindle speed
– Optical indexing aid: actual position of unbalance visible on screen
– Automatic positioning of spindle at position of unbalance
– Optical laser marks the position of unbalance directly on the tool
– Error diagnosis
– Density function with an integrated list of materials with different specific weights

Test Data Example
(Completed by a major auto parts supplier in South Carolina)
DR2002 FLCA machine Cast Iron/Tool #607 (Drilling/Boring/Facing Tool)



	Before Balancing	After Balancing	Comment
Tool life	250 Pieces per edge	350 Pieces per edge	100 Piece increase
Surface finish	20 Rz	15 Rz	5 Rz finer finish
Bore size and roundness	Presetter + .055 mm	Presetter 0 mm	Cut to set size
Vibration Analysis Results	1.821 mm/sec.	.051 mm/sec.	Lowered 1.77

Before Balance:
This tool would not consistently reach its full life (inserts would fail).
After Balance: This tool reached its full life 100% of the time.

Future Expectations include:
– Increase in tool life plant wide, better surface finishes and controllable bore dimensions
– Spindle bearing failure decrease plant wide
– Decrease in premature tool failures
– Overall tool performance and repeatability, chatter and scrap reduction

Summary:
As nearly all machine tool manufacturers recommend the tools used in their spindles should be balanced to G2.5 at all rpm ranges, not all tools require balancing. Determination should be made using a tool by tool method considering the following: tool rpm, tool weight, tool operation, stress applied to the spindle and application trouble shooting. Testing has proven that balancing tools at any rpm range can yield positive results, even below 8,000 rpm.

Tool Dynamic TD 1002: For minimalists

Runout Measuring device for TD 1002 on page 641



Picture shows TD1002 with runout measuring device (optional)

TOOL DYNAMIC TD 1002
BASIC BALANCING SYSTEM

Balancing machine for balancing tools, tool holders and grinding wheels in 1 or 2 planes (optional).
- Force measuring table top machine
- Ideal for smaller shops
- For small batch lots, single application, standard chucks and grinding wheel packages
- Adapter with automatic clamping system

Features:
- Menu-based handling – via integrated user interface and display
- Safety hood with automatic door lock
- Special high precision spindle bearings

Characteristics	
 Vibration optimized base	Adapted table for optimized base
 User interface	Integrated user interface for easy handling of the machine
 Optical indexing help 80.204.00	Indication of the exact spindle angle position on display
 Laser marking	Indicates the position of unbalance and correction with a laser
 Radial drilling	Balancing by drilling radially
 Software for compensation with balancing rings	Balancing by rings or other movable weights
 Index balancing	Compensation of measuring errors by index balancing (2 measuring runs, indexing angle 180°)
 Balancing with spindle compensation	Quick and precise measurement of repetition parts (single measuring run)
 Balancing in 1 plane	Measuring and correction of unbalance in 1 plane (static)
 Deutsch/English/Français/ Italiano/Español	Languages for user interface
 Accessories and special equipment	Please check the table on pages 622–625

Technical details			
Tool Dynamic TD 1002			
Dimensions lxhxd [mm/inch]	500x680x820 / 20x27x32	Power usage [kW]	0.4
Weight [kg/lbs]	200/441	Compressed air [bar/psi]	6/87
Spindle Speed [rpm]	600–1100	Max. tool length [mm/inch]	360/14.2
Measuring accuracy	< 1.0 gmm	Max. tool-Ø [mm/inch]	340/13.4
Power requirements [V/Hz]	230/50–60	Max. tool weight [kg/lbs]	15/33
	(comes with 110V transformer)	**Order No.**	**80.250.00.3.US**

Tool Dynamic TD Economic: For beginners



TOOL DYNAMIC TD ECONOMIC
MODULAR BALANCING SYSTEM

Your introduction into the modular balancing system Tool Dynamic TD. The Tool Dynamic TD Economic measures and corrects the unbalance in one plane (static).

Therefore the TD Economic is perfect for balancing short tool holders and tools because of the couple unbalance being very low. Easy handling with integrated keyboard and screen.

The following characteristics are identical to Tool Dynamic TD 1002:

Characteristics		
 User interface	 Radial drilling	 Balancing with spindle compensation
 Optical indexing help 80.204.00	 Software for compensation with balancing rings	 Balancing in 1 plane
 Laser marking	 Index balancing	 Deutsch/English/Français/ Italiano/Español

The following characteristics are included standard for Tool Dynamic TD Economic:

Characteristics	
 Base made of polymer concrete	Heavy base ensures the highest measuring accuracy
 Fixed components 80.202.00	Enables balancing at predefined positions (e.g. with balancing screws)
 Automatic indexing 80.217.00	Turns the spindle on the selected angle position and simplifies exact positioning of spindle
 Rack for accessories 80.227.00	Storage rack with two integrated drawers for balancing adapters and other accessories
 Balancing Software TD 4.0 80.245.06	New software with user-friendly graphical interface and touchscreen control
 Accessories and special equipment	Please check the table on pages 622–625

Technical details			
Tool Dynamic TD Economic			
Dimensions lxhxd [mm/inch]	500x1500x820 / 20x59x32	Compressed air [bar/psi]	6/87
Weight [kg/lbs]	450/990	Max. tool length [mm/inch]	400/15.7
Spindle speed [rpm]	300–1100	Optional [mm/inch]	700/27.6
Measuring accuracy [gmm]	< 0.5	Max. tool diameter [mm/inch]	380/14.96
Power requirements [V/Hz]	230/50–60	Optional [mm/inch]	425/16.73
Power usage [kW]	0.4	Max. tool weight [kg/lbs]	30/66
		Order No.	**80.220.00.09.3.US**

Tool Dynamic TD Economic Plus: For advanced users



TOOL DYNAMIC TD ECONOMIC PLUS
MODULAR BALANCING SYSTEM

The TD Economic Plus is perfect for measuring unbalance in two planes (dynamic). Long tools must be balanced in two planes to correct the couple or dynamic unbalance.
Accessories can be clearly arranged in the built-in drawers.

Work quickly and error free with laser marking, optical indexing help and automatic indexing of the spindle.
The “fixed components” allow you to balance with screws on rotors with threaded bores.

The following characteristics are identical to Tool Dynamic TD Economic:

Characteristics		
 Base made of polymer concrete	 Radial drilling	 Balancing in 1 plane
 User interface	 Fixed components 80.202.00	 Automatic indexing 80.217.00
 Optical indexing help 80.204.00	 Software for compensation with balancing rings	 Rack for accessories 80.227.00
 Laser marking	 Index balancing	 Balancing Software TD 4.0 80.245.06
	 Balancing with spindle compensation	 Deutsch/English/Français/ Italiano/Español

The following characteristics are included standard for Tool Dynamic TD Economic Plus:

Characteristics	
 Balancing in 2 planes 80.252.01	Measuring and correction of unbalance in 2 planes (dynamic unbalance)
 Accessories and special equipment	Please check the table on pages 622–625

Technical details			
Tool Dynamic TD Economic Plus			
Dimensions lxhxd [mm/inch]	500x1500x820 / 20x59x32	Compressed air [bar/psi]	6/87
Weight [kg/lbs]	450/990	Max. tool length [mm/inch]	400/15.7
Spindle speed [rpm]	300–1100	Optional [mm/inch]	700/27.6
Measuring accuracy [gmm]	< 0.5	Max. tool diameter [mm/inch]	380/14.96
Power requirements [V/Hz]	230/50–60	Optional [mm/inch]	425/16.73
Power usage [kW]	0.4	Max. tool weight [kg/lbs]	30/66
		Order No.	**80.222.00.09.3.US**

Tool Dynamic TD Comfort: For ambitious users



TOOL DYNAMIC TD COMFORT
MODULAR BALANCING SYSTEM

If you want to use the Tool Dynamic frequently and keep the balancing time as short as possible, the TD Comfort is the right choice. It is equipped with a PC, keyboard, mouse and monitor. The big screen enables you to input tool data faster with all the comfort of a graphical user interface – you just balance faster!

In addition, the software in this machine offers unbalance correction through milling, which is a very common method to correct the imbalance.

The following characteristics are identical to Tool Dynamic TD Economic Plus:

Characteristics		
 Base made of polymer concrete	 Software for compensation with balancing rings	 Fixed components 80.202.00
 User interface	 Index balancing	 Automatic indexing 80.217.00
 Optical indexing help 80.204.00	 Balancing with spindle compensation	 Rack for accessories 80.227.00
 Laser marking	 Balancing in 1 plane	 Balancing Software TD 4.0 80.245.06
 Radial drilling	 Balancing in 2 planes 80.252.01	 Deutsch/English/Français/ Italiano/Español

The following characteristics are included standard for Tool Dynamic TD Comfort:

Characteristics	
 Print label	Print balancing results on label
 Milling program 80.212.00	Milling program allows correction of unbalance via milling
 User account administration 80.245.12	User administration with individual allocation of user rights
 Screen holder 80.228.03.3	Comfortable tray to place PC screen and keyboard
 TFT screen 80.229.02	Comfortable usage via keyboard for integrated PC (includes TFT screen, keyboard and mouse)
 Accessories and special equipment	Please check the table on pages 622–625

Technical details

Tool Dynamic TD Comfort

Dimensions lxhxd [mm/inch]	1100x1500x820 / 43x59x32	Compressed air [bar/psi]	6/87
Weight [kg/lbs]	450/990	Max. tool length [mm/inch]	400/15.7
Spindle speed [rpm]	300–1100	Optional [mm/inch]	700/27.6
Measuring accuracy [gmm]	< 0.5	Max. tool diameter [mm/inch]	380/14.96
Power requirements [V/Hz]	230/50–60	Optional [mm/inch]	425/16.73
Power usage [kW]	0.4	Max. tool weight [kg/lbs]	30/66
		Order No.	**80.224.00.09.3.US**

Tool Dynamic TD Comfort Plus: For perfectionists



Picture shows special equipment: Safety hood type 3 for tools with length up to 700 mm (see optional configurations on p. 624)

TOOL DYNAMIC TD COMFORT PLUS
MODULAR BALANCING SYSTEM

The Tool Dynamic TD Comfort Plus offers maximum usability and comfort. By using the TD Comfort Plus, you will never lose sight of your goal during the balancing process.
Would you like to balance your tools efficiently, quickly and without being an expert?

Then choose Tool Dynamic TD Comfort Plus – optimized touchscreen usage, integrated PC, comfortable storage for your balancing accessories and maximum equipment to make balancing fast, convenient and easy.

The following characteristics are identical to Tool Dynamic TD Comfort:

Characteristics		
 Base made of polymer concrete	 Software for compensation with balancing rings	 Automatic indexing 80.217.00
 User interface	 Index balancing	 Rack for accessories 80.227.00
 Optical indexing help 80.204.00	 Balancing with spindle compensation	 Milling program 80.212.00
 Laser marking	 Balancing in 1 plane	 Balancing Software TD 4.0 80.245.06
 Print label	 Balancing in 2 planes 80.252.01	 User account administration 80.245.12
 Radial drilling	 Fixed components 80.202.00	 Deutsch/English/Français/ Italiano/Español

The following characteristics are included standard for Tool Dynamic TD Comfort Plus:

Characteristics	
 Control terminal incl. touchscreen 80.233.00.4	Control terminal for storage of touchscreen, keyboard, mouse, printer, and further accessories (only together with Balancing Software TD 4.0)
 Accessories and special equipment	Please check the table on pages 622–625

Technical details

Tool Dynamic TD Comfort Plus

Dimensions lxhxd [mm/inch]	1100x1500x820 / 43x59x32	Compressed air [bar/psi]	6/87
Weight [kg/lbs]	450/990	Max. tool length [mm/inch]	400/15.7
Spindle speed [rpm]	300–1100	Optional [mm/inch]	700/27.6
Measuring accuracy [gmm]	< 0.5	Max. tool diameter [mm/inch]	380/14.96
Power requirements [V/Hz]	230/50–60	Optional [mm/inch]	425/16.73
Power usage [kW]	0.4	Max. tool weight [kg/lbs]	30/66
		Order No.	**80.226.00.09.3.US**

Tool Dynamic TD Comfort Plus i4.0: Industry 4.0 balancing machine for maximum process reliability in production.



Picture shows special equipment: Tool Control with accessories (see optional configurations on p. 624)

TOOL DYNAMIC TD COMFORT PLUS i4.0
MODULAR BALANCING SYSTEM

The new Tool Dynamic TD Comfort Plus i4.0 offers a maximum of usability and comfort. Highlights are the possibility of digital data transfer to the machine, network compatibilities (i4.0 ready) and an optimized 27" multi-touchscreen usage via separate control terminal, integrated PC, comfortable storages for your balancing accessories and a maximum of equipment make balancing fast, convenient and very easy.

The following characteristics are identical to Tool Dynamic TD Comfort Plus:

Characteristics		
 Base made of polymer concrete	 Software for compensation with balancing rings	 Automatic indexing 80.217.00
 User interface	 Index balancing	 Rack for accessories 80.227.00
 Optical indexing help 80.204.00	 Balancing with spindle compensation	 Milling program 80.212.00
 Laser marking	 Balancing in 1 plane	 Balancing Software TD 4.0 80.245.06
 Print label	 Balancing in 2 planes 80.252.01	 User account administration 80.245.12
 Radial drilling	 Fixed components 80.202.00	 Deutsch/English/Français/ Italiano/Español

The following characteristics are included standard for Tool Dynamic TD Comfort Plus i4.0:

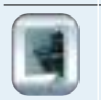
Characteristics	
 Control terminal i4.0 incl. touchscreen 80.233.09	High quality 27" touchscreen with hardened glass surface for easiest control. Control terminal with drawer for balancing adapter and tools and storing facility for printers
 i4.0 ready	Digital data transfer to machine via LAN or USB, optional data transfer with Balluff chip and DAC connectivity
 Software via 27" multi-touchscreen	Software via 27" multi-touchscreen or mouse & keyboard for maximum usability
 Windows 10	Software based on operation system Windows 10
 Accessories and special equipment	Please check the table on pages 622–625

Technical details			
Tool Dynamic TD Comfort Plus i4.0			
Dimensions lxhxd [mm/inch]	1100x1500x820 / 43x59x32	Compressed air [bar/psi]	6/87
Weight [kg/lbs]	544/1,197	Max. tool length [mm/inch]	400/15.7
Spindle speed [rpm]	300–1100	Optional [mm/inch]	700/27.6
Measuring accuracy [gmm]	< 0.5	Max. tool diameter [mm/inch]	380/14.96
Power requirements [V/Hz]	230/50–60	Optional [mm/inch]	425/16.73
Power usage [kW]	0.4	Max. tool weight [kg/lbs]	30/66
		Order No.	**80.226.04.09.3.US**

OPTIONAL CONFIGURATIONS

Symbol	Order No.	Article name	Description	TD 1002	Tool Dynamic TD					TD Preset Microset	TD 800
					Economic	Economic Plus	Comfort	Comfort Plus	Comfort Plus i4.0		
											
	**80.205.10**	Transformer	Transforms 230 Volt single phase power to 110 Volt single phase	●	●	●	●	●	●	●	●
	—	Vibration optimized base	Adapted table for optimized base	●	—	—	—	—	—	—	—
	—	Base made of polymer concrete	Heavy base ensures the highest measuring accuracy	—	●	●	●	●	●	●	●
	—	User interface	Integrated user interface for easy handling of the machine	●	●	●	●	●	●	●	●
	—	Optical indexing help	Indication of the exact spindle angle position on display	●	●	●	●	●	●	●	●
	—	Laser marking	Indicates the position of unbalance and correction with a laser	●	●	●	●	●	●	●	●
	—	Print label	Print balancing results on label	—	—	—	●	●	●	●	●
	—	Radial drilling	Balancing by drilling radially	●	●	●	●	●	●	●	●
	—	Software for compensation with balancing rings	Balancing by rings or other movable weights	●	●	●	●	●	●	●	●
	—	Index balancing	Compensation of measuring errors by index balancing (2 measuring runs, indexing angle 180°)	●	●	●	●	●	●	●	●
	—	Balancing with spindle compensation	Quick and precise measurement of repetition parts (single measuring run)	●	●	●	●	●	●	●	●
	—	Balancing in 1 plane	Measuring and correction of unbalance in 1 plane (static)	●	●	●	●	●	●	●	●
	**80.252.01**	Balancing in 2 planes	Measuring and correction of unbalance in 2 planes (dynamic unbalance)	○	○	●	●	●	●	●	●
	**80.202.00**	Fixed components	Enables balancing at predefined positions (e.g. with balancing screws)	○	●	●	●	●	●	●	●

● included ○ optional — not available

Symbol	Order No.	Article name	Description	TD 1002	Tool Dynamic TD					TD Preset Microset	TD 800
					Economic	Economic Plus	Comfort	Comfort Plus	Comfort Plus i4.0		
											
	**80.217.00**	Automatic indexing	Turns the spindle on the selected angle position and simplifies exact positioning of spindle	○	●	●	●	●	●	●	●
	**80.227.00**	Rack for accessories	Storage rack with two integrated drawers for balancing adapters and further accessories	—	●	●	●	●	●	●	●
	**80.212.00**	Milling program	Milling program allows correction of unbalance via milling	○	○	○	●	●	●	●	●
	**80.245.06**	Balancing Software TD 4.0	New software with user-friendly graphical interface and touchscreen control	—	●	●	●	●	●	●	●
	**80.228.03.3**	Screen holder	Comfortable tray to place PC screen and keyboard	—	○	○	●	—	—	—	—
	**80.228.02. 01.3**	Printer desk	Optional desk for printer (Requires screen holder)	—	○	○	○	—	—	—	—
	**80.228.02. 02.3**	PC holder	Optional holder for external PC (Requires screen holder)	—	○	○	○	—	—	—	—
	**80.233.00.4**	Control terminal incl. touchscreen	Terminal for storage of touchscreen, keyboard, mouse, printer, and further accessories (only together with Balancing Software TD 4.0)	—	○	○	○	●	—	—	●
	**80.233.09**	Control terminal i4.0 incl. touch-screen	Control terminal with 27" touchscreen and integraded PC (Windows based)	—	—	—	—	○	●	●	○
	**80.233.01.3**	Desk for label printer	Optional desk for label printer (Requires Tool Control i4.0)	—	—	—	—	○	○	○	○
	**80.233.02.3**	Desk for tool scale	Optional desk for tool scale or tools (Requires Tool Control i4.0)	—	—	—	—	○	○	○	○
	**80.229.03**	Touchscreen	TFT monitor with touchscreen (Upgrade for TD Comfort)	—	—	—	○	●	●	●	●
	**80.229.02**	TFT screen	Comfortable usage via keyboard for integrated PC	—	○	○	●	—	—	—	—
	**80.229.04**	Touchscreen	TFT monitor with touchscreen for TD Economic and TD Economic Plus	—	○	○	—	●	●	●	●

● included ○ optional — not available

OPTIONAL CONFIGURATIONS

Symbol	Order No.	Article name	Description	TD 1002	Tool Dynamic TD					TD Preset Microset	TD 800
					Economic	Economic Plus	Comfort	Comfort Plus	Comfort Plus i4.0		
											
	**80.209.00**	Specific weight function	Enables specification of the specific weight of the holder to be balanced, if different from steel	○	○	○	○	○	○	●	○
	**80.213.01**	Drilling axial	Enables balancing by axial drilling (e.g. for grinding wheels)	○	○	○	○	○	○	○	○
	**80.218.00**	Index balancing with free indexing angle	Index balancing of holders which can not be indexed 180° (e.g. PSC chucks)	○	○	○	○	○	○	○	○
	**80.214.00**	Software for report printout	Printout of a detailed measuring protocol (balancing certificate)	○	○	○	○	○	○	●	○
	**—**	Deutsch/English/ Français/Italiano/ Español	Languages for user interface	●	●	●	●	●	●	●	●
	**80.245.12**	User account administration	User administration with individual allocation of user rights (80.245.06 required)	—	○	○	●	●	●	○	○
	**80.245.09**	Forbidden areas	Defined areas that are not allowed for the correction of the unbalance (80.245.06 required)	—	○	○	○	○	○	○	○
	**80.245.10**	Alternative balance correction positions	Calculation of alternative positions, when proposed position not possible (80.245.06 required)	—	○	○	○	○	○	○	○
	**80.245.11**	Optimized measuring time	Shortened measuring run, if measuring accuracy is sufficient (80.245.06 required)	—	○	○	○	○	○	○	○
	**80.245.14**	Eccentric Balancing	Correction of unbalance by eccentric milling or turning	—	○	○	○	○	○	○	○
	**80.232.01.3**	Safety hood type 3	Safety hood for extra long tool holders with max. 700 mm length and max. 400 mm diam. (incl. second laser marking from top)	—	○	○	○	○	○	●	—
	**80.232.02.3**	Safety hood type 4	Safety hood for extra long tool holders with max. 700 mm length and max. 425 mm diam. (incl. second laser marking from top)	—	○	○	○	○	○	—	—
	**80.254.00.3**	Runout measuring device	Easy and reliable check of grinding wheel's runout and axial runout	○	—	—	—	—	—	—	—
	**80.203.00**	Balancing screw set	Set consisting of 11 × 10 special screws for fine-balancing of tool holders with balancing threads m6 (e.g. shrink fit chucks from HAIMER)	○	○	○	○	○	○	●	○

● included ○ optional — not available

Symbol	Order No.	Article name	Description	TD 1002	Tool Dynamic TD					TD Preset Microset	TD 800
					Economic	Economic Plus	Comfort	Comfort Plus	Comfort Plus i4.0		
											
	**79.350.xx**	Balancing rings	For fine-balancing of all tool holders with cylindrical outer diameter (see p. 657)	○	○	○	○	○	○	○	○
	**80.207.01**	Precision scale	For highly precise weighing of balancing weights	○	○	○	○	○	○	○	○
	**80.207.12**	Software scale integration	Automatic transfer of holder weight from scale	—	○	○	○	○	○	○	○
	**80.207.10**	Tool scale	Measures the weight of the tool holder, optional direct transfer into the Balancing Software (see option 80.207.12)	○	○	○	○	○	○	○	○
	**80.215.02**	Laser printer for balancing reports	Laser printer with Ethernet port to print out a detailed balancing report (together with option 80.214.00)	○	○	○	○	○	○	○	○
	**80.206.00**	Set of calibration magnets	Calibration magnets for testing, training, and demonstration purposes	○	○	○	○	○	○	○	○
	**90.101.20.02**	Product training	The training is obligatory for future warranty claims	○	○	○	○	○	○	○	○
	**80.243.01**	Grinding wheel edge finder	Easy edge measurement for grinding wheels	—	—	—	—	—	—	○	—
	**80.230.00**	Calibration tube	For the calibration and testing of every balancing machine with the help of a defined mass	○	○	○	○	○	○	○	○
	**80.228.02.04.3**	Support arm for tool scale	Optional desk for tool scale	—	○	○	○	○	○	—	○
	**80.245.13**	Export measuring results	Software to export measuring results	—	○	○	○	○	○	○	○
	**80.215.05**	Label printer “Dymo”	Printout of a label with the measuring results (short report); USB interface (80.245.06 required)	—	—	—	○	○	○	○	○

● included ○ optional — not available

Tool Dynamic Control Terminal: For more operating comfort



TOOL DYNAMIC TD SOFTWARE 4.0

Intelligent Balancing Software
Balancing is now even easier and more user-friendly. The user interface is completely made up of graphics. Buttons with symbols replace the text fields in most locations. Selection can take place using function buttons, by clicking the mouse or by touching the screen.

The proven simple design of the existing interface has been kept. Anyone who already knows the Tool Dynamic can work with the latest software without any problems.



Clearly organized graphical user interface

In addition, there is a series of additional functions
User management makes it possible to assign different access rights. For example, one user can create new tool data and determine balance tolerances while another may only pull up the existing data and carry out the balancing procedure.

- User-friendly design
- Operation with touchscreen (optional)
- Allocation of balance tolerances by machine type
- Tool management with database
- Tool data management in folder structure
- Simple data exchange with other systems (e.g. tool data management)

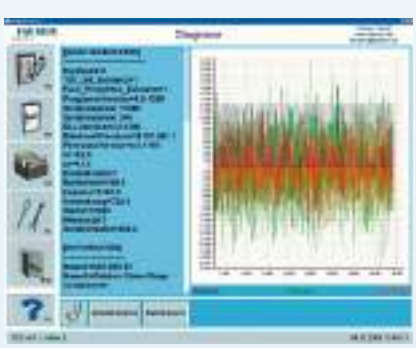


Intuitive user guidance

Further options
- Definition of forbidden areas where the compensation of the unbalance is not possible
- Calculation of alternative balancing positions
- User management with access rights
- Connection to external scales possible
- Optimized measuring run
- Export of measuring results



Feature: Forbidden areas



Advanced diagnostic modes

Tool Dynamic TD Preset Microset:
For balancing and presetting in one step



TOOL DYNAMIC TD PRESET MICROSET
TOOL BALANCING AND PRESETTING

Two proven systems – a trendsetting innovation
The Tool Dynamic Preset Microset is a perfect combination of HAIMER's balancing and HAIMER Microset's presetting technology.
The tool is clamped in the high precision balancing spindle fitted with HAIMER's proven adapter system. This saves time, money and increases accuracy because the tool does not have to be re-clamped.

- Breakthrough state-of-the-art technology: Tool Dynamic Comfort Plus and Microset UNO Premium
- Highest efficiency and time saving by combining two production stages
- Utmost accuracy due to high precision clamping in HAIMER's balancing adapters
- Needs little space
- Simple and logical operation with HAIMER TDC 4.0 and Microvision UNO with 27" multi-touchscreen
- Adapter for all interfaces
- Highest possible measuring convenience



Presetting
Measuring system with high resolution camera and digital photo processing



Software for professionals
Various options for measuring and balancing clearly arranged in menus with automatic switch between balancing and presetting software

Technical details			
Tool Dynamic TD Preset Microset			
Dimensions (WxHxD) [mm/inch]	2000×1800×850/ 79×71×33	Visual Indicator [mm/inch]	0.001 / 0.00004
Weight [kg/lbs]	550/1,213	Compressed air [bar/psi]	5–6/73–87
Power requirements [V/Hz]	230/50–60	Max. tool length balancing [mm/inch]	700/27.6
Spindle speed [rpm]	300–1100	Max. tool length measuring and presetting [mm/inch]	400/15.7
Measuring accuracy [gmm]	< 0.5	Max. tool diameter [mm/inch]	400/15.7
Power usage [kW]	1.5	Max. tool weight [kg/lbs]	30/66
Repeatability [mm/inch]	± 2µm / 0.00008	**Order No.**	**80.240.00.3.US**

TOOL DYNAMIC TD PRESET MICROSET
PRODUCT FEATURES

Your benefits at a glance

- Simple operation through photorealistic input dialog
- Automatic software switch by positioning the measuring arm
- Non-contact measurement with a high-resolution camera and digital image processing, incl. measuring software “Microvision” with all important measuring functions of a modern and up-to-date presetting device
- Convenient operation, menu-driven via PC and 27” touchscreen
- Large hood for tool holders with max. 27.6” (700 mm) length. Balancing in 1 plane (static) and 2 planes (dynamic)
- Various measuring and balancing methods
- Optional grinding wheel edge finder: ideal for measuring grinding wheel packages and subsequently balancing for best grinding results
- RFID ready (Balluff, etc.) to read and write balance grade and max. rotation
- Ready for barcode scanner
- HAIMER DAC (Data Analyzer & Controller) ready
- Built-in drawer cabinet for storing accessories



Non-contact measurement with a high-resolution camera and digital image processing, incl. measuring software “Microvision”



Optional: Grinding wheel edge finder for grinding wheels
Easy edge measurement for grinding wheels
The measuring pin eliminates the blur on the surface and creates a clear point of intersection (Order no. 80.243.01)

TOOL DYNAMIC TD PRESET MICROSET FEATURES

Machine & Tool Control

- Robust, long-life cast iron construction
- Base made of polymer concrete
- Thermally optimized material combination for improved repeatability
- USB / LAN data output
- Windows 10
- Storage rack with two integrated drawers
- Storage drawers for balancing adapters and tool accessories in the Tool Control
- Software via 27" multi-touchscreen or mouse & keyboard for maximum usability
- Label printer optional

Tool Presetting

- Technology package: Incident light, Edgefinder, release-by-touch
- Sigma function
- ± 2 µm repeatability
- Manual fine adjustment
- Memory for 1,000 zero points and tools
- Easy and intuitive Microvision measuring software
- Manual RFID system optional
- Bi-directional interface optional
- Post processor optional

Balancing

- Integrated user interface for easy handling of the machine
- Optical indexing help
- Laser marking
- 2nd laser (from above)
- Index balancing
- Drilling radial
- Balancing with spindle compensation
- Software for compensation with balancing rings
- Balancing in 1 and 2 planes
- Balancing Software TDC 4.0
- Fixed components
- Specific weight function
- Milling program
- Software for printout of report

Tool Dynamic TD 800:
For specialists



Picture shows special equipment: Runout measuring console

TOOL DYNAMIC TD 800
SPECIAL BALANCING MACHINES

Your solution for big rotors up to Ø 800 mm
Based on the proven Tool Dynamic balancing technology, the Tool Dynamic TD 800 allows balancing of large rotors of any kind, including bearing rings, grinding wheels and turbine wheels. With hand tailored clamping adapters, you can balance your rotors as easily and as quickly as usual.



The safety hood is segmented and opens to the side so the rotor is accessible from above. Heavy parts can be handled by a crane.

Technical details			
Tool Dynamic TD 800			
Dimensions l×h×d [mm/inch]	2000×1950×1020 / 79×77×42	Compressed air [bar/psi]	5–6/87
Weight [kg/lbs]	600/1323	Air consumption [l/h]	30
Spindle speed [rpm]	100–600	Max. tool length [mm/inch]	750/29.5
Measuring accuracy [gmm]	< 0.5	Max. tool diameter [mm/inch]	800/31.5
Power requirements [V/Hz]	230/50–60	Max. tool weight [kg/lbs]	110/242
Power usage [kW]	1.0	**Order No.**	**80.270.00**

Tool Dynamic TD Automatic:
For professionals



TOOL DYNAMIC TD AUTOMATIC
AUTOMATIC BALANCING TECHNOLOGY

We take balancing to the next level: faster, better, more efficient!

The Tool Dynamic TD Automatic

The Tool Dynamic TD Automatic is a truly universal CNC-based balancing machine with automated correction of unbalance. It automatically corrects the unbalance in one or two planes by drilling, milling or grinding. The machine can work vertically and horizontally.

The balancing machine is controlled by an integrated 19" touch-screen. The numerical control is a Siemens 840DSL, which can be accessed simultaneously with the Balancing Software.

Automatic Balancing – that's how it works

After measuring for unbalance, the software calculates how deep the machine must drill, mill or grind in order to correct the unbalance. The balancing spindle turns to the correct position. The integrated CNC unit moves to the pre-selected balancing plane and automatically removes the appropriate amount of material. It's as simple as that.

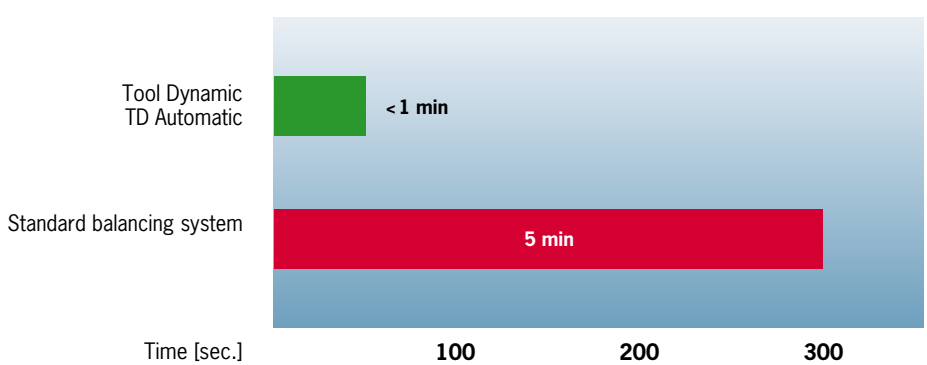
Balancing could not be any faster or easier. Errors, such as those caused by incorrect marking on the tool holder or through inadvertently incorrect drilling depths, are no longer an issue.
- Measures and corrects unbalance in one step
- Rapid, easy and economic
- No incorrect drilling on the holder
- Integration into automatic production lines is possible
- Specific software for particular methods of balancing available

Tool Dynamic TD Automatic – automatic vertical CNC based balancing machine: **Maximum comfort, maximum process reliability with highest efficiency and precision.**

Contact Haimer USA for more details.

Improve your efficiency: balancing in record time!

Balancing process:
Simple measuring run,
balance correction and check



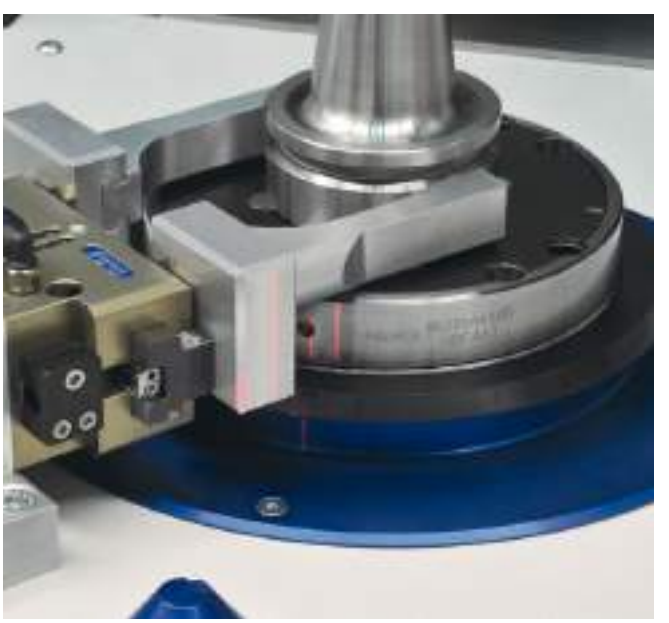
TOOL DYNAMIC TD AUTOMATIC
PRODUCT FEATURES

Your benefits at a glance

- Correction of unbalance is fully automated by drilling, milling or grinding in one or two planes with the help of an integrated simultaneous 4 Axis CNC machine tool
- Integrated and exchangeable balancing adapters clamp holders with the highest precision. There are standard adapters for all common interfaces and customized solutions for special purposes
- Gripper for automated indexing (optional). It can be mounted without any additional tools and connected together with the balancing adapter
- Chips are removed by exhaust (suction) equipment
- Central lubrication enables a nearly maintenance free 3 shift use
- Balancing spindle and control box are cooled
- Dynamic measuring mode enables shortest measuring times – balance and control your holders in record time!
- Simple measuring mode: measuring, drilling and checking in less than **1 minute!**
- Integration of robot unit is possible – fully integrate your balancing machine into your production line
- Intelligent software allows for the fast and efficient re-balancing of holders that have been balanced on the machine once before



Automated correction of unbalance via CNC machining unit



Integrated balancing adapter and gripper for automatic index measuring

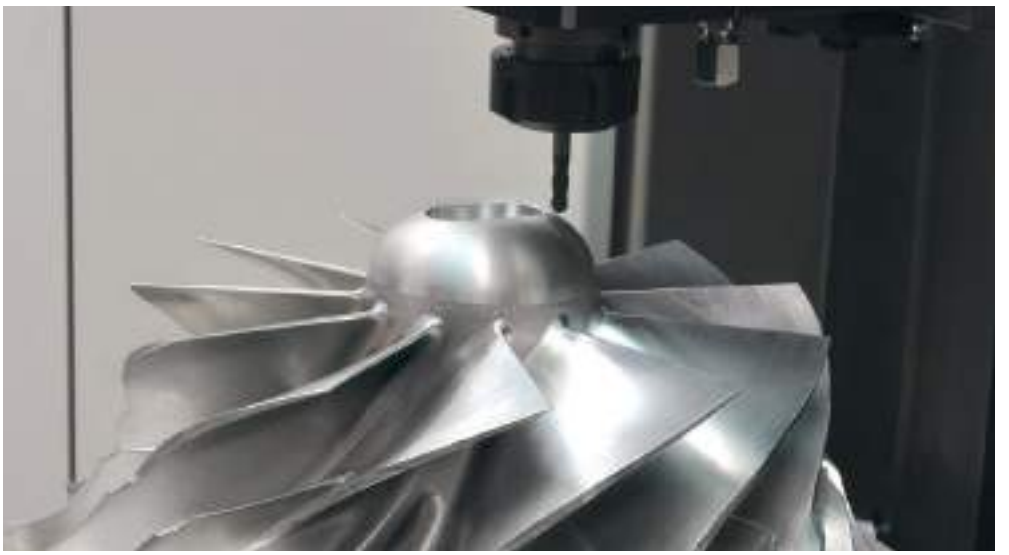
TOOL DYNAMIC TD AUTOMATIC
PRODUCT FEATURES

Technical data		
Measuring accuracy		
Measuring accuracy	< 0.5 gmm	
Limitation of the rotor		
Max. diameter (mm/inch)	400 / 15.74	
Max. length (mm/inch)	600 / 23.6	
Max. weight (kg/lbs)	50 / 110	
Operational range		
X-axis (mm/inch)	155 / 6.10	
Y-axis (mm/inch)	395 / 15.55	
Z-axis (mm/inch)	205 / 8.07	
B-axis	360°	
Rapid mode	20 m/min	on all axis
Balancing spindle		
Max. RPM	1400 U/min/rpm	
Max. torque	35 Nm	
CNC unit		
Interface	VDI 30	
Max. engine speed	6000 U/min	adjustable
Max. torque	15 Nm	at S3-25%
Max. drilling capacity (mm/inch)	Ø 10 mm / 3/8"	in hardened steel with HRC 60
Operational range of rotor in horizontal mode		
Max. diameter (mm/inch)	400 / 15.74	
Max. height (mm/inch)	250 / 9.8	
Operational range of rotor in vertical mode		
Max. diameter (mm/inch)	400 / 15.74	
Max. height (mm/inch)	280 / 11.0	

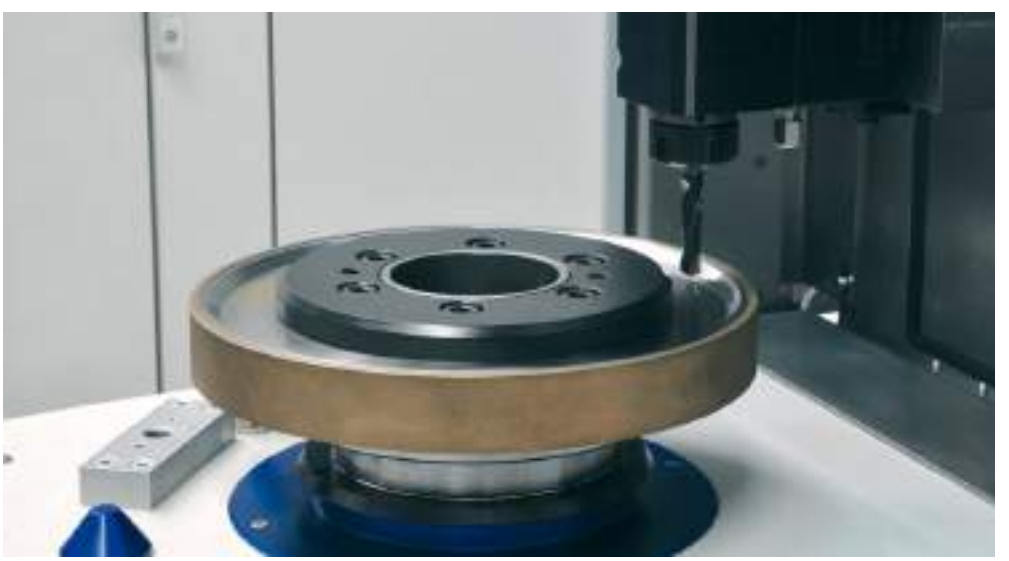


Integrated control and Balancing software

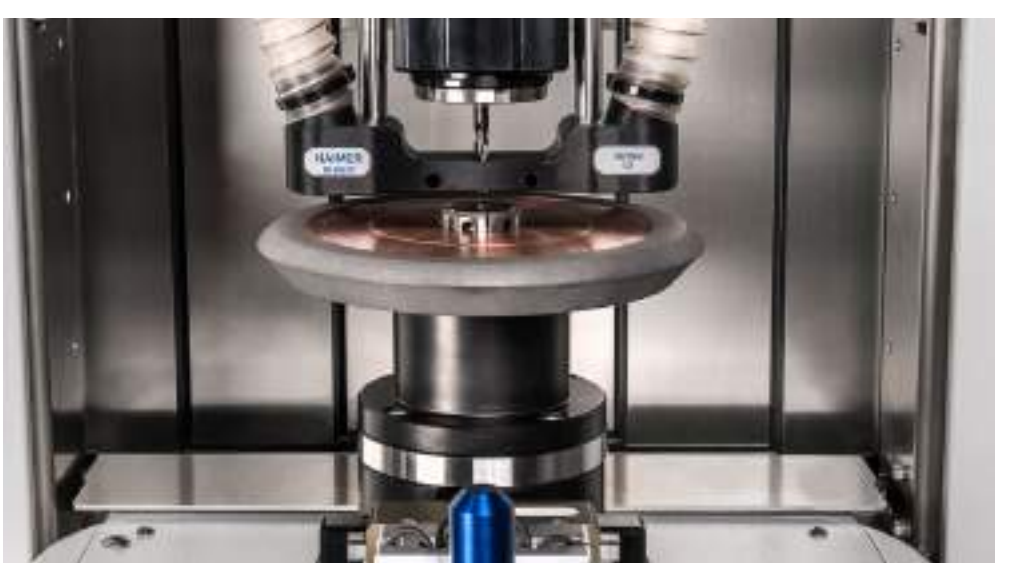
APPLICATION EXAMPLES



Compressor wheel for turbocharger
Balancing by peripheral milling axial.



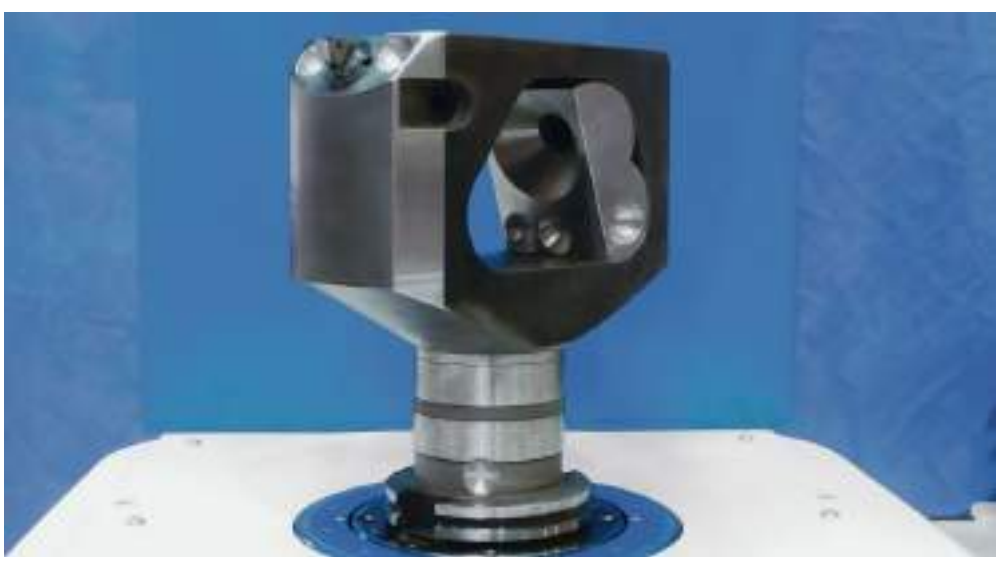
Balancing of grinding wheels by axial drilling
Balanced grinding wheels reduce the surface roughness of the work piece, which leads to a remarkable increase of the process performance and higher precision of the end product.



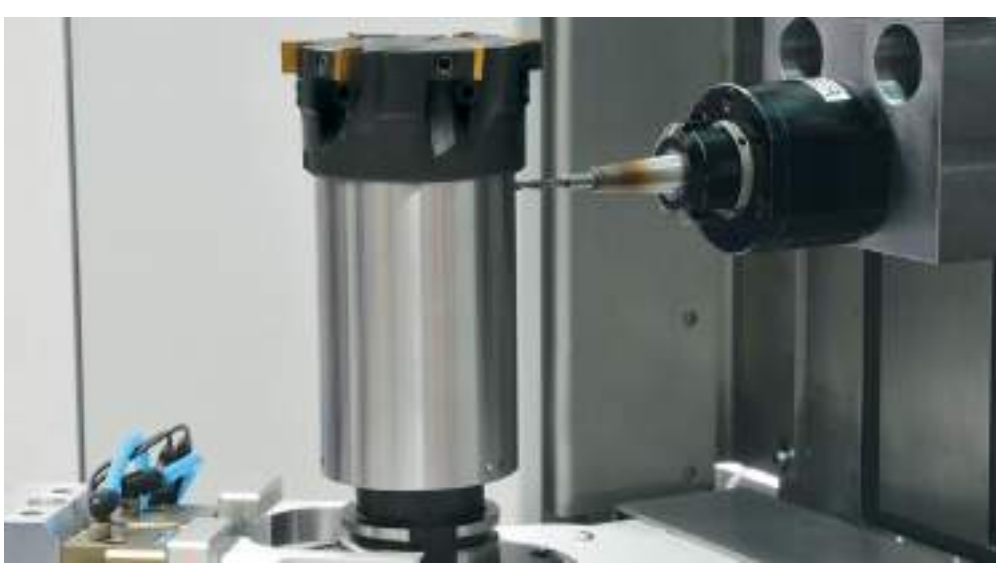
Balancing of grinding wheels by axial drilling



Tools for woodworking
Balancing prevents cutting edge breakage and reduces vibrations, enabling the highest accuracy and the cleanest edges on your work piece. This raises your productivity and allows you to realize a higher cutting capacity.



Balancing of fine boring heads
Get better tolerance grades and better roundness. The cutting capacity can be raised up to 300%.

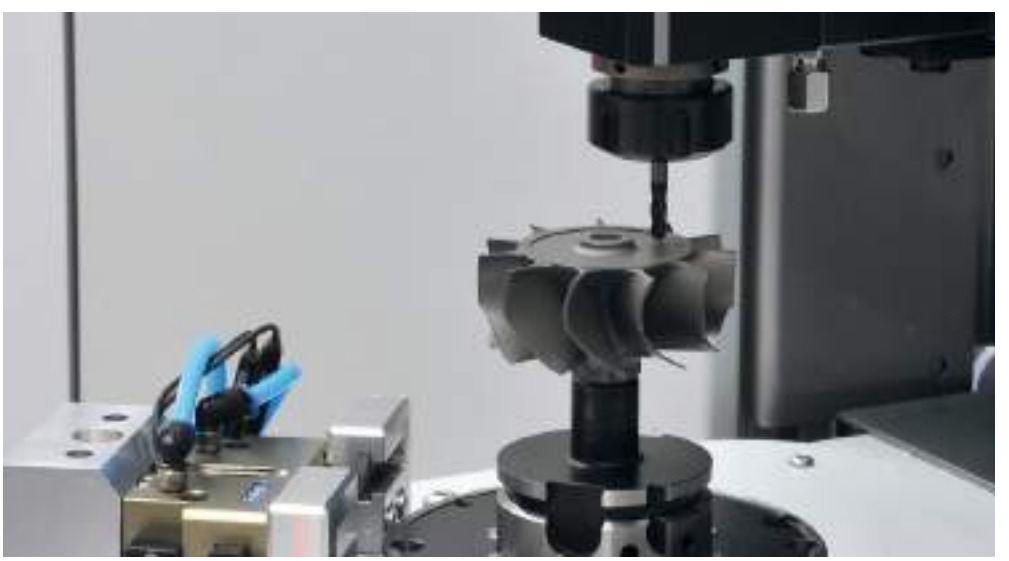


Milling head, balancing in two planes
Long projecting tools must be balanced in two planes in order to eliminate the couple unbalance (dynamic balancing). On longer tools, this leads to a higher cutting capacity and a better surface finish.

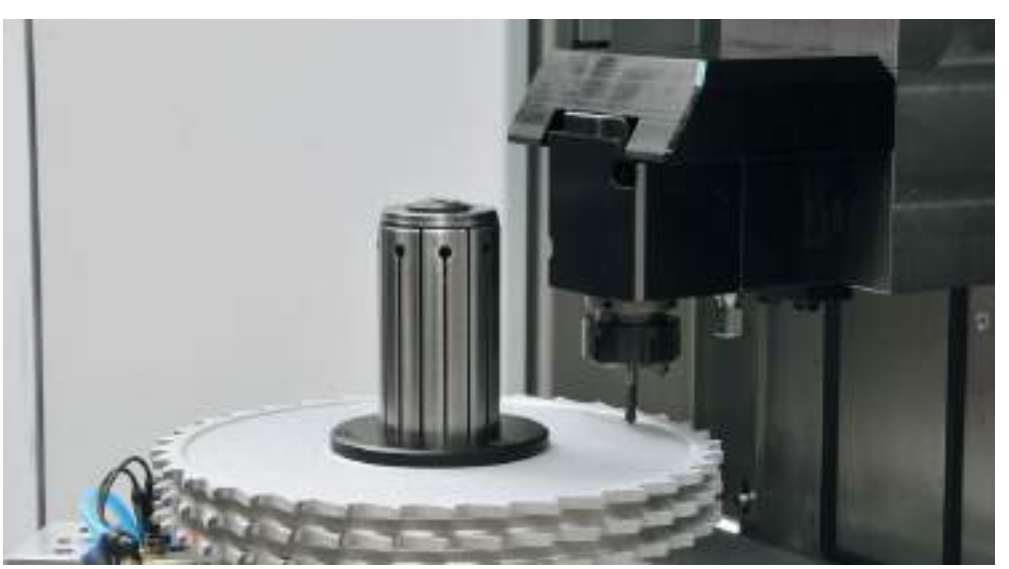
APPLICATION EXAMPLES



Balancing of tools with a HG balancing adapter for tools with a cylindrical shank
For further information, please go to page 655.



Compressor wheel for turbo charger
Axial drilling.



Balancing of PCD jointing cutters for laminate
Balancing enables the best edge quality for the piece of furniture by vibration-free tool run. In addition, the noise while machining is reduced to a minimum.

RUNOUT MEASURING DEVICE FOR TD 1002

Accessories for maximum performance

Runout measuring device





Axial runout check

With the runout measuring device, you can do an easy and reliable check of your grinding wheel's runout and axial runout.
The runout measuring unit consists of: Measuring arm with tripod and fine indicator in 0.001 mm accuracy execution as well as a measuring roll.

Runout measuring device
Order No. 80.254.00.3

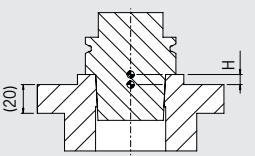


Runout measuring

Measuring runout and axial runout as well as balancing without re-clamping.

BALANCING ADAPTER HSK





- Micron precision clamping for the highest measuring accuracy and repeatability
- Easy and quick changing due to compact design

Attention: Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

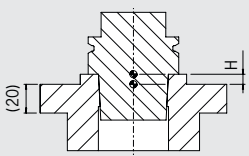
HSK balancing adapter with automatic clamping system				
HSK interface	**Adapter Order No.**	**Correlation**	**Description**	**Height H**
HSK 25				
E	**80.201.E25.00**		Adapter for HSK-E25 with clamping system	0 mm
HSK 32				
A	**80.201.A32.00**		Adapter for HSK-A32 with clamping system	0 mm
B	**80.201.E25.00**	B32=E25	Adapter for HSK-E25 with clamping system	0 mm
C	**80.201.A32.00**	C32=A32	Adapter for HSK-A32 with clamping system	0 mm
D	**80.201.E25.00**	D32=E25	Adapter for HSK-E25 with clamping system	0 mm
E	**80.201.E32.00**		Adapter for HSK-E32 with clamping system	0 mm
F	**80.201.E25.00**	F32=E25	Adapter for HSK-E25 with clamping system	0 mm
HSK 40				
A	**80.201.A40.00**		Adapter for HSK-A40 with clamping system	0 mm
B	**80.201.E32.00**	B40=E32	Adapter for HSK-E32 with clamping system	0 mm
C	**80.201.A40.00**	C40=A40	Adapter for HSK-A40 with clamping system	0 mm
D	**80.201.E32.00**	D40=E32	Adapter for HSK-E32 with clamping system	0 mm
E	**80.201.E40.00**		Adapter for HSK-E40 with clamping system	0 mm
F	**80.201.E32.00**	F40=E32	Adapter for HSK-E32 with clamping system	0 mm
HSK 50				
A	**80.201.A50.00**		Adapter for HSK-A50 with clamping system	0 mm
B	**80.201.E40.00**	B50=E40	Adapter for HSK-E40 with clamping system	0 mm
C	**80.201.A50.00**	C50=A50	Adapter for HSK-A50 with clamping system	0 mm
D	**80.201.E40.00**	D50=E40	Adapter for HSK-E40 with clamping system	0 mm
E	**80.201.E50.00**		Adapter for HSK-E50 with clamping system	0 mm
F	**80.201.E40.00**	F50=E40	Adapter for HSK-E40 with clamping system	0 mm
HSK 63				
A	**80.201.A63.00**		Adapter for HSK-A63 with clamping system	0 mm
B	**80.201.E50.00**	B63=E50	Adapter for HSK-E50 with clamping system	0 mm
C	**80.201.A63.00**	C63=A63	Adapter for HSK-A63 with clamping system	0 mm
D	**80.201.E50.00**	D63=E50	Adapter for HSK-E50 with clamping system	0 mm
E	**80.201.E63.00**		Adapter for HSK-E63 with clamping system	0 mm
F	**80.201.E50.00**	F63=E50	Adapter for HSK-E50 with clamping system	0 mm
Weinig				
Weinig	**80.201.W63.00**		Adapter for Weinig tool holder	0 mm
Makino				
Makino	**80.201.F63.00.M**	Makino F63	Adapter for Makino F63 tool holder	0 mm
Makino	**80.201.F80.00.M**	Makino F80	Adapter for Makino F80 tool holder	0 mm
HSK 80				
A	**80.201.A80.00**		Adapter for HSK-A80 with clamping system	0 mm
B	**80.201.E63.00**	B80=E63	Adapter for HSK-E63 with clamping system	0 mm
C	**80.201.A80.00**	C80=A80	Adapter for HSK-A80 with clamping system	0 mm
D	**80.201.E63.00**	D80=E63	Adapter for HSK-E63 with clamping system	0 mm
E	**80.201.E80.00**		Adapter for HSK-E80 with clamping system	0 mm
F	**80.201.E63.00**	F80=E63	Adapter for HSK-E63 with clamping system	0 mm
HSK 100				
A	**80.201.A10.00**		Adapter for HSK-A100 with clamping system	0 mm
B	**80.201.E80.00**	B100=E80	Adapter for HSK-E80 with clamping system	0 mm
C	**80.201.A10.00**	C100=A100	Adapter for HSK-A100 with clamping system	0 mm
D	**80.201.E80.00**	D100=E80	Adapter for HSK-E80 with clamping system	0 mm
E	**80.201.E10.00**		Adapter for HSK-E100 with clamping system	0 mm
F	**80.201.E80.00**	F100=E80	Adapter for HSK-E80 with clamping system	0 mm
HSK 125				
A	**80.201.A125.00**		Adapter for HSK-A125 with clamping system	61 mm

Further adapters available upon request

BALANCING ADAPTER FOR SK/BT/CAT/BBT*/PSC/KM*/KM4X*

- Micron precision clamping for the highest measuring accuracy and repeatability
- Easy and quick changing due to compact design

Attention: Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines





SK/BT/CAT/BBT balancing adapter with automatic clamping system			
Order No.	**for taper size**	**for pull stud**	**Height H**
80.201.330.01	SK30/BT30/BBT30*)	thread M12	0 mm
80.201.330.01.IN	CAT30	thread 1/2"-13	0 mm
80.201.330.02	SK30	DIN 69872; ISO 7388-3, Form AF/AD/AC	0 mm
80.201.330.02	BT30/BBT30*)	MAS 30°/45°/90°; ISO 7388-3, Form JD/JF	0 mm
80.201.330.04	SK30	ISO 7388-3, Form UF/UD/UC	0 mm
80.201.140.01	SK40	DIN 2080 thread M16	0 mm
80.201.340.01	SK40/BT40/BBT40*)	thread M16	0 mm
80.201.340.01.IN	CAT40	thread 5/8"-11	0 mm
80.201.340.02	CAT40/SK40	DIN 69872; ISO 7388-3, Form AF/AD/AC	0 mm
80.201.340.02	BT40/BBT40*)	JIS B6339	0 mm
80.201.340.04	CAT40/SK40	ISO 7388-3, Form UF/UD/UC	0 mm
80.201.340.06	CAT40	Similar ISO 7388-3 Form JF/JD/MORI-SEIKI 90° (L3 =0.99")	0 mm
80.201.340.06	BT40	MAS 30°/45°/90°; ISO 7388-3, Form JD/JF	0 mm
80.201.150.01	SK50	DIN 2080 thread M24	0 mm
80.201.350.01	SK50/BT50/BBT50*)	thread M24	0 mm
80.201.350.01.IN	CAT50	thread 1"-8	0 mm
80.201.350.02	CAT50/SK50	DIN 69872; ISO 7388-3, Form AF/AD/AC	0 mm
80.201.350.02	BT50/BBT50*)	JIS B6339	0 mm
80.201.350.04	CAT50/SK50	ISO 7388-3, Form UF/UD/UC	0 mm
80.201.350.06	CAT50	Similar ISO 7388-3 Form JF/JD/MORI-SEIKI 90° (L3 =1.39")	0 mm
80.201.350.06	BT50/BBT50*)	MAS 30°/45°/90°; ISO 7388-3, Form JD/ JF	0 mm

Balancing adapter PSC with automatic clamping system		
Order No.	**for taper size**	**Height H**
80.201.C3.00	PSC 32	7 mm
80.201.C4.00	PSC 40	7 mm
80.201.C5.00	PSC 50	7 mm
80.201.C6.00	PSC 63	7 mm
80.201.C8.00	PSC 80	7 mm
80.201.C10.00	PSC 100	7 mm

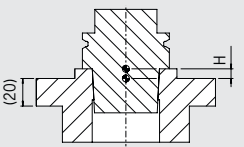
Balancing adapter KM* with automatic clamping system		
Order No.	**for taper size**	**Height H**
80.201.KM32.01	KM32	7 mm
80.201.KM40.01	KM40	7 mm
80.201.KM50.01	KM50	7 mm
80.201.KM63.01	KM63	7 mm
80.201.KM80.01	KM80	7 mm
80.201.KM100.01	KM100	30 mm
80.201.KM125.00	KM125 (upon request)	

Balancing adapter KM4X* with automatic clamping system		
Order No.	**for taper size**	**Height H**
80.201.KM63.4X	KM4X 63	7 mm
80.201.KM100.4X	KM4X 100	30 mm

** BBT: also suitable for BIG-PLUS. BBT and BIG-PLUS are registered trademarks/tradenames of Big Daishowa Co., Ltd.*
KM/KM4X are registered trademarks/tradenames of Kennametal Inc.
Further adapters available upon request

BALANCING ADAPTER HSK – INCREASED OFFSET





- Increased offset for better accessibility
- µm precise clamping for the highest measuring accuracy and repeatability
- Easy and quick changing due to compact design

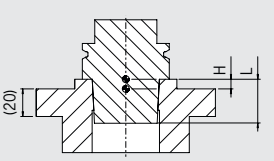
Attention: Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

HSK balancing adapter with automatic clamping system – increased offset		
Order No.	**for taper size**	**Height H**
80.201.E32.02	HSK-A/C/E 32; HSK-B/D/F 40	57 mm
80.201.E40.02	HSK-A/C/E 40; HSK-B/D/F 50	57 mm
80.201.E50.02	HSK-A/C/E 50; HSK-B/D/F 63	57 mm
80.201.E63.02	HSK-A/C/E 63; HSK-B/D/F 80	57 mm

Further adapter available upon request

BALANCING ADAPTER ROLLOMATIC





- Increased offset for better accessibility
- µm precise clamping for the highest measuring accuracy and repeatability
- Easy and quick changing due to compact design

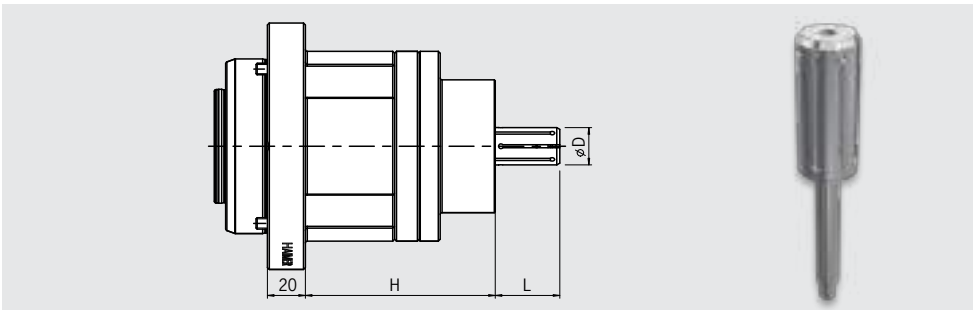
Attention: Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

Balancing adapter Rollomatic Perfect Arbor with automatic clamping system			
Order No.	**for taper size**	**Length L**	**Height H**
80.201.R025.00	R025 – 20	20 mm	57 mm
80.201.R025.01	R025 – 25	25 mm	57 mm

Further adapter available upon request

HSM BALANCING ADAPTER (MANUAL)
HSM 00 – HSM 01





Manual balancing adapter with cartridge mandrel for inner diameter with bore of Ø 15 up to Ø 100 mm

– Clamping range - 0.3 / + 0.5 mm
– Precise center clamping for highest repeatability
– Fine balanced to < 1 gmm
– Can be used individually

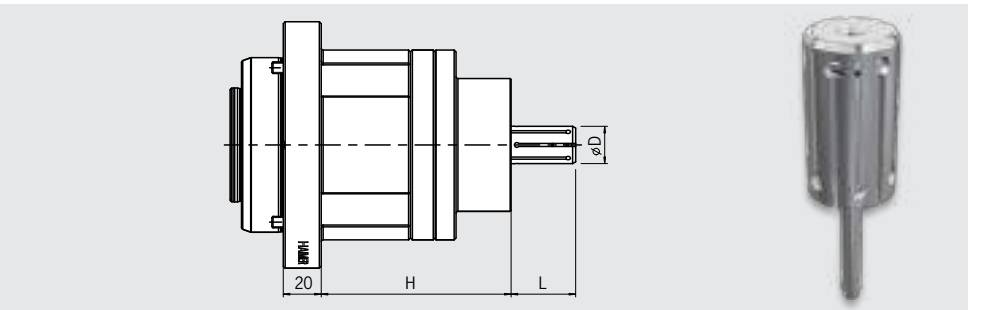
Note:
Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

HSM balancing adapter with manual clamping system	Clamping set	Bore Ø D [mm]	Clamping length L [mm]	Height adapter H
Order No.	Order No.	- 0.3 / + 0.5 mm		
HSM 00, Clamping range 15-20 mm				
80.201.HSM00.00	**80.201.HSZ00.15**	Ø 15.0	34	100 mm
	80.201.HSZ00.15.5	Ø 15.5	34	100 mm
	80.201.HSZ00.16	Ø 16.0	34	100 mm
	80.201.HSZ00.16.5	Ø 16.5	34	100 mm
	80.201.HSZ00.17	Ø 17.0	34	100 mm
	80.201.HSZ00.17.5	Ø 17.5	34	100 mm
	80.201.HSZ00.18	Ø 18.0	34	100 mm
	80.201.HSZ00.18.5	Ø 18.5	34	100 mm
	80.201.HSZ00.19	Ø 19.0	34	100 mm
	80.201.HSZ00.19.5	Ø 19.5	34	100 mm
	80.201.HSZ00.20	Ø 20.0	34	100 mm
HSM 01, Clamping range 20-25 mm				
80.201.HSM01.00	**80.201.HSZ01.20**	Ø 20.0	39	100 mm
	80.201.HSZ01.20.5	Ø 20.5	39	100 mm
	80.201.HSZ01.21	Ø 21.0	39	100 mm
	80.201.HSZ01.21.5	Ø 21.5	39	100 mm
	80.201.HSZ01.22	Ø 22.0	39	100 mm
	80.201.HSZ01.22.5	Ø 22.5	39	100 mm
	80.201.HSZ01.23	Ø 23.0	39	100 mm
	80.201.HSZ01.23.5	Ø 23.5	39	100 mm
	80.201.HSZ01.24	Ø 24.0	39	100 mm
	80.201.HSZ01.24.5	Ø 24.5	39	100 mm
	80.201.HSZ01.25	Ø 25.0	39	100 mm

When ordering, you need one balancing adapter and at least one clamping set.

HSM BALANCING ADAPTER (MANUAL)
HSM 02 – HSM 04



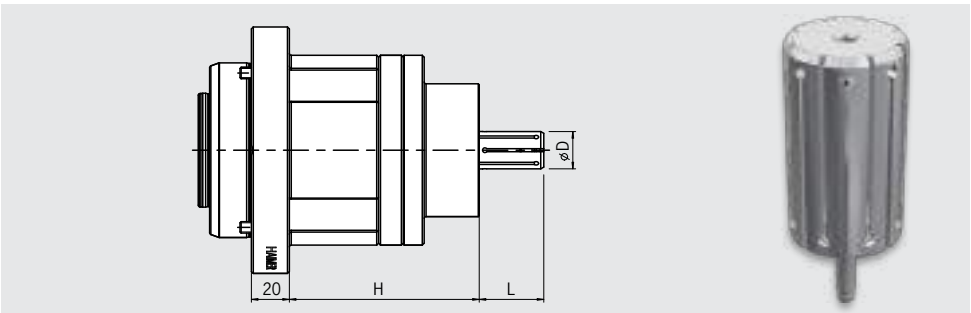


HSM balancing adapter with manual clamping system Order No.	Clamping set Order No.	Bore Ø D [mm] - 0.3 / + 0.5 mm	Clamping length L [mm]	Height adapter H
HSM 02, Clamping range 25-30 mm				
80.201.HSM02.00	**80.201.HSZ02.25**	Ø 25.0	45	100 mm
	80.201.HSZ02.25.5	Ø 25.5	45	100 mm
	80.201.HSZ02.26	Ø 26.0	45	100 mm
	80.201.HSZ02.26.5	Ø 26.5	45	100 mm
	80.201.HSZ02.27	Ø 27.0	45	100 mm
	80.201.HSZ02.27.5	Ø 27.5	45	100 mm
	80.201.HSZ02.28	Ø 28.0	45	100 mm
	80.201.HSZ02.28.5	Ø 28.5	45	100 mm
	80.201.HSZ02.29	Ø 29.0	45	100 mm
	80.201.HSZ02.29.5	Ø 29.5	45	100 mm
	80.201.HSZ02.30	Ø 30.0	45	100 mm
HSM 03, Clamping range 30-35 mm				
80.201.HSM03.00	**80.201.HSZ03.30**	Ø 30.0	49	100 mm
	80.201.HSZ03.30.5	Ø 30.5	49	100 mm
	80.201.HSZ03.31	Ø 31.0	49	100 mm
	80.201.HSZ03.31.5	Ø 31.5	49	100 mm
	80.201.HSZ03.32	Ø 32.0	49	100 mm
	80.201.HSZ03.32.5	Ø 32.5	49	100 mm
	80.201.HSZ03.33	Ø 33.0	49	100 mm
	80.201.HSZ03.33.5	Ø 33.5	49	100 mm
	80.201.HSZ03.34	Ø 34.0	49	100 mm
	80.201.HSZ03.34.5	Ø 34.5	49	100 mm
	80.201.HSZ03.35	Ø 35.0	49	100 mm
HSM 04, Clamping range 35-40 mm				
80.201.HSM04.00	**80.201.HSZ04.35**	Ø 35.0	59	100 mm
	80.201.HSZ04.35.5	Ø 35.5	59	100 mm
	80.201.HSZ04.36	Ø 36.0	59	100 mm
	80.201.HSZ04.36.5	Ø 36.5	59	100 mm
	80.201.HSZ04.37	Ø 37.0	59	100 mm
	80.201.HSZ04.37.5	Ø 37.5	59	100 mm
	80.201.HSZ04.38	Ø 38.0	59	100 mm
	80.201.HSZ04.38.5	Ø 38.5	59	100 mm
	80.201.HSZ04.39	Ø 39.0	59	100 mm
	80.201.HSZ04.39.5	Ø 39.5	59	100 mm
	80.201.HSZ04.40	Ø 40.0	59	100 mm

When ordering, you need one balancing adapter and at least one clamping set.

HSM BALANCING ADAPTER (MANUAL)
HSM 05 – HSM 07



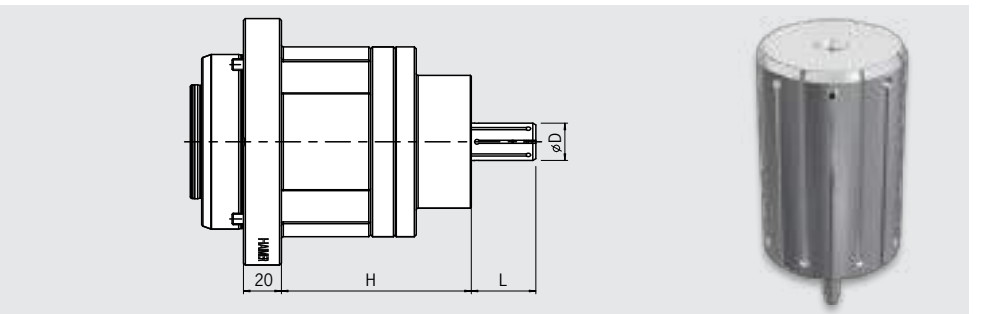


HSM balancing adapter with manual clamping system Order No.	Clamping set Order No.	Bore Ø D [mm] - 0.3 / + 0.5 mm	Clamping length L [mm]	Height adapter H
HSM 05, Clamping range 40-45 mm				
80.201.HSM05.00	**80.201.HSZ05.40**	Ø 40.0	59	100 mm
	80.201.HSZ05.40.5	Ø 40.5	59	100 mm
	80.201.HSZ05.41	Ø 41.0	59	100 mm
	80.201.HSZ05.41.5	Ø 41.5	59	100 mm
	80.201.HSZ05.42	Ø 42.0	59	100 mm
	80.201.HSZ05.42.5	Ø 42.5	59	100 mm
	80.201.HSZ05.43	Ø 43.0	59	100 mm
	80.201.HSZ05.43.5	Ø 43.5	59	100 mm
	80.201.HSZ05.44	Ø 44.0	59	100 mm
	80.201.HSZ05.44.5	Ø 44.5	59	100 mm
	80.201.HSZ05.45	Ø 45.0	59	100 mm
HSM 06, Clamping range 45-55 mm				
80.201.HSM06.00	**80.201.HSZ06.45**	Ø 45.0	79	100 mm
	80.201.HSZ06.46	Ø 46.0	79	100 mm
	80.201.HSZ06.47	Ø 47.0	79	100 mm
	80.201.HSZ06.48	Ø 48.0	79	100 mm
	80.201.HSZ06.49	Ø 49.0	79	100 mm
	80.201.HSZ06.50	Ø 50.0	79	100 mm
	80.201.HSZ06.51	Ø 51.0	79	100 mm
	80.201.HSZ06.52	Ø 52.0	79	100 mm
	80.201.HSZ06.53	Ø 53.0	79	100 mm
	80.201.HSZ06.54	Ø 54.0	79	100 mm
	80.201.HSZ06.55	Ø 55.0	79	100 mm
HSM 07, Clamping range 55-65 mm				
80.201.HSM07.00	**80.201.HSZ07.55**	Ø 55.0	89	100 mm
	80.201.HSZ07.56	Ø 56.0	89	100 mm
	80.201.HSZ07.57	Ø 57.0	89	100 mm
	80.201.HSZ07.58	Ø 58.0	89	100 mm
	80.201.HSZ07.59	Ø 59.0	89	100 mm
	80.201.HSZ07.60	Ø 60.0	89	100 mm
	80.201.HSZ07.61	Ø 61.0	89	100 mm
	80.201.HSZ07.62	Ø 62.0	89	100 mm
	80.201.HSZ07.63	Ø 63.0	89	100 mm
	80.201.HSZ07.64	Ø 64.0	89	100 mm
	80.201.HSZ07.65	Ø 65.0	89	100 mm

When ordering, you need one balancing adapter and at least one clamping set.

HSM BALANCING ADAPTER (MANUAL)
HSM 08 – HSM 09



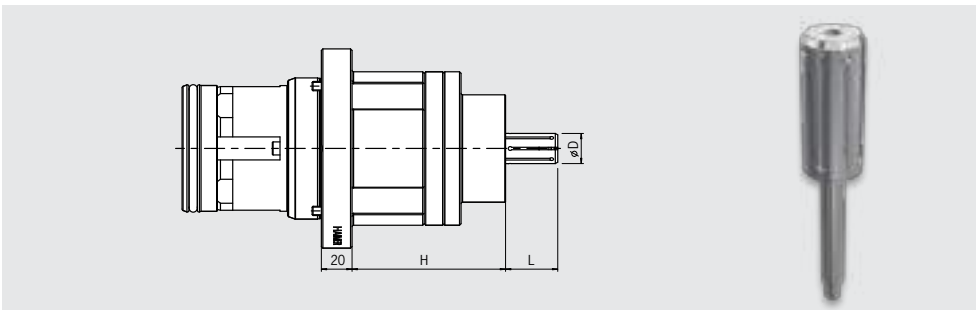


HSM balancing adapter with manual clamping system Order No.	Clamping set Order No.	Bore Ø D [mm] - 0.3 / + 0.5 mm	Clamping length L [mm]	Height adapter H
HSM 08, Clamping range 65–82 mm				
80.201.HSM08.00	**80.201.HSZ08.65**	Ø 65.0	99	100 mm
	80.201.HSZ08.66	Ø 66.0	99	100 mm
	80.201.HSZ08.67	Ø 67.0	99	100 mm
	80.201.HSZ08.68	Ø 68.0	99	100 mm
	80.201.HSZ08.69	Ø 69.0	99	100 mm
	80.201.HSZ08.70	Ø 70.0	99	100 mm
	80.201.HSZ08.71	Ø 71.0	99	100 mm
	80.201.HSZ08.72	Ø 72.0	99	100 mm
	80.201.HSZ08.73	Ø 73.0	99	100 mm
	80.201.HSZ08.74	Ø 74.0	99	100 mm
	80.201.HSZ08.75	Ø 75.0	99	100 mm
	80.201.HSZ08.76	Ø 76.0	99	100 mm
	80.201.HSZ08.77	Ø 77.0	99	100 mm
	80.201.HSZ08.78	Ø 78.0	99	100 mm
	80.201.HSZ08.79	Ø 79.0	99	100 mm
	80.201.HSZ08.80	Ø 80.0	99	100 mm
	80.201.HSZ08.81	Ø 81.0	99	100 mm
	80.201.HSZ08.82	Ø 82.0	99	100 mm
HSM 09, Clamping range 82–101 mm				
80.201.HSM09.00	**80.201.HSZ09.82**	Ø 82.0	121	100 mm
	80.201.HSZ09.83	Ø 83.0	121	100 mm
	80.201.HSZ09.84	Ø 84.0	121	100 mm
	80.201.HSZ09.85	Ø 85.0	121	100 mm
	80.201.HSZ09.86	Ø 86.0	121	100 mm
	80.201.HSZ09.87	Ø 87.0	121	100 mm
	80.201.HSZ09.88	Ø 88.0	121	100 mm
	80.201.HSZ09.89	Ø 89.0	121	100 mm
	80.201.HSZ09.90	Ø 90,0	121	100 mm
	80.201.HSZ09.91	Ø 91.0	121	100 mm
	80.201.HSZ09.92	Ø 92.0	121	100 mm
	80.201.HSZ09.93	Ø 93.0	121	100 mm
	80.201.HSZ09.94	Ø 94.0	121	100 mm
	80.201.HSZ09.95	Ø 95.0	121	100 mm
	80.201.HSZ09.96	Ø 96.0	121	100 mm
	80.201.HSZ09.97	Ø 97.0	121	100 mm
	80.201.HSZ09.98	Ø 98.0	121	100 mm
	80.201.HSZ09.99	Ø 99.0	121	100 mm
	80.201.HSZ09.100	Ø 100.0	121	100 mm
	80.201.HSZ09.101	Ø 101.0	121	100 mm

When ordering, you need one balancing adapter and at least one clamping set.

HSA BALANCING ADAPTER (AUTOMATIC)
HSA 00 – HSA 01





Automatic balancing adapter with cartridge mandrel for inner diameter with bore of Ø 15 up to Ø 100 mm

– Clamping range - 0.3 / + 0.5 mm
– Precise center clamping for highest repeatability
– Fine balanced to < 1 gmm
– Can be used individually

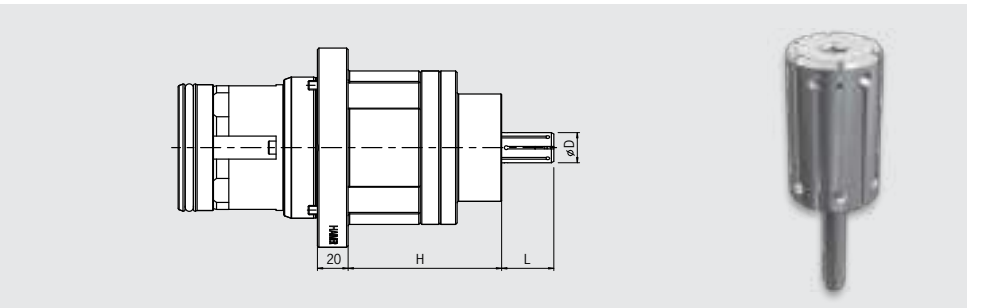
Note:
Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

HSA balancing adapter with automatic clamping system	Clamping set	Bore Ø D [mm]	Clamping length L [mm]	Height adapter H
Order No.	Order No.	- 0.3 /+ 0.5 mm		
HSA 00, Clamping range 15-20 mm				
80.201.HSA00.00	**80.201.HSZ00.15**	Ø 15.0	34	100 mm
	80.201.HSZ00.15.5	Ø 15.5	34	100 mm
	80.201.HSZ00.16	Ø 16.0	34	100 mm
	80.201.HSZ00.16.5	Ø 16.5	34	100 mm
	80.201.HSZ00.17	Ø 17.0	34	100 mm
	80.201.HSZ00.17.5	Ø 17.5	34	100 mm
	80.201.HSZ00.18	Ø 18.0	34	100 mm
	80.201.HSZ00.18.5	Ø 18.5	34	100 mm
	80.201.HSZ00.19	Ø 19.0	34	100 mm
	80.201.HSZ00.19.5	Ø 19.5	34	100 mm
	80.201.HSZ00.20	Ø 20.0	34	100 mm
HSA 01, Clamping range 20-25 mm				
80.201.HSA01.00	**80.201.HSZ01.20**	Ø 20.0	39	100 mm
	80.201.HSZ01.20.5	Ø 20.5	39	100 mm
	80.201.HSZ01.21	Ø 21.0	39	100 mm
	80.201.HSZ01.21.5	Ø 21.5	39	100 mm
	80.201.HSZ01.22	Ø 22.0	39	100 mm
	80.201.HSZ01.22.5	Ø 22.5	39	100 mm
	80.201.HSZ01.23	Ø 23.0	39	100 mm
	80.201.HSZ01.23.5	Ø 23.5	39	100 mm
	80.201.HSZ01.24	Ø 24.0	39	100 mm
	80.201.HSZ01.24.5	Ø 24.5	39	100 mm
	80.201.HSZ01.25	Ø 25.0	39	100 mm

When ordering, you need one balancing adapter and at least one clamping set.

HSA BALANCING ADAPTER (AUTOMATIC)
HSA 02 – HSA 04



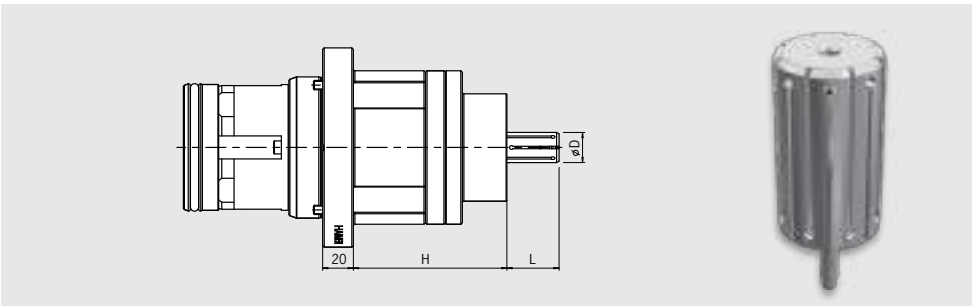


HSA balancing adapter with automatic clamping system	Clamping set	Bore Ø D [mm]	Clamping length L [mm]	Height adapter H
Order No.	Order No.	- 0.3 /+ 0.5 mm		
HSA 02, Clamping range 25–30 mm				
80.201.HSA02.00	**80.201.HSZ02.25**	Ø 25.0	45	100 mm
	80.201.HSZ02.25.5	Ø 25.5	45	100 mm
	80.201.HSZ02.26	Ø 26.0	45	100 mm
	80.201.HSZ02.26.5	Ø 26.5	45	100 mm
	80.201.HSZ02.27	Ø 27.0	45	100 mm
	80.201.HSZ02.27.5	Ø 27.5	45	100 mm
	80.201.HSZ02.28	Ø 28.0	45	100 mm
	80.201.HSZ02.28.5	Ø 28.5	45	100 mm
	80.201.HSZ02.29	Ø 29.0	45	100 mm
	80.201.HSZ02.29.5	Ø 29.5	45	100 mm
	80.201.HSZ02.30	Ø 30.0	45	100 mm
HSA 03, Clamping range 30–35 mm				
80.201.HSA03.00	**80.201.HSZ03.30**	Ø 30.0	49	100 mm
	80.201.HSZ03.30.5	Ø 30.5	49	100 mm
	80.201.HSZ03.31	Ø 31.0	49	100 mm
	80.201.HSZ03.31.5	Ø 31.5	49	100 mm
	80.201.HSZ03.32	Ø 32.0	49	100 mm
	80.201.HSZ03.32.5	Ø 32.5	49	100 mm
	80.201.HSZ03.33	Ø 33.0	49	100 mm
	80.201.HSZ03.33.5	Ø 33.5	49	100 mm
	80.201.HSZ03.34	Ø 34.0	49	100 mm
	80.201.HSZ03.34.5	Ø 34.5	49	100 mm
	80.201.HSZ03.35	Ø 35.0	49	100 mm
HSA 04, Clamping range 35–40 mm				
80.201.HSA04.00	**80.201.HSZ04.35**	Ø 35.0	59	100 mm
	80.201.HSZ04.35.5	Ø 35.5	59	100 mm
	80.201.HSZ04.36	Ø 36.0	59	100 mm
	80.201.HSZ04.36.5	Ø 36.5	59	100 mm
	80.201.HSZ04.37	Ø 37.0	59	100 mm
	80.201.HSZ04.37.5	Ø 37.5	59	100 mm
	80.201.HSZ04.38	Ø 38.0	59	100 mm
	80.201.HSZ04.38.5	Ø 38.5	59	100 mm
	80.201.HSZ04.39	Ø 39.0	59	100 mm
	80.201.HSZ04.39.5	Ø 39.5	59	100 mm
	80.201.HSZ04.40	Ø 40.0	59	100 mm

When ordering, you need one balancing adapter and at least one clamping set.

HSA BALANCING ADAPTER (AUTOMATIC)
HSA 05 – HSA 06





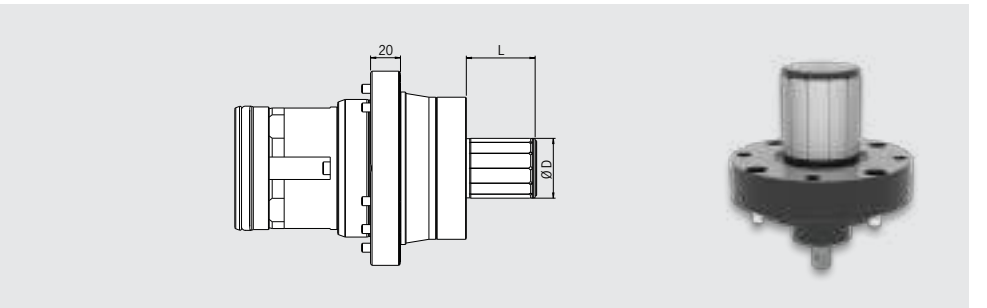
HSA balancing adapter with automatic clamping system	Clamping set	Bore Ø D [mm]	Clamping length L [mm]	Height adapter H
Order No.	Order No.	- 0.3 /+ 0.5 mm		
HSA 05, Clamping range 40–45 mm				
80.201.HSA05.00	**80.201.HSZ05.40**	Ø 40.0	59	100 mm
	80.201.HSZ05.40.5	Ø 40.5	59	100 mm
	80.201.HSZ05.41	Ø 41.0	59	100 mm
	80.201.HSZ05.41.5	Ø 41.5	59	100 mm
	80.201.HSZ05.42	Ø 42.0	59	100 mm
	80.201.HSZ05.42.5	Ø 42.5	59	100 mm
	80.201.HSZ05.43	Ø 43.0	59	100 mm
	80.201.HSZ05.43.5	Ø 43.5	59	100 mm
	80.201.HSZ05.44	Ø 44.0	59	100 mm
	80.201.HSZ05.44.5	Ø 44.5	59	100 mm
	80.201.HSZ05.45	Ø 45.0	59	100 mm
HSA 06, Clamping range 45–55 mm				
80.201.HSA06.00	**80.201.HSZ06.45**	Ø 45.0	79	100 mm
	80.201.HSZ06.46	Ø 46.0	79	100 mm
	80.201.HSZ06.47	Ø 47.0	79	100 mm
	80.201.HSZ06.48	Ø 48.0	79	100 mm
	80.201.HSZ06.49	Ø 49.0	79	100 mm
	80.201.HSZ06.50	Ø 50.0	79	100 mm
	80.201.HSZ06.51	Ø 51.0	79	100 mm
	80.201.HSZ06.52	Ø 52.0	79	100 mm
	80.201.HSZ06.53	Ø 53.0	79	100 mm
	80.201.HSZ06.54	Ø 54.0	79	100 mm
	80.201.HSZ06.55	Ø 55.0	79	100 mm

When ordering, you need one balancing adapter and at least one clamping set.

HSA Balancing Adapters (automatic) are also available with diameters of 55 mm – 101 mm (upon request)

SDA BALANCING ADAPTER (AUTOMATIC)





Automatic balancing adapter with mandrel for inner diameter with bore of Ø 8 up to Ø 60 mm

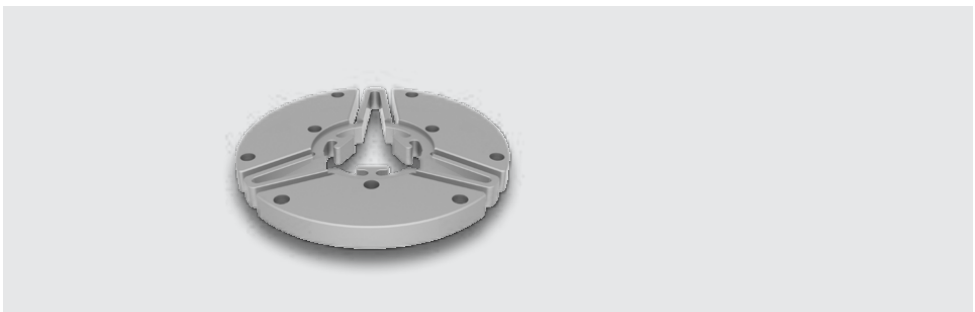
– Clamping range - 0.03 / + 0.05 mm
– Precise centrically clamping for highest repeatability
– Fine balanced to < 1 g·mm
– Can be used individually

Note:
Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines

SDA balancing adapter with automatic clamping system	Bore Ø D [mm]	Clamping length L [mm]
Order No.		
80.201.SDA08.00	Ø 8.0	2 x D
80.201.SDA10.00	Ø 10.0	2 x D
80.201.SDA12.00	Ø 12.0	2 x D
80.201.SDA14.00	Ø 14.0	2 x D
80.201.SDA16.00	Ø 16.0	2 x D
80.201.SDA18.00	Ø 18.0	2 x D
80.201.SDA20.00	Ø 20.0	1 x D
80.201.SDA25.00	Ø 25.0	1 x D
80.201.SDA30.00	Ø 30.0	1 x D
80.201.SDA35.00	Ø 35.0	1 x D
80.201.SDA40.00	Ø 40.0	1 x D
80.201.SDA45.00	Ø 45.0	1 x D
80.201.SDA50.00	Ø 50.0	1 x D
80.201.SDA55.00	Ø 55.0	1 x D
80.201.SDA60.00	Ø 60.0	1 x D
80.201.SDA11/4Z.00	Ø 1 1/4"	1 x D
80.201.SDA11/2Z.00	Ø 1 1/2"	1 x D
80.201.SDA17/8Z.00	Ø 1 7/8"	1 x D

SAB BALANCING ADAPTER (AUTOMATIC)
SAB 01



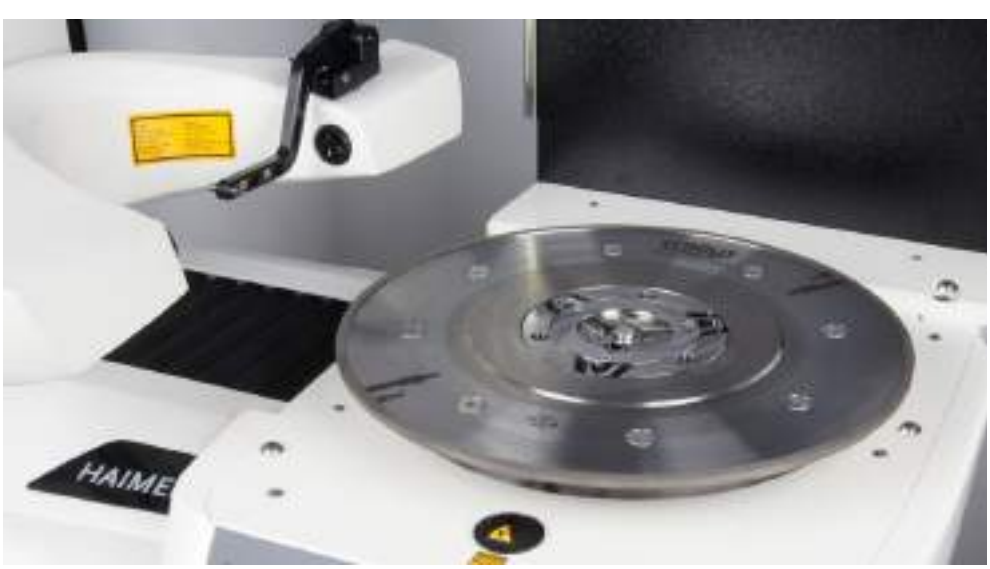


Automatic balancing adapter with spring washer for inner diameter with bore of Ø 100 up to Ø 250 mm

– Clamping range - 0.15 / + 0.8 mm
– Precise centrically clamping for highest repeatability
– Fine balanced to < 1 g·mm
– Can be used individually

Note:
Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines
Adapters only available on request. HAIMER will check the technical suitability together with the customer before quoting.

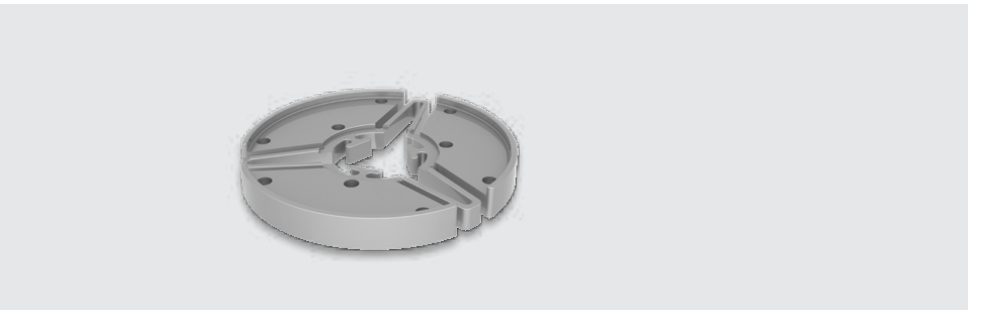
SAB balancing adapter with automatic clamping system	Spring washer	Bore Ø D [mm]
SAB 01, Clamping range 100–250 mm	Order No.	
80.201.SAB	**80.201.SAB01.120**	Ø 120
	80.201.SAB01.127	Ø 127
	80.201.SAB01.150	Ø 150
	80.201.SAB01.175	Ø 175
	80.201.SAB01.203	Ø 203
	80.201.SAB01.250	Ø 250



Application example

SAS BALANCING ADAPTER (AUTOMATIC)
SAS 01





Automatic balancing adapter with spring washer for outside diameter of Ø 100 up to Ø 250 mm

– Clamping range - 0.15 / + 0.8 mm
– Precise centrically clamping for highest repeatability
– Fine balanced to < 1 g·mm
– Can be used individually

Note:
Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines
Adapters only available on request. HAIMER will check the technical suitability together with the customer before quoting.

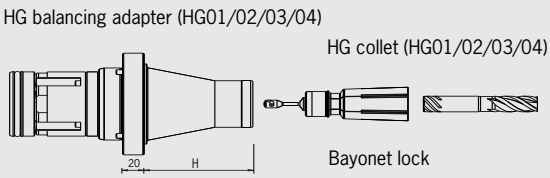
SAS balancing adapter with automatic clamping system	Spring washer	Spindle Ø D [mm]
Clamping range 100–250 mm	Order No.	
80.201.SAS	**80.201.SAS01.120**	Ø 120
	80.201.SAS01.127	Ø 127
	80.201.SAS01.150	Ø 150
	80.201.SAS01.175	Ø 175
	80.201.SAS01.203	Ø 203
	80.201.SAS01.250	Ø 250



Application example

HG BALANCING ADAPTER





Attention: Adapters only to be used with original HAIMER Tool Dynamic Balancing Machines



Balancing adapter for tools with a cylindrical shank

- For efficient and automatic clamping of tools with a cylindrical shank
- For cylindrical shanks up to tolerance h8
- Available with shank diameter up to 40 mm upon request

Balancing adapter with exchangeable high precision collets (system HG) and automatic clamping. From now on, you can clamp your cylindrical shank tools directly in the balancing adapter without any accessories.

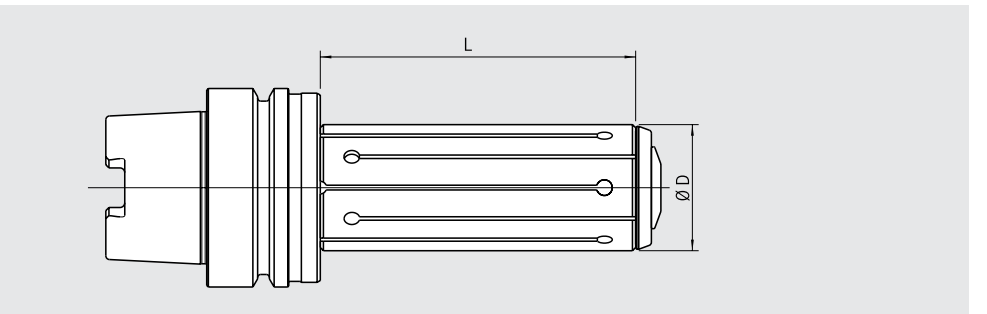
HG adapter Order No.	Collet Order No.	Clamping range	Height H
HG01	**HG01**	**Ø 2–9.25 mm**	
80.201.HG01.00	**80.201.HG01.02**	2 mm	80 mm
	80.201.HG01.02.5	2.5 mm	80 mm
	80.201.HG01.03	3 mm	80 mm
	80.201.HG01.03.5	3.5 mm	80 mm
	80.201.HG01.1/8Z	1/8"	80 mm
	80.201.HG01.04	4 mm	80 mm
	80.201.HG01.04.5	4.5 mm	80 mm
	80.201.HG01.3/16Z	3/16"	80 mm
	80.201.HG01.05	5 mm	80 mm
	80.201.HG01.05.5	5.5 mm	80 mm
	80.201.HG01.05.6	5.6 mm	80 mm
	80.201.HG01.06	6 mm	80 mm
	80.201.HG01.06.3	6.3 mm	80 mm
	80.201.HG01.1/4Z	1/4"	80 mm
	80.201.HG01.07	7 mm	80 mm
	80.201.HG01.07.1	7.1 mm	80 mm
	80.201.HG01.5/16Z	5/16"mm	80 mm
	80.201.HG01.08	8 mm	80 mm
	80.201.HG01.09	9 mm	80 mm
	80.201.HG01.09.25	9.25 mm	80 mm
HG02	**HG02**	**Ø 10–14 mm**	
80.201.HG02.00	**80.201.HG02.3/8Z**	3/8"	80 mm
	80.201.HG02.10	10 mm	80 mm
	80.201.HG02.11	11 mm	80 mm
	80.201.HG02.7/16Z	7/16"	80 mm
	80.201.HG02.12	12 mm	80 mm
	80.201.HG02.12.5	12.5 mm	80 mm
	80.201.HG02.1/2Z	1/2"	80 mm
	80.201.HG02.13	13 mm	80 mm
	80.201.HG02.14	14 mm	80 mm
	80.201.HG02.9/16Z	9/16"	80 mm

HG adapter Order No.	Collet Order No.	Clamping range	Height H
HG03	**HG03**	**Ø 16–20 mm**	
80.201.HG03.00	**80.201.HG03.5/8Z**	5/8"	80 mm
	80.201.HG03.16	16 mm	80 mm
	80.201.HG03.18	18 mm	80 mm
	80.201.HG03.3/4Z	3/4"	80 mm
	80.201.HG03.20	20 mm	80 mm
HG04	**HG04**	**Ø 20–32 mm**	
80.201.HG04.00	**80.201.HG04.20**	20 mm	100 mm
	80.201.HG04.22	22 mm	100 mm
	80.201.HG04.25	25 mm	100 mm
	80.201.HG04.1Z	1"	100 mm
	80.201.HG04.27	27 mm	100 mm
	80.201.HG04.30	30 mm	100 mm
	80.201.HG04.11/4Z	1¼ mm	100 mm
	80.201.HG04.32	32 mm	100 mm

When ordering, you need one HG adapter and at least one collet.

BALANCING ARBORS





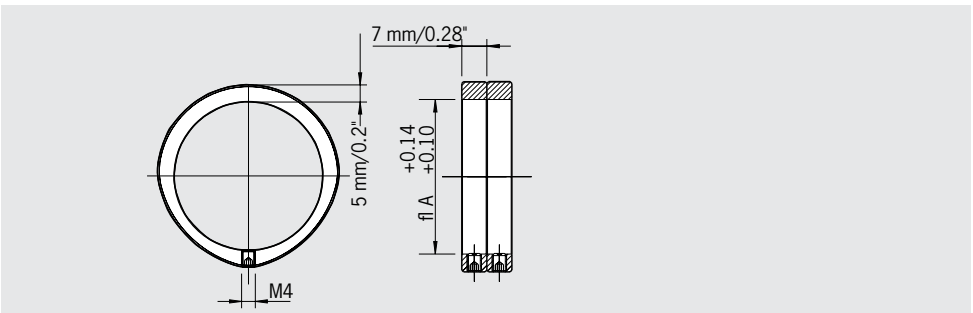
– To balance tools with cylindrical bore
– Precise center clamping for highest repeatability
– Fine balanced to < 1 gmm
– Can be used individually

Balancing arbor Order No.	Collet Order No.	Clamping range Ø D	L
DG07, Clamping range 25–34.5 mm			
80.250.A63.070	80.250.07.25	Ø 25–25.5 mm	100 mm
	80.250.07.26	Ø 26–26.5 mm	100 mm
	80.250.07.28	Ø 28–28.5 mm	100 mm
	80.250.07.30	Ø 30–30.5 mm	100 mm
	80.250.07.32	Ø 32–32.5 mm	100 mm
	80.250.07.34	Ø 34–34.5 mm	100 mm
DG08, Clamping range 35–44.5 mm			
80.250.A63.080	80.250.08.35	Ø 35–35.5 mm	100 mm
	80.250.08.36	Ø 36–36.5 mm	100 mm
	80.250.08.38	Ø 38–38.5 mm	100 mm
	80.250.08.40	Ø 40–40.5 mm	100 mm
	80.250.08.42	Ø 42–42.5 mm	100 mm
	80.250.08.44	Ø 44–44.5 mm	100 mm
DG09, Clamping range 45–54.5 mm			
80.250.A63.090	80.250.09.45	Ø 45–45.5 mm	125 mm
	80.250.09.48	Ø 48–48.5 mm	125 mm
	80.250.09.50	Ø 50–50.5 mm	125 mm
	80.250.09.52	Ø 52–52.5 mm	125 mm
	80.250.09.54	Ø 54–54.5 mm	125 mm
DG10, Clamping range 55–65.5 mm			
80.250.A63.100	80.250.10.55	Ø 55–55.5 mm	135 mm
	80.250.10.58	Ø 58–58.5 mm	135 mm
	80.250.10.60	Ø 60–60.5 mm	135 mm
	80.250.10.62	Ø 62–62.5 mm	135 mm
	80.250.10.65	Ø 65–65.5 mm	135 mm

Please specify collet with balancing arbor order
When ordering, you need one balancing arbor and one collet

BALANCING RINGS





For fine-balancing all tool holders with cylindrical outer diameter (diam. A).

The balancing index rings have a defined unbalance in themselves. They are turned in such a position that the unbalance of the tool holder will be compensated. There are always 2 rings needed per balancing plane.

- Balancing quickly and precisely
- No damage to tool holder
- Can be repeated as often as necessary
- Simply fixed by clamping screw
- Suitable for tool holders of all brands
- The balancing machine determines the position of the rings

– Included in delivery: 2 balancing index rings with screws (without hex wrench)
– Tightening torque: 1 ft lb (1.4 Nm)

Order No.	Ø A [mm]	Ø A [inch]	unbalance[1)]	rpm [1/min]
79.350.15	15	0.59	14 g·mm	max. 55,000
79.350.16	16	0,63	14 g·mm	max. 55,000
79.350.17	17	0.67	16 g·mm	max. 55,000
79.350.18	18	0.71	17 g·mm	max. 55,000
79.350.19	19	0.75	19 g·mm	max. 55,000
79.350.20	20	0.79	21 g·mm	max. 55,000
79.350.22	22	0.87	23 g·mm	max. 55,000
79.350.23	23	0.91	25 g·mm	max. 55,000
79.350.24	24	0.94	27 g·mm	max. 55,000
79.350.25	25	0.98	28 g·mm	max. 55,000
79.350.26	26	1.02	32 g·mm	max. 50,000
79.350.27	27	1.06	32,5 g·mm	max. 50,000
79.350.28	28	1.10	34 g·mm	max. 50,000
79.350.30	30	1.18	37 g·mm	max. 45,000
79.350.32	32	1.26	43 g·mm	max. 45,000
79.350.34	34	1.34	46 g·mm	max. 40,000
79.350.35	35	1.38	48 g·mm	max. 40,000
79.350.36	36	1.42	51 g·mm	max. 40,000
79.350.38	38	1.50	56 g·mm	max. 35,000
79.350.40	40	1.57	60 g·mm	max. 35,000
79.350.42	42	1.65	65 g·mm	max. 35,000
79.350.43	43	1.69	69 g·mm	max. 35,000
79.350.1.71Z	43.45	1.71	68 g·mm	max. 35,000
79.350.44	44	1.73	72 g·mm	max. 35,000
79.350.46	46	1.81	80 g·mm	max. 35,000
79.350.48	48	1.89	85 g·mm	max. 30,000
79.350.50	50	1.97	90 g·mm	max. 30,000
79.350.52	52	2.05	100 g·mm	max. 30,000
79.350.53	53	2.09	100 g·mm	max. 30,000
79.350.54	54	2.13	103 g·mm	max. 30,000

Order No.	Ø A [mm]	Ø A [inch]	unbalance[1)]	rpm [1/min]
79.350.55	55	2.17	105 g·mm	max. 30,000
79.350.56	56	2.20	110 g·mm	max. 30,000
79.350.58	58	2.28	120 g·mm	max. 30,000
79.350.60	60	2.36	128 g·mm	max. 25,000
79.350.62	62	2.44	132 g·mm	max. 25,000
79.350.63	63	2.48	135 g·mm	max. 25,000
79.350.64	64	2.52	147 g·mm	max. 25,000
79.350.65	65	2.56	147 g·mm	max. 25,000
79.350.66	66	2.60	145 g·mm	max. 25,000
79.350.68	68	2.68	161 g·mm	max. 25,000
79.350.70	70	2.76	165 g·mm	max. 25,000
79.350.72	72	2.83	170 g·mm	max. 25,000
79.350.74	74	2.91	184 g·mm	max. 25,000
79.350.76	76	2.99	186 g·mm	max. 20,000
79.350.78	78	3.07	206 g·mm	max. 20,000
79.350.80	80	3.15	215 g·mm	max. 20,000
79.350.82	82	3.23	213 g·mm	max. 20,000
79.350.84	84	3.31	229 g·mm	max. 20,000
79.350.86	86	3.39	249 g·mm	max. 20,000
79.350.87	87	3.43	256 g·mm	max. 20,000
79.350.88	88	3.46	251 g·mm	max. 20,000
79.350.89	89	3.50	260 g·mm	max. 20,000
79.350.90	90	3.54	265 g·mm	max. 20,000
79.350.92	92	3.62	275 g·mm	max. 20,000
79.350.94	94	3.70	286 g·mm	max. 20,000
79.350.96	96	3.78	300 g·mm	max. 20,000
79.350.98	98	3.86	305 g·mm	max. 20,000
79.350.100	100	3.94	320 g·mm	max. 15,000
79.350.125	125	4.92	500 g·mm	max. 15,000

1) Unbalance g·mm are reference values, small variances possible
Additional sizes may be available – please contact Haimer USA for more information

SET OF BALANCING SCREWS







For fine-balancing of all tool holders with balancing threads M6 (e. g. shrink fit chucks from HAIMER).

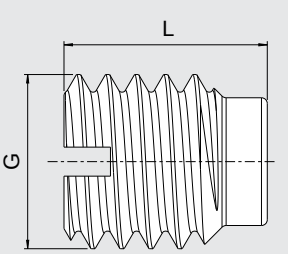
The screws have different weights in a fine graduation.
They are screwed into the balancing threads of the tool holder so that their weight compensates the unbalance of the tool holder.

– Set consisting of screws in 11 different sizes and weights
– Screws are screwed to the bottom of the thread and tightened.
  No additional fixing of screws necessary
– Balance quickly and precisely
– No damage to tool holders
– Can be repeated as often as necessary
– Suitable for tool holders of all brands
– The balancing machine calculates the necessary weight of the screws (e. g. HAIMER Tool Dynamic)

– Included in delivery: Case with 11 x 10 balancing screws, screw driver

Accessories	Order No.
Set of Balancing Screws	**80.203.00**

HEAVY METAL BALANCING SCREWS





Heavy metal balancing screws (thread M6) for manual balancing of tool holders.

Length L [mm]		07	07	08	08	10	10
Size G [mm]		M6x7	M6x7 (5 pcs.)	M6x8	M6x8 (5 pcs.)	M6x10	M6x10 (5 pcs.)
Mass		ca. 2.3g	ca. 2.3g	ca. 2.7g	ca. 2.7g	ca. 3.5g	ca. 3.5g
Order No.	**85.502...**	**.7.0**	**.7.0.SET**	**.8.0**	**.8.0.SET**	**.10.0**	**.10.0.SET**

HAIMER DEMO VANS: TARGETED ADVICE ON-SITE.

Request our service and profit from the experience of our experts. Our knowledge is your advantage!



Our service advantages

- Latest tool holders as well as shrinking, balancing and presetting technology presented in a **mobile showroom**
- **Specific solutions** for higher process reliability and less machine downtime
- **True experts** from your area demonstrate the necessity of balancing so that your machine can operate at its fullest capacity
- **Free of charge inspection** of your tool holders, grinding wheels or other rotors such as impellers, ventilators and housings

Equipment of the Demo Van

- Shrink Fit device Power Clamp Comfort NG
- Balancing machine TD Comfort
- Presetting device Microset UNO premium
- Broad selection of tool holders for all current interfaces (HSK-A/E, CAT/SK/BT)
- Innovations such as Safe-Lock, Cool Flash, Duo-Lock
- Shrink Fit extensions
- HAIMER MILL solid carbide endmills
- 3D sensors and centering devices



PRESETTING TECHNOLOGY



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Top 10 Reasons to Use HAIMER Microset Presetting Technology

1

Increased Machine Utilization

Reducing set-up time by as much as 70% or more translates to more machine “up-time” and productivity.

2

Faster Set-ups

Even if set-ups are not being performed offline, using a tool presetter is significantly faster than setting tools in the machine manually or with a laser.

3

Reduced Scrap

Microset presetters use optical cameras for measurement, which provide higher degrees of accuracy versus manual setting methods. Options like automatic focusing and measuring further reduce deviations in measurement, regardless of the operator.

4

Longer Tool Life

Runout that is not often inspected for non-critical assemblies can be measured and accounted for easily with a presetter, thereby extending tool life by preventing inaccurate tools from ever entering the machine.

5

Fewer Collisions

With optional data transmission methods like post-processing or RFID, the manual entry of offsets into the machine can be eliminated. This reduces errors that occur from operators accidently mistyping offset values.

6

More Cost-Effective than Lasers

Machines make money when they are making chips and not being used as measuring devices.
Furthermore, one presetter can manage 10–30 machines which is more cost-effective than purchasing a laser for each machine.

7

Consistency

Confirmation that tools are set properly, within specified tolerances, every time.

8

Ease of Use

Simple software makes the process as easy as possible for all users. No software engineering degrees needed!

9

Universal

Easy to preset milling tools, adjustable boring heads, complex multi-inserted face-mills, PCD form tools, step-drills, etc. from all makes and manufacturers.

10

Industry 4.0 Success

Industry 4.0 is all about using gathered data to automate changes on the fly that optimize the machining process.
The future smart factory will require technologies that can receive and transmit such data. HAIMER Microset tool presetters are able to communicate (bi-directionally) with a variety of machine controls and CAD/CAM systems.

Precision and productivity in production



Whether presetting, shrinking, inspecting and correcting balance, or measuring – we offer the perfect solution for all tool sizes and work environments. Improve the quality and precision of your work pieces with our know-how and wide range of products.



UNO series – entry level tool presetters include high-tech options as standard

TOOL PRESETTERS – YOUR BENEFITS

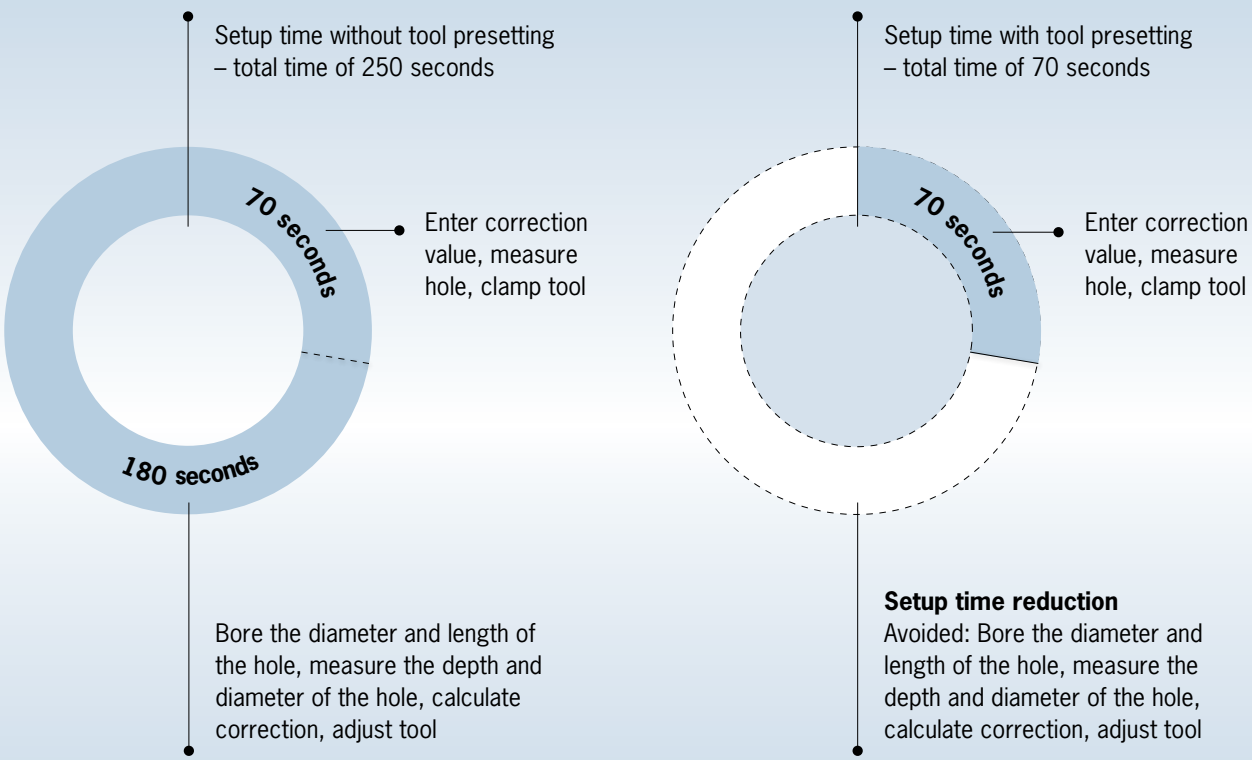
Save time and money, improve work piece quality

The efficient tool presetting equipment from HAIMER Microset optimizes your machining processes from the ground up. Improve your tool life, achieve better surface finishes and boost overall process reliability in your production.

- Minimize the idle time of your machines
- Reduce scrap and tooling costs
- Increase process reliability in your production
- Improve your tool life
- Generate consistent quality in your products

Reduce up to 70 % of your set up time!

Boring Head Example:



UNO series – entry level tool presetters include high-tech options as standard



In addition to its precision, speed and reliability, the UNO series also includes numerous features in hardware. The new design and improved ergonomics set the standard by using high-quality components from Festo/SMC, Bosch, Heidenhain, and IDS.















1: Camera system for setting the center of rotation
2: Tactile measurement of the center of rotation
3: Release-by-touch function, easy to operate without buttons
4: Useful system cabinet with 3 drawers, 1 door and internal oil tray. Also includes 3 maintenance doors (on all sides)
5: Keypad and µm-precise adjustments
6: 150° swiveling adapter storage
7–8: Measuring based on the snap gauge principle for diameters up to 100 mm

UNO autofocus & automatic drive – efficient and precise



The autofocus and automatic drive models of the UNO series provide unique advantages for tool measurement at the highest level.
Choose the presetter that meets your needs.

Highlights
Reduce the work load of the operator through the automation of presetting, with full or partially automated measuring functions.

autofocus

Automatically focuses on the cutting edge. Motorized spindles with convenient system cabinet and 24", 10 point touchscreen as standard.



automatic drive

Fully automatic tool presetting and measurement independent of the operator (CNC-controlled, 3-axis), with convenient system cabinet and 24" touch display standard.

VIO linear – maximum ease of use and functionality

Optimize process reliability in your production with fully automatic measurement capabilities. The open device platform allows for the integration of both new and existing production processes.

Maximum stability and precision
The FEM-optimized, thermally stable cast iron construction of the VIO *linear* series ensures accurate measuring results and equipment longevity. Additionally, highly dynamic, wear-free linear drives ensure accurate long-term quality. The parallel drive and guidance system ensures optimal distribution of forces and guarantees ±2 µm measurement repeatability.

Highlights
- High rigidity ensures low distortion even at the maximum permissible load
- FEM-optimized and thermally stable cast iron construction
- Maximum tool weight 352 lbs (160 kg)
- Fast, silent and highly accurate cutting edge approach via unique linear drive



Leader in innovation:
- Fully automatic measuring cycles for maximum operating convenience
- High quality components from Heidenhain, Bosch Rexroth
- Maintenance free linear drives for higher speed, low noise and highly accurate positioning
- User-friendly operating panel ensures ultimate flexibility
- High power software Microvision VIO
- Release-by-touch
- Measure-by-touch (optional)


1


2


3

1: Second camera for measuring the center of rotation (optional)
2–3: Fully automatic axis drive via modern linear technology

Data exchange and transfer to the machine tool

Post-processor / Ethernet / USB
Post-processed data is transferred to the relevant data exchange drive either via USB, Ethernet LAN or RS232 interface.

Bidirectional interface
All presetting units can send and receive tool data to nearly all software (tool management, databases, CAD / CAM) via a bidirectional interface – regardless of whether it is a standard or a customized solution.
(Not available for UNO smart)

Post processor and bidirectional interface*
HAIMER Microset tool presetting devices are compatible with machine tools from all manufacturers.
(Not available for UNO smart)

HQR
Easy data input via HQR USB plug in. Input your data via scan of a code on the label, printed on the presetter, without manual operation of the operator.

** The measured data is quickly transferred directly to the machine tool. Control systems from Siemens, Heidenhain, FANUC, MAPPS and many others can be connected via USB data storage, Ethernet LAN or RS232.*

RFID – data carrier system

- Customer-specific data storage
- Measurement processes with integrated data retrieval and storage
- Integration of all popular RFID systems
- The read/write head can be positioned automatically and manually for all popular tool holder systems (e.g. Balluff, Euchner, Mazak, Pepperl & Fuchs, Turck)



Automatic positioning of the read/write head



Manual positioning of the read/write head

HQR-Connect

With HQR-Connect tool data can be edited and printed as QR Code by the presetter, then be read by a scanner at the machine tool and directly sent to the machine control.

The tool presetter creates a QR code which contains all the necessary actual values and other features of the tool. Through HQR-Connect the data stored in the QR code is automatically transferred into the data fields of the machine tool. The HQR-Connect System is connected to the machine control via USB. At the machine control, the generated QR code is read with a scanner and the data is transmitted.

Your benefits:
– Network connectivity is not necessary
– Up to 45% time savings compared to manual entry
– Elimination of manual input errors or transposed digits
– Upgrades are possible at any time

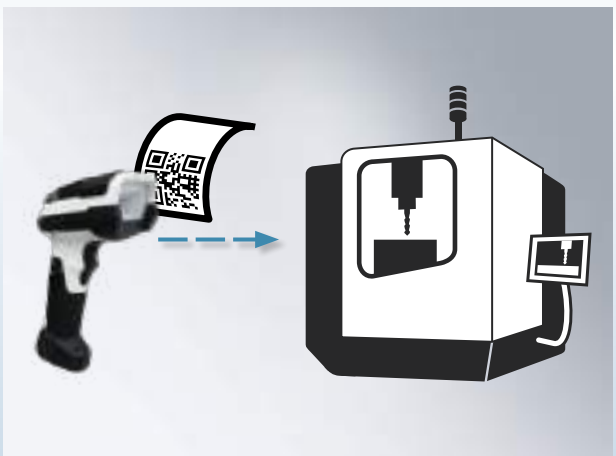
(Not available for UNO smart)

HQR-Connect – Operating Principle

– The HQR-system works like an external (USB) keyboard
– The data is automatically sent to the control system, therefore reading or typing errors are eliminated
– The configuration of the HQR-system is done with a Windows based software
– The system consists of electronics and the QR code scanner
– Available for all control units with USB ports that allow data input via an external keyboard



After measuring the tool, a label with the QR code is printed



The HQR system is connected to the control system of the machine. It reads the QR code and transmits the tool data directly to the control system

HRFID-Connect

With HRFID-Connect tool data can be written on a RFID-data carrier by the presetter, then be read by a RFID reader at the machine tool and directly sent to the machine control.

The actual values measured on the tool presetter and other features of the tool are saved on the RFID data carrier.
The HRFID-Connect System is connected to the control system of the machine via USB.
The data stored on the data carrier is automatically entered into the data fields of the machine tool via HRFID-Connect transfer.

Your benefits:
– Network connectivity is not necessary
– Up to 45% time savings compared to manual entry
– Elimination of manual input errors or transposed digits
– Upgrades are possible at any time

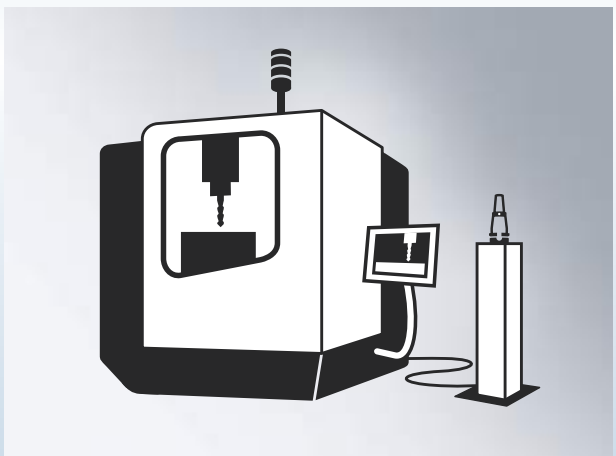
(Not available for UNO smart)

HRFID-Connect – Operating Principle

– The HRFID-system works like an external (USB) keyboard
– The data is automatically sent to the control system, therefore reading or typing errors are eliminated
– The configuration of the HRFID-system is done with a Windows based software
– The system consists of an electronic and the RFID reader
– Available for all control units with USB ports that allow data input via an external keyboard



After measuring the tool, the data is transferred to the Balluff data carrier



The RFID reader is connected to the machine control. It reads the Balluff data carrier and transmits the tool data directly into the control system of the machine

HAIMER i4.0 Tool & Data Management

HAIMER Data Analyzer & Controller

– System compatibility of each component – everything from the single source “HAIMER”
– Modular set-up – customer can start at each step
– HAIMER DAC connects all hardware components
– Data transfer through all interfaces to the machine tool
– Simplified tool management
– Reduction of manual data entry errors – high process-security

1 CAD/CAM-system

- Simple transfer of the generated job to the tool vending system for commissioning

2 Tool Management & Commissioning

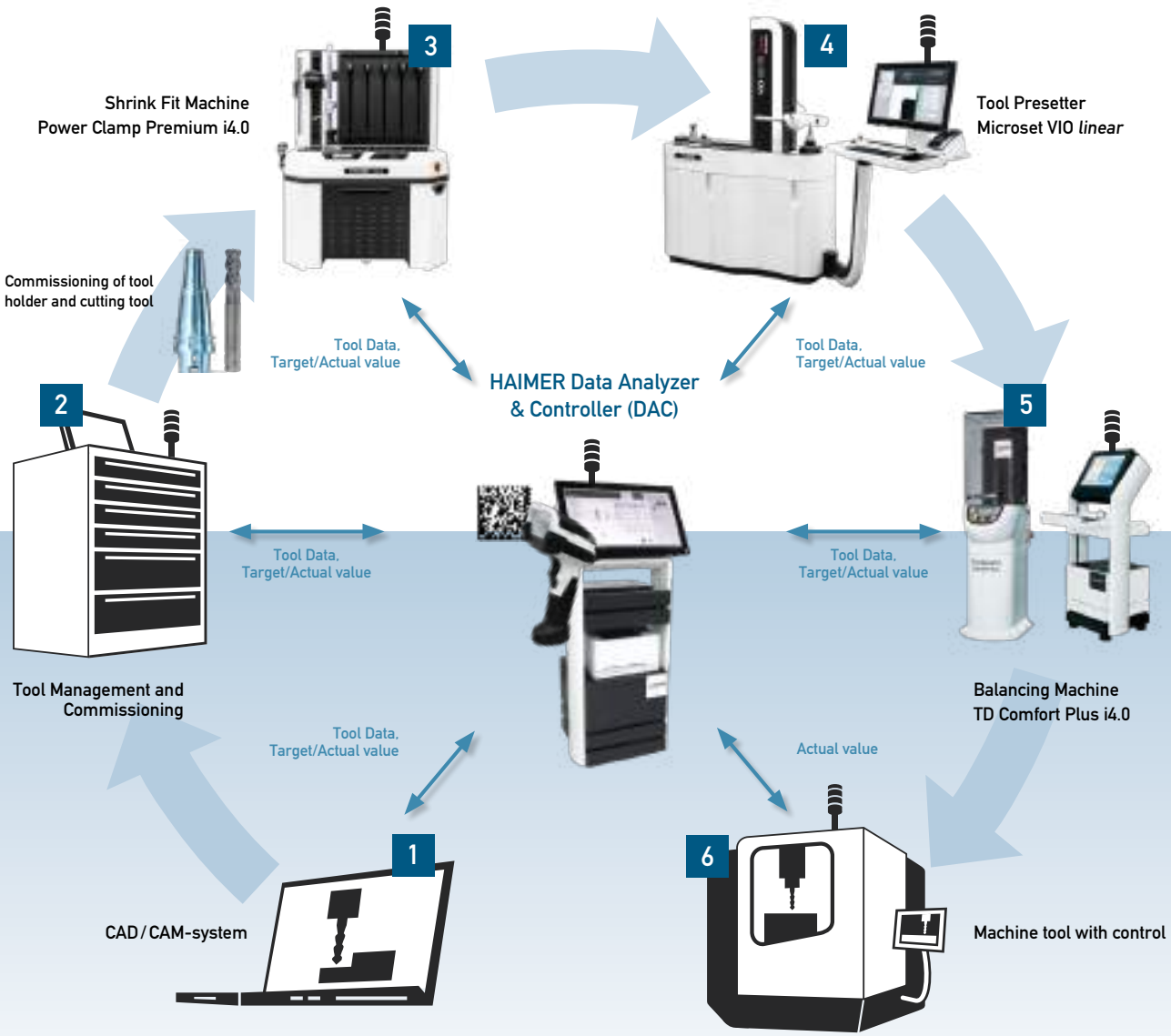
- Signal light indicates open job order
- Clearly arranged selection of the job that needs to be commissioned
- Simple commissioning through stock shelf indication of all components, through illustration of complete tool assembly and through showing exact position within the stock shelf
- Automatic output of needed components through on-screen selection
- Interactive step-by-step instruction for highest process security and low error rates
- Job transfer to the shrink fit machine through HAIMER DAC

3 Shrink Fit Machine Power Clamp Premium i4.0

- Signal light at the right assembly station indicates the next step (shrinking in the cutting tool or assembly at the tool clamp)
- Scanning the data-matrix code off the tool holder recalls the required assembly parameters from the database (shrinking parameters, length adjustment, torque etc.)
- Pictographic assembly instruction in the system helps for visual check
- Subsequent job transfer from HAIMER DAC to the tool presetter

4 Tool Presetter Microset VIO linear

- Signal light indicates open measuring jobs
- Scanning the data matrix code recalls the open job from HAIMER DAC and starts the automatic measuring process
- Once the measuring job is successfully completed, the values will be stored. If the balancing grade of the tool is defined in the job, the data will be transferred from the HAIMER DAC to the balancing machine



5 Balancing Machine TD Comfort Plus i4.0

- Signal light indicates open balancing jobs
- Identification of the tool via data-matrix code and hand scanner
- The requested balancing parameters are recalled from the data base
- After recalling the tool ID from the system, the balancing process can be started
- Once the balancing job is successfully completed, the data is transferred to the HAIMER DAC

6 Machine tool with control

- Selection of tool and balancing data via data-matrix code scan when loading the machine
- Automatically, the machine control takes over all previously transferred tool data
- Recall and transfer of tool life to the HAIMER DAC via data-matrix code scan when unloading the tool from the machine tool

UNO smart

Smart entry into tool presetting



Picture shows Uno smart 20|40 with optional locking indexing

TOOL PRESETTERS – MANUAL

The UNO smart is our entry-level machine featuring a small footprint, user-friendly operation and high precision. It is particularly well suited for measurements right on the shop floor and has all this at an unbeatable price-performance ratio.

Standard Equipment

- Microvision SMART image processing system
- SK50 high-precision spindle, manual
- Robust, long-life cast iron construction
- Thermally optimized material combination for improved repeatability
- Manual operation
- Manual fine adjustment
- Energy saving mode
- 7.0" multi-touchscreen
- Memory for 99 zero points
- ± 5 µm repeatability (0.0002")
- Label printer

Measurement Range

UNO smart

– Maximum tool diameter on X-axis	15.75 in (400 mm)
– Maximum tool length on Z-axis	15.75 / 27.56 in (400 / 700 mm)
– Maximum tool weight	44 lbs (20 kg)
– Weight	20|40: 210 lbs (95 kg) 20|70: 231 lbs (105 kg)
– Order No.	20|40: M-G1111 20|70: M-G1116

Options

- Technology package: Tool inspection light, edgefinder, release-by-touch
- Smart Pro package: Tool inspection light, edgefinder, release-by-touch, base cabinet smart with adapter tray for 3 tools or adapters
- 4 × 90° indexing and spindle brake
- Turning package: Dial gauge included with pneumatic indexing
- Alignment and calibration-set
- Sigma function





Picture shows UNO smart with Smart Pro package (optional)

UNO premium

The bestseller with high-quality components that complement your machine tool



TOOL PRESETTERS – MANUAL

UNO premium – The right solution for every user. The highest standard of manual tool presetting.
Operator independent measuring results, easy to use with digital data transfer capabilities.

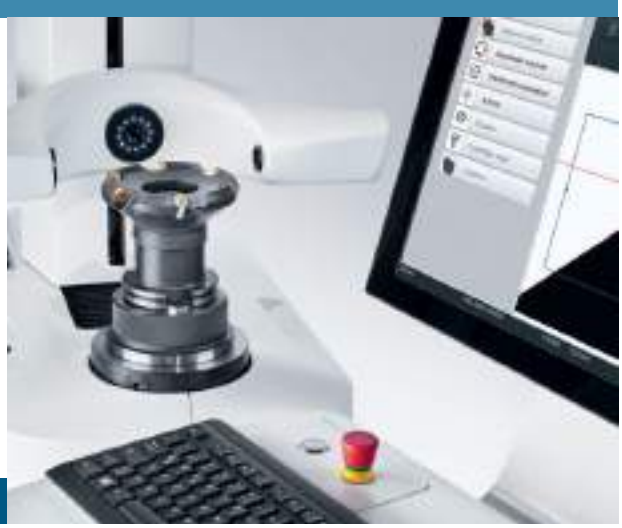
Standard Equipment

- Microvision UNO image processing system
- SK50 ultra-high precision spindle, manual
- Robust, long-life cast iron construction
- Thermally optimized material combination for improved repeatability
- Manual operation
- Label printer
- 22" touchscreen
- Windows 10
- Sigma function
- Memory for 1,000 zero points and 1,000 tools
- USB / LAN data output
- ± 2 µm repeatability (0.00008")

Measurement Range

UNO premium

– Maximum tool diameter on X-axis	15.75 in (400 mm)
– Maximum snap gauge tool diameter on X-axis	3.93 in (100 mm)
– Maximum tool length on Z-axis	15.75 / 27.56 in (400 / 700 mm)
– Maximum tool weight	66 lbs (30 kg)
– Weight	20|40: 309 lbs (140 kg) 20|70: 342 lbs (155 kg)
– Order No.	20|40: M-G1120 20|70: M-G1130



Options

- Technology package: Inspection light, edgefinder, release-by-touch
- Premium Pro package: Tool inspection light, edgefinder, release-by-touch, system cabinet premium with adapter tray for 6 tools and adapters
- Turning package: 4 × 90° and 3 × 120° indexing, second camera
- Manual fine adjustment
- Label printer
- User management
- Manual RFID system (only combined with premium Pro package)
- Bidirectional interface
- Post-processor
- Manual ISS spindle
- HQR-Connect
- HRFID-Connect



Picture shows UNO premium with premium Pro package (optional)

UNO autofocus

Ideal for multi-edge tools



TOOL PRESETTERS – SEMI-AUTOMATIC

UNO autofocus – The right presetter for demanding measurements.
Take advantage of semi-automatic spindle operation with multiple tool measurements on one plane.

Standard Equipment

- Microvision UNO image processing system
- SK50 ultra-high precision spindle, autofocus
- Robust, long-life cast iron construction
- Thermally optimized material combination for improved repeatability
- Motorized fine adjustment of the C-axis
- 24" touchscreen
- 4 × 90° and 3 × 120° motorized indexing
- Pneumatic spindle brake
- Vacuum clamping
- Premium base cabinet includes storage for six adapters
- Sigma function
- Memory for 1,000 zero points, tools and tool lists
- USB / LAN data output
- Release-by-touch
- Edgefinder
- Inspection light
- 2 µm spindle runout (0.00008")
- ± 2 µm repeatability (0.00008")
- Label printer
- Windows 10

Measurement Range

UNO autofocus

– Maximum tool diameter on X-axis	15.75 in (400 mm)
– Maximum snap gauge tool diameter on X-axis	3.93 in (100 mm)
– Maximum tool length on Z-axis	15.75 / 27.56 in (400 / 700 mm)
– Maximum tool weight	66 lbs (30 kg)
– Weight	20|40: 529 lbs (240 kg) 20|70: 562 lbs (255 kg)
– Order No.	20|40: M-G1140 20|70: M-G1150



Automatic focus on the cutting edge

Options

- ISS-U universal ultra-high precision spindle with automatic adapter identification
- Turning package: Second camera incl. indexing, 4 × 90° and 3 × 120° motor driven
- Bidirectional interface
- Manual RFID system
- Post-processor
- HQR-Connect
- HRFID-Connect

UNO automatic drive

Fully automatic measuring for unrivalled convenience



TOOL PRESETTERS – FULLY AUTOMATIC

With fully automated measurement capabilities, the UNO automatic drive is the high-end model in the UNO series. The UNO automatic drive is fully independent of the operator and can be used with minimal user expertise. This guarantees maximum quality and time savings, even with complex tools on multiple planes.

Standard Equipment

- Microvision UNO image processing system
- Automatic tool measurement in 3 axes
- SK50 ultra-high precision spindle, autofocus
- Motorized fine adjustment of all axes
- 24" touchscreen
- 4 × 90° and 3 × 120° motor-driven indexing
- Pneumatic spindle brake
- Vacuum clamping
- Premium base cabinet includes storage for 6 adapters
- Sigma function
- Memory for 1,000 zero points, tools and tool lists
- USB / LAN data output
- Release-by-touch
- Edgefinder
- Inspection light
- 2 µm spindle runout (0.00008")
- ± 2 µm repeatability (0.00008")
- Label printer

Measurement Range

UNO automatic drive

– Maximum tool diameter on X-axis	15.75 in (400 mm)
– Maximum snap gauge tool diameter on X-axis	3.93 in (100 mm)
– Maximum tool length on Z-axis	15.75 / 27.56 in (400 / 700 mm)
– Maximum tool weight	66 lbs (30 kg)
– Weight	20|40: 529 lbs (240 kg) 20|70: 562 lbs (255 kg)
– Order No.	20|40: M-G1160 20|70: M-G1170



Fully automatic tool presetting and measurement - independent of the operator

Options

- ISS-U universal ultra-high precision spindle with automatic adapter identification
- Turning package: Second camera incl. indexing, 4 × 90° and 3 × 120° motor driven
- Bidirectional interface
- Manual RFID system
- Individual release of X/Y-axis
- Post-processor
- HQR-Connect
- HRFID-Connect
- Scan function with DXF output option
- DXF fitting software option
- Reamer module for guided reamer
- Measured value history

VIO basic

Suitable for large and heavy tools



TOOL PRESETTERS – SEMI-AUTOMATIC

The VIO basic, with optional semi-automatic (autofocus) or manual operation, is one of the most modern presetting devices in its class, with many features and an extensive set of standard equipment.

Standard Equipment

- Microvision VIO image processing system
- SK50 ultra-high precision spindle, manual
- Robust, long-life cast iron construction
- Thermally optimized material combination for improved repeatability
- Manual fine adjustment
- 24" multi-touchscreen
- Pneumatic spindle brake
- Vacuum clamping
- System VIO includes storage for up to 9 adapters
- Sigma function
- Memory for 1,000 zero points
- Unlimited tool memory
- User management
- Swiveling operating panel
- Edgefinder
- Inspection light
- 2 µm spindle runout (0.00008")
- ± 2 µm repeatability (0.00008")

Measurement Range

VIO basic

– Maximum tool diameter on X-axis	16.53 / 27.56 / 39.17 in (420 / 700 / 1000 mm)
– Maximum snap gauge tool diameter on X-axis	3.93 in (100 mm)
– Maximum tool length on Z-axis	19.69 / 27.56 / 39.37 in (500 / 700 / 1000 mm)
– Maximum tool weight	352 lbs (160 kg)
– Weight	881 lbs – 1,213 lbs (400 kg – 550 kg)
– Order No.	M-G1026*



Options

- ISS-U universal ultra-high precision spindle with automatic adapter identification, mechanical tool clamping, spindle brake pneumatically and 4 × 90° or 3 × 120° indexing motorized
- 4 × 90° and 3 × 120° pneumatic indexing
- Turning package: Second camera incl. indexing, 4 × 90° and 3 × 120°
- Bidirectional interface
- Manual RFID system
- 27" multi-touchscreen
- Label printer
- Post-processor
- HQR-Connect
- HRFID-Connect

** this part number is for the smallest unit in X and Z, please contact HAIMER for the part numbers of the larger machines*

VIO *linear*

Perfect for rapid measurements, even on highly complex tools



TOOL PRESETTERS – FULLY AUTOMATIC

VIO *linear* – The complete solution: for fully automatic high-end tool presetting with customizable options.
The modular concept makes it possible to preset tools up to 39.37" in length and diameter.

Standard Equipment

- Microvision VIO image processing system
- High-precision and fast axis-positioning via linear motion
- SK50 ultra-high precision spindle, autofocus
- 4 × 90° and 3 × 120° electronic indexing
- Pneumatic spindle brake
- Robust, long-life cast iron construction
- Thermally optimized material combination for improved repeatability
- Motorized fine adjustment of all axes
- 24" multi-touchscreen
- System VIO includes storage for 9 adapters
- Sigma function
- Memory for 1,000 zero points
- Unlimited tool memory
- User management
- Swiveling operating panel
- Edgefinder
- Inspection light
- 2 µm spindle runout (0.00008")
- ± 2 µm repeatability (0.00008")

Measurement Range

VIO linear

– Maximum tool diameter on X-axis	16.53 / 27.56 / 39.17 in (420 / 700 / 1000 mm)
– Maximum snap gauge tool diameter on X-axis	3.93 in (100 mm)
– Maximum tool length on Z-axis	19.69 / 27.56 / 39.37 in (500 / 700 / 1000 mm)
– Maximum tool weight	352 lbs (160 kg)
– Weight	881 lbs – 1,213 lbs (400 kg – 550 kg)
– Order No.	M-G1035*



Options

- ISS-U universal ultra-high precision spindle with automatic adapter identification, mechanical tool clamping, pneumatic spindle brake and 4 × 90° and 3 × 120° motorized indexing
- Second camera for measuring the center of rotation
- Bidirectional interface
- Manual or automatic RFID system
- 27" multi-touchscreen
- Post-processor
- VIO Fit/Scan
- Angular head system, swiveling camera carrier, Y-axis offset for measuring multiple slewing gear witness
- HQR-Connect
- HRFID-Connect
- Robot-ready software interface for integration of a robot cell to preset tools without operator
- Length stop system for automatic length adjustment for hydraulic or ER collet chucks
- Direct photo storage for easy integration of tool data
- Gear Skyving System
- Y-axis for measurement of multi-tool turning holder
- Reamer module for guided reamer

** this part number is for the smallest unit in X and Z, please contact HAIMER for the part numbers of the larger machines*

VIO *linear* toolshrink

Shrinking and presetting combined



SHRINKING/PRESETTING

The combination of shrinking and presetting technology with precise length adjustment on the µm scale makes the VIO *linear* top of its class, which includes the toolshrink variant. The VIO *linear* toolshrink is the ideal choice, especially when using shrink fit holders, duplicate assemblies, or multi-spindle machines.

Standard Equipment

- Microvision VIO image processing system
- ISS-U universal ultra-high precision spindle with automatic adapter identification, mechanical clamping and 4 × 90° and 3 × 120° motorized indexing
- Best shrinking results, regardless of the holder brand
- High precision and fast axis-positioning through linear motion
- Fully automatic HAIMER induction unit 13 kW coil
- Automatic detection of shrinking parameters
- Automatic length adjustment within ± 10 µm (0.0004")
- Extractor with filter
- HAIMER contact cooling TME-12: Intelligent Cooling System with sensor
- 24" touchscreen
- Ideally used with HAIMER shrink fit holders for best results
- Dynamic shrinking for short process times

Measurement Range

VIO linear toolshrink

– Maximum tool diameter on X-axis	16.53 in (420 mm)
– Maximum snap gauge tool diameter on X-axis	3.93 in (100 mm)
– Maximum tool length on Z-axis shrinking	2.36 – 25.59 in (60 – 650 mm)
– Maximum tool length on Z-axis measuring	19.69 / 27.56 / 39.37 in (500 / 700 / 1000 mm)
– Maximum tool weight	352 lbs (160 kg)
– Weight	1,587 – 1,764 lbs (720 – 800 kg)
– Order No.	M-G1061*



Options

- Second camera for measuring the center of rotation
- Post-processor
- Bidirectional interface
- VIO Fit
- VIO Scan
- Manual RFID system
- Automatic RFID system
- Label printer
- TME cooling system with temperature monitoring
- 27" multi-touchscreen
- HQR-Connect
- HRFID-Connect
- Robot-ready software interface for integration of a robot cell to preset tools without operator
- Length stop system for automatic length adjustment for hydraulic or ER collet chucks
- Direct photo storage for easy integration of tool data
- Gear Skyving System
- Reamer module for guided reamer
- Quick in/out, shrinking like a Power Clamp i4.0 (no setup)
- Scan function for shrinking parameter
- Pre-installed HAIMER data base

** this part number is for the smallest unit in X and Z, please contact HAIMER for the part numbers of the larger machines*

Microvision – easy and intuitive

Microvision software enables fast and easy inspection of complex shapes and features, creating even more time savings potential during setup.

These savings are achieved due to the machine's ability to quickly and precisely measure and set tools, independent from the operator. Modern image processing ensures that the tools are quickly and accurately measured and in turn guarantees the highest quality in your production processes. Complex tools can be measured within an incredibly short period of time with the latest measuring techniques.









Highlights

- Intuitive operation ensures quick and precise measurement results
- Accurate measurement of complex and helical cutters with the precise focus window
- User administration and access privileges
- Display currently in 16:9 format
- Cross hair fixed / floating with automatic measurement lines and automatic contour evaluation
- Identical software design for all Microset models
- Windows based
- Measuring macros for fast creation of automatic measuring sequences
- Template-System, for fast and easy creation of measuring cycles for similar tool geometries
- Creation of customized master measuring cycles possible
- Template module to easily copy measuring cycle of identical tool types, e.g. drill from one size to the next
- History of measured data for security of measuring results and process optimization
- HQRID scanner ready, to scan and ID tools and to find the measuring cycle of that specific tool
- QR code parameter print for easy shrink parameter identification for non-HAIMER holders
- Print Editor for easy adjustment of printouts
- Direct photo storage to easily add pictures to the database, right at the presetter
- Remote access, program your tool from your desk
- Rules and calculations that can be added to create the right measuring point

Adapters and spindles for every taper

High-quality, precise adapters and spindles are important elements for precise tool presetting.

We offer an extraordinarily wide range of adapters and spindles so that you can quickly and easily get the results you need. We will gladly provide consultation regarding your individual requirements and applications.

The ISS-U universal ultra-high precision spindle enables incredibly high-precision direct clamping. The ISS-U spindle utilizes the highest clamping forces with runout accuracy < 0.002 mm, all without need for adapters.

Examples of Adapters







We offer solutions for all requirements, from standard tool holders to customer-specific special tool holders. You benefit from our many years of experience in tool design.

SK50 Ultra precision adapter
1: HSK 63 adapter with integrated clamping
2: VDI 40 adapter with manual clamping
3: PSC adapter with integrated manual clamping system

Examples of spindles







Our offer: the Universal clamping system clamps tools precisely and reliably, regardless of the tool holder's geometry. This also applies to the attachment holder (2), which was designed for all common tool holder systems on the market.

Universal clamping system
1: ISS-U universal ultra-high precision spindle
2: Attachment holder (SK, HSK, PSC, VDI)
3: Complete system

TOOL PRESETTING – ACCESSORIES



Adapter with integrated clamping.

Available in taper sizes
HSK ACET 32 / BDF 40 – HSK ACET 100 / BDF 125,
HSK-F80 Makino, PSC 32 – PSC 80, KM 32 – KM 80,
VDI 16 – VDI 60, VDI 25 with Trifix – VDI 50 with Trifix,
BMT 40 – BMT 75

Reduction sleeves from SK50 to SK/BT/CAT/BBT*/PSC/KM/VDI/ANSI adapter with clamping system

For taper size	Height H	Order No.
– HSK ACET 32 / BDF 40	50 mm	M-R1034
– HSK ACET 40 / BDF 50	60 mm	M-R1035
– HSK ACET 50 / BDF 63	70 mm	M-R1036
– HSK ACET 63 / BDF 80	80 mm	M-R1037
– HSK ACET 80 / BDF 100	90 mm	M-R1038
– HSK ACET 100 / BDF 125	110 mm	M-R1039
– HSK-F80 Makino	80 mm	M-R4071
– PSC 32	70 mm	M-R1040
– PSC 40	80 mm	M-R1046
– PSC 50	90 mm	M-R1047
– PSC 63	120 mm	M-R1048
– PSC 80	140 mm	M-R1049
– KM 32	40 mm	M-R3200
– KM 40	40 mm	M-R3210
– KM 50	60 mm	M-R3220
– KM 63	60 mm	M-R3230
– KM 80	80 mm	M-R3240
– VDI 16	70 mm	M-R1027
– VDI 20	70 mm	M-R1028
– VDI 25	70 mm	M-R1029
– VDI 30	80 mm	M-R1030
– VDI 40	80 mm	M-R1031
– VDI 50	110 mm	M-R1032
– VDI 60	115 mm	M-R1033
– VDI 25 with Trifix	70 mm	M-R1200
– VDI 30 with Trifix	80 mm	M-R1210
– VDI 40 with Trifix	80 mm	M-R1220
– VDI 50 with Trifix	110 mm	M-R1230
– BMT 40	95 mm	M-R3100
– BMT 45	95 mm	M-R3104
– BMT 50	95 mm	M-R3107
– BMT 55	95 mm	M-R3103
– BMT 60	95 mm	M-R3101
– BMT 65	95 mm	M-R3105
– BMT 75	95 mm	M-R3106

*BBT is a registered trademark/tradename of Big Daishowa Co. Ltd./Big Daishowa Seiki Co. Ltd.



Adapter with manual clamping.

Available in taper sizes
SK/BT/CAT/ANSI 20 – SK/BT/CAT/ANSI 45,
HSK ACET 25 / BDF 32 – HSK ACET 100 / BDF 125,
PSC 32 – PSC 80, VDI 16 – VDI 60

Reduction sleeves from SK50 to SK/BT/CAT/BBT*/PSC/KM adapter without clamping system

For taper size	Height H	Order No.
– SK/BT/CAT/ANSI 20	45 mm	M-R1004
– SK/BT/CAT/ANSI 25	45 mm	M-R1003
– SK/BT/CAT/ANSI/BBT*30	25 mm	M-R1001
– SK/BT/CAT/ANSI/BBT*40	20 mm	M-R1000
– SK/BT/CAT/ANSI 45	25 mm	M-R1002
– HSK ACET 25 / 32 BDF	50 mm	M-R1070
– HSK ACET 32 / 40 BDF	40 mm	M-R1010
– HSK ACET 40 / 50 BDF	40 mm	M-R1011
– HSK ACET 50 / 63 BDF	40 mm	M-R1012
– HSK ACET 63 / 80 BDF	55 mm	M-R1013
– HSK ACET 80 / 100 BDF	60 mm	M-R1014
– HSK ACET 100 / 125 BDF	90 mm	M-R1015
– PSC 32	30 mm	M-R1063
– PSC 40	30 mm	M-R1064
– PSC 50	30 mm	M-R1065
– PSC 63	30 mm	M-R1066
– PSC 80	70 mm	M-R1067
– VDI 16	60 mm	M-R1020
– VDI 20	60 mm	M-R1021
– VDI 25	40 mm	M-R1022
– VDI 30	40 mm	M-R1023
– VDI 40	40 mm	M-R1024
– VDI 50	50 mm	M-R1025
– VDI 60	130 mm	M-R1026

*BBT is a registered trademark/tradename of Big Daishowa Co. Ltd./Big Daishowa Seiki Co. Ltd.

TECHNICAL DATA

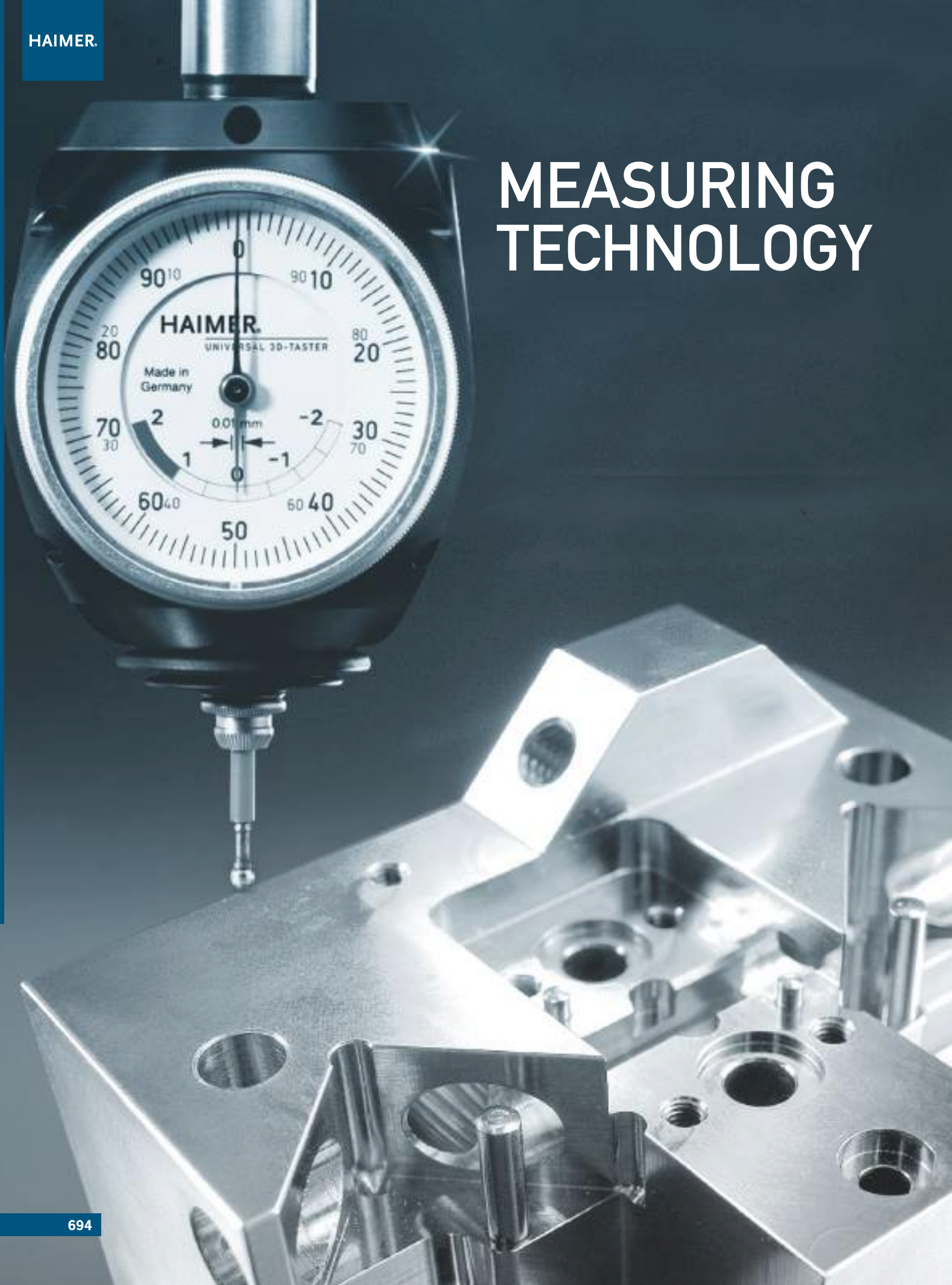
		UNO smart	UNO premium
Measurement range			
Maximum tool diameter	mm	400	400 / (420 optional)
Max. tool diameter for measuring using the snap gauge principle	mm	–	100
Maximum tool length on Z-axis	mm	400 / 700	400 / 700
Maximum tool length shrinking	mm	–	–
Operation			
Manual		•	•
Autofocus		–	–
Fully automatic		–	–
Shrinking		–	–
Base cabinet			
System base cabinet smart including storage for 3 adapters		○	–
System base cabinet premium including storage for 6 adapters		–	○
System VIO[1)] including storage for up to 9 adapters		–	–
Spindle			
SK50 high precision spindle, manual		•	–
SK50 ultra-high precision spindle, manual		–	•
SK50 ultra-high precision spindle, autofocus		–	–
ISS-U universal ultra-high precision spindle, manual		–	○
ISS-U universal ultra-high precision spindle, autofocus		–	–
Automatic adapter recognition		–	–
Mechanical clamping		–	–
Vacuum clamping		–	•
Spindle brake		○	•
4 × 90° and 3 × 120° indexing		○	○
Accuracy			
Spindle runout	µm	3	2
Repeatability	µm	± 5	± 2
Turning center measurement			
Dial gauge with 4 × 90° indexing		○	–
Camera with 4 × 90° indexing		–	○
Miscellaneous			
Inspection light		○	○
Edgefinder		○	○
Magnet board		–	○
7" touchscreen		•	–
22" touchscreen		–	•
24" touchscreen		–	○
27" touchscreen		–	–
Measure-by-touch		–	–
Release-by-touch		○	○
Individual release and clamping of X/Z-axis		–	•
Joystick		–	–
Software			
Image processing		Microvision SMART	Microvision UNO
Zero points		99	1000
Tool storage unit		–	1000
Sigma function		○	•
User management		–	○
Data output			
Label printing		○	○
USB		–	•
LAN/network		–	•
Post-processor		–	○
Bidirectional interface		–	○
Manual RFID system		–	○
Automatic RFID system		–	–
HQR-Connect		–	○
HRFID-Connect		–	○

• Standard ○ Optional – Not available

[1)] System base cabinet VIO linear toolshrink including storage for 3 adapters

	UNO autofocus	UNO automatic drive	VIO basic	VIO *linear*	VIO *linear* toolshrink
	400 / (420 optional)	400 / (420 optional)	420 / 700 / 1000	420 / 700 / 1000	420
	100	100	100	100	100
	400 / 700	400 / 700	500 / 700 / 1000	500 / 700 / 1000	650
	–	–	–	–	650
	•	•	•	•	•
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	2	2	2	2	2
	± 2	± 2	± 2	± 2	± 2
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	○	○	•	•	•
	–	–	–	•	•
	Microvision UNO	Microvision UNO	Microvision VIO	Microvision VIO	Microvision VIO
	1000	1000	1000	1000	1000
	1000	1000	unlimited	unlimited	unlimited
	•	•	•	•	•
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	–	–	○	○	○
	○	○	○	○	○
	○	○	○	○	○

MEASURING TECHNOLOGY



CONTENT

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Coaxial Indicator Centro

Centro 718

Centro with integrated adapter 720

Machine tool calibration set

Machine tool calibration set 722

HAIMER Sensors – Benefits

1.

No math needed

– Zero on the indicator = Zero on the machine control
– The sensor is pre-calibrated to incorporate the probe tip radius offset

2.

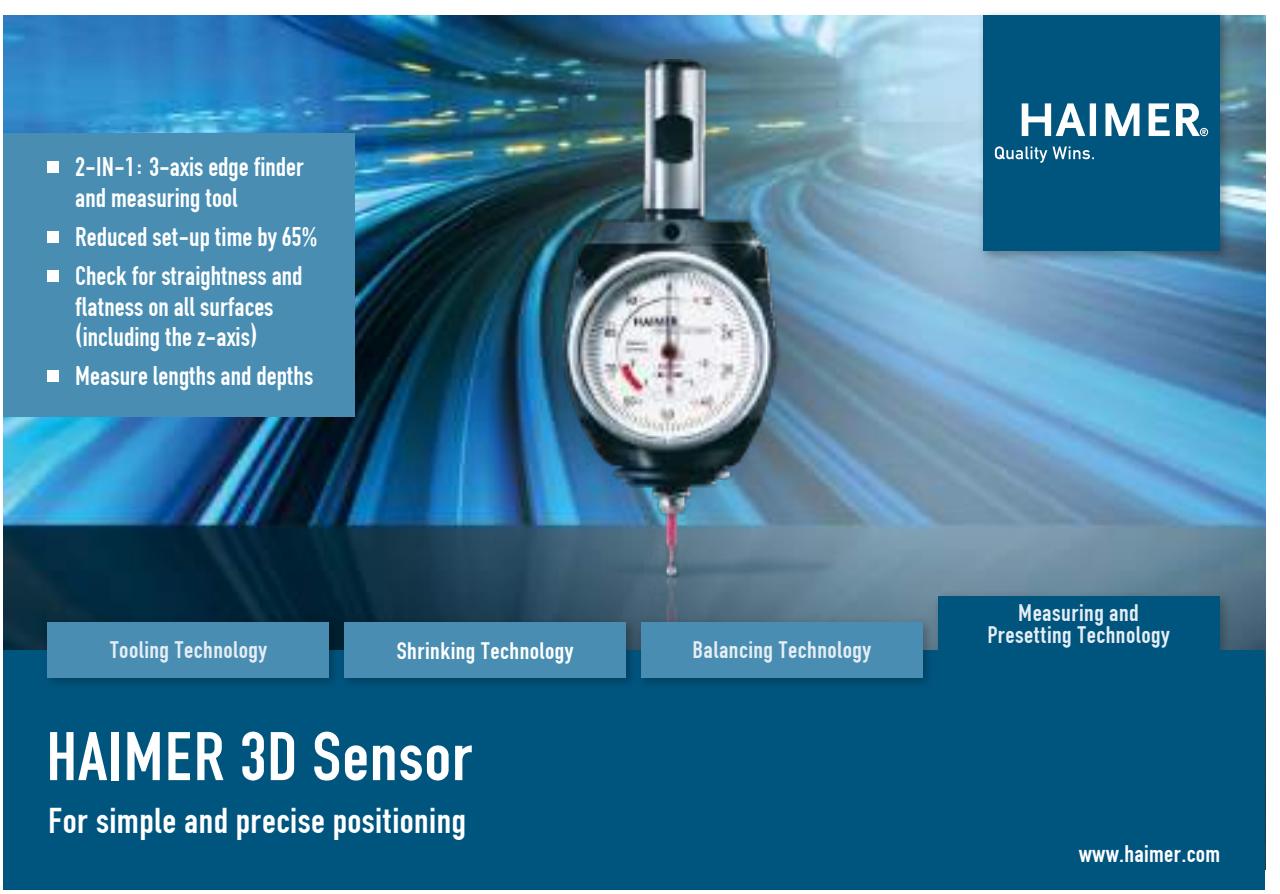
3-Axis edge finder

– Tram in your work piece
– Check surface flatness
– The indicator always faces the operator = No more reaching into the machine

3.

Quickly verify part dimensions

– Part lengths, slot depths, hole diameters and more



Applications

Locating work piece edge in X, Y and Z is easy as 1, 2, 3



Measure your work piece dimensions



Tram in your work piece or fixture to your machine



Measure surface flatness



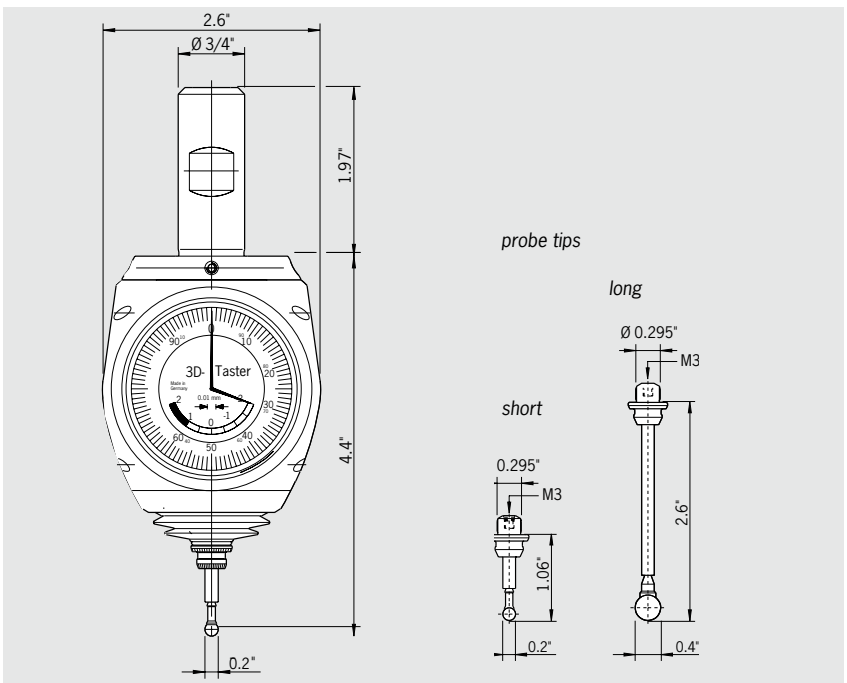
Orientate the machine spindle with the center of a drilled hole or cylindrical O.D.

Universal 3D-Sensor INCH



UNIVERSAL 3D-SENSOR INCH





Universal 3D-Sensor INCH

The Universal 3D-Sensor is a very precise and versatile edge-finding measuring instrument for milling and EDM machines (insulated probe). Made entirely at the HAIMER Germany facility, it is an instrument that no shop can do without.

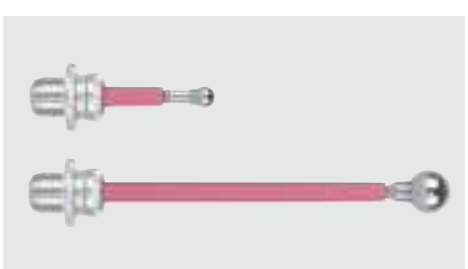
The 3D-Sensor is clamped into a tool holder and inserted into a milling spindle. Once clamped into the machine spindle, the run-out (T.I.R) is fully adjustable to zero. Then, you are able to find exact positioning of the spindle axis on the edges of the work piece. This allows for zeros to be set and the length to be measured quickly and easily. You may approach from any direction (X-, Y-, Z- axis – hence the name "3D-Sensor"). When the dial gauge shows zero, the spindle axis is exactly on the work piece edge.

Only the HAIMER 3D-Sensor allows for the edge to be found on the first try. No calculating of the probe's ball diameter is necessary – just zero it out! Problems with mathematics or calculations are eliminated, allowing for fewer operator errors. Our 3D-Sensor is quick and easy, reducing the extra time needed with most edge-finders, thus increasing the productivity and accuracy of the operator.

Short and long probes are available. The sensor probes can be changed without ever needing a tool. No re-calibration of the unit is needed after changing sensor probes.

Simply bring the needle to Zero, and that is your edge with any probe. The accuracy is such that you are able to inspect your parts right on the machine. Tram vises, find the center of your bore, find your edge and inspect parts - it is all possible with the HAIMER 3D-Sensor. The unit has a large overrun distance as well as fully tested preset probe breaking points, giving the sensor long life. All Universal 3D-Sensors are individually tested and adjusted during assembly in order to achieve maximum measuring precision.

– IP 67 waterproof



Short probe tip Ø 0.2"
Long probe tip Ø 0.4"

Technical details	
Universal 3D-Sensor with clamping shank, diam. 3/4" including short probe tip Ø 0.2"	
Accuracy	0.0004"
Length without clamping shank	4.4"
Order No. 80.360.00.IN	
Accessories	
Short probe tip Ø 0.2"	
Order No. 80.365.20	
Long probe tip Ø 0.4"	
Order No. 80.365.30	

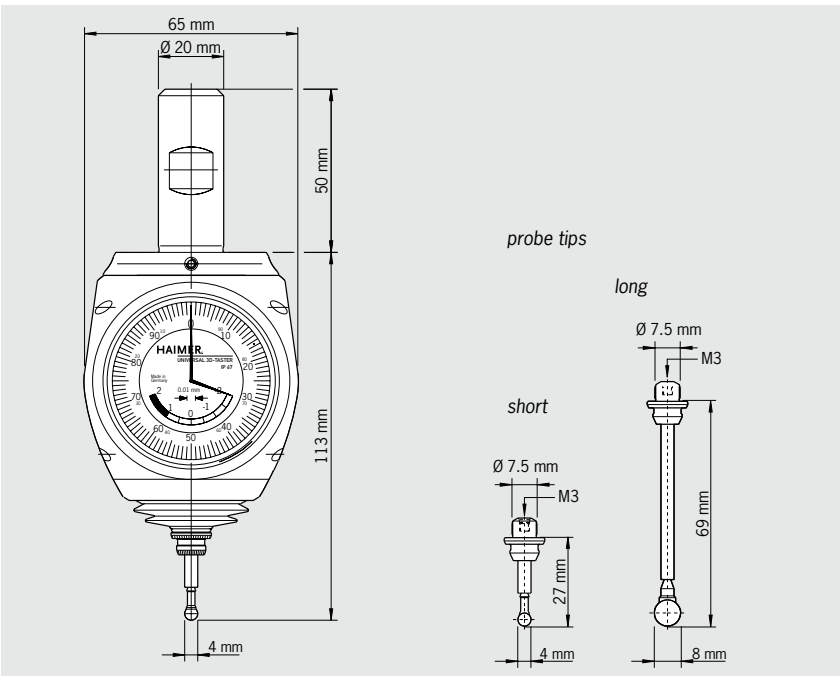
Recommended HAIMER tool holders	Order No.
Short chuck CAT 40	**40.720.32**
Short chuck CAT 50	**50.720.32**
Short chuck HSK-A63	**A63.020.32**
Short chuck HSK-A100	**A10.020.32**
Please order ER collet along with above holders:	
ER32 3/4" collet	**81.320.20**
(additional taper styles please see ER or HG collet chuck section)	

Universal 3D-Sensor METRIC



UNIVERSAL 3D-SENSOR METRIC





Universal 3D-Sensor METRIC

The Universal 3D-Sensor is a very precise and versatile measuring instrument for milling and EDM machines (insulated probe).

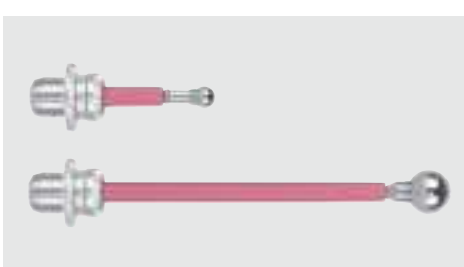
The 3D-Sensor is clamped into a tool holder and inserted into a milling spindle. Once clamped into the machine spindle, the run-out (T.I.R) is fully adjustable to zero. Then, you are able to find exact positioning of the spindle axis on the edges of the work piece. This allows for zeros to be set and the length to be measured quickly and easily. You may approach from any direction (X-, Y-, Z- axis – hence the name "3D-Sensor"). When the dial gauge shows zero, the spindle axis is exactly on the work piece edge.

Only the HAIMER 3D-Sensor allows for the edge to be found on the first try. No calculating of the probe's ball diameter is necessary – just zero it out! Problems with mathematics or calculations are eliminated, allowing for fewer operator errors. Our 3D-Sensor is quick and easy, reducing the extra time needed with most edge-finders, increasing the productivity and accuracy of the operator.

Short and long probes are available. The sensor probes can be changed without ever needing a tool. No re-calibration of the unit is needed after changing sensor probes.

Simply bring the needle to Zero, and that is your edge with any probe. The accuracy is such that you are able to inspect your parts right on the machine. Tram vises, find the center of your bore, find your edge and inspect parts - it is all possible with the HAIMER 3D-Sensor. The unit has a large overrun distance as well as fully tested preset probe breaking points, giving the sensor long life. All Universal 3D-Sensors are individually tested and adjusted during assembly in order to achieve maximum measuring precision.

– IP 67 waterproof



Short probe tip Ø 4 mm
Long probe tip Ø 8 mm

Technical details	
Universal 3D-Sensor with clamping shank Ø 20 mm including short probe tip Ø 4 mm	
Accuracy	0.01 mm
Length without clamping shank	113 mm
Order No. 80.360.00.FHN	

Accessories
Short probe tip Ø 4 mm **Order No. 80.362.00**
Long probe tip Ø 8 mm **Order No. 80.363.00**

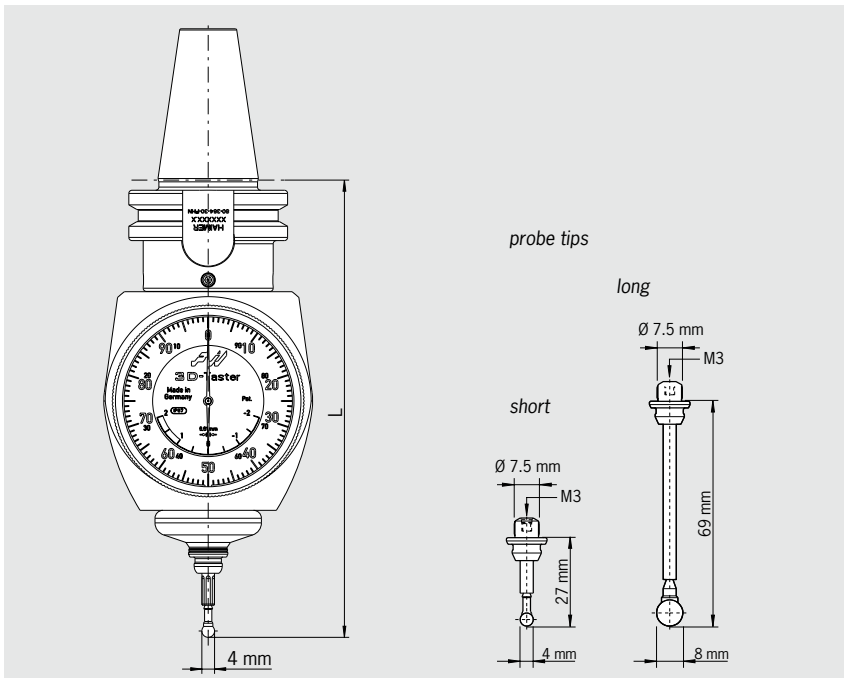
Recommended HAIMER tool holders	
	Order No.
Short chuck SK 40	**40.305.20**
Short chuck SK 50	**50.300.20**
Short chuck BT 40	**40.500.20**
Short chuck BT 50	**50.500.20**
Short chuck HSK-A 50	**A50.000.20**
Short chuck HSK-E 50	**E50.000.20**
Short chuck HSK-A 63	**A63.000.20**
Short chuck HSK-A 80	**A80.000.20**
Short chuck HSK-A 100	**A10.000.20**

Universal 3D-Sensor with integrated adapter



UNIVERSAL 3D-SENSOR WITH INTEGRATED ADAPTER





Universal 3D-Sensor with integrated adapter

The integrated taper (ASME B5.50, CAT40, DIN 69871, SK40 or JIS B6339, BT40) guarantees the easiest handling and maximum comfort.

The Universal 3D-Sensor is a very precise and versatile measuring instrument for milling and EDM machines (insulated probe). The 3D-Sensor is clamped into a tool holder and inserted into a milling spindle. Once clamped into the machine spindle, the run-out (T.I.R) is fully adjustable to zero. Then, you are able to find exact positioning of the spindle axis on the edges of the work piece. This allows for zeros to be set and the length to be measured quickly and easily. You may approach from any direction (X-, Y-, Z- axis – hence the name "3D-Sensor"). When the dial gauge shows zero, the spindle axis is exactly on the work piece edge.

Only the HAIMER 3D-Sensor allows for the edge to be found on the first try.

No calculating of the probe's ball diameter is necessary – just zero it out! Problems with mathematics or calculations are eliminated, allowing for fewer operator errors.

Our 3D-Sensor is quick and easy, reducing the extra time needed with most edge-finders, increasing the productivity and accuracy of the operator.

Short and long probes are available. The sensor probes can be changed without ever needing a tool. No re-calibration of the unit is needed.

For safety, the unit has a large overrun distance as well as fully tested preset probe breaking points, giving the sensor a longer life. Universal 3D-Sensors are individually tested and adjusted when being assembled in order to achieve maximum measuring precision.

– IP 67 waterproof

Technical details

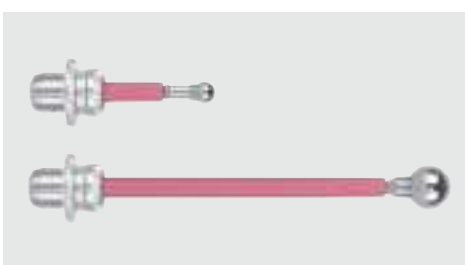
Universal 3D-Sensor with integrated adapter including short probe tip Ø 4 mm

Accuracy	0.01 mm	
Length without clamping shank	113 mm	
Article	**Order No.**	**L [mm]**
With integrated adapter SK 30	**80.364.30.FHN**	**144.0**
With integrated adapter SK 40	**80.364.40.FHN**	**143.9**
With integrated adapter BT 30	**80.365.30.FHN**	**143.5**
With integrated adapter BT 40	**80.365.40.FHN**	**143.9**
With integrated adapter CAT 40	**80.367.40.FHN**	**144.0**

Accessories

Short probe tip Ø 4 mm
Order No. 80.362.00

Long probe tip Ø 8 mm
Order No. 80.363.00



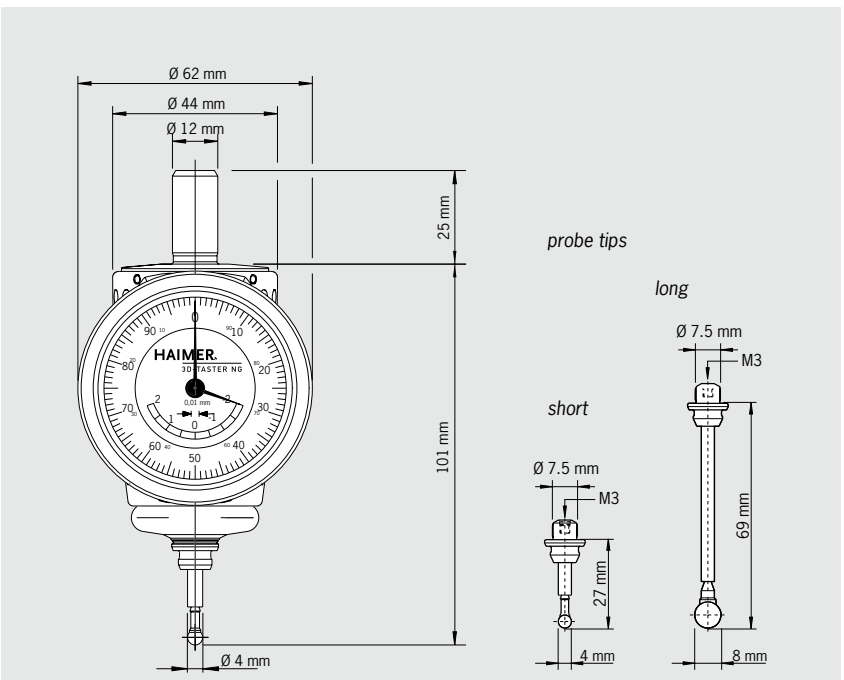
Short probe tip Ø 4 mm
Long probe tip Ø 8 mm

3D-Sensor New Generation



3D-SENSOR NEW GENERATION METRIC





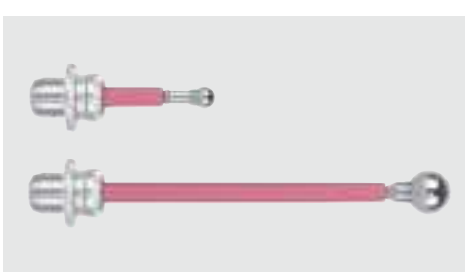
3D-Sensor New Generation

The 3D-Sensor NG is a further development of our globally accepted and proven Universal 3D-Sensors. Its distinguishing features include improved mechanics and a new, compact design.

Advantages:
– Compact and easy to grip casing will not restrict working area
– Precise display of spindle position with large 1/100 mm dial gauge (2 hands)
– Utmost precision of 0.01 mm (when using original HAIMER probe tips)
– Overrun distance indicated on display (safety distance)
– IP 67 waterproof

Functions:
– Aligns machine spindle to work piece and reference edges (x-, y-, z-axis)
– Sets zeros
– Centers bores and shafts
– Measures lengths and depths
– Checks straightness and levelness of surfaces
– Aligns work pieces and vices
– Quick, without calculations, eliminating mathematical errors

Technical details	
3D-Sensor NG with clamping shank Ø 12 mm including short probe tip Ø 4 mm	
Accuracy	0.01 mm
Length without clamping shank	100 mm
Order No. 80.360.00NG	
Accessories	
Short Probe tip Ø 4 mm **Order No. 80.362.00**	
Long Probe tip Ø 8 mm **Order No. 80.363.00**	



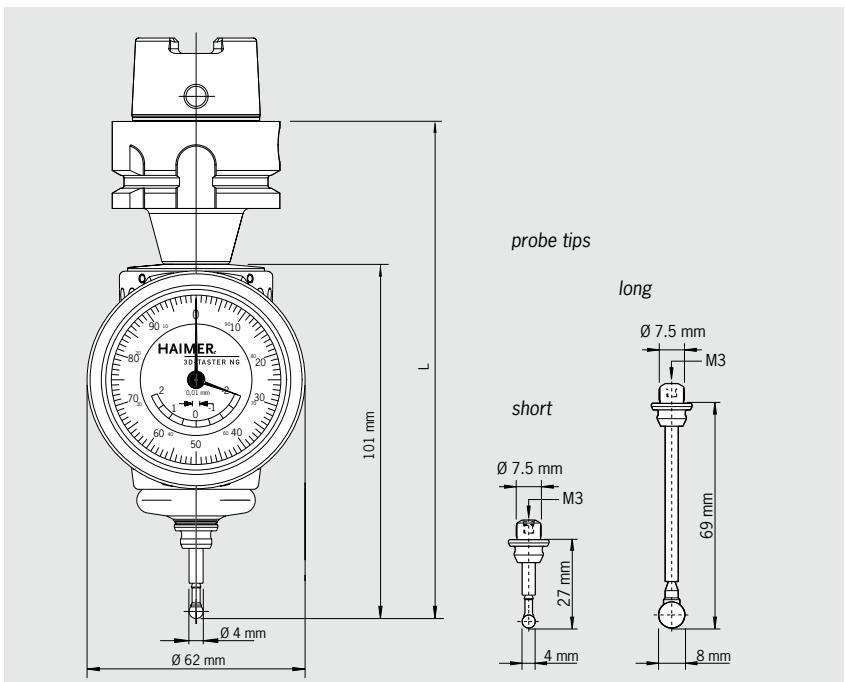
Short probe tip Ø 4 mm
Long probe tip Ø 8 mm

3D-Sensor NG
with integrated short adapter



3D-SENSOR NG WITH INTEGRATED SHORT ADAPTER





For interfaces SK30, BT30, HSK-25/32/40/50/63

Easily measures the work piece while taking up less space.

Version:
- With integrated short adapter available in taper sizes SK30, BT30, HSK-A32/40/50/63, HSK-E25/32/40/50
- Manual runout adjustment no longer necessary! Preset runout accuracy at the probe tip of 0.01 mm
- Measuring accuracy: 0.01 mm
- Short and long probe tips available
- No re-calibration of the sensor is needed
- Increased overrun distance
- IP 67 waterproof

Application:
- For small milling and EDM machines (insulated probe)
- For work piece reset and length measuring
- Approach from any direction (X-, Y-, Z-axis)

Technical details

3D-Sensor NG with integrated short adapter including short probe tip Ø 4 mm

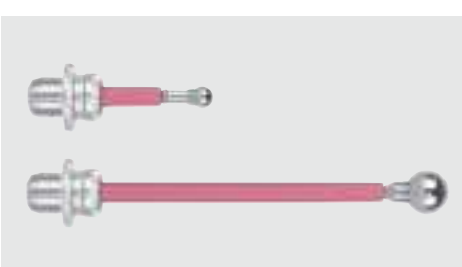
Accuracy 0.01 mm

Article	Order No.	L [mm]
3D-Sensor NG with short adapter HSK-E25	80.363.E25NG	126.5
3D-Sensor NG with short adapter HSK-E32	80.363.E32NG	136.5
3D-Sensor NG with short adapter HSK-E40	80.363.E40NG	136.5
3D-Sensor NG with short adapter HSK-E50	80.363.E50NG	143.5
3D-Sensor NG with short adapter HSK-A32	80.363.A32NG	136.5
3D-Sensor NG with short adapter HSK-A40	80.363.A40NG	136.5
3D-Sensor NG with short adapter HSK-A50	80.363.A50NG	143.5
3D-Sensor NG with short adapter HSK-A63	80.363.A63NG	147.0
3D-Sensor NG with short adapter SK30	80.364.30NG	136.1
3D-Sensor NG with short adapter BT30	80.365.30NG	135.5

Accessories

Short Probe tip Ø 4 mm
Order No. 80.362.00

Long Probe tip Ø 8 mm
Order No. 80.363.00



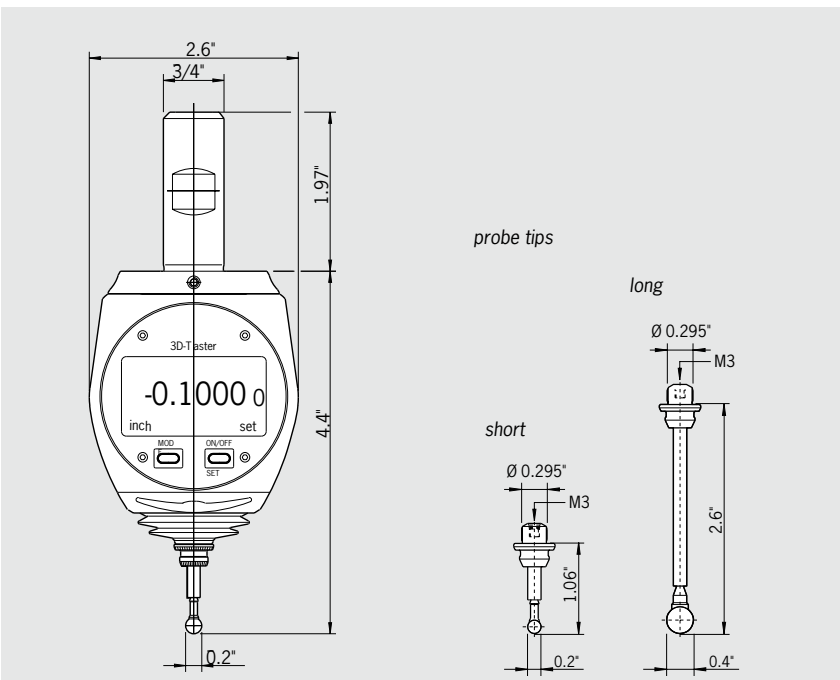
Short probe tip Ø 4 mm
Long probe tip Ø 8 mm

3D-Sensor Digital



3D-SENSOR DIGITAL INCH





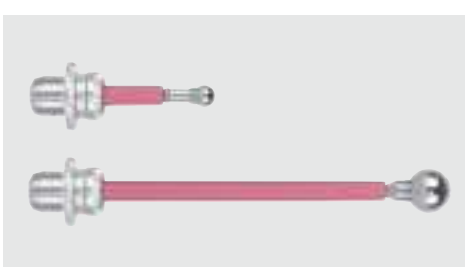
Digital 3D-Sensor

Highly accurate – safe handling

The Digital 3D-Sensor is a further development of the time proven Mechanical 3D-Sensor. It serves for setting work piece edges on milling and EDM machines. The spindle may be positioned quickly and safely on the reference edge. The setting operation can be precisely monitored on the digital display and the zero position is found on the first try. The machine coordinate system can be set without any calculations because the spindle axis is positioned exactly on the approached edge.

The digital display has large, easy-to-read numbers with measurements in increments of 0.0002". It can be easily read from a long distance (i.e. when mounted on a large machining center).

The digital display is splash-proof and dust-proof (IP64) and can be stored in the tool magazine of the machine.



Short probe tip Ø 0.2"
Long probe tip Ø 0.4"

Technical details	
3D-Sensor Digital with clamping shank, diam. 3/4" including short probe tip Ø 0.2"	
Smallest unit of measure	0.00005"
Repeatability	0.00005"
Measuring accuracy	0.0002"
Display	
Display mode	May be switched to inch or metric
Display size	1.8" x 0.9"
Height of numbers	0.3"
Service life of battery (continuous operation) approx.	3000 hrs
Order No. 80.460.00.IN	
Accessories	
Short probe tip Length 1" – ball tip Ø 0.2" **Order No. 80.365.20**	
Long probe tip Length 2.6" – ball tip Ø 0.4" **Order No. 80.365.30**	

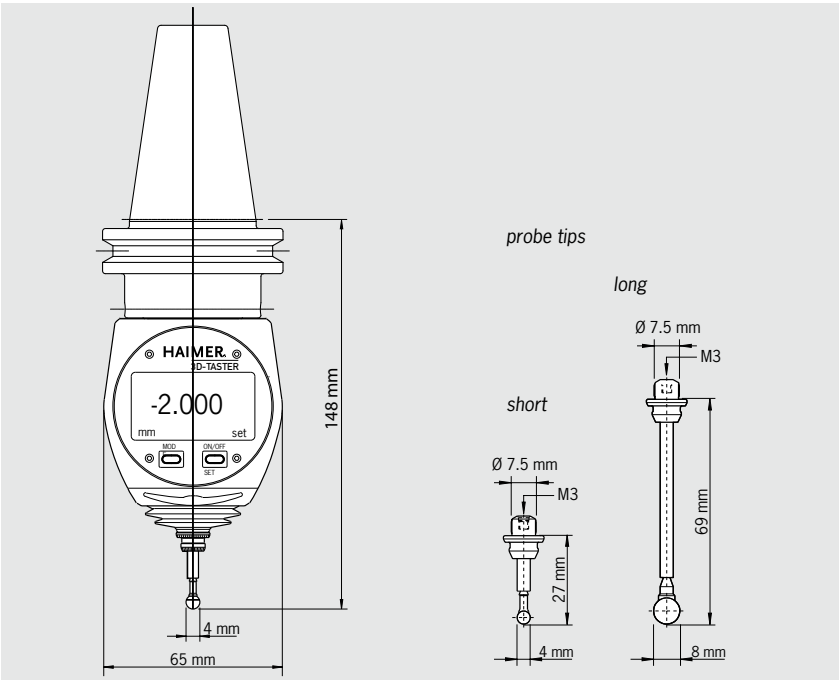
Recommended HAIMER tool holders	Order No.
Short chuck CAT 40	**40.720.32**
Short chuck CAT 50	**50.720.32**
Short chuck HSK-A63	**A63.020.32**
Short chuck HSK-A100	**A10.020.32**
Please order ER collet along with above holders:	
ER 32 - 3/4" collet (additional taper styles please see ER or HG collet chuck section)	**81.320.20**

Digital 3D-Sensor with integrated adapter



3D-SENSOR DIGITAL WITH INTEGRATED ADAPTER METRIC





Digital 3D-Sensor with integrated adapter

The integrated taper (DIN 69871, SK40 or JIS B6339, BT40) guarantees the easiest handling and a maximum comfort.

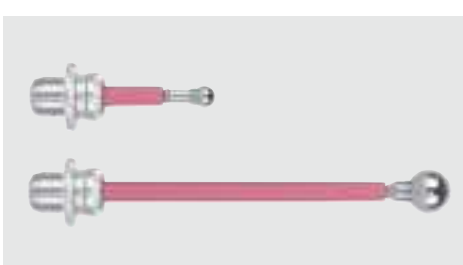
Highly accurate – safe handling

The Digital 3D-Sensor is a further development of the time proven mechanical 3D-Sensor. It serves for setting work piece edges on milling and EDM machines. The spindle may be positioned quickly and safely on the reference edges and the setting operation can be precisely monitored on the digital display. The zero points can be set without any calculations because the spindle axis is positioned exactly on the approached edge.

Especially practical

The digital display has large easy-to-read numbers that measure in increments of 0.001 mm. It can be easily read from a long distance (i.e. when mounted on a large machining center). The digital display is water- and dust-proof (IP 64) and can be stored in the tool magazine of the machine.

Technical details	
3D-Sensor Digital with integrated adapter incl. short probe tip Ø 4 mm	
Smallest unit of measure	0.001 mm
Repeatability	0.005 mm
Measuring accuracy	0.005 mm
Display	
Display mode	May be switched to inch or metric
Display size	45x23 mm
Height of numbers	8.5 mm
Service life of battery (continuous operation) approx.	3000 hrs
With integrated adapter SK 40	
Order No. 80.464.40.FHN	
With integrated adapter BT 40	
Order No. 80.465.40.FHN	
Accessories	
Short probe tip Ø 4 mm	
Order No. 80.362.00	
Long probe tip Ø 8 mm	
Order No. 80.363.00	



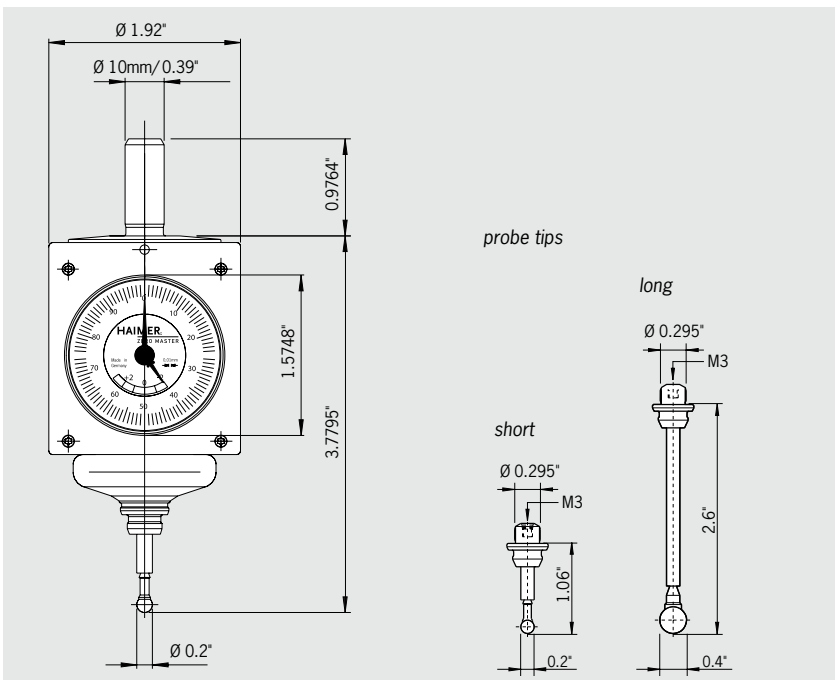
Short probe tip Ø 4 mm
Long probe tip Ø 8 mm

Zero Master –
Universal Mini 3D-Sensor
INCH



ZERO MASTER – UNIVERSAL MINI 3D-SENSOR INCH





Zero Master INCH

Small but powerful
The Zero Master is the smallest 3D-Sensor worldwide. Usage, function and accuracy are equal to the Universal 3D-Sensor. The size of the Zero Master is adapted to small machines. The diameter of the clamping shank is 10 mm/ 0.3937 inch.
Accordingly, it can be also used on machines with ISO 30 or small HSK spindles.
The housing is shortened and does not protrude far from the spindle so even large work pieces can be measured. The Zero Master can be read on its small analog dial gauge.

The Zero Master can be equipped with a short (ball diam. 0.2 inch) and a long (ball diam. 0.4 inch) probe tip. Naturally, the probe tips are compatible with all other HAIMER 3D-Sensors.

Please take note:
The given measuring precision of 0.0004" only applies if the original HAIMER probe tips are used.

– IP67 waterproof

Technical details	
Zero Master with clamping shank Ø 0.39" including short probe tip Ø 0.2"	
Accuracy	0.0004"
Length without clamping shank	3.7795"
Order No. 80.960.00.IN	
Accessories	
Short probe tip length 1" – ball tip Ø 0.2" **Order No. 80.365.20**	
Long probe tip length 2.6" – ball tip Ø 0.4" **Order No. 80.365.30**	



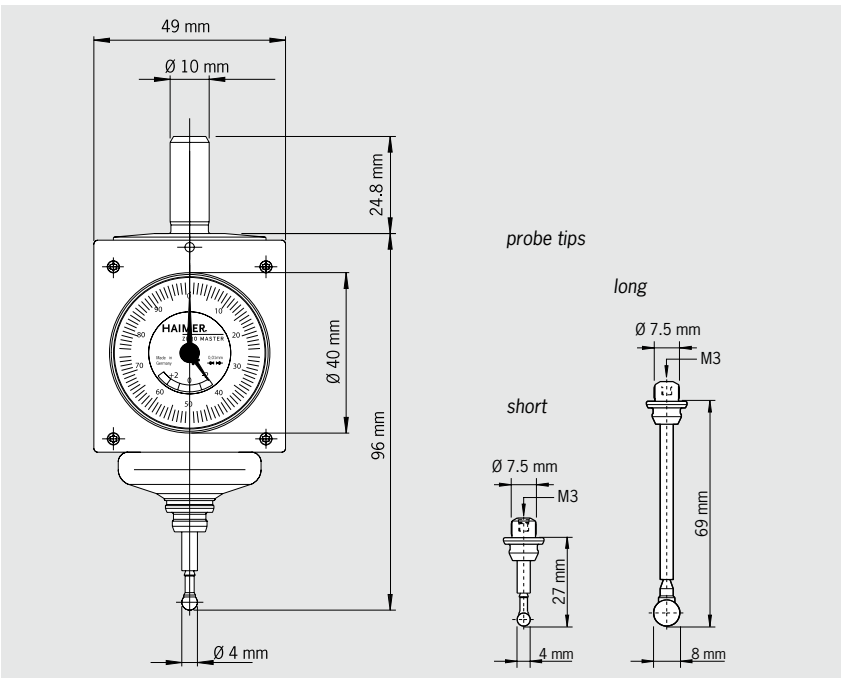
Short probe tip Ø 0.2"
Long probe tip Ø 0.4"

Zero Master –
Universal Mini 3D-Sensor
METRIC



ZERO MASTER – UNIVERSAL MINI 3D-SENSOR METRIC





Zero Master METRIC

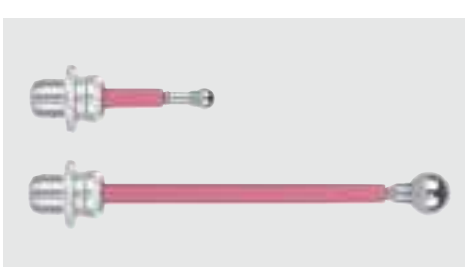
Small but powerful
The Zero Master is the smallest 3D-Sensor worldwide. Usage, function and accuracy are equal to the Universal 3D-Sensor. The size of the Zero Master is adapted to small machines. The diameter of the clamping shank is 10 mm. Accordingly, it can be also used on machines with ISO 30 or small HSK spindles.
The housing is shortened and does not protrude far from the spindle so even large work pieces can be measured. The Zero Master can be read on its small analog dial gauge.

The Zero Master can be equipped with a short (ball diam. 4 mm) and a long (ball diam. 8 mm) probe tip. Naturally, the probe tips are compatible with all other HAIMER 3D-Sensors.

Please take note:
The given measuring precision of 0.01 mm only applies if the original HAIMER probe tips are used.

– IP67 waterproof

Technical details	
Zero Master with clamping shank Ø 10 mm including short probe tip Ø 4 mm	
Accuracy	0.01 mm
Length without clamping shank	96 mm
Order No. 80.960.00	
Accessories	
Short probe tip Ø 4 mm **Order No. 80.362.00**	
Long probe tip Ø 8 mm **Order No. 80.363.00**	



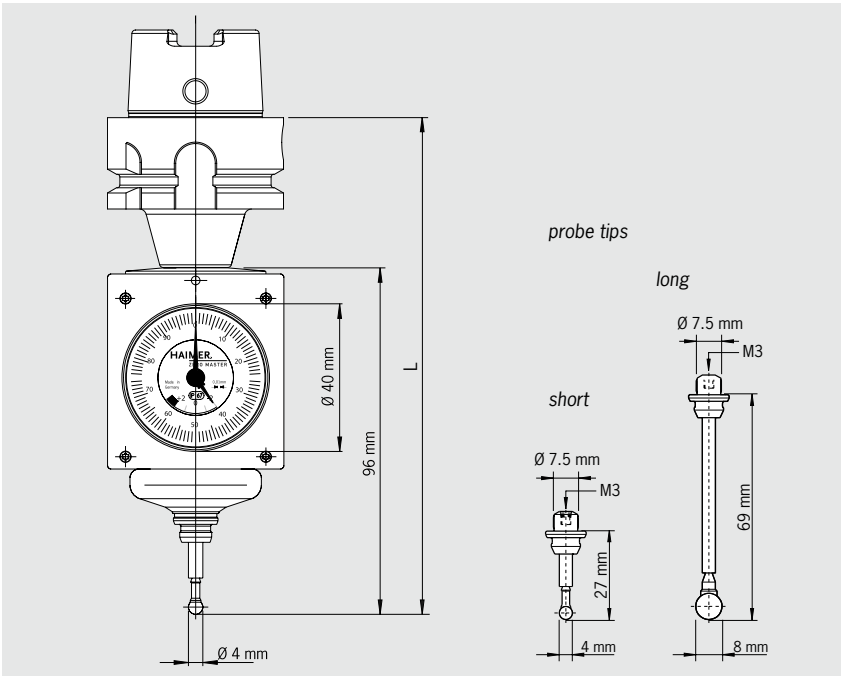
Short probe tip Ø 4 mm
Long probe tip Ø 8 mm

Zero Master – Universal Mini 3D-Sensor with integrated short adapter METRIC



ZERO MASTER – UNIVERSAL MINI 3D-SENSOR WITH INTEGRATED SHORT ADAPTER





For interfaces SK30, BT30, HSK-25/32/40/50/63

Easily measures the work piece while taking up less space.

Version:

– With integrated short adapter available in taper sizes SK30, BT30, HSK-A32/40/50/63, HSK-E25/32/40/50
– Manual runout adjustment no longer necessary! Preset runout accuracy at the probe tip of 0.01 mm
– Measuring accuracy: 0.01 mm
– Short and long probe tips available
– No re-calibration of the sensor is needed
– Increased overrun distance with preset probe tip breaking points to ensure a long life of the sensor
– IP 67 waterproof

Application:

– For small milling and EDM machines (insulated probe)
– For work piece reset and length measuring
– Approach from any direction (X-, Y-, Z-axis)

Technical details

Zero Master with integrated short adapter including short probe tip Ø 4 mm

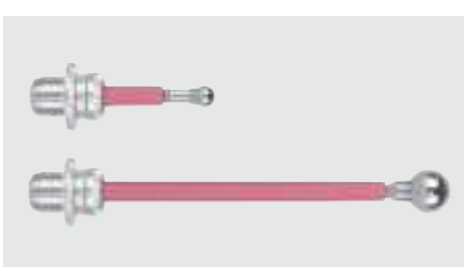
Accuracy 0.01 mm

Article	Order No.	L [mm]
3D-Sensor Zero Master with short adapter HSK-E25	80.963.E25	121.6
3D-Sensor Zero Master with short adapter HSK-E32	80.963.E32	131.6
3D-Sensor Zero Master with short adapter HSK-E40	80.963.E40	131.6
3D-Sensor Zero Master with short adapter HSK-E50	80.963.E50	138.6
3D-Sensor Zero Master with short adapter HSK-A32	80.963.A32	131.6
3D-Sensor Zero Master with short adapter HSK-A40	80.963.A40	131.6
3D-Sensor Zero Master with short adapter HSK-A50	80.963.A50	138.6
3D-Sensor Zero Master with short adapter HSK-A63	80.963.A63	142.1
3D-Sensor Zero Master with short adapter SK30	80.964.30	131.2
3D-Sensor Zero Master with short adapter BT30	80.965.30	130.7

Accessories

Short probe tip Ø 4 mm
Order No. 80.362.00

Long probe tip Ø 8 mm
Order No. 80.363.00



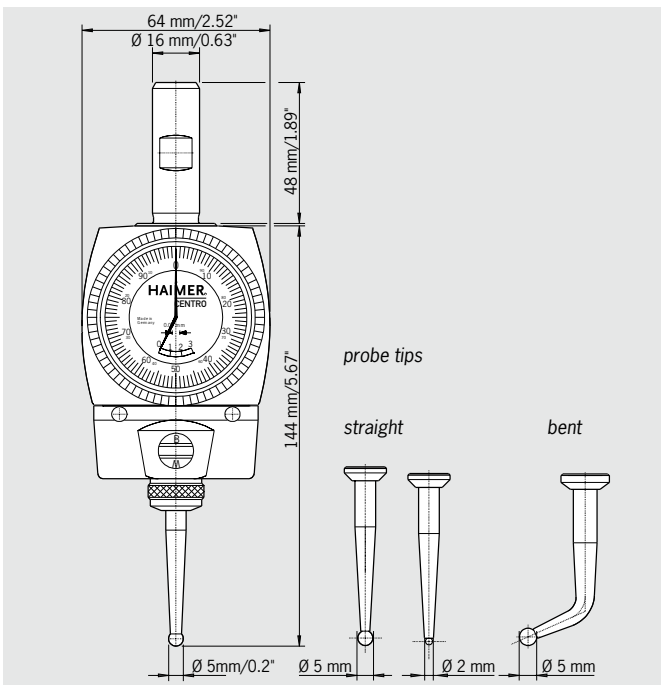
Short probe tip Ø 4 mm
Long probe tip Ø 8 mm

Coaxial Indicator Centro



CENTRO
THE MOST ROBUST COAXIAL INDICATOR AVAILABLE ON THE MARKET





CENTRO quickly locates the centers of bores and shafts.

Center bores and arbors quickly and precisely
The Centro is clamped in a tool holder and positioned close to the desired bore or shaft. Once the probe tip is adjusted, it slides around the circumference of the bore or shaft.

Dial gauge always in field of vision
The Centro rotates along the bore or shaft at 150 rpm.
Its movement is transferred to the dial gauge. By using an antenna the Centro remains stationary and always stays in your field of vision.

By using the Centro you find the center of bores or shafts – reliably
As long as the spindle is out of center of the bore or shaft, the hands of the dial gauge stay in movement. By changing the position of x- and y- axis of the machine you can align the z-axis of the spindle and center of the bore or shaft of the work piece.

Further advantages:
– Check the run-out of the work piece to the spindle
– Runout errors of the spindle and tool holder are canceled out
>> No adjustment necessary
– Even from longer distances, the large size of the dial gauge is easy to see
– Replaceable probes
– Excellent for aligning a turret on a lathe with the machine spindle
– Perfect for use in horizontal machining centers (no droop)



probe tip: straight Ø 0.2" Ø 0.08" bent Ø 0.2"

Technical details	
Centro with straight probe tip, Ø 5 mm/0.2", clamping shank Ø 16 mm/0.63"	
Centering accuracy	0.003 mm/0.0001"
Max. rotation speed	150 rpm
Measuring range interior diameter (drill hole)	3-125 mm/0.1"-5"
Measuring range exterior diameter (shaft, with probe tip bent)	0-125 mm/0-5"
Order No. 80.300.00.FHN	

Accessories
Probe tip straight with diameter of ball 5 mm/0.2" **Order No. 80.301.00**
Probe tip bent with diameter of ball 5 mm/0.2" **Order No. 80.302.00**
Probe tip straight with diameter of ball 2 mm/0.08", for small bores **Order No. 80.303.00**

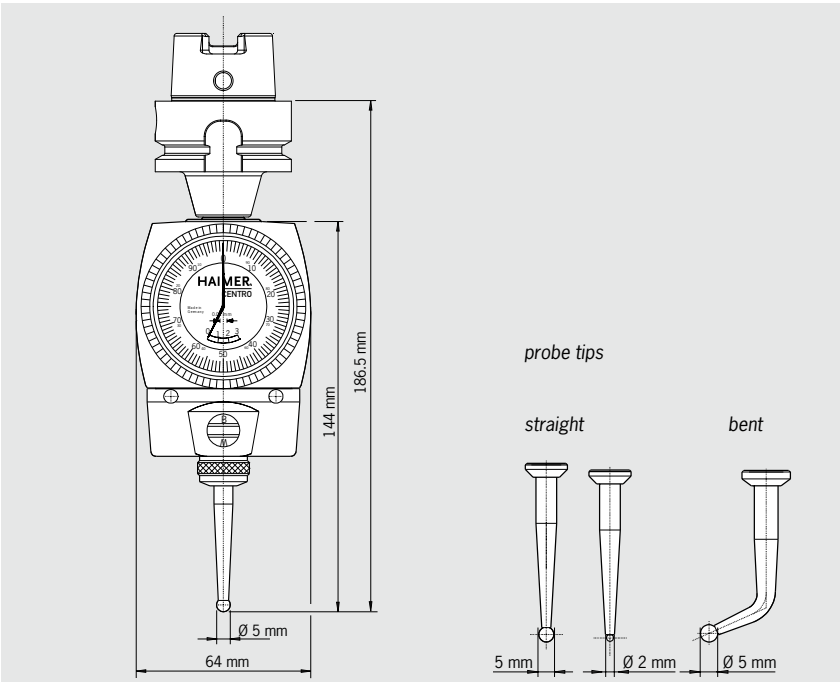
Recommended HAIMER tool holders	
for Centro	**Order No.**
CAT 40	**40.720.25**
CAT 50	**50.720.25**
Please order ER collet along with above holders:	
ER 25 - 16 mm collet	**81.250.16**
BT 40	**40.500.16**
BT 50	**50.500.16**
SK 40	**40.300.16**
SK 50	**50.300.16**
HSK-A 40	**A40.000.16**
HSK-E 40	**E40.000.16**
HSK-A 50	**A50.000.16**
HSK-E 50	**E50.000.16**
HSK-A 63	**A63.000.16**
HSK-A 100	**A10.000.16**

Centro with integrated short adapter



CENTRO WITH INTEGRATED ADAPTER HSK-A50





Centro with integrated adapter

The integrated adapter guarantees easiest handling and a maximum comfort.

Center bores and arbors quick and precise
The Centro is clamped in a tool holder and positioned close the sought axis. The probe tip is adjusted and touches the bore or arbor all the way around.

Dial gauge always in field of vision
With low rpm the probe slides along the bore or arbor.
Its movement is transferred to the dial gauge. By using an antenna the Centro does not spin around and stays in field of vision.

By using the Centro you find the axis of bores or arbors – reliably
As long as the spindle is out of the center of the bore or arbor the hands of the dial gauge stay in movement. By changing the position of x- and y- axis at the machine you can jibe the axis of the spindle and the work piece.

Further advantages:
– Check the run-out of the work piece to the spindle
– Runout errors of the spindle and tool holder are canceled out
  >> No adjustment necessary
– Even from longer distances, the large size of the dial gauge is easy to see
– Replaceable probes
– Excellent for aligning a turret on a lathe with the machine spindle
– Perfect for use in horizontal machining centers (no droop)

Technical details	
Centro with integrated adapter HSK-A50 and straight probe tip Ø 5 mm	
Centering accuracy	0.003 mm
Max. rotation speed	150 rpm
Measuring range interior diameter (drill hole)	3–125 mm
Measuring range exterior diameter (shaft, with probe tip bent)	0–125 mm
Order No. 80.303.A50	

Accessories
Probe tip straight with diameter of ball 5 mm **Order No. 80.301.00**
Probe tip bent with diameter of ball 5 mm **Order No. 80.302.00**
Probe tip straight with diameter of ball 2 mm, for small bores **Order No. 80.303.00**



Machine tool calibration set



MACHINE TOOL CALIBRATION SET



- Stable, dust and water proof plastic-case provides perfect protection of your measuring equipment
- Two high quality, precise and universal HAIMER sensors incl. accessories
- Adapter for versatile use of the HAIMER sensors in all types of metal cutting machines
- Several gauge blocks for checking and calibrating your measuring equipment and for individual measurements
- Two high quality dial indicators with corresponding gauge stand

Fast and easy installation and inspection of your machine tool

- Highly accurate alignment of lathe and milling machines to secure your quality level
- Quick and very precise positioning of your axis and work pieces to check the machine accuracy
- Faster and more precise installation of axis and spindles of your machine tool to reduce scrap and avoid unnecessarily high tool costs
- Simple and reliable inspection of the machine geometry for consistent machining results

Included in delivery:

– HAIMER Universal 3D-Sensor
– Short probe tip Ø4 mm, long probe tip Ø8 mm
– HAIMER Centro
– Straight probe tip, Ø5 mm
– Bent probe tip, Ø5 mm
– Straight probe tip, Ø2 mm
– Centro fixture and ajustment help
– Test bolt, Ø16x93 mm
– KÄFER dial indicator M2TopS:
Measuring range 10 mm, collision protection, robust metal housing, rotation counter
– Lever gauge, TESA Swisstast, length probe arm 12.5 mm with ruby ball
– Dial indicator tripod, DK fixturing systems
Radius of action 345 mm, magnetic holding power 900 N, clamping shaft Ø 8 mm, h 6
– Gauge block, 50 x 35 x 9 mm
– Case:
Black plastic-case, dust- and water proof according to IP67, collision protection
external dimension: 464x366x176 mm, internal dimension: 426x290x159 mm
– Black foam inlay with 18 recesses

Machine tool calibration set
Order No. 80.370.00



TOOL MANAGEMENT

CONTENT

Tool Management

Overview 726

Modules and Cabinets

Corner Module 729

Workbench Assembly Module 730

Magazine Cabinet 732

Shelf Module 733

Vertical Cabinet Universal 734

Vertical Cabinet Tool Holder 735

Vertical Cabinet Tool Holder – Shelves 737

Assembly Station and Accessories

Assembly Station 738

Accessories for Assembly Station 739

Connection Parts 740

Tool Holder Cart and Accessories

Tool Holder Cart 741

Shelves 744

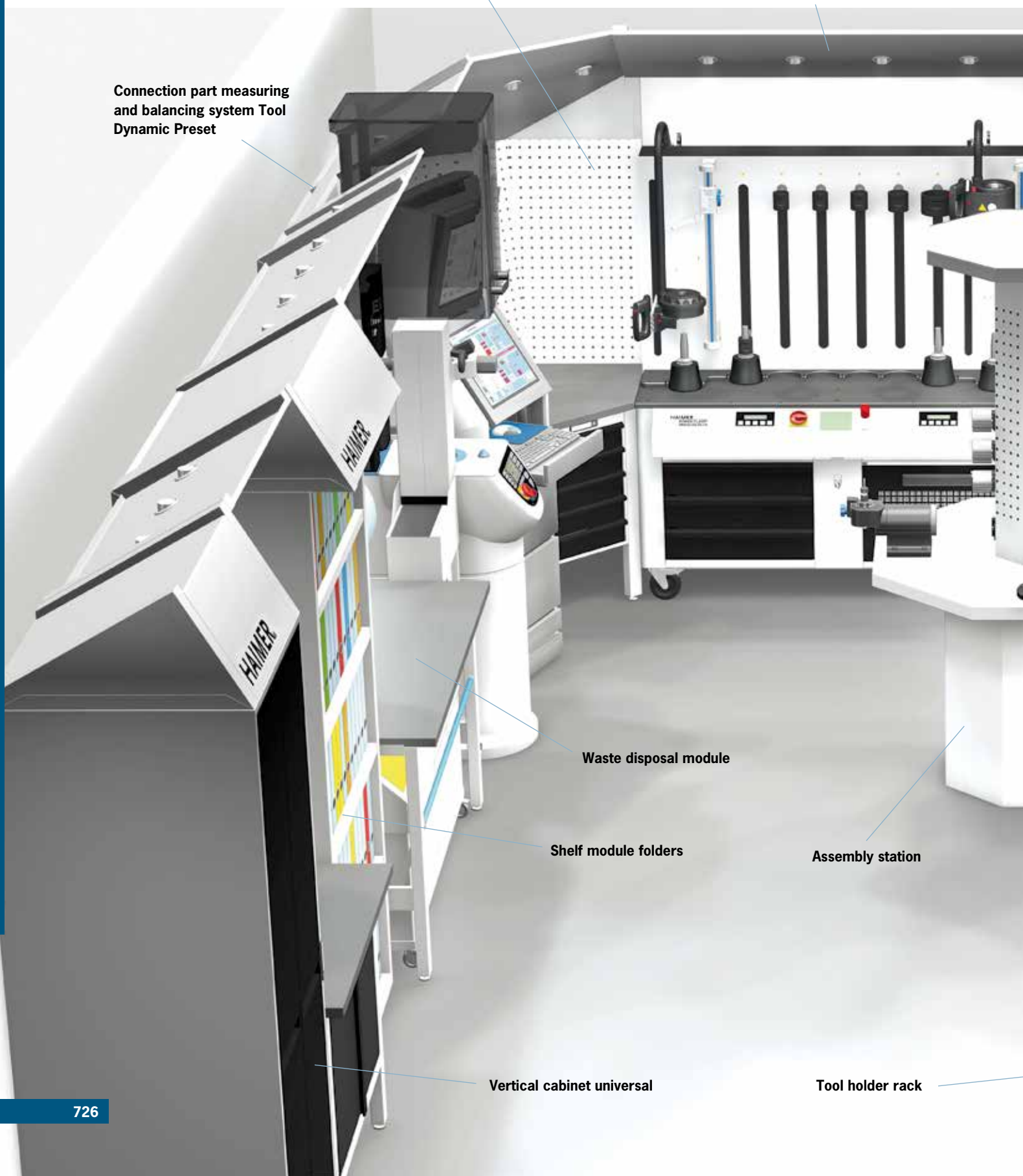
Further Accessories for Tool Holder Cart 745

Perforated Plate

Holder Racks for Perforated Plate 746

Accessories 747

HAIMER TOOL MANAGEMENT LOGISTICS SYSTEM – OVERVIEW




Workbench assembly module
Corner module with rear wall for storing collets and tools
Workbench info module
Shelf module parts
Magazine cabinet
Vertical cabinet tool holders

TOOL MANAGEMENT – FOR EFFICIENT WORKING



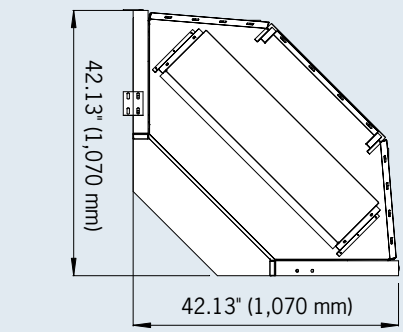
Use:
The HAIMER Tool Management completes the HAIMER product program as a system partner around your machine tool. That means HAIMER offers the complete Tool Management equipment from a single source. As a complete solution for tool presetting and tool management, the HAIMER Tool Management provides you with functional and ergonomic criteria for the design of work stations.
The storage, setup and management of tools is simplified and optimized by the HAIMER solutions so that efficient working is guaranteed.

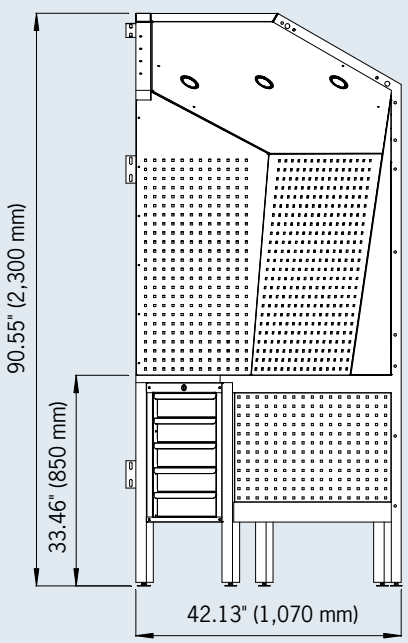
– Modular room design according to the customer's requirements
– Shrinking, balancing and presetting already integrated into the concept
– Tidy and isolated solution for concentrated working

CORNER MODULE

Corner module with perforated wall







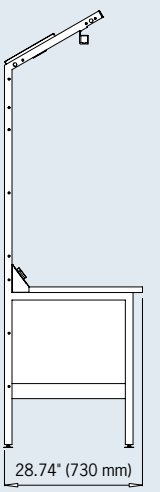
Use:
The perforated back wall and drawer unit provide a clean and structured workspace. The three integrated LED spot lights ensure a continually bright and comfortable working atmosphere.

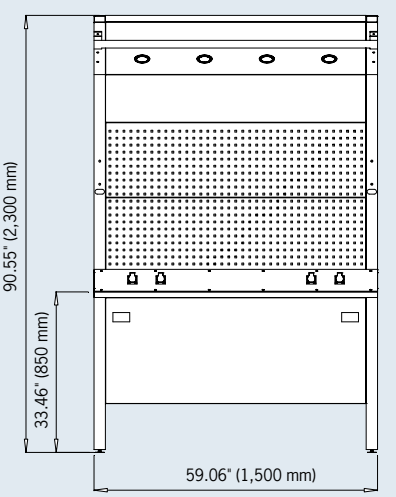
Delivery includes:
– Corner module with a perforated wall, roof with LED lighting, drawer unit

Description	Order No.
Corner module 4.0	**84.802.00.3**

WORKBENCH ASSEMBLY MODULE







Picture shows: Assembly module with special configuration, Order No. 84.801.03.3

Use:
– Freely configurable workbench
– Individual delivery by using a predefined modular system

Delivery includes:
– Standard equipment includes perforated back wall, 4 LED spot lights and 4 x 230 V power outlets*

Description	Order No.
Workbench assembly module	**84.801.00.3**

** Modification to North American power outlets is possible*

WORKBENCH ASSEMBLY MODULE – CONFIGURATIONS



Picture shows: Assembly module with screen holder, waste disposal module and paper dispenser



Paper dispenser



Waste disposal module



Drawer cupboard

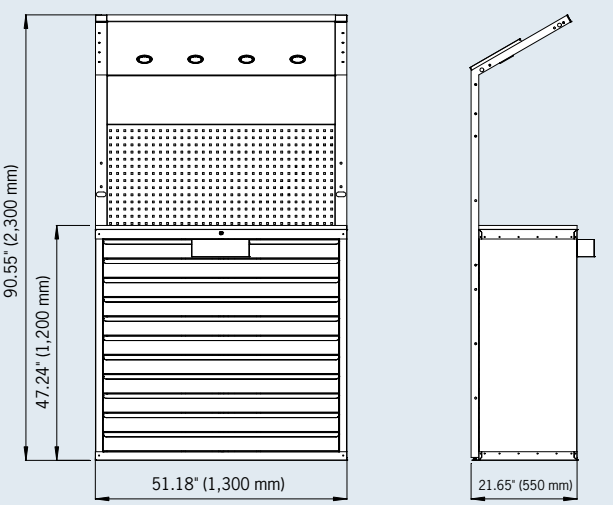
Configurations	Order No.
Workbench assembly module with perforated wall	84.801.00.3
Workbench assembly module with drawer cupboard	84.801.01.3
Workbench assembly module with PC holder and screen holder	84.801.02.3
Workbench assembly module with PC holder, screen holder and drawer cupboard	84.801.03.3
Workbench assembly module with paper dispenser	84.801.04.3
Workbench assembly module with drawer cupboard and paper dispenser	84.801.05.3
Workbench assembly module with drawer cupboard, paper dispenser, PC holder and screen holder	84.801.06.3
Workbench assembly module with waste disposal module	84.801.07.3
Workbench assembly module with waste disposal module and paper dispenser	84.801.08.3
Workbench module – removed for Power Clamp Premium	84.807.00.3

MAGAZINE CABINET





Application Example



Use:
Magazine cabinet for proper storage of tools (inserts, round tools, etc.) and small parts. The perforated wall helps for a clear arrangement of (mounting) tools. Ergonomical working height at 3.9 ft (1.20 m).

Delivery includes:
– Magazine cabinet with a standing work area, perforated wall and 4 LED spot lights
– 11 drawers

Description	Order No.
Magazine cabinet	**84.804.00.3**

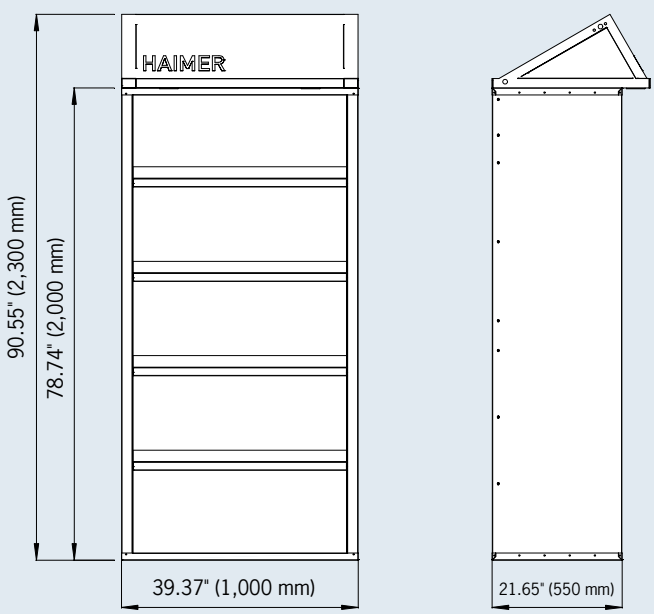
Accessories	Order No.
12 pcs. Drawer equipment (plastic blue) sufficient for 1 drawer at the magazine cabinet	**84.810.14**
24 pcs. Divider for drawer equipment (synthetic material)	**84.810.15**

SHELF MODULE





Application Example



Use:
Shelf module with hood for proper storage of accessories.

Delivery includes:
– Equipped as standard with 4 shelf cabinets and 2 LED spot lights

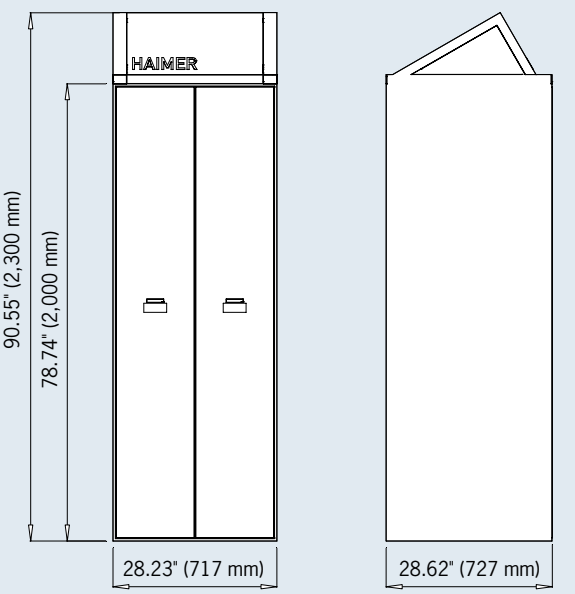
Optional: additional shelf cabinet, shelf cabinet for grinding wheels

Description	Order No.
Shelf module with hood	**84.805.01.3**

Accessories	Order No.
Shelf for shelf cabinet with stop bar	**84.805.00.01.3**
Shelf for grinding wheels for shelf cabinet to hold 2 grinding wheels	**84.805.00.03.3**

VERTICAL CABINET UNIVERSAL





Picture shows: Vertical cabinet Universal with 2 perforated plates (optional)

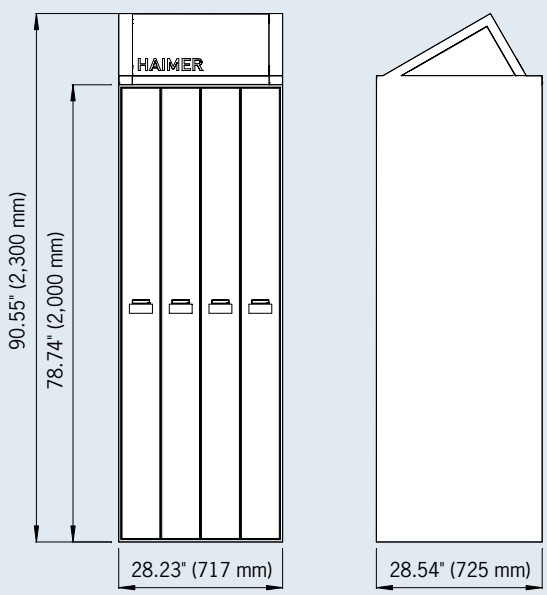
Use:
Pullout cabinets with perforated walls can be equipped on both sides and provide a clean storage area for tools or auxiliary tools. The accessibility from both sides facilitates the removal and localization of the needed tool.

Delivery includes:
– Vertical cabinet Universal (can be equipped with shelf units and perforated plates)

Description	Order No.
Vertical cabinet Universal	**84.805.06.3**

VERTICAL CABINET TOOL HOLDER





Use:
Safe and space-saving storage of tool holders of all tapers, even with clamped cutting tools. Good accessibility from both sides of the pullouts.

Delivery includes:
– Vertical cabinet for tool holders with 4 pullout cabinets

Additionally available shelf units provide a clean, safe and space-saving storage for your tool holders

Description	Order No.
Vertical cabinet tool holder	**84.805.07.3**

Accessories	Order No.
Shelves for vertical cabinet	**See page 737**

VERTICAL CABINET TOOL HOLDER – APPLICATION EXAMPLE

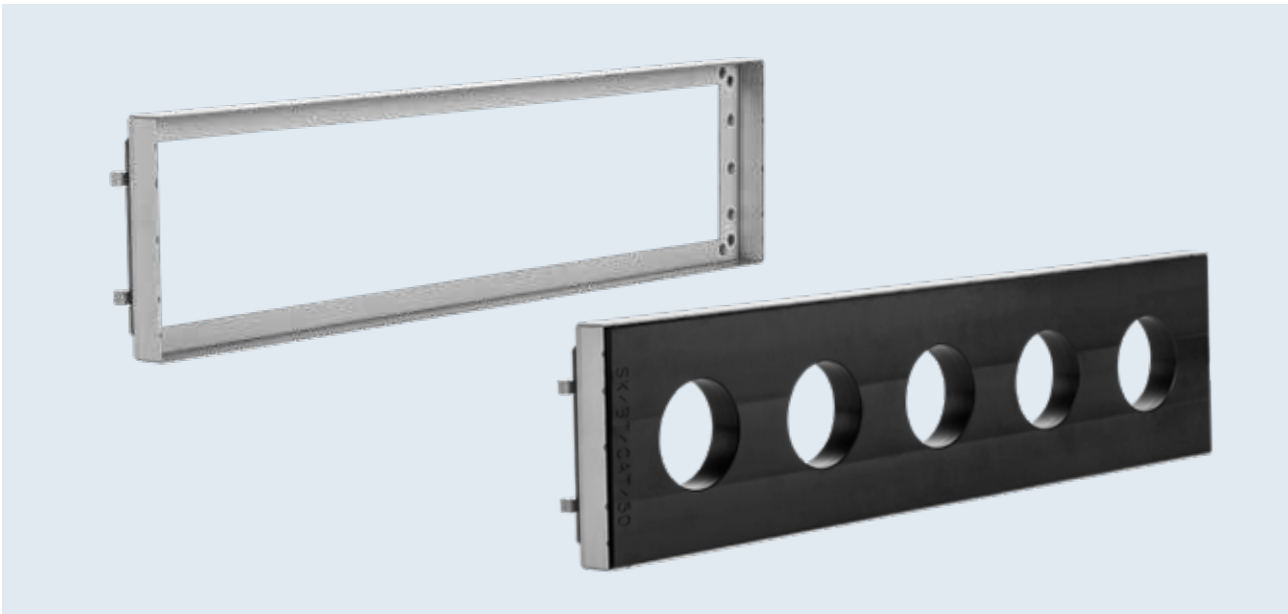
This is how you store your tool holders and accessories correctly.







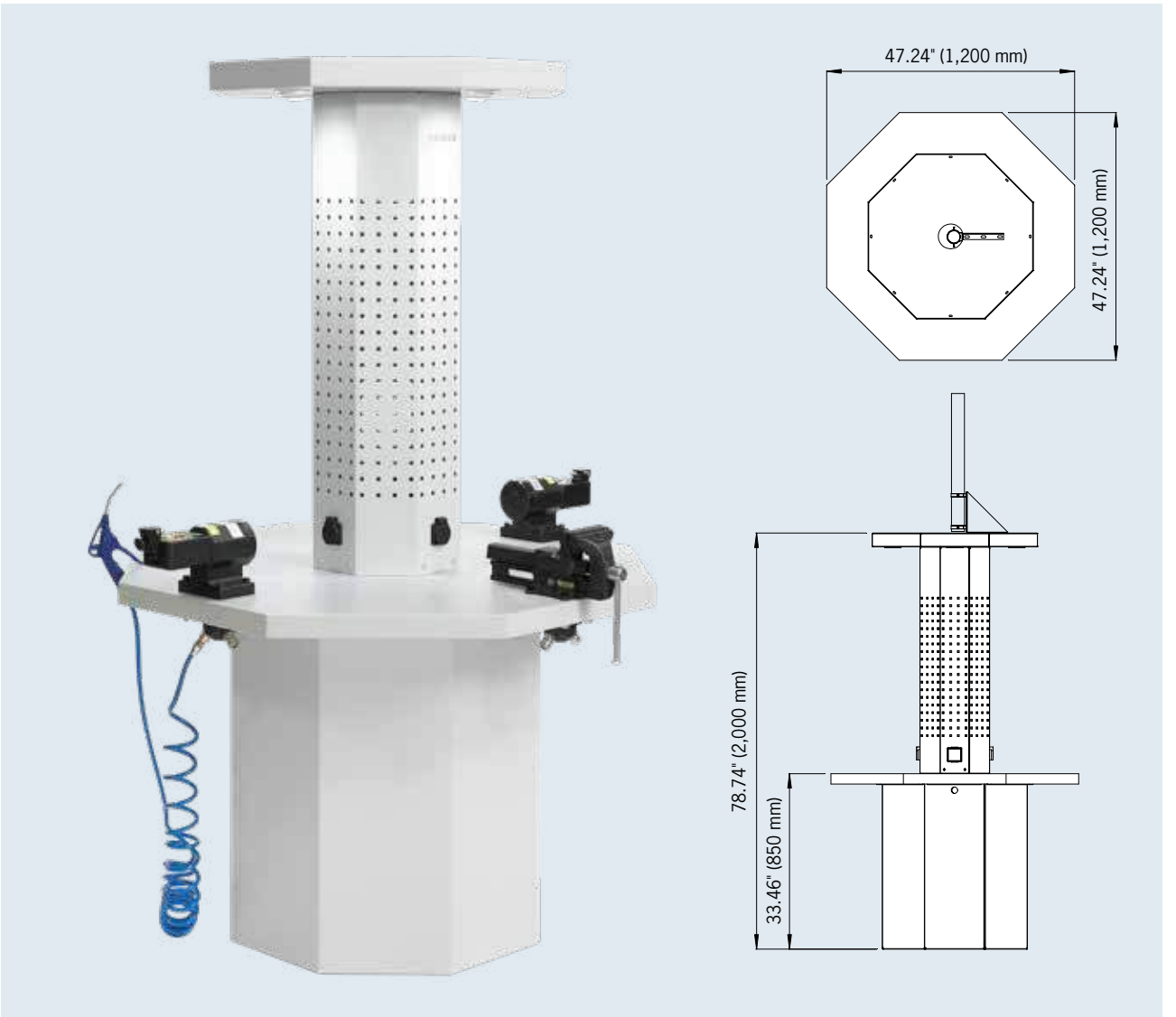
VERTICAL CABINET TOOL HOLDER – SHELVES



Description	Order No.
Frame to hold the shelves in the 4-fold vertical cabinet	84.805.07.01
Frame to hold the shelves in the 2-fold vertical cabinet	84.805.07.02
Frame to hold the shelves in the 2-fold vertical cabinet (extra wide)	84.805.07.03
Shelf SK/BT/CAT	
Shelf to hold 12 SK30/BT30/CAT30 holders	84.805.07.032
Shelf to hold 4 SK40/BT40/CAT40 holders	84.805.07.040
Shelf to hold 6 SK40/BT40/CAT40 holders	84.805.07.041
Shelf to hold 12 SK40/BT40/CAT40 holders	84.805.07.042
Shelf to hold 4 SK50/BT50/CAT50 holders	84.805.07.050
Shelf to hold 5 SK50/BT50/CAT50 holders	84.805.07.051
Shelf HSK	
Shelf to hold 16 HSK-A/C/E 32 holders	84.805.07.132
Shelf to hold 16 HSK-A/C/E 40 holders	84.805.07.140
Shelf to hold 4 HSK-A/C/E 40 holders	84.805.07.141
Shelf to hold 12 HSK-A/C/E 50 holders	84.805.07.150
Shelf to hold 4 HSK-A/C/E 63 holders	84.805.07.163
Shelf to hold 6 HSK-A/C/E 63 holders	84.805.07.164
Shelf to hold 12 HSK-A/C/E 63 holders	84.805.07.165
Shelf to hold 5 HSK-A/C/E 80 holders	84.805.07.181
Shelf to hold 4 HSK-A/C/E 100 holders	84.805.07.110
Shelf to hold 5 HSK-A/C/E 100 holders	84.805.07.111
Shelf to hold 4 HSK-A/C/E 125 holders	84.805.07.125
Other Shelves	
Shelf to hold 12 PSC 32 holders	84.805.07.230
Shelf to hold 12 PSC 40 holders	84.805.07.240
Shelf to hold 12 PSC 50 holders	84.805.07.250
Shelf to hold 6 PSC 63 holders	84.805.07.260
Shelf to hold 4 VDI25 holders	84.805.07.325
Shelf to hold 4 VDI30 holders	84.805.07.330
Shelf to hold 4 VDI40 holders	84.805.07.340
Shelf to hold 5 Makino F-80 holders	84.805.07.680
Shelf to hold 3 balancing adapter	84.805.07.401
Shelf without recess (extra wide)	84.805.07.801

Further shelves available upon request

ASSEMBLY STATION



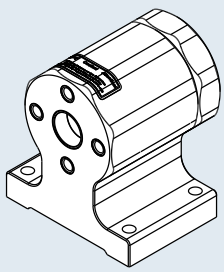
Use:
– 360° accessible assembly area
– Middle column with perforated tin wall equipped with 3 x 230V sockets* and 4 LED spot lights
– The assembly station is perfectly suited for a peripheral, space-saving placement next to the machining center or centrally in the tool assembly room
– Heavy duty workplace

Delivery includes:
– 4 double compressed air connections
– 4 LED lighting spot lights

Description	Order No.
Assembly station	**84.803.00.3**

** Modification to North American power outlets is possible*

ASSEMBLY STATION – ACCESSORIES





Tool Clamp – Tool-assembly device:

– Secure tool assembly with minimal physical effort
– Quick-change function for different taper interfaces – without additional tools
– Accident-free assembly of cutting tools
– Elastic locking bolt
– Mechanical security pin
– Better tool clamping, thanks to optimum ergonomics
– Replaceable brass inserts protect the taper surface
– Required space 140 x 100 mm



Tool Clamp



Tool holder SK



Vice

Tool Clamp – without tool holder, 4 x 90° indexable	
Order No.	**84.700.00**

Tool holder CAT/BT/SK	
Order No.	**Type**
84.701.30	CAT/BT/SK30
84.701.40	CAT/BT/SK40
84.701.50	CAT/BT/SK50

Tool holder HSK-A	
Order No.	**Type**
84.702.40	HSK-A40
84.702.50	HSK-A50
84.702.63	HSK-A63
84.702.80	HSK-A80
84.702.10	HSK-A100

Tool holder HSK-C/HSK-E	
Order No.	**Type**
84.703.32	HSK-C/E32
84.703.40	HSK-C/E40
84.703.50	HSK-C/E50
84.703.63	HSK-C/E63
84.703.80	HSK-C/E80

Tool holder HSK-F	
Order No.	**Type**
84.704.63.M	HSK-F63 MAKINO
84.704.80.M	HSK-F80 MAKINO

Tool holder PSC	
Order No.	**Type**
84.705.32	PSC 32
84.705.40	PSC 40
84.705.50	PSC 50
84.705.60	PSC 63

Tool holder KM4X100*	
Order No.	**Type**
84.706.4X.100	KM4X*

Vice	
Order No.	**84.810.22**

*KM4X is a registered trademark/tradename of Kennametal Inc.

CONNECTION PARTS



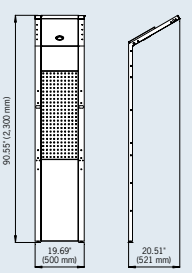
Order No.
84.806.00.3

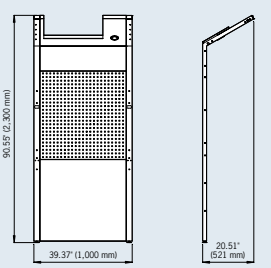


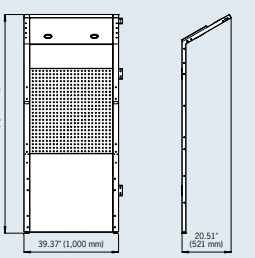
Order No.
84.806.01.3

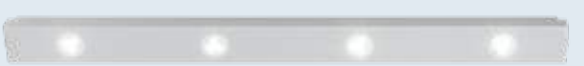


Order No.
84.806.03.3









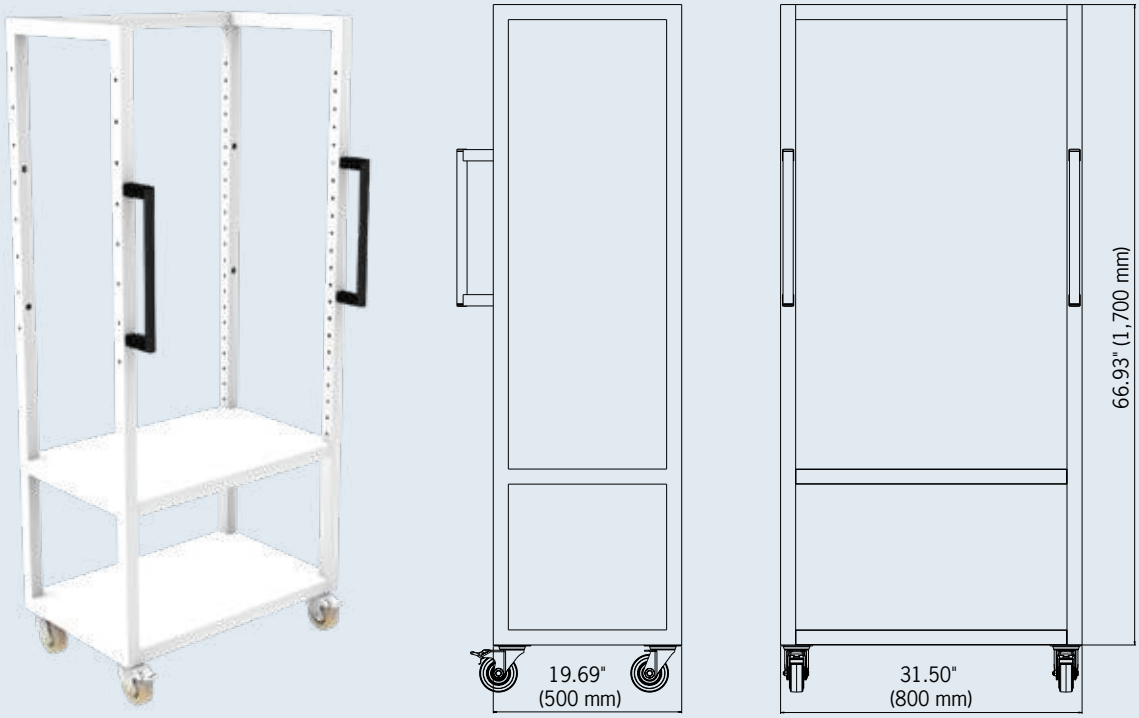
Order No.
84.806.02.3

Use:
– Intermediate segment in order to connect the individual modules
– Each intermediate segment is equipped with a perforated wall and spot lights

Description	Order No.
Connection part	
Connection part 50 cm wide with 1 LED spot light and perforated plate	**84.806.00.3**
Connection part 100 cm wide with 2 LED spot lights and perforated plate for TD Preset	**84.806.01.3**
Connection part 100 cm wide with 2 LED spot lights and perforated plate	**84.806.03.3**
Light Bar superstructure for Power Clamp Premium Plus	**84.806.02.3**

TOOL HOLDER CART

Tool holder cart - base frame



Use:

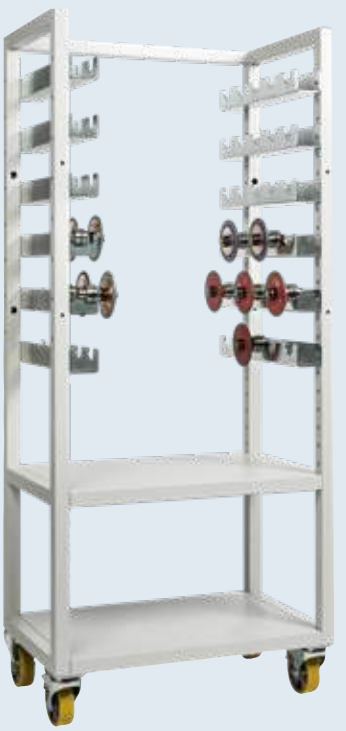
– Standard frame with four wheels, brakes and two handles
– Individual delivery by using a predefined modular system
– Safe transportation of tools and accessories to the machine
– More organization in the machine area
– More clearly arranged than commercially available tool carts
– Tool cart for grinding wheel adapters (held using standard size gripper grooves)
– Tool cart works for any tool used at the machine, no matter if it has an internal hexagon, external hexagon, hook wrench, rubber mallet, gauge etc.
– Tool cart for balancing machine accessories to hold balancing adapters, HG collets etc.

Description	Order No.
Tool holder cart	**84.808.00.3**

Accessories	Order No.
Storage shelf (Can be mounted variably in height)	**84.808.00.02**

Tool holder cart – Configuration examples

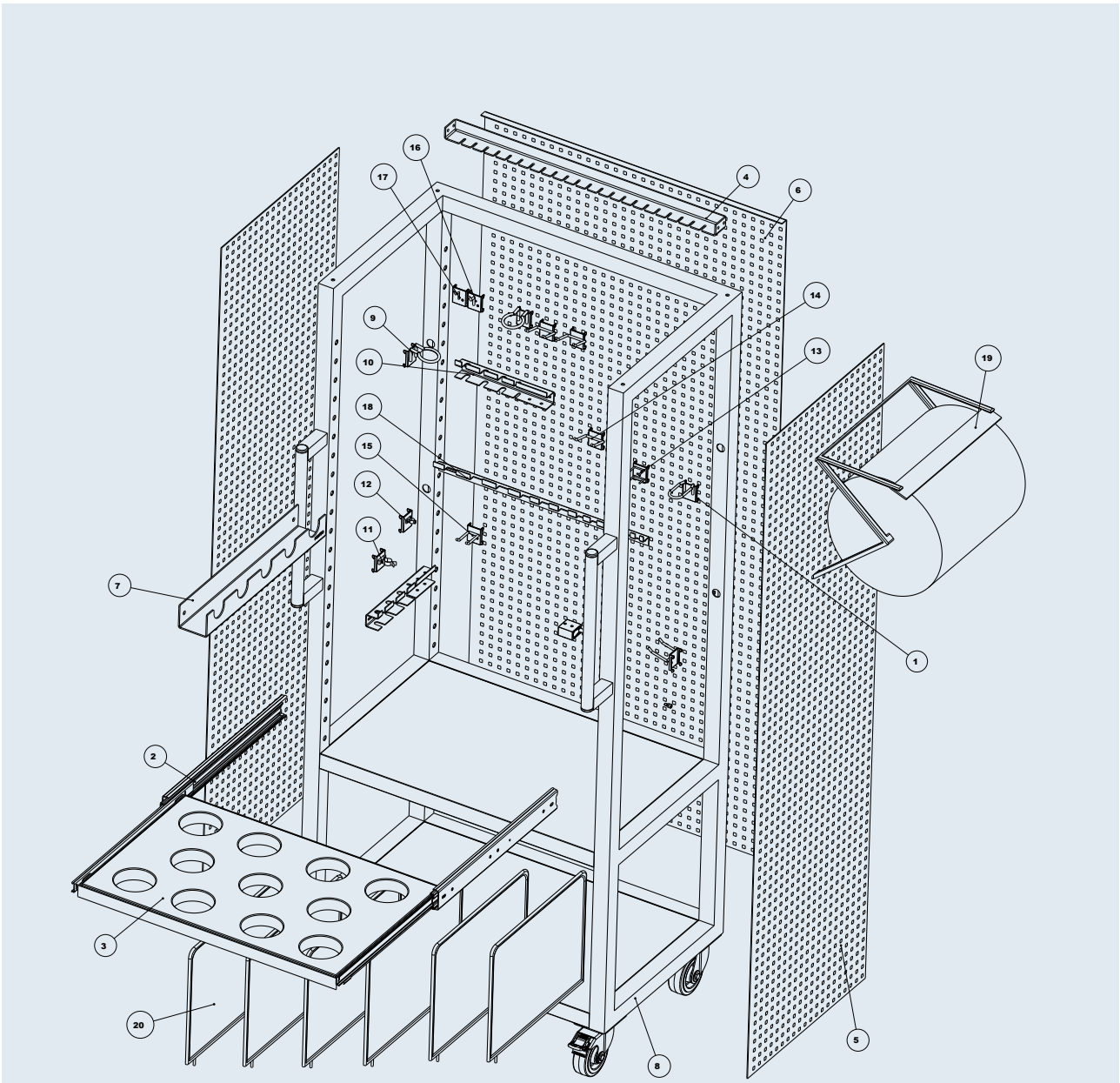








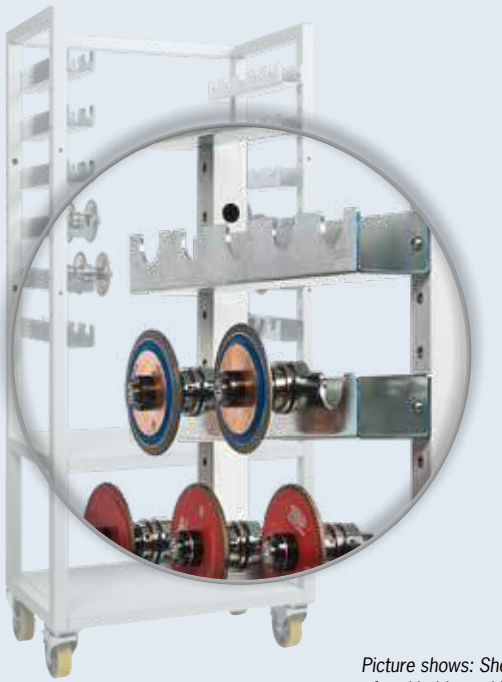
TOOL HOLDER CART DESIGN



1	Pliers holder 7x40	**11**	Tool clip Ø 25 mm
2	Drawer slide	**12**	Tool clip Ø 12 mm
3	Shelf for balancing adapters	**13**	Articulated wrench hook (28 mm x Ø 3 mm)
4	Shelf for collets	**14**	Double hook (50 mm x 40 mm)
5	Perforated plate long version (side)	**15**	Double hook (55 mm x 25 mm)
6	Perforated plate long version (back)	**16**	Hook (24 mm x Ø 5)
7	Shelf for tool holders	**17**	Hook (22 mm x Ø 3)
8	Base cart	**18**	Screw wrench holder
9	Ring holder (inside Ø 40 mm)	**19**	Paper dispenser (without paper roll)
10	Screwdriver holder	**20**	Partition wall

TOOL HOLDER CART – ACCESSORIES
SHELVES





Picture shows: Shelves for safe fixture of tool holders with grinding wheels

Use:
– Shelves for safe tool holder fixture

Description	Order No.
Shelves for tool holder cart	
8 pieces without recess	84.808.00.01
Shelves SK	
SK30: 8 pcs. for 5 pcs. tool holders each	84.808.00.030
SK40: 8 pcs. for 5 pcs. tool holders each	84.808.00.040
SK50: 8 pcs. for 4 pcs. tool holders each	84.808.00.050
Shelves BT	
BT30: 8 pcs. for 5 pcs. tool holders each	84.808.00.130
BT40: 8 pcs. for 4 pcs. tool holders each	84.808.00.140
BT50: 8 pcs. for 4 pcs. tool holders each	84.808.00.150
Shelves CAT	
CAT40: 8 pcs. for 4 pcs. tool holders each	84.808.00.240
CAT50: 8 pcs. for 4 pcs. tool holders each	84.808.00.250
Shelves HSK	
HSK-A/E 32: 8 pcs. for 5 pcs. tool holders each	84.808.00.332
HSK-A/E/F 40: 8 pcs. for 5 pcs. tool holders each	84.808.00.340
HSK-A/E/F 50: 8 pcs. for 5 pcs. tool holders each	84.808.00.350
HSK-A/E/F 63: 8 pcs. for 5 pcs. tool holders each	84.808.00.363
HSK-A/E/F 80: 8 pcs. for 4 pcs. tool holders each	84.808.00.380
HSK-A 100: 8 pcs. for 4 pcs. tool holders each	84.808.00.310
Shelves PSC 63	
PSC 63: 8 pcs. for 5 pcs. tool holders each	84.808.00.460

TOOL HOLDER CART – ACCESSORIES



Base frame



Metal cover plate



Drawer insert for balancing adapters



Perforated plate



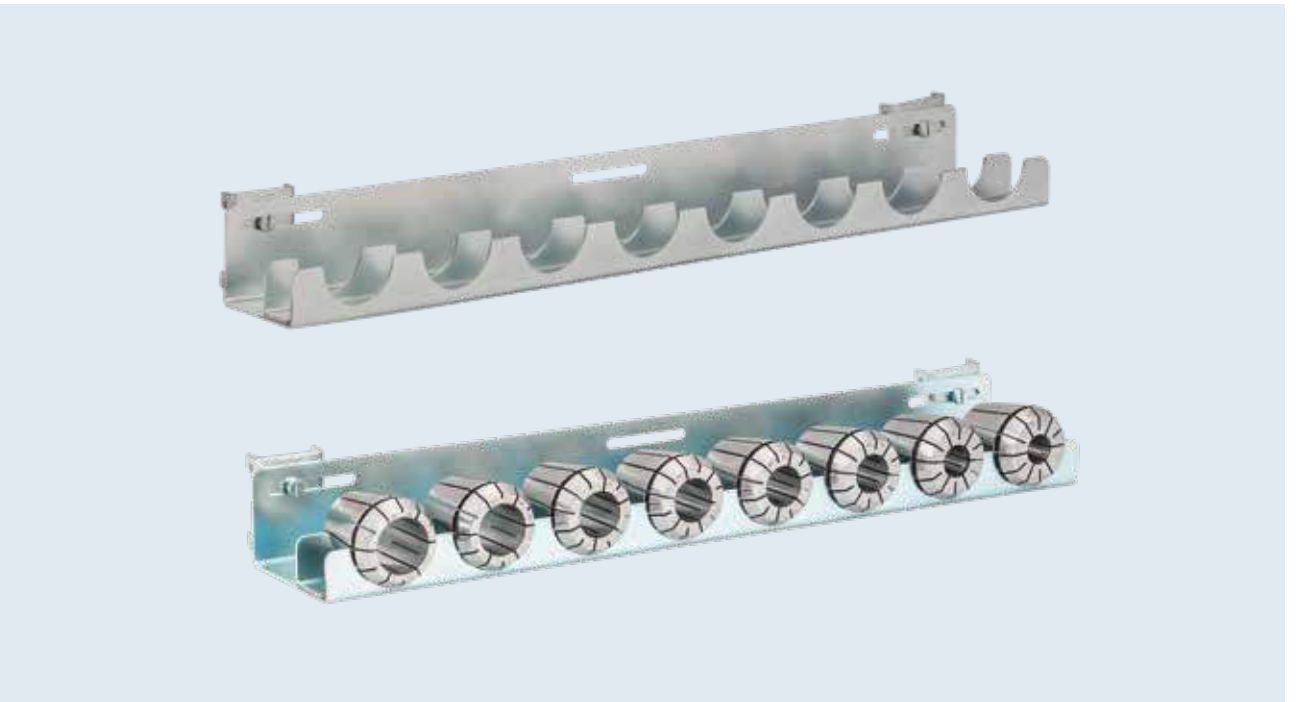
Partition wall



Paper dispenser

Description	Order No.
Perforated plate	
Back long	140056-0013
Back short	140056-0009
Side long	140056-0014
Side short	140056-0010
Metal cover plate	
Long	140056-0008
Short	140956-0005
Drawer insert for balancing adapters	
Shelf	140056-0007
Drawer slide with angle plate frame	140956-0006
Partition wall	
Partition wall (6 piece bottom plate)	140056-0015
Paper dispenser	
Paper dispenser without paper roll	84.810.23

PERFORATED PLATE – ACCESSORIES
HOLDER RACKS



Use:
– Holder racks for secure storage of collets

Description	Order No.
Holder Racks for ER Collets	
Holder rack for 21 pcs. ER 11 collets	84.809.011
Holder rack for 17 pcs. ER 16 collets and ER 16 Power Collets	84.809.016
Holder rack for 12 pcs. ER 20 collets	84.809.020
Holder rack for 12 pcs. ER 25 collets and ER 25 Power Collets	84.809.025
Holder rack for 11 pcs. ER 32 collets and ER 32 Power Collets	84.809.032
Holder rack for 8 pcs. ER 40 collets	84.809.040
Holder Racks for OZ Collets	
Holder rack for 15 pcs. OZ collets Ø 2–16 mm	84.809.116
Holder rack for 11 pcs. OZ collets Ø 2–25 mm	84.809.125
Holder rack for 8 pcs. OZ collets Ø 6–32 mm	84.809.132
Holder rack for 7 pcs. OZ collets Ø 8–40 mm	84.809.140
Holder rack for 6 pcs. OZ collets Ø 4–50 mm	84.809.150
Holder Racks for HG Collets	
Holder rack for 16 pcs. HG 01 collets	84.809.201
Holder rack for 16 pcs. HG 02 collets	84.809.202
Holder rack for 13 pcs. HG 03 collets	84.809.203

ACCESSORIES



Hook single



Hook double



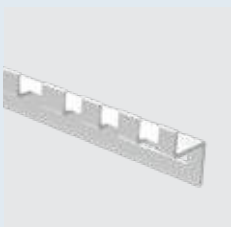
Ring holder



Articulated wrench hook



Tool clip



HG Collet fixture



Screwdriver holder

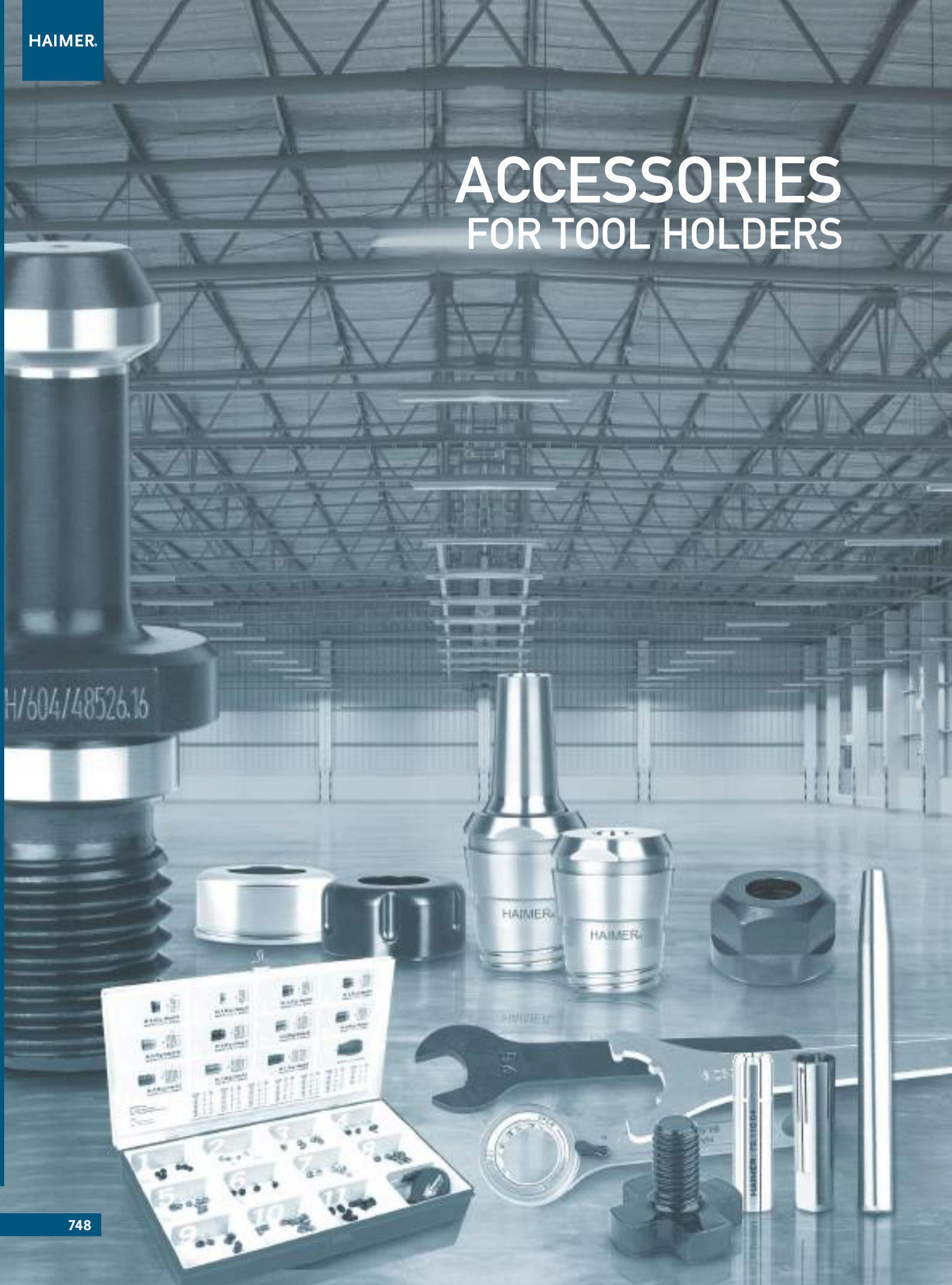


Paper dispenser

Description	Order No.
Accessories for perforated plate	
Hook single Ø 3 mm	84.810.01
Hook single Ø 5 mm	84.810.02
Hook double 55 x 25 mm	84.810.03
Hook double 50 x 40 mm	84.810.04
Articulated wrench hook	84.810.05
Tool clip Ø 12 mm	84.810.06
Tool clip Ø 15 mm	84.810.07
Ring holder	84.810.08
Base holder	84.810.09
Screwdriver holder for 6 screwdrivers	84.810.10
Wrenchholder for 12 wrenches	84.810.11
Holder for clear film	84.810.12
Storage place (440 mm x 300 mm x 100 mm)	84.810.13.3
Pliers holder	84.810.16
Paper dispenser (without paper roll)	84.810.23
HG Collet fixture	140056-0005
Accessories for electronics	
Electronic connection set with transformer	84.811.00
Transformer	140051-0108
Lamp	140051-0111
Lamp socket	140051-0110
Pipe set for cable laying (Electric/Air)	84.811.10
Country-specific power outlets available on request	
Starter Sets	
Starter set mini	84.810.17
Starter set medium	84.810.17.1
Starter set large	84.810.17.2
Work pads	
Work pad for work bench 600 mm x 1500 mm (transparent, soft PVC)	84.810.18
Work pad for corner module (transparent, soft PVC)	84.810.19
Work pad 690 mm x 500 mm (transparent, soft PVC)	84.810.20
Work pad for assembly station (transparent, soft PVC)	84.810.29

Further accessories available upon request

ACCESSORIES
FOR TOOL HOLDERS

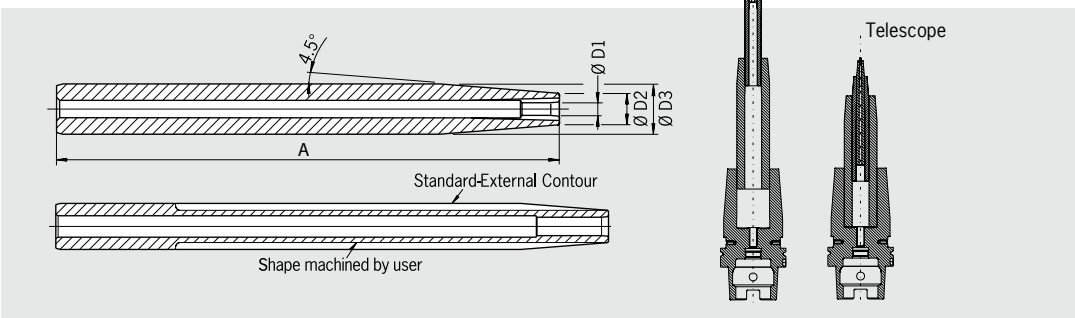


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SHRINK FIT EXTENSIONS
INCH





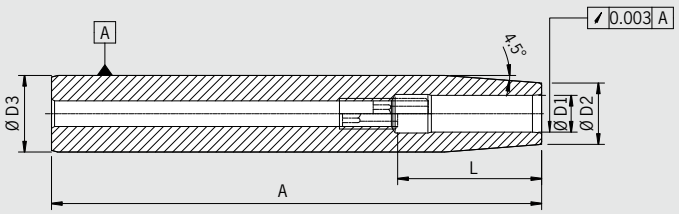
The universal solution for your machining applications

– Highest runout accuracy
– Optimal and nearly unlimited extensions possible
– Versatile to use and always re-usable
– The most economic way for special machining requirements
– For carbide steel and HSS shanks
– Delivery without cooling adapter
– Telescope version (drilled through, without back-up screw)
– For shank tolerance h6

INCH		Ø D3	Ø D2	Clamping Ø D1	Gage length A	Cooling body	Adapter
Order No.	**78.1/2Z0.1/8Z.2**	1/2"	0.31"	1/8"	6.30"	Ø 14–16	80.105.14.1.1
Order No.	**78.1/2Z0.3/16Z.2**	1/2"	0.31"	3/16"	6.30"	Ø 14–16	80.105.14.1.1
Order No.	**78.5/8Z0.1/8Z.2**	5/8"	0.39"	1/8"	6.30"	Ø 14–16	80.105.14.1.1
Order No.	**78.5/8Z0.3/16Z.2**	5/8"	0.39"	3/16"	6.30"	Ø 14–16	80.105.14.1.1
Order No.	**78.5/8Z0.1/4Z.1**	5/8"	0.39"	1/4"	6.30"	Ø 14–16	80.105.14.1.1
Order No.	**78.3/4Z0.1/4Z.1**	3/4"	0.55"	1/4"	6.30"	Ø 14–16	80.105.14.1.2
Order No.	**78.3/4Z0.3/8Z.1**	3/4"	0.55"	3/8"	6.30"	Ø 14–16	80.105.14.1.2
Order No.	**78.1Z0.3/8Z.1**	1"	0.79"	3/8"	6.30"	Ø 6–8	–
Order No.	**78.1Z0.1/2Z.1**	1"	0.79"	1/2"	6.30"	Ø 6–8	–
Order No.	**78.1Z0.5/8Z.1**	1"	0.87"	5/8"	6.30"	Ø 10–12	–
Order No.	**78.11/4Z0.3/8Z.1**	1 1/4"	0.94"	3/8"	6.30"	Ø 14–16	–
Order No.	**78.11/4Z0.1/2Z.1**	1 1/4"	0.94"	1/2"	6.30"	Ø 14–16	–
Order No.	**78.11/4Z0.5/8Z.1**	1 1/4"	1.06"	5/8"	6.30"	Ø 14–16	–

The external contour of the shrinking extensions can be modified later as required

SHRINK FIT EXTENSIONS
METRIC

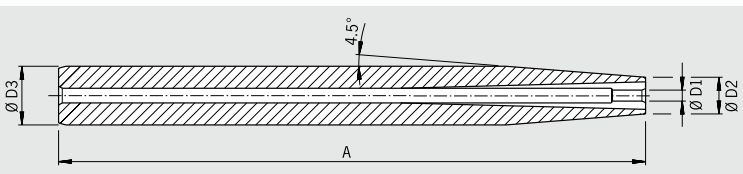


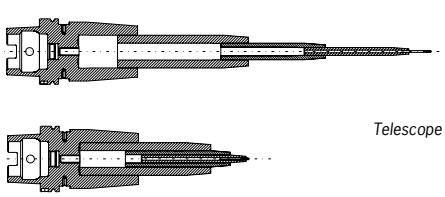


The universal solution for your machining applications
- Highest runout accuracy
- Optimal and nearly unlimited extensions possible
- Versatile to use and always re-usable
- The most economic way for special machining requirements
- For carbide steel and HSS shanks
- Delivery without cooling adapter

Version:
- With set screw (adjustment range 10 mm)

Order No.	L [mm]	Length A [mm]	Outer Ø D3 [mm]	Shank tolerance	Clamping Ø D1 [mm]	D2 [mm]	Cooling body	Adapter
78.160.06	28	160	16	h6	6	10	Ø 14–16	80.105.14.1.1
78.200.06	28	160	20	h6	6	14	Ø 14–16	80.105.14.1.2
78.200.08	34	160	20	h6	8	14	Ø 14–16	80.105.14.1.2
78.250.08	34	160	25	h6	8	19	Ø 6–8	—
78.250.10	42	160	25	h6	10	20	Ø 6–8	—
78.250.12	47	160	25	h6	12	20	Ø 6–8	—
78.250.14	47	160	25	h6	14	20	Ø 6–8	—
78.250.16	50	160	25	h6	16	22	Ø 6–8	—
78.320.10	42	160	32	h6	10	24	Ø 10–12	—
78.320.12	47	160	32	h6	12	24	Ø 10–12	—
78.320.14	47	160	32	h6	14	27	Ø 14–16	—
78.320.16	50	160	32	h6	16	27	Ø 14–16	—
78.320.18	50	160	32	h6	18	27	Ø 14–16	—
78.320.20	52	160	32	h6	20	27	Ø 14–16	—





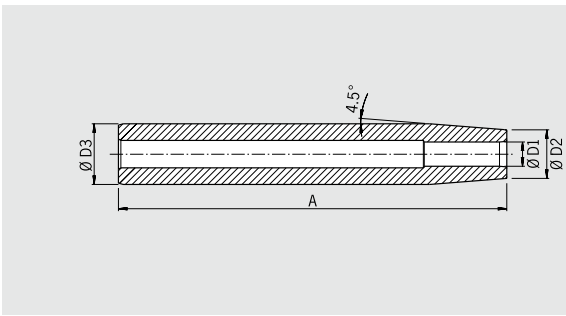
Telescope

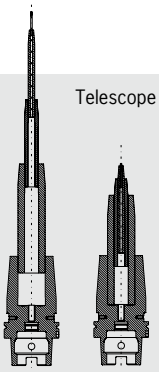
Version:
- Without set screw
- With slits along the clamping bore for proper clamping and coolant around the cutting tool
- Variable length setting (telescope)

Order No.	L [mm]	Length A [mm]	Outer Ø D3 [mm]	Shank tolerance	Clamping Ø D1 [mm]	D2 [mm]	Cooling body	Adapter
78.120.03.2	—	160	12	h6	3	8	Ø 14–16	80.105.14.1.1
78.120.04.2	—	160	12	h6	4	8	Ø 14–16	80.105.14.1.1
78.160.03.2	—	160	16	h6	3	10	Ø 14–16	80.105.14.1.1
78.160.04.2	—	160	16	h6	4	10	Ø 14–16	80.105.14.1.1
78.160.05.2	—	160	16	h6	5	10	Ø 14–16	80.105.14.1.1
78.200.05.2	—	160	20	h6	5	14	Ø 14–16	80.105.14.1.2

SHRINK FIT EXTENSIONS
METRIC



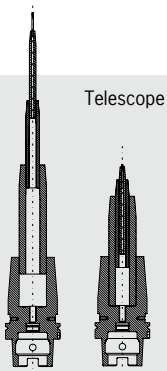




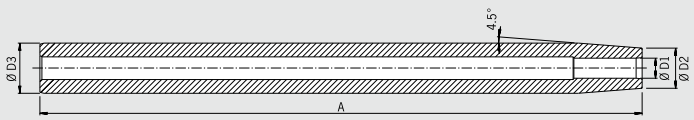
Version:
– Without set screw
– Variable length setting (telescope)

Order No.	L [mm]	Length A [mm]	Outer Ø D3 [mm]	Shank tolerance	Clamping Ø D1 [mm]	D2 [mm]	Cooling body	Adapter
78.120.03.1	—	160	12	h4	3	8	Ø 14–16	80.105.14.1.1
78.120.04.1	—	160	12	h4	4	8	Ø 14–16	80.105.14.1.1
78.160.03.1	—	160	16	h4	3	10	Ø 14–16	80.105.14.1.1
78.160.04.1	—	160	16	h4	4	10	Ø 14–16	80.105.14.1.1
78.160.05.1	—	160	16	h4	5	10	Ø 14–16	80.105.14.1.1
78.160.06.1	—	160	16	h6	6	10	Ø 14–16	80.105.14.1.1
78.200.05.1	—	160	20	h4	5	14	Ø 14–16	80.105.14.1.2
78.200.06.1	—	160	20	h6	6	14	Ø 14–16	80.105.14.1.2
78.200.08.1	—	160	20	h6	8	14	Ø 14–16	80.105.14.1.2
78.250.08.1	—	160	25	h6	8	19	Ø 6–8	—
78.250.10.1	—	160	25	h6	10	20	Ø 6–8	—
78.250.12.1	—	160	25	h6	12	20	Ø 6–8	—
78.250.14.1	—	160	25	h6	14	20	Ø 6–8	—
78.250.16.1	—	160	25	h6	16	22	Ø 6–8	—
78.320.10.1	—	160	32	h6	10	24	Ø 10–12	—
78.320.12.1	—	160	32	h6	12	24	Ø 10–12	—
78.320.14.1	—	160	32	h6	14	27	Ø 14–16	—
78.320.16.1	—	160	32	h6	16	27	Ø 14–16	—
78.320.18.1	—	160	32	h6	18	27	Ø 14–16	—
78.320.20.1	—	160	32	h6	20	27	Ø 14–16	—

SHRINK FIT EXTENSIONS METRIC



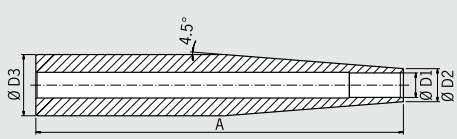
Telescope

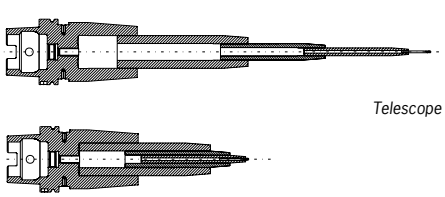




Version: Extension length 300 mm
– Without set screw
– Variable length setting (telescope)

Order No.	L [mm]	Length A [mm]	Outer Ø D3 [mm]	Shank tolerance	Clamping Ø D1 [mm]	D2 [mm]	Cooling body	Adapter
78.161.06.1	—	300	16	h6	6	10	Ø 14–16	80.105.14.1.1
78.201.06.1	—	300	20	h6	6	14	Ø 14–16	80.105.14.1.2
78.201.08.1	—	300	20	h6	8	14	Ø 14–16	80.105.14.1.2
78.251.08.1	—	300	25	h6	8	19	Ø 6–8	—
78.251.10.1	—	300	25	h6	10	20	Ø 6–8	—
78.251.12.1	—	300	25	h6	12	20	Ø 6–8	—
78.251.14.1	—	300	25	h6	14	20	Ø 6–8	—
78.251.16.1	—	300	25	h6	16	22	Ø 6–8	—
78.321.10.1	—	300	32	h6	10	24	Ø 10–12	—
78.321.12.1	—	300	32	h6	12	24	Ø 10–12	—
78.321.14.1	—	300	32	h6	14	27	Ø 14–16	—
78.321.16.1	—	300	32	h6	16	27	Ø 14–16	—
78.321.20.1	—	300	32	h6	20	27	Ø 14–16	—





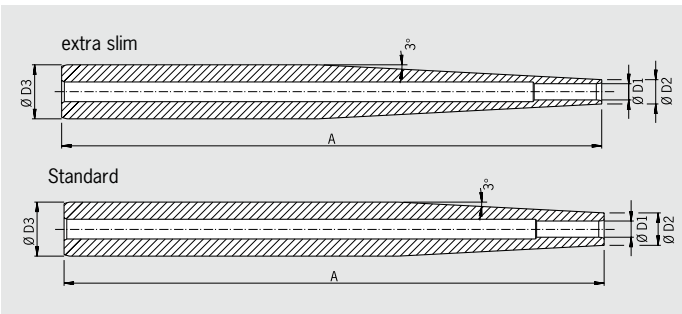
Telescope

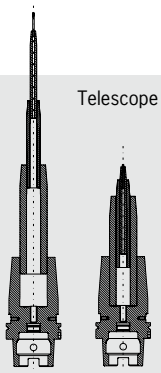
Version: Extension with diameter 50 mm (Shrinking only with Power Clamp Profi Plus)
– HSS + solid carbide

Order No.	L [mm]	Length A [mm]	Outer Ø D3 [mm]	Shank tolerance	Clamping Ø D1 [mm]	D2 [mm]	Cooling body
78.501.10.1	—	300	50	h6	10	24	Ø 10–12
78.501.12.1	—	300	50	h6	12	24	Ø 10–12
78.501.14.1	—	300	50	h6	14	27	Ø 14–16
78.501.16.1	—	300	50	h6	16	27	Ø 14–16
78.501.18.1	—	300	50	h6	18	27	Ø 14–16
78.501.20.1	—	300	50	h6	20	33	Ø 25–32
78.501.25.1	—	300	50	h6	25	44	Ø 25–32
78.501.32.1	—	300	50	h6	32	44	Ø 25–32

MINI SHRINK EXTENSIONS
INCH







- Extremely slim design
- No disturbing edges
- Ideal for the HAIMER Power Clamp
- For all solid carbide tools with shank tolerance h6
- With 3° angle for die and mold

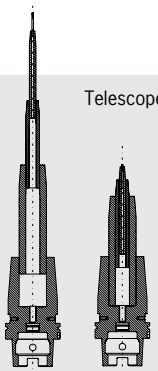
Standard version: with higher clamping forces
Extra slim version: extremely slim for fine machining and for jobs which are very difficult to reach

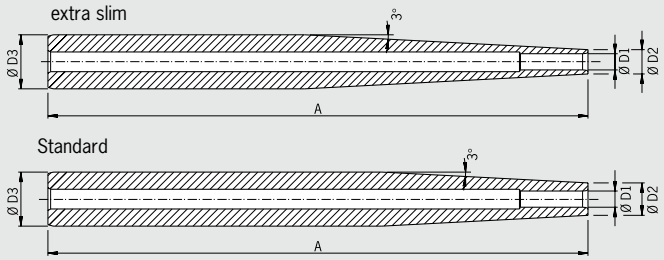
Attention: Heating and cooling only with shrink and cooling sleeves
It is imperative that the correct adapter be used for both heating and cooling with all Mini Shrink chucks in order to prevent overheating of the chuck.
However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

Standard version Order No.	Length A [inch]	Outer Ø D3 [inch]	Shank tolerance	Clamping Ø D1 [inch]	Ø D2 [inch]	Cooling body	Adapter
77.5/8Z2.1/8Z	6.30"	5/8"	h6	1/8"	0.35"	Ø 6–8	80.105.14.2.04
77.5/8Z2.3/16Z	6.30"	5/8"	h6	3/16"	0.43"	Ø 6–8	80.105.14.2.05
77.5/8Z2.1/4Z[1)]	6.30"	5/8"	h6	1/4"	0.47"	Ø 6–8	80.105.14.2.09
77.5/8Z2.3/8Z[1)]	6.30"	5/8"	h6	3/8"	0.63"	Ø 6–8	80.105.14.2.11
77.3/4Z2.1/4Z	7.87"	3/4"	h6	1/4"	0.47"	Ø 6–8	80.105.14.2.09
77.3/4Z2.3/8Z	7.87"	3/4"	h6	3/8"	0.63"	Ø 6–8	80.105.14.2.11
77.3/4Z2.1/2Z	7.87"	3/4"	h6	1/2"	0.71"	Ø 6–8	80.105.14.2.12
Extra slim							
77.5/8Z0.1/8Z	6.30"	5/8"	h6	1/8"	0.24"	Ø 6–8	80.105.14.2.01
77.5/8Z0.3/16Z	6.30"	5/8"	h6	3/16"	0.32"	Ø 6–8	80.105.14.2.03
77.5/8Z0.1/4Z[1)]	6.30"	5/8"	h6	1/4"	0.35"	Ø 6–8	80.105.14.2.04
77.5/8Z0.3/8Z[1)]	6.30"	5/8"	h6	3/8"	0.51"	Ø 6–8	80.105.14.2.06
77.3/4Z0.1/4Z	7.87"	3/4"	h6	1/4"	0.35"	Ø 6–8	80.105.14.2.04
77.3/4Z0.3/8Z	7.87"	3/4"	h6	3/8"	0.51"	Ø 6–8	80.105.14.2.06
77.3/4Z0.1/2Z	7.87"	3/4"	h6	1/2"	0.59"	Ø 6–8	80.105.14.2.07

1) With adjustment screw

MINI SHRINK EXTENSION METRIC







- Extremely slim design
- No disturbing edges
- Ideal for the HAIMER Power Clamp
- For all solid carbide tools with shank tolerance h6
- With 3° angle for die and mold

Standard version: with higher clamping forces
Extra slim version: extremely slim for fine machining and for jobs which are very difficult to reach

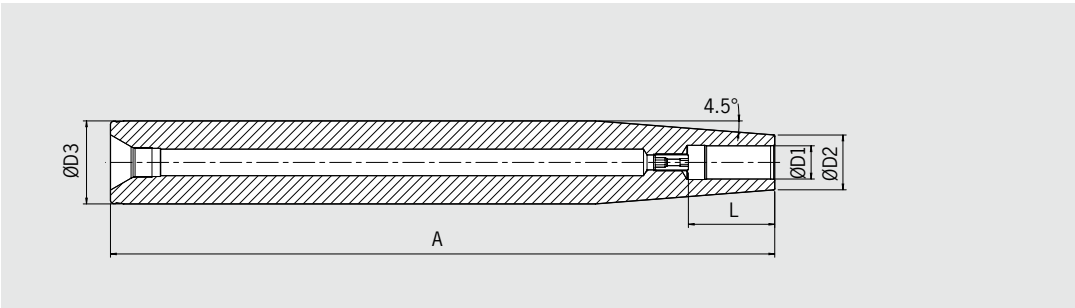
Attention: Heating and cooling only with shrink and cooling sleeves
It is imperative that the correct adapter be used for both heating and cooling with all Mini Shrink chucks in order to prevent overheating of the chuck.
However, when using the Power Clamp i4.0 Sprint/Air or Nano machines with the motorized coil and scanner, sleeves are not necessary.

Standard version Order No.	Length A [mm]	Outer Ø D3 [mm]	Shank tolerance	Clamping Ø D1 [mm]	Ø D2 [mm]	Cooling body	Adapter
77.162.03	160	16	h6	3	9	Ø 6–8	80.105.14.2.04
77.162.04	160	16	h6	4	10	Ø 6–8	80.105.14.2.08
77.162.05	160	16	h6	5	11	Ø 6–8	80.105.14.2.05
77.162.06[1)]	160	16	h6	6	12	Ø 6–8	80.105.14.2.09
77.162.08[1)]	160	16	h6	8	14	Ø 6–8	80.105.14.2.10
77.162.10[1)]	160	16	h6	10	16	—	—
77.202.06	200	20	h6	6	12	Ø 6–8	80.105.14.2.09
77.202.08	200	20	h6	8	14	Ø 6–8	80.105.14.2.10
77.202.10	200	20	h6	10	16	Ø 6–8	80.105.14.2.11
77.202.12	200	20	h6	12	18	Ø 6–8	80.105.14.2.12
Extra slim							
77.160.03	160	16	h6	3	6	Ø 6–8	80.105.14.2.01
77.160.04	160	16	h6	4	7	Ø 6–8	80.105.14.2.02
77.160.05	160	16	h6	5	8	Ø 6–8	80.105.14.2.03
77.160.06[1)]	160	16	h6	6	9	Ø 6–8	80.105.14.2.04
77.160.08[1)]	160	16	h6	8	11	Ø 6–8	80.105.14.2.05
77.160.10[1)]	160	16	h6	10	13	Ø 6–8	80.105.14.2.06
77.200.06	200	20	h6	6	9	Ø 6–8	80.105.14.2.04
77.200.08	200	20	h6	8	11	Ø 6–8	80.105.14.2.05
77.200.10	200	20	h6	10	13	Ø 6–8	80.105.14.2.06
77.200.12	200	20	h6	12	15	Ø 6–8	80.105.14.2.07

1) With adjustment screw

HEAVY DUTY SHRINK FIT EXTENSIONS



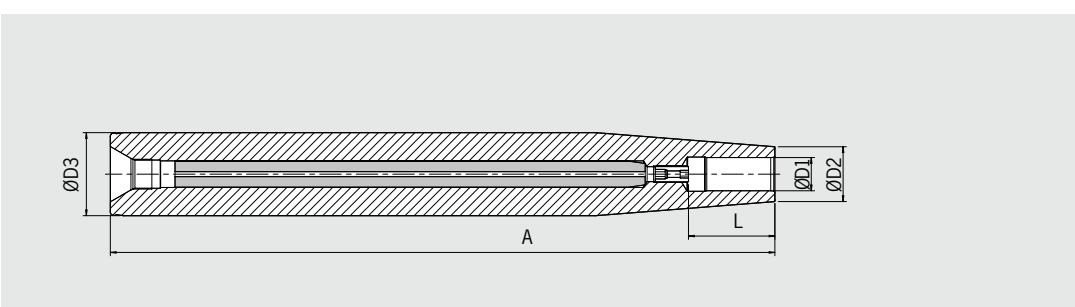


– Extremely stable Heavy Duty Extension with 50 mm outer diameter
– Safe support of the tool with set screws
– Heavy machining also in hidden angles: Lengths of 400 and 600 mm
– The extensions can be shortened to customer's needs upon request
– Solid carbide inserts for vibration dampening upon request

Heavy Duty Shrink Fit Extensions without solid carbide core

METRIC	Clamping Ø D1 [mm]	16	20	25
	Ø D2 [mm]	27	33	44
	Ø D3 [mm]	50	50	50
	L [mm]	50	52	58
Gage length A [mm]	oversize	400	400	400
Order No.	**78.502...**	**.16**	**.20**	**.25**
Gage length A [mm]	ZG600	600	600	600
Order No.	**78.506...**	**.16**	**.20**	**.25**





Heavy Duty Shrink Fit Extensions with solid carbide core

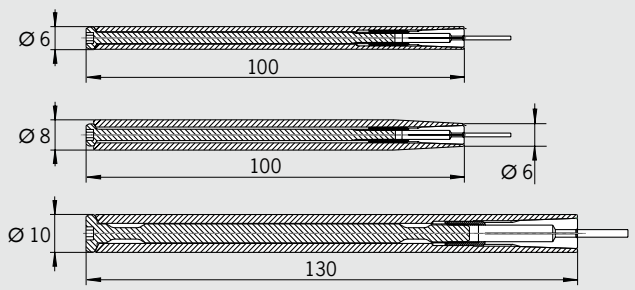
METRIC	Clamping Ø D1 [mm]	16	20	25
	Ø D2 [mm]	27	33	44
	Ø D3 [mm]	50	50	50
	L [mm]	50	52	58
Gage length A [mm]	oversize	400	400	400
Order No.	**78.502...**	**.16.9**	**.20.9**	**.25.9**
Gage length A [mm]	ZG600	600	600	600
Order No.	**78.506...**	**.16.9**	**.20.9**	**.25.9**

HG MINI EXTENSIONS

HG Mini 01
cylindrical

HG Mini 01
conical

HG Mini 02
cylindrical





For clamping tools with cylindrical shank with utmost precision.

– For tools with shank tolerance h6

	HG Mini 01 cylindrical	HG Mini 01 conical	HG Mini 02 cylindrical
Size	A = 100 mm	A = 100 mm	A = 130 mm
Outer diam.	6 mm cylindrical	6–8 mm conical	10 mm cylindrical
Clamping range Ø	1–2.5 mm	1–2.5 mm	2.0–4.5 mm
Order No.	**82.611.01**	**82.621.01**	**82.610.02**

Collets for HG Mini 01

Clamping	Ø D [mm]	1	1,5	2	2.5
Order No.	**82.650...**	**.010**	**.015**	**.020**	**.025**

Collets for HG Mini 02

Clamping	Ø D [mm]	2	2.5	3	3.5	4	4.5
Order No.	**82.660...**	**.020**	**.025**	**.030**	**.035**	**.040**	**.045**



HG Mini with torque wrench and assembly device

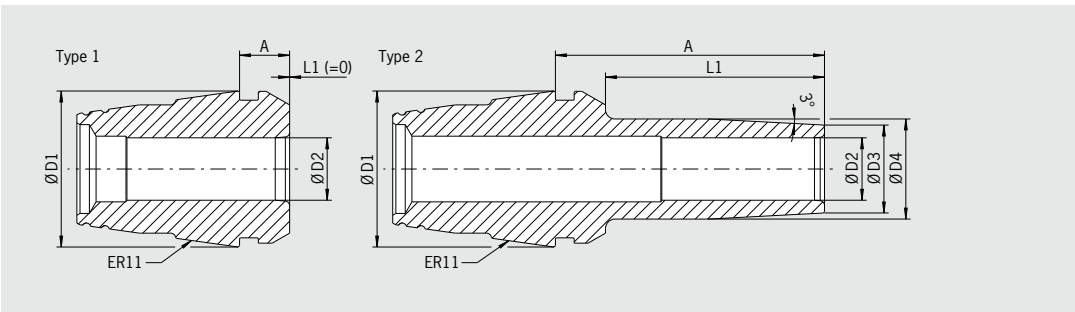


Assembly device for HG Mini

Accessories		
Torque wrench for HG Mini (pre-adjusted)		
Size	01	02
Order No.	**82.576.00**	**82.577.00**
Assembly device for HG Mini		
Order No.	**82.578.00**	

SHRINK FIT COLLETS ER11 (8°)
INCH





Version

– Compatible with all established ER nuts
– Optional with slits along the clamping bore for cooling from outside
– For solid carbide tools with shank tolerance h6

INCH Version

Order No.	Type	ER Size	D1 [inch]	A [inch]	L1 [inch]	D2 [inch]	D3 [inch]	D4 [inch]	Insertion depth [inch]
81.110.000.1/8z	1	ER11	0.433	0.179	0	1/8	–	–	–
81.110.000.3/16z[1)]	1	ER11	0.433	0.179	0	3/16	–	–	–
81.110.000.1/4z[1)]	1	ER11	0.433	0.179	0	1/4	–	–	–
81.110.020.1/8z	2	ER11	0.433	0.967	0.787	1/8	0.276	0.291	–
81.110.020.3/16z	2	ER11	0.433	0.967	0.787	3/16	–	0.291	–

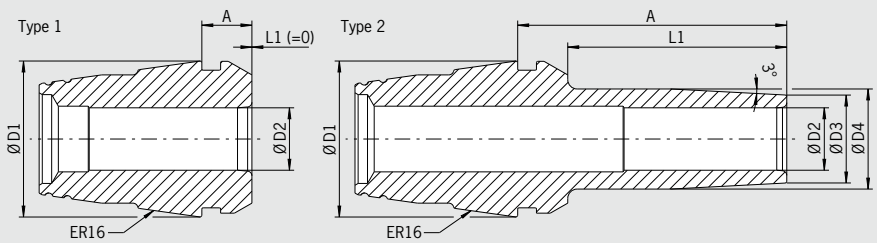
METRIC Version

Order No.	Type	ER Size	D1 [mm]	A [mm]	L1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	Insertion depth [mm]
81.110.000.03	1	ER11	11	4.55	0	3	–	–	–
81.110.010.03	2	ER11	11	14.55	10	3	7	7.4	–
81.110.020.03	2	ER11	11	24.55	20	3	7	7.4	–
81.110.000.04	1	ER11	11	4.55	0	4	–	–	–
81.110.010.04	2	ER11	11	14.55	10	4	7	7.4	–
81.110.020.04	2	ER11	11	24.55	20	4	7	7.4	–
81.110.000.05[1)]	1	ER11	11	4.55	0	5	–	–	–
81.110.000.06[1)]	1	ER11	11	4.55	0	6	–	–	17

Coolant slots
Order No. 91.100.42

1) Mounting of slits not possible

SHRINK FIT COLLETS ER16 (8°)
INCH





Version

- Compatible with all established ER nuts
- Optional with slits along the clamping bore for cooling from outside
- For solid carbide tools with shank tolerance h6

INCH Version

Order No.	Type	ER Size	D1 [inch]	A [inch]	L1 [inch]	D2 [inch]	D3 [inch]	D4 [inch]	Insertion depth [inch]
81.160.000.1/8z	1	ER16	0.630	0.264	0	1/8	–	–	–
81.160.000.3/16z	1	ER16	0.630	0.264	0	3/16	–	–	–
81.160.000.1/4z	1	ER16	0.630	0.264	0	1/4	–	–	–
81.160.000.5/16z[1)]	1	ER16	0.630	0.264	0	5/16	–	–	–
81.160.000.3/8z[1)]	1	ER16	0.630	0.264	0	3/8	–	–	–
81.160.035.1/8z	2	ER16	0.630	1.642	1.378	1/8	0.276	0.374	–
81.160.035.3/16z	2	ER16	0.630	1.642	1.378	3/16	0.315	0.374	–
81.160.035.1/4z	2	ER16	0.630	1.642	1.378	1/4	0.354	0.394	–

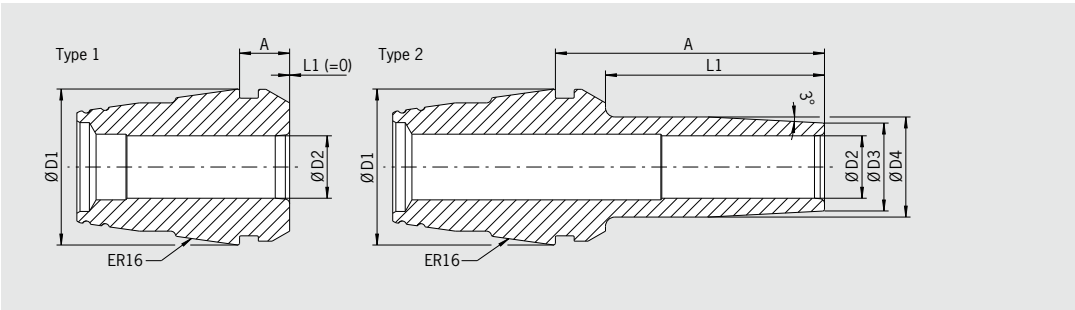
Coolant slots

Order No. 91.100.42

1) Mounting of slits not possible

SHRINK FIT COLLETS ER16 (8°)
METRIC





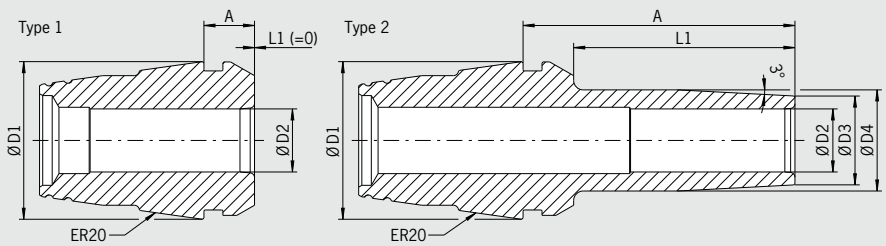
Version
- Compatible with all established ER nuts
- Optional with slits along the clamping bore for cooling from outside
- For solid carbide tools with shank tolerance h6

Order No.	Type	ER Size	D1 [mm]	A [mm]	L1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	Insertion depth [mm]
81.160.000.03	1	ER16	16	6.7	0	3	–	–	–
81.160.010.03	2	ER16	16	16.7	10	3	7	–	–
81.160.020.03	2	ER16	16	26.7	20	3	7	–	–
81.160.025.03	2	ER16	16	31.7	25	3	7	–	–
81.160.030.03	2	ER16	16	36.7	30	3	7	9.5	–
81.160.035.03	2	ER16	16	41.7	35	3	7	9.5	–
81.160.000.04	1	ER16	16	6.7	0	4	–	–	–
81.160.010.04	2	ER16	16	16.7	10	4	7	–	–
81.160.020.04	2	ER16	16	26.7	20	4	7	–	–
81.160.025.04	2	ER16	16	31.7	25	4	7	–	–
81.160.030.04	2	ER16	16	36.7	30	4	7	9.5	–
81.160.035.04	2	ER16	16	41.7	35	4	7	9.5	–
81.160.000.05	1	ER16	16	6.7	0	5	–	–	–
81.160.010.05	2	ER16	16	16.7	10	5	8	–	–
81.160.020.05	2	ER16	16	26.7	20	5	8	9.5	–
81.160.025.05	2	ER16	16	31.7	25	5	8	9.5	–
81.160.030.05	2	ER16	16	36.7	30	5	8	9.5	–
81.160.035.05	2	ER16	16	41.7	35	5	8	9.5	–
81.160.000.06	1	ER16	16	6.7	0	6	–	–	–
81.160.010.06	2	ER16	16	16.7	10	6	9	–	–
81.160.020.06	2	ER16	16	26.7	20	6	9	10	–
81.160.025.06	2	ER16	16	31.7	25	6	9	10	–
81.160.030.06	2	ER16	16	36.7	30	6	9	10	–
81.160.035.06	2	ER16	16	41.7	35	6	9	10	–
81.160.000.08[1)]	1	ER16	16	6.7	0	8	–	–	–
81.160.000.10[1)]	1	ER16	16	6.7	0	10	–	–	23

Coolant slots
Order No. 91.100.42

1) Mounting of slits not possible

SHRINK FIT COLLETS ER20 (8°)
INCH





Version

- Compatible with all established ER nuts
- Optional with slits along the clamping bore for cooling from outside
- For solid carbide tools with shank tolerance h6

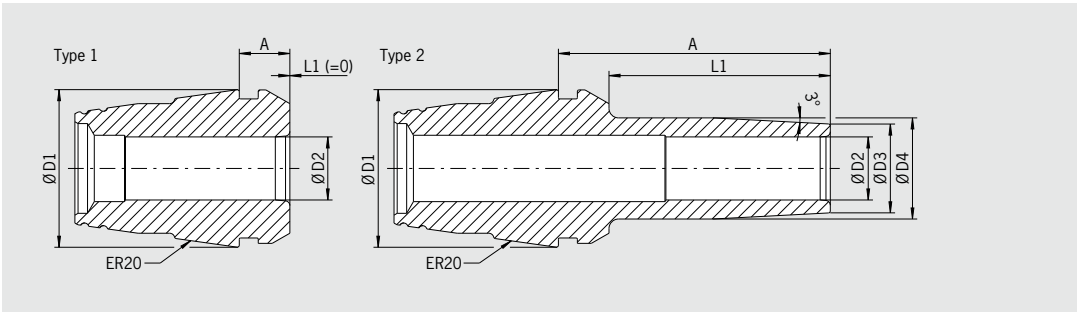
Order No.	Type	ER Size	D1 [inch]	A [inch]	L1 [inch]	D2 [inch]	D3 [inch]	D4 [inch]	Insertion depth [inch]
81.200.000.1/8z	1	ER20	0.787	0.296	0	1/8	–	–	–
81.200.000.3/16z	1	ER20	0.787	0.296	0	3/16	–	–	–
81.200.000.1/4z	1	ER20	0.787	0.296	0	1/4	–	–	–
81.200.000.5/16z	1	ER20	0.787	0.296	0	5/16	–	–	–
81.200.000.3/8z	1	ER20	0.787	0.296	0	3/8	–	–	–
81.200.000.7/16z	1	ER20	0.787	0.296	0	7/16	–	–	–
81.200.000.1/2z[1)]	1	ER20	0.787	0.296	0	1/2	–	–	–
81.200.035.1/8z	2	ER20	0.787	1.674	1.378	1/8	0.276	0.531	–
81.200.035.3/16z	2	ER20	0.787	1.674	1.378	3/16	0.315	0.531	–
81.200.035.1/4z	2	ER20	0.787	1.674	1.378	1/4	0.354	0.531	–
81.200.035.5/16z	2	ER20	0.787	1.674	1.378	5/16	0.433	0.531	–

Coolant slots
Order No. 91.100.42

1) Mounting of slits not possible

SHRINK FIT COLLETS ER20 (8°)
METRIC





Version

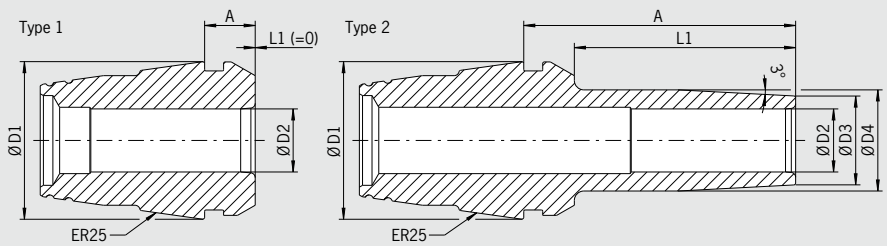
– Compatible with all established ER nuts
– Optional with slits along the clamping bore for cooling from outside
– For solid carbide tools with shank tolerance h6

Order No.	Type	ER Size	D1 [mm]	A [mm]	L1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	Insertion depth [mm]
81.200.000.03	1	ER20	20	7.52	0	3	–	–	–
81.200.025.03	2	ER20	20	32.52	25	3	7	12.5	–
81.200.035.03	2	ER20	20	42.52	35	3	7	13.5	–
81.200.000.04	1	ER20	20	7.52	0	4	–	–	–
81.200.025.04	2	ER20	20	32.52	25	4	7	12.5	–
81.200.035.04	2	ER20	20	42.52	35	4	7	13.5	–
81.200.000.05	1	ER20	20	7.52	0	5	–	–	–
81.200.025.05	2	ER20	20	32.52	25	5	8	13.5	–
81.200.035.05	2	ER20	20	42.52	35	5	8	13.5	–
81.200.000.06	1	ER20	20	7.52	0	6	–	–	–
81.200.025.06	2	ER20	20	32.52	25	6	9	13.5	–
81.200.035.06	2	ER20	20	42.52	35	6	9	13.5	–
81.200.000.08	1	ER20	20	7.52	0	8	–	–	–
81.200.025.08	2	ER20	20	32.52	25	8	11	14	–
81.200.035.08	2	ER20	20	42.52	35	8	11	14	–
81.200.000.10	1	ER20	20	7.52	0	10	–	–	–
81.200.000.12[1)]	1	ER20	20	7.52	0	12	–	–	29.5

Coolant slots
Order No. 91.100.42

1) Mounting of slits not possible

SHRINK FIT COLLETS ER25 (8°)
INCH





Version

- Compatible with all established ER nuts
- Optional with slits along the clamping bore for cooling from outside
- For solid carbide tools with shank tolerance h6

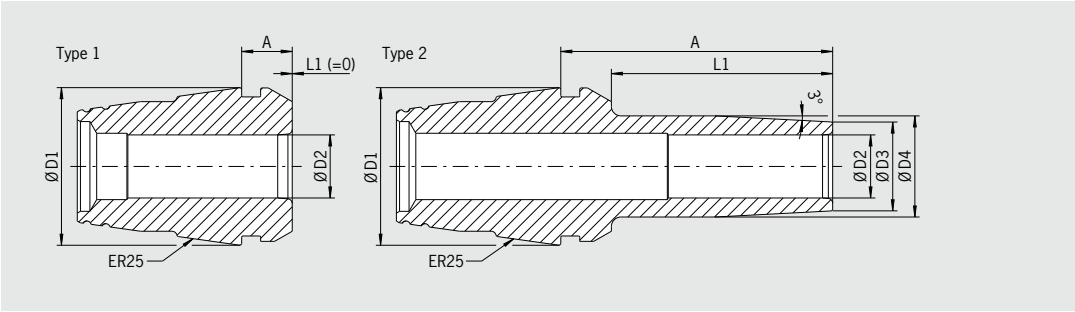
Order No.	Type	ER Size	D1 [inch]	A [inch]	L1 [inch]	D2 [inch]	D3 [inch]	D4 [inch]	Insertion depth [inch]
81.250.000.1/8z	1	ER25	0.984	0.315	0.000	1/8	–	–	–
81.250.000.3/16z	1	ER25	0.984	0.315	0.000	3/16	–	–	–
81.250.000.1/4z	1	ER25	0.984	0.315	0.000	1/4	–	–	–
81.250.000.5/16z	1	ER25	0.984	0.315	0.000	5/16	–	–	–
81.250.000.3/8z	1	ER25	0.984	0.315	0.000	3/8	–	–	–
81.250.000.7/16z	1	ER25	0.984	0.315	0.000	7/16	–	–	–
81.250.000.1/2z	1	ER25	0.984	0.315	0.000	1/2	–	–	–
81.250.000.9/16z	1	ER25	0.984	0.315	0.000	9/16	–	–	–
81.250.000.5/8z[1)]	1	ER25	0.984	0.315	0.000	5/8	–	–	–
81.250.035.1/8z	2	ER25	0.984	1.693	1.378	1/8	0.276	0.531	–
81.250.035.3/16z	2	ER25	0.984	1.693	1.378	3/16	0.315	0.531	–
81.250.035.1/4z	2	ER25	0.984	1.693	1.378	1/4	0.354	0.610	–
81.250.035.5/16z	2	ER25	0.984	1.693	1.378	5/16	0.433	0.657	–
81.250.035.3/8z	2	ER25	0.984	1.693	1.378	3/8	0.551	0.630	–
81.250.035.7/16z	2	ER25	0.984	1.693	1.378	7/16	0.591	0.630	–

Coolant slots
Order No. 91.100.42

1) Mounting of slits not possible

SHRINK FIT COLLETS ER25 (8°)
METRIC





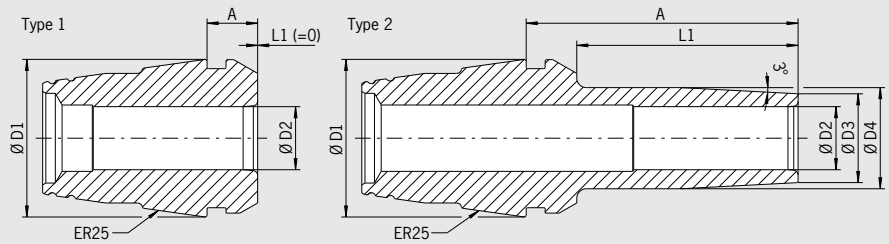
Version

– Compatible with all established ER nuts
– Optional with slits along the clamping bore for cooling from outside
– For solid carbide tools with shank tolerance h6

Order No.	Type	ER Size	D1 [mm]	A [mm]	L1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	Insertion depth [mm]
81.250.000.03	1	ER25	25	8	0	3	–	–	–
81.250.010.03	2	ER25	25	18	10	3	7	12.5	–
81.250.020.03	2	ER25	25	28	20	3	7	12.5	–
81.250.025.03	2	ER25	25	33	25	3	7	12.5	–
81.250.030.03	2	ER25	25	38	30	3	7	13.5	–
81.250.035.03	2	ER25	25	43	35	3	7	13.5	–
81.250.000.04	1	ER25	25	8	0	4	–	–	–
81.250.010.04	2	ER25	25	18	10	4	7	12.5	–
81.250.020.04	2	ER25	25	28	20	4	7	12.5	–
81.250.025.04	2	ER25	25	33	25	4	7	12.5	–
81.250.030.04	2	ER25	25	38	30	4	7	13.5	–
81.250.035.04	2	ER25	25	43	35	4	7	13.5	–
81.250.000.05	1	ER25	25	8	0	5	–	–	–
81.250.010.05	2	ER25	25	18	10	5	8	13.5	–
81.250.020.05	2	ER25	25	28	20	5	8	13.5	–
81.250.025.05	2	ER25	25	33	25	5	8	13.5	–
81.250.030.05	2	ER25	25	38	30	5	8	14.5	–
81.250.035.05	2	ER25	25	43	35	5	8	14.5	–
81.250.000.06	1	ER25	25	8	0	6	–	–	–
81.250.010.06	2	ER25	25	18	10	6	9	14.5	–
81.250.020.06	2	ER25	25	28	20	6	9	14.5	–
81.250.025.06	2	ER25	25	33	25	6	9	14.5	–
81.250.030.06	2	ER25	25	38	30	6	9	15.5	–
81.250.035.06	2	ER25	25	43	35	6	9	15.5	–
81.250.000.08	1	ER25	25	8	0	8	–	–	–
81.250.010.08	2	ER25	25	18	10	8	11	16	–

Coolant slots
Order No. 91.100.42

SHRINK FIT COLLETS ER25 (8°)
METRIC





Version
- Compatible with all established ER nuts
- Optional with slits along the clamping bore for cooling from outside
- For solid carbide tools with shank tolerance h6

Order No.	Type	ER Size	D1 [mm]	A [mm]	L1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	Insertion depth [mm]
81.250.020.08	2	ER25	25	28	20	8	11	16	–
81.250.025.08	2	ER25	25	33	25	8	11	16	–
81.250.030.08	2	ER25	25	38	30	8	11	16.7	–
81.250.035.08	2	ER25	25	43	35	8	11	16.7	–
81.250.000.10	1	ER25	25	8	0	10	–	–	–
81.250.010.10	2	ER25	25	18	10	10	14	–	–
81.250.020.10	2	ER25	25	28	20	10	14	–	–
81.250.025.10	2	ER25	25	33	25	10	14	–	–
81.250.030.10	2	ER25	25	38	30	10	14	16	–
81.250.035.10	2	ER25	25	43	35	10	14	16	–
81.250.000.12	1	ER25	25	8	0	12	–	–	–
81.250.000.14	1	ER25	25	8	0	14	–	–	–
81.250.000.16[1)]	1	ER25	25	8	0	16	–	–	33

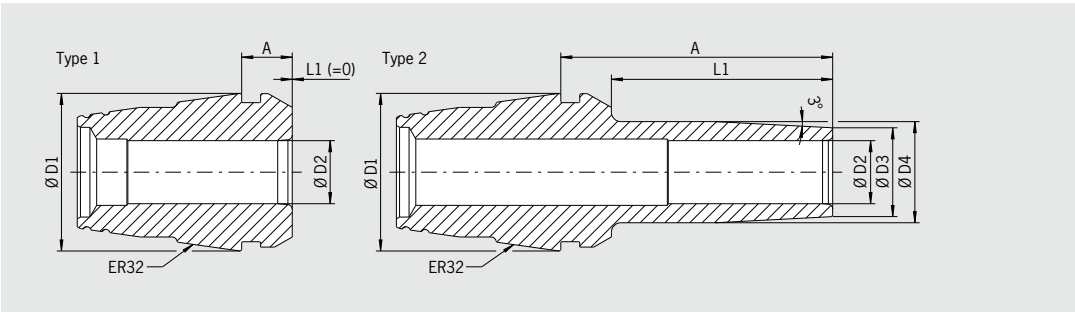
Coolant slots

Order No. 91.100.42

1) Mounting of slits not possible

SHRINK FIT COLLETS ER32 (8°)
INCH





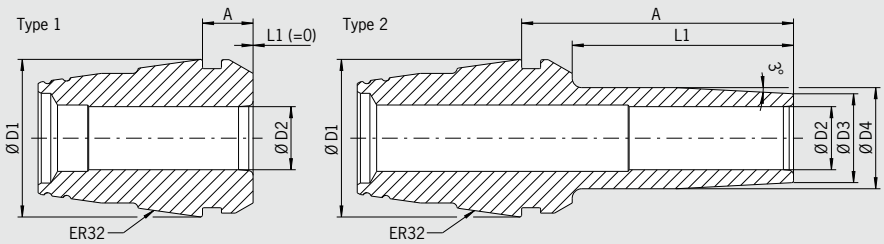
Version

– Compatible with all established ER nuts
– Optional with slits along the clamping bore for cooling from outside
– For solid carbide tools with shank tolerance h6

Order No.	Type	ER Size	D1 [inch]	A [inch]	L1 [inch]	D2 [inch]	D3 [inch]	D4 [inch]	Insertion depth [inch]
81.320.000.1/8z	1	ER32	1.260	0.354	0.000	1/8	–	–	–
81.320.000.3/16z	1	ER32	1.260	0.354	0.000	3/16	–	–	–
81.320.000.1/4z	1	ER32	1.260	0.354	0.000	1/4	–	–	–
81.320.000.5/16z	1	ER32	1.260	0.354	0.000	5/16	–	–	–
81.320.000.3/8z	1	ER32	1.260	0.354	0.000	3/8	–	–	–
81.320.000.7/16z	1	ER32	1.260	0.354	0.000	7/16	–	–	–
81.320.000.1/2z	1	ER32	1.260	0.354	0.000	1/2	–	–	–
81.320.000.9/16z	1	ER32	1.260	0.354	0.000	9/16	–	–	–
81.320.000.5/8z	1	ER32	1.260	0.354	0.000	5/8	–	–	–
81.320.000.3/4z	1	ER32	1.260	0.354	0.000	3/4	–	–	–
81.320.035.1/8z	2	ER32	1.260	1.732	1.378	1/8	0.276	0.591	–
81.320.035.3/16z	2	ER32	1.260	1.732	1.378	3/16	0.315	0.591	–
81.320.035.1/4z	2	ER32	1.260	1.732	1.378	1/4	0.354	0.669	–
81.320.035.5/16z	2	ER32	1.260	1.732	1.378	5/16	0.433	0.748	–
81.320.035.3/8z	2	ER32	1.260	1.732	1.378	3/8	0.551	0.866	–
81.320.035.7/16z	2	ER32	1.260	1.732	1.378	7/16	0.591	0.866	–
81.320.035.1/2z	2	ER32	1.260	1.732	1.378	1/2	0.630	0.945	–
81.320.035.9/16z	2	ER32	1.260	1.732	1.378	9/16	0.669	0.945	–
81.320.035.5/8z	2	ER32	1.260	1.732	1.378	5/8	0.748	0.945	–

Coolant slots
Order No. 91.100.42

SHRINK FIT COLLETS ER32 (8°)
METRIC





Version
- Compatible with all established ER nuts
- Optional with slits along the clamping bore for cooling from outside
- For solid carbide tools with shank tolerance h6

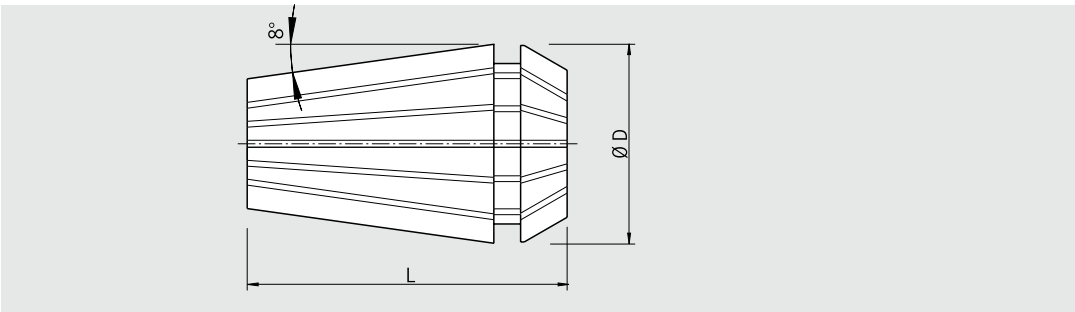
Order No.	Type	ER Size	D1 [mm]	A [mm]	L1 [mm]	D2 [mm]	D3 [mm]	D4 [mm]	Insertion depth [mm]
81.320.000.03	1	ER32	32	9	0	3	–	–	–
81.320.035.03	2	ER32	32	44	35	3	7	15	–
81.320.000.04	1	ER32	32	9	0	4	–	–	–
81.320.035.04	2	ER32	32	44	35	4	7	15	–
81.320.000.05	1	ER32	32	9	0	5	–	–	–
81.320.035.05	2	ER32	32	44	35	5	8	16	–
81.320.000.06	1	ER32	32	9	0	6	–	–	–
81.320.035.06	2	ER32	32	44	35	6	9	17	–
81.320.000.08	1	ER32	32	9	0	8	–	–	–
81.320.035.08	2	ER32	32	44	35	8	11	19	–
81.320.000.10	1	ER32	32	9	0	10	–	–	–
81.320.035.10	2	ER32	32	44	35	10	14	22	–
81.320.000.12	1	ER32	32	9	0	12	–	–	–
81.320.035.12	2	ER32	32	44	35	12	15	24	–
81.320.000.14	1	ER32	32	9	0	14	–	–	–
81.320.035.14	2	ER32	32	44	35	14	17	24	–
81.320.000.16	1	ER32	32	9	0	16	–	–	–
81.320.035.16	2	ER32	32	44	35	16	19	24	–
81.320.000.18	1	ER32	32	9	0	18	–	–	–
81.320.000.20	1	ER32	32	9	0	20	–	–	–

Coolant slots

Order No. 91.100.42

HIGH PRECISION ER COLLETS
METRIC





- High polished finish for extra accuracy and long life, especially when clamped in HAIMER ER collet chucks
- ISO 15488 (formerly DIN 6499)
- Superior clamping strength
- Fits all brands of ER collet holders
- Run-out accuracy 0.0002" (5 µm)

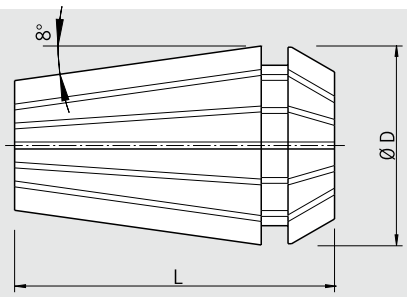
ER 11 Clamping Ø		[mm]	Ø D	L
Order No.	**81.110.1.0**	0.50 ... 1.00	11.5	18
	81.110.1.5	1.00 ... 1.50	11.5	18
	81.110.2.0	1.50 ... 2.00	11.5	18
	81.110.2.5	2.00 ... 2.50	11.5	18
	81.110.3.0	2.50 ... 3.00	11.5	18
	81.110.3.5	3.00 ... 3.50	11.5	18
	81.110.4.0	3.50 ... 4.00	11.5	18
	81.110.4.5	4.00 ... 4.50	11.5	18
	81.110.5.0	4.50 ... 5.00	11.5	18
	81.110.5.5	5.00 ... 5.50	11.5	18
	81.110.6.0	5.50 ... 6.00	11.5	18
	81.110.6.5	6.00 ... 6.50	11.5	18
	81.110.7.0	6.50 ... 7.00	11.5	18

ER 16 Clamping Ø		[mm]	Ø D	L
Order No.	**81.160.01**	0.50 ... 1.00	17	27
	81.160.1.5	1.00 ... 1.50	17	27
	81.160.02	1.50 ... 2.00	17	27
	81.160.2.5	2.00 ... 2.50	17	27
	81.160.03	2.50 ... 3.00	17	27
	81.160.04	3.00 ... 4.00	17	27
	81.160.05	4.00 ... 5.00	17	27
	81.160.06	5.00 ... 6.00	17	27
	81.160.07	6.00 ... 7.00	17	27
	81.160.08	7.00 ... 8.00	17	27
	81.160.09	8.00 ... 9.00	17	27
	81.160.10	9.00 ... 10.00	17	27

ER 20 Clamping Ø		[mm]	Ø D	L
Order No.	**81.200.02**	1.50 ... 2.00	21	31.5
	81.200.03	2.00 ... 3.00	21	31.5
	81.200.04	3.00 ... 4.00	21	31.5
	81.200.05	4.00 ... 5.00	21	31.5
	81.200.06	5.00 ... 6.00	21	31.5
	81.200.07	6.00 ... 7.00	21	31.5
	81.200.08	7.00 ... 8.00	21	31.5
	81.200.09	8.00 ... 9.00	21	31.5
	81.200.10	9.00 ... 10.00	21	31.5
	81.200.11	10.00 ... 11.00	21	31.5
	81.200.12	11.00 ... 12.00	21	31.5
	81.200.13	12.00 ... 13.00	21	31.5

ER 25 Clamping Ø		[mm]	Ø D	L
Order No.	**81.250.1.5**	1.00 ... 1.50	26	35
	81.250.02	1.50 ... 2.00	26	35
	81.250.2.5	2.00 ... 2.50	26	35
	81.250.03	2.50 ... 3.00	26	35
	81.250.04	3.00 ... 4.00	26	35
	81.250.05	4.00 ... 5.00	26	35
	81.250.06	5.00 ... 6.00	26	35
	81.250.07	6.00 ... 7.00	26	35
	81.250.08	7.00 ... 8.00	26	35
	81.250.09	8.00 ... 9.00	26	35
	81.250.10	9.00 ... 10.00	26	35
	81.250.11	10.00 ... 11.00	26	35
	81.250.12	11.00 ... 12.00	26	35
	81.250.13	12.00 ... 13.00	26	35
	81.250.14	13.00 ... 14.00	26	35
	81.250.15	14.00 ... 15.00	26	35
	81.250.16	15.00 ... 16.00	26	35

HIGH PRECISION ER COLLETS
METRIC





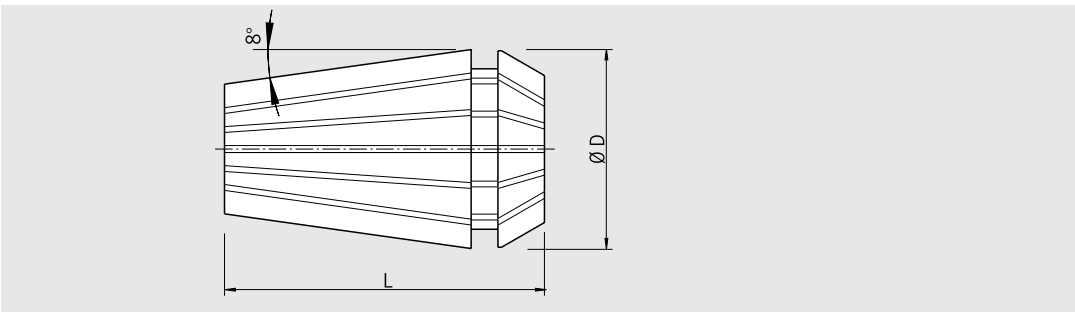
- High polished finish for extra accuracy and long life, especially when clamped in HAIMER ER collet chucks
- ISO 15488 (formerly DIN 6499)
- Superior clamping strength
- Fits all brands of ER collet holders
- Run-out accuracy 0.0002" (5 µm)

ER 32 Clamping Ø		[mm]	Ø D	L
Order No.	**81.320.02**	1.50 ... 2.00	33	40
	81.320.2.5	2.00 ... 2.50	33	40
	81.320.03	2.50 ... 3.00	33	40
	81.320.04	3.00 ... 4.00	33	40
	81.320.05	4.00 ... 5.00	33	40
	81.320.06	5.00 ... 6.00	33	40
	81.320.07	6.00 ... 7.00	33	40
	81.320.08	7.00 ... 8.00	33	40
	81.320.09	8.00 ... 9.00	33	40
	81.320.10	9.00 ... 10.00	33	40
	81.320.11	10.00 ... 11.00	33	40
	81.320.12	11.00 ... 12.00	33	40
	81.320.13	12.00 ... 13.00	33	40
	81.320.14	13.00 ... 14.00	33	40
	81.320.15	14.00 ... 15.00	33	40
	81.320.16	15.00 ... 16.00	33	40
	81.320.17	16.00 ... 17.00	33	40
	81.320.18	17.00 ... 18.00	33	40
	81.320.19	18.00 ... 19.00	33	40
	81.320.20	19.00 ... 20.00	33	40

ER 40 Clamping Ø		[mm]	Ø D	L
Order No.	**81.400.03**	2.50 ... 3.00	41	46
	81.400.04	3.00 ... 4.00	41	46
	81.400.05	4.00 ... 5.00	41	46
	81.400.06	5.00 ... 6.00	41	46
	81.400.07	6.00 ... 7.00	41	46
	81.400.08	7.00 ... 8.00	41	46
	81.400.09	8.00 ... 9.00	41	46
	81.400.10	9.00 ... 10.00	41	46
	81.400.11	10.00 ... 11.00	41	46
	81.400.12	11.00 ... 12.00	41	46
	81.400.13	12.00 ... 13.00	41	46
	81.400.14	13.00 ... 14.00	41	46
	81.400.15	14.00 ... 15.00	41	46
	81.400.16	15.00 ... 16.00	41	46
	81.400.17	16.00 ... 17.00	41	46
	81.400.18	17.00 ... 18.00	41	46
	81.400.19	18.00 ... 19.00	41	46
	81.400.20	19.00 ... 20.00	41	46
	81.400.21	20.00 ... 21.00	41	46
	81.400.22	21.00 ... 22.00	41	46
	81.400.23	22.00 ... 23.00	41	46
	81.400.24	23.00 ... 24.00	41	46
	81.400.25	24.00 ... 25.00	41	46
	81.400.26	25.00 ... 26.00	41	46

HIGH PRECISION ER COLLETS
INCH





- High polished finish for extra accuracy and long life, especially when clamped in HAIMER ER collet chucks
- ISO 15488 (formerly DIN 6499)
- Superior clamping strength
- Fits all brands of ER collet holders
- Run-out accuracy 0.0002" (5 µm)

ER 16 Clamping Ø		[inch]	Ø D	L
Order No.	**81.160.1/16Z**	0.0425 – 0.0625	0.67	1.06
	81.160.1/8Z	0.085 – 0.125	0.67	1.06
	81.160.3/16Z	0.1475 – 0.1875	0.67	1.06
	81.160.1/4Z	0.21 – 0.25	0.67	1.06
	81.160.5/16Z	0.2725 – 0.3125	0.67	1.06
	81.160.3/8Z	0.335 – 0.375	0.67	1.06

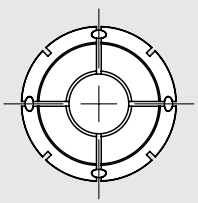
ER 20 Clamping Ø		[inch]	Ø D	L
Order No.	**81.200.1/8Z**	0.085 – 0.125	0.83	1.24
	81.200.3/16Z	0.1475 – 0.1875	0.83	1.24
	81.200.1/4Z	0.21 – 0.25	0.83	1.24
	81.200.5/16Z	0.2725 – 0.3125	0.83	1.24
	81.200.3/8Z	0.335 – 0.375	0.83	1.24
	81.200.7/16Z	0.3975 – 0.4375	0.83	1.24
	81.200.1/2Z	0.46 – 0.50	0.83	1.24

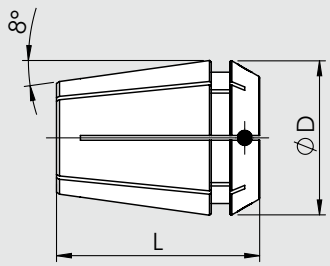
ER 25 Clamping Ø		[inch]	Ø D	L
Order No.	**81.250.1/8Z**	0.085 – 0.125	1.02	1.38
	81.250.3/16Z	0.1475 – 0.1875	1.02	1.38
	81.250.1/4Z	0.21 – 0.25	1.02	1.38
	81.250.5/16Z	0.2725 – 0.3125	1.02	1.38
	81.250.3/8Z	0.335 – 0.375	1.02	1.38
	81.250.7/16Z	0.3975 – 0.4375	1.02	1.38
	81.250.1/2Z	0.46 – 0.50	1.02	1.38
	81.250.9/16Z	0.5225 – 0.5625	1.02	1.38
	81.250.5/8Z	0.585 – 0.625	1.02	1.38

ER 32 Clamping Ø		[inch]	Ø D	L
Order No.	**81.320.1/8Z**	0.085 – 0.125	1.3	1.57
	81.320.3/16Z	0.1475 – 0.1875	1.3	1.57
	81.320.1/4Z	0.21 – 0.25	1.3	1.57
	81.320.5/16Z	0.2725 – 0.3125	1.3	1.57
	81.320.3/8Z	0.335 – 0.375	1.3	1.57
	81.320.7/16Z	0.3975 – 0.4375	1.3	1.57
	81.320.1/2Z	0.46 – 0.50	1.3	1.57
	81.320.9/16Z	0.5225 – 0.5625	1.3	1.57
	81.320.5/8Z	0.585 – 0.625	1.3	1.57
	81.320.11/16Z	0.6475 – 0.6875	1.3	1.57
	81.320.3/4Z	0.71 – 0.75	1.3	1.57

ER 40 Clamping Ø		[inch]	Ø D	L
Order No.	**81.400.1/4Z**	0.21 – 0.25	1.61	1.81
	81.400.5/16Z	0.2725 – 0.3125	1.61	1.81
	81.400.3/8Z	0.335 – 0.375	1.61	1.81
	81.400.7/16Z	0.3975 – 0.4375	1.61	1.81
	81.400.1/2Z	0.46 – 0.50	1.61	1.81
	81.400.9/16Z	0.5225 – 0.5625	1.61	1.81
	81.400.5/8Z	0.585 – 0.625	1.61	1.81
	81.400.3/4Z	0.71 – 0.75	1.61	1.81
	81.400.7/8Z	0.835 – 0.875	1.61	1.81
	81.400.1Z	0.96 – 1	1.61	1.81

HIGH PRECISION ER COLLETS – SEALED METRIC







- High polished finish for extra accuracy and long life, especially when clamped in HAIMER ER collet chucks
- ISO 15488 (formerly DIN 6499)
- Superior clamping strength
- Fits all brands of ER collet holders
- Run-out accuracy 0.0002" (5 µm)
- Sealed for internal coolant tools

ER 16 Clamping Ø		[mm]	Ø D	L
Order No.	81.165.03	03	16.70	30
	81.165.04	04	16.70	30
	81.165.05	05	16.70	30
	81.165.06	06	16.70	30
	81.165.07	07	16.70	30
	81.165.08	08	16.70	30
	81.165.09	09	16.70	30
	81.165.10	10	16.70	30

ER 25 Clamping Ø		[mm]	Ø D	L
Order No.	81.255.03	03	25.70	37
	81.255.04	04	25.70	37
	81.255.05	05	25.70	37
	81.255.06	06	25.70	37
	81.255.07	07	25.70	37
	81.255.08	08	25.70	37
	81.255.09	09	25.70	37
	81.255.10	10	25.70	37
	81.255.11	11	25.70	37
	81.255.12	12	25.70	37
	81.255.13	13	25.70	37
	81.255.14	14	25.70	37
	81.255.15	15	25.70	37
	81.255.16	16	25.70	37

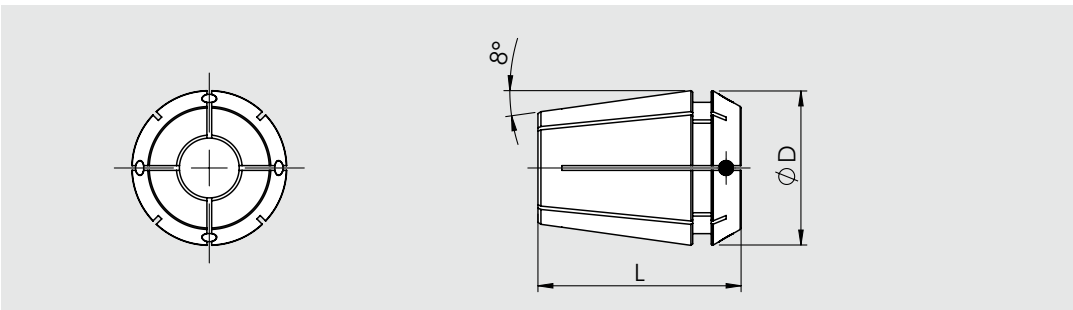
ER 40 Clamping Ø		[mm]	Ø D	L
Order No.	81.405.06	06	40.70	30
	81.405.08	08	40.70	30
	81.405.10	10	40.70	30
	81.405.12	12	40.70	30
	81.405.14	14	40.70	30
	81.405.16	16	40.70	30
	81.405.18	18	40.70	30
	81.405.20	20	40.70	30
	81.405.22	22	40.70	30
	81.405.25	25	40.70	30

ER 20 Clamping Ø		[mm]	Ø D	L
Order No.	81.205.03	03	20.70	30
	81.205.04	04	20.70	30
	81.205.05	05	20.70	30
	81.205.06	06	20.70	30
	81.205.07	07	20.70	30
	81.205.08	08	20.70	30
	81.205.09	09	20.70	30
	81.205.10	10	20.70	30
	81.205.11	11	20.70	30
	81.205.12	12	20.70	30

ER 32 Clamping Ø		[mm]	Ø D	L
Order No.	81.325.03	03	32.70	45
	81.325.04	04	32.70	45
	81.325.05	05	32.70	45
	81.325.06	06	32.70	45
	81.325.07	07	32.70	45
	81.325.08	08	32.70	45
	81.325.09	09	32.70	45
	81.325.10	10	32.70	45
	81.325.11	11	32.70	45
	81.325.12	12	32.70	45
	81.325.13	13	32.70	45
	81.325.14	14	32.70	45
	81.325.15	15	32.70	45
	81.325.16	16	32.70	45
	81.325.17	17	32.70	45
	81.325.18	18	32.70	45
	81.325.19	19	32.70	45
	81.325.20	20	32.70	45

HIGH PRECISION ER COLLETS – SEALED INCH





- High polished finish for extra accuracy and long life, especially when clamped in HAIMER ER collet chucks
- ISO 15488 (formerly DIN 6499)
- Superior clamping strength
- Fits all brands of ER collet holders
- Run-out accuracy 0.0002" (5 µm)
- Sealed for internal coolant tools

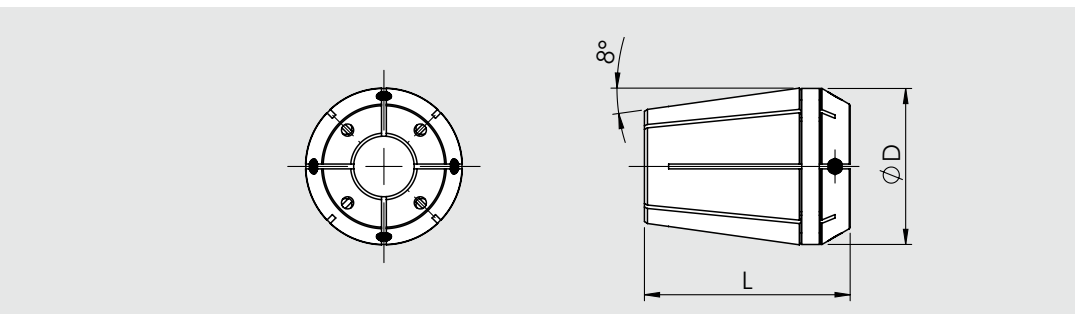
ER 16 Clamping Ø		[inch]	Ø D	L
Order No.	81.165.1/8z	1/8	0.65	1.18
	81.165.3/16z	3/16	0.65	1.18
	81.165.1/4z	1/4	0.65	1.18
	81.165.5/16z	5/16	0.65	1.18
	81.165.3/8z	3/8	0.65	1.18

ER 20 Clamping Ø		[inch]	Ø D	L
Order No.	81.205.1/8z	1/8	1.001	1.46
	81.205.3/16z	3/16	1.001	1.46
	81.205.1/4z	1/4	1.001	1.46
	81.205.5/16z	5/16	1.001	1.46
	81.205.3/8z	3/8	1.001	1.46
	81.205.7/16z	7/16	1.001	1.46
	81.205.1/2z	1/2	1.001	1.46

ER 25 Clamping Ø		[inch]	Ø D	L
Order No.	81.255.1/8z	1/8	1.001	1.46
	81.255.3/16z	3/16	1.001	1.46
	81.255.1/4z	1/4	1.001	1.46
	81.255.5/16z	5/16	1.001	1.46
	81.255.3/8z	3/8	1.001	1.46
	81.255.7/16z	7/16	1.001	1.46
	81.255.1/2z	1/2	1.001	1.46
	81.255.9/16z	9/16	1.001	1.46
	81.255.5/8z	5/8	1.001	1.46

ER 32 Clamping Ø		[inch]	Ø D	L
Order No.	81.325.1/8z	1/8	1.28	1.77
	81.325.3/16z	3/16	1.28	1.77
	81.325.1/4z	1/4	1.28	1.77
	81.325.5/16z	5/16	1.28	1.77
	81.325.3/8z	3/8	1.28	1.77
	81.325.7/16z	7/16	1.28	1.77
	81.325.1/2z	1/2	1.28	1.77
	81.325.9/16z	9/16	1.28	1.77
	81.325.5/8z	5/8	1.28	1.77
	81.325.3/4z	3/4	1.28	1.77

HIGH PRECISION COLLETS ER – SEALED WITH COOL JET





- High polished finish for extra accuracy and long life, especially when clamped in HAIMER ER collet chucks
- ISO 15488 (formerly DIN 6499)
- Superior clamping strength
- Fits all brands of ER collet holders
- Run-out accuracy 0.00012" (3 µm)
- With Cool Jet bores for optimal coolant supply
- For cylindrical shanks with tolerance h8 or better

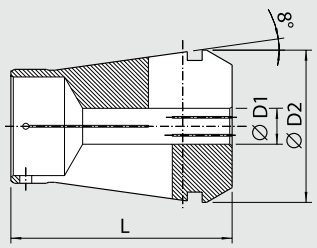
ER 25 Clamping Ø		[mm]	Ø D	L
Order No.	**81.252.04**	04	26	37
	81.252.06	06	26	37
	81.252.08	08	26	37
	81.252.10	10	26	37
	81.252.12	12	26	37
	81.252.14	14	26	37

ER 32 Clamping Ø		[mm]	Ø D	L
Order No.	**81.322.04**	04	33	45
	81.322.06	06	33	45
	81.322.08	08	33	45
	81.322.10	10	33	45
	81.322.12	12	33	45
	81.322.14	14	33	45
	81.322.16	16	33	45
	81.322.18	18	33	45
	81.322.20	20	33	45

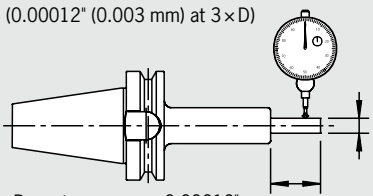
Attention: Blue plastic ring is for identification purposes only and must be removed before use.

POWER COLLET FOR HAIMER POWER/HIGH PRECISION COLLET CHUCK INCH





Power ER Collet
– For ultra precision machining
– High runout accuracy
(0.00012" (0.003 mm) at 3×D)



Runout accuracy <0.00012"

– High runout accuracy: < 0.00012" (3 µm) at 3×D
– Superior clamping strength
– Fits HAIMER Power Collet Chucks and High Precision Collet Chucks
– For cylindrical shanks with tolerance h10
– Optional: Cool Jet bores at self-sealing collets

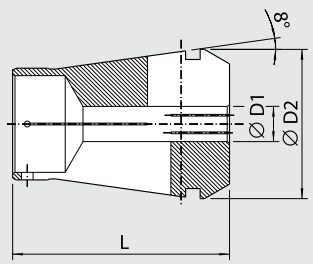
ER 16	Clamping	Ø D1 [inch]	Ø D2 [inch]	L [inch]
Order No.	81.163.1/8z	1/8	0.65	1.18
	81.163.3/16z	3/16	0.65	1.18
	81.163.1/4z[1)]	1/4	0.65	1.18
	81.163.5/16z[1)]	5/16	0.65	1.18
	81.163.3/8z[1)]	3/8	0.65	1.18

ER 25	Clamping	Ø D1 [inch]	Ø D2 [inch]	L [inch]
Order No.	81.253.1/8z	1/8	1.001	1.46
	81.253.3/16z	3/16	1.001	1.46
	81.253.1/4z[1)]	1/4	1.001	1.46
	81.253.5/16z[1)]	5/16	1.001	1.46
	81.253.3/8z[1)]	3/8	1.001	1.46
	81.253.7/16z[1)]	7/16	1.001	1.46
	81.253.1/2z[1)]	1/2	1.001	1.46
	81.253.9/16z[1)]	9/16	1.001	1.46
	81.253.5/8z[1)]	5/8	1.001	1.46

ER 32	Clamping	Ø D1 [inch]	Ø D2 [inch]	L [inch]
Order No.	81.323.1/8z	1/8	1.28	1.77
	81.323.3/16z	3/16	1.28	1.77
	81.323.1/4z[1)]	1/4	1.28	1.77
	81.323.5/16z[1)]	5/16	1.28	1.77
	81.323.3/8z[1)]	3/8[1)]	1.28	1.77
	81.323.7/16z[1)]	7/16	1.28	1.77
	81.323.1/2z[1)]	1/2[1)]	1.28	1.77
	81.323.9/16z[1)]	9/16	1.28	1.77
	81.323.5/8z[1)]	5/8[1)]	1.28	1.77
	81.323.3/4z[1)]	3/4	1.28	1.77

1) Sealed for internal coolant

POWER COLLET FOR HAIMER POWER/HIGH PRECISION COLLET CHUCK METRIC





– High runout accuracy: < 0.00012" (3 µm) at 3×D
– Superior clamping strength
– Fits HAIMER Power Collet Chucks and High Precision Collet Chucks
– For cylindrical shanks with tolerance h10
– Optional: Cool Jet bores at self-sealing collets

ER 16 Clamping Ø [mm]		D1	D2	L
Order No.	**81.163.02**[1)]	2	16.45	30
	81.163.03	3	16.45	30
	81.163.04[1)]	4	16.45	30
	81.163.05[1)]	5	16.45	30
	81.163.06[1)]	6	16.45	30
	81.163.08[1)]	8	16.45	30
	81.163.10[1)]	10	16.45	30

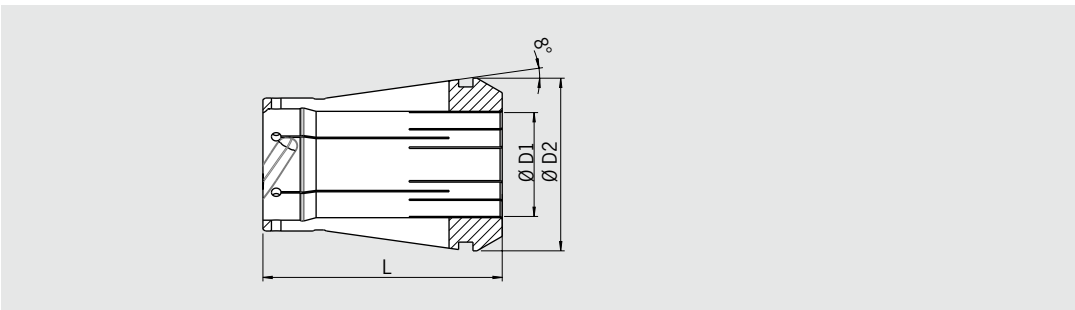
ER 25 Clamping Ø [mm]		D1	D2	L
Order No.	**81.253.02**[1)]	2	25.45	37
	81.253.03	3	25.45	37
	81.253.04	4	25.45	37
	81.253.05[1)]	5	25.45	37
	81.253.06[1)]	6	25.45	37
	81.253.08[1)]	8	25.45	37
	81.253.10[1)]	10	25.45	37
	81.253.12[1)]	12	25.45	37
	81.253.14[1)]	14	25.45	37
	81.253.16[1)]	16	25.45	37

ER 32 Clamping Ø [mm]		D1	D2	L
Order No.	**81.323.02**[1)]	2	32.48	45
	81.323.03	3	32.48	45
	81.323.04	4	32.48	45
	81.323.05[1)]	5	32.48	45
	81.323.06[1)]	6	32.48	45
	81.323.08[1)]	8	32.48	45
	81.323.10[1)]	10	32.48	45
	81.323.12[1)]	12	32.48	45
	81.323.14[1)]	14	32.48	45
	81.323.16[1)]	16	32.48	45
	81.323.18[1)]	18	32.48	45
	81.323.20[1)]	20	32.48	45

1) Sealed for internal coolant

POWER COLLET WITH SAFE-LOCK





– High-precision Power Collets with stabilization and concentricity through pilot of collet
– High torque due to form closed clamping
– No pull out and no spinning of the tool
– Groove on tool shank is directed so that the tool will be pulled into the chuck (depending on direction of rotation)
– Sealed for internal coolant

INCH ER 16 (0.47–0.63)		Ø D1 [inch]	Ø D2 [inch]	L [inch]
Order No.	81.163.3/8z.7	3/8	1.001	1.46

INCH ER 25 (0.47–0.63)		Ø D1 [inch]	Ø D2 [inch]	L [inch]
Order No.	81.253.3/8z.7	3/8	1.001	1.46
	81.253.1/2z.7	1/2	1.001	1.46
	81.253.5/8z.7	5/8	1.001	1.46

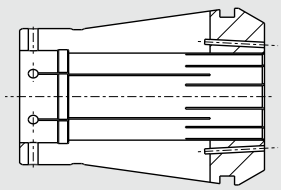
INCH ER 32 (0.63–0.79)		Ø D1 [inch]	Ø D2 [inch]	L [inch]
	81.323.3/8z.7	3/8	1.28	1.77
	81.323.1/2z.7	1/2	1.28	1.77
	81.323.5/8z.7	5/8	1.28	1.77
	81.323.3/4z.7	3/4	1.28	1.77

METRIC ER 16 Clamping Ø [mm]		D1	D2	L
Order No.	81.163.06.7	6	16.45	30
	81.163.08.7	8	16.45	30
	81.163.10.7	10	16.45	30

METRIC ER 25 Clamping Ø [mm]		D1	D2	L
Order No.	81.253.06.7	6	25.45	37
	81.253.08.7	8	25.45	37
	81.253.10.7	10	25.45	37
	81.253.12.7	12	25.45	37
	81.253.14.7	14	25.45	37
	81.253.16.7	16	25.45	37

METRIC ER 32 Clamping Ø [mm]		D1	D2	L
Order No.	81.323.06.7	6	32.48	45
	81.323.08.7	8	32.48	45
	81.323.10.7	10	32.48	45
	81.323.12.7	12	32.48	45
	81.323.14.7	14	32.48	45
	81.323.16.7	16	32.48	45
	81.323.18.7	18	32.48	45
	81.323.20.7	20	32.48	45

COOL JET BORES FOR POWER COLLETS



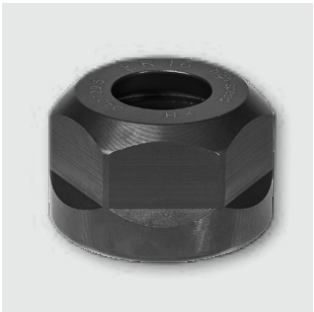


Optional: Cool Jet for Power Collets

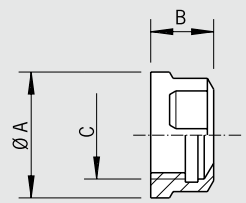
– Optimized coolant bores, aimed at center of the collet
– Coolant directly to the cutting edge
– Extended tool life up to 100%
– Higher reliability of cutting process
– Eliminates chips packing and chip welding
– Available for self-sealing Power Collets

Cool Jet bores for Power Collets
Order No. 91.100.27

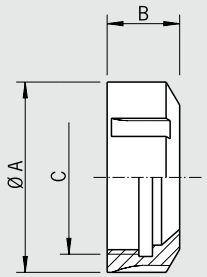
LOCKNUTS FOR ER COLLET CHUCKS



ER 11–20
for fork wrench



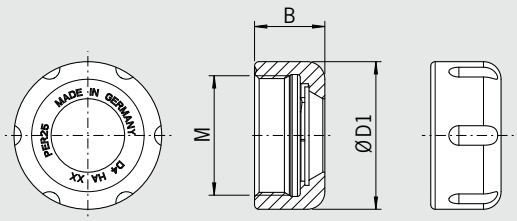
ER 25–40
for ER spanner clamping wrench



Locknuts ER:
– Highest runout accuracy
– No wear and high clamping force due to special slide coating
– Small vibrations due to pre-balancing
– Version HS fine-balanced

ER		ER 11	ER 16	ER 20	
Order No.	**83.912...**	**.11**	**.16**	**.20**	
HS Version					
Order No.	**83.912...**		**.16.HS**	**.20.HS**	
Ø A		19	28	34	
B		11,3	17	19	
C		M 14 x 0.75	M 22 x 1.5	M 25 x 1.5	
ER			**ER 25**	**ER 32**	**ER 40**
Order No.	**83.912...**		**.25**	**.32**	**.40**
HS Version					
Order No.	**83.912...**		**.25.HS**	**.32.HS**	**.40.HS**
Ø A			42	50	63
B			20	22.5	25.5
C			M 32 x 1.5	M 40 x 1.5	M 50 x 1.5

LOCKNUTS FOR POWER COLLET CHUCKS

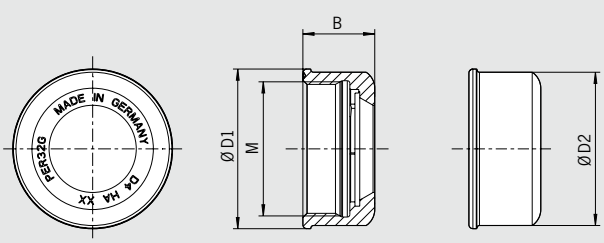




Power Collet locknuts:
– Highest runout accuracy
– No wear and high clamping force due to special slide coating
– Less vibrations due to pre-balancing

ER		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16**	**.25**	**.32**
Ø D1		28	42	50
M		M 23 x 1.5	M 34 x 1.5	M 42 x 1.5
B		17.8	20	22.5

SMOOTH LOCKNUTS FOR HIGH PRECISION COLLET CHUCKS



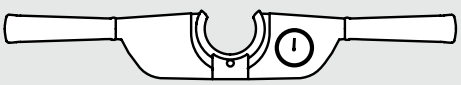


High Precision Smooth Locknuts ER:
– Highest runout accuracy
– No wear and high clamping force due to special slide coating
– Less vibrations due to pre-balancing
– Noise reducing

ER		ER 16	ER 25	ER 32
Order No.	**83.914...**	**.16.1**	**.25.1**	**.32.1**
Ø D1		28	42	50
Ø D2		27	40	48
M		M 23 x 1.5	M 34 x 1.5	M 42 x 1.5
B		17.8	20	22.5

TORQUE MASTER TORQUE WRENCH FOR HAIMER POWER COLLET CHUCKS AND STANDARD ER CHUCKS







Two-armed clamping wrench and torque wrench for Collet Chucks:
– For highest runout accuracy, no one-sided clamping
– Optimal power transmission by consistent force application
– Torque wrench for highest clamping accuracy and repeatability with dial gauge
– Maximum torque for highest clamping force
– No overloading of smaller clamping diameters
– Changeable inserts, useable also for standard ER Collets

Torque Master Torque Wrench	Order No.
Torque Master with case	84.600.00
Torque Master without case	84.600.00.S
Torque Master torque wrench set with case and 3 inserts for Standard ER Chucks in ER16, ER25, ER32	84.600.00.AK

INSERTS FOR TORQUE MASTER TORQUE WRENCH



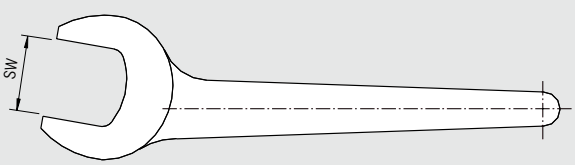
Inserts for Torque Master Wrench		
for Power Collet Chucks	Size	
Order No.		
84.610.16	ER16	
84.610.25	ER25	
84.610.32	ER32	
for Standard ER Chucks	Size	Wrench size SW
84.620.11	ER11	SW17
84.620.16	ER16	SW25
84.620.20	ER20	SW30
84.620.25	ER25	
84.620.32	ER32	
for Standard ER Chucks ER Mini	Size	Wrench size SW
84.620.16.1	ER16 Mini	

WRENCHES



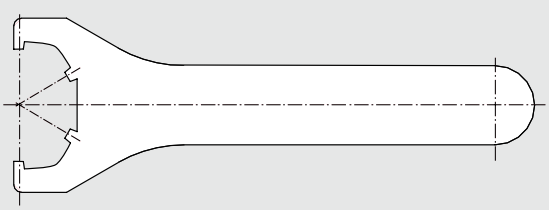


Power Collet clamping wrench for ER 16, ER 25 and ER 32				
ER		ER 16	ER 25	ER 32
Order No.	84.650...	.16	.25	.32



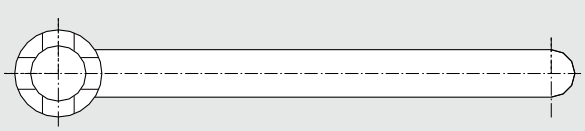


Wrench for locknuts ER 11, ER 16 and ER 20				
ER		ER 11	ER 16	ER 20
Wrench size		17	25	30
Order No.	84.200...	.11	.16	.20





Wrench for locknuts ER 25–40					
ER		ER 25	ER 32	ER 40	ER 50
Order No.	84.200...	.25	.32	.40	.50

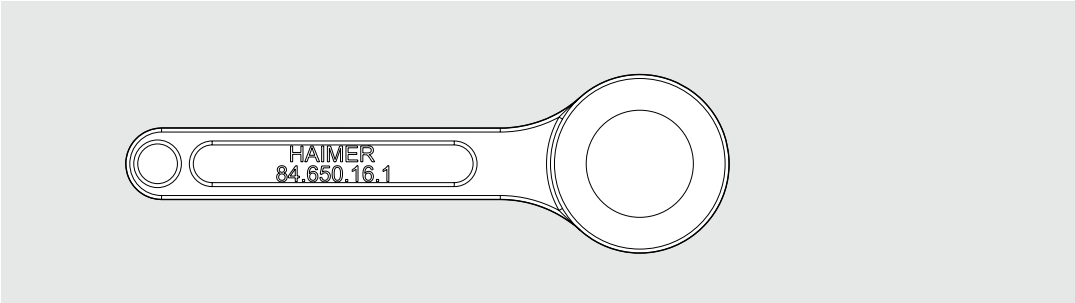




Wrench for tightening bolts for face mill arbors and combination shell end mill adapters Ø 16–60								
Ø		16	22	27	32	40	50	60
Order No.	84.400...	.16	.22	.27	.32	.40	.50	.60

ROLLER BEARING WRENCH FOR HIGH PRECISION COLLET CHUCKS

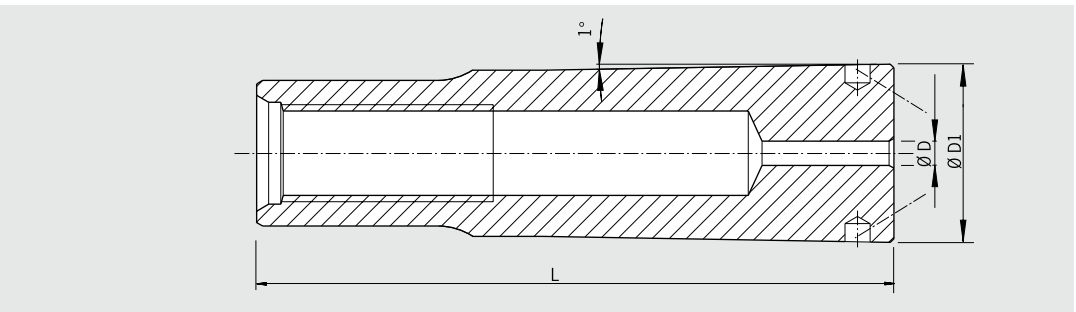




Roller bearing wrench for clamping of locknuts for High Precision Collet Chucks.

Roller bearing wrench for ER 16, ER 25 and ER 32				
ER		ER 16	ER 25	ER 32
Order No.	84.650...	.16.1	.25.1	.32.1

HG COLLETS AND HG SPINDLE WIPER





HG Collets

For clamping tools with cylindrical shank with utmost precision in High-Precision Chucks.
For tools with shank tolerance h6.

HG 01	Ø D [inch]	1/8	3/16	1/4	5/16
	Ø D1 [inch]	0.579	0.579	0.579	0.579
HG 01	L [inch]	2.067	2.067	2.067	2.067
Order No.	**82.510...**	**.03.175**	**.04.763**	**.06.35**	**.07.938**
HG 02	**Ø D [inch]**	**3/8**	**7/16**	**1/2**	**9/16**
	Ø D1 [inch]	0.704	0.704	0.704	0.704
HG 02	L [inch]	2.528	2.528	2.528	2.528
Order No.	**82.520...**	**.09.525**	**.11.112**	**.12.7**	**.14.287**
HG 03	**Ø D [inch]**	**5/8**	**3/4**		
	Ø D1 [inch]	1.029	1.029		
HG 03	L [inch]	2.744	2.744		
Order No.	**82.530...**	**.15.875**	**.19.05**		

HG 01	Ø D [mm]	2	2.5	3	4	4.5	5	5.5	5.6	6	6.3	7	7.1	8	9
	Ø D1[mm]	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
	L [mm]	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5	52.5
Order No.	**82.510...**	**.02**	**.02.5**	**.03**	**.04**	**.04.5**	**.05**	**.05.5**	**.05.6**	**.06**	**.06.3**	**.07**	**.07.1**	**.08**	**.09**
HG 02	**Ø D [mm]**	**10**		**11**		**12**		**12.5**		**14**					
	Ø D1[mm]	17.87		17.87		17.87		17.87		17.87					
	L [mm]	64.2		64.2		64.2		64.2		64.2					
Order No.	**82.520...**	**.10**		**.11**		**.12**		**.12.5**		**.14**					
HG 03	**Ø D [mm]**	**16**		**18**		**20**									
	Ø D1[mm]	26.147		26.147		26.147									
	L [mm]	69.7		69.7		69.7									
Order No.	**82.530...**	**.16**		**.18**		**.20**									

Accessories	
Pull-out hook	
HG	
Order No.	**82.570.00**
Lubrication paste	
Order No.	**82.585.00**

Spindle wiper

For cleaning tool holder I.D. of High-Precision Chucks

HG		for HG 01	for HG 02	for HG 03
Order No.	**82.590...**	**.01**	**.02**	**03**

SET OF BALANCING SCREWS







For fine-balancing all tool holders with balancing threads M6 (e. g. shrink fit chucks from HAIMER).

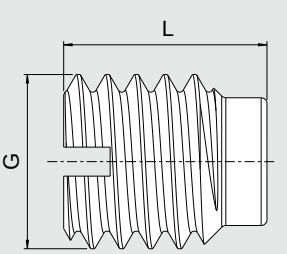
The screws have different weights in a fine graduation.
They are screwed into the balancing threads of the tool holder so that their weight compensates the unbalance of the tool holder.

– Set consisting of screws in 11 different sizes and weights
– Screws are screwed to the bottom of the thread and tightened.
  No additional fixing of screws necessary
– Balance quickly and precisely
– No damage to tool holders
– Can be repeated as often as necessary
– Suitable for tool holders of all brands
– The balancing machine calculates the necessary weight of the screws (e. g. HAIMER Tool Dynamic)

– Included in delivery: Case with 11 x 10 balancing screws, screw driver

Accessories	Order No.
Set of Balancing Screws	**80.203.00**

HEAVY METAL BALANCING SCREWS

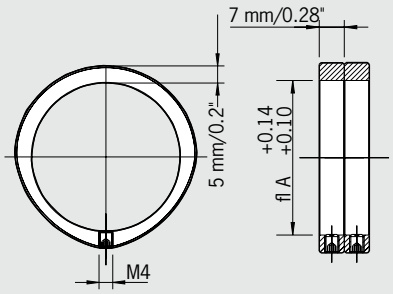




Heavy metal balancing screws (thread M6) for manual balancing of tool holders.

Length L [mm]		07	07	08	08	10	10
Size G [mm]		M6x7	M6x7 (5 pcs.)	M6x8	M6x8 (5 pcs.)	M6x10	M6x10 (5 pcs.)
Mass		ca. 2.3g	ca. 2.3g	ca. 2.7g	ca. 2.7g	ca. 3.5g	ca. 3.5g
Order No.	**85.502...**	**.7.0**	**.7.0.SET**	**.8.0**	**.8.0.SET**	**.10.0**	**.10.0.SET**

BALANCING RINGS





For fine-balancing all tool holders with cylindrical outer diameter (diam. A).

The balancing index rings have a defined unbalance in themselves. They are turned in such a position that the unbalance of the tool holder will be compensated. There are always 2 rings needed per balancing plane.

- Balancing quickly and precisely
- No damage to tool holder
- Can be repeated as often as necessary
- Simply fixed by clamping screw
- Suitable for tool holders of all brands
- The balancing machine determines the position of the rings

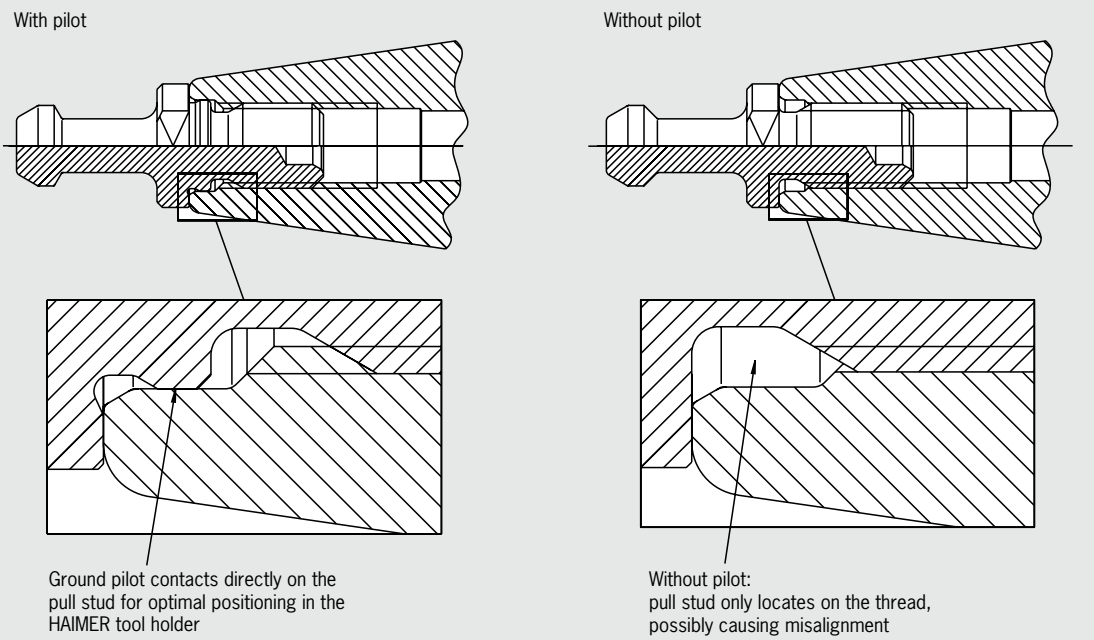
- Included in delivery: 2 balancing index rings with screws (without hex wrench)
- Tightening torque: 1 ft lb (1.4 Nm)

Order No.	Ø A [mm]	Ø A [inch]	unbalance[1)]	rpm [1/min]
79.350.15	15	0.59	14 g·mm	max. 55,000
79.350.16	16	0.63	14 g·mm	max. 55,000
79.350.17	17	0.67	16 g·mm	max. 55,000
79.350.18	18	0.71	17 g·mm	max. 55,000
79.350.19	19	0.75	19 g·mm	max. 55,000
79.350.20	20	0.79	21 g·mm	max. 55,000
79.350.22	22	0.87	23 g·mm	max. 55,000
79.350.23	23	0.91	25 g·mm	max. 55,000
79.350.24	24	0.94	27 g·mm	max. 55,000
79.350.25	25	0.98	28 g·mm	max. 55,000
79.350.26	26	1.02	32 g·mm	max. 50,000
79.350.27	27	1.06	32.5 g·mm	max. 50,000
79.350.28	28	1.10	34 g·mm	max. 50,000
79.350.30	30	1.18	37 g·mm	max. 45,000
79.350.32	32	1.26	43 g·mm	max. 45,000
79.350.34	34	1.34	46 g·mm	max. 40,000
79.350.35	35	1.38	48 g·mm	max. 40,000
79.350.36	36	1.42	51 g·mm	max. 40,000
79.350.38	38	1.50	56 g·mm	max. 35,000
79.350.40	40	1.57	60 g·mm	max. 35,000
79.350.42	42	1.65	65 g·mm	max. 35,000
79.350.43	43	1.69	69 g·mm	max. 35,000
79.350.1.71Z	43.45	1.71	68 g·mm	max. 35,000
79.350.44	44	1.73	72 g·mm	max. 35,000
79.350.46	46	1.81	80 g·mm	max. 35,000
79.350.48	48	1.89	85 g·mm	max. 30,000
79.350.50	50	1.97	90 g·mm	max. 30,000
79.350.52	52	2.05	100 g·mm	max. 30,000
79.350.53	53	2.09	100 g·mm	max. 30,000
79.350.54	54	2.13	103 g·mm	max. 30,000

Order No.	Ø A [mm]	Ø A [inch]	unbalance[1)]	rpm [1/min]
79.350.55	55	2.17	105 g·mm	max. 30,000
79.350.56	56	2.20	110 g·mm	max. 30,000
79.350.58	58	2.28	120 g·mm	max. 30,000
79.350.60	60	2.36	128 g·mm	max. 25,000
79.350.62	62	2.44	132 g·mm	max. 25,000
79.350.63	63	2.48	135 g·mm	max. 25,000
79.350.64	64	2.52	147 g·mm	max. 25,000
79.350.65	65	2.56	147 g·mm	max. 25,000
79.350.66	66	2.60	145 g·mm	max. 25,000
79.350.68	68	2.68	161 g·mm	max. 25,000
79.350.70	70	2.76	165 g·mm	max. 25,000
79.350.72	72	2.83	170 g·mm	max. 25,000
79.350.74	74	2.91	184 g·mm	max. 25,000
79.350.76	76	2.99	186 g·mm	max. 20,000
79.350.78	78	3.07	206 g·mm	max. 20,000
79.350.80	80	3.15	215 g·mm	max. 20,000
79.350.82	82	3.23	213 g·mm	max. 20,000
79.350.84	84	3.31	229 g·mm	max. 20,000
79.350.86	86	3.39	249 g·mm	max. 20,000
79.350.87	87	3.43	256 g·mm	max. 20,000
79.350.88	88	3.46	251 g·mm	max. 20,000
79.350.89	89	3.50	260 g·mm	max. 20,000
79.350.90	90	3.54	265 g·mm	max. 20,000
79.350.92	92	3.62	275 g·mm	max. 20,000
79.350.94	94	3.70	286 g·mm	max. 20,000
79.350.96	96	3.78	300 g·mm	max. 20,000
79.350.98	98	3.86	305 g·mm	max. 20,000
79.350.100	100	3.94	320 g·mm	max. 15,000
79.350.125	125	4.92	500 g·mm	max. 15,000

1) Unbalance g·mm are reference values, small variances possible
Additional sizes may be available – please contact Haimer USA for more information

CAT40/CAT50
PULL STUD INFORMATION



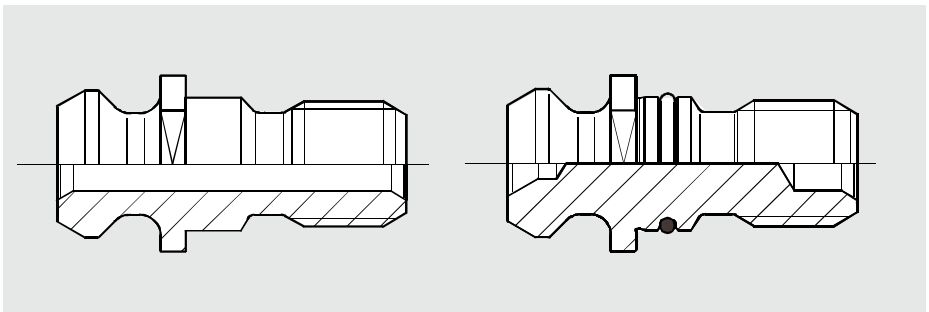
HAIMER goes far beyond the requirements of CAT40 tooling. Our experience with tool holders and balancing have merged together to successfully create far superior CAT tapered tooling.

In addition to our contact and 100% inspection process of our tapers, HAIMER has developed a special feature to greatly increase your tool holder balance repeatability and your machine tool spindle draw mechanism repeatability.

We have added a ground pilot in the rear of all our CAT40 tool holders. This ground pilot fits perfectly with the special HAIMER pull stud to maximize your tool holder to machine tool connection. The ground pilot is larger than the standard ANSI dimension, so you can easily use any pull stud from any manufacturer. However, for those serious about balance and machine tool spindle draw repeatability, HAIMER has the answer for you with our special pull stud/pilot connection!

PULL STUDS
INCH





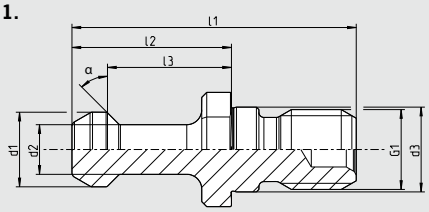
Pull studs are an important link between machine and tool.
The requirements concerning accuracy, rigidity and reliability are very high. Pull studs of poor quality not only decrease the performance of the machine, they are even a safety risk. A breaking pull stud might cause severe damage on the machine, work piece and even serious injuries.

Version with ground pilot is used to help consistently locate the pull stud in the tool holder. Great for runout accuracy, balance repeatability and machine tool draw bar consistency.
All HAIMER tool holders are provided with ground center-bore to match pull stud pilot (all standard pull studs can be used as well).
All metric pull studs come with a ground pilot.

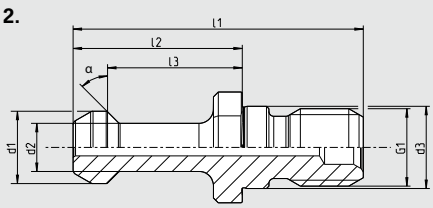
Benefits of HAIMER pull studs:

– Made of special steel with high rigidity
– Costly heat treatment in several steps
– High impact strength
– All functional surfaces fine finished after hardening
– Highest security and reliability

1.



2.



1. Similar ISO 7388-3 Form JF (MAS 403) without coolant through

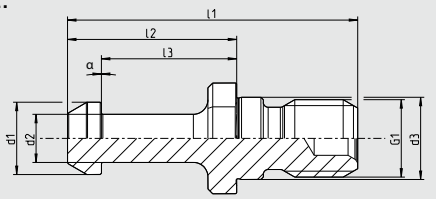
Order No.	D1	D2	D3	L1	L2	L3	G1	α	pilot
CAT40									
88.614.40	0.59"	0.39"	—	2.25"	1.27"	0.99"	5/8"-11UNC"	30°	—
88.624.40	0.59"	0.39"	0.67"	2.25"	1.27"	0.99"	5/8"-11UNC"	30°	yes
88.611.40	0.59"	0.39"	—	2.25"	1.27"	0.99"	5/8"-11UNC"	45°	—
88.621.40	0.59"	0.39"	0.67"	2.25"	1.27"	0.99"	5/8"-11UNC"	45°	yes
88.631.40*	0.59"	0.39"	—	2.42"	1.44"	1.16"	5/8"-11UNC"	45°	—
CAT50									
88.614.50	0.91"	0.67"	—	3.35"	1.78"	1.39"	1"-8UNC"	30°	—
88.624.50	0.91"	0.67"	1.06"	3.35"	1.78"	1.39"	1"-8UNC"	30°	yes
88.611.50	0.91"	0.67"	—	3.35"	1.78"	1.39"	1"-8UNC"	45°	—
88.621.50	0.91"	0.67"	1.06"	3.35"	1.78"	1.39"	1"-8UNC"	45°	yes

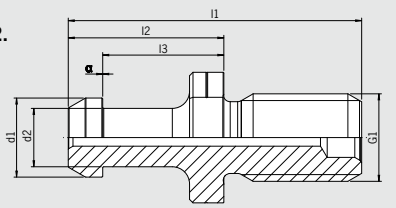
2. Similar ISO 7388-3 Form JD (MAS 403) with coolant through

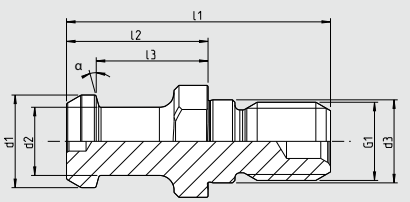
Order No.	D1	D2	D3	L1	L2	L3	G1	α	pilot
CAT40									
88.615.40	0.59"	0.39"	—	2.25"	1.27"	0.99"	5/8"-11UNC"	30°	—
88.625.40	0.59"	0.39"	0.67"	2.25"	1.27"	0.99"	5/8"-11UNC"	30°	yes
88.613.40	0.59"	0.39"	—	2.25"	1.27"	0.99"	5/8"-11UNC"	45°	—
88.623.40	0.59"	0.39"	0.67"	2.25"	1.27"	0.99"	5/8"-11UNC"	45°	yes
88.627.40*	0.59"	0.39"	—	2.42"	1.44"	1.16"	5/8"-11UNC"	45°	—
CAT50									
88.615.50	0.91"	0.67"	—	3.35"	1.78"	1.39"	1"-8UNC"	30°	—
88.625.50	0.91"	0.67"	1.06"	3.35"	1.78"	1.39"	1"-8UNC"	30°	yes
88.613.50	0.91"	0.67"	—	3.35"	1.78"	1.39"	1"-8UNC"	45°	—
88.623.50	0.91"	0.67"	1.06"	3.35"	1.78"	1.39"	1"-8UNC"	45°	yes

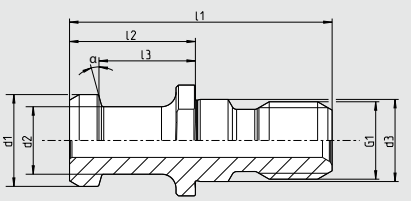
** Special*

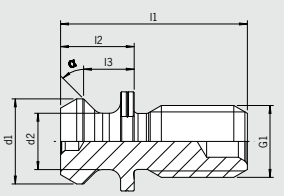
PULL STUDS
INCH

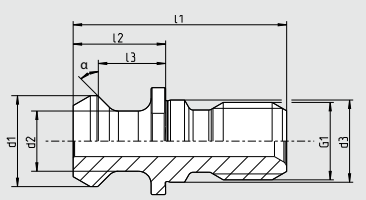
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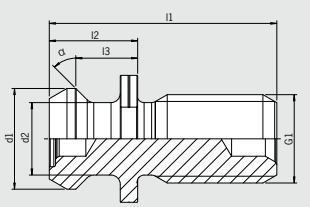
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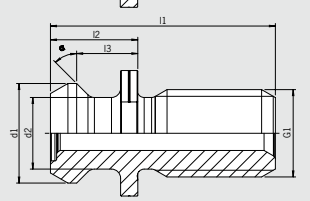
3.


4.


5.


6.


7.


8.


1. MORI - SEIKI MAS 90° without coolant through

Order No.	D1	D2	D3	L1	L2	L3	G1	α	pilot
CAT40									
88.111.40	0.59"	0.39"	—	2.25"	1.27"	0.99"	5/8"-11UNC"	0°	—
88.121.40	0.59"	0.39"	0.67"	2.25"	1.27"	0.99"	5/8"-11UNC"	0°	yes
88.131.40*	0.59"	0.39"	—	1.94"	0.96"	0.68"	5/8"-11UNC"	0°	—
CAT50									
88.111.50	0.91"	0.67"	—	3.35"	1.78"	1.39"	1"-8UNC"	0°	—
88.121.50	0.91"	0.67"	1.06"	3.35"	1.78"	1.39"	1"-8UNC"	0°	yes

2. MORI - SEIKI MAS 90° with coolant through

Order No.	D1	D2	D3	L1	L2	L3	G1	α	pilot
CAT50									
88.113.50	0.91"	0.67"	—	3.35"	1.78"	1.39"	1"-8UNC"	0°	—

3. JIS B 6339 without coolant through

Order No.	D1	D2	D3	L1	L2	L3	G1	α	pilot
CAT40									
88.711.40	0.75"	0.55"	—	2.01"	1.03"	0.79"	5/8"-11UNC"	15°	—
CAT50									
88.710.50	1.1"	0.83"	—	2.93"	1.35"	0.99"	1"-8UNC"	15°	—
88.720.50	1.1"	0.83"	1.06"	2.93"	1.35"	0.99"	1"-8UNC"	15°	yes

4. JIS B 6339 with coolant through

Order No.	D1	D2	D3	L1	L2	L3	G1	α	pilot
CAT40									
88.710.40	0.75"	0.55"	—	2.01"	1.03"	0.79"	5/8"-11UNC"	15°	—
88.720.40	0.75"	0.55"	0.67"	2.01"	1.03"	0.79"	5/8"-11UNC"	15°	yes

5. ANSI B5.50 Mazak without coolant through

Order No.	D1	D2	D3	L1	L2	L3	G1	α	pilot
CAT40									
88.511.40	0.74"	0.49"	—	1.62"	0.64"	0.44"	5/8"-11UNC"	45°	—

6. ANSI B5.50 Mazak with coolant through

Order No.	D1	D2	D3	L1	L2	L3	G1	α	pilot
CAT40									
88.510.40	0.74"	0.49"	—	1.62"	0.64"	0.44"	5/8"-11UNC"	45°	—
88.520.40	0.74"	0.49"	0.67"	1.62"	0.64"	0.44"	5/8"-11UNC"	45°	yes

7. ANSI B5.50 Mazak without coolant through (Sealing with O-Ring on face side)

Order No.	D1	D2	D3	L1	L2	L3	G1	α	pilot
CAT50									
88.511.50	1.14"	0.82"	—	2.57"	1"	0.70"	1"-8UNC"	45°	—

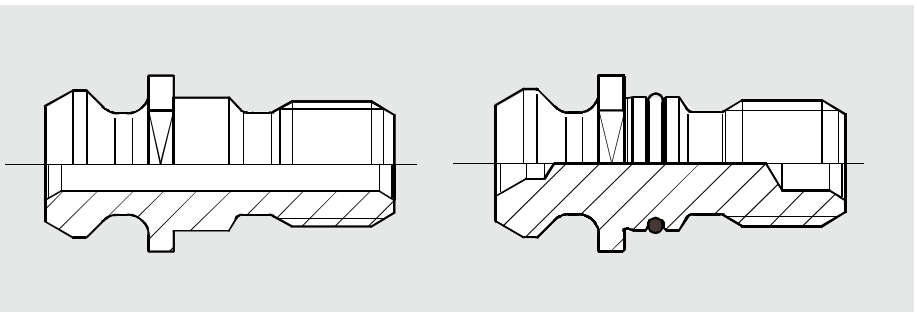
8. ANSI B5.50 Mazak with coolant through (Sealing with O-Ring on face side)

Order No.	D1	D2	D3	L1	L2	L3	G1	α	pilot
CAT50									
88.510.50	1.14"	0.82"	—	2.57"	1"	0.70"	1"-8UNC"	45°	—
88.520.50	1.14"	0.82"	1.06"	2.57"	1"	0.70"	1"-8UNC"	45°	yes

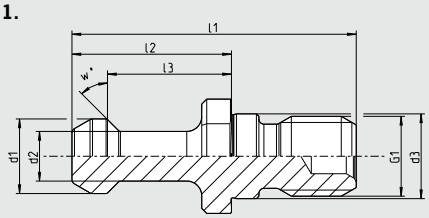
*Special

PULL STUDS
METRIC



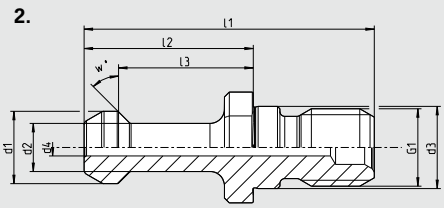


1.



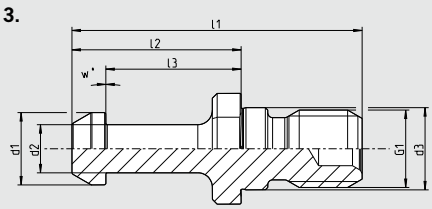
1. ISO 7388-3 Form JF without coolant through (former norm MAS 403 30°/45°) [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
BT30 Order No. 88.604.30	11	7	12.5	—	43	23	18	M12	30°
BT30 Order No. 88.601.30	11	7	12.5	—	43	23	18	M12	45°
BT40 Order No. 88.604.40	15	10	17	—	60	35	28	M16	30°
BT40 Order No. 88.601.40	15	10	17	—	60	35	28	M16	45°
BT50 Order No. 88.604.50	23	17	25	—	85	45	35	M24	30°
BT50 Order No. 88.601.50	23	17	25	—	85	45	35	M24	45°

2.



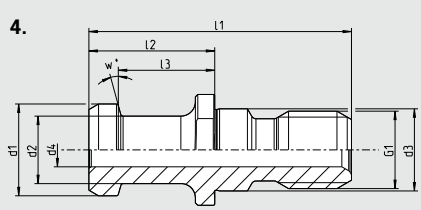
2. ISO 7388-3 Form JD with coolant through (former norm MAS 403 30°/45°) [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
BT30 Order No. 88.605.30	11	7	12.5	2.5	43	23	18	M12	30°
BT30 Order No. 88.600.30	11	7	12.5	2.5	43	23	18	M12	45°
BT40 Order No. 88.605.40	15	10	17	3.5	60	35	28	M16	30°
BT40 Order No. 88.603.40	15	10	17	3.5	60	35	28	M16	45°
BT50 Order No. 88.605.50	23	17	25	6	85	45	35	M24	30°
BT50 Order No. 88.603.50	23	17	25	6	85	45	35	M24	45°

3.



3. MORI – SEIKI MAS 90° without coolant through [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
BT40 Order No. 88.101.40	15	10	17	—	60	35	28	M16	0°
BT50 Order No. 88.101.50	23	17	25	—	85	45	35	M24	0°

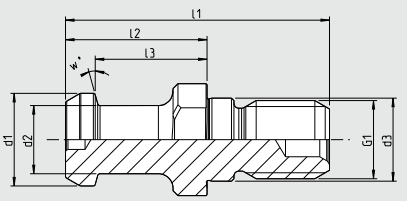
4.



4. JIS B 6339 with coolant through [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
BT40 Order No. 88.700.40	19	14	17	7	54	29	23	M16	15°
BT50 Order No. 88.700.50	28	21	25	10	74	34	25	M24	15°

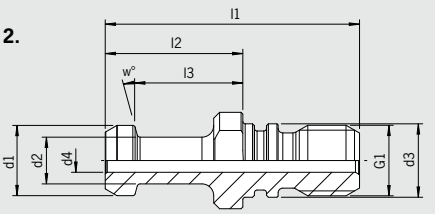
PULL STUDS
METRIC

1.



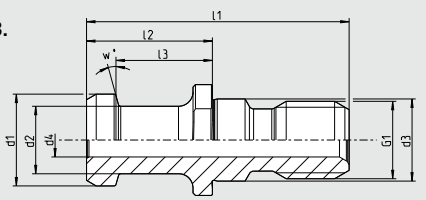
1. JIS B 6339 sealed [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
BT40 **Order No. 88.701.40**	19	14	17	—	54	29	23	M16	15°

2.



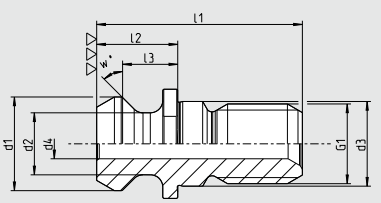
2. Special: Similar ISO 7388–3 Form JD coolant through [mm] with pilot	d1	d2	d3	d4	l1	l2	l3	G1	w°
BT40 shortened **Order No. 88.702.30**	0.47	0.31	0.49	—	1.69	0.92	0.79	M12	15°

3.



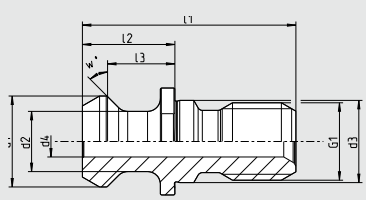
3. ISO 7388-2 Type A with coolant through [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
SK40 **Order No. 88.800.40**	19	14	17	7	54	26	20	M16	15°
SK50 **Order No. 88.800.50**	28	21	25	11.5	74	34	25	M24	15°

4.



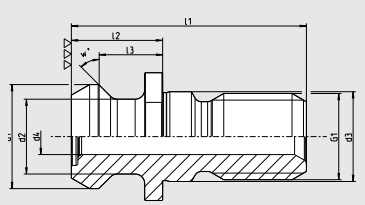
4. ANSI B5.50 Mazak with coolant through sealing on face side and pilot [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
CAT40 **Order No. 88.500.40**	18.80	12.45	17	6	41.26	16.26	11.18	M16	45°
CAT40 with pilot **Order No. 88.500.40.1**	18.80	12.45	17	7	41.26	16.26	11.18	M16	45°
CAT50 **Order No. 88.501.50N**	28.96	20.83	25	10	65.4	25.4	17.78	M24	45°

5.



5. ANSI B5.50 Mazak with coolant through sealing on face side and pilot [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
CAT40 extended **Order No. 88.900.40.1**	18.8	12.45	17	6.4	44.11	19.11	14.03	M16	45°

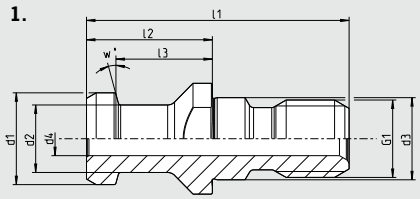
6.



6. ANSI B5.50 Mazak with coolant through sealing on face side and pilot [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
CAT50 **Order No. 88.500.50**	28.96	20.83	25	10	65.4	25.4	17.78	M24	45°

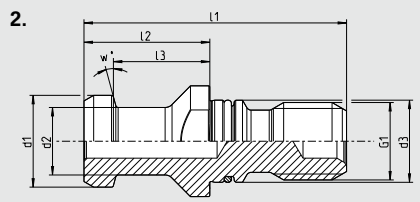
PULL STUDS
METRIC

1.



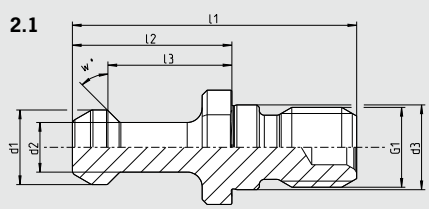
1. ISO 7388-3 Form AD with coolant through (former norm DIN 69872 Form A) [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
SK 40									
Order No. 88.200.40	19	14	17	7	54	26	20	M16	15°
SK 50									
Order No. 88.200.50	28	21	25	11.5	74	34	25	M24	15°

2.



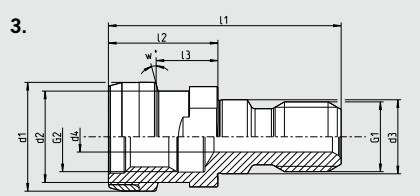
2. ISO 7388-3 Form AF sealed (former norm DIN 69872 Form B) [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
SK 40									
Order No. 88.202.40	19	14	17	—	54	26	20	M16	15°
SK 50									
Order No. 88.202.50	28	21	25	—	74	34	25	M24	15°

2.1



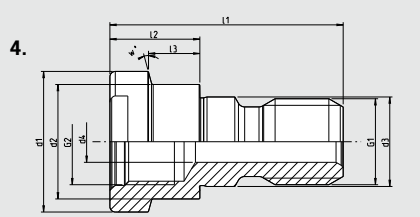
2.1 Special: Similar ISO 7388–3 Form JF without coolant through [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
BT40 shortened									
Order No. 88.601.40.1	15	10	17	—	57.1	32.15	25.15	M16	45°

3.



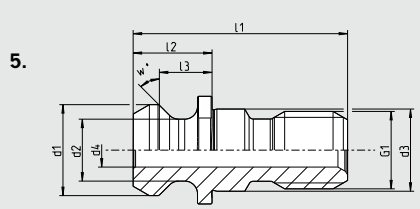
3. Ott-groove with inner thread SK40 with protective ring of brass [mm]	d1	d2	d3	d4	l1	l2	l3	G1	G2	w°
SK40										
Order No. 88.303.40	25	21.1	17	7	53	25	13.6	M16	M16	15°

4.



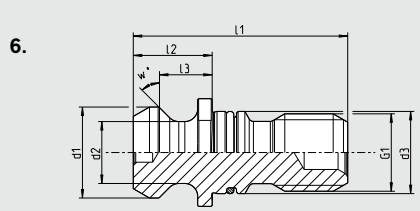
4. Ott-groove with inner thread [mm]	d1	d2	d3	d4	l1	l2	l3	G1	G2	w°
SK50										
Order No. 88.303.50	39.3	32	25	11.5	65	25	13.35	M24	M24	15°

5.



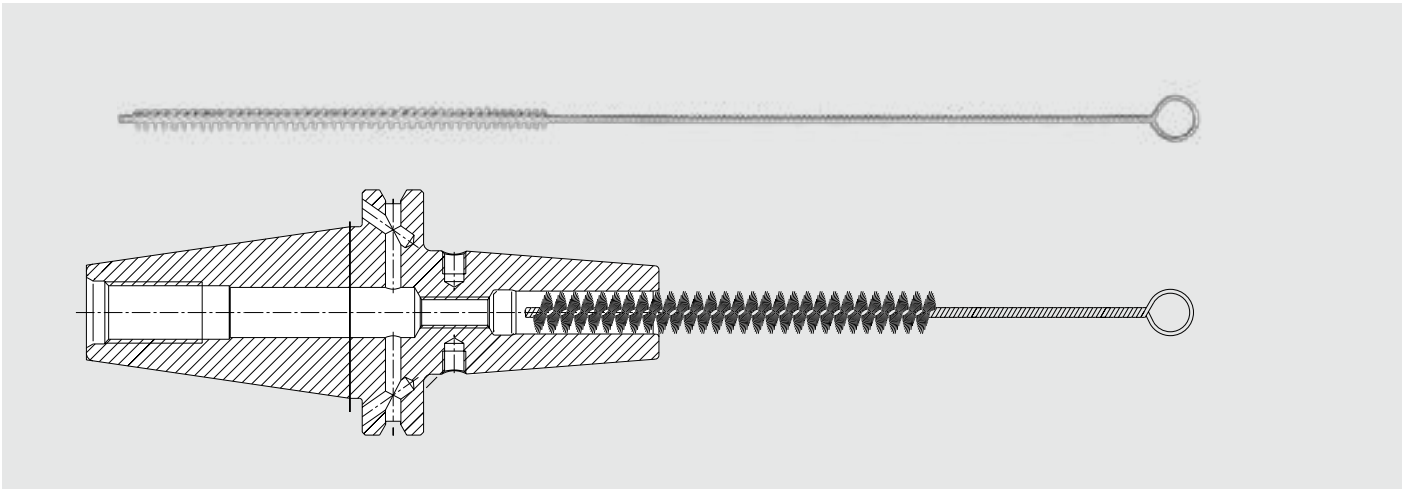
5. ISO 7388-3 Form UD with coolant through (former norm ISO 7388-2 Form B) [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
SK 40									
Order No. 88.400.40	18.95	12.95	17	7	44.5	16.4	11.15	M16	45°
SK 50									
Order No. 88.400.50	29.1	19.6	25	11.5	65.5	25.55	17.95	M24	45°

6.



6. ISO 7388-3 Form UF sealed (former norm ISO 7388-2 Form B) [mm]	d1	d2	d3	d4	l1	l2	l3	G1	w°
SK 40									
Order No. 88.402.40	18.95	12.95	17	—	44.5	16.4	11.15	M16	45°
SK 50									
Order No. 88.402.50	29.1	19.6	25	—	65.5	25.55	17.95	M24	45°

SHRINK FIT BRUSHES

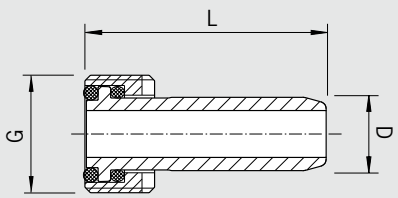


In order to achieve the best possible shrink fit connection, a grease free socket and shank is necessary. The cleaning can be done by a cold solvent (e.g. brake cleaner). An appropriate cleaning brush is necessary to clean the socket of the Shrink Fit Chuck.

Shrink Fit Brush Order No.	Ø [inch]
86.200.01	1/8" (3.175 mm)
86.200.02	3/16" (4.762 mm)
86.200.03	1/4" (6.35 mm)
86.200.03	5/16" (7.93 mm)
86.200.04	3/8" (9.525 mm)
86.200.04	7/16" (11.11 mm)
86.200.05	1/2" (12.7 mm)
86.200.06	5/8" (15.87 mm)
86.200.07	3/4" (19.05 mm)
86.200.08	1" (25.4 mm)

Shrink Fit Brush Order No.	Ø [mm]
86.200.01	3
86.200.02	3.5
86.200.02	4
86.200.02	4.5
86.200.02	5
86.200.03	6
86.200.03	8
86.200.04	10
86.200.04	12
86.200.06	14
86.200.06	16
86.200.07	18
86.200.07	20
86.200.08	25

COOLANT TUBES

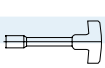




– Dual o-ring design makes tube slightly movable
– Coated steel with smooth surface for trouble-free insertion into the machine spindle
– Fits all brands of HSK holders
– Must be used with all coolant through HSK spindles

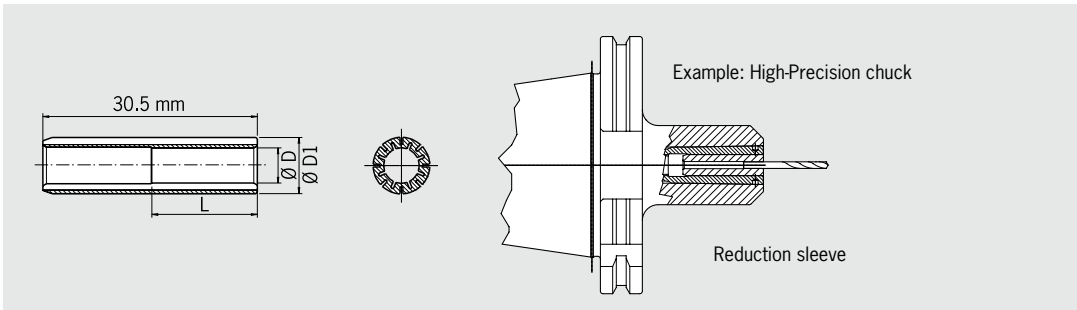
Coolant tube with 2 o-rings		HSK-A32	HSK-A40	HSK-A50	HSK-A63	HSK-A80	HSK-A100	HSK-A125
	HSK-E25	HSK-E32	HSK-E40	HSK-E50				
Order No. 85.700...	**.25**	**.32**	**.40**	**.50**	**.63**	**.80**	**.10**	**.125**
Length G [mm]	M8 x 1	M10 x 1	M12 x 1	M16 x 1	M18 x 1	M20 x 1.5	M24 x 1.5	M30 x 1.5
Length D [mm]	5	6	8	10	12	14	16	18
Length L [mm]	17	26	29,5	33	36,5	40	44	48

Accessories

Wrench		HSK 25	HSK 32	HSK 40	HSK 50	HSK 63	HSK 80	HSK 100	HSK 125
Order No. 84.500...		**.25**	**.32**	**.40**	**.50**	**.63**	**.80**	**.100**	**.125**

REDUCTION SLEEVES





Use:
For clamping small shanks in chucks with Ø 5/16" or 8 mm ID's.

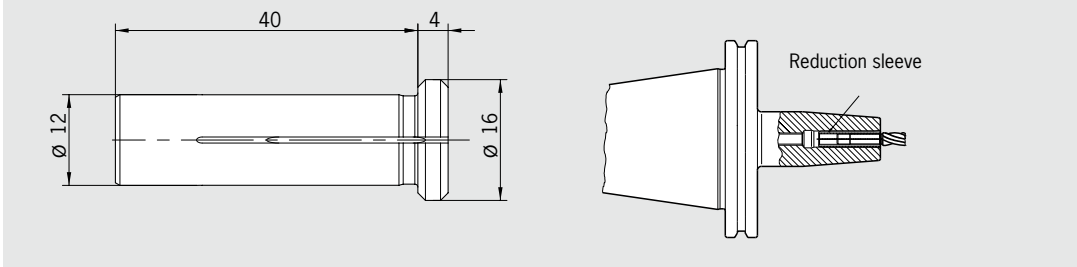
For use in all chucks as reducers
– High-Precision chucks
– Collet chucks
– Hydraulic chucks
– Shrink fit chucks
– Other high precision mechanical chucks

INCH		Ø D	Ø D1	L
Order No.	79.110.3/32Z	3/32"	5/16"	0.27"
Order No.	79.110.1/8Z	1/8"	5/16"	0.35"
Order No.	79.110.5/32Z	5/32"	5/16"	0.47"
Order No.	79.110.3/16Z	3/16"	5/16"	0.56"
Order No.	79.110.7/32Z	7/32"	5/16"	0.65"

METRIC		Ø D [mm]	Ø D1 [mm]	L [mm]
Order No.	79.110.2.5	2.5	8	7.5
Order No.	79.110.03	3	8	9
Order No.	79.110.3.5	3.5	8	10.5
Order No.	79.110.04	4	8	12
Order No.	79.110.4.5	4.5	8	13.5
Order No.	79.110.05	5	8	15
Order No.	79.110.5.5	5.5	8	16.5

REDUCTION SLEEVES FOR SHRINK FIT CHUCKS





Use:
For clamping small shanks in chucks with 12 mm ID's.
Shank tolerance h6.

First step: Insert reduction sleeve into bore of chuck by shrink process.
Second step: clamp tool shank in reduction sleeve.

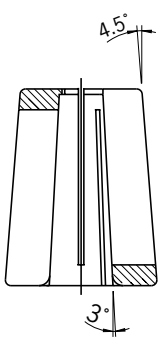
METRIC		Clamping Ø D [mm]
Order No.	79.150.03	3
Order No.	79.150.04	4
Order No.	79.150.06	6

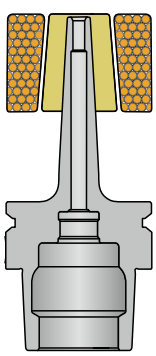
MINI SHRINK
SHRINK AND COOLING SLEEVES



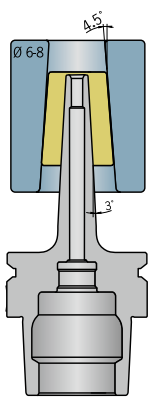
For shrinking and cooling of Mini Shrink chucks.
- Protects Mini Shrink chucks from overheating
- Extends lifetime of shrink fit chucks
- Secure and user friendly handling
- Cooling with standard cooling body 6 mm – 8 mm

Function





Heat up
With shrink and cooling sleeve



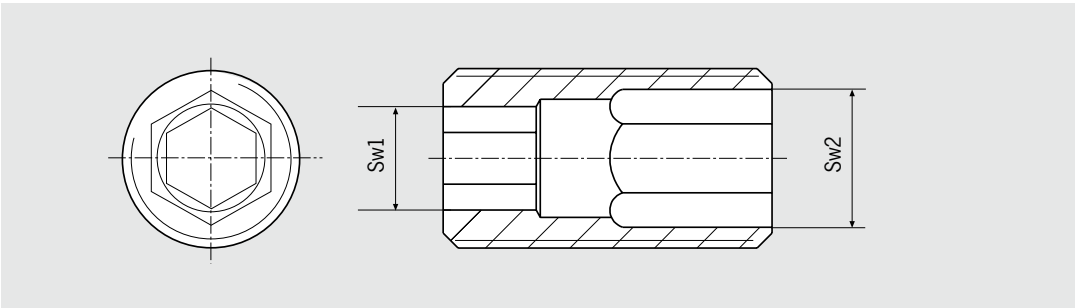
Cool down
With shrink and cooling sleeve and cooling body Ø 6–8 mm



Shrinking and cooling sleeves for Mini Shrink chucks								Order No.
Extra slim								
Size [mm]	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12	
Size [inch]	Ø 1/8	—	Ø 3/16	Ø 1/4	Ø 5/16	Ø 3/8	Ø 1/2	
Order No. 80.105.14...	**.2.01**	**.2.02**	**.2.03**	**.2.04**	**.2.05**	**.2.06**	**.2.07**	
Standard								
Size [mm]	Ø 03	Ø 04	Ø 05	Ø 06	Ø 08	Ø 10	Ø 12	Ø 16
Size [inch]	Ø 1/8	—	Ø 3/16	Ø 1/4	Ø 5/16	Ø 3/8	Ø 1/2	Ø 5/8
Order No. 80.105.14...	**.2.04**	**.2.08**	**.2.05**	**.2.09**	**.2.10**	**.2.11**	**.2.12**	**.2.16**
Base								**80.105.14.2.99**
Set with base (12 pcs., diameter 3 – 12 mm)								**80.105.14.2.00**

BACK-UP SCREWS
FOR SHRINK FIT CHUCKS & POWER COLLET CHUCKS





– Hexagon socket on each end – can always be reached
– Flats on sides for optimized coolant drainage
– Fine thread for maximum accuracy

For Shrink Fit Chucks

Clamping Ø		CAT40/50 SK 40/50 BT 40/50	HSK-A 32/E 32 A 40/E 40	HSK-A 50/ E 50	HSK-A 63	HSK-F 63	HSK-A 80	HSK-A 100
	Length Order No. 85.810...							
6 mm / ¼"		**.12.1**	**.12.1**	**.12.1**	**.12.1**	**.12.1**	**.12.1**	**.12.1**
8 mm / 5/16"		**.15.1**	**.15.1**	**.15.1**	**.15.1**	**.15.1**	**.15.1**	**.15.1**
10 mm / 3/8"	short	**.18.2**	**.18.2**	**.18.2**	**.18.2**	**.18.2**	**.18.2**	**.18.2**
	other	**.18.2**	**.36.2**	**.36.2**	**.36.2**	**.36.2**	**.36.2**	**.36.2**
12 mm / ½"	short	**.24.2**	**.24.2**	**.39.2**	**.39.2**	**.39.2**	**.21.2**	**.21.2**
	other	**.24.2**	**.24.2**	**.24.2**	**.24.2**	**.24.2**	**.24.2**	**.24.2**
14 mm / 9/16"	short	**.24.2**	**.24.2**	**.39.2**	**.39.2**	–	**.21.2**	**.21.2**
	ZG130/oversize	**.24.2**	**.24.2**	**.24.2**	**.24.2**	–	**.24.2**	**.24.2**
16 mm / 5/8"	short	**.46.2**	**.27.2**	**.25.2**	**.25.2**	**.25.2**[1)]	**.27.2**	**.40.1**
	ZG130/oversize	**.46.2**	**.27.2**	**.38.2**	**.46.2**	**.46.2**[1)]	**.46.2**	**.46.2**
18 mm	short	**.46.2**	–	**.25.2**	**.25.2**	–	**.27.2**	**.40.1**
	ZG130/oversize	**.46.2**	–	**.38.2**	**.46.2**	–	**.46.2**	**.46.2**
20 mm / ¾"	short	**.52.2**	–	**.51.2**	**.51.2**	**.51.2**[1)]	**.51.2**	**.51.2**
	ZG130/oversize	**.52.2**	–	**.52.2**	**.52.2**	**.52.2**[1)]	**.52.2**	**.52.2**
25 mm / 1"	short	**.52.2**	–	–	**.52.2**	**.52.2**[1)]	**.52.2**	**.52.2**
	ZG130/oversize	**.52.2**	–	–	**.52.2**	**.52.2**[1)]	**.52.2**	**.52.2**
32 mm / 1¼"	short	**.52.2**	–	–	**.52.2**	–	**.52.2**	**.52.2**
	ZG130/oversize	**.52.2**	–	–	**.52.2**	–	**.52.2**	**.52.2**

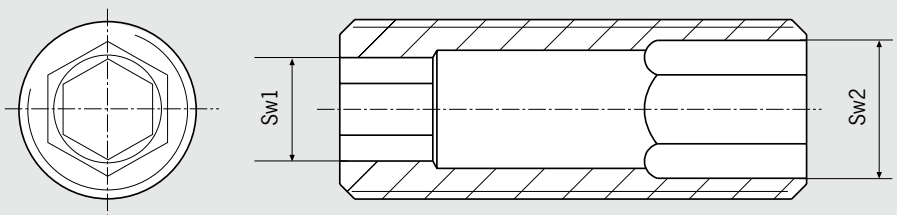
For Shrink Fit Chucks & Power Collet Chucks

Order No.	SW1	SW2	Thread	Also usable for Power Collet Chucks
85.810.12.1	SW2.5	SW2.5	M5x0.8x16	
85.810.15.1	SW3	SW3	M6x1x16	
85.810.18.2	SW3	SW4	M8x1x16	ER16
85.810.24.2	SW4	SW5	M10x1x20	
85.810.25.2	SW5	SW6	M12x1x18	ER25
85.810.27.2	SW4	SW6	M12x1x18	ER25
85.810.36.2	SW3	SW4	M8x1x20	ER16
85.810.46.2	SW6	SW6	M12x1x20	ER25

Order No.	SW1	SW2	Thread	Also usable for Power Collet Chucks
85.810.21.2	SW4	SW5	M10x1x16	
85.810.38.2	SW5	SW6	M12x1x22	ER25
85.810.39.2	SW4	SW5	M10x1x18	
85.810.40.1	SW6	SW6	M12x1x16	ER25
85.810.43.2	SW5	SW8	M12x1x18	ER25
85.810.44.2	SW5	SW8	M12x1x22	ER25
85.810.45.2	SW6	SW8	M12x1x18	ER25
85.810.51.2	SW5	SW8	M16x1x18	ER32
85.810.52.2	SW6	SW8	M16x1x22	ER32

1) Only adjustable through clamping bore

BACK-UP SCREWS
FOR SHRINK FIT CHUCKS & POWER COLLET CHUCKS





- Hexagon socket on each end – can always be reached
- Flats on sides for optimized coolant drainage
- Fine thread for maximum accuracy

For Shrink Fit Chucks

Clamping Ø		CAT40/50 SK 40/50 BT 40/50	HSK-A 32/E 32 A 40/E 40	HSK-A 50 E 50	HSK-A 63	HSK-F 63	HSK-A 80	HSK-A 100
	Length Order No.							
6 mm / ¼"	**85.810...**	**.12.4**	**.12.4**	**.12.4**	**.12.4**	**.12.4**	**.12.4**	**.12.4**
8 mm / 5/16"		**.15.4**	**.15.4**	**.15.4**	**.15.4**	**.15.4**	**.15.4**	**.15.4**
10 mm / 3/8"		**.18.4**	**.18.4**	**.18.4**	**.18.4**	**.18.4**	**.18.4**	**.18.4**
12 mm / ½"		**.21.4**	**.21.4**[1)]	**.21.4**	**.21.4**	**.21.4**	**.21.4**	**.21.4**
14 mm / 9/16"		**.21.4**	**.21.4**	**.21.4**	**.21.4**	**.21.4**	**.21.4**	**.21.4**
16 mm / 5/8"	short ZG130/oversize	**.37.4** **.37.4**	**.27.4** **.27.4**	**.25.4** **.25.4**	**.25.4** **.37.4**	**.25.4**[1)] **.37.4**[1)]	**.27.4** **.37.4**	**.40.4** **.37.4**
18	short ZG130/oversize	**.37.4** **.37.4**	**–** **–**	**.25.4** **.25.4**	**.25.4** **.37.4**	**.25.4**[1)] **.37.4**[1)]	**.27.4** **.37.4**	**.40.4** **.37.4**
20 mm / ¾"	short ZG130/oversize	**.52.4** **.52.4**	**–** **–**	**.52.4** **.52.4**	**.52.4** **.52.4**	**.52.4**[1)] **.52.4**[1)]	**.52.4** **.52.4**	**.52.4** **.52.4**
25 mm / 1"		**.52.4**	**–**	**–**	**.52.4**	**.52.4**[1)]	**.52.4**	**.52.4**
32 mm / 1¼"		**.52.4**	**–**	**–**	**.52.4**	**.52.4**[1)]	**.52.4**	**.52.4**

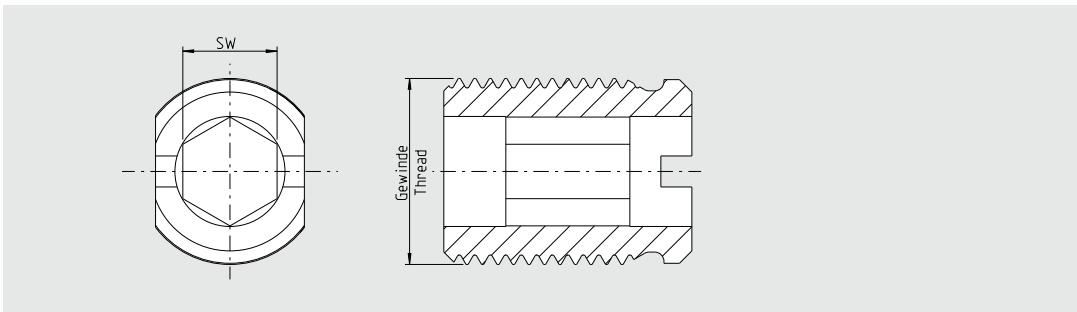
For Shrink Fit Chucks & Power Collet Chucks

Order No.	SW1	SW2	Thread	Also usable for Power Collet Chucks
85.810.12.4	SW2.5	SW2.5	M5x0.8x24	
85.810.15.4	SW3	SW3	M6x1x24	
85.810.18.4	SW3	SW4	M8x1x24	ER16
85.810.21.4	SW4	SW5	M10x1x28	
85.810.37.4	SW6	SW8	M12x1x34	ER25
85.810.43.4	SW5	SW8	M12x1x34	ER25
85.810.25.4	SW5	SW6	M12x1x34	ER25
85.810.27.4	SW4	SW6	M12x1x34	ER25
85.810.52.4	SW6	SW8	M16x1x34	ER32

1) Only adjustable through clamping bore

BACK-UP SCREWS FOR POWER SHRINK CHUCKS





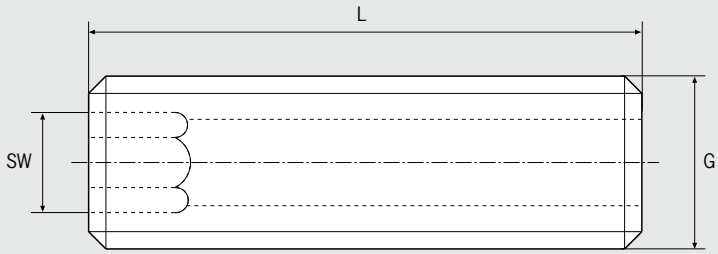
- Optimized for Shrink Fit Chucks with Cool Jet
- Guaranteed coolant supply via transverse groove
- Hexagon socket on each end – can always be reached
- Flats on sides for optimized coolant drainage
- Fine thread for maximum accuracy

[mm]	Type	CAT40/50 SK40/50 BT40/50	HSK-A32/E32 A40/E40	HSK-A50/ E50	HSK-A63	HSK-F63	HSK-A80	HSK-A100
	Length Order No.							
6 mm / ¼"	**85.810...**	**.12.3**	**.12.3**	**.12.3**	**.12.3**	**.12.3**	**.12.3**	**.12.3**
8 mm / 5/16"		**.15.3**	**.15.3**	**.15.3**	**.15.3**	**.15.3**	**.15.3**	**.15.3**
10 mm / 3/8"		**.18.3**	**.18.3**	**.18.3**	**.18.3**	**.18.3**	**.18.3**	**.18.3**
12 mm / ½"		**.48.3**	**.48.3**	**.48.3**	**.48.3**	**.48.3**	**.48.3**	**.48.3**
	ultra short	**.48.3.1**	—	—	—	—	—	—
14 mm / 9/16"		**.21.3**	**.21.3**	**.21.3**	**.21.3**	—	**.21.3**	**.21.3**
16 mm / 5/8"		**.49.3**	**.49.3**	**.49.3**	**.49.3**	**.49.3**	**.49.3**	**.49.3**
	ultra short	**.49.3.1**	—	—	—	—	—	—
18 mm		**.40.3**	—	**.40.3**	**.40.3**	—	**.40.3**	**.40.3**
20 mm / ¾"		**.51.3**	—	**.51.3**	**.51.3**	**.51.3**	**.51.3**	**.51.3**
25 mm / 1"		**.52.3**	—	—	**.52.3**	—	**.52.3**	**.52.3**
32 mm / 1¼"		**.52.3**	—	—	**.52.3**	—	**.52.3**	**.52.3**

Order No.	SW	Thread
85.810.12.3	SW2.5	M5x0.8x16
85.810.15.3	SW3	M6x1x16
85.810.18.3	SW4	M8x1x16
85.810.21.3	SW5	M10x1x16
85.810.40.3	SW6	M12x1x16
85.810.43.3	SW6	M12x1x18
85.810.46.3	SW6	M12x1x20
85.810.48.3	SW5	M10x1x16

Order No.	SW	Thread
85.810.48.3.1	SW5	M10x1x28
85.810.49.3	SW6	M12x1x16
85.810.49.3.1	SW6	M12x1x20
85.810.51.3	SW6	M16x1x18
85.810.52.3	SW6	M16x1x20

BACK-UP SCREWS FOR COLLET CHUCKS





Size Ø [mm]	HSK-32, 40, 50, 63, 80, 100	SW	L [mm]	Thread
ER 16	**Order No. 85.800.34**	3	25	M6
ER 20	**85.800.34**	3	25	M6
ER 25	**85.800.34**	3	25	M6
ER 32	**85.800.35**	5	25	M10
ER 40	**85.800.35**	5	25	M10

TENSION SPRINGS FOR SHRINK FIT CHUCKS



- Spring is set into clamping bore
- Spring presses tool against stop disk
- Fits all common shrink fit chucks
- Back-up screw can remain in chuck

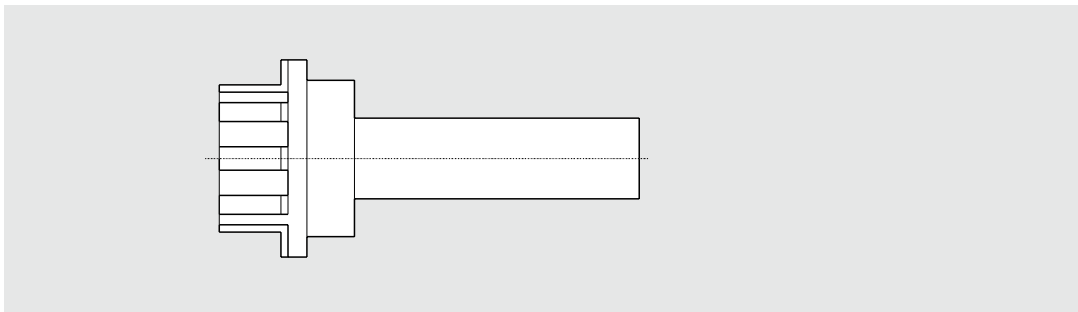


Tension spring for length presetting

Tension springs											Order No.
Size [mm]		Ø 6	Ø 8	Ø 10	Ø 12	Ø 14	Ø 16	Ø 18	Ø 20	Ø 25	Ø 32
Size [inch]		Ø ¼	Ø 5/16	Ø 3/8	Ø ½	—	Ø 5/8	—	Ø ¾	Ø 1	Ø 1 ¼
Order No.	**85.830...**	**.06**	**.08**	**.10**	**.12**	**.14**	**.16**	**.18**	**.20**	**.25**	**.32**
Tension spring set (10 pcs. of each size) incl. pull-out gripper											**85.830.00**

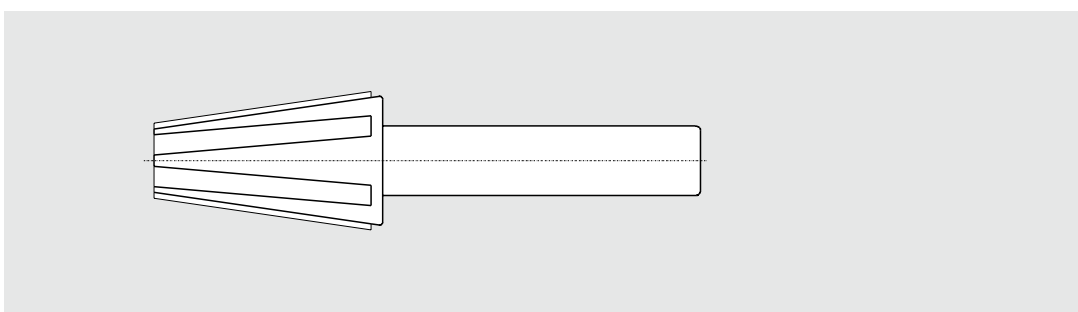
CONE WIPER





Cone wiper HSK		HSK-32	HSK-40	HSK-50	HSK-63	HSK-80	HSK-100
Order No.	85.820...	.32	.40	.50	.63	.80	.10

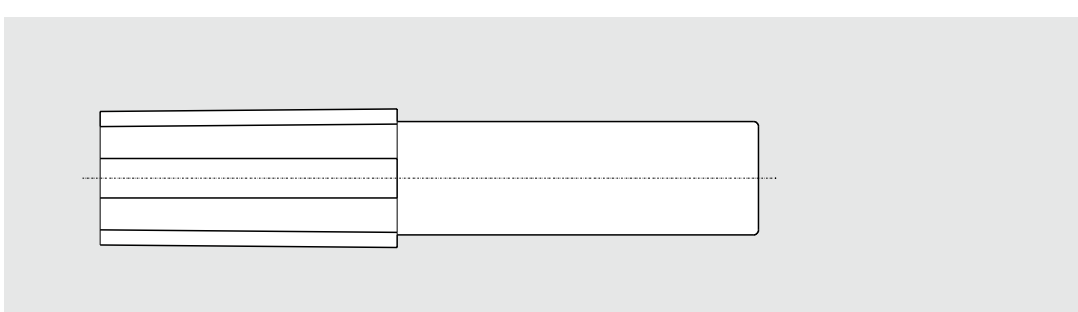




Cone wiper CAT, BT, SK		CAT/BT/SK 30	CAT/BT/SK 40	CAT/BT/SK 50
Order No.	86.100...	.30	.40	.50

Cone wiper MK		MK 01	MK 02	MK 03	MK 04
Order No.	86.100...	.01	.02	.03	.04

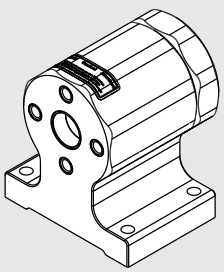




Cone wiper HG		HG 01	HG 02	HG 03
Order No.	82.590...	.01	.02	.03

For cleaning the inner cone of HG chucks

TOOL ASSEMBLY DEVICE TOOL CLAMP WITH VARIOUS ADAPTERS





Tool Clamp – Tool-assembly device:

– Secure tool assembly with minimal physical effort
– Quick-change function for different taper interfaces – without additional tools
– Accident-free assembly of cutting tools
– Elastic locking bolt
– Mechanical security pin
– Better tool clamping, thanks to optimum ergonomics
– Replaceable brass inserts protect the taper surface
– Required space 140 x 100 mm



Tool Clamp



Tool holder SK

Tool Clamp – without tool holder, 4 x 90° indexable	
Order No.	**84.700.00**

Tool holder CAT/BT/SK	
Order No.	**Type**
84.701.30	CAT/BT/SK 30
84.701.40	CAT/BT/SK 40
84.701.50	CAT/BT/SK 50

Tool holder HSK-A	
Order No.	**Type**
84.702.40	HSK-A40
84.702.50	HSK-A50
84.702.63	HSK-A63
84.702.80	HSK-A80
84.702.10	HSK-A100

Tool holder HSK-C/HSK-E	
Order No.	**Type**
84.703.25	HSK-C/E25
84.703.32	HSK-C/E32
84.703.40	HSK-C/E40
84.703.50	HSK-C/E50
84.703.63	HSK-C/E63
84.703.80	HSK-C/E80

Tool holder HSK-F	
Order No.	**Type**
84.704.63.M	HSK-F63 MAKINO
84.704.80.M	HSK-F80 MAKINO

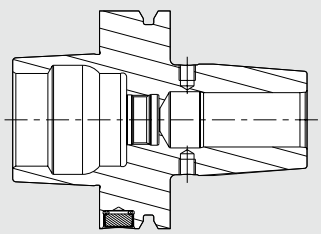
Tool holder PSC	
Order No.	**Type**
84.705.32	PSC 32
84.705.40	PSC 40
84.705.50	PSC 50
84.705.60	PSC 63

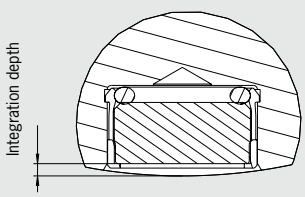
Tool holder KM4X100*	
Order No.	**Type**
84.706.4X100	KM4X*

*KM4X is a registered trademark/tradename of Kennametal Inc.

DATA-λOCK
MECHANICAL DATA CARRIER LOCKING SYSTEM







The mechanical RFID data carrier locking system locks the data carrier by a form and press fit into the tool holder. Especially for higher rpm ranges the new system provides high process reliability.

Advantages:
- Process reliability even at high rotations thanks to mechanical locking
- Less integration depth than comparable mechanical locking systems
- Process reliability at the reading/writing process thanks to the reduced integration depth
- Fine balanced tool holder after data carrier assembly
- Immediately ready to use
- Possible also for non-HAIMER holders
- Patent pending

Delivery includes:
- Modification of the data carrier bore
- Sleeve for the data carrier
- Seal ring
- Mounting of data carrier
- Fine balancing



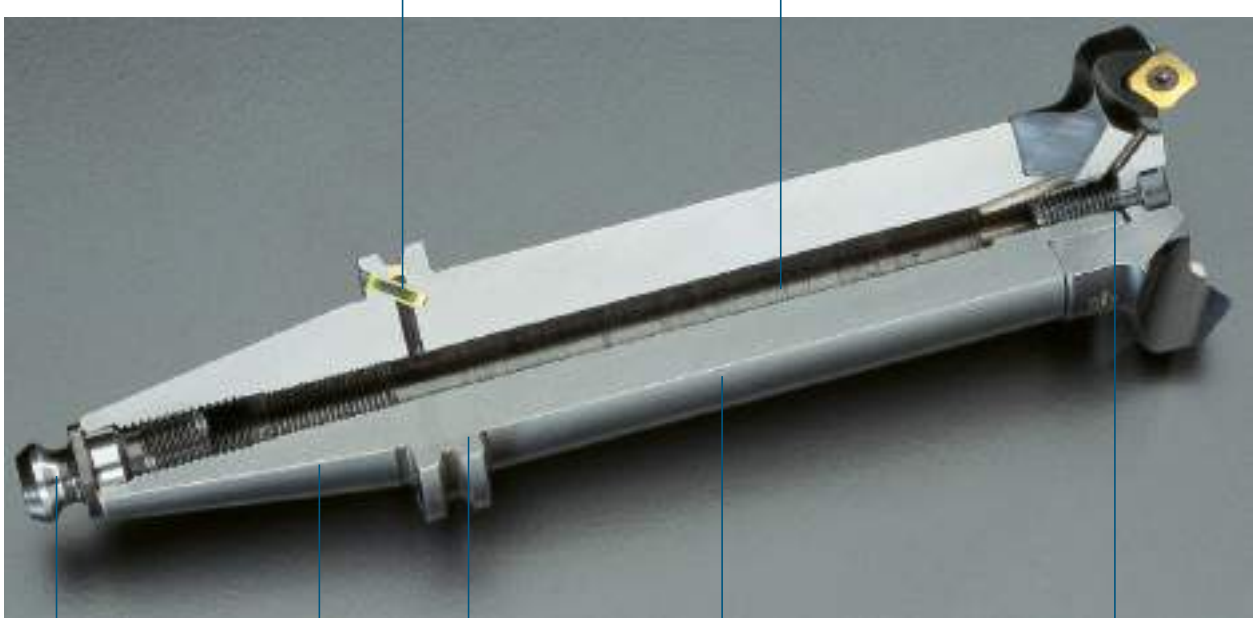


	Order No.
Mounting on HAIMER holders incl. fine balancing	**91.100.06**
Mounting on different holders incl. fine balancing	**91.100.07**

TAPER AND HOLDER SPECIFICATIONS

Features and Benefits:

– Taper: Micron-exact manufacturing (AT3) extends the life of your spindle due to superior taper contact
– All tapers inspected during production to ensure maximum taper contact = maximum accuracy
– All tool holders easily balanceable
– Tapers Form ADF. Central coolant supply through the pull stud (Form AD, pull stud drilled through) and coolant channels through the flange (Form AF, pull stud sealed) which can be sealed again
– Minimal runout
– All holders marked with an identification number
– All holders come standard with pocket for data chip (Except BT, HSK-E and HSK-F tapers)
– Pre-balanced to G 2.5 at 25,000 RPMs
– Fine balancing optional
– Many tapers available
– 3 piece minimum order quantity on specials or discontinued items



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Sorted ascendingly in 1) numerical and 2) alphabetical order

IMPRINT

HAIMER Master Catalog
1st Edition 10/2020

Publisher
Haimer USA, LLC
134 E. Hill Street
Villa Park IL 60181
Brendt Holden

Project lead
Brendt Holden

Conception & Design
Tobias Völker
Andreas Kreppold
Martin Schleicher

Photography
Adobe Stock
Andreas Kreppold
Audrey Thomas
Eichler Graphik und Dokumentation
Fotografie Holger Weiß
Lighthouse Fotografie
Martin Schleicher

Printshop
Himmer GmbH Druckerei & Verlag, Augsburg, Germany
October 2020

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Pictures in the catalog might vary from the original product. No responsibility is taken for possible printing errors, product changes through technical further developments or model changes. Furthermore the colors in the catalog might vary from the original product colors due to printing technology reasons.

In general all order transactions and deliveries are based on our terms of delivery and payment.

IMPORTANT SAFETY INSTRUCTIONS FOR METAL CUTTING AND MACHINE OPERATION

Please read the following information prior to using the products in this catalog

Sudden Projectile and Shattering Hazards:

High spindle speeds, cutter speeds, high temperatures, cutting forces, and a variety of liquids and oils are all part of metal cutting operations today.

For example, during the machining process, hot metal chips may fly off the work piece and, even though cutting tools are created to tolerate high temperatures and cutting forces, they can sometimes break or chip especially if they are exposed to overstraining during the cutting process, extreme impact or other abuse.

Avoid injury by:

- Using appropriate personal protection equipment when working with or being near a metal cutting machine
- Ensuring all machine guards are in place
- Confirming all products are adhering to the product manufacturer's instructions and safety guidelines

Respiratory and Physical Contact Hazards:

Grinding carbide or other cutting tool materials and working with cooling systems create a dust containing harmful metallic particles. Breathing in this dust, especially over a long period of time, can cause short term or permanent lung infections, disease or make preexisting medical conditions more intolerable. In addition, this dust may irritate eyes, skin and may make skin conditions worse.

Avoid injury by:

- Wearing a face shield or mask and safety goggles when grinding or working next to someone who is grinding materials
- Using ventilation control and cooling while grinding and properly collect/dispose of dust or sludge.
- Avoiding skin contact with the dust by wearing safety clothes with long sleeves and pants.

Machine Operation Safety:

Before operating any of the displayed HAIMER machines please carefully read the instruction manual and comply with the safety instructions and provisions. Any HAIMER machine shall only be used by competent staff, which is accordingly instructed in the machine handling as described in the user's manual and during training and installation of the machine.

For more information, consult General Industry Safety and Health Regulations, Part 1910, Title 29 of the Code of Federal Regulations.

Please consider these safety instructions as general guidelines. It is impossible to cover every specific situation because there are many variables that affect machining operations. Please also consider that the technical information included in this catalog and recommendations on machining practices may not be applicable for your particular operation. For more information, product safety and environmental questions, contact your local HAIMER office. Contact addresses can be found at our official homepage www.haimer.com.

FOR YOUR NOTES

FOR YOUR NOTES

TERMS OF DELIVERY AND PAYMENT (OCTOBER 2020)

I. Generalities
The following conditions apply to all business transactions - also those in the future - with the customer. Our sales and shipping conditions apply exclusively; we do not recognize other conditions as well as especially contrary or otherwise differing conditions on the part of the customer, unless we explicitly approve of the validity of those conditions. Our sales and shipping conditions also apply in the event that we acknowledge contrary or differing conditions on the side of the customer and unreservedly fullfil the order. All agreements reached between ourselves and the customer must be in written form in order to be valid. Our sales and shipping conditions apply exclusively towards registered businessmen/businesswomen if the contract is integrated in operating their business and towards legal entities under public law and separate estates or assets under public law.

II. Prices/Price changes, shipping
1. Our prices offered are US dollar prices, and do not include value-added tax. Therefore, value-added tax must be added to the prices at the rate determined by the law applicable at the time. If not agreed specifically otherwise, our prices are ex works, excluding costs for packaging, postage, and shipping. All offered prices are subject to change.
2. Our prices offered are applicable only for the dates of order upon which the offers are based. Subsequent changes or additions upon request or at the instigation of the customer, including additional costs incurred by the above, shall be charged additionally. The same applies for additional costs which might arise as the result of the above from machine down-time. In the event of changes in wages or material costs which arise either between making the offer and the placing of the order, or at any time exceeding four months following completion of contract, we reserve the right to adjust the price accordingly.
3. Shipping of goods occurs at the expense and risk of the customer in which they always assume the additional cost of packaging following the current valid price of Haimer or the relevant valid offer. Inasmuch as goods are shipped at cost and risk of the customer at the customer's request, our liability, as far as is legally permissible, is limited to damage caused intentionally or by gross negligence. At the customer's written request, and at his own expense, goods may be shipped insured by ourselves against theft, breakage, damage to or loss of goods in transit, fire and water damage, or against such other risks as may be expressed explicitly by the customer insofar as such are insurable.
4. As far as can be reasonably expected on the part of the customer, partial shipments are permissible.

III. Payment
1. The goods are to be paid in full, no deductions, within 30 calendar days of date of invoice.
2. Bills of exchange are only accepted upon special agreement and on account of performance without allowance for discount. Discounting and bill charges shall be borne by the customer and become due for payment immediately. We are not liable for the timely presentation of a bill of exchange, its due protest, due notice, or the return of an unpaid bill, unless we or our vicarious agents are guilty of damage by intention or gross negligence.
3. The customer is only entitled to set-off claims if his counterclaims have become res judicata, are uncontested or recognized by ourselves. In the event of contested counterclaims, the customer has no right of retention.
4. In the case of uncontested counterclaims, the customer can only claim a right of retention regarding asserted claims which are based upon the same contractual relationship.

IV. Delay in Payment & Force Majeur
1. In the event of delay in payment, we are entitled to charge the legal rate of interest on overdue payments, i.e. the rate of 9% plus the basic annual interest rate current at the time in question and a lump sum of $ 45.00 per overdue amount; this notwithstanding, we explicitly reserve the right to assert claims regarding additional damages. If the rate of interest is not claimed initially this shall not exclude a later enforcement in the frames of the legal limitation; in this regard a forfeiture is excluded.
2. Should we become aware of circumstances which call into question the customer's creditworthiness and therefore deem our claim for payment to be at risk, particularly if the initiation of insolvency proceedings are filed for - or if insolvency proceedings are opened against the customer's property, or if a check is not honored, or the customer stops payments respectively is in extensive default of the payment with collection threat, then we are entitled to declare the residual debt due immediately and to demand immediate payment. Further, we are then entitled to demand advance payment or provisions of security, and to retain the goods until payment, advance payment, or provisions of security are made, and to discontinue processing running orders until the same. If a change of the order required by the customer affects the production time, we can claim for a new delivery time adjusted to the new circumstances.
3. Delay of delivery or performance caused by force majeur, caused by circumstances that are beyond our control and caused by incidents which do make the delivery not only temporarily difficult or impossible – this is especially strike, lock out, intervention of public administration, act of war, riots, pandemic, lack of energy, destruction or damage of our production and operating units, which were beyond our control as well as stoppage of transportation means, restrictions of work, etc., even though this occurs at our supplier or their sub-supplier we are not responsible even if we agreed on binding delivery deadlines. You allow us to prolong the delivery respectively performance time for the time of interference and an additional initial period. Additionally in such cases we have the right to adjust the price. The above mentioned circumstances do also fall beyond our control if they occur during an already existing delay. Begin and end of such interference will be communicated to the customer as soon as possible. The delivery time is observed in case the product left the premise or we communicated the readiness of shipment to the customer at the end of the delivery time.

V. Reservation of title
1. Until all claims arising from the business relationship with the customer are fulfilled, the customer is required to grant the following securities, which we will release at the customer's request and at our own free will if the securities' value consistently exceeds that of the claims by more than 10%.
2. All goods delivered to the customer remain our property until all claims arising from the business relationship with the customer are paid in full.
3. The object delivered may be neither pledged nor transferred for security to a third party before it is paid in full. In the event of attachment by a third party to the object of delivery, particularly as a pledge, the customer shall refer to our ownership and inform us in writing immediately, so that we can enforce our rights of ownership. The customer is liable for costs which arise judicially or extra-judicially should the third party not be in a position to repay us such costs as arise in relation to the above mentioned.
4. The customer is permitted to sell and process the goods within the context of proper business transactions, as long as he is not in arrears with fulfilling the claims which he owes. We can revoke this permission if the customer is overdue in payments or comes into a state of forfeiture of assets, particularly if insolvency proceedings are opened against his property.
5. The processing or transforming of the goods by the customer shall always be done for us. In the event that the goods are joined, mixed, or blended with other items, we acquire co-ownership in proportion with the value of the goods (sum total of invoice including legal value-added tax) to the remaining items which were joined, mixed, or blended together at the time when they were joined, mixed, or blended together.
For the event that ownership of the goods be lost inasmuch as the goods become an integral or necessary part of another item, the customer hereby concedes to us now, in advance, co-ownership of the main item equal to the share which corresponds with the proportion of the value of the goods delivered (sum total of invoice including legal value-added tax) to the value of the main item at the time of said joining, mixing, or blending.
6. In the event that the goods are sold, the customer now and hereby, for the security of our claims arising from the whole of the business relationship, assigns all claims which arise for the customer from resale or from other legal grounds (insurance, tortius act, or the like) against the buyer or third parties, independently of whether the goods, of which we have (partial) ownership, are resold with or without processing. Upon our request, which may be made at any time, the customer must inform us regarding the state of the claim, and allow us or anyone authorized by us to inspect those business records relevant to the above. We grant the customer permission, subject to revocation, to collect the sums due for the claims we assigned, to his own account and in his own name. This direct debit authorization can only be revoked if the customer does not meet his financial obligations in a proper manner. Our authority to collect ourselves the sums due remains unaffected by the above. However, we bind ourselves not to collect the sums due as long as the customer meets his financial obligations with the collected sales revenue, is not overdue for payments, and especially if no initiation for insolvency proceedings has been filed or cessation of payments has been noted. If this is the case, however, we can require that the customer makes known to us immediately the claims assigned and their debtors, including all information required for collection purposes, providing us with all records necessary therefore, and informing the debtors (third parties) of the assignment of claims. We as well have the right of disclosure of assignments against debtors. The customer, however, is not entitled to assign this claim to third parties.
7. Contrary to position 3, the customer is not entitled to sell the goods, even within the context of proper, standard business transactions, if the customer excludes assigning claims based on the sale of the goods to us.
8. In the event of actions contrary to the terms of contract, particularly in the case of delay of payment, we are entitled to rescission of the contract. Following rescission, we can demand return of the goods from the customer.

VI. Delivery time
1. Delivery dates and delivery periods are only binding if they are confirmed by us explicitly in writing.
2. The confirmed delivery dates and delivery periods start when the following cumulative conditions are met: the clarification of all technical questions; the fulfilment of the customer's contractual obligations, particularly that of furnishing records, authorizations, and release statements. When alterations ordered by the customer have an influence upon the duration of production time, we are entitled to insist upon agreeing to a new delivery time which is adjusted to the changed circumstances. We are not liable for delays in delivery and performance, even if binding dates and times have been agreed upon, in case of acts of God, in case of circumstances which we are not responsible for, and in the event of incidents which not only temporarily substantially impede delivery or make it impossible - this includes in particular strike, lock-out, sovereign intervention, acts of war, riots, pandemic, electrical shortage, destruction or damage to our production or works fixtures for which we are not liable, as well as transportation failure, work limitations etc., also when the above affect our suppliers or their sub-suppliers. Such circumstances entitle us to postpone delivery or performance for the duration of the impediment plus a reasonable starting-up time. Furthermore, such a case entitles us, for our part, to adjust the price accordingly. We are also not liable for the circumstances mentioned if they arise during an already existing delay. In important cases, we will inform the customer as soon as possible regarding the beginning and end of such hindrances. The delivery deadline is met if by date of its expiry the goods have left the works or the customer has received notice of readiness of dispatch.

VII. Sample
Samples of all kinds, whether designs, models, etc., are prepared especially for the customer according to his instructions and only by prior written commission for the same. In every case, these samples will be billed separately to the customer.

VIII. Storage of documents and items for further use
The storage of the customer's papers and other objects such as may serve some future purpose is undertaken only upon prior written agreement and in exchange for special compensation beyond the date of delivery of the goods ordered. The above mentioned goods a/o objects, if they are placed at our disposal by the customer, shall be handled with care up to the delivery date. In this case as well, storage beyond the delivery date is only granted upon prior written agreement and in return for special compensation. Should the above mentioned documents a/o objects be insured against water, fire, theft, or other dangers, the customer must provide the necessary insurance himself. Further, within legally permissible limits, we are exempt from liability for the loss of, damage to, or destruction of these documents a/o objects.

IX. Company print
On objects of our manufacture, we can, with the customer's permission, make reference to our company in an appropriate manner. The customer can only withhold his permission in the event that he has a justifiable interest in so doing.

X. Time limit for making a claim
Upon delivery, the customer must inspect the goods without delay, and in the event that the goods have obvious defects, these must be reported to us within a period of two weeks following receipt of the goods, in the case of shipping from the point of taking delivery from the shipper or carrier; otherwise, the customer's claims regarding defects are excluded. Claims for non-obvious defects can only be asserted within a period of one year upon receipt of the goods, in the case of shipping upon taking delivery from the shipper or carrier.

XI. Warranty
The warranty period is 1 year after passing of the risk. In the event of defects, we are entitled to choose between rectifying the defects or delivering a substitute, up to the amount of the contractual value, unless we or our vicarious agents are guilty of damage by intent or gross negligence, or if we have given a guarantee for the condition of the goods. If two attempts at rectifying the defects or at delivering a substitute fail, or if rectification or substitution is not possible, not to be reasonably expected for the customer, or finally refused by ourselves, then the customer can demand a reasonable reduction in price or withdraw from the contract. For substantial third-party products, our liability is limited initially to the assignment of liability claims to which we are entitled against the supplier of the third-party products. Any liability ensuing on our part in this instance can only be secondary and requires prior recourse to the courts for the supplier of the third-party product. We will reimburse such costs as may arise if they cannot be collected from the supplier and if they were necessary for prosecution. Guarantee and damage claims which exceed the above are excluded, so far as is permissible by law.

XII. Compensation for Damages
The following liability limits apply for damage claims, within the parameters of the law:
For all damages arising from culpable breach of contract, we are liable if we ourselves or our vicarious agents are at fault, but only in case of damage by intention or gross negligence. Within the limits of the law, this also applies in cases of default or when performance becomes impossible. Insofar as we are considered liable for damages due to breach of contract which results from a slight degree of negligence on our part or on the part of our vicarious agents, liability for indirect damages is excluded. When delay damages arise due to delay in our performance, we are only liable to the extent of contractual value (our own work excluding advance performance and material) if we or our vicarious agents are only at fault for slight negligence. This limitation of liability also applies for damages in connection with services of Haimer for goods of customers (e.g. Balancing, Cool Jet, Cool Flash, Duo-Lock, Safe-Lock, Data-Lock or RFID chipping), whereupon the liability is limited to the extent of the contractual value of the service by Haimer.

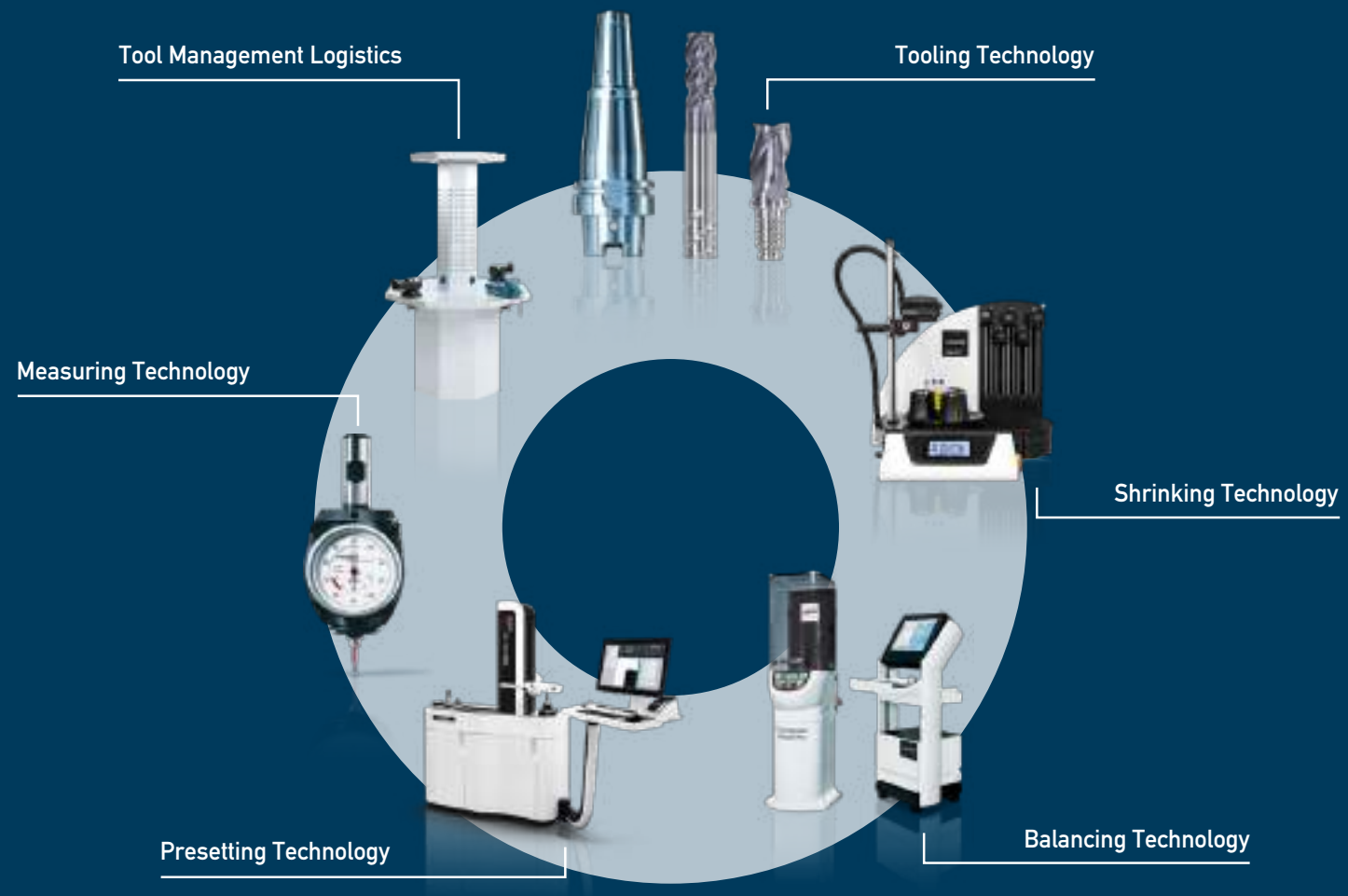
XIII. Taking Delivery; Passing of Risk
The customer must take delivery of the goods at the completion time agreed upon if the goods are ready for acceptance. If the customer is in default of acceptance, regardless of article III.1 the price agreed upon is due immediately. If the customer does not meet this obligation, we are entitled to withdraw from the contract and to make other use of the goods, whereby the sales revenues gained in this case are credited to the price agreed upon. We must be compensated for profit lost. If the seller is in default of acceptance or fails to perform other participation duties, then we are entitled to demand compensation for damages thus caused, including any additional expenditures which may arise. We reserve the right to further claims on our behalf. In case of default or delay in acceptance by the buyer, or other failure to perform participation duties on the part of the buyer, then the risk of accidental loss of the goods or of accidental worsening of the state of the goods passes over to the buyer from the point in which he entered into the state of default in acceptance or debtor's delay.

XIV. Ownership, Copyright, Duty of Secrecy
Those articles of the trade which we use to manufacture the product of the contract, in particular special means of operation (tools, devices) remain our property and shall not be delivered. We reserve for ourselves the ownership and copyrights of estimates of cost, drawings, and other documents. They may only then be made available to unauthorized third parties if we give our prior explicit written permission. The customer is solely liable if, in the process of executing orders, any rights, particularly copyrights, trademarks, or patents of third parties are infringed upon. The customer indemnifies us against claims of third parties in the event of such violations of rights. All ideas and documents drawn up by ourselves, in particular samples, sketches, designs, technical information, models, technical drawings etc. are under the protection of our intellectual property, have to be treated confidential and may not be used or applied in any manner without our prior written consent.

XV. Export
The customer (Buyer) confirms if he resells Haimer products that he complies with all provisions and regulations of international export controls as well as with the US re-export regulations. The customer (Buyer) declares with his order his compliance with this kind of laws and regulations. Additionally the customer (Buyer) confirms with his order that the products will remain in the delivery country respectively will not be delivery out of North America a/o Central America.

XVI. Applicability of United States of America Law
The customer (Buyer) shall comply exclusively with all of the laws and regulations in the US law. All legal discussions and actions will take place in the state of Illinois if a dispute arises. Application of the UN Convention on Contracts for the International Sale of Goods, dated January 1, 1991, is precluded.

XVII. Place of Performance, Place of Jurisdiction, and Validity
The place of performance for all claims arising from this contractual relationship is place of business of the seller. The place of business of the seller is also the place of jurisdiction for all legal disputes arising from this business connection. We are, however, entitled to bring grievances before the legal place of jurisdiction as well. The partial or complete invalidity of any provision in these terms of sales and delivery, or of any provision within the context of other agreements, whether now or in the future, shall not affect the validity of any part of the remaining provisions or agreements. The invalid provision is then replaced by that lawfully permissible provision which is closest to the meaning of the invalid provision.



Your system partner around the machine tool.

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