DIJET CARBIDE TOOLS

Indexable Tools A3

Button, Radius & Square Shoulder

DIJET CARBIDE TOOLS

Meeting the Trust of Customers

The industrial world, which is making remarkable progress, poses various difficult problems toward tooling. Dijet has been meeting the trust of customers with continuous development of new tools and materials using our experience of more than 50 years as a total carbide tool manufacturer.

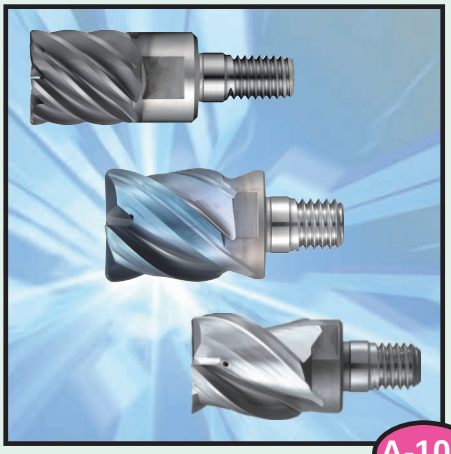
Extreme SAP A-79

Swing Ball A-31

TDM Blade-Chipper A-13

Super End-Chipper A-65

Aero-Chipper A-85



S-Heads A-105

HOW TO USE THE CATALOG

Please note that products in this catalog are continuously under study and are improved.

The products therefore may be changed in the future and thus become different from the catalog.

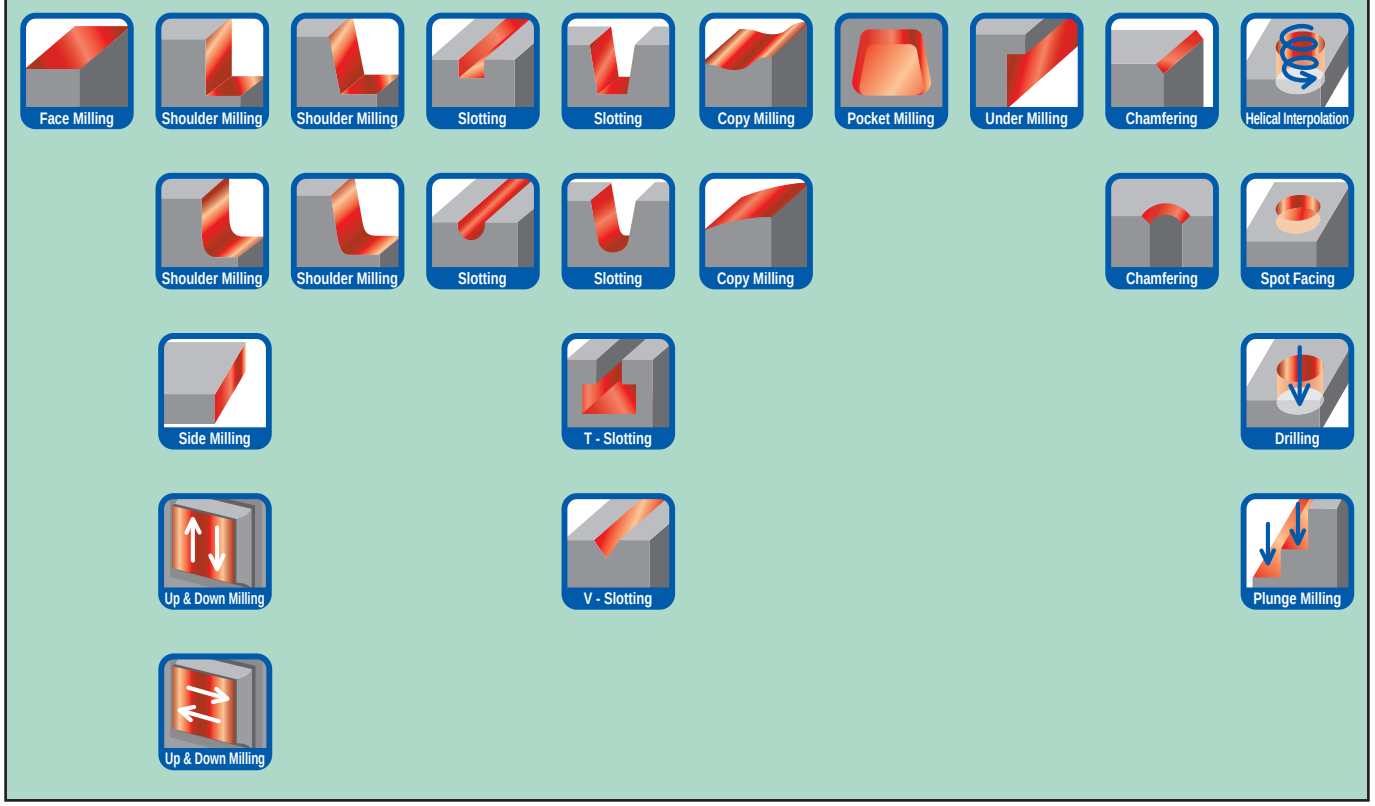
Stock status is mentioned for the products in this catalog. However, please note that the products here may be replaced by the new grades and products in the future.

Regarding stock status:

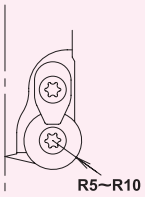
- [•] Stock standard items (NOTE: Some items may be stocked in Japan - delivery approximately 2 weeks.)
- [ ] Non stock standard items (Production after order received)

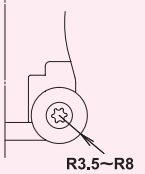
See Technical Catalog for grade information and spare part information.

CUTTING STYLES

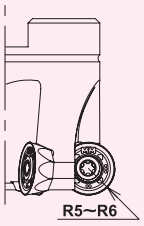


INDEXABLE TOOLS - BUTTONS & RADIUS

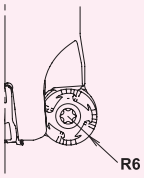




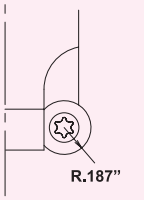
Super Diemaster

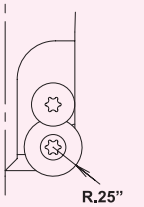


TDM Blade-Chipper

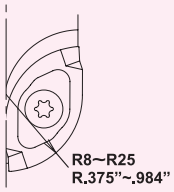


EXTDM Extreme Diemate

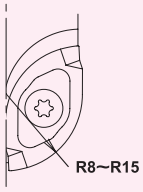




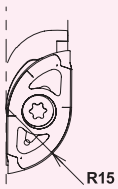
Diemaster



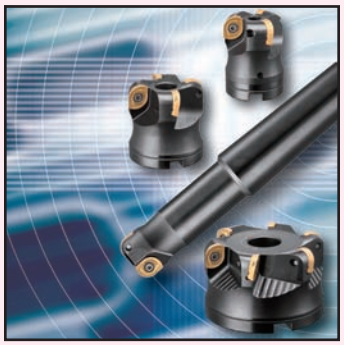
Swing Ball

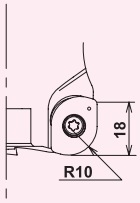


Swing Ball - Neo

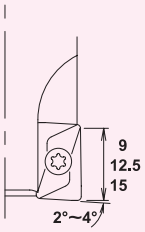


Swing Ball - K

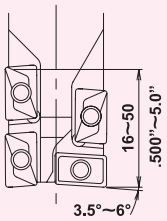




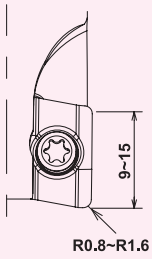
Wild Radius



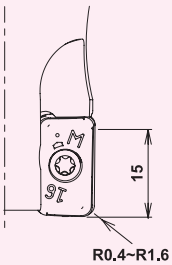
Side Chipper



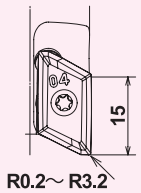
Super End-Chipper



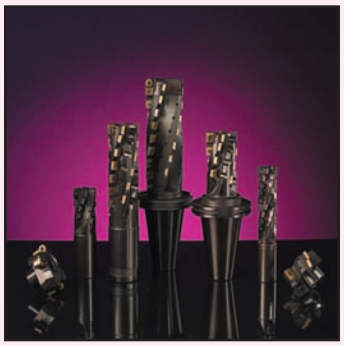
SAP Cutters

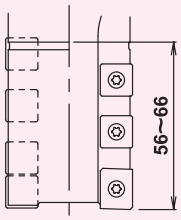


EXSAP Cutters

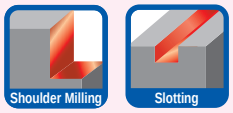


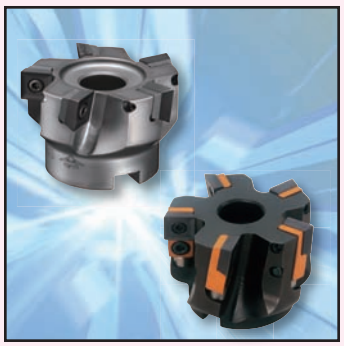
Aero Chipper

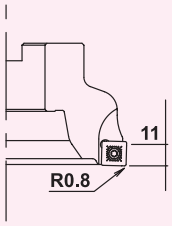




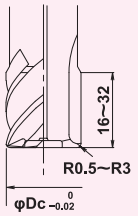
Swing Mill & RFC





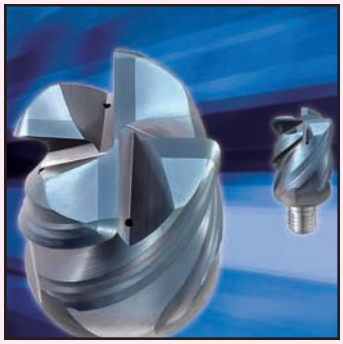


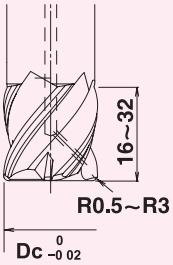
Mighty Blader & SSD90 Cutters



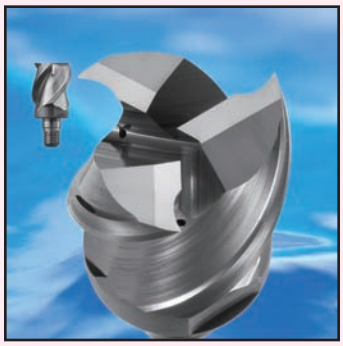
SMSA Heads

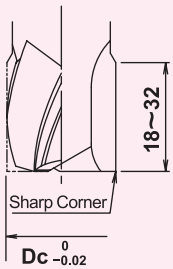
INDEXABLE TOOLS - SQUARE SHOULDER



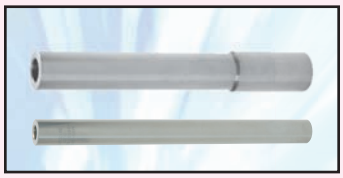


SMSR Heads



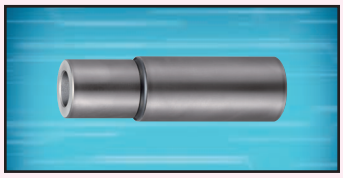


SMAL Heads



Modular Head Holders

Carbide shank Holders - MSN



G-Body

G-Body Shank Holders - MGN

Super Diemaster

High Efficient Indexable Radius Tool

- Positive axial rake reduces cutting force.
- Double clamping system for deeper applications.
- DH103 grade available for 60 HRC material.
- Uncoated insert for machining aluminum.
- G-Body improves durability and tool life by 30% or more over conventional style.

DIJET®

Face Milling | Pocket Milling | Copy Milling | Helical Interpolation

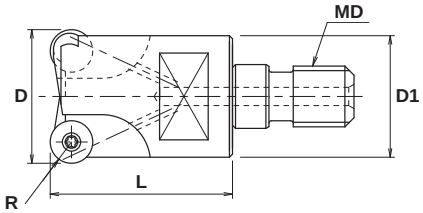
Super Diemaster

INCH

MODULAR HEAD

SDH Type

G-Body



Specifications

CATALOG NUMBER	STK	DIMENSIONS					HEAD TORQUE		INSERT	Q	PARTS	
		D	R	L	D1	MD	lbs./ft	Nm			Screw	Wrench
SDH-3075-R07-M10	•	.750	3.5	1.18	.728	M10	11.8	16	RD**07T2MO*	3	TSW-2556H	T-08SD
SDH-2100-R12-M12	•	1.00	6	1.38	.945	M12	14.7	20	RD**1204MO*	2	DSW-410H	T-15
SDH-3100-R10-M12	•	1.00	5	1.38	.945	M12	14.7	20	RD**1004MO*	3	CSW-408H	T-15
SDH-3125-R12-M16	•	1.25	6	1.69	1.14	M16	18.4	25	RD**1204MO*	3	DSW-410H	T-15
SDH-4125-R10-M16	•	1.25	5	1.69	1.14	M16	18.4	25	RD**1004MO*	4	CSW-408H	T-15
SDH-4150-R12-M16	•	1.50	6	1.69	1.25	M16	18.4	25	RD**1204MO*	4	DSW-410H	T-15
SDH-5150-R10-M16	•	1.50	5	1.69	1.25	M16	18.4	25	RD**1004MO*	5	CSW-408H	T-15

Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts.

METRIC

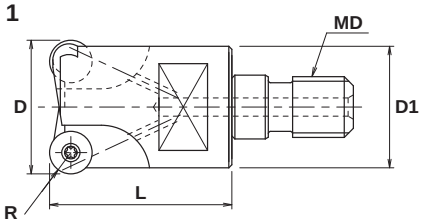
Super Diemaster

MODULAR HEAD

SDH Type

G-Body

Fig. 1



G-Body

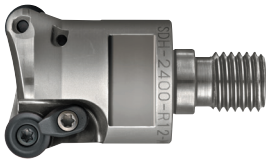
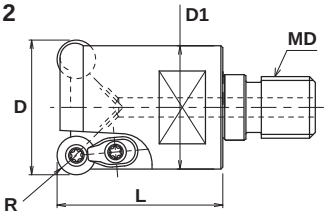


Fig. 2



Specifications - Standard

CATALOG NUMBER	STK	DIMENSIONS					FIG.	HEAD TORQUE		INSERT	Q	PARTS		
		D	R	L	D1	MD		lbs./ft	Nm			Screw	Wrench	Other
SDH-2150-R07-M8	•	15	3.5	23	13.8	M8	1	11.8	16	RD**07T2MO*	2	TSW-2556H	T08SD	-
SDH-2160-R07-M8	•	16	3.5	23	15	M8	1	11.8	16	RD**07T2MO*	2	TSW-2556H	T08SD	-
SDH-2200-R07-M10	•	20	3.5	30	18	M10	1	11.8	16	RD**07T2MO*	2	TSW-2556H	T08SD	-
SDH-2220-R07-M10	•	22	3.5	30	20	M10	1	11.8	16	RD**07T2MO*	2	TSW-2556H	T08SD	-
SDH-2250-R10-M12	•	25	5	35	23	M12	2	14.7	20	RD**1004MO*	2	CSW-408H	T-15	DCM-18
SDH-2280-R10-M12	•	28	5	35	25	M12	2	14.7	20	RD**1004MO*	2	CSW-408H	T-15	DCM-18
SDH-2300-R10-M16	•	30	5	43	28	M16	2	18.4	25	RD**1004MO*	2	CSW-408H	T-15	DCM-18
SDH-2320-R12-M16	•	32	6	43	28	M16	2	18.4	25	RD**1204MO*	2	DSW-410H	T-15	DCM-18
SDH-3320-R10-M16	•	32	5	43	28	M16	2	18.4	25	RD**1004MO*	3	CSW-408H	T-15	DCM-18
SDH-2350-R12-M16	•	35	6	43	32	M16	2	18.4	25	RD**1204MO*	2	DSW-410H	T-15	DCM-18
SDH-3350-R10-M16	•	35	5	43	32	M16	2	18.4	25	RD**1004MO*	3	CSW-408H	T-15	DCM-18
SDH-2400-R12-M16	•	40	6	43	32	M16	2	18.4	25	RD**1204MO*	2	DSW-410H	T-15	DCM-18

Note: All cutters are supplied without inserts.

Specifications - Fine Pitch

CATALOG NUMBER	STK	DIMENSIONS					FIG.	HEAD TORQUE		INSERT	Q	PARTS	
		D	R	L	D1	MD		lbs./ft	Nm			Screw	Wrench
SDH-3200-R07-M10	•	20	3.5	30	18	M10	1	11.8	16	RD**07T2MO*	3	TSW-2556H	T08SD
SDH-3220-R07-M10	•	22	3.5	30	20	M10	1	11.8	16	RD**07T2MO*	3	TSW-2556H	T08SD
SDH-3250-R07-M12	•	25	3.5	35	23	M12	1	14.7	20	RD**07T2MO*	3	TSW-2556H	T08SD
SDH-3250-R10-M12	•	25	5	35	23	M12	1	14.7	20	RD**1004MO*	3	CSW-408H	T-15
SDH-3280-R10-M12	•	28	5	35	25	M12	1	14.7	20	RD**1004MO*	3	CSW-408H	T-15
SDH-3300-R10-M16	•	30	5	43	28	M16	1	18.4	25	RD**1004MO*	3	CSW-408H	T-15
SDH-4300-R10-M16	•	30	5	43	28	M16	1	18.4	25	RD**1004MO*	4	CSW-408H	T-15
SDH-4320-R10-M16	•	32	5	43	28	M16	1	18.4	25	RD**1004MO*	4	CSW-408H	T-15
SDH-3350-R12-M16	•	35	6	43	32	M16	1	18.4	25	RD**1204MO*	3	DSW-410H	T-15
SDH-4350-R10-M16	•	35	5	43	32	M16	1	18.4	25	RD**1004MO*	4	CSW-408H	T-15
SDH-4400-R12-M16	•	40	6	43	32	M16	1	18.4	25	RD**1204MO*	4	DSW-410H	T-15
SDH-5420-R10-M16	•	42	5	43	32	M16	1	18.4	25	RD**1004MO*	5	CSW-408H	T-15

Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts.

Super Diemaster

INCH

FACE MILL

HDM Type

G-Body

Fig. 1 - Standard Pitch

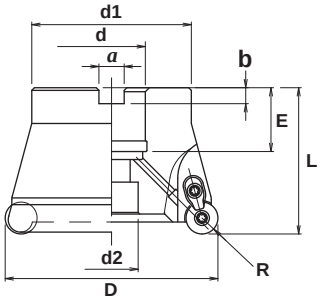
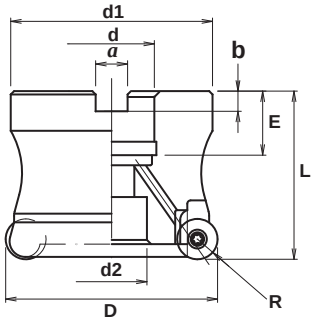


Fig. 2 - Fine Pitch



Specifications

CATALOG NUMBER	STK	DIMENSIONS									FIG.	INSERT	Q	PARTS		
		D	R	L	d	d1	a	b	E	d2				Screw	Wrench	Other
HDM-5200-75R-12	•	2.00	6	2.00	.750	1.85	.197	.319	.750	.63	2	RD**1204MO*	5	DSW-410H	A-15T	-
HDM-4200-75R-16	•	2.00	8	2.00	.750	1.85	.197	.319	.750	.63	2	RD**1606MO*	4	DSW-4512H	A-20	-
HDM-7300-125R-12	•	3.00	6	2.75	1.25	2.85	.315	.500	1.26	1.02	2	RD**1204MO*	7	DSW-410H	A-15T	-
HDM-6300-125R-16	•	3.00	8	2.75	1.25	2.85	.315	.500	1.26	1.02	2	RD**1606MO*	6	DSW-4512H	A-20	-
HDM-5300-125R-20	•	3.00	10	2.75	1.25	2.85	.315	.500	1.26	1.02	1	RD**2006MO*	5	DSW-4512H	A-20	DCM-17
HDM-9400-150R-12	•	4.00	6	2.75	1.50	3.78	.393	.626	1.45	1.26	2	RD**1204MO*	9	DSW-410H	A-15T	-
HDM-7400-150R-16	•	4.00	8	2.75	1.50	3.78	.393	.626	1.45	1.26	2	RD**1606MO*	7	DSW-4512H	A-20	-
HDM-6400-150R-20	•	4.00	10	2.75	1.50	3.78	.393	.626	1.45	1.26	1	RD**2006MO*	6	DSW-4512H	A-20	DCM-17

Note: All cutters are supplied without inserts.

ENDMILL

HDM Type

G-Body

Fig. 1

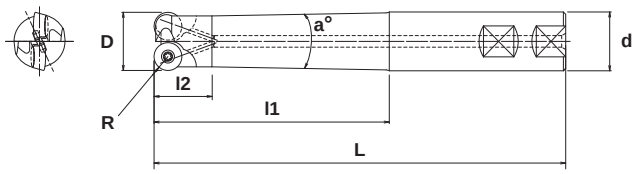
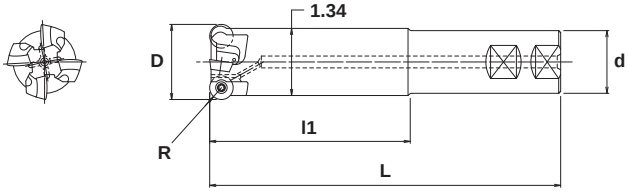


Fig. 2



Specifications

CATALOG NUMBER	STK	DIMENSIONS							FIG.	INSERT	Q	PARTS	
		D	R	L	l1	l2	d	a°				Screw	Wrench
HDM-2100-2.0-S100-12	•	1.00	6	5.00	2.00	.98	1.00	4°	1	RD**1204MO*	2	DSW-410H	T-15
HDM-2100-4.0-S100-12	•	1.00	6	7.00	4.00	.98	1.00	2°	1	RD**1204MO*	2	DSW-410H	T-15
HDM-2100-6.0-S125-12	•	1.00	6	9.00	6.00	.98	1.25	4°	1	RD**1204MO*	2	DSW-410H	T-15
HDM-3125-2.0-S125-12	•	1.25	6	5.00	2.00	1.18	1.25	6°	1	RD**1204MO*	3	DSW-410H	T-15
HDM-3125-4.0-S125-12	•	1.25	6	7.00	4.00	1.18	1.25	2°	1	RD**1204MO*	3	DSW-410H	T-15
HDM-3125-6.0-S125-12	•	1.25	6	9.00	6.00	1.18	1.25	1°	1	RD**1204MO*	3	DSW-410H	T-15
HDM-4150-2.0-S125-12	•	1.50	6	5.00	2.00	-	1.25	-	2	RD**1204MO*	4	DSW-410H	T-15
HDM-4150-4.0-S125-12	•	1.50	6	7.00	4.00	-	1.25	-	2	RD**1204MO*	4	DSW-410H	T-15
HDM-4150-6.0-S125-12	•	1.50	6	9.00	6.00	-	1.25	-	2	RD**1204MO*	4	DSW-410H	T-15

Note: All cutters are supplied without inserts.

METRIC

Super Diemaster

FACE MILL
HDM Type

G-Body

Fig. 1 - Standard Pitch

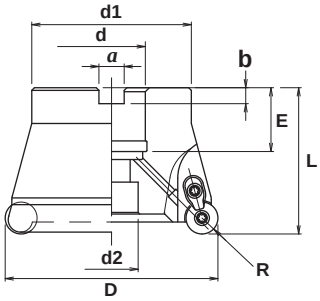
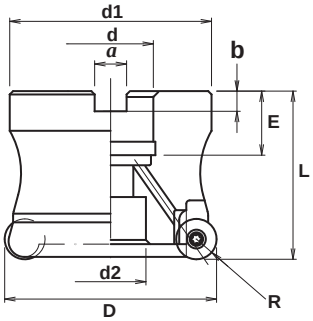


Fig. 2 - Fine Pitch



Specifications

CATALOG NUMBER	STK	DIMENSIONS									FIG.	INSERT	Q	PARTS		
		D	R	L	d	d1	a	b	E	d2				Screw	Wrench	Other
HDM-3050-12R	•	50	6	50	22.225	47	8.4	5	20	16.5	1	RD**1204MO*	3	DSW-410H	A-15T	DCM-18
HDM-3050-12R-22	•	50	6	50	22	47	10.4	6.3	20	16.5	1					
HDM-3050-16R	•	50	8	55	22.225	47	8.4	5	20	16.5	1	RD**1606MO*	3	DSW-4512H	A-20	DCM-17
HDM-3050-16R-22	•	50	8	55	22	47	10.4	6.3	20	16.5	1					
HDM-4050-16R	•	50	8	55	22.225	47	8.4	5	20	16.5	2	RD**1606MO*	4	DSW-4512H	A-20	-
HDM-4050-16R-22	•	50	8	55	22	47	10.4	6.3	20	16.5	2					
HDM-5050-12R	•	50	6	50	22.225	47	8.4	5	20	16.5	2	RD**1204MO*	5	DSW-410H	A-15T	-
HDM-5050-12R-22	•	50	6	50	22	47	10.4	6.3	20	16.5	2					
HDM-5050-12R-19.05	•	50	6	50	19.05	47	5	8.1	19.05	16	2					
HDM-4052-16R-22	•	52	8	55	22	47	10.4	6.3	20	16.5	2	RD**1606MO*	4	DSW-4512H	A-20	-
HDM-5052-12R-22	•	52	6	50	22	47	10.4	6.3	20	16.5	2	RD**1204MO*	5	DSW-410H	A-15T	-
HDM-4063-12R	•	63	6	50	22.225	60	8.4	5	20	16.5	1	RD**1204MO*	4	DSW-410H	A-15T	DCM-18
HDM-4063-12R-22	•	63	6	50	22	60	10.4	6.3	20	16.5	1					
HDM-4063-16R	•	63	8	50	22.225	60	8.4	5	20	16.5	1	RD**1606MO*	4	DSW-4512H	A-20	DCM-17
HDM-4063-16R-22	•	63	8	50	22	60	10.4	6.3	20	16.5	1					
HDM-5063-16R	•	63	8	50	22.225	60	8.4	5	20	16.5	2	RD**1606MO*	5	DSW-4512H	A-20	-
HDM-5063-16R-27	•	63	8	50	27	60	12.4	7	22	20	2					
HDM-6063-12R	•	63	6	50	22.225	60	8.4	5	20	16.5	2	RD**1204MO*	6	DSW-410H	A-15T	-
HDM-6063-12R-27	•	63	6	50	27	60	12.4	7	22	20	2					
HDM-6063-12R-25.4	•	63	6	50	25.4	60	6	9.5	19.05	21	2					

Note: All cutters are supplied without inserts.

DIJET

Face Milling | Pocket Milling | Copy Milling | Helical Interpolation

Super Diemaster

METRIC

FACE MILL

HDM Type

G-Body

Fig. 1 - Standard Pitch

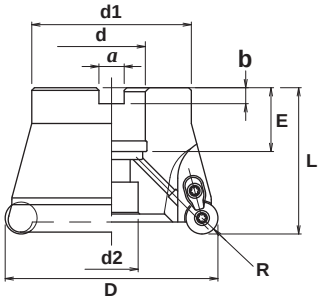
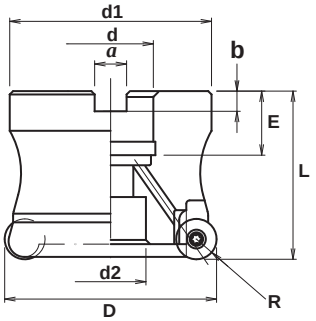


Fig. 2 - Fine Pitch



Specifications

CATALOG NUMBER	STK	DIMENSIONS									FIG.	INSERT	Q	PARTS		
		D	R	L	d	d1	a	b	E	d2				Screw	Wrench	Other
HDM-5066-16R-27	•	66	8	50	27	60	12.4	7	22	20	2	RD**1606MO*	5	DSW-4512H	A-20	-
HDM-6066-12R-27	•	66	6	50	27	60	12.4	7	22	20	2	RD**1204MO*	6	DSW-410H	A-15T	-
HDM-4080-12R-25.4	•	80	6	55	25.4	60	9.5	6	24	20	1	RD**1204MO*	4	DSW-410H	A-15T	DCM-18
HDM-4080-12R	•	80	6	70	31.75	74	12.7	8	32	26	1	RD**1204MO*	4	DSW-410H	A-15T	DCM-18
HDM-4080-16R-25.4	•	80	8	55	25.4	60	9.5	6	24	20	1	RD**1606MO*	4	DSW-4512H	A-20	DCM-17
HDM-4080-16R	•	80	8	70	31.75	76	12.7	8	32	26	1	RD**1606MO*	4	DSW-4512H	A-20	DCM-17
HDM-5080-16R-25.4	•	80	8	55	25.4	60	9.5	6	24	20	1	RD**1606MO*	5	DSW-4512H	A-20	DCM-17
HDM-5080-20	•	80	10	70	31.75	63.5	12.7	8	32	26	1	RD**2006MO*	5	DSW-4512H	A-20	DCM-17
HDM-6080-16R-27	•	80	8	55	27	76	12.4	7	22	20	2	RD**1606MO*	6	DSW-4512H	A-20	-
HDM-6080-20R-1.25	•	80	10	70	31.75	63.5	12.7	8	32	26	1	RD**2006MO*	6	DSW-4512H	A-20	DCM-17
HDM-6080-20R-27	•	80	10	55	27	60	12.4	7	22	20	1	RD**2006MO*	6	DSW-4512H	A-20	DCM-17
HDM-7080-12R-27	•	80	6	55	27	76	12.4	7	22	20	2	RD**1204MO*	7	DSW-410H	A-15T	-
HDM-6100-16R	•	100	8	70	31.75	96	12.7	8	32	26	1	RD**1606MO*	6	DSW-4512H	A-20	DCM-17
HDM-8125-16R	•	125	8	70	38.1	100	15.9	10	37	32	1	RD**1606MO*	8	DSW-4512H	A-20	DCM-17
HDM-9160-16R	※	160	8	80	50.8	120	19	11	39	39	1	RD**1606MO*	9	DSW-4512H	A-20	DCM-17

※ **Special Make**

Note: All cutters are supplied without inserts.

METRIC

Super Diemaster

Inserts

Fig. 1

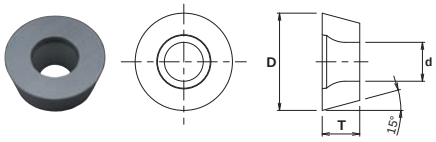


Fig. 2

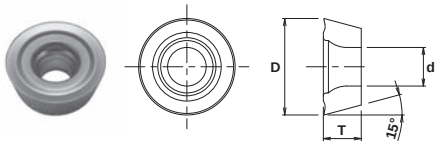


Fig. 3

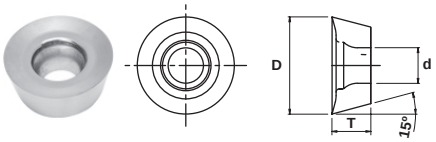
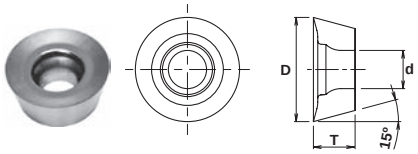


Fig. 4



Specifications

CATALOG NUMBER	IC TOLERANCE	DIMENSIONS			FIG.	COATED GRADE						UNCOATED
		D	T	d		DH103	JC8015	JC5040	JC8050	JC5118	JC8118	FZ05
RDMW07T2MOT	M	7	2.7	2.8	1	•	•	•				
RDMW1004MOT	M	10	4.1	4.4	1	•	•	•				
RDMW1204MOT	M	12	4.8	4.4	1	•	•	•				
RDMW1606MOT	M	16	6	5	1	•	•	•				
RDHX2006MOT	H	20	6	5.5	1					•		
RDGT07T2MOE	G	7	2.7	2.8	2		•		•			
RDGT1004MOE	G	10	4.1	4.4	2		•		•			
RDGT1004MOT	G	10	4.1	4.4	2		•		•			
RDGT1204MOE	G	12	4.8	4.4	2		•		•			
RDGT1204MOT	G	12	4.8	4.4	2		•		•			
RDGT1606MOE	G	16	6	5	2		•		•			
RDGT1606MOT	G	16	6	5	2		•		•			
RDMT07T2MOE	M	7	2.7	2.8	2		•		•		•	
RDMT1004MOE	M	10	4.1	4.4	2		•		•		•	
RDMT1004MOT	M	10	4.1	4.4	2		•		•		•	
RDMT1204MOE	M	12	4.8	4.4	2		•		•		•	
RDMT1204MOT	M	12	4.8	4.4	2				•		•	
RDMT1606MOE	M	16	6	5	2				•	•	•	
RDMT1606MOT	M	16	6	5	2		•		•		•	
RDMT1004MOE-ML	M	10	4.1	4.4	4				•			
RDMT1204MOE-ML	M	12	4.1	4.4	4				•			
RDGT07T2MOF-AL	G	7	2.7	2.8	3							•
RDGT1004MOF-AL	G	10	4.1	4.4	3							•
RDGT1204MOF-AL	G	12	4.8	4.4	3							•
RDGT1606MOF-AL	G	16	6	5	3							•
RDGT2006MOF-AL	G	20	6	5.5	3							•

NOTES: RDMW - flat top for general steels.
RDGT/RDMT - chipbreaker style for low cutting force on stainless, inconel & titanium.
RDGT**-AL - uncoated polished chipbreaker for aluminum.

Super Diemaster

METRIC

Insert Style and Grade Recommendations

Materials	Cast Iron Cast Steel	Carbon Steel Alloy Steel			Mold Steel		High Hardened Steel	Titanium Alloy Inconel		Stainless Steel		Aluminum
Insert Grade / CATALOG NUMBER	JC8015 JC8118 (JC5118)	JC5040	JC8118 (JC5118)	JC8050	JC8015 JC8118 (JC5118)	JC8050	DH103 (above 50HRC) JC8015 JC5118 (JC8118)	JC8015 JC8118 (JC5118)	JC8050	JC8015 JC8118 (JC5118)	JC8050	FZ05
RDMW07T2MOT	⊙	⊙			⊙		⊙	○		○		
RDGT07T2MOE	★		★	●	○	●		⊙	●	⊙	●	
RDGT07T2MOF-AL												⊙
RDMW1004MOT	⊙	⊙			⊙		⊙	○		○		
RDGT1004MOT	★		★		○					⊙	●	
RDGT1004MOE				●		●		⊙	●			
RDGT1004MOF-AL												⊙
RDMT1004MOT	★		★		○					⊙	●	
RDMT1004MOE				●		●		⊙	●			
RDMW1204MOT	⊙	⊙			⊙		⊙	○		○		
RDGT1204MOT	★		★		○					⊙	●	
RDGT1204MOE				●		●		⊙	●			
RDGT1204MOF-AL												⊙
RDMT1204MOT	★		★		○					⊙	●	
RDMT1204MOE				●		●		⊙	●			
RDMW1606MOT	⊙	⊙			⊙		⊙	○		○		
RDGT1606MOT	★		★		○					⊙	●	
RDGT1606MOE				●		●		⊙	●			
RDGT1606MOF-AL												⊙
RDMT1606MOT	★		★		○					⊙	●	
RDMT1606MOE				●		●		⊙	●			
RDHX2006MOT	⊙				⊙		⊙	○		○		
RDGT2006MOF-AL												⊙

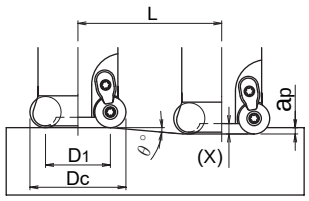
RDMW & RDHX - without chip breaker
RDGT & RDMT - with chip breaker

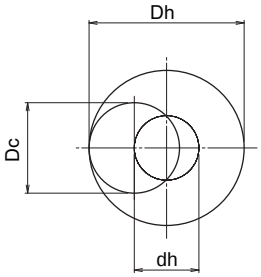
CUTTING CONDITION: ⊙ - Good ● - Unfavorable ○ - Moderate ★ - Light cutting

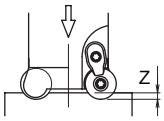
INCH

Super Diemaster

HELICAL INTERPOLATION CUTTING DATA







• Calculation of tool pass dia.

ØDc = ØDh - I

Tool pass dia. Bore dia. Tool Dia.

- **Down cutting is recommended, tool pass rotation should be counterclockwise.**
- **Depth of cut per one circuit should not exceed max. depth of cut Ap.**
- **In case of ramping and helical interpolation, apply 70% or less feed (F) from standard cutting condition table.**
- **In case of drilling, apply 50% or less Z axis feed speed from standard cutting condition table.**
- **When drilling, may have long consecutive chips, please use safety cautions.**
- **Do not combine drilling and ramping together.**

TOOL DIAMETER I	INSERT DIA. (mm)	EFFECTIVE CUTTING DIA.: D1	RAMPING		HELICAL INTERPOLATION		MAX. DEPTH OF CUT: AP	MAX. DRILLING DEPTH: Z	DEPTH OF HOLDER FACE: X
			MAX. RAMP ANGLE: 0°	TOTAL CUTTING LENGTH at MAX. AP: L	MIN. BORE DIA.: Dh	MAX. BORE DIA.: Dh			
.750”	7 (R3.5)	.474	6°00’	1.31	1.11	1.42	.138	.059	.098
1.00”	10 (R5)	.606	10°20’	1.08	1.37	1.92	.197	.098	.138
1.00”	12 (R6)	.527	9°30’	1.41	1.21	1.92	.236	.078	.118
1.25”	10 (R5)	.856	6°30’	1.73	1.87	2.42	.197	.098	.138
1.25”	12 (R6)	.778	7°30’	1.79	1.71	2.42	.236	.098	.138
1.50”	10 (R5)	1.11	4°40’	2.41	2.37	2.92	.236	.098	.138
1.50”	12 (R5)	1.03	5°20’	2.53	2.21	2.92	.236	.098	.138
2.00”	12 (R6)	1.53	5°10’	2.61	3.21	3.92	.236	.138	.177
2.00”	16 (R8)	1.37	7°10’	2.50	3.02	3.92	.315	.157	.197
3.00”	12 (R6)	2.53	2°50’	4.77	5.21	5.92	.236	.138	.177
3.00”	16 (R8)	2.37	4°00’	4.50	5.02	5.92	.315	.157	.197
3.00”	20 (R10)	2.21	4°10’	5.41	5.13	5.92	.394	.157	.197
4.00”	12 (R6)	3.53	2°00’	6.76	7.21	7.92	.236	.138	.177
4.00”	16 (R8)	3.37	2°30’	7.21	7.02	7.92	.315	.157	.197
4.00”	20 (R10)	3.21	3°00’	7.51	7.13	7.92	.394	.177	.217

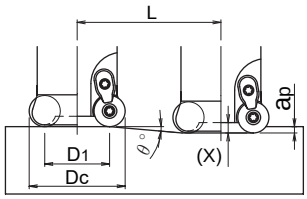
DIJET®

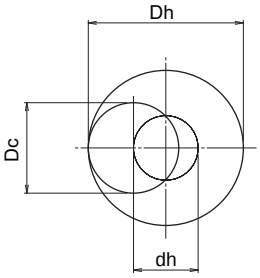
Face Milling | Pocket Milling | Copy Milling | Helical Interpolation

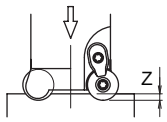
Super Diemaster

METRIC

HELICAL INTERPOLATION CUTTING DATA







• Calculation of tool pass dia.

ØDc = ØDh - I

Tool pass dia. Bore dia. Tool Dia.

- **Down cutting is recommended, tool pass rotation should be counterclockwise.**
- **Depth of cut per one circuit should not exceed max. depth of cut Ap.**
- **In case of ramping and helical interpolation, apply 70% or less feed (F) from standard cutting condition table.**
- **In case of drilling, apply 50% or less Z axis feed speed from standard cutting condition table.**
- **When drilling, may have long consecutive chips, please use safety cautions.**
- **Do not combine drilling and ramping together.**

TOOL DIAMETER I	INSERT DIA. (mm)	EFFECTIVE CUTTING DIA.: D1	RAMPING		HELICAL INTERPOLATION		MAX. DEPTH OF CUT: AP	MAX. DRILLING DEPTH: Z	DEPTH OF HOLDER FACE: X
			MAX. RAMP ANGLE: 0°	TOTAL CUTTING LENGTH at MAX. AP: L	MIN. BORE DIA.: Dh	MAX. BORE DIA.: Dh			
20	7 (R3.5)	13	5°30’	36.3	30	38	3.5	1.5	2.5
22	7 (R3.5)	15	4°35’	43.6	34	42	3.5	1.5	2.5
25	7 (R3.5)	18	3°40’	54.6	40	48	3.5	1.5	2.5
25	10 (R5)	15	10°45’	26.3	34	48	5.0	2.5	3.5
28	10 (R5)	18	8°20’	34.1	40	54	5.0	2.5	3.5
30	10 (R5)	20	7°15’	39.3	44	58	5.0	2.5	3.5
32	10 (R5)	22	6°25’	44.4	48	62	5.0	2.5	3.5
32	12 (R6)	20	7°35’	45.1	44	62	6.0	2.5	3.5
35	10 (R5)	25	5°30’	51.9	54	68	5.0	2.5	3.5
35	12 (R6)	23	6°15’	54.7	50	68	6.0	2.5	3.5
40	12 (R6)	28	4°55’	69.7	60	78	6.0	2.5	3.5
42	10 (R5)	32	4°05’	70.0	68	82	5.0	2.5	3.5
50	12 (R6)	38	5°15’	65.2	80	98	6.0	3.5	4.5
50	16 (R8)	34	7°25’	61.4	75	98	8.0	4.0	5.0
52	12 (R6)	40	4°55’	69.7	84	102	6.0	3.5	4.5
52	16 (R8)	36	6°55’	65.9	79	102	8.0	4.0	5.0
63	12 (R6)	51	3°45’	91.5	106	124	6.0	3.5	4.5
63	16 (R8)	47	5°00’	91.4	101	124	8.0	4.0	5.0
66	12 (R6)	54	3°30’	98.1	112	130	6.0	3.5	4.5
66	16 (R8)	50	4°40’	98.0	107	130	8.0	4.0	5.0
80	12 (R6)	68	2°45’	124.9	140	158	6.0	3.5	4.5
80	16 (R8)	64	3°30’	130.7	135	158	8.0	4.0	5.0
80	20 (R10)	60	4°25’	129.5	138	158	10.0	4.5	5.5
100	16 (R8)	84	2°35’	177.3	175	198	8.0	4.0	5.0
125	16 (R8)	109	1°55’	239.1	225	248	8.0	4.0	5.0
160	16 (R8)	144	1°25’	223.5	295	318	8.0	4.0	5.0

INCH METRIC

Super Diemaster

Recommended Cutting Data for Super Diemaster

Material	SFM	Parameters	INSERT SIZE				
			7mm	10mm	12mm	16mm	20mm
Gray Cast Iron	700	IPT	.012”	.015”	.016”	.020”	.025”
		DOC	.025”	.040”	.060”	.100”	.140”
		WOC	70%	70%	70%	70%	70%
Nodular Cast Iron	650	IPT	.012”	.015”	.016”	.020”	.025”
		DOC	.025”	.040”	.060”	.100”	.140”
		WOC	70%	70%	70%	70%	70%
Carbon Steel	600	IPT	.012”	.015”	.016”	.020”	.025”
		DOC	.025”	.040”	.060”	.080”	.100”
		WOC	70%	70%	70%	70%	70%
Low Alloy Steel	550	IPT	.012”	.015”	.016”	.020”	.025”
		DOC	.025”	.035”	.040”	.060”	.080”
		WOC	70%	70%	70%	70%	70%
Mold Steel	500	IPT	.010”	.012”	.016”	.020”	.025”
		DOC	.012”	.015”	.020”	.030”	.040”
		WOC	60%	60%	60%	60%	60%
Tool & Die Steel (40-50 HRC)	400	IPT	.010”	.012”	.016”	.020”	.025”
		DOC	.012”	.015”	.020”	.025”	.030”
		WOC	60%	60%	60%	60%	60%
Hardened Die Steel (50-60 HRC)	200	IPT	.005”	.006”	.007”	.008”	.010”
		DOC	.005”	.008”	.010”	.012”	.015”
		WOC	40%	40%	40%	40%	40%
Stainless Steel	300	IPT	.010”	.012”	.015”	.020”	.025”
		DOC	.015”	.020”	.030”	.040”	.060”
		WOC	60%	60%	60%	60%	60%
Titanium	200	IPT	.010”	.012”	.015”	.020”	.025”
		DOC	.010”	.012”	.015”	.020”	.025”
		WOC	60%	60%	60%	60%	60%
Inconel	100	IPT	.005”	.006”	.008”	.010”	.012”
		DOC	.005”	.008”	.010”	.015”	.020”
		WOC	60%	60%	60%	60%	60%
Aluminum	2000	IPT	.015”	.020”	.025”	.030”	.040”
		DOC	.020”	.040”	.060”	.100”	.140”
		WOC	60%	60%	60%	60%	60%
Graphite	600	IPT	.008”	.010”	.012”	.015”	.018”
		DOC	.010”	.012”	.015”	.020”	.025”
		WOC	60%	60%	60%	60%	60%

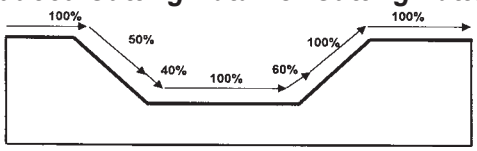
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

Notes

TDM Blade-Chipper

High Efficient Indexable Radius Tool with Faceted Insert

Aerospace Tooling

- Multiple chip breakers for machining various high temp alloys.
- Faceted insert seat has either 4 or 8 indexes.
- Available in 10mm or 12mm diameter inserts.
- Insert grades JC7560P & JC7550 are PVD coated, have improved heat-fracture resistance and impact strength.

DIJET

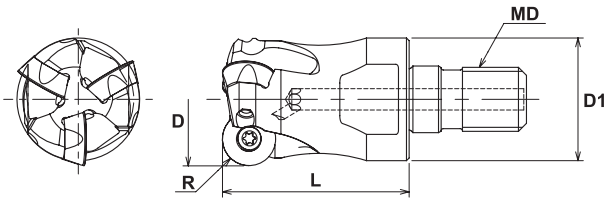
Face Milling | Pocket Milling | Copy Milling

TDM Blade-Chipper

INCH | METRIC

MODULAR HEAD

MTD Type



Specifications - Inch with 10mm insert

CATALOG NUMBER	STK	DIMENSIONS					HEAD TORQUE		INSERT	Q	PARTS	
		D	R	L	D1	MD	lbs./ft	Nm			Screw	Wrench
MTD-3100-10-M12	•	1.00	.197	1.38	.94	M12	14.7	20	RPMT10T3MOE-**	3	DSW-307H	T-10
MTD-4125-10-M16	•	1.25	.197	1.69	1.14	M16	18.4	25		4		
MTD-5150-10-M16	•	1.50	.197	1.69	1.26	M16	18.4	25		5		

Note: All cutters are supplied without inserts.

Specifications - Inch with 12mm insert

CATALOG NUMBER	STK	DIMENSIONS					HEAD TORQUE		INSERT	Q	PARTS	
		D	R	L	D1	MD	lbs./ft	Nm			Screw	Wrench
MTD-2100-12-M12	•	1.00	.236	1.38	.94	M12	14.7	20	RPMT1204MOE-**	2	DSW-410H	T-15
MTD-3125-12-M16	•	1.25	.236	1.69	1.14	M16	18.4	25		3		
MTD-4150-12-M16	•	1.50	.236	1.69	1.26	M16	18.4	25		4		

Note: All cutters are supplied without inserts.

Specifications - Metric with 10mm insert

CATALOG NUMBER	STK	DIMENSIONS					HEAD TORQUE		INSERT	Q	PARTS	
		D	R	L	D1	MD	lbs./ft	Nm			Screw	Wrench
MTD-3025-10-M12	○	25	5	35	23	M12	14.7	20	RPMT10T3MOE-**	3	DSW-307H	T-10
MTD-4032-10-M16	○	32	5	35	29	M16	18.4	25		4		

○ - longer delivery may apply.

Note: All cutters are supplied without inserts.

See page 109 for Modular Head Shanks.

INCH METRIC

TDM Blade-Chipper

End Mill
TDM Type

Fig. 1

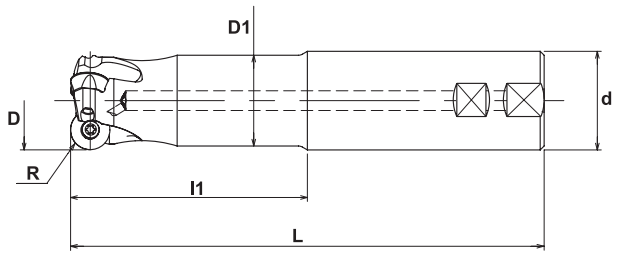
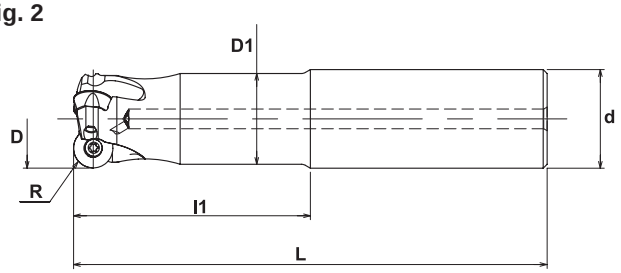


Fig. 2



Specifications - Inch with 10mm insert

CATALOG NUMBER	STK	DIMENSIONS						FIG.	INSERT	Q	PARTS	
		D	R	L	l1	d	D1				Screw	Wrench
TDM-3100-2.0-S100-10NP	•	1.00	.197	7.00	2.00	1.00	.945	1	RPMT10T3MOE-**	3	DSW-307H	T-10
TDM-3100-3.0-S100-10NP	•	1.00	.197	8.00	3.00	1.00	.945	1		3		
TDM-4125-3.0-S125-10NP	•	1.25	.197	5.50	3.00	1.25	1.14	1		4		
TDM-4125-4.75-S125-10NP	•	1.25	.197	8.00	4.75	1.25	1.14	1		4		
TDM-5150-3.0-S125-10NP	•	1.50	.197	5.50	3.00	1.25	1.26	1		5		
TDM-5150-4.75-S125-10NP	•	1.50	.197	8.00	4.75	1.25	1.26	1		5		

Note: All cutters are supplied without inserts.

Specifications - Inch with 12mm insert

CATALOG NUMBER	STK	DIMENSIONS						FIG.	INSERT	Q	PARTS	
		D	R	L	l1	d	D1				Screw	Wrench
TDM-2100-2.0-S100-12NP	•	1.00	.236	7.00	2.00	1.00	.945	1	RPMT1204MOE-**	2	DSW-410H	T-15
TDM-2100-3.0-S100-12NP	•	1.00	.236	8.00	3.00	1.00	.945	1		2		
TDM-3125-3.0-S125-12NP	•	1.25	.236	5.50	3.00	1.25	1.14	1		3		
TDM-3125-4.75-S125-12NP	•	1.25	.236	8.00	4.75	1.25	1.14	1		3		
TDM-4150-3.0-S125-12NP	•	1.50	.236	5.50	3.00	1.25	1.26	1		4		
TDM-4150-4.75-S125-12NP	•	1.50	.236	8.00	4.75	1.25	1.26	1		4		

Note: All cutters are supplied without inserts.

Specifications - Metric with 10mm insert

CATALOG NUMBER	STK	DIMENSIONS						FIG.	INSERT	Q	PARTS	
		D	R	L	l1	d	D1				Screw	Wrench
TDM-3025-60-S25	•	25	5	120	60	25	23	2	RPMT10T3MOE-**	3	DSW-307H	T-10
TDM-4032-70-S32	•	32	5	130	70	32	29	2		4		

Note: All cutters are supplied without inserts.

DIJET®

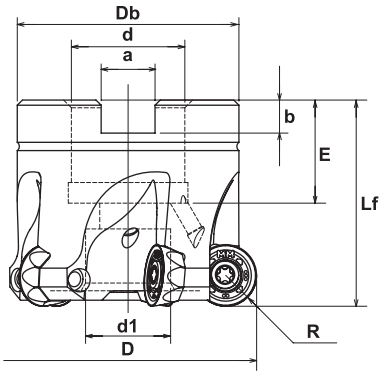
Face Milling | Pocket Milling | Copy Milling

TDM Blade-Chipper

INCH METRIC

Face Mill

TDM Type



Specifications - Inch

CATALOG NUMBER	STK	DIMENSIONS									INSERT	Q	PARTS	
		D	R	Lf	d	Db	a	b	E	d1			Screw	Wrench
TDM-5200R-12-075	•	2.00	6	2.00	.750	1.85	.319	.197	.750	.630	RPMT1204MOE-**	5	DSW-410H	A-15T
TDM-6250R-12-100	•	2.50	6	2.00	1.00	2.24	.374	.236	.866	.787		6		
TDM-7300R-12-100	•	3.00	6	2.00	1.00	2.24	.374	.236	.866	.787		7		
TDM-9400R-12-125	•	4.00	6	2.00	1.25	2.76	.500	.315	.866	.787		9		

Note: All cutters are supplied without inserts.

Specifications - Metric with 10mm insert

CATALOG NUMBER	STK	DIMENSIONS									INSERT	Q	PARTS	
		D	R	Lf	d	Db	a	b	E	d1			Screw	Wrench
TDM-5040R-10-16	○	40	5	40	16	37	8.4	5.6	18	13.5	RPMT10T3MOE-**	5	DSW-307H	T-10
TDM-5042R-10-16	○	42	5	40	16	38	8.4	5.6	18	13.5		5		

○ - longer delivery may apply.

Note: All cutters are supplied without inserts.

Specifications - Metric with 12mm insert

CATALOG NUMBER	STK	DIMENSIONS									INSERT	Q	PARTS	
		D	R	Lf	d	Db	a	b	E	d1			Screw	Wrench
TDM-5050R-12-22	○	50	6	40	22	43	10.4	6.3	20	16.5	RPMT1204MOE-**	5	DSW-410H	A-15T
TDM-5052R-12-22	○	52	6	40	22	43	10.4	6.3	20	16.5		5		

○ - longer delivery may apply.

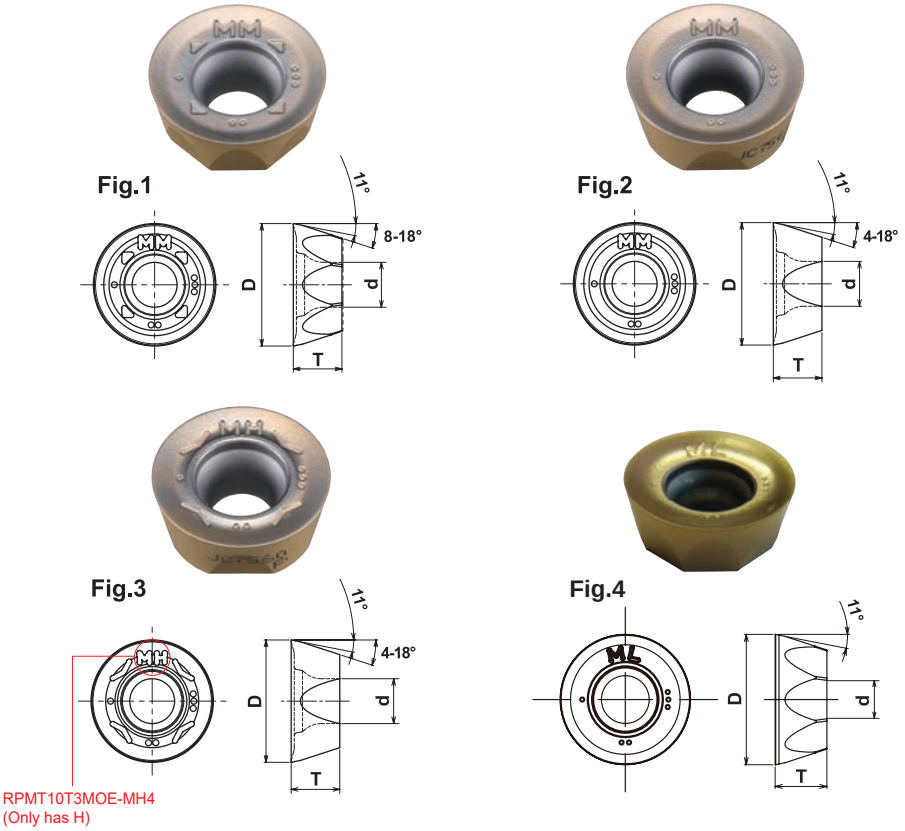
Note: All cutters are supplied without inserts.

METRIC

TDM Blade-Chipper

Inserts

RPMT Type



Specifications

CATALOG NUMBER	DIMENSIONS				FIG.	Cutting Edges	PVD Coated	
	Tolerance	D	T	d			JC7560P	JC7550
RPMT10T3MOE-MH4	M	10	3.97	3.5	3	4	•	
RPMT10T3MOE-MM4	M	10	3.97	3.5	2	4	•	
RPMT10T3MOE-ML4	M	10	3.97	3.5	4	4		•
RPMT1204MOE-MH4	M	12	4.76	4.4	3	4	•	
RPMT1204MOE-MM4	M	12	4.76	4.4	2	4	•	
RPMT1204MOE-MM8	M	12	4.76	4.4	1	8	•	
RPMT1204MOE-ML4	M	12	4.76	4.4	4	4		•
RPMT1204MOE-ML8	M	12	4.76	4.4	4	8		•

MH - 10º chipbreaker for heavy cutting
MM - 15º chipbreaker for medium cutting
ML - 18º chipbreaker for light cutting

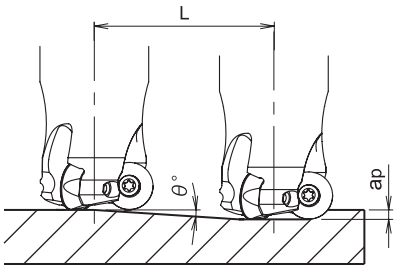
DIJET

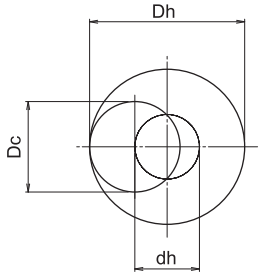
Face Milling | Pocket Milling | Copy Milling

TDM Blade-Chipper

INCH METRIC

Recommended Cutting Data for Profile Milling





• Calculation of tool pass dia.

ØDc = ØDh - I

Tool pass dia. Bore dia. Tool Dia.

- **Down cutting is recommended, tool pass rotation should be counterclockwise.**
- **Depth of cut per one circuit should not exceed max. depth of cut Ap.**
- **In case of ramping and helical interpolation, apply 70% or less feed (F) from standard cutting condition table.**

	CATALOG NUMBER	Tool Diameter (I) Insert Diameter	Effective Cutting Diameter	Max. Depth of Cut: AP	Ramping		Helical Interpolation	
					Max. Ramp Angle	Total Cutting Length at Max. AP: L	Min. Bore Diameter: Dh min	Max. Bore Diameter: Dh max
INCH	MTD-3100*/TDM-3100*	1” w/10mm dia.	.610	.079	2°	2.255	1.69	1.92
	MTD-2100*/TDM-2100*	1” w/12mm dia.	.528	.079	1.5°	.294	1.61	1.92
	MTD-4125*/TDM-4125*	1-1/4” w/10mm dia.	.856	.079	3°	1.502	2.19	2.42
	MTD-3125*/TDM-3125*	1-1/4” w/12mm dia.	.778	.079	1.5°	3.007	2.11	2.42
	MTD-5150*/TDM-5150*	1-1/2” w/10mm dia.	1.11	.079	4°	1.126	2.69	2.92
	MTD-4150*/TDM-4150*	1-1/2” w/12mm dia.	1.03	.079	4°	1.126	2.61	2.92
	TDM-5200R-12-075	2” w/12mm dia.	1.53	.126	3°	2.404	3.61	3.92
	TDM-6250R-12-100	2-1/2” w/12mm dia.	2.03	.126	3°	2.404	4.61	4.92
	TDM-7300R-12-100	3” w/12mm dia.	2.53	.126	3°	2.404	5.61	5.92
	TDM-9400-12-125	4” w/12mm dia.	3.53	.126	2°	3.608	7.61	7.92
METRIC	MTD-3025*/TDM-3025*	25mm w/10mm dia.	15	2	2°	58	43	48
	MTD-4032*/TDM-4032*	32mm w/10mm dia.	22	2	3°	39	57	62
	TDM-5040R-10-16	40mm w/10mm dia.	30	2	3.5°	33	73	78
	TDM-5042R-10-16	42mm w/10mm dia.	32	2	3°	39	77	82
	TDM-5050-12R-22	50mm w/12mm dia.	38	3.2	3°	62	91	98
	TDM-5052-12R-22	52mm w/12mm dia.	40	3.2	3°	62	95	102

INCH METRIC

TDM Blade-Chipper

Recommended Cutting Data for TDM Cutters

Material	Grade	Insert	SFM	INSERT SIZE				WOC
				10mm		12mm		
				IPT	DOC	IPT	DOC	
Stainless Steel (Martensitic)	JC7560P	MM MH	400	.020” .012” .008”	.020” .060” .100”	.020” .010” .005”	.040” .080” .120”	60%
Stainless Steel (Austenitic)	JC7560P	MM MH	300	.020” .012” .006”	.020” .060” .100”	.020” .010” .005”	.040” .080” .120”	60%
Carbon Steel	JC7560P	MH MM	600	.030” .020” .010”	.020” .060” .100”	.030” .015” .008”	.040” .080” .120”	70%
Low Alloy Steel	JC7560P	MH MM	550	.030” .015” .008”	.020” .060” .100”	.020” .010” .005”	.040” .080” .120”	70%
Mold Steel	JC7560P	MH MM	500	.025” .015” .008”	.020” .060” .100”	.020” .012” .008”	.040” .080” .120”	70%
Titanium	JC7550	ML MM	200	.015” .010” .005”	.020” .060” .100”	.012” .008” .005”	.040” .080” .120”	60%
Inconel	JC7550	ML MM	100	.015” .010” .005”	.020” .060” .100”	.010” .008” .005”	.040” .080” .120”	40%

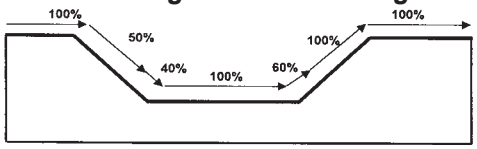
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

Notes

Extreme Diemate

Radius Cutter with Double Sided Insert

- Radius insert suitable for machining turbine blades.
- Double sided insert with 8 cutting edges.
- The unique helical cutting edge achieves edge sharpness and strength.
- Irregular insert pitch (except on 3 flute) reduces chatter and vibration.
- Insert grade JC7560 is PVD coated with improved heat-fracture resistance and impact strength.

DIJET®

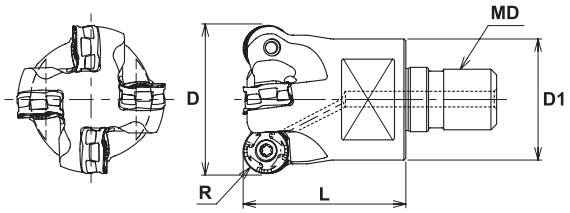
Face Milling | Pocket Milling | Copy Milling | Helical Interpolation

Extreme Diemate

INCH METRIC

MODULAR HEAD

MTX Type



Specifications - Metric

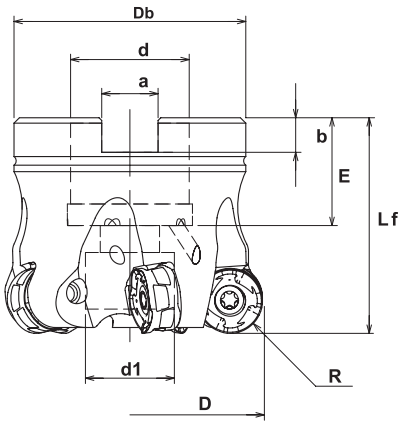
CATALOG NUMBER	STK	DIMENSIONS					HEAD TORQUE		INSERT	Q	PARTS	
		D	R	L	D1	MD	lbs./ft	Nm			Screw	Wrench
MTX-3032-12-M16	•	32	6	43	28	M16	18.4	25	RNMU1205MOE-MM	3	TSW-410H	A-15T
MTX-4040-12-M16	•	40	6	43	32	M16	18.4	25		4		

Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts.

FACE MILL

EXTDM Type



Specifications - Inch

CATALOG NUMBER	STK	DIMENSIONS									INSERT	Q	PARTS	
		D	R	Lf	d	Db	a	b	E	d1			Screw	Wrench
EXTDM-5200-75R-12	•	2.00	6	2.00	.750	1.85	.319	.197	.750	.630	RNMU1205MOE-MM	5	TSW-410H	A-15T
EXTDM-7300-100R-12	•	3.00	6	2.00	1.00	2.85	.374	.236	.886	.787		7		

Note: All cutters are supplied without inserts.

Specifications - Metric

CATALOG NUMBER	STK	DIMENSIONS									INSERT	Q	PARTS	
		D	R	Lf	d	Db	a	b	E	d1			Screw	Wrench
EXTDM-5050R-12-22	•	50	6	40	22	43	10.4	6.3	20	16.5	RNMU1205MOE-MM	5	TSW-410H	A-15T
EXTDM-5052R-12-22	•	52	6	40	22	43	10.4	6.3	20	16.5		5		
EXTDM-6063R-12-22	•	63	6	40	22	48	10.4	6.3	20	16.5		6		
EXTDM-6063R-12-27	•	63	6	50	27	58	12.7	7	22	20		6		
EXTDM-6066R-12-27	○	66	6	50	27	60	12.7	7	22	20		6		

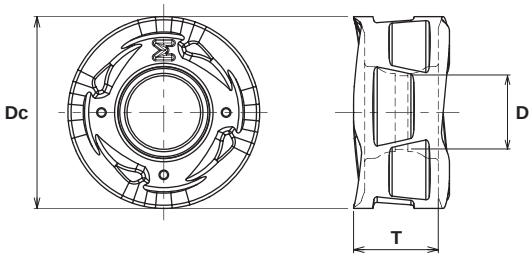
○ - longer delivery may apply.

Note: All cutters are supplied without inserts.

METRIC

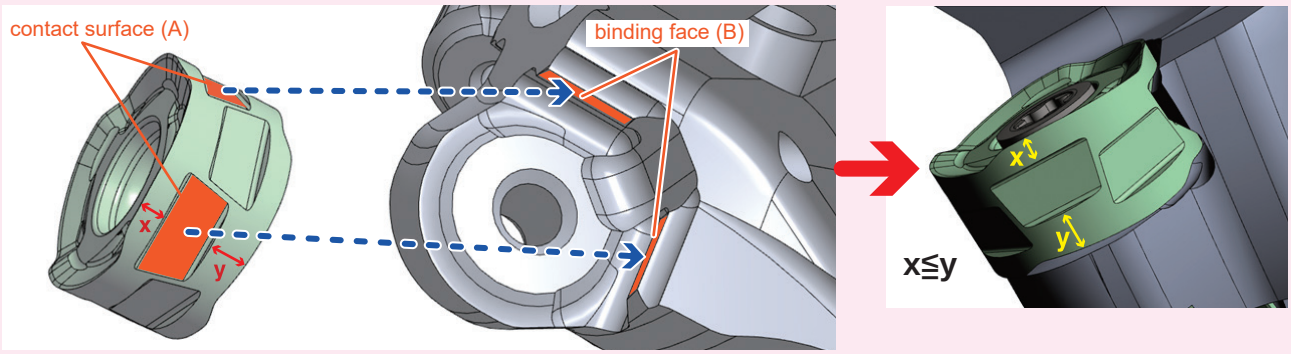
Extreme Diemate

Inserts



CATALOG NUMBER	TOLERANCE	TOTAL # OF CORNERS (double sided)	PVD Coated	DIMENSIONS		
			JC7560P	Dc	T	D
RNMU1205MOE-MM	M	8	•	12	5.3	4.6

Attention to mounting insert



Make sure contact surface of insert (A) comes into contact with wedge-shaped binding face (B).

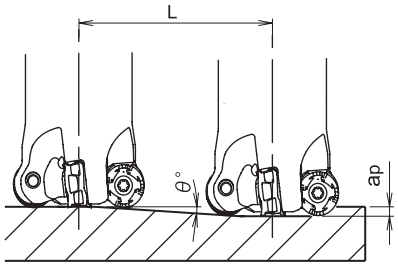
DIJET®

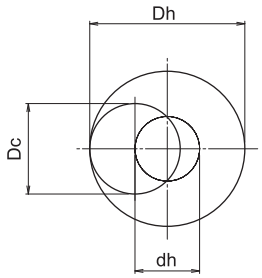
Face Milling | Pocket Milling | Copy Milling | Helical Interpolation

Extreme Diemate

INCH METRIC

Recommended Cutting Data for Profile Milling





• Calculation of tool pass dia.

ØDc = ØDh - I

Tool pass dia. Bore dia. Tool Dia.

- **Down cutting is recommended, tool pass rotation should be counterclockwise.**
- **Depth of cut per one circuit should not exceed max. depth of cut Ap.**
- **In case of ramping and helical interpolation, apply 70% or less feed (F) from standard cutting condition table.**

	CATALOG NUMBER	Tool Diameter (I)	Effective Cutting Diameter	Max. Depth of Cut: AP	Ramping		Helical Interpolation	
					Max. Ramp Angle	Total Cutting Length at Max. AP: L	Min. Bore Diameter: Dh min	Max. Bore Diameter: Dh max
INCH	EXTDM-5200-75R-12	2.00	1.53	.118	1°	6.767	3.61	3.92
INCH	EXTDM-7300-100R-12	3.00	2.53	.118	.8°	8.458	5.61	5.92
METRIC	MTX-3032-12-M16	32	20	3	1.2°	143	55	62
METRIC	MTX-4040-12-M16	40	28	3	1.2°	143	71	78
METRIC	EXTDM-5050R-12-22	50	38	3	1°	172	91	98
METRIC	EXTDM-5052R-12-22	52	40	3	1°	172	95	102
METRIC	EXTDM-6063R-*	63	51	3	1°	172	117	124
METRIC	EXTDM-6066R-12-27	66	54	3	.8°	215	123	130

INCH METRIC

Extreme Diemate

Recommended Cutting Data for EXTDM Cutters

Material	Grade	SFM	IPT	DOC	WOC
Stainless Steel (Martensitic)	JC7560P	400	.020” .012” .008”	.020” .060” .100”	60%
Stainless Steel (Austenitic)	JC7560P	300	.020” .012” .006”	.020” .060” .100”	60%
Carbon Steel	JC7560P	600	.030” .020” .010”	.020” .060” .100”	70%
Low Alloy Steel	JC7560P	550	.030” .015” .008”	.020” .060” .100”	70%
Mold Steel	JC7560P	500	.025” .015” .008”	.020” .060” .100”	60%

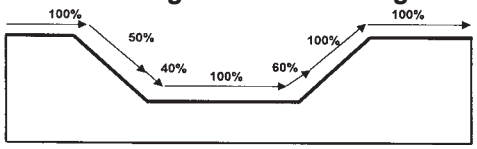
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

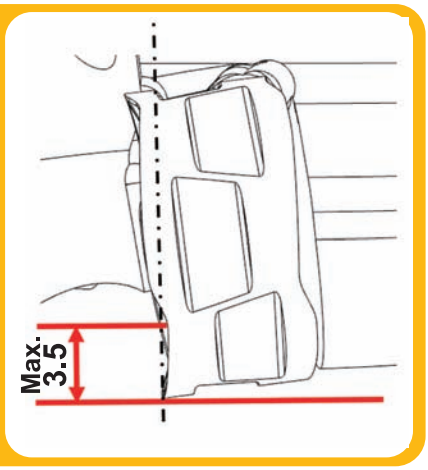
NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

MM breaker insert has helical cutting edge, so recommend to use at ap=3mm or less.



Maximum Ramping Angle

Tool Diam. (mm)	Maximum Ramping Angle
32	0.7°
40	0.8°
50	1°
52	1°
63	0.8°
66	0.8°

Notes

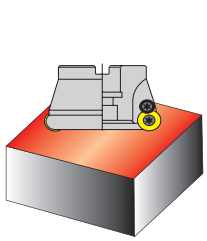
Diemaster

High Productivity Radius Tools

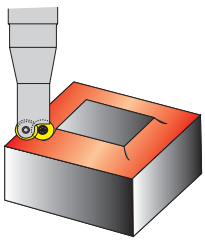
Predominantly for slot milling, ramp milling, pocket and copy milling.

DIJET's Diemaster is designed to offer high productivity and security in die making, aerospace and automobile industries. Diemaster can be utilized on conventional, NC, CNC, and copy milling machines. These products are recommended for both shallow and deep forms.

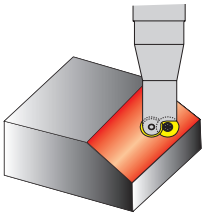
Versatility of Diemaster



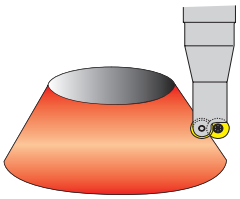
Face milling



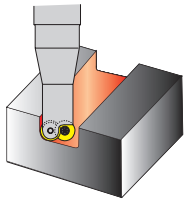
Peripheral milling



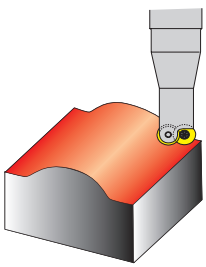
Ramp milling



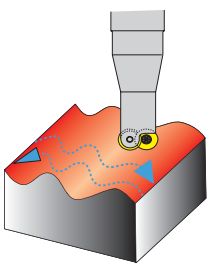
Contour milling



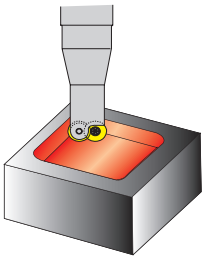
Slot milling



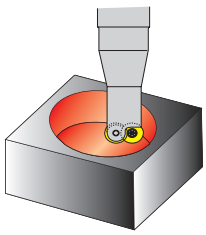
Profile milling



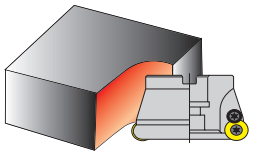
Copy milling



Pocket milling



Helical interpolation



Plunge milling

Diemaster

INCH

MODULAR HEADS

MDH Type

Fig. 1

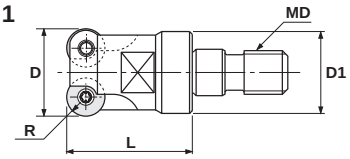
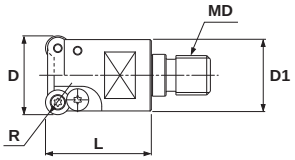


Fig. 2



Specifications

CATALOG NUMBER	STK	DIMENSIONS					FIG.	HEAD TORQUE		INSERT	Q	PARTS		
		D	R	L	D1	MD		lbs./ft	Nm			Screw	Wrench	Other
MDH-2075AR-M10	•	.750	.187	1.18	.728	M10	1	11.8	16	RDHX3712MO*	2	CSW-3570	T-15	
MDH-2100AR-M12	•	1.00	.250	1.38	.945	M12	2	14.7	20	RDHX5015MO*	2	CSW-3575	T-15	
MDH-2125AR-M16	•	1.25	.312	1.69	1.14	M16	2	18.4	25	RDHX6218MO* or RDMT6218MO*	2	CSW-4510	A-20	

Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts.

INSERT

RDHX Type

Fig. 1

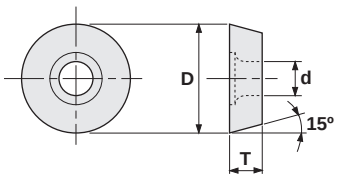
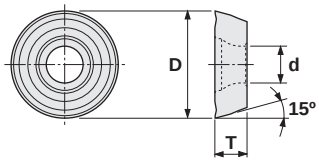


Fig. 2



Specifications - Inch

CATALOG NUMBER	IC TOLERANCE	DIMENSIONS			FIG.	COATED GRADES						
		D	T	d		JC5003	JC8003	JC5015	JC8015	JC5025	JC5030	JC5040
RDHX2507MOS	H	.250	.078	.110	1	•						
RDHX2507MOT	H	.250	.078	.110	1			•		•		•
RDHX2509MOS	H	.250	.094	.110	1	•						
RDHX2509MOT	H	.250	.094	.110	1				•			
RDHX3712MOS	H	.375	.125	.153	1	•						
RDHX3712MOT	H	.375	.125	.153	1				•			•
RDHX5015MOT	H	.500	.156	.153	1		•		•		•	•
RDHX6218MOT	H	.625	.187	.196	1		•		•			•
RDMT6218MOT	M	.625	.187	.196	2							•
RDHX7525MOS	H	.750	.236	.216	1	•						
RDHX7525MOT	H	.750	.236	.216	1							•
RDHX7525MOT-014	H	.750	.236	.216	1				•			•
RDMT7525MOT	M	.750	.236	.216	2							•

Note: This product is being phased out.

INCH METRIC

Diemaster

INSERT

RDHX Type

Fig. 1

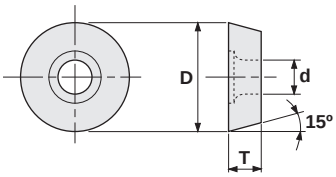
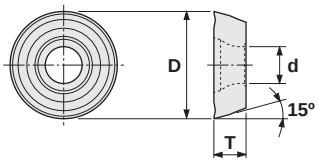


Fig. 2

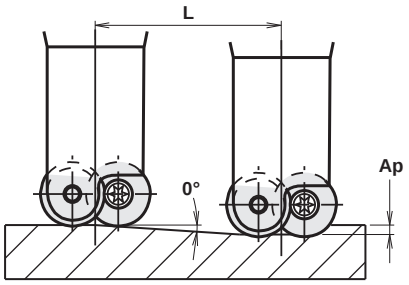


Specifications - Metric

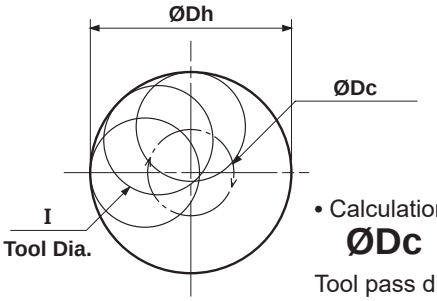
CATALOG NUMBER	IC TOLERANCE	DIMENSIONS			FIG.	COATED GRADES					UNCOATED GRADE
		D	T	d		JC8003	DH103	JC8015	JC8118	JC5040	CX90
RDHX0501MOT	H	5	1.50	2.0	1		•				
RDHX0701MOT	H	7	1.99	2.8	1		•				•
RDHX0702MOT	H	7	2.38	2.8	1	•	•				•
RDHX1003MOT	H	10	3.18	3.9	1		•				•
RDHX12T3MOT	H	12	3.97	3.9	1		•			•	•
RDMX12T3MOT	M	12	3.97	3.9	1					•	
RDHX1604MOT	H	16	4.76	5.0	1		•			•	•
RDMX1604MOT	M	16	4.76	5.0	2					•	
RDMT1604MOT	M	16	4.76	5.0	2					•	

HELICAL INTERPOLATION CUTTING DATA

Ramping



Helical Interpolation



• Calculation of tool pass dia.

$$\text{ØDc} = \text{ØDh} - \text{I}$$

Tool pass dia. Bore dia. Tool Dia.

- **Down cutting is recommended, tool pass rotation should be counterclockwise.**
- **Depth of cut per one circuit should not exceed max. depth of cut Ap.**
- **In case of ramping and helical interpolation, apply 70% or less feed (F) from standard cutting condition table.**

TOOL DIAMETER I		INSERT DIA.	EFFECTIVE CUTTING DIA.	RAMPING		HELICAL INTERPOLATION		MAXIMUM DEPTH OF CUT: AP
				MAX. RAMP ANGLE	TOTAL CUTTING LENGTH AT MAX AP: L	MIN. BORE DIAMETER: Dh min	TOOL PASS DIAMETER: Dc	
INCH	.750	.375	.375	5°30'	.831	1.09	.340	.080
	1.00	.500	.500	8°30'	1.070	1.46	.460	.160
	1.25	.625	.625	9°	1.263	1.84	.590	.200

Diemaster

INCH

Recommended Cutting Data for Diemaster

Material	SFM	Grade	Parameters	INSERT SIZE		
				3/8”	1/2”	5/8”
Gray Cast Iron	700	JC8015 JC8003 (JC5003)	IPT	.015”	.016”	.020”
			DOC	.040”	.060”	.100”
			WOC	70%	70%	70%
Nodular Cast Iron	650	JC8015 JC8003 (JC5003)	IPT	.015”	.016”	.020”
			DOC	.040”	.060”	.100”
			WOC	70%	70%	70%
Carbon Steel	600	JC5040 JC8015	IPT	.015”	.016”	.020”
			DOC	.040”	.060”	.080”
			WOC	70%	70%	70%
Low Alloy Steel	550	JC5040 JC8015	IPT	.015”	.016”	.020”
			DOC	.035”	.040”	.060”
			WOC	70%	70%	70%
Mold Steel	500	JC8015	IPT	.012”	.016”	.020”
			DOC	.015”	.020”	.030”
			WOC	60%	60%	60%
Tool & Die Steel (40-50 HRC)	400	JC8015 JC8003 (JC5003)	IPT	.012”	.016”	.020”
			DOC	.015”	.020”	.025”
			WOC	60%	60%	60%
Hardened Die Steel (50-60 HRC)	200	JC8003 (JC5003)	IPT	.006”	.007”	.008”
			DOC	.008”	.010”	.012”
			WOC	40%	40%	40%
Stainless Steel	300	JC8015	IPT	.012”	.015”	.020”
			DOC	.020”	.030”	.040”
			WOC	60%	60%	60%

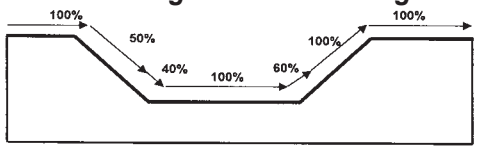
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

Swing Ball

High Productivity Indexable Ball Nose End Mill

- Double insert ball nose rougher.
- Positive style insert with chip breaker and larger sizes with notched edges allow smoother cutting action.
- Inserts available with negative edge prep are designed to machine hard welds.
- Able to take aggressive cuts and withstand heavy impact.

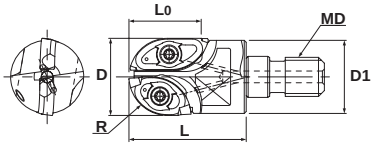
Swing Ball

INCH METRIC

MODULAR HEADS

MSW Type

G-Body



Specifications - Modular Heads - Inch

CATALOG NUMBER	STK	DIMENSIONS						HEAD TORQUE lbs./ft	INSERT	PARTS	
		D	R	L	L0	D1	MD			Screw	Wrench
MSW-2075-M10	•	.750	.375	1.18	.700	.728	M10	11.8	SWB2075HME (1) SWB2075HSE (1)	DSW-307H	T-10SD
MSW-2100-M12	•	1.00	.500	1.38	.860	.940	M12	14.7	SWB2100HME (1) SWB2100HSE (1)	DSW-4085	A-15T
MSW-2125-M16	•	1.25	.625	1.69	1.10	1.14	M16	18.4	SWB2125HME (1) SWB2125HSE (1)	DSW-509	A-20

Note: All cutters are supplied without inserts.

Specifications - Modular Heads - Metric

CATALOG NUMBER	STK	DIMENSIONS						HEAD TORQUE Nm	INSERT	PARTS	
		D	R	L	L0	D1	MD			Screw	Wrench
MSW-3225-M16	•	32	16	43	29.5	29.9	M16	25	SWB232HM-G (1) SWB232HS-G (1)	TSW-511	A-20

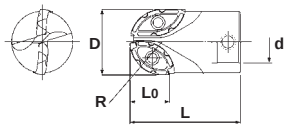
Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts.

May also use inserts for welds or hardened material.

END CAP

SWB-EC Style



Specifications - End Cap

CATALOG NUMBER	STK	DIMENSIONS								INSERT	PARTS	
		D	R	L	L0	l1	l3	d	θ		Screw	Wrench
SWB-2200-EC	•	2.0”	1.0”	3.38”	1.18”	-	-	1.25”	-	SWB2200HMNE (1) SWB2200HSNE (1)	HSW-614H ECS-0030	T-30 A-316

Note: All cutters are supplied without inserts.

INCH

Swing Ball

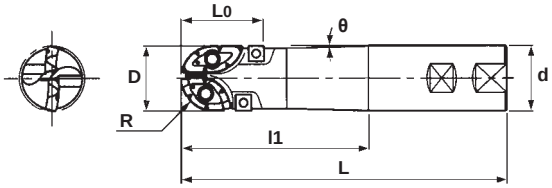
END MILLS

SWB Type

G-Body

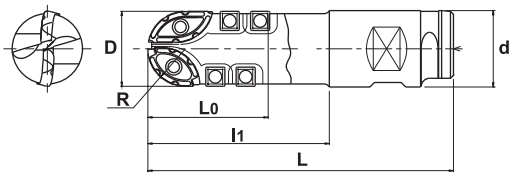
Weldon Shank

Fig. 1



Combination Shank

Fig. 2



Specifications - Standard Length of Cut

CATALOG NUMBER	STK	DIMENSIONS						FIG.	θ	INSERT	PARTS	
		D	R	L	L0	l1	d				Screw	Wrench
SWB-2075-4	•	.750	.375	4.03	1.14	2.00	.750	1	-	SWB2075HME (1) SWB2075HSE (1) ZCMT100308R (2)	DSW-307H (2) ESW-206 (2)	T-10SD T-08SD
SWB-2075-6	•	.750	.375	6.03	1.14	3.75	1.00	1	6°			
SWB-2075-100-8	•	.750	.375	8.00	1.14	5.72	1.00	1	2°			
SWB-2100-100-5	•	1.00	.500	5.00	1.40	2.75	1.00	1	-	SWB2100HME (1) SWB2100HSE (1) ZCMT100308R (2)	DSW-4085 (2) ESW-206 (2)	T-15 T-08SD
SWB-2100-100-8	•	1.00	.500	8.00	1.40	3.00	1.00	1	-			
SWB-2100-100-10	•	1.00	.500	10.00	1.40	5.00	1.00	1	-			
SWB-2100-125-6.5	•	1.00	.500	6.50	1.40	4.25	1.25	1	-			
SWB-2100-125-8	•	1.00	.500	8.00	1.40	5.50	1.25	1	7° 30’			
SWB-2125-125-6	•	1.25	.625	6.00	1.67	3.72	1.25	1	-	SWB2125HME (1) SWB2125HSE (1) IM-SP32GS (2)	DSW-509 (2) CSW-407 (2)	A-20 T-15
SWB-2125-150-8	•	1.25	.625	8.00	1.67	5.31	1.50	1	2°			
SWB-2125-150-10	•	1.25	.625	10.00	1.67	6.75	1.50	1	1° 30’			
SWB-2150-150-6	•	1.50	.750	6.00	1.97	3.31	1.50	1	-	SWB2150HMNE (1) SWB2150HSNE (1) IM-SP32GS (2)	TSW-511 (2) CSW-407 (2)	A-20 T-15
SWB-2150-200-8	•	1.50	.750	8.00	1.97	4.75	2.00	1	30°			

Note: All cutters are supplied without inserts.

Specifications - Longer Length of Cut

CATALOG NUMBER	STK	DIMENSIONS						FIG.	θ	INSERT	PARTS	
		D	R	L	L0	l1	d				Screw	Wrench
SWB4-2200-8-PN200	•	2.00	1.00	8.00	3.15	4.75	2.00 w/ Putnam Lock	2	-	SWB2200HMNE (1) SWB2200HSNE (1) IM-SP43GS (4)	HSW-614H (2) EXW-510 (4)	T-30 A-20
SWB6-2200-10-PN200	•	2.00	1.00	10.00	3.93	6.75	2.00 w/ Putnam Lock	2	-	SWB2200HMNE (1) SWB2200HSNE (1) IM-SP43GS (6)	HSW-614H (2) EXW-510 (6)	T-30 A-20
SWB6-2200-12-PN200	•	2.00	1.00	12.00	3.93	8.75		2	-			

Note: All cutters are supplied without inserts.

May also use inserts for welds or hardened material.

DIJET

Copy Milling | Shoulder Milling | Slotting

Swing Ball End Mills - Metric

METRIC

Fig. 1

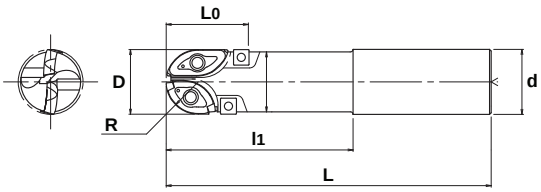


Fig. 2

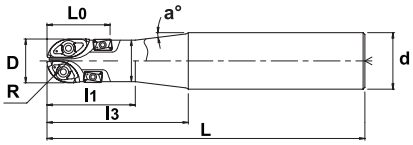


Fig. 3

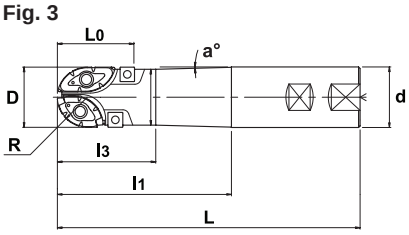


Fig. 4

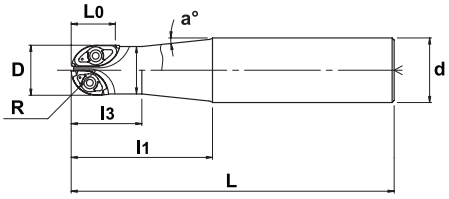


Fig. 5

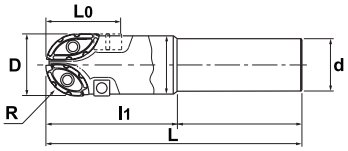


Fig. 6

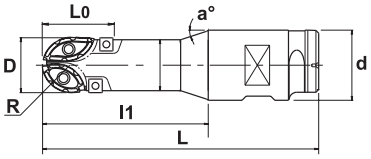
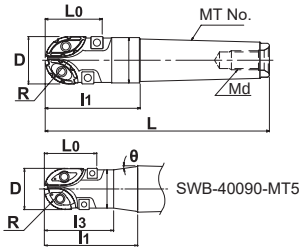


Fig. 9



Md = MT4 = M16 x 2
MT5 = M20 x 2.5

Fig. 7

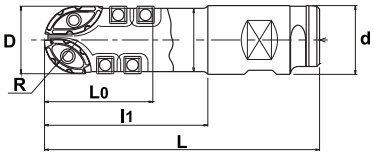
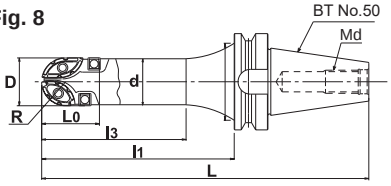


Fig. 8



Md = M24 x 3

Specifications - Straight Shank

CATALOG NUMBER	STK	DIMENSIONS								FIG.	INSERT	PARTS	
		D	R	L	L0	l1	l3	d	a°			Screw	Wrench
SWBS3242S32-G*	•	32	16	180	44	60	-	32	-	1	SWB232HM-G (1) SWB232HS-G (1) ZCMT100308R (2)	TSW-511 (2) ESW-206 (2)	A-20 A-08SD
SWBM3242S32-G*	•	32	16	220	44	60	-	32	-	1			
SWBL3242S32-G	•	32	16	250	44	60	-	32	-	1			
SWBE3242S32-G	•	32	16	300	44	60	-	32	-	1			
SWB-32070-W32-G	•	32	16	150	44	70	-	32	-	3			
SWB-32090-W32-G	•	32	16	170	44	90	-	32	-	3			
SWB-32115-W40-G	•	32	16	200	44	115	50	40	4°10’	3			
SWB-32165-W40-G	•	32	16	250	44	165	50	40	2°20’	3			
SWB-32070-MT4-G	•	32	16	179	44	70	-	MT4	-	9			
SWB-32100-MT4-G	•	32	16	209	44	100	-	MT4	-	9			

*G-Body

Note: All cutters are supplied without inserts.

METRIC

Swing Ball End Mills - Metric

Specifications - Straight Shank

CATALOG NUMBER	STK	DIMENSIONS								FIG.	INSERT	PARTS	
		D	R	L	L0	l1	l3	d	a°			Screw	Wrench
SWBS4035S42*	•	40	20	200	35	120	-	42	-	4	SWB240HMN (1) SWB240HSN (1)	TSW-614H (2)	T-25
SWBM4035S42	•	40	20	250	35	170	120	42	2°	4			
SWBSS4050S42	•	40	20	160	50	80	-	42	-	2	SWB240HMN (1) SWB240HSN (1) SPGA090304 (2)	TSW-614H (2) ESW-406 (2)	T-25 T-15
SWBS4050S42*	•	40	20	200	50	120	-	42	-	1			
SWBM4050S42*	•	40	20	250	50	150	120	42	2°30’	2			
SWBL4050S42	•	40	20	300	50	200	150	42	1°30’	2			
SWBE4050S42	•	40	20	350	50	200	150	42	1°30’	2			
SWB-40090-W40	•	40	20	175	50	90	-	40	-	3	SWB240HMN (1) SWB240HSN (1) SPGA090304 (2)	TSW-614H (2) ESW-406 (2)	T-25 T-15
SWB-40115-W40	•	40	20	200	50	115	65	40	1°30’	3			
SWBSS4050C508	•	40	20	160	50	80	60	50.8	18°	6			
SWBS4050C508*	•	40	20	200	50	120	100	50.8	18°	6			
SWBMS4050C508	•	40	20	220	50	140	120	50.8	18°	6			
SWBM4050C508*	•	40	20	250	50	170	150	50.8	18°	6			
SWBL4050C508	•	40	20	300	50	220	170	50.8	6°	6			
SWBE4050C508	•	40	20	350	50	270	170	50.8	3°	6			
SWB-40090-MT4	•	40	20	199	50	90	-	MT4	-	9			
SWB-40090-MT5	•	40	20	226	50	90	66.8	MT5	8°	9			
SWBS5060S42*	•	50	25	200	60	100	-	42	-	5	SWB250HMN-N (1) SWB250HSN-N (1) IM-SP43GS (2)	HSW-614H (2) EXW-510 (2)	T-30 A-20
SWBM5060S42*	•	50	25	250	60	100	-	42	-	5			
SWBL5060S42	•	50	25	300	60	150	-	42	-	5			
SWBE5060S42	•	50	25	350	60	150	-	42	-	5			
SWB-50100-W50	•	50	25	200	60	100	-	50	-	3			
SWB-50150-W50	•	50	25	250	60	150	-	50	-	3			
SWBSS5060C508	•	50	25	160	60	80	-	50.8	-	6			
SWBS5060C508*	•	50	25	200	60	120	-	50.8	-	6			
SWBMS5060C508*	•	50	25	220	60	140	-	50.8	-	6			
SWBM5060C508*	•	50	25	250	60	170	-	50.8	-	6			
SWBL5060C508	•	50	25	300	60	220	-	50.8	-	6			
SWBE5060C508	•	50	25	350	60	270	-	50.8	-	6			
SWBS5080C508*	•	50	25	200	80	120	-	50.8	-	7	SWB250HMN-N (1) SWB250HSN-N (1) IM-SP43GS (4)	HSW-614H (2) EXW-510 (4)	T-30 A-20
SWBM5080C508*	•	50	25	250	80	170	-	50.8	-	7			
SWBL5080C508*	•	50	25	300	80	220	-	50.8	-	7			
SWB-50100-MT5	•	50	25	236	60	100	-	MT5	-	9	SWB250HMN-N (1) SWB250HSN-N (1) IM-SP43GS (2)	HSW-614H (2) EXW-510 (2) Md=M20x25	T-30 A-20
SWB-50120-MT5	•	50	25	256	60	120	-	MT5	-	9			
SWB-50150-MT5	•	50	25	286	60	150	-	MT5	-	9			
SWB-50170-MT5	•	50	25	306	60	170	-	MT5	-	9			
SWB-50200-BT50	•	50	25	339.8	60	200	150	BT50	-	8	SWB250HMN-N (1) SWB250HSN-N (1) IM-SP43GS (2)	HSW-614H (2) EXW-510 (2)	T-30 A-20
SWB-50250-BT50	•	50	25	339.8	60	250	200	BT50	-	8			

***G-Body**

Note: All cutters are supplied without inserts.

DIJET®

Copy Milling | Shoulder Milling | Slotting

Swing Ball

INCH

INSERTS

Fig. 1

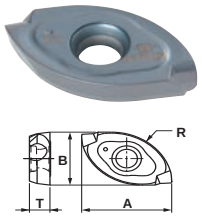


Fig. 2

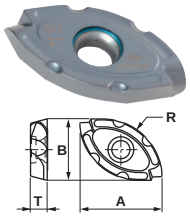


Fig. 3

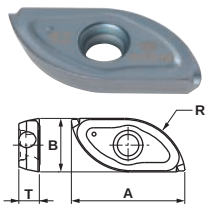


Fig. 4

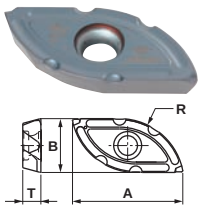


Fig. 5 *(For welds or hardened material)*

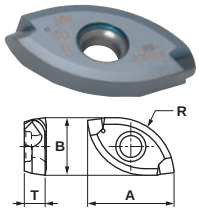


Fig. 6 *(For welds or hardened material)*

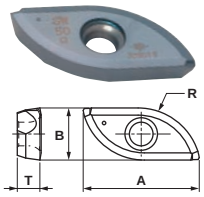


Fig. 7

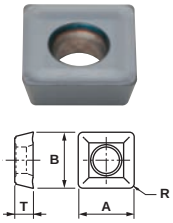
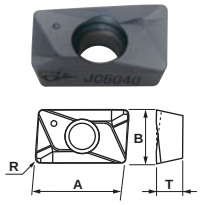


Fig. 8



Specifications

CATALOG NUMBER	DIMENSIONS				FIG.	COATED	
	R	A	B	T		JC8015	JC5040
SWB2075HME	.375	.625	.372	.150	1	•	•
SWB2075HSE	.375	.765	.307	.150	3	•	•
SWB2075MMW	.375	.625	.372	.150	5	•	
SWB2075MSW	.375	.765	.307	.150	6	•	
SWB2100HME	.500	.728	.487	.150	1	•	•
SWB2100HSE	.500	.936	.413	.150	3	•	•
SWB225MMW	.492	.728	.487	.150	5	•	
SWB225MSW	.492	.936	.413	.150	6	•	
SWB2125HME	.625	.937	.630	.217	1	•	•
SWB2125HSE	.625	1.16	.549	.517	3	•	•
SWB2125MMW	.625	.937	.630	.217	5	•	
SWB2125MSW	.625	1.16	.549	.217	6	•	
SWB2150HMNE	.750	1.14	.772	.236	2	•	•
SWB2150HSNE	.750	1.43	.610	.236	4	•	•
SWB2150MMW	.750	1.14	.772	.236	5	•	
SWB2150MSW	.750	1.43	.610	.236	6	•	
SWB2200HMNE	.984	1.35	1.01	.276	2	•	•
SWB2200HSNE	.984	1.68	.819	.275	4	•	•
SWB250MMW	.984	1.35	1.01	.276	5	•	
SWB250MSW	.984	1.68	.819	.275	6	•	
ZCMT100308R	.031	.409	.250	.134	8	• (JC5015)	•
IM-SP32GS	.016	.375	.375	.125	7	• (JC5015)	•
IM-SP43GS	.031	.500	.500	.187	7	• (JC5118)	•

METRIC

Swing Ball

INSERTS

Fig. 1

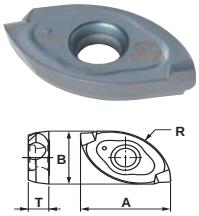


Fig. 2

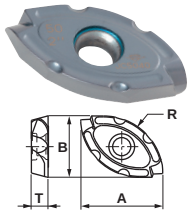


Fig. 3

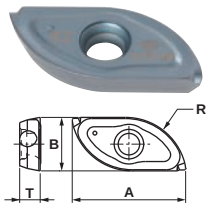


Fig. 4

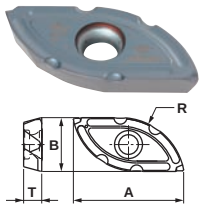


Fig. 5 *(For welds or hardened material)*

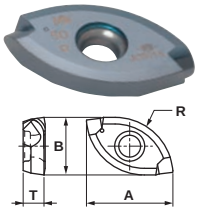


Fig. 6 *(For welds or hardened material)*

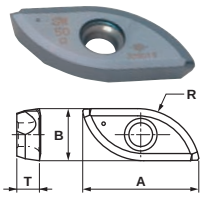


Fig. 7

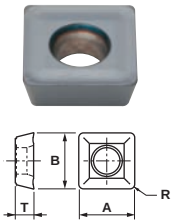


Fig. 8

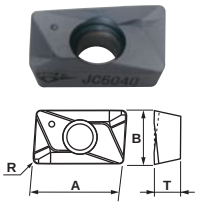
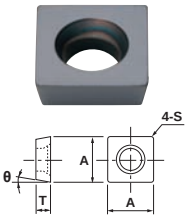


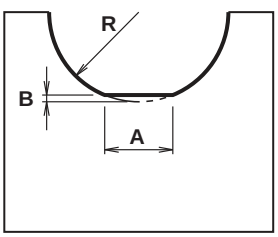
Fig. 9



Specifications

CATALOG NUMBER	DIMENSIONS				FIG.	COATED	
	R	A	B	T		JC8015	JC5040
SWB232HM-G	16	26	16	5.35	1	•	•
SWB232HS-G	16	31.7	13.9	5.35	3	•	•
SWB232MMW-G	16	26	16	5.35	5	•	
SWB232MSW-G	16	31.7	13.9	5.35	6	•	
SWB240HMN	20	30.4	20.8	6.85	2	•	•
SWB240HSN	20	37.5	16.3	6.85	4	•	•
SWB240MMW	20	30.4	20.8	6.85	5	•	
SWB240MSW	20	37.5	16.3	6.85	6	•	
SWB250HMN-N	25	34.4	25.7	7	2	•	•
SWB250HSN-N	25	42.6	20.8	7	4	•	•
SWB250MMW	25	34.4	25.7	7	5	•	
SWB250MSW	25	42.6	20.8	7	6	•	
ZCMT100308R	.8	10.4	6.35	3.4	8	• (JC5015)	•
IM-SP32GS	.4	9.525	9.525	3.18	7	• (JC5015)	•
IM-SP43GS	.8	12.7	12.7	4.76	7	• (JC5118)	•
SPGA090304	.4	9.525	9.525	3.18	9		•

Machined form by Swing Ball



SWB type insert

DIMENSIONS		
R	A	B
16	3.4	0.09
20	4.3	0.12
25	5.2	0.14

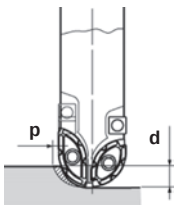
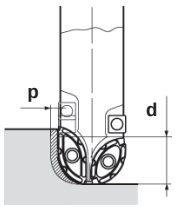
DIJET®

Copy Milling | Shoulder Milling | Slotting

Swing Ball

INCH

Recommended Cutting Data for Swing Ball

No. 1	No. 2
Shoulder Cutting	Shoulder Cutting (Deep)
	

Material	Insert	Grade	SFM	Parameters	Tool Diameter			
					3/4”		1”	
					Fig. 1	Fig. 2	Fig. 1	Fig. 2
Gray Cast Iron	Chipbreaker	JC8015	700	IPT	.008”	.005”	.008”	.005”
				DOC (d)	.200”	.625”	.240”	.800”
				WOC (p)	.160”	.080”	.200”	.120”
Nodular Cast Iron	Chipbreaker	JC8015	650	IPT	.007”	.005”	.008”	.005”
				DOC (d)	.200”	.625”	.240”	.800”
				WOC (p)	.160”	.080”	.200”	.120”
Carbon Steel	Chipbreaker	JC5040	600	IPT	.006”	.004”	.007”	.004”
				DOC (d)	.200”	.625”	.240”	.800”
				WOC (p)	.160”	.080”	.200”	.120”
Low Alloy Steel	Chipbreaker	JC5040	550	IPT	.006”	.004”	.007”	.004”
				DOC (d)	.200”	.625”	.240”	.800”
				WOC (p)	.160”	.080”	.200”	.120”
Mold Steel	Chipbreaker	JC5040	500	IPT	.006”	.004”	.006”	.004”
				DOC (d)	.160”	.500”	.200”	.600”
				WOC (p)	.100”	.080”	.120”	.100”
Tool & Die Steel (40-50 HRC)	Chipbreaker	JC8015	400	IPT	.005”	.004”	.005”	.004”
				DOC (d)	.080”	.200”	.120”	.250”
				WOC (p)	.120”	.060”	.160”	.060”
Hardened Die Steel & Welds (50-60 HRC)	MMW/MSW	JC8015	200	IPT	.003”	N/A	.003”	N/A
				DOC (d)	.080”	N/A	.120”	N/A
				WOC (p)	.120”	N/A	.120”	N/A
Stainless Steel	Chipbreaker	JC5040	300	IPT	.004”	N/A	.005”	N/A
				DOC (d)	.080”	N/A	.120”	N/A
				WOC (p)	.120”	N/A	.160”	N/A

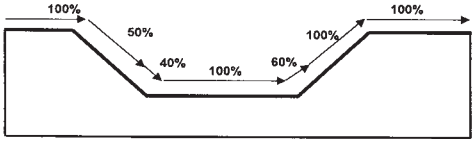
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern

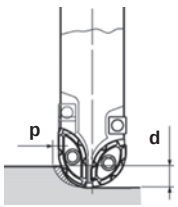
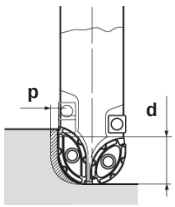


NOTE: Feed should be reduced when cutting the above pattern

INCH METRIC

Swing Ball

Recommended Cutting Data for Swing Ball

No. 1	No. 2
Shoulder Cutting	Shoulder Cutting (Deep)
	

Material	Insert	Grade	SFM	Parameters	Tool Diameter					
					1-1/4" / 32mm		1-1/2" / 40mm		2" / 50mm	
					Fig. 1	Fig. 2	Fig. 1	Fig. 2	Fig. 1	Fig. 2
Gray Cast Iron	Chipbreaker	JC8015	700	IPT	.010"	.006"	.015"	.007"	.020"	.008"
				DOC (d)	.400"	1.10"	.400"	1.40"	.400"	1.60"
				WOC (p)	.240"	.200"	.320"	.320"	.400"	.400"
Nodular Cast Iron	Chipbreaker	JC8015	650	IPT	.010"	.006"	.015"	.007"	.020"	.008"
				DOC (d)	.400"	1.10"	400"	1.40"	.400"	1.60"
				WOC (p)	.240"	.200"	.320"	.320"	.400"	.400"
Carbon Steel	Chipbreaker	JC5040	600	IPT	.008"	.005"	.012"	.006"	.015"	.008"
				DOC (d)	.400"	1.10"	.400"	1.40"	.400"	1.60"
				WOC (p)	.240"	.200"	.300"	.320"	.400"	.400"
Low Alloy Steel	Chipbreaker	JC5040	550	IPT	.008"	.005"	.010"	.006"	.015"	.007"
				DOC (d)	.400"	1.10"	.400"	1.40"	.400"	1.60"
				WOC (p)	.240"	.200"	.320"	.320"	.400"	.400"
Mold Steel	Chipbreaker	JC5040	500	IPT	.008"	.004"	.010"	.005"	.012"	.006"
				DOC (d)	.240"	.750"	.300"	1.00"	.340"	1.20"
				WOC (p)	.140"	.100"	.160"	.100"	.180"	.100"
Tool & Die Steel (40-50 HRC)	Chipbreaker	JC8015	400	IPT	.006"	.004"	.010"	.004"	.010"	.005"
				DOC (d)	.160"	.300"	.160"	.360"	.200"	.400"
				WOC (p)	.200"	.060"	.200"	.060"	.240"	.080"
Hardened Die Steel & Welds (50-60 HRC)	MMW/MSW	JC8015	200	IPT	.004"	N/A	.005"	N/A	.007"	N/A
				DOC (d)	.120"	N/A	.120"	N/A	.120"	N/A
				WOC (p)	.200"	N/A	.200"	N/A	.240"	N/A
Stainless Steel	Chipbreaker	JC5040	300	IPT	.006"	N/A	.006"	N/A	.008"	N/A
				DOC (d)	.160"	N/A	.160"	N/A	.200"	N/A
				WOC (p)	.200"	N/A	.200"	N/A	.240"	N/A

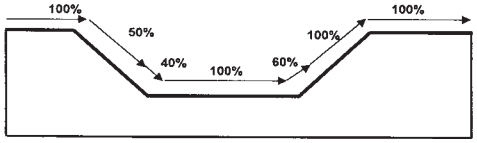
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern

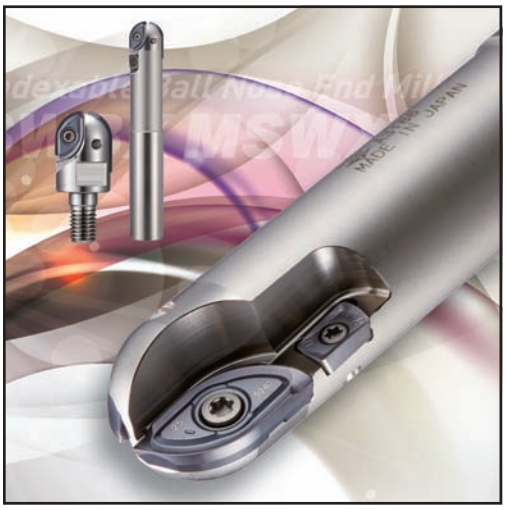


NOTE: Feed should be reduced when cutting the above pattern

Notes

Swing Ball Neo

Ball Nose Rougher & Semi Finisher with Key



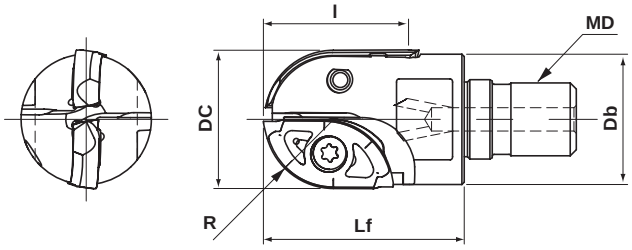
- High repeatability on insert mounting allows not only roughing but also semi-finishing.
- Unique key on body enables a stable roughing process & machining welded parts for 3D machining.
- New PVD coated grades; JC5240 for steel and JC8118 & JC8015 for cast iron, mold steel, welding & hardened die steel.

Swing Ball Neo

METRIC

MODULAR HEAD

MSWX Type



Specifications

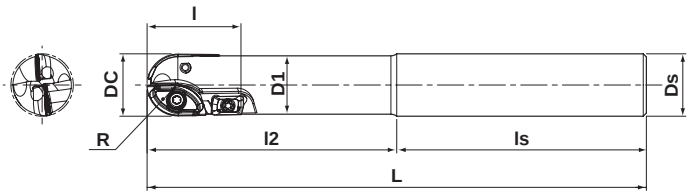
CATALOG NUMBER	STK	DIMENSIONS						HEAD TORQUE Nm	INSERTS		PARTS	
		Dc	R	Lf	l	Db	MD		Main (1)	Sub (1)	Screw	Wrench
MSWX-1615-M8	•	16	8	23	15	15	M8	16 Nm	SWBX216HM SWBX216MMW	SWBX216HS SWBX216MSW	DSW-2563H	T-08SD
MSWX-2022-M10	•	20	10	30	22	18.7	M10	16 Nm	SWBX220HM SWBX220MMW	SWBX220HS SWBX220MSW	DSW-307H	T-10
MSWX-2525-M12	•	25	12.5	35	25	23.5	M12	20 Nm	SWBX225HM SWBX225MMW	SWBX225HS SWBX225MSW	TSW-410H	T-15
MSWX-3031-M16	•	30	15	43	31	27.9	M16	25 Nm	SWBX230HM SWBX230MMW	SWBX230HS SWBX230MSW	DSW-511H	A-20

Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts, wrench or moly.

END MILLS

SWBX Type



Specifications

CATALOG NUMBER	STK	DIMENSIONS								INSERTS			PARTS	
		Dc	R	L	l	l2	ls	D1	Ds	Main (1)	Sub (1)	Side (1)	Screw	Wrench
SWBX-16050-S16	•	16	8	130	15	50	80	15	16	SWBX216HM SWBX216MMW	SWBX216HS SWBX216MSW	-	DSW-2563H	T-08SD
SWBX-20080-S20	•	20	10	160	29	80	80	18.7	20	SWBX220HM SWBX220MMW	SWBX220HS SWBX220MSW	ZPMT100308ZER-PL	DSW-307H TSW-2556H	T-10 T-08
SWBX-20120-S20	•	20	10	200	29	120	80	18.7	20					
SWBX-25080-S25	•	25	12.5	160	33	80	80	23.5	25	SWBX225HM SWBX225MMW	SWBX225HS SWBX225MSW	ZPMT100308ZER-PL	TSW-410H TSW-2556H	T-15 T-08
SWBX-25120-S25	•	25	12.5	200	33	120	80	23.5	25					
SWBX-30120-S32	•	30	15	200	38	120	80	28.8	32	SWBX230HM SWBX230MMW	SWBX230HS SWBX230MSW	ZPMT100308ZER-PL	DSW-511H DSW-2563H	A-20 T-08SD
SWBX-30170-S32	•	30	15	250	38	170	80	29	32					

Note: All cutters are supplied without inserts, wrench or moly.

METRIC

Swing Ball - Neo

Fig. 1
(Main blade for low cutting force)

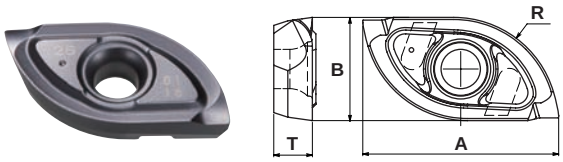


Fig. 2
(Main blade for welding & hardened material)

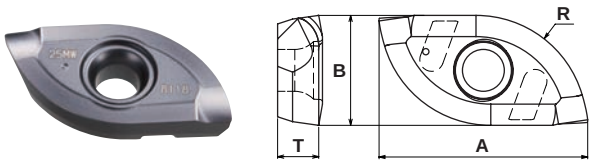


Fig. 3
(Sub blade for low cutting force)

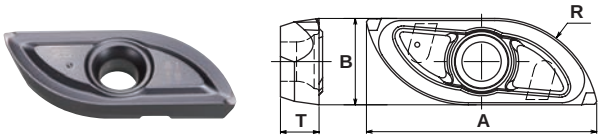


Fig. 4
(Sub blade for welding & hardened material)

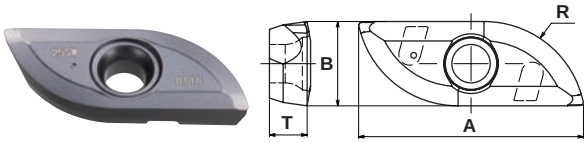
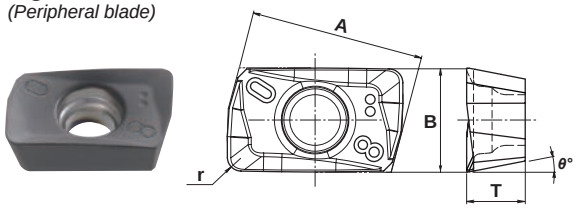


Fig. 5
(Peripheral blade)



Specifications

CATALOG NUMBER	TYPE	DIMENSIONS					FIG.	PVD COATED		
		R	A	B	T	r		JC5240	JC8118	JC8015
SWBX216HM	Main (for low cutting force)	8	15	7.9	3.3	-	1	•	•	
SWBX216MMW	Main (for welding & hardened material)	8	15	7.9	3.3	-	2		•	
SWBX216HS	Sub (for low cutting force)	8	16.1	6.6	3.3	-	3	•	•	
SWBX216MSW	Sub (for welding & hardened material)	8	16.1	6.6	3.3	-	4		•	
SWBX220HM	Main (for low cutting force)	10	18.8	9.9	3.9	-	1	•	•	
SWBX220MMW	Main (for welding & hardened material)	10	18.8	9.9	3.9	-	2		•	
SWBX220HS	Sub (for low cutting force)	10	22.9	8.8	3.9	-	3	•	•	
SWBX220MSW	Sub (for welding & hardened material)	10	22.9	8.8	3.9	-	4		•	
SWBX225HM	Main (for low cutting force)	12.5	22.3	12.4	4.6	-	1	•	•	
SWBX225MMW	Main (for welding & hardened material)	12.5	22.3	12.4	4.6	-	2		•	
SWBX225HS	Sub (for low cutting force)	12.5	26.3	10.5	4.6	-	3	•	•	
SWBX225MSW	Sub (for welding & hardened material)	12.5	26.3	10.5	4.6	-	4		•	
SWBX230HM	Main (for low cutting force)	15	27.9	14.7	6	-	1	•	•	
SWBX230MMW	Main (for welding & hardened material)	15	27.9	14.7	6	-	2			•
SWBX230HS	Sub (for low cutting force)	15	32.8	12.3	6	-	3	•	•	
SWBX230MSW	Sub (for welding & hardened material)	15	32.8	12.3	6	-	4			•
ZPMT100308ZER-PL	Peripheral	-	10	6	3.4	0.8	5		•	

NOTES: Be sure to use the same type & same grade for main & sub blade together.

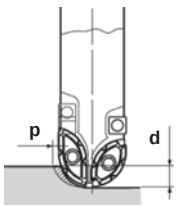
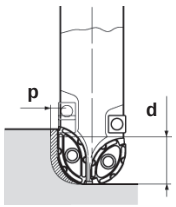
DIJET®

Copy Milling | Shoulder Milling | Slotting

Swing Ball - Neo

METRIC

Recommended Cutting Data for Swing Ball Neo

No. 1	No. 2
Shoulder Cutting	Shoulder Cutting (Deep)
	

Material	Insert	Grade	SFM	Parameters	Tool Diameter			
					16mm		20mm	
					Fig. 1	Fig. 2	Fig. 1	Fig. 2
Gray Cast Iron	HM/HS (MMW/MSW)	JC8118 JC8015	700	IPT	.008”	.005”	.008”	.005”
				DOC (d)	.200”	.500”	.200”	.625”
				WOC (p)	.120”	.060”	.160”	.080”
Nodular Cast Iron	HM/HS	JC5240 (JC8118)	650	IPT	.007”	.005”	.007”	.005”
				DOC (d)	.200”	.500”	.200”	.625”
				WOC (p)	.120”	.060”	.160”	.080”
Carbon Steel	HM/HS	JC5240 (JC8118)	600	IPT	.006”	.004”	.006”	.004”
				DOC (d)	.200”	.500”	.200”	.625”
				WOC (p)	.120”	.060”	.160”	.080”
Low Alloy Steel	HM/HS	JC5240 (JC8118)	550	IPT	.006”	.004”	.006”	.004”
				DOC (d)	.200”	.500”	.200”	.625”
				WOC (p)	.120”	.060”	.160”	.080”
Mold Steel	HM/HS	JC8118	500	IPT	.006”	.004”	.006”	.004”
				DOC (d)	.160”	.400”	.160”	.500”
				WOC (p)	.060”	.080”	.100”	.080”
Tool & Die Steel (40-50 HRC)	MMW/MSW (HM/HS)	JC8118 JC8015	400	IPT	.005”	.004”	.005”	.004”
				DOC (d)	.080”	.150”	.080”	.200”
				WOC (p)	.080”	.040”	.120”	.060”
Hardened Die Steel & Welds (50-60 HRC)	MMW/MSW	JC8118 JC8015	200	IPT	.003”	N/A	.003”	N/A
				DOC (d)	.080”	N/A	.080”	N/A
				WOC (p)	.080”	N/A	.120”	N/A
Stainless Steel	HM/HS	JC8118	300	IPT	.004”	N/A	.004”	N/A
				DOC (d)	.080”	N/A	.080”	N/A
				WOC (p)	.080”	N/A	.160”	N/A

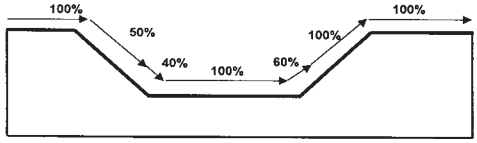
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern

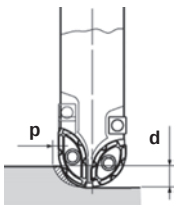
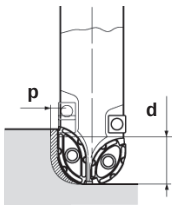


NOTE: Feed should be reduced when cutting the above pattern

METRIC

Swing Ball - Neo

Recommended Cutting Data for Swing Ball Neo

No. 1	No. 2
Shoulder Cutting	Shoulder Cutting (Deep)
	

Material	Insert	Grade	SFM	Parameters	Tool Diameter			
					25mm		30mm	
					Fig. 1	Fig. 2	Fig. 1	Fig. 2
Gray Cast Iron	HM/HS (MMW/MSW)	JC8118 JC8015	700	IPT	.008”	.005”	.010”	.006”
				DOC (d)	.240”	.800”	.400”	1.10”
				WOC (p)	.200”	.120”	.240”	.200”
Nodular Cast Iron	HM/HS	JC5240 (JC8118)	650	IPT	.008”	.005”	.010”	.006”
				DOC (d)	.240”	.800”	.400”	1.10”
				WOC (p)	.200”	.120”	.240”	.200”
Carbon Steel	HM/HS	JC5240 (JC8118)	600	IPT	.007”	.004”	.008”	.005”
				DOC (d)	.240”	.800”	.400”	1.10”
				WOC (p)	.200”	.120”	.240”	.200”
Low Alloy Steel	HM/HS	JC5240 (JC8118)	550	IPT	.007”	.004”	.008”	.005”
				DOC (d)	.240”	.800”	.400”	1.10”
				WOC (p)	.200”	.120”	.240”	.200”
Mold Steel	HM/HS	JC8118	500	IPT	.006”	.004”	.008”	.004”
				DOC (d)	.200”	.600”	.240”	.750”
				WOC (p)	.120”	.100”	.140”	.100”
Tool & Die Steel (40-50 HRC)	MMW/MSW (HM/HS)	JC8118 JC8015	400	IPT	.005”	.004”	.006”	.004”
				DOC (d)	.120”	.250”	.160”	.300”
				WOC (p)	.160”	.060”	.200”	.060”
Hardened Die Steel & Welds (50-60 HRC)	MMW/MSW	JC8118 JC8015	200	IPT	.003”	N/A	.004”	N/A
				DOC (d)	.120”	N/A	.120”	N/A
				WOC (p)	.120”	N/A	.200”	N/A
Stainless Steel	HM/HS	JC8118	300	IPT	.005”	N/A	.006”	N/A
				DOC (d)	.120”	N/A	.160”	N/A
				WOC (p)	.150”	N/A	.200”	N/A

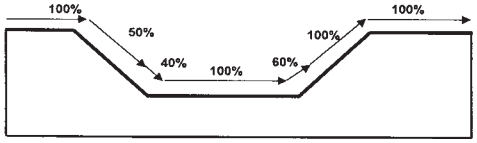
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

Notes

Swing Ball - K

Ball Nose Rougher with Insert Key

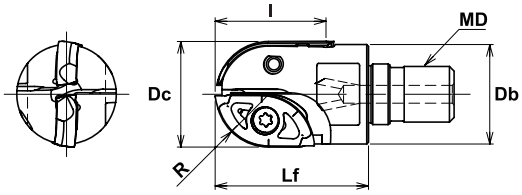
- All the same features as our standard Swing Ball - plus keys.
- The key on the body provides a locked secured fit.
- Key gives added security for stable roughing and machining of welded parts.
- High repeatability on insert mounting.

Swing Ball - K

METRIC

MODULAR HEAD

MSW-K Type



Specifications

CATALOG NUMBER	STK	DIMENSIONS						HEAD TORQUE	INSERTS	PARTS	
		Dc	R	Lf	l	Db	MD			Screw	Wrench
MSW-3031-M16-K	•	30	15	43	31	27.9	M16	16 Nm	SWB230HM-K/MMW-K (1) SWB230HS-K/MSW-K (1)	DSW-511H	A-20

Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts.

END MILLS

SWB-K Type

Fig. 1

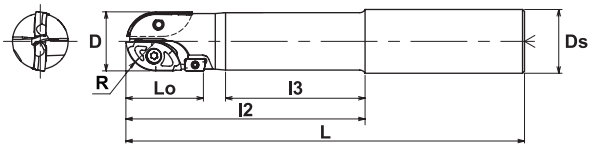


Fig. 2

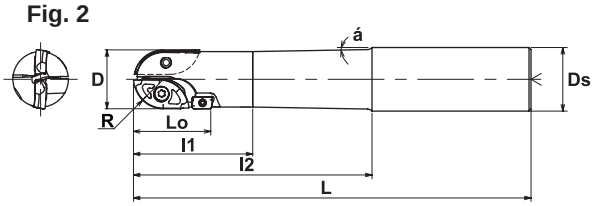
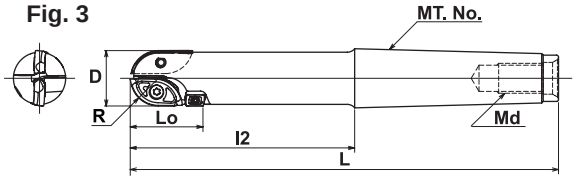


Fig. 3



Specifications

CATALOG NUMBER	STK	DIMENSIONS									FIG.	INSERTS	PARTS	
		D	R	L	Lo	l2	l3	l1	Ds	a			Screw	Wrench
SWB-30120S-S32-K	•	30	15	200	38	120	70	-	32	-	1	SWB230HM-K/MMW-K (1) SWB230HS-K/MSW-K (1) ZPMT100308ZER (1)	DSW-511H	A-20
SWB-30170S-S32-K	•	30	15	250	38	170	120	-	32	-	1			
SWBS3040S32-K	•	30	15	200	38	120	-	60	32	1°	2			
SWBM3040S32-K	•	30	15	250	38	150	-	60	32	0°40°	2			
SWB-30120-MT4-K	•	30	15	229	38	120	-	-	MT4	-	3		DSW-511H Md=M16X2	A-20

Note: Cutters are supplied without inserts.

METRIC

Swing Ball - K

Inserts

Fig. 1

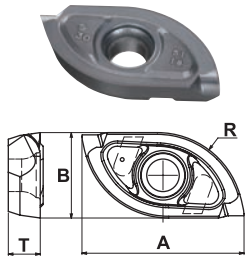


Fig. 3

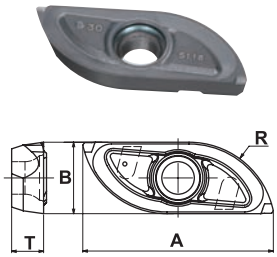


Fig. 5

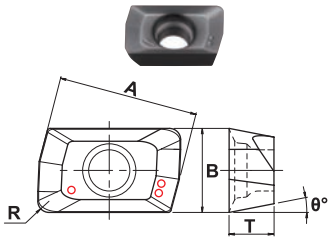


Fig. 2

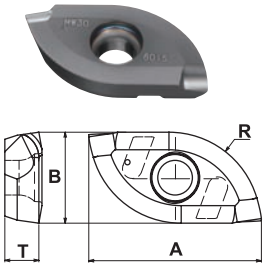
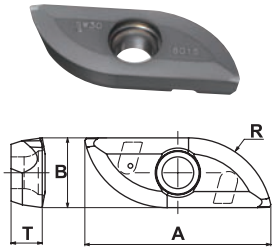


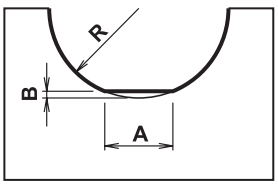
Fig. 4



Specifications

CATALOG NUMBER	DIMENSIONS				FIG.	Coated			
	R	A	B	T		JC5040	JC5118	JC8015	JC8050
SWB230HM-K	15	27.9	14.7	6	1	•	•		
SWB230MMW-K	15	27.9	14.7	6	2			•	
SWB230HS-K	15	32.8	12.3	6	3	•	•		
SWB230MSW-K	15	32.8	12.3	6	4			•	
ZPMT100308ZER (-PL)	0.8	10	6	3.2	5		• (JC8118)		•

Machined form



SWB-K type

R	A	B
15	1.7	0.03

NOTE: Above form can occur at center point.

Maximum plunging depth and feed rate (using steel shank body)

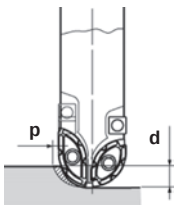
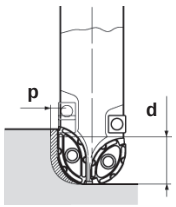
Materials	Max. Value	Tool Diameter
		Ø 30mm
Cast iron (GG, GGG)	ap (mm)	10
	f (mm/rev)	0.40
Cast steel, Alloy steel Die Steel	ap (mm)	8
	f (mm/rev)	0.30

ap: Depth of cut, **f:** feed

Swing Ball - K

METRIC

Recommended Cutting Data for Swing Ball - K

No. 1	No. 2
Shoulder Cutting	Shoulder Cutting (Deep)
	

Material	Insert	Grade	SFM	Parameters	Tool Diameter 30mm	
					Fig. 1	Fig. 2
Gray Cast Iron	HM-K/HS-K	JC5118	700	IPT	.010”	.006”
				DOC (d)	.400”	1.10”
				WOC (p)	.240”	.200”
Nodular Cast Iron	HM-K/HS-K	JC5118	650	IPT	.010”	.006”
				DOC (d)	.400”	1.10”
				WOC (p)	.240”	.200”
Carbon Steel	HM-K/HS-K	JC5040	600	IPT	.008”	.005”
				DOC (d)	.400”	1.10”
				WOC (p)	.240”	.200”
Low Alloy Steel	HM-K/HS-K	JC5040	550	IPT	.008”	.005”
				DOC (d)	.400”	1.10”
				WOC (p)	.240”	.200”
Mold Steel	HM-K/HS-K	JC5040	500	IPT	.008”	.004”
				DOC (d)	.240”	.750”
				WOC (p)	.140”	.100”
Tool & Die Steel (40-50 HRC)	MMW-K/MSW-K	JC8015	400	IPT	.006”	.004”
				DOC (d)	.160”	.300”
				WOC (p)	.200”	.060”
Hardened Die Steel & Welds (50-60 HRC)	MMW-K/MSW-K	JC8015	200	IPT	.004”	N/A
				DOC (d)	.120”	N/A
				WOC (p)	.200”	N/A

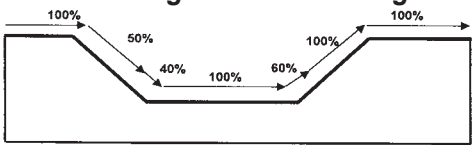
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

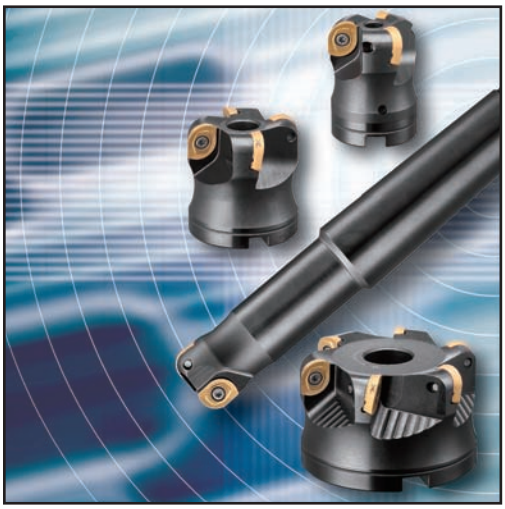
Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

Wild Radius

Radius Cutter for High Efficient Roughing Applications



- High body durability when compared to conventional ball nose preventing chatter.
- Improved machining efficiency with larger step over and 10mm corner radius.
- Key gives added security allowing stable machining and ease of changing insert corner.
- High repeatability on insert mounting.

Wild Radius

INCH METRIC

FACE MILL
WDR Type

Fig. 1

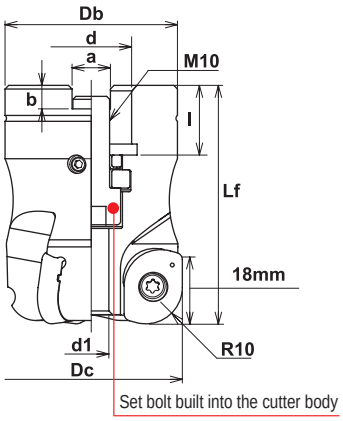
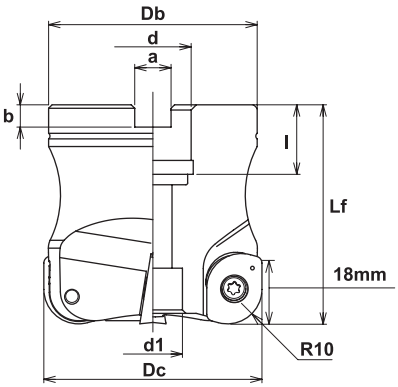


Fig. 2



Specifications - Inch

CATALOG NUMBER	STK	DIMENSIONS								FIG.	INSERTS	Q	PARTS	
		Dc	Lf	Db	d	d1	a	b	l				Screw	Wrench
WDR-3200-075R	•	2.00	2.25	1.85	.750	.378	.319	.197	.750	1	YDM*1505100Z*R	3	CSW-513H	A-20
WDR-5300-100R	•	3.00	2.00	2.85	1.00	.787	.378	.236	.945	2		5		

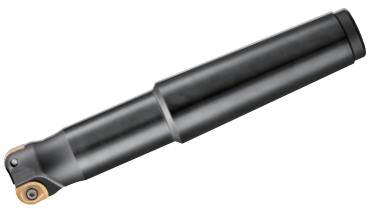
Note: All cutters are supplied without inserts.

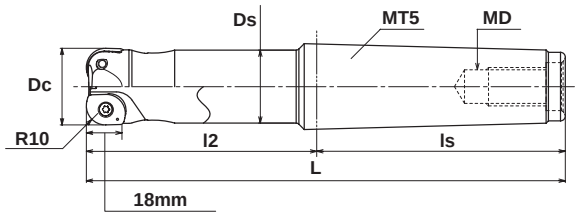
Specifications - Metric

CATALOG NUMBER	STK	DIMENSIONS								FIG.	INSERTS	Q	PARTS	
		Dc	Lf	Db	d	d1	a	b	l				Screw	Wrench
WDR-3050R	•	50	65	47	22.225	9.6	8.4	5	19	1	YDM*1505100Z*R	3	CSW-513H	A-20
WDR-3050R-22	•	50	65	47	22	9.6	10.4	6.3	19	1		3		
WDR-4063R	•	63	63	60	22.225	17	8.4	5	20	2		4		
WDR-4063R-22	•	63	63	60	22	17	10.4	6.3	20	2		4		
WDR-5080R	•	80	63	76	31.75	26	12.7	8	32	2		5		
WDR-5080R-27	•	80	63	76	27	20	12.4	7	22	2		5		
WDR-6100R	•	100	63	96	31.75	26	12.7	8	32	2		6		
WDR-6100R-32	•	100	63	96	32	26	14.4	8	32	2		6		
WDR-6125R	•	125	63	100	31.75	26	12.7	8	32	2		6		
WDR-6125R-40	•	125	63	100	40	32	16.4	9	32	2		6		

Note: All cutters are supplied without inserts.

END MILL
WDR Type





Specifications

CATALOG NUMBER	STK	DIMENSIONS						INSERTS	Q	PARTS	
		Dc	l2	ls	L	Ds	MD			Screw	Wrench
WDR-2040-120-MT5-M20	•	40	120	130	249.5	38	M20X2.5	YDM*1505100Z*R	2	CSW-513H	A-20

Note: All cutters are supplied without inserts.

METRIC

Wild Radius

Inserts

YDMW / YDMT Type

Fig. 1

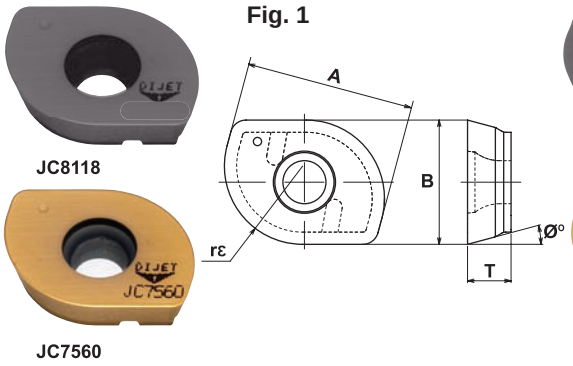
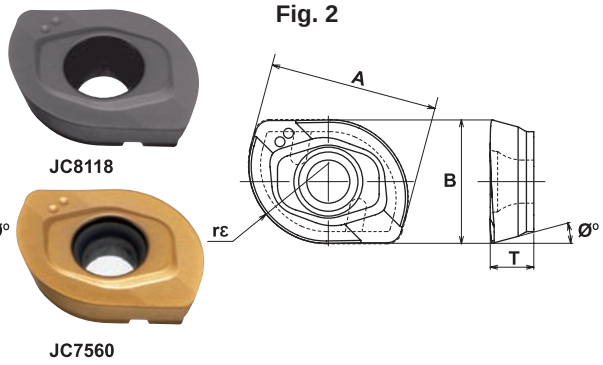


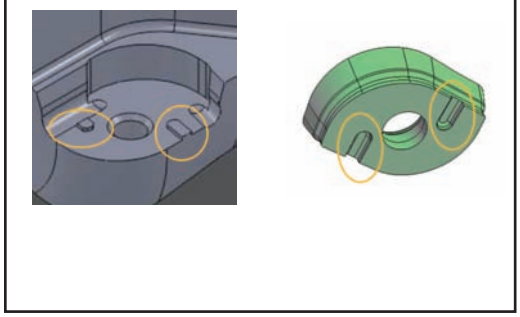
Fig. 2



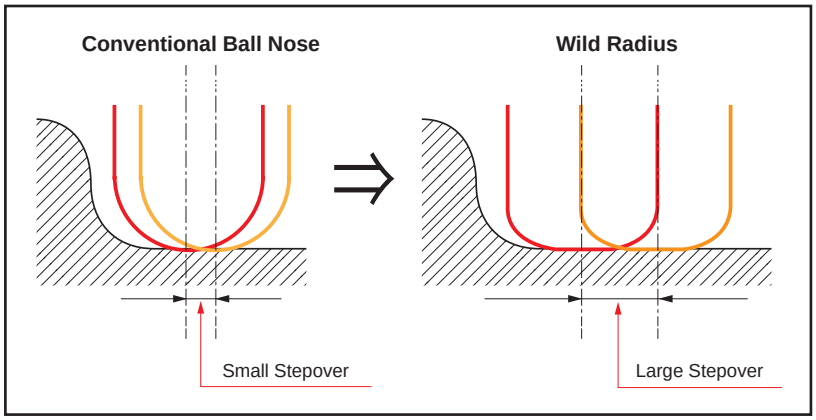
Specifications

CATALOG NUMBER	Tolerance	DIMENSIONS					FIG.	PVD Coated	
		A	T	B	rε	Ø°		JC8118	JC7560
YDMW1505100ZTR	M	21.5	5.56	15.875	10	15°	1	•	•
YDMT1505100ZER	M	21.5	5.56	15.875	10	15°	2	•	•

Double Key system prevents movement of inserts.



Cutter design allows larger step over than conventional ball nose giving improved machining efficiency.



Metal removal rate

Cutting information: Material - Cast Iron

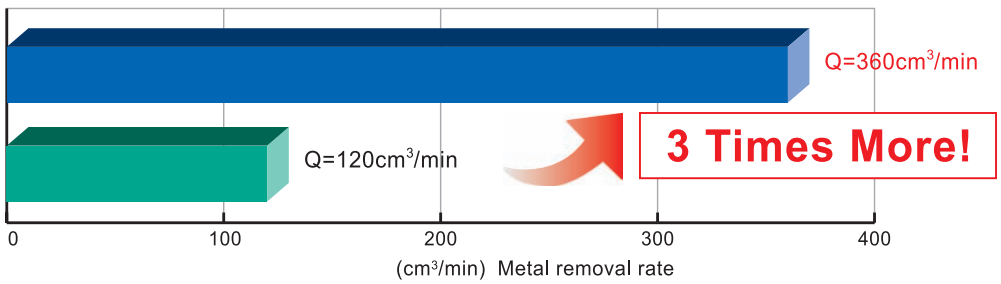
Wild Radius
Vc = 150m/min (n = 750min^{-1})
Vf = 3,000mm/min (fz = 1mm/t)
Ap = 3mm, Ae = 40mm
Q = 360cm^3/min

Conventional indexable ball nose
Vc = 235m/min (n = 1,500min^{-1})
Vf = 1,200mm/min (fz = 0.4mm/t)
Ap = 10mm, Ae = 10mm
Q = 120cm^3/min

Results:

WILD RADIUS
Ø63x4N (WDR-4063R-22)

Indexable ball end mill (conventional tool)
Ø50x2N

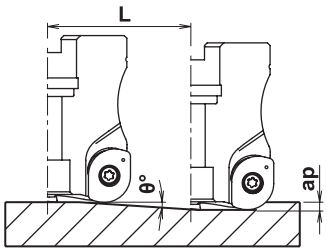


Wild Radius

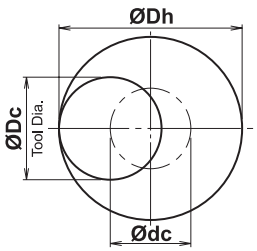
INCH METRIC

Recommended Data for Profile Milling

Ramping



Helical Interpolation



- Calculation of tool pass dia.

Ødc = ØDh - ØDc

Tool pass dia. Bore dia. Tool Dia.

- Depth of cut per one circuit should not exceed max. depth of cut ap.
- Down cutting is recommended. Tool pass rotation should be counterclockwise.

- **In case of ramping and helical interpolation, apply 70% or less feed (F) from standard cutting condition table.**
- **When drilling, apply 50% or less z axis feed from standard cutting condition table.**
- **Long consecutive chips may form when drilling, confirm safety.**

TOOL DIAMETER I		EFFECTIVE CUTTING DIA.	MAX. DEPTH OF CUT: AP	RAMPING		HELICAL INTERPOLATION		MAXIMUM DRILLING DEPTH
				MAX. RAMP ANGLE	TOTAL CUTTING LENGTH AT MAX AP: L	MIN. BORE DIAMETER: Dh min	MAX. BORE DIAMETER: Dh max	
INCH	2.00	1.24	.118	2°36’	2.60	3.06	3.92	.078
	3.00	2.22	.118	1°18’	5.21	5.06	5.92	.078
METRIC	40	20.1	3	4°24’	39	56	78	2
	50	30.7	3	2°48’	61.3	76	98	2
	63	43.4	3	1°48’	95.5	102	124	2
	80	60.3	3	1°12’	143.2	136	158	2
	100	80.2	3	0°54’	191.0	176	198	2
	125	104.7	3	0°36’	286.5	226	248	2

METRIC

Wild Radius

Recommended Cutting Data for Wild Radius

Material	Grade	SFM	IPT	DOC	WOC
Gray Cast Iron	JC8118 JC7560	700	.030”	.120”	.015 - .020Dc
Nodular Cast Iron	JC8118 JC7560	650	.030”	.120”	.015 - .020Dc
Carbon Steel	JC7560 JC8118	600	.025”	.120”	.015 - .025Dc
Low Alloy Steel	JC7560 JC8118	550	.025”	.120”	.015 - .025Dc
Mold Steel	JC7560 JC8118	500	.025”	.120”	.015 - .020Dc
Tool & Die Steel (40-50 HRC)	JC8118 JC7560	400	.012”	.120”	.005 - .010Dc
Hardened Die Steel (50-60 HRC)	JC8118 JC7560	250	.008”	.120”	.005Dc
Stainless Steel	JC7560 JC8118	300	.020”	.120”	.010 - .018Dc

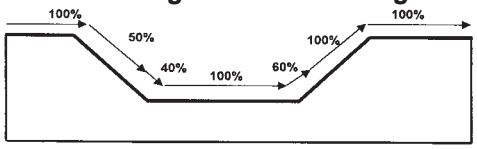
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

Notes

Side Chipper

Corner Cutting Indexable Endmill

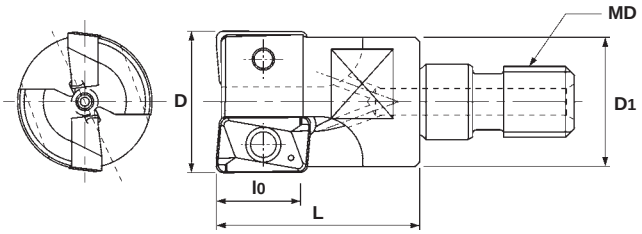
- Super End-Chipper inserts can be used with Side-Chipper bodies.
- 3D insert geometry provides low cutting forces and excellent chip ejection.
- Uncoated insert grade FZ05 is available for machining aluminum.

Side Chipper

INCH METRIC

MODULAR HEADS

MIC type



Specifications - Inch

CATALOG NUMBER	STK	DIMENSIONS					HEAD TORQUE lbs/ft	INSERT	Q	PARTS	
		D	L	l0	D1	MD				Screw	Wrench
MIC-2062-M8	•	.625	.900	.400	.591	M8	11.8	ZCMT1003..R	2	ESW-206	T-08SD
MIC-2075-M10	•	.750	1.18	.500	.728	M10	11.8	ZPMT13T3..R	2	DSW-306H	T-10SD
MIC-3075-M10	•	.750	1.18	.400	.728	M10	11.8	ZCMT1003..R	3	ESW-206	T-08SD
MIC-2100-M12	•	1.00	1.38	.600	.945	M12	14.7	ZPMT1604..R	2	TSW-408	A-15T
MIC-3100-M12	•	1.00	1.38	.500	.941	M12	14.7	ZPMT13T3..R	3	DSW-307H	T-10SD
MIC-2125-M16	•	1.25	1.69	.600	1.14	M16	18.4	ZPMT1604..R	2	TSW-408	A-15T
MIC-3125-M16	•	1.25	1.69	.600	1.14	M16	18.4	ZPMT1604..R	3	TSW-408	A-15T

Note: All cutters are supplied without inserts.

Specifications - Metric

CATALOG NUMBER	STK	DIMENSIONS					HEAD TORQUE Nm	INSERT	Q	PARTS	
		D	L	l0	D1	MD				Screw	Wrench
MIC-2016-M8	•	16	23	9	14.6	M8	16	ZCMT1003..R	2	ESW-206	T-08SD
MIC-2018-M8	•	18	23	9	15.5	M8	16	ZCMT1003..R	2	ESW-206	T-08SD
MIC-2020-M10	•	20	30	9	18.4	M10	16	ZCMT1003..R	2	ESW-206	T-08SD
MIC-3020-M10	•	20	30	9	18.4	M10	16	ZCMT1003..R	3	ESW-206	T-08SD
MIC-2022-M10	•	22	30	12.5	19.5	M10	16	ZPMT13T3..R	2	DSW-307H	T-10SD
MIC-3022-M10	•	22	30	9	19.5	M10	16	ZCMT1003..R	3	ESW-206	T-08SD
MIC-2025-M12	•	25	35	15	23	M12	20	ZPMT1604..R	2	TSW-408	A-15T
MIC-3025-M12	•	25	35	12.5	23	M12	20	ZPMT13T3..R	3	DSW-307H	T-10SD
MIC-2027-M12	•	27	35	15	24	M12	20	ZPMT1604..R	2	TSW-408	A-15T
MIC-3027-M12	•	27	35	12.5	24	M12	20	ZPMT13T3..R	3	DSW-307H	T-10SD
MIC-3030-M16	•	30	43	15	28.2	M16	25	ZPMT1604..R	3	TSW-408	A-15T
MIC-2032-M16	•	32	43	15	29	M16	25	ZPMT1604..R	2	TSW-408	A-15T
MIC-3032-M16	•	32	43	15	29	M16	25	ZPMT1604..R	3	TSW-408	A-15T
MIC-2035-M16	•	35	43	15	29	M16	25	ZPMT1604..R	2	TSW-408	A-15T
MIC-4040-M16	•	40	43	15	29	M16	25	ZPMT1604..R	4	TSW-408	A-15T
MIC-5040-M16	•	40	43	12.5	29	M16	25	ZPMT13T3..R	5	DSW-307H	T-10SD

Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts.

INCH

Side Chipper

END MILL STYLE

SIC type

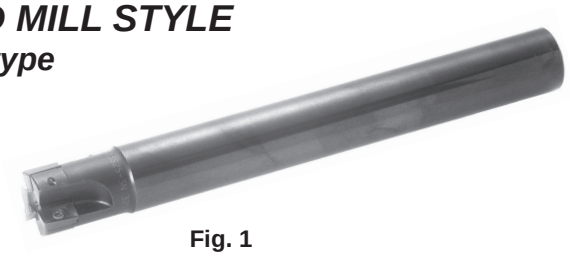


Fig. 1

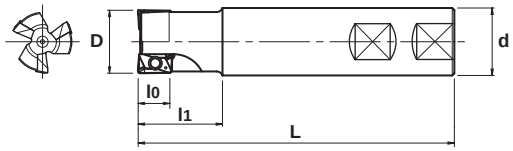
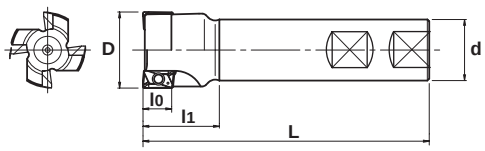


Fig. 2



Specifications - Metric

CATALOG NUMBER	STK	DIMENSIONS					FIG.	INSERT	Q	PARTS	
		D	L	l0	l1	d				Screw	Wrench
SICS-2062-S062	•	.625	3.25	.400	1.12	.625	1	ZCMT1003..R	2	ESW-206	T-08SD
SICM-2062-S062	•	.625	4.00	.400	1.97	.625					
SICS-2075-S075	•	.750	4.00	.500	1.25	.750	1	ZPMT13T3..R	2	DSW-306H	T-10SD
SICM-2075-S075	•	.750	5.00	.500	2.97	.750					
SICL-2075-S100	•	.750	7.00	.500	4.00	1.00					
SICS-3075-S075	•	.750	4.00	.400	1.25	.750	1	ZCMT1003..R	3	ESW-206	T-08SD
SICM-3075-S075	•	.750	5.00	.400	2.97	.750					
SICL-3075-S100	•	.750	7.00	.400	4.00	1.00					
SICS-2100-S100	•	1.00	4.00	.600	1.25	1.00	1	ZPMT1604..R	2	TSW-408	A-15T
SICM-2100-S100	•	1.00	5.00	.600	2.72	1.00					
SICL-2100-S125	•	1.00	6.00	.600	4.00	1.25					
SICS-3100-S100	•	1.00	4.00	.500	1.25	1.00	1	ZPMT13T3..R	3	DSW-307H	T-10SD
SICM-3100-S100	•	1.00	5.00	.500	2.72	1.00					
SICL-3100-S125	•	1.00	7.00	.500	4.00	1.25					
SICS-2125-S125	•	1.25	5.50	.600	2.50	1.25	1	ZPMT1604..R	2	TSW-408	A-15T
SICM-2125-S125	•	1.25	6.00	.600	4.00	1.25					
SICS-3125-S125	•	1.25	4.00	.600	1.75	1.25	1	ZPMT1604..R	3	TSW-408	A-15T
SICM-3125-S125	•	1.25	6.00	.600	3.72	1.25					
SICL-3125-S125	•	1.25	8.00	.600	5.50	1.25					
SICS-4150-S125	•	1.50	4.00	.600	1.75	1.25	2	ZPMT1604..R	4	TSW-408	A-15T
SICS-4150-S150	•	1.50	4.00	.600	1.75	1.50	1				
SICM-4150-S150	•	1.50	6.00	.600	3.72	1.50					
SICL-4150-S150	•	1.50	8.50	.600	5.75	1.50					

Note: All cutters are supplied without inserts.

Side Chipper

METRIC

END MILL STYLE

SIC type

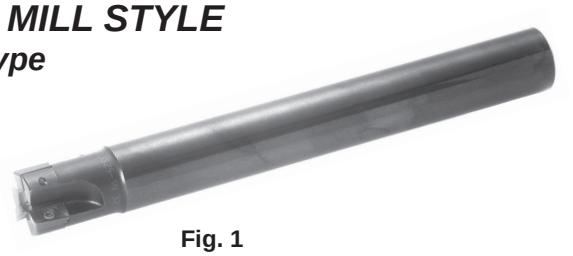


Fig. 1

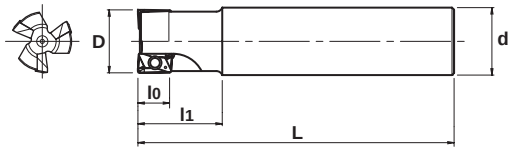
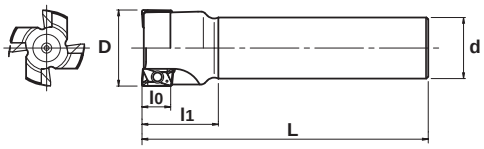


Fig. 2



Specifications - Metric

CATALOG NUMBER	STK	DIMENSIONS					FIG.	INSERT	Q	PARTS	
		D	L	l0	l1	d				Screw	Wrench
SICM1610S16-2N		16	100	10	25	16	1	ZCMT1003..R	2	ESW-206	T-08SD
SICL1610S16-2N		16	150	10	25	16	1		2		
SICM2010S20-3N		20	110	10	25	20	1	ZCMT1003..R	3	ESW-206	T-08SD
SICL2010S20-2N		20	180	10	40	20	1		2		
SICL2010S20-3N		20	180	10	40	20	1		3		
SICM2510S25-4N		25	120	10	32	25	1	ZCMT1003..R	4	ESW-206	T-08SD
SICM2513S25-3N		25	120	13	32	25	1	ZPMT13T3..R	3	DSW-307H	T-10SD
SICL2513S25-2N		25	210	13	35	25	1		2		
SICL2513S25-3N		25	210	13	35	25	1		3		
SICM3016S32-3N		30	150	15	40	32	1	ZPMT1604..R	3	TSW-408	A-15T
SICL3016S25-3N		30	250	15	65	25	2		3		
SICM3210S32-5N		32	150	10	40	32	1	ZCMT1003..R	5	ESW-206	T-08SD
SICM3216S32-3N		32	150	15	40	32	1	ZPMT1604..R	3	TSW-408	A-15T
SICL3216S32-2N		32	250	15	65	32	1		2		
SICL3216S32-3N		32	250	15	65	32	1		3		
SICM4010S32-6N		40	150	10	40	32	2	ZCMT1003..R	6	ESW-206	T-08SD
SICM4016S32-4N		40	150	15	40	32	2	ZPMT1604..R	4	TSW-408	A-15T
SICL4016S32-4N		40	250	15	65	32	2		4		
SICM5010S32-7N		50	150	10	40	32	2	ZCMT1003..R	7	ESW-206	T-08SD
SICM5016S32-5N		50	150	15	40	32	2	ZPMT1604..R	5	TSW-408	A-15T
SICL5015S42-5N		50	250	15	65	42	2		5		

Note: All cutters are supplied without inserts.

INCH METRIC

Side Chipper

FACE MILLS

Entering Angle : 90°	A.R. : +4°
	R.R. : -1° - 4°
Max. D.O.C.	.500"

Fig. 1

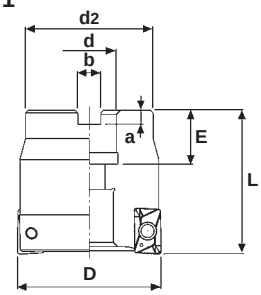
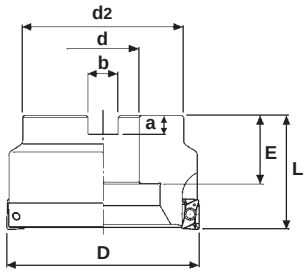


Fig. 2



Specifications - Inch

CATALOG NUMBER	STK	DIMENSIONS							FIG.	INSERT	Q	PARTS	
		D	L	d	d2	a	b	E				Screw	Wrench
SIC-4200-075R	•	2.00	2.00	.750	1.77	.196	.318	.750	1	ZPMT1604..R	4	TSW-408	A-15T
SIC-5250-100R	•	2.50	2.00	1.00	2.16	.236	.374	.945	1		5		
SIC-6300-100R	•	3.00	2.00	1.00	2.36	.236	.374	.945	1		6		
SIC-8400-150R	•	4.00	2.36	1.50	3.34	.393	.626	1.41	2		8		

Note: All cutters are supplied without inserts.

Specifications - Metric

CATALOG NUMBER	STK	DIMENSIONS							FIG.	INSERT	Q	PARTS	
		D	L	d	d2	a	b	E				Screw	Wrench
SIC-4050R-22	•	50	45	22	45	6.3	10.4	20	1	ZPMT1604..R	4	TSW-408	A-15T
SIC-5063R	•	63	45	22.225	45	5	8	20	1		5		
SIC-5063R-22	•	63	45	22	55	6.3	10.4	20	1		5		
SIC-6080R	•	80	44	25.4	60	6	9.5	24	1		6		
SIC-6080R-27	•	80	50	27	60	7	12.4	22	2		6		
SIC-8100R	•	100	50	31.75	70	8	12.7	32	2		8		
SIC-8100R-32	•	100	50	32	70	8	14.4	32	2		8		
SIC-8125R	•	125	63	38.1	85	10	15.9	36	2		8		
SIC-8125R-40	•	125	63	40	85	9	16.4	35	2		8		

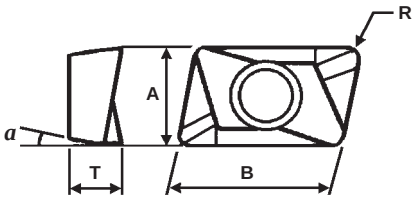
Note: All cutters are supplied without inserts.

Side Chipper

METRIC

INSERTS

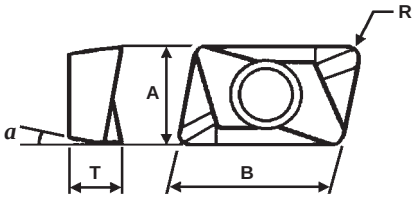
Inserts



CATALOG NUMBER	DIMENSIONS					STOCK COATED	
	A	B	T	R	a	JC5015	JC5040
ZCMT100304R	.250	.409	.134	.015	7°	•	•
ZCMT100308R	.250	.409	.134	.031	7°	•	•
ZPMT13T308R	.312	.500	.156	.031	11°	•	•
ZPMT13T316R	.312	.500	.156	.063	11°	•	•
ZPMT13T320R	.312	.500	.156	.078	11°	•	•
ZPMT160404R	.375	.625	.187	.015	11°	•	•
ZPMT160408R	.375	.625	.187	.031	11°	•	•
ZPMT160416R	.375	.625	.187	.063	11°	•	•
ZPMT160420R	.375	.625	.187	.078	11°	•	•
**ZPMT160430R	.375	.625	.187	.118	11°	•	•
**ZPMT160432R	.375	.625	.187	.126	11°	•	•

** Note: Body must be modified to .059" radius or .047" chamfer at corner to use these inserts.

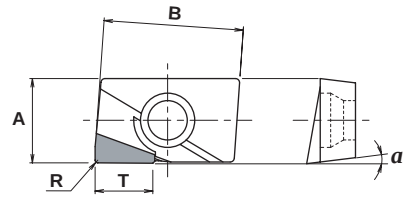
Polished Inserts For Aluminum



CATALOG NUMBER	DIMENSIONS					STOCK COATED
	A	B	T	R	a	FZ15
ZCMT100308RP	.250	.409	.134	.031	7°	•
ZPMT13T308RP	.312	.500	.156	.031	11°	•
ZPMT13T316RP	.312	.500	.156	.063	11°	•
ZPMT13T320RP	.312	.500	.156	.078	11°	•
ZPMT160408RP	.375	.625	.187	.031	11°	•
ZPMT160416RP	.375	.625	.187	.063	11°	•
ZPMT160420RP	.375	.625	.187	.078	11°	•
**ZPMT160430RP	.375	.625	.187	.118	11°	•
**ZPMT160432RP	.375	.625	.187	.125	11°	•

** Note: Body must be modified to .059" radius or .047" chamfer at corner to use these inserts.

PCD Inserts For Aluminum

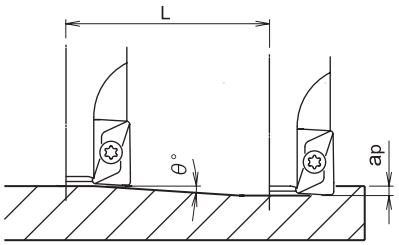


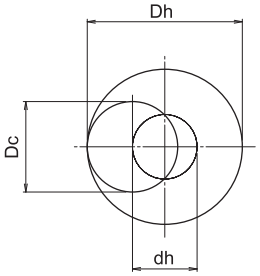
CATALOG NUMBER	STK	DIMENSIONS					PCD
		A	B	T	R	a	JDA10
JDA-ZCGT100302	•	6.127	10.288	3.4	0.2	2-7°	•
JDA-ZCGT100304	•	6.127	10.288	3.4	0.4	2-7°	•
JDA-ZCGT100308	•	6.127	10.288	3.4	0.8	2-7°	•

INCH METRIC

Side Chipper

Recommended Cutting Data for Profile Milling





• Calculation of tool pass dia.

ØDc = ØDh - I

Tool pass dia. Bore dia. Tool Dia.

- **Down cutting is recommended, tool pass rotation should be counterclockwise.**
- **Depth of cut per one circuit should not exceed max. depth of cut Ap.**
- **In case of ramping and helical interpolation, apply 70% or less feed (F) from standard cutting condition table.**

	CATALOG NUMBER	Tool Diameter (I)	Effective Cutting Diameter	Max. Depth of Cut: AP	Ramping		Helical Interpolation	
					Max. Ramp Angle	Total Cutting Length at Max. AP: L	Min. Bore Diameter: Dh min	Max. Bore Diameter: Dh max
INCH	MIC-2062*/SIC*-2062*	5/8”	.625” - 2xR	.028	2.4°	.668	.792	1.17
	MIC-2075*/SIC*-2075*	3/4”	.750” - 2xR	.047	2.3°	1.170	.909	1.42
	MIC-3075*/SIC*-3075*	3/4”	.750” - 2xR	.028	1.7°	.943	1.062	1.42
	MIC-2100*/SIC*-2100*	1”	1” - 2xR	.079	1.9°	2.381	1.306	1.92
	MIC-3100*/SIC*-3100*	1”	1” - 2xR	.047	1.5°	3.017	1.420	1.92
	MIC-*125*/SIC*-*125*	1-1/4”	1.25” - 2xR	.079	1.3°	3.481	1.800	2.42
	SIC*-150*	1-1/2”	1.5” - 2xR	.079	.9°	5.029	2.296	2.92
	SIC-4200-075R	2”	2” - 2xR	.098	.6°	9.358	3.296	3.92
	SIC-5250-100R	2-1/2”	2.5” - 2xR	.098	.4°	14.037	4.300	4.92
	SIC-6300-150R	3”	3” - 2xR	.098	.3°	18.716	5.300	5.92
	SIC-8400-150R	4”	4” - 2xR	.098	.2°	28.075	7.300	7.92
METRIC	MIC-2016*/SIC*16*	16	16 - 2xR	0.7	2.4°	17	22	30
	MIC-2018-M8	18	18 - 2xR	0.7	1.5°	27	26	34
	MIC-*020*/SIC*2010	20	20 - 2xR	0.7	1.2°	34	30	38
	MIC-2022-M10	22	22 - 2xR	1.2	1.8°	39	31	42
	MIC-3022-M10	22	22 - 2xR	0.7	1°	41	34	42
	SICM2510*	25	25 - 2xR	0.7	.6°	67	40	48
	MIC-2025-M12	25	25 - 2xR	2	1.9°	61	34	48
	MIC-3025*/SIC*2513*	25	25 - 2xR	1.2	1.5°	46	37	48
	MIC-2027-M12	27	27 - 2xR	2	1.6°	72	38	52
	MIC-3027-M12	27	27 - 2xR	1.2	1.2°	58	41	52
	MIC-3030-M16/SIC*3016*	30	30 - 2xR	2	1.4°	82	44	58
	SICM3210*	32	32 - 2xR	0.7	.3°	134	54	64
	MIC-*032/SIC*3216	32	32 - 2xR	2	1.3°	89	48	64
	MIC-2035-M16	35	35 - 2xR	2	1.1°	105	54	68
	MIC-4040-M16/SIC*4016*	40	40 - 2xR	2	.9°	125	64	78
	MIC-5040-M16/SIC*4010*	40	40 - 2xR	0.7	.15°	268	70	78
	SICM5010*	50	50 - 2xR	0.7	.1°	402	90	98
	SIC*5016*/SIC*4050*	50	50 - 2xR	2	.6°	191	84	98
	SIC-5063R-*	63	63 - 2xR	2	.4°	287	120	124
	SIC-6080R-*	80	80 - 2xR	2	.3°	382	144	158
	SIC-8100R-*	100	100 - 2xR	2	.2°	573	184	198
	SIC-8125R	125	125 - 2xR	2	.15°	764	234	248

DIJET®

Face Milling | Shoulder Milling | Slotting

Side Chipper

INCH METRIC

Recommended Cutting Data for Side Chipper

Material	Grade	Parameters	Face Milling Insert Size			Side Milling Insert Size		
			10mm	13mm	16mm	10mm	13mm	16mm
Gray Cast Iron	JC5015 JC5040	SFM	650	650	650	650	650	650
		IPT	.010”	.012”	.015”	.010”	.012”	.015”
		DOC	.060”	.080”	.120”	.120”	.160”	.200”
		WOC	70%	70%	70%	20%	20%	20%
Nodular Cast Iron	JC5015 JC5040	SFM	600	600	600	600	600	600
		IPT	.010”	.012”	.015”	.010”	.012”	.015”
		DOC	.060”	.080”	.120”	.120”	.160”	.200”
		WOC	70%	70%	70%	20%	20%	20%
Carbon Steel	JC5015 JC5040	SFM	550	550	550	550	550	550
		IPT	.008”	.010”	.012”	.010”	.012”	.015”
		DOC	.050”	.075”	.100”	.120”	.160”	.200”
		WOC	70%	70%	70%	20%	20%	20%
Low Alloy Steel	JC5040 JC5015	SFM	500	500	500	500	500	500
		IPT	.008”	.010”	.012”	.008”	.010”	.012”
		DOC	.050”	.075”	.100”	.120”	.160”	.200”
		WOC	60%	60%	60%	20%	20%	20%
Mold Steel	JC5040 JC5015	SFM	500	500	500	500	500	500
		IPT	.006”	.008”	.010”	.008”	.010”	.012”
		DOC	.040”	.060”	.080”	.100”	.150”	.200”
		WOC	60%	60%	60%	20%	20%	20%
Tool & Die Steel (40-50 HRC)	JC5015 JC5040	SFM	400	400	400	400	400	400
		IPT	.006”	.008”	.010”	.006”	.008”	.010”
		DOC	.020”	.040”	.060”	.100”	.150”	.200”
		WOC	60%	60%	60%	10%	10%	10%
Stainless Steel	JC5040 JC5015	SFM	300	300	300	300	300	300
		IPT	.006”	.008”	.010”	.008”	.010”	.012”
		DOC	.040”	.060”	.080”	.080”	.120”	.160”
		WOC	60%	60%	60%	20%	20%	20%
Aluminum	FZ05 JDA10	SFM	2000	2000	2000	2000	2000	2000
		IPT	.015”	.020”	.025”	.015”	.020”	.025”
		DOC	.060”	.080”	.100”	.200”	.300”	.400”
		WOC	75%	75%	75%	20%	20%	20%

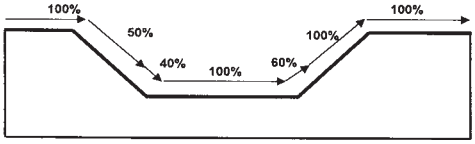
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



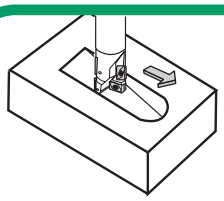
NOTE: Feed should be reduced when cutting the above pattern

Super End-Chipper

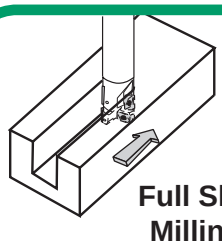
Multi-function Indexable End Mill

- Ramping, plunging, copy milling and spot facing capabilities.
- Center cutting insert allows the tool to spot face.
- Excellent performance in open and closed slotting, facing and cavity milling.
- Secure cutter geometry, insert geometry and grades combined for optimum solutions.
- Multiple insert grades and corner radius for various materials including aluminum.

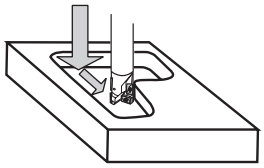
Versatility of "SUPER END-CHIPPER"



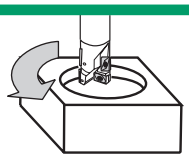
Ramping



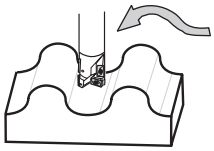
Full Slot Milling



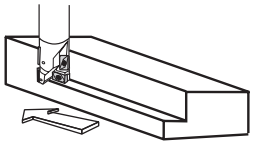
Pocket Milling



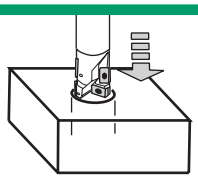
Helical Interpolation



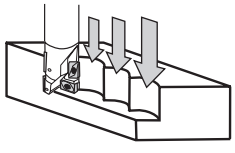
Copy Milling



Side Milling



Spot Facing



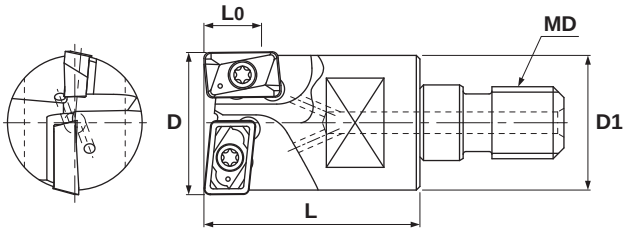
Plunging

Super End-Chipper

INCH METRIC

MODULAR HEADS

MEC Type



Specifications - Inch

CATALOG NUMBER	STK	DIMENSIONS					HEAD TORQUE lbs./ft	INSERT	PARTS	
		D	L	L0	D1	MD			Screw	Wrench
MEC-2062-M8	•	.625	.900	.300	.591	M8	11.8	ZDMT08T208L (1) ZPMT09T208R (1)	TSW-2250	T-07SD
MEC-2075-M10	•	.750	1.18	.400	.728	M10	11.8	ZDMT090308L (1) ZCMT100308R (1)	ESW-206	T-08SD
MEC-2100-M12	•	1.00	1.38	.500	.945	M12	14.7	ZDMT13T3..L (1) ZPMT13T3..R (1)	DSW-307H	T-10SD

Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts.

Specifications - Metric

CATALOG NUMBER	STK	DIMENSIONS					HEAD TORQUE Nm	INSERT	PARTS	
		D	L	L0	D1	MD			Screw	Wrench
MEC-2016-M8	•	16	23	8	14.8	M8	16	ZDMT08T208L (1) ZPMT09T208R (1)	TSW-2250	T-07SD
MEC-2020-M10	•	20	30	9	18.7	M10	16	ZDMT100308L (1) ZCMT100308R (1)	ESW-206	T-08SD
MEC-2021-M10	•	21	30	9	19.6	M10	16	ZDMT100308L (1) ZCMT100308R (1)	ESW-206	T-08SD
MEC-2024-M12	•	24	35	12.5	22.2	M12	20	ZDMT13T3..L (1) ZPMT13T3..R (1)	DSW-307H	T-10SD
MEC-2025-M12	•	25	35	12.5	23.2	M12	20	ZDMT13T3..L (1) ZPMT13T3..R (1)	DSW-307H	T-10SD
MEC-2026-M12	•	26	35	12.5	24.1	M12	20	ZDMT13T3..L (1) ZPMT13T3..R (1)	DSW-307H	T-10SD
MEC-2030-M16	•	30	43	15	28.2	M16	25	ZPMT150408L(1) ZPMT160408R (1)	TSW-408	A-15T
MEC-2032-M16	•	32	43	15	30.2	M16	25	ZPMT1604..L (1) ZPMT1604..R (1)	TSW-408	A-15T
MEC-2033-M16	•	33	43	15	31	M16	25	ZPMT1604..L (1) ZPMT1604..R (1)	TSW-408	A-15T
MEC-2035-M16	•	35	43	16	32	M16	25	ZPMT1805..L (1) ZPMT1705..R (1)	DSW-4510H	T-20

Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts.

INCH

Super End-Chipper

END MILL
SEC Type

Fig. 1

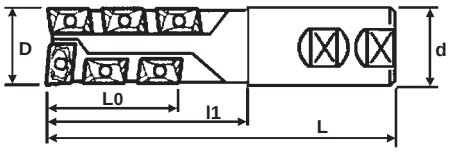


Fig. 2

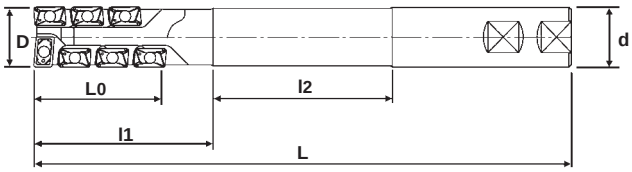


Fig. 3 (coolant thru)

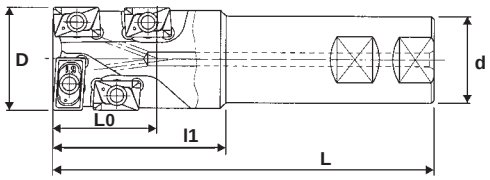


Fig. 4 (coolant thru)

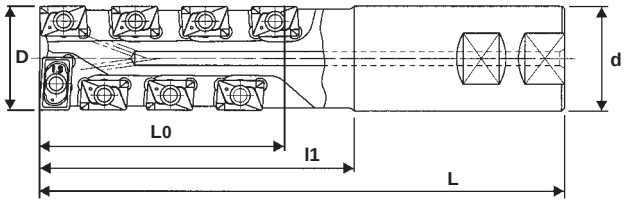


Fig. 5 (coolant thru)

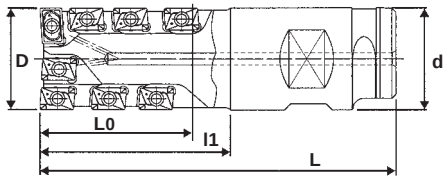
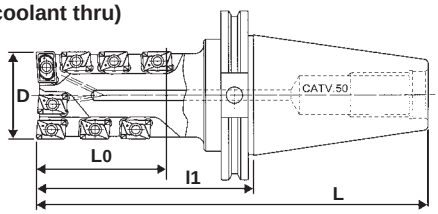


Fig. 6 (coolant thru)



Specifications

CATALOG NUMBER	DIMENSIONS						FIG.	INSERT				PARTS	
	D	L	L0	l1	l2	d		Nose	Q	Periphery	Q	Screw	Wrench
SEC-2062-0.5S-S062	.625	4.00	.500	1.50	-	.625	1	ZDMT08T208L	1	ZPMT09T208R	3	TSW-2250	T-07SD
SEC-2062-0.5-S062*	.625	5.00	.500	2.50	-	.625	1	ZDMT08T208L	1	ZPMT09T208R	3		
SEC-2062-1.0-S062*	.625	6.00	1.00	3.50	-	.625	1	ZDMT08T208L	1	ZPMT09T208R	4		
SEC-2075-1.0-S075	.750	5.00	1.00	2.97	-	.750	1	ZDMT090308L	1	ZCMT100308R	4	ESW-206	T-08SD
SEC-2100-1.0-S100	1.00	4.00	1.00	1.72	-	1.00	1	ZDMT13T3..L	1	ZPMT13T3..R	3	DSW-307H	T-10SD
SEC-2100-2.0-S100	1.00	5.00	2.00	2.72	-	1.00	1	ZDMT13T3..L	1	ZPMT13T3..R	6		
SEC-2100-2.0L-S100*	1.00	9.00	2.00	4.00	3.00	1.00	2	ZDMT13T3..L	1	ZPMT13T3..R	6		
SEC-2100-3.0-S100	1.00	6.00	3.00	3.72	-	1.00	1	ZDMT13T3..L	1	ZPMT13T3..R	9		
SEC-2125-2.0-S125	1.25	5.00	2.00	2.72	-	1.25	1	ZPMT1604..L	1	ZPMT1604..R	5	TSW-408	A-15T
SEC-2125-3.0-S125	1.25	6.50	3.00	4.00	-	1.25	1	ZPMT1604..L	1	ZPMT1604..R	9		
SEC-2125-4.0-S125	1.25	7.00	4.00	4.72	-	1.25	1	ZPMT1604..L	1	ZPMT1604..R	10		
SEC-2150-1.5-S125	1.50	5.50	1.50	2.50	-	1.25	3	ZPMT190508L	1	ZPMT170508R	3	DSW-4510H	A-20
SEC-2150-2.5-S125*	1.50	6.50	2.50	3.50	-	1.25	3	ZPMT190508L	1	ZPMT170508R	5		
SEC-2150-3.5-S150*	1.50	7.50	3.50	4.50	-	1.50	4	ZPMT190508L	1	ZPMT170508R	7		
SEC-2150-4.5-S150*	1.50	8.50	4.50	5.50	-	1.50	4	ZPMT190508L	1	ZPMT170508R	9		
SEC-2200-3.0-N2NPN*	2.00	7.00	3.00	3.75	-	2" w/ putnam	5	ZPMT180508L	1	ZPMT170508R	7	DSW-4510H	A-20
SEC-2200-5.0-N2NPN*	2.00	9.50	5.00	6.00	-		5	ZPMT180508L	1	ZPMT170508R	11		
SEC-2200-3.0-NCV5*	2.00	9.00	3.00	5.00	-	CATV50	6	ZPMT180508L	1	ZPMT170508R	7		
SEC-2200-5.0-NCV5*	2.00	11.00	5.00	7.00	-	CATV50	6	ZPMT180508L	1	ZPMT170508R	11		

*Note: Items being phased out.

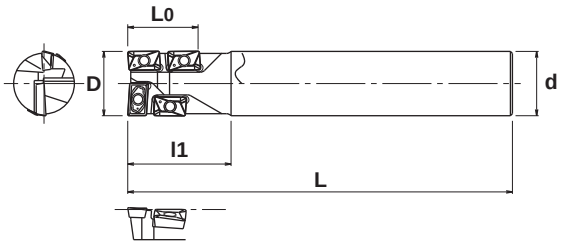
Note: All cutters are supplied without inserts.

DIJET®

Super End-Chipper

METRIC

END MILL
SEC Type



Specifications

CATALOG NUMBER	STK	DIMENSIONS					INSERT				PARTS	
		D	L	L0	d	l1	Nose	Q	Periphery	Q	Screw	Wrench
SECM1616S16	•	16	130	16	16	50	ZDMT08T208L	1	ZPMT09T208R	3	TSW-2250	T-07SD
SECML1616S15	•	16	150	16	15	30						
SECML1616S16	•	16	150	16	16	65						
SECL1616S15	•	16	180	16	15	30						
SECL1616S16	•	16	180	16	16	75						
SECM2021S20	•	20	130	21	20	55	ZDMT100308L	1	ZCMT100308R	3	ESW-206	T-08SD
SECML2021S20	•	20	150	21	20	65						
SECL2021S20	•	20	185	21	20	75						
SECM2121S20	•	21	130	21	20	35	ZDMT100308L	1	ZCMT100308R	3	ESW-206	T-08SD
SECML2121S20	•	21	150	21	20	35						
SECL2121S20	•	21	185	21	20	35						
SECM2427S25	•	24	140	27	25	60	ZDMT13T3..L	1	ZPMT13T3..R	3	DSW-307H	T-10SD
SECML2427S25	•	24	180	27	25	70						
SECL2427S25	•	24	220	27	25	75						
SECM2527S25	•	25	140	27	25	60	ZDMT13T3..L	1	ZPMT13T3..R	3	DSW-307H	T-10SD
SECML2527S25	•	25	180	27	25	70						
SECL2527S25	•	25	220	27	25	75						
SECM2627S25	•	26	140	27	25	40	ZDMT13T3..L	1	ZPMT13T3..R	3	DSW-307H	T-10SD
SECML2627S25	•	26	180	27	25	40						
SECL2627S25	•	26	220	27	25	40						
SECEL2627S25	•	26	250	27	25	40						
SECXL2627S25	•	26	300	27	25	40						
SECM3034S32	•	30	150	34.5	32	70	ZPMT150408L	1	ZPMT160408R	3	TSW-408	A-15T
SECL3034S32	•	30	180	34.5	32	100						
SECM3234S32	•	32	150	34.5	32	70	ZPMT1604..L	1	ZPMT1604..R	3	TSW-408	A-15T
SECML3234S32	•	32	190	34.5	32	80						
SECL3234S32	•	32	230	34.5	32	90						
SECM3334S32	•	33	150	34.5	32	50	ZPMT1604..L	1	ZPMT1604..R	3	TSW-408	A-15T
SECML3334S32	•	33	190	34.5	32	50						
SECL3334S32	•	33	230	34.5	32	50						
SECEL3334S32	•	33	300	34.5	32	50						
SECXL3334S32	•	33	350	34.5	32	50						
SECM3540S32	•	35	160	40	32	60	ZPMT1805..L	1	ZPMT1705..R	3	DSW-4510H	T-20
SECL3540S32	•	35	230	40	32	60						

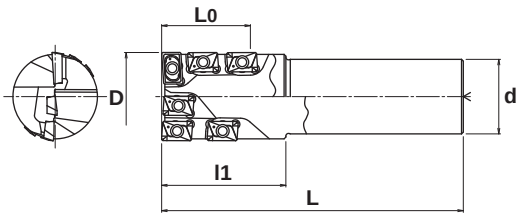
Note: All cutters are supplied without inserts.

METRIC

Super End-Chipper

END MILL

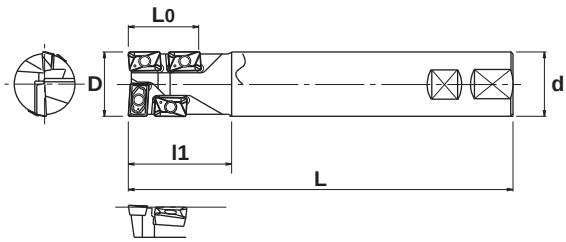
SEC Type



Specifications

CATALOG NUMBER	STK	DIMENSIONS						INSERT				PARTS	
		D	L	L0	d	l1	l2	Nose	Q	Periphery	Q	Screw	Wrench
SECM4040S32	•	40	160	40	32	60	-	ZPMT2005..L	1	ZPMT1705..R	3	DSW-4510H	A-20
SECL4040S32	•	40	240	40	32	60	-						
SECM5050S42	•	50	170	50	42	70	-	ZPMT1805..L	1	ZPMT1705..R	5	DSW-4510H	A-20
SECL5050S42	•	50	250	50	42	70	-						

Note: All cutters are supplied without inserts.



Specifications - Weldon Shank

CATALOG NUMBER	STK	DIMENSIONS						INSERT				PARTS	
		D	L	L0	d	l1	l2	Nose	Q	Periphery	Q	Screw	Wrench
SEC-25040-W25	•	25	140	27	25	40	-	ZDMT13T3..L	1	ZPMT13T3..R	3	DSW-307H	T-10SD
SEC-25075-W25	•	25	220	27	25	75	-						
SEC-32050-W32	•	32	150	34.5	32	50	-	ZPMT1604..L	1	ZPMT1604..R	3	TSW-408	A-15T
SEC-32090-W32	•	32	230	34.5	32	90	-						

Note: All cutters are supplied without inserts.

Fig.1

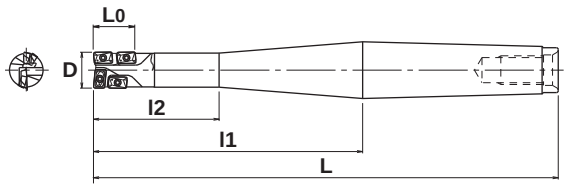
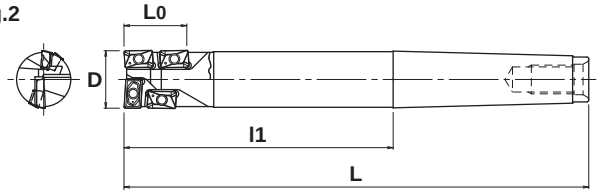


Fig.2



Specifications - Morse Taper Shank

CATALOG NUMBER	STK	DIMENSIONS						FIG.	INSERT				PARTS	
		D	L	L0	d	l1	l2		Nose	Q	Periphery	Q	Screw	Wrench
SEC-20150-MT4	•	20	258	21	MT4	150	70	1	ZDMT100308L	1	ZCMT100308R	3	ESW-206	T-08SD
SEC-25120-MT4	•	25	228	27	MT4	120	-	2	ZDMT13T3..L	1	ZPMT13T3..R	3	DSW-307H	T-10SD
SEC-32150-MT4	•	32	259	34.5	MT4	150	-	2	ZPMT1604..L	1	ZPMT1604..R	3	TSW-408	A-15T

Note: All cutters are supplied without inserts.

DIJET®

Shoulder Milling | Slotting | Pocket Milling | Copy Milling | Helical Interpolation | Spot Facing

Super End-Chipper

METRIC

INSERTS

Specifications

Fig. 1

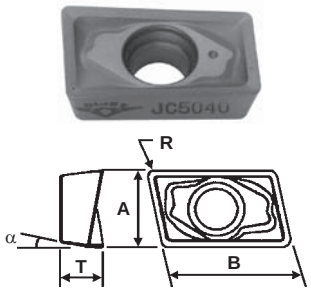
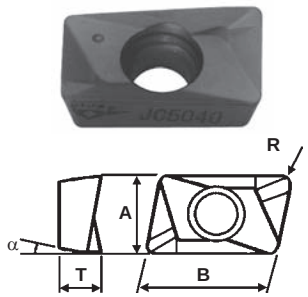


Fig. 2



CATALOG NUMBER	DIMENSIONS					FIG.	STOCK COATED	
	A	B	T	R	*a*		JC5015	JC5040
ZDMT08T208L	.236	.311	.109	.031	15°	1	•	•
ZPMT09T208R	.213	.354	.109	.031	11°	2	•	•
ZDMT090308L	.250	.389	.134	.031	15°	1	•	•
ZDMT100308L	.250	.409	.134	.031	15°	1	•	•
ZCMT100308R	.250	.409	.134	.031	7°	2	•	•
ZDMT13T308L	.312	.508	.156	.031	15°	1	•	•
ZDMT13T320L	.312	.508	.156	.078	15°	1	•	•
ZPMT13T308R	.312	.523	.156	.031	11°	2	•	•
ZPMT13T320R	.312	.523	.156	.078	11°	2	•	•
ZPMT150408L	.375	.608	.187	.031	11°	1	•	•
ZPMT160408L	.375	.647	.187	.031	11°	1	•	•
ZPMT160416L	.375	.647	.187	.062	11°	1	•	•
ZPMT160420L	.375	.647	.187	.078	11°	1	•	•
*ZPMT160430L	.375	.647	.187	.118	11°	1	•	•
*ZPMT160432L	.375	.647	.187	.126	11°	1	•	•
ZPMT160408R	.375	.630	.187	.031	11°	2	•	•
ZPMT160416R	.375	.630	.187	.062	11°	2	•	•
ZPMT160420R	.375	.630	.187	.078	11°	2	•	•
*ZPMT160430R	.375	.630	.187	.118	11°	2	•	•
*ZPMT160432R	.375	.630	.187	.126	11°	2	•	•
ZPMT170508R	.433	.669	.219	.031	11°	2	•	•
ZPMT170516R	.433	.669	.219	.062	11°	2	•	•
ZPMT170520R	.433	.669	.219	.078	11°	2	•	•
*ZPMT170530R	.433	.669	.219	.118	11°	2	•	•
ZPMT180508L	.433	.708	.219	.031	11°	1	•	•
ZPMT180516L	.433	.708	.219	.062	11°	1	•	•
ZPMT180520L	.433	.708	.219	.078	11°	1	•	•
*ZPMT180530L	.433	.708	.219	.118	11°	1	•	•
ZPMT190508L	.433	.768	.219	.031	11°	1	•	•
ZPMT190516L	.433	.768	.219	.062	11°	1		•
ZPMT200508L	.433	.803	.219	.031	11°	1	•	•
ZPMT200516L	.433	.803	.219	.062	11°	1	•	•
ZPMT200520L	.433	.803	.219	.078	11°	2	•	•
*ZPMT200530L	.433	.803	.219	.118	11°	2	•	•

** Note: Body must be modified to .059" radius or .047" chamfer at corner to use these inserts.

METRIC

Super End-Chipper

INSERTS

Specifications - Polished Inserts for Aluminum

Fig. 1

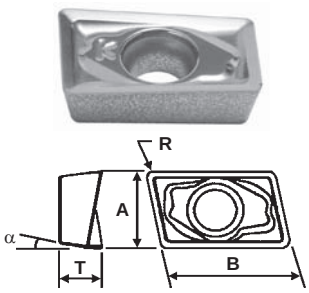
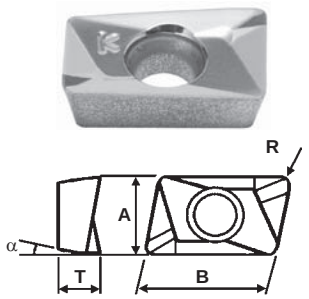


Fig. 2



CATALOG NUMBER	DIMENSIONS					FIG.	UNCOATED
	A	B	T	R	α		FZ15
ZDMT08T208LP	.236	.311	.109	.031	15°	1	•
ZPMT09T208RP	.213	.354	.109	.031	11°	2	•
ZDMT090308LP	.250	.389	.134	.031	15°	1	•
ZDMT100308LP	.250	.409	.134	.031	15°	1	•
ZCMT100308RP	.250	.409	.134	.031	7°	2	•
ZDMT13T308LP	.312	.508	.156	.031	15°	1	•
ZDMT13T320LP	.312	.508	.156	.078	15°	1	•
ZPMT13T308RP	.312	.523	.156	.031	11°	2	•
ZPMT13T320RP	.312	.523	.156	.078	11°	2	•
ZPMT150408LP	.375	.608	.187	.031	11°	1	•
ZPMT160408LP	.375	.647	.187	.031	11°	1	•
ZPMT160416LP	.375	.647	.187	.062	11°	1	•
ZPMT160420LP	.375	.647	.187	.078	11°	1	•
*ZPMT160430LP	.375	.647	.187	.118	11°	1	•
*ZPMT160432LP	.375	.647	.187	.126	11°	1	•
ZPMT160408RP	.375	.630	.187	.031	11°	2	•
ZPMT160416RP	.375	.630	.187	.062	11°	2	•
ZPMT160420RP	.375	.630	.187	.078	11°	2	•
*ZPMT160430RP	.375	.630	.187	.118	11°	2	•
*ZPMT160432RP	.375	.630	.187	.126	11°	2	•

**** Note: Body must be modified to .059" radius or .047" chamfer at corner to use these inserts.**

DIJET®

Super End-Chipper

INCH METRIC

Recommended Cutting Data for Super End-Chipper

Material	Grade	Parameters	Slotting			Shoulder Cutting			Drilling (Plunging)		
			Insert Size (mm)			Insert Size (mm)			Insert Size (mm)		
			9 & 10	13	16 & 17	9 & 10	13	16 & 17	9 & 10	13	16 & 17
Gray Cast Iron	JC5015 JC5040	SFM	650	650	650	650	650	650	650	650	650
		IPT	.004”	.004”	.005”	.005”	.005”	.006”	.003”	.004”	.005”
		DOC	.120”	.160”	.300”	.500”	1.00”	2.00”	.080”	.120”	.200”
		WOC	100%	100%	100%	20%	20%	20%	100%	100%	100%
Nodular Cast Iron	JC5015 JC5040	SFM	600	600	600	600	600	600	600	600	600
		IPT	.004”	.004”	.005”	.005”	.005”	.006”	.003”	.004”	.005”
		DOC	.120”	.160”	.300”	.500”	1.00”	2.00”	.080”	.120”	.200”
		WOC	100%	100%	100%	20%	20%	20%	100%	100%	100%
Carbon Steel	JC5015 JC5040	SFM	550	550	550	550	550	550	550	550	550
		IPT	.004”	.004”	.005”	.003”	.004”	.005”	.003”	.004”	.005”
		DOC	.100”	.140”	.300”	.500”	1.00”	2.00”	.080”	.100”	.200”
		WOC	100%	100%	100%	20%	20%	20%	100%	100%	100%
Low Alloy Steel	JC5040 JC5015	SFM	500	500	500	500	500	500	500	500	500
		IPT	.004”	.004”	.005”	.003”	.004”	.005”	.003”	.004”	.005”
		DOC	.100”	.140”	.300”	.500”	1.00”	2.00”	.080”	.100”	.200”
		WOC	100%	100%	100%	20%	20%	20%	100%	100%	100%
Mold Steel	JC5040 JC5015	SFM	500	500	500	500	500	500	500	500	500
		IPT	.003”	.003”	.004”	.003”	.004”	.005”	.003”	.004”	.005”
		DOC	.080”	.100”	.250”	.400”	.800”	1.50”	.060”	.080”	.150”
		WOC	100%	100%	100%	20%	20%	20%	100%	100%	100%
Tool & Die Steel (40-50 HRC)	JC5015 JC5040	SFM	400	400	400	400	400	400	400	400	400
		IPT	.003”	.003”	.004”	.003”	.004”	.005”	.003”	.004”	.005”
		DOC	.080”	.100”	.200”	.400”	.800”	1.25”	.040”	.050”	.080”
		WOC	100%	100%	100%	10%	10%	10%	100%	100%	100%
Stainless Steel	JC5040 JC5015	SFM	300	300	300	300	300	300	300	300	300
		IPT	.003”	.003”	.004”	.003”	.004”	.005”	.003”	.004”	.005”
		DOC	.080”	.100”	.150”	.400”	.800”	1.50”	.060”	.080”	.100”
		WOC	100%	100%	100%	15%	15%	15%	100%	100%	100%
Aluminum	FZ05	SFM	2000	2000	2000	2000	2000	2000	2000	2000	2000
		IPT	.006”	.006”	.008”	.004”	.006”	.008”	.004”	.005”	.006”
		DOC	.250”	.400”	.750”	.500”	1.00”	2.00”	.080”	.150”	.250”
		WOC	100%	100%	100%	20%	20%	20%	100%	100%	100%

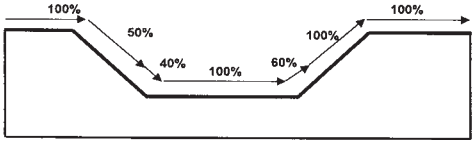
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

SAP Cutters

High Productivity & Multi-Functional

- 90 degree square shoulder rougher.
- Parallelogram shape insert is available in two sizes - 10mm and 16mm.
- Available in G-Body and NP body.
- Coolant thru bodies.
- Inserts capable of fitting into other brand bodies.

SAP Cutter

INCH

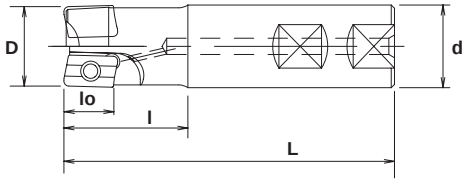
SAP Cutter
High Productivity & Multi-Function
SAP / MAP Type

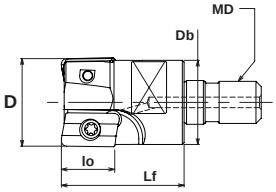
G-Body

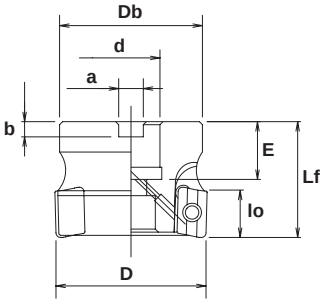
Fig. 1

Fig. 2

Fig. 3







End Mill Style Specifications

CATALOG NUMBER	STK	DIMENSIONS						FIG.	INSERT	Q	PARTS	
		D	l	L	lo	d	MD				Screw	Wrench
SAP-2100-1.5-S100	•	1.00	1.5	4.0	.550	1.00	-	1	APMT1604**PDER	2	TSW-3509H	T-15
SAP-2100-3.0-S100	•	1.00	3.0	5.0	.550	1.00	-	1		2		
SAP-2100-4.0-S100	•	1.00	4.0	6.0	.550	1.00	-	1		2		
SAP-3125-2.0-S125	•	1.25	2.0	4.0	.550	1.25	-	1		3		
SAP-3125-4.0-S125	•	1.25	4.0	6.0	.550	1.25	-	1		3		

Note: All cutters are supplied without inserts.

Modular Head Specifications

CATALOG NUMBER	STK	DIMENSIONS					Head Torque Lbs./ft.	FIG.	INSERT	Q	PARTS	
		D	Lf	Db	lo	MD					Screw	Wrench
MAP-2100-M12	•	1.00	1.38	.945	.550	M12	14.7	2	APMT1604**PDER	2	TSW-3509H	T-15
MAP-2125-M16	•	1.25	1.69	1.10	.550	M16	18.4	2		2		
MAP-3125-M16	•	1.25	1.69	1.10	.550	M16	18.4	2		3		
MAP-4150-M16	•	1.50	1.69	1.10	.550	M16	18.4	2		4		

Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts.

Face Mill Specifications

CATALOG NUMBER	STK	DIMENSIONS								FIG.	INSERT	Q	PARTS	
		D	Lf	Db	lo	d	E	a	b				Screw	Wrench
SAP-4150-75R-16	•	1.50	1.75	1.34	.550	.750	.75	.319	.197	3	APMT1604**PDER	4	TSW-3509H	T-15
SAP-5200-75R-16	•	2.00	1.50	1.85	.550	.750	.75	.319	.197	3		5		
SAP-7300-100R-16	•	3.00	2.00	2.85	.550	1.00	.75	.375	.240	3		7		
SAP-8400-150R-16	•	4.00	2.00	3.78	.550	1.50	1.00	.630	.400	3		8		

Note: All cutters are supplied without inserts.

INCH

SAP-NP Cutter

SAP Cutter
High Productivity & Multi-Function
SAP-NP Type

Fig. 1

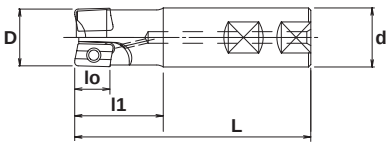
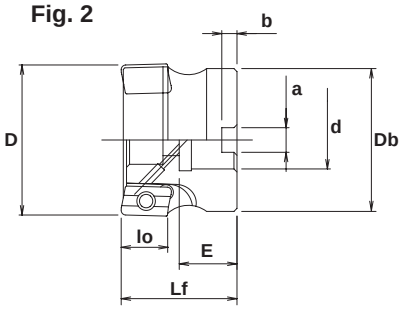


Fig. 2



End Mill Style Specifications

CATALOG NUMBER	STK	DIMENSIONS					FIG.	INSERT	Q	PARTS	
		D	l1	L	lo	d				Screw	Wrench
SAP-2062-1.1-S062-10NP	•	.625	1.09	3.0	.320	.625	1	ADMT1003**PDER	2	TSW-2556H	T-08
SAP-2075-2.5-S100-10NP	•	.750	2.50	4.78	.320	1.00	1		2		
SAP-3075-1.5-S075-10NP	•	.750	1.47	3.5	.320	.750	1		3		
SAP-4100-1.5-S075-10NP	•	1.00	1.47	3.5	.320	.750	1		4		
SAP-3100-1.7-S100-10NP	•	1.00	1.72	4.0	.320	1.00	1		3		
SAP-5125-2.5-S125-10NP	•	1.25	2.50	4.78	.320	1.25	1		5		
SAP-6150-2.5-S125-10NP	•	1.50	2.50	4.78	.320	1.25	1		6		
SAP-1062-1.2-S075-16NP	•	.625	1.15	3.35	.550	.750	1	APMT1604**PDER	1	TSW-3509H	T-15
SAP-2100-2.0-S100-16NP	•	1.00	2.00	4.28	.550	1.00	1		2		
SAP-2100-3.0-S100-16NP	•	1.00	3.00	5.28	.550	1.00	1		2		
SAP-2100-4.0-S125-16NP	•	1.00	4.00	6.28	.550	1.25	1		2		
SAP-2100-6.0-S125-16NP	•	1.00	6.00	8.28	.550	1.25	1		2		
SAP-3125-2.5-S125-16NP	•	1.25	2.50	4.78	.550	1.25	1		3		
SAP-3125-4.0-S125-16NP	•	1.25	4.00	6.28	.550	1.25	1		3		
SAP-4150-2.5-S125-16NP	•	1.50	2.50	4.78	.550	1.25	1		4		
SAP-3150-4.0-S150-16NP	•	1.50	4.00	6.69	.550	1.50	1		3		

Note: All cutters are supplied without inserts.

Face Mill Specifications

CATALOG NUMBER	STK	DIMENSIONS								FIG.	INSERT	Q	PARTS	
		D	Lf	Db	lo	d	E	a	b				Screw	Wrench
SAP-3200-75R-16NP	•	2.00	1.50	1.85	.550	.750	.75	.319	.197	2	APMT1604**PDER	3	TSW-3509H	T-15
SAP-4200-75R-16NP	•	2.00	1.50	1.85	.550	.750	.75	.319	.197	2		4		
SAP-5200-75R-16NP	•	2.00	1.50	1.85	.550	.750	.75	.319	.197	2		5		
SAP-3300-100R-16NP	•	3.00	2.00	2.85	.550	1.00	.75	.375	.240	2		3		
SAP-6300-100R-16NP	•	3.00	2.00	2.85	.550	1.00	.75	.375	.240	2		6		

Note: All cutters are supplied without inserts.

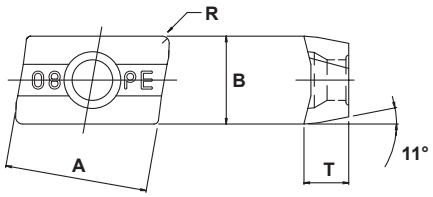
DIJET®

Face Milling | Shoulder Milling | Slotting

SAP Cutter

METRIC

SAP INSERTS



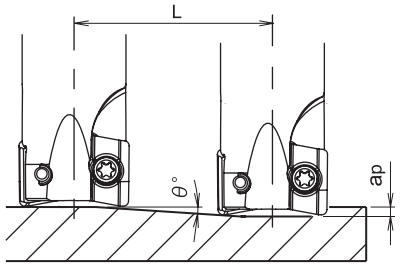
Insert Specifications

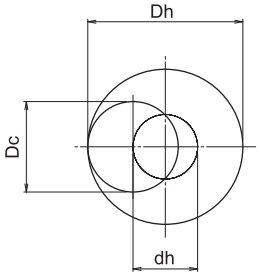
CATALOG NUMBER	DIMENSIONS				GRADE			
	A	B	T	R	JC5118	JC8015	JC5040	JC8050
ADMT100308PDER	.375	.253	.131	.031	•			•
ADMT100316PDER	.375	.253	.131	.062	•	•		•
APMT160408PDER	.605	.375	.190	.031	•	•	•	•
APMT160416PDER	.605	.375	.190	.062	•	•	•	•
APMT160432PDER	.605	.375	.190	.125				•

INCH

SAP Cutter

Recommended Cutting Data for Profile Milling





• Calculation of tool pass dia.

ØDc = ØDh - I

Tool pass dia. Bore dia. Tool Dia.

- **Down cutting is recommended, tool pass rotation should be counterclockwise.**
- **Depth of cut per one circuit should not exceed max. depth of cut Ap.**
- **In case of ramping and helical interpolation, apply 70% or less feed (F) from standard cutting condition table.**

	CATALOG NUMBER	Tool Dia. (I)	Effective Cutting Diameter	Max. Depth of Cut: AP	Ramping		Helical Interpolation	
					Max. Ramp Angle	Total Cutting Length at Max. AP: L	Min. Bore Diameter: Dh min	Max. Bore Diameter: Dh max
INCH	SAP-*062-**-S**-10	5/8”	.625” - 2xR	.028	3°	.534	1.04	1.17
	SAP-*062-S**-16	5/8”	.625” - 2xR	.047	6°	.447	.92	1.17
	SAP-*075-**-S**-10	3/4”	.750” - 2xR	.028	2.5°	.641	1.29	1.42
	SAP-*100-**-S**-10	1”	1” - 2xR	.028	1.5°	1.069	1.79	1.92
	SAP-*100-**S**-16/MAP-2100-M12	1”	1” - 2xR	.047	4.5°	.597	1.67	1.92
	SAP-*125-**S**-10	1-1/4”	1.25” - 2xR	.028	1°	1.604	2.29	2.42
	SAP-*125-**-S-16/MAP-*125-M16	1-1/4”	1.25” - 2xR	.047	2.5°	.641	2.16	2.42
	SAP-150-**S**-10	1-1/2”	1.50” - 2xR	.028	.8°	2.00	2.79	2.92
	SAP-*150-**-S**-16/MAP-4150-M16	1-1/2”	1.50” - 2xR	.047	2°	1.346	2.67	2.92
	SAP-*200-075R-16*	2”	2” - 2xR	.047	1.2°	2.244	3.67	3.92
	SAP-*300-100R-16*	3”	3” - 2xR	.047	.8°	3.366	5.67	5.92
	SAP-*400-150R-16*	4”	4” - 2xR	.047	.5°	5.386	7.67	7.92

SAP Cutter

INCH

Recommended Cutting Data for SAP Cutters

Material	Grade	Parameters	Face Milling		Side Milling	
			Insert Size		Insert Size	
			10mm	16mm	10mm	16mm
Gray Cast Iron	JC8015 JC5118	SFM	650	650	650	650
		IPT	.010”	.015”	.010”	.015”
		DOC	.060”	.120”	.120”	.200”
		WOC	70%	70%	20%	20%
Nodular Cast Iron	JC8015 JC5118	SFM	600	600	600	600
		IPT	.010”	.015”	.010”	.015”
		DOC	.060”	.120”	.120”	.200”
		WOC	70%	70%	20%	20%
Carbon Steel	JC8015 JC5118	SFM	550	550	550	550
		IPT	.008”	.012”	.010”	.015”
		DOC	.050”	.100”	.120”	.200”
		WOC	70%	70%	20%	20%
Low Alloy Steel	JC8015 JC5118	SFM	500	500	500	500
		IPT	.008”	.012”	.008”	.012”
		DOC	.050”	.100”	.120”	.200”
		WOC	60%	60%	20%	20%
Mold Steel	JC8050 JC5040	SFM	500	500	500	500
		IPT	.006”	.010”	.008”	.012”
		DOC	.040”	.080”	.100”	.200”
		WOC	60%	60%	20%	20%
Tool & Die Steel (40-50 HRC)	JC8015 JC5118	SFM	400	400	400	400
		IPT	.006”	.010”	.006”	.010”
		DOC	.020”	.060”	.100”	.200”
		WOC	60%	60%	10%	10%
Stainless Steel	JC8050 JC5040	SFM	300	300	300	300
		IPT	.006”	.010”	.008”	.012”
		DOC	.040”	.080”	.080”	.160”
		WOC	60%	60%	20%	20%
Aluminum	JC8015 JC5118	SFM	2000	2000	2000	2000
		IPT	.015”	.025”	.015”	.025”
		DOC	.060”	.100”	.200”	.400”
		WOC	75%	75%	20%	20%

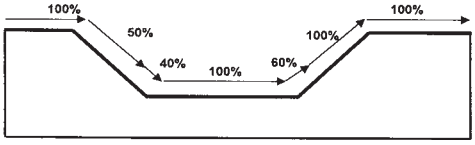
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

Extreme SAP

90º Shoulder for face milling, slotting and plunging with economical double sided insert

Features:

- True 90° square shoulder capable of leaving a good finish.
- Double sided insert gives 4 cutting edges.
- Insert with thickness of 7.5mm is durable for agressive roughing.
- Coolant thru bodies.
- G-body is a GN surface-hardening treatment on thermal resistant high strength steel giving a hardness over 65 HRC and secures insert pocket and holder against thermal deformation improving body durability.

DIJET®

Face Milling | Shoulder Milling | Slotting | Helical Interpolation | Plunge Milling

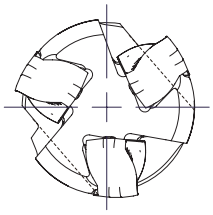
Extreme SAP Cutters

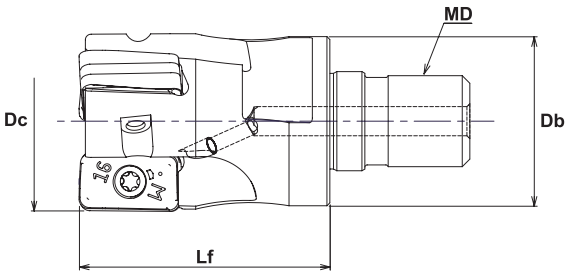
INCH METRIC

Modular Heads

MSX type

G-Body



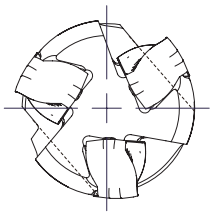


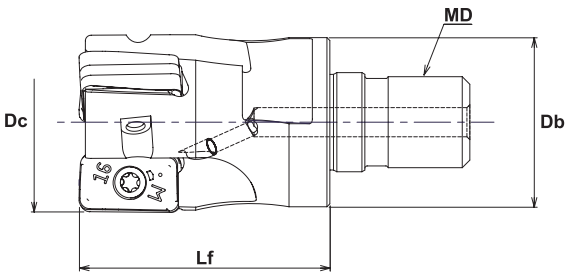
Specifications - Inch

CATALOG NUMBER	STK	DIMENSIONS				Head Torque Lbs./ft.	INSERT	Q	PARTS	
		Dc	Lf	Db	MD				Screw	Wrench
MSX-2100-M12	•	1.00	1.38	.905	M12	14.7	ZNGU1709**ZER-PM	2	TSW-410H	T-15
MSX-2125-M16	•	1.25	1.69	1.14	M16	18.4		2		
MSX-3125-M16	•	1.25	1.69	1.14	M16	18.4		3		
MSX-4150-M16	•	1.50	1.69	1.14	M16	18.4		4		

Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts, wrench or moly.





Specifications - Metric

CATALOG NUMBER	STK	DIMENSIONS				Head Torque Lbs./ft.	INSERT	Q	PARTS	
		Dc	Lf	Db	MD				Screw	Wrench
MSX-2025-M12	•	25	35	22	M12	20	ZNGU1709**ZER-PM	2	TSW-410H	T-15
MSX-2032-M16	•	32	43	29	M16	25		2		
MSX-3032-M16	•	32	43	29	M16	25		3		
MSX-4040-M16	•	40	43	29	M16	25		4		

Note: Modular Head Holders on page 109.

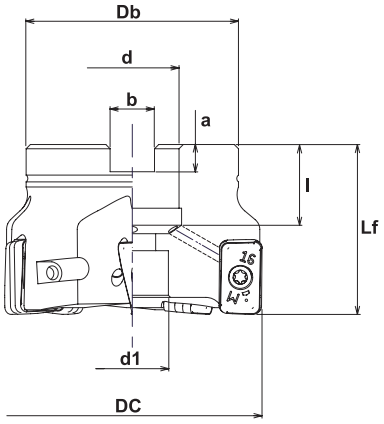
Note: All cutters are supplied without inserts, wrench or moly.

INCH METRIC

Extreme SAP Cutters

Face Mills
EXSAP type

G-Body



Specifications - Inch

CATALOG NUMBER	STK	DIMENSIONS								INSERT	Q	PARTS	
		DC	Lf	Db	d	d1	a	b	l			Screw	Wrench
EXSAP-4200R-075	•	2.00	1.57	1.85	.750	.63	.196	.318	.730	ZNGU1709**ZER-PM	4	TSW-410H	A-15T
EXSAP-5200R-075	•	2.00	1.57	1.85	.750	.63	.196	.318	.730		5		
EXSAP-5250R-100	•	2.50	1.77	1.96	1.00	.787	.236	.374	.945		5		
EXSAP-7300R-100	•	3.00	1.75	2.21	1.00	.787	.236	.374	.866		7		
EXSAP-8400R-150	•	4.00	2.25	3.78	1.50	1.18	.394	.626	1.00		8		
EXSAP-9600R-150	•	6.00	2.25	3.78	1.50	2.36	.394	.626	1.41		9		

Note: All cutters are supplied without inserts.

Specifications - Metric

CATALOG NUMBER	STK	DIMENSIONS								INSERT	Q	PARTS	
		DC	Lf	Db	d	d1	a	b	l			Screw	Wrench
EXSAP-4050R-22	•	50	40	47	22	17	10.4	6.3	20	ZNGU1709**ZER-PM	4	TSW-410H	A-15T
EXSAP-5050R-22	•	50	40	47	22	17	10.4	6.3	20		5		
EXSAP-5063R-22	•	63	40	50	22	17	10.4	6.3	19		5		
EXSAP-7080R-27	•	80	50	56	27	20	12.4	7	24		7		

Note: All cutters are supplied without inserts.

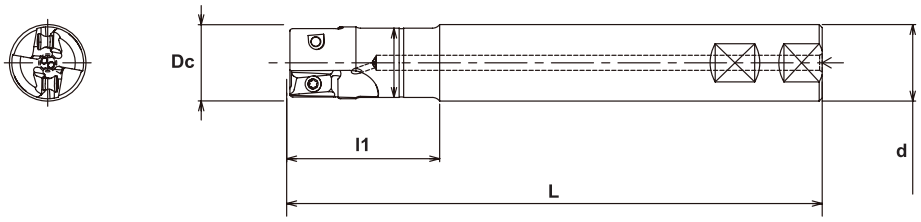
DIJET®

Face Milling | Shoulder Milling | Slotting | Helical Interpolation | Plunge Milling

Extreme SAP Cutters

INCH METRIC

End Mills
EXSAP type

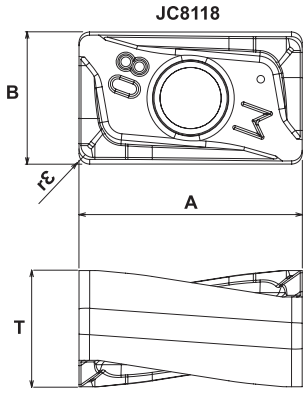


Specifications - Inch

CATALOG NUMBER	STK	DIMENSIONS				INSERT	Q	PARTS	
		Dc	L	l1	d			Screw	Wrench
EXSAP-2100-2.0-S100LG	•	1.00	7.00	2.00	1.00	ZNGU1709**ZER-PM	2	TSW-410H	T-15
EXSAP-2100-3.0-S100LG	•	1.00	8.00	3.00	1.00		2		
EXSAP-3125-3.0-S125LG	•	1.25	5.50	3.00	1.25		3		
EXSAP-3125-4.75-S125LG	•	1.25	8.00	4.75	1.25		3		
EXSAP-4150-3.0-S125LG	•	1.50	5.50	3.00	1.25		4		
EXSAP-4150-4.75-S125LG	•	1.50	8.00	4.75	1.25		4		

Note: All cutters are supplied without inserts, wrench or moly.

INSERTS
ZNGU type



Specifications - Metric

CATALOG NUMBER	DIMENSIONS					PVD Coated	
	TOLERANCE	A	B	T	rε	JC8050	JC8118
ZNGU170908ZER-PM	G	16.9	10	8.8	0.8	•	•
ZNGU170916ZER-PM	G	16.9	10	8.8	1.6	•	•

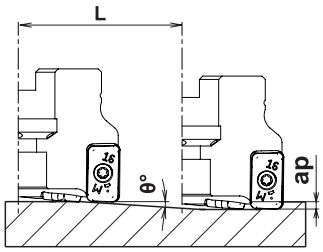
INCH METRIC

Extreme SAP Cutters

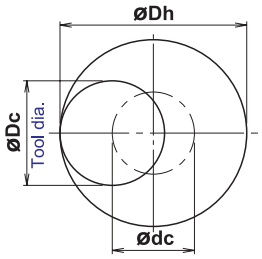
Recommended Data for Profile Milling

ØDh

Ramping



Helical Interpolation



- Calculation of tool pass dia.

Ødc = ØDh - ØDc

Tool pass dia. Bore dia. Tool Dia.

- Depth of cut per one circuit should not exceed max. depth of cut ap.
- Down cutting is recommended. Tool pass rotation should be counterclockwise.

- **In case of ramping and helical interpolation, apply 80% or less feed (F) from standard cutting condition table.**
- **In case of helical interpolation, recommend wet cutting by coolant through the tool.**

	CATALOG NUMBER	Tool Diameter (Dc)	Effective Cutting Diameter	Max. Depth of Cut: AP	Ramping		Helical Interpolation	
					Max. Ramp Angle	Total Cutting Length at Max. AP: L	Min. Bore Diameter: Dh min	Max. Bore Diameter: Dh max
INCH	MSX-2100-M12	1.00”	.85”	.059”	0.7°	4.83”	1.48”	1.85”
	EXSAP-2100-**	1.00”	.85”	.059”	0.7°	4.83”	1.48”	1.85”
	MSX-*125-M16	1.25”	1.10”	.059”	0.5°	6.77”	1.98”	2.35”
	EXSAP-3125-**	1.25”	1.10”	.059”	0.5°	6.77”	1.98”	2.35”
	MSX-4150-M16	1.50”	1.35”	.059”	0.4°	8.46”	2.48”	2.85”
	EXSAP-4150-**	1.50”	1.35”	.059”	0.4°	8.46”	2.48”	2.85”
	EXSAP-*200R-075	2.00”	1.85”	.059”	0.3°	11.28”	3.48”	3.85”
	EXSAP-5250R-100	2.50”	2.35”	.059”	0.2°	16.92”	4.48”	4.85”
	EXSAP-7300R-100	3.00”	2.85”	.059”	0.18°	18.80”	5.48”	5.85”
	EXSAP-*400R-150	4.00”	3.85”	.059”	0.12°	28.20”	7.48”	7.85”
	EXSAP-*600R-150	6.00”	5.85”	.059”	0.08°	42.30”	11.48”	11.85”
METRIC	MSX-2025-M12	25	21.5	1.5	0.7°	123	37	46
	MSX-*032-M16	32	28.5	1.5	0.5°	172	48	60
	MSX-4040-M16	40	36.5	1.5	0.4°	215	64	76
	EXSAP-*050R-22	50	46.5	1.5	0.3°	286	84	96
	EXSAP-5063R-22	63	59.5	1.5	0.2°	430	110	122
	EXSAP-7080R-27	80	76.5	1.5	0.15°	573	144	156

DIJET®

Extreme SAP Cutters

INCH METRIC

Recommended Cutting Data for Extreme SAP Cutters

Material	Grade	SFM	Parameters	Face Milling		Side Milling	
				Low HP	High HP	Low HP	High HP
Gray Cast Iron	JC8118 JC8050	700	IPT	.012”	.012”	.010”	.014”
			DOC	.150”	.200”	.400”	.600”
			WOC	70%	70%	20%	20%
Nodular Cast Iron	JC8118 JC8050	650	IPT	.012”	.012”	.010”	.012”
			DOC	.150”	.200”	.400”	.600”
			WOC	70%	70%	20%	20%
Carbon Steel	JC8118 JC8050	600	IPT	.012”	.012”	.010”	.012”
			DOC	.120”	.150”	.400”	.600”
			WOC	70%	70%	20%	20%
Low Alloy Steel	JC8118 JC8050	550	IPT	.012”	.012”	.010”	.012”
			DOC	.120”	.150”	.400”	.600”
			WOC	60%	60%	20%	20%
Mold Steel	JC8050 JC8118	500	IPT	.010”	.010”	.010”	.012”
			DOC	.120”	.150”	.400”	.600”
			WOC	60%	60%	20%	20%
Tool & Die Steel (40-50 HRC)	JC8118 JC8050	400	IPT	.010”	.010”	.008”	.010”
			DOC	.100”	.120”	.300”	.500”
			WOC	60%	60%	10%	10%
Hardened Tool Steel (50-60 HRC)	JC8118 JC8050	250	IPT	.005”	.005”	.006”	.006”
			DOC	.040”	.060”	.200”	.300”
			WOC	20%	20%	10%	10%
Stainless Steel	JC8050 JC8118	300	IPT	.008”	.008”	.008”	.008”
			DOC	.120”	.150”	.400”	.600”
			WOC	60%	60%	15%	15%
Titanium	JC8050 JC8118	200	IPT	.005”	.005”	.005”	.005”
			DOC	.100”	.150”	.300”	.500”
			WOC	60%	60%	15%	15%

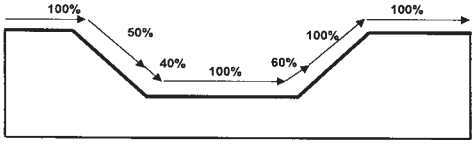
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

Aero-Chipper

High Precision & High Efficient Machining on Aerospace Tooling

Aerospace Tooling

- High precision true 90 degree shoulder milling with ground insert capable of roughing and finishing.
- Sharp, uncoated grade FZ05 for aluminum and grade JC5118 for abrasive aluminum.
- Nine different corner radius available.
- Key in inserts gives added security allowing high velocity revolution specifications.
- Coolant thru bodies available in G-Body or NP body.

DIJET®

Shoulder Milling | Slotting | Pocket Milling | Copy Milling | Helical Interpolation

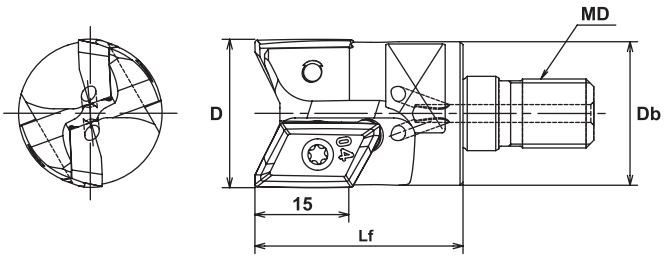
Aero-Chipper

INCH METRIC

MODULAR HEADS

MAL Type

G-Body



Modular Head Specifications - Inch

CATALOG NUMBER	STK	DIMENSIONS				HEAD TORQUE		INSERT	Q	PARTS	
		D	Lf	Db	MD	Nm	lbs/ft			Screw	Wrench
MAL-1075-M10	•	.750	1.38	.728	M10	16	11.8	XOGT1605**PD*R	1	DSW-4075	T-15
MAL-2100-M12	•	1.00	1.38	.941	M12	20	14.7		2	DSW-4085	
MAL-2125-M16	•	1.25	1.69	1.14	M16	25	18.4		2		
MAL-3150-M16	•	1.50	1.69	1.25	M16	25	18.4		3		

Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts.

Modular Head Specifications - Metric

CATALOG NUMBER	STK	DIMENSIONS				HEAD TORQUE		INSERT	Q	PARTS	
		D	Lf	Db	MD	Nm	lbs/ft			Screw	Wrench
MAL-1020-M10	•	20	35	19.7	M10	16	11.8	XOGT1605**PD*R	1	DSW-4075	T-15
MAL-2025-M12	•	25	35	24.1	M12	20	14.7		2	DSW-4085	
MAL-2028-M12	•	28	35	26.9	M12	20	14.7		2		
MAL-2032-M16	•	32	43	30.5	M16	25	18.4		2		
MAL-2035-M16	•	35	43	32	M16	25	18.4		2		
MAL-3040-M16	•	40	43	32	M16	25	18.4		3		

Note: Modular Head Holders on page 109.

Note: All cutters are supplied without inserts.

END MILLS

ALX Type

G-Body

Fig. 1

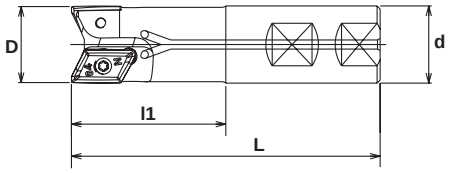
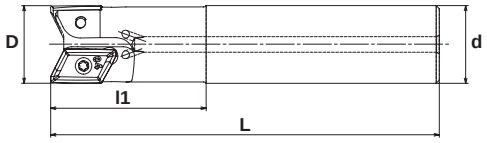


Fig. 2



Specifications - Inch

CATALOG NUMBER	STK	DIMENSIONS				FIG.	INSERT	Q	PARTS	
		D	l1	L	d				Screw	Wrench
ALX-1075-2.0-S075	•	.750	2.0	4.0	.750	1	XOGT1605**PD*R	1	DSW-4075	T-15
ALX-2100-2.0-S100	•	1.00	2.0	4.0	1.00	1		2	DSW-4085	
ALX-2100-4.0-S100	•	1.00	4.0	6.0	1.00	1		2		
ALX-2125-2.0-S125	•	1.25	2.0	4.0	1.25	1		2		
ALX-2125-4.0-S125	•	1.25	4.0	6.0	1.25	1		2		

Note: All cutters are supplied without inserts.

Specifications - Metric

CATALOG NUMBER	STK	DIMENSIONS				FIG.	INSERT	Q	PARTS	
		D	l1	L	d				Screw	Wrench
ALXM1020S20	•	20	35	110	20	2	XOGT1605**PD*R	1	DSW-4075	T-15
ALXM2025S25	•	25	50	125	25	2		2	DSW-4085	
ALXM2028S25	•	28	50	125	25	2		2		
ALXM2032S32	•	32	50	150	32	2		2		
ALXM2035S32	•	35	50	150	32	2		2		
ALXM3040S32	•	40	80	170	32	2		3		

Note: All cutters are supplied without inserts.

DIJET®

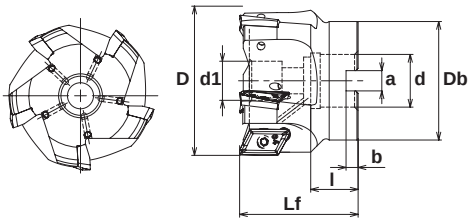
Shoulder Milling | Slotting | Pocket Milling | Copy Milling | Helical Interpolation

Aero-Chipper

INCH METRIC

FACE MILL
ALX type

Fig. 1



G-Body Specifications - Inch

G-Body

CATALOG NUMBER	STK	DIMENSIONS								FIG.	INSERT	Q	PARTS	
		D	Lf	Db	d	d1	a	b	l				Screw	Wrench
ALX-3200-75R-15	•	2.00	2.0	1.85	.750	.63	.319	.197	.75	1	XOGT1605**PD*R	3	DSW-4085	T-15
ALX-4200-75R-15	•	2.00	2.0	1.85	.750	.63	.319	.197	.75	1		4		
ALX-5300-100R-15	•	3.00	2.0	2.28	1.00	.827	.374	.236	.75	1		5		
ALX-5300-125R-15	•	3.00	2.5	2.85	1.25	1.02	.500	.315	1.25	1		5		

Note: All cutters are supplied without inserts.

NP Body Specifications - Inch & Metric

	CATALOG NUMBER	STK	DIMENSIONS								FIG.	INSERT	Q	PARTS	
			D	Lf	Db	d	d1	a	b	l				Screw	Wrench
INCH	ALX-3200-75R-16NP	•	2.00	2.0	1.85	.750	.63	.319	.197	.75	1	XOGT1605**PD*R	3	DSW-4085	T-15
	ALX-4200-75R-16NP	•	2.00	2.0	1.85	.750	.63	.319	.197	.75	1		4		
	ALX-3250-100R-16NP	•	2.50	2.0	2.28	1.00	.78	.374	.236	.75	1		3		
	ALX-4300-100R-16NP	•	3.00	2.0	2.28	1.00	.78	.374	.236	.75	1		4		
	ALX-4300-125R-16NP	•	3.00	2.5	2.83	1.25	1.02	.500	.315	1.25	1		4		
	ALX-5400-150R-16NP	•	4.00	2.75	3.78	1.50	1.26	.626	.393	1.41	1		5		
MM	ALX-3052R-22-16NP	•	52	50	47	22	16.5	10.4	6.3	20	1	XOGT1605**PD*R	3	DSW-4085	T-15
	ALX-7160R-200-16NP	•	160	70	100	50.8	72	19	11	43	1		7		

Note: All cutters are supplied without inserts.

G-Body Specifications - Metric

G-Body

CATALOG NUMBER	STK	DIMENSIONS								FIG.	INSERT	Q	PARTS	
		D	Lf	Db	d	d1	a	b	l				Screw	Wrench
ALX-4050R	•	50	50	45	22.225	16.5	8.4	5	20	1	XOGT1605**PD*R	4	DSW-4085	T15
ALX-4050R-22	•	50	50	45	22	16.5	10.4	6.3	20	1		4		
ALX-5063R	•	63	50	50	22.225	16.5	8.4	5	20	1		5		
ALX-5063R-22	•	63	50	50	22	16.5	10.4	6.3	20	1		5		

Note: All cutters are supplied without inserts.

INSERTS

Fig. 1

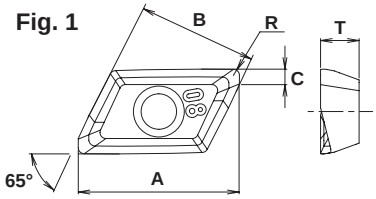
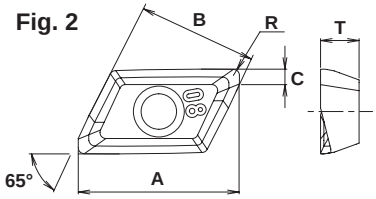


Fig. 2



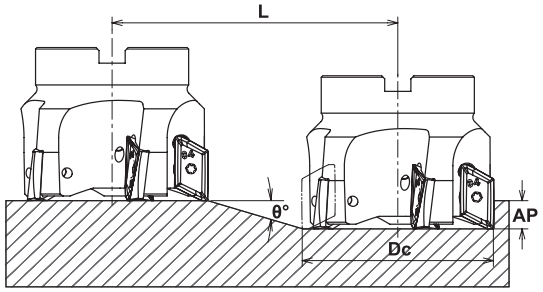
Insert Specifications

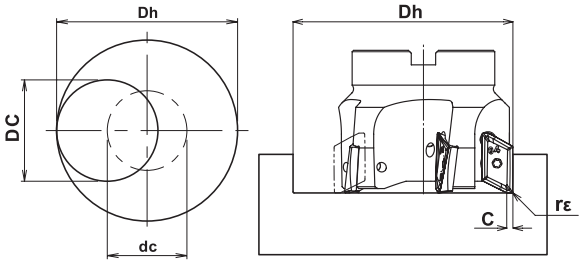
CATALOG NUMBER	TOLERANCE	FIG.	DIMENSIONS					PVD Coated	
			A	B	C	T	R	UNCOATED	PVD COATED
								FZ05	JC5118
XOGT160502PDFR	G	1	20.8	16.35	2.5	5	0.2	•	
XOGT160504PDFR	G	1	21.0	16.35	2.4	5	0.4	•	
XOGT160508PDFR	G	1	20.9	16.35	2.4	5	0.8	•	
XOGT160512PDFR	G	1	20.8	16.35	2.5	5	1.2	•	
XOGT160516PDFR	G	1	20.7	16.35	2.6	5	1.6	•	
XOGT160520PDFR	G	1	20.4	16.35	2.8	5	2.0	•	
XOGT160525PDFR	G	1	20.3	16.35	3.0	5	2.5	•	
XOGT160530PDFR	G	1	19.8	16.35	3.3	5	3.0	•	
XOGT160532PDFR	G	1	19.6	16.35	3.5	5	3.2	•	
XOGT160502PDER	G	2	20.8	16.35	2.5	5	0.2		•
XOGT160504PDER	G	2	21.1	16.35	2.4	5	0.4		•
XOGT160508PDER	G	2	20.9	16.35	2.4	5	0.8		•
XOGT160512PDER	G	2	20.8	16.35	2.5	5	1.2		•
XOGT160516PDER	G	2	20.7	16.35	2.6	5	1.6		•
XOGT160520PDER	G	2	20.4	16.35	2.8	5	2.0		•
XOGT160530PDER	G	2	19.8	16.35	3.3	5	3.0		•
XOGT160532PDER	G	2	19.6	16.35	3.5	5	3.2		•

Aero-Chipper

INCH METRIC

Recommended Cutting Data for Profile Milling





- Down cutting is recommended, tool pass rotation should be counterclockwise.
- Depth of cut per one circuit should not exceed max. depth of cut Ap.
- In case of ramping and helical interpolation, apply 70% or less feed (F) from standard cutting condition table.

	CATALOG NUMBER	Tool Diameter (Dc)	Effective Cutting Diameter	Max. Depth of Cut: AP	Ramping		Helical Interpolation	
					Max. Ramp Angle	Total Cutting Length at Max. AP: L	Min. Bore Diameter: Dh min	Max. Bore Diameter: Dh max
INCH	MAL-1075-M10/ALX-1075*	3/4”	.75” - 2xR	.157”	16°	.547”	1.15”	1.42”
	MAL-2100-M12/ALX-2100*	1”	1” - 2xR	.157”	11°	.808”	1.65”	1.92”
	MAL-2125-M16/ALX-2125*	1-1/4”	1.25” - 2xR	.157”	7°	1.279”	2.15”	2.42”
	MAL-3150-M16	1-1/2”	1.5” - 2xR	.157”	5°	1.794”	2.65”	2.92”
	ALX-*200*	2”	2” - 2xR	.157”	4°	2.245”	3.65”	3.92”
	ALX-3250-100R-16NP	2-1/2”	2.5” - 2xR	.157”	3°	2.996”	4.65”	4.92”
	ALX-*300*	3”	3” - 2xR	.157”	2.5°	3.596”	5.65”	5.92”
	ALX-5400-150R-16NP	4”	4” - 2xR	.157”	2°	4.496”	7.65”	7.92”
METRIC	MAL-1020-M10/ALXM1020*	20	20 - 2xR	4	16°	14	31	38
	MAL-2025-M12/ALXM2025*	25	25 - 2xR	4	11°	21	41	48
	MAL-2028-M12/ALX2028*	28	28 - 2xR	4	9°	26	47	54
	MAL-2032-M16/ALXM2032*	32	32 - 2xR	4	7°	33	55	62
	MAL-2035-M16/ALXM2035*	35	35 - 2xR	4	6°	38	61	68
	MAL-3040-M16/ALXM3040*	40	40 - 2xR	4	5°	46	71	78
	ALX-4050R-*	50	50 - 2xR	4	4°	57	91	98
	ALX-3052-100R-16NP	52	52 - 2xR	4	3.5°	65	95	102
	ALX-5063R-*	63	63 - 2xR	4	3°	77	117	124
	ALX-7160R-200-16NP	160	160 - 2xR	4	1.5°	153	311	318

Recommended Cutting Data for Aero-Chipper

Material	Grade	SFM	IPT	DOC	WOC
Aluminum	FZ05	1500 - 4000	.015” - .025”	.060” - .120”	60%
Kirksite	JC5118	1000 - 1500	.020”	.060” - .120”	60%
Plastics (free machining)	FZ05	500 - 1000	.010” - .020”	.040” - .100”	60%

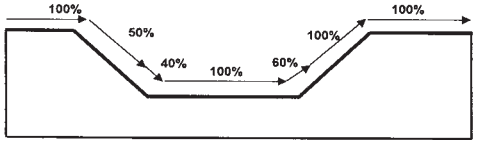
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



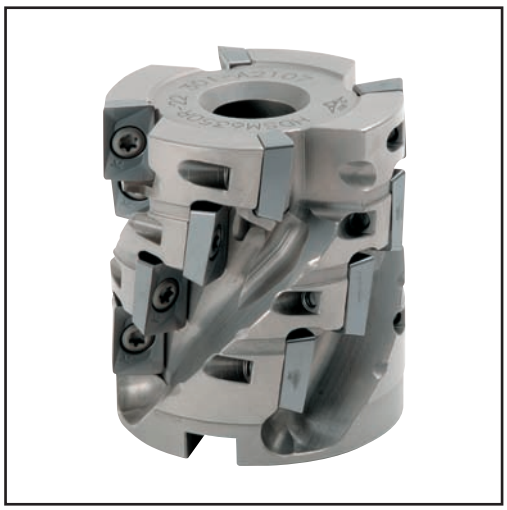
NOTE: Feed should be reduced when cutting the above pattern

Notes

Swing Mill / RFC

Helical Flute Indexable Endmill

- Helical fluted indexable end mill designed for heavy roughing.
- Staggered insert pattern distributes chip load allowing higher feed rates and longer life.
- Serrated inserts allow for freer machining and lower spindle load.
- Replaceable end cap design saves on tool costs.



- Side milling and full slot milling is possible at high feed rates.
- 3D insert geometry improves sharpness and reduces power consumption.
- Rigid G-Body.

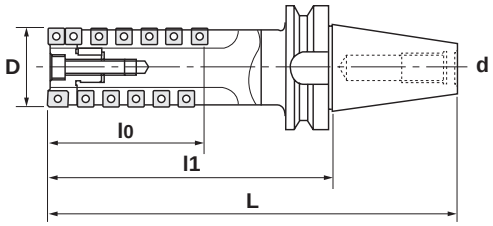
DIJET

Shoulder Milling | Slotting

Swing Mill

METRIC

END CAP Type



Specifications

CATALOG NUMBER	STK	DIMENSIONS					INSERT				PARTS	
		D	L	l0	d	l1	Nose	Q	Periphery	Q	Screw	Wrench
DSM-50097EC-BT	•	50	266.8	97	BT50	165	IM-CP43N	2	IM-SP43GS	18	EXW-510	T-20
DSM-63066EC-BT	•	63	251.8	66	BT50	150	IM-CP43N	2	IM-SP43GS	12	EXW-510	T-20
DSM-63097EC-BT	•	63	296.8	97	BT50	195				18		
DSM-63127EC-BT	•	63	331.8	127	BT50	230				24		
DSM-80117EC-BT	•	80	321.8	117	BT50	220	IM-CP43N	2	IM-SP43GS	22	EXW-510	T-20
DSM-80158EC-BT	•	80	351.8	158	BT50	250				30		

Note: All cutters are supplied without inserts.

END CAPS

Fig. 1

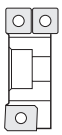
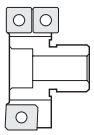


Fig. 2



Specifications

APPLICABLE HOLDER	CATALOG NUMBER	FIG.	INSERTS				PARTS			
			Nose	Q	Periphery	Q	Screw	Wrench	Key	Clamp Bolt
DSM-50..EC	EC-50	1	IM-CP43N	2	IM-SP43GS	4	EXW-510	T-20	SWM-50	HSB-10
DSM-63..EC	EC-63	2	IM-CP43N	2	IM-SP43GS	4	EXW-510	T-20	SWM-63	HSB-12
DSM-80..EC	EC-80	2	IM-CP43N	2	IM-SP43GS	4	EXW-510	T-20	SWM-80	HSB-12

Note: All cutters are supplied without inserts.

METRIC

Swing Mill

Solid Type

Fig. 1

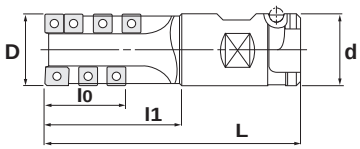


Fig. 2

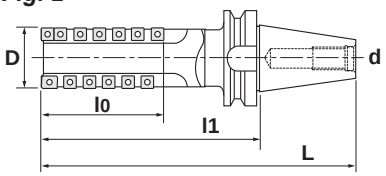
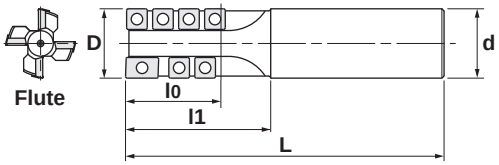


Fig. 3

Fig. 4



Specifications

CATALOG NUMBER	STK	DIMENSIONS					FIG.	INSERT				PARTS	
		D	L	l0	d	l1		Nose	Q	Periphery	Q	Screw	Wrench
DSM-32044-S32-1	•	32	147	44	32	67	3	IM-CP32N	2	IM-SP32GS	6	CSW-407	A-15T
DSM-32044-S32-2	•	32	147	44	32	67	4				12		
DSM-40052-S42	•	40	165	52	42	75	4	IM-CP32N	2	IM-SP32GS	14	CSW-407	A-15T
DSM-50056-S42	•	50	180	56	42	80	4	IM-CP43N	2	IM-SP43GS	10	EXW-510	T-20
DSM-50066-C50.8	•	50	180	66	50.8	97	1				12		
DSM-50097-BT	•	50	266.8	97	BT50	165	2	IM-CP43N	2	IM-SP43GS	18	EXW-510	T-20
DSM-50158-BT	•	50	327.8	158	BT50	226	2				30		
DSM-63066-BT	•	63	251.8	66	BT50	150	2	IM-CP43N	2	IM-SP43GS	12	EXW-510	T-20
DSM-63097-BT	•	63	296.8	97	BT50	195	2				18		
DSM-80117-BT	•	80	321.8	117	BT50	220	2	IM-CP43N	2	IM-SP43GS	22	EXW-510	T-20
DSM-80158-BT	•	80	351.8	158	BT50	250	2				30		

Note: All cutters are supplied without inserts.

DIJET®

Shoulder Milling | Slotting

Swing Mill

METRIC

INSERTS

Fig. 1

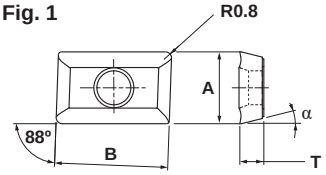


Fig. 2

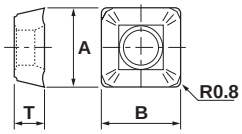
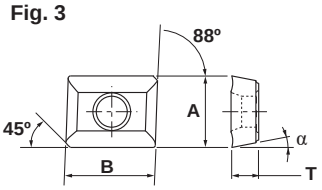


Fig. 3



NOTCHED INSERTS

Fig. 4

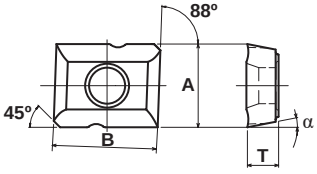


Fig. 5

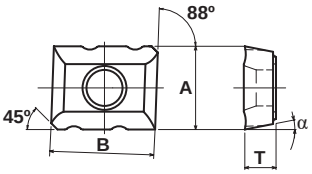


Fig. 6

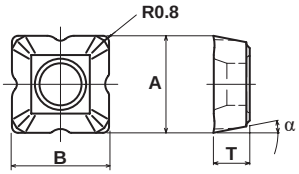
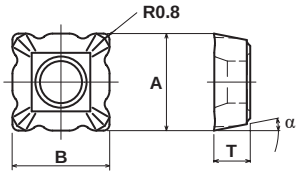


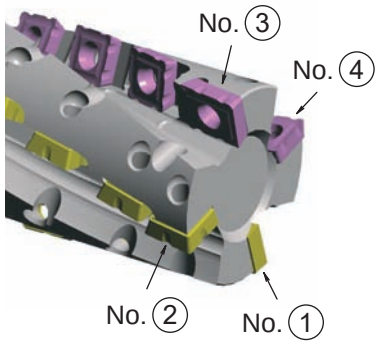
Fig. 7

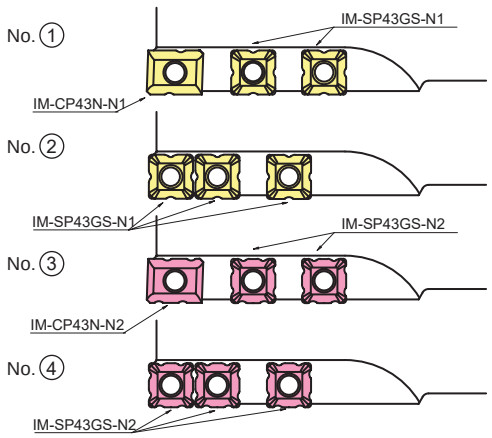


CATALOG NUMBER	DIMENSIONS				FIG.	COATED					
	A	B	T	α		JC5040	JC3562	JC5015	JC5118	JC8015	JC8050
IM-CP32N	9.52	15	3.18	14°	1	•		•			
IM-SP32GS	9.52	9.52	3.18	14°	2	•		•			
IM-CP43N	12.7	15.875	4.76	11°	3	•	•		•		•
IM-SP43GS	12.7	12.7	4.76	11°	3	•	•		•		•
IM-CP43N-N1	12.7	15.875	4.76	11°	4	•				•	•
IM-CP43N-N2	12.7	15.875	4.76	11°	5	•				•	•
IM-SP43GS-N1	12.7	12.7	4.76	11°	6	•				•	•
IM-SP43GS-N2	12.7	12.7	4.76	11°	7	•				•	•

Instructions for Loading Notched Inserts

Notched inserts acheive freer machining





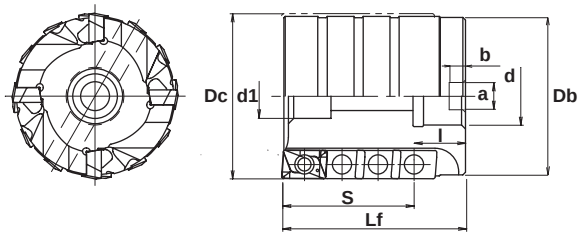
Note: Do not mix - N1 and -N2 inserts in same flute.

METRIC

RFC Styles

RFC Type

G-Body

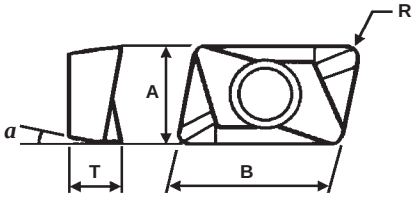


Specifications

CATALOG NUMBER	STK	DIMENSIONS									INSERTS			PARTS	
		Dc	Db	d1	S	Lf	d	a	b	l	INSERT	Q	Flutes	Screw	Wrench
RFC5050R-22	•	50	45	17	50	90	22	10.4	6.3	20	ZPMT170508R	12	3	DSW-4510H	T-20
RFC6350R-22	•	63	60	17	50	70	22	10.4	6.3	20		16	4		
RFC8060R-27	•	80	76	20	60	85	27	12.4	7	22		25	5		

Note: All cutters are supplied without inserts.

INSERT



Specifications

CATALOG NUMBER	DIMENSIONS					COATED	
	A	B	T	R	α	JC5015	JC5040
ZPMT170508R	11	17	5.56	0.8	11°	•	•

DIJET®

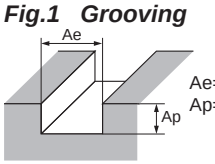
Shoulder Milling | Slotting

Swing Mill

METRIC

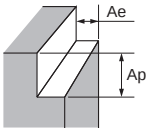
Recommended Cutting Data for Swingmill

Fig.1 Grooving



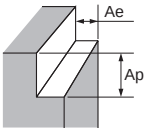
Ae=D
Ap=0.5D (Cast Iron)
Max. 12mm (Steel)

Fig.2 Shoulder Cutting



Ae=0.5D
Ap=1.5D (Cast Iron)
1.0D (Steel)

Fig.3 Narrow Shoulder Cutting



Ae=0.1D
Ap=Max. D.O.C.
Cutting Edge Length

MATERIAL	GRADE	FIG.	TOOL DIAMETER									
			32mm		40mm		50mm		63mm		80mm	
			RPM	IPM	RPM	IPM	RPM	IPM	RPM	IPM	RPM	IPM
Gray Cast Iron	JC5015 JC5040	1	800	14	650	12	500	9	400	7	340	6
		2	900	18	750	15	560	11	450	9	380	7
		3	900	29	750	24	560	18	450	15	380	12
Nodular Cast Iron	JC5015 JC5040	1	720	13	600	11	450	8	360	7	300	5
		2	800	16	650	13	500	10	400	8	340	6
		3	800	27	650	23	500	17	400	13	340	10
Carbon Steel	JC5040	1	720	11	600	9	450	7	360	5	300	4
		2	800	16	650	13	500	10	400	8	340	6
		3	800	27	650	23	500	17	400	13	340	10
Low Alloy Steel	JC5040	1	450	6	420	5	290	4	220	3	190	2
		2	500	8	420	7	310	5	250	4	210	3
		3	500	13	650	11	310	8	250	6	210	5
Low Carbon Steel	JC5040	1	800	13	650	11	500	8	400	6	340	5
		2	900	18	750	15	560	11	450	9	380	7
		3	900	29	750	24	580	18	450	15	380	12

Recommended Cutting Data for RFC

MATERIAL	GRADE	FIG.	TOOL DIAMETER					
			50mm		63mm		80mm	
			RPM	IPM	RPM	IPM	RPM	IPM
Gray Cast Iron	JC5015 (JC5040)	2	560	11	450	9	380	7
		3	560	18	450	15	380	12
Nodular Cast Iron	JC5015 (JC5040)	2	500	10	400	8	340	6
		3	500	17	400	13	340	10
Carbon Steel	JC5040	2	500	10	400	8	340	6
		3	500	17	400	13	340	10
Low Alloy Steel	JC5040	2	310	5	250	4	210	3
		3	310	8	250	6	210	5
Low Carbon Steel	JC5040	2	560	11	450	9	380	7
		3	580	18	450	15	380	12

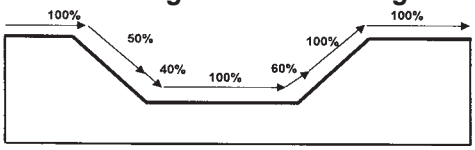
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

Mighty Blader & SSD90

Multi-purpose 90º Face Mill

- Economical shoulder milling cutter with true 90 degree.
- M class insert with 4 cutting edges and 3D geometry.
- Carbide shim or cartridge prevents body damage.
- Wide application for cast iron, general steel and hardened steel.

Mighty Blader

INCH

FACE MILL

MIG Type

- *Multi-purpose 90° face mill.*

Entering Angle : 90°	A.R. : +10°
	R.R. : -9° ~ -10°

Fig. 1

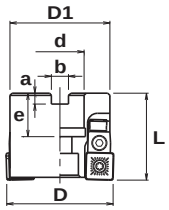
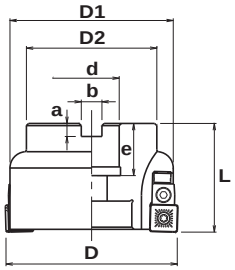


Fig. 2



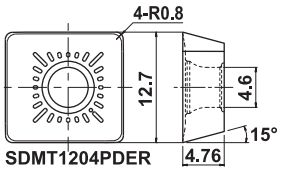
Specifications - Inch

CATALOG NUMBER	STK	DIMENSIONS								FIG.	INSERT	Q	PARTS		
		D	D1	L	d	D2	a	b	e				Insert Screw / Wrench	Adjustable Rest Button/ Screw	Body Saver / Bolt
MIG-4200-75R	•	2.00	1.80	2.00	.750	-	.196	.315	.750	1	SDMT1204PDER SDHW1204PDTR	4	EXW-412 A-15T	RB-14 LS-113	BSV43S-1 HCS4-10
MIG-5250-100R	•	2.50	2.32	2.00	1.00	1.73	.236	.375	.750	2		5			
MIG-6300-100R	•	3.00	2.82	2.00	1.00	2.17	.236	.375	.750	2		6			
MIG-8400-150R	•	4.00	3.80	2.48	1.50	2.76	.393	.625	1.00	2		8			

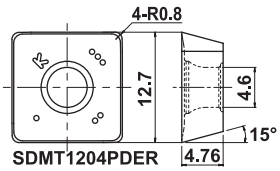
Note: All cutters are supplied without inserts.

INSERTS

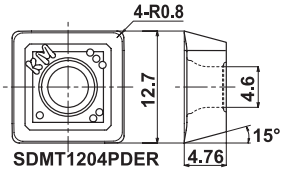
Fig.1



SDMT1204PDER
With Chipbreaker
(Grade: JC8050, JC5040)

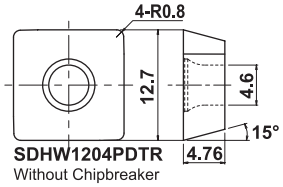


SDMT1204PDER
With Chipbreaker
(Grade: JC8015)



SDMT1204PDER
With Chipbreaker
(Grade: JC605W)

Fig.2



SDHW1204PDTR
Without Chipbreaker
(Grade: JC8015)

Specifications

CATALOG NUMBER	IC TOLERANCE	PVD COATED GRADES			CVD COATED GRADE	FIG.
		JC8015	JC8050	JC5040	JC605W	
SDMT1204PDER	M	•	•	•	•	1
SDHW1204PDTR	H	•				2

METRIC

SSD90 Cutter

FACE MILL

SSD90 Type

- *Multi-purpose 90º face mill.*

Entering Angle : 90º	A.R. : +10º
	R.R. : -9º ~ -11º

Fig. 1

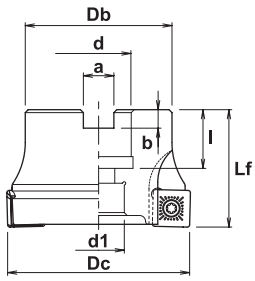
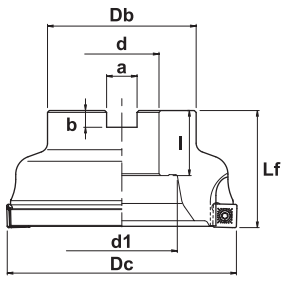


Fig. 2



Specifications

CATALOG NUMBER	STK	DIMENSIONS								FIG.	INSERT	Q	PARTS	
		Dc	Db	Lf	d	d1	a	b	l				Insert Screw / Wrench	Shim Seat / Shim Screw / Wrench
SSD90-4050R	•	50	41	40	22.225	17	8.4	5	20	1	SDMT1204PDER SDHW1204PDTR	4	TSW-3512H A-15T	SM-SD12 SSW-535 LW-035
SSD90-4050R-22	•	50	46	40	22	17	10.4	6.3	20	1		4		
SSD90-5063R	•	63	50	40	22.225	17	8.4	5	20	1		5		
SSD90-5063R-22	•	63	50	40	22	17	10.4	6.3	20	1		5		
SSD90-6080R	•	80	60	50	25.4	37	9.5	6	24	1		6		
SSD90-6080R-27	•	80	60	50	27	37	12.4	7	22	1		6		
SSD90-8100R	•	100	70	50	31.75	43	12.7	8	32	2		8		
SSD90-8100R-32	•	100	70	50	32	43	14.4	8	32	2		8		
SSD90-10125R	•	125	80	63	38.1	57	15.9	10	35	2		10		
SSD90-10125R-40	•	125	80	63	40	57	16.4	9	35	2		10		
SSD90-12160R	•	160	100	63	50.8	68	19	11	38	2		12		

Note: All cutters are supplied without inserts.

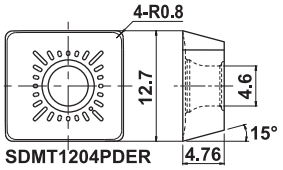
Face Milling Shoulder Milling

SSD90

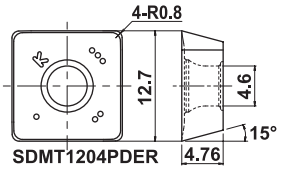
INCH METRIC

INSERT

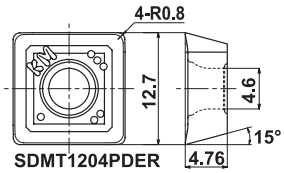
Fig.1



SDMT1204PDER
With Chipbreaker
(Grade: JC8050, JC5040)

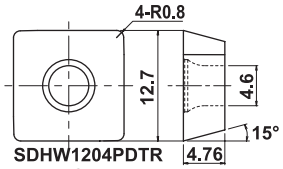


SDMT1204PDER
With Chipbreaker
(Grade: JC8015)



SDMT1204PDER
With Chipbreaker
(Grade: JC605W)

Fig.2

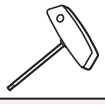


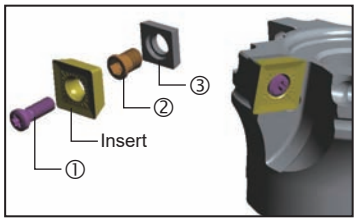
SDHW1204PDTR
Without Chipbreaker
(Grade: JC8015)

Specifications

CATALOG NUMBER	TOLERANCE	FIG.	PVD COATED			CVD COATED
			JC8015	JC8050	JC5040	JC605W
SDMT1204PDER	M	1	•	•	•	•
SDHW1204PDTR	H	2	•			

Parts

Clamp Screw	Shim Screw	Shim	Wrench	Wrench for Shim
① 	② 	③ 		
TSW-3512H	SSW-535	SM-SD12	A-15T	LW-035



INCH METRIC

SSD90 Cutter

Recommended Cutting Data for SDD90 & Mighty Blader

Material	Grade	Parameters	Face Milling	Side Milling
Gray Cast Iron	JC605W JC8015	SFM	650	650
		IPT	.010”	.015”
		DOC	.060”	.200”
		WOC	70%	20%
Nodular Cast Iron	JC8015 JC5040	SFM	600	600
		IPT	.010”	.015”
		DOC	.060”	.200”
		WOC	70%	20%
Carbon Steel	JC5040 JC8050	SFM	550	550
		IPT	.008”	.015”
		DOC	.050”	.200”
		WOC	70%	20%
Low Alloy Steel	JC5040 JC8050	SFM	500	500
		IPT	.008”	.012”
		DOC	.050”	.200”
		WOC	60%	20%
Mold Steel	JC5040 JC8015	SFM	500	500
		IPT	.006”	.012”
		DOC	.040”	.200”
		WOC	60%	20%
Tool & Die Steel (40-50 HRC)	JC8015 JC5040	SFM	400	400
		IPT	.006”	.010”
		DOC	.020”	.200”
		WOC	60%	10%
Stainless Steel	JC8050 JC8015	SFM	300	300
		IPT	.006”	.012”
		DOC	.040”	.160”
		WOC	60%	20%

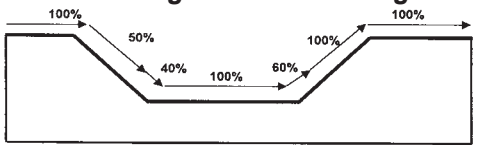
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

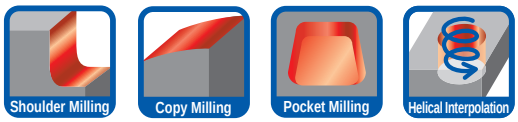
Notes

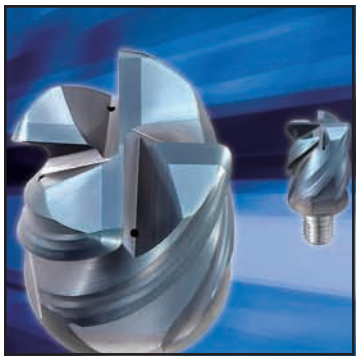
S-Heads

Solid Carbide Modular Heads

SMSA Features:

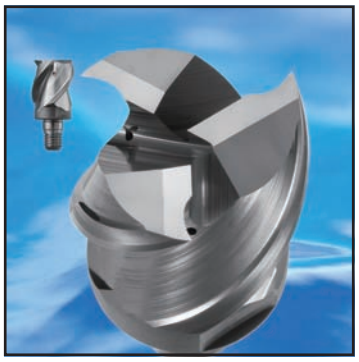
- Solid carbide modular head with highly repetitive ground screw.
- Available in 6 or 8 flutes.
- High accuracy for finishing both side walls and bottom surfaces.
- Coolant thru the center of head.
- DV coated JC8015 give excellent wear against heat resistant alloys.





SMSR Features:

- “Anti-Vibration” solid carbide head is made with new PVD coated grade DH115, giving a wide application area.
- Unequal pitch & irregular helix achieves stable machining along thin walls.
- Designed for machining heat-resistant alloys, such as titanium.
- For deep cutting or finishing of aerospace and mold parts.



SMAL Features:

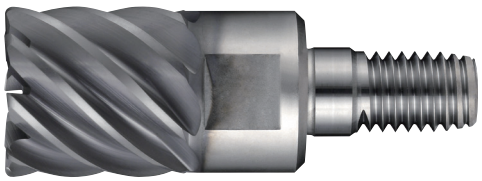
- Solid carbide modular head is uncoated & extremely sharp for machining aluminum.
- Positive geometry with 45 degree helix angle & 20 degree rake angle.
- 3 flutes allow excellent chip ejection.
- Coolant thru holes prevent material welding.

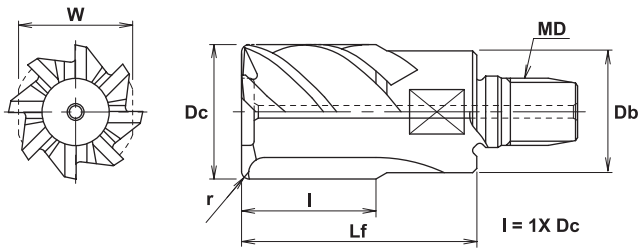
S Heads

METRIC

SMSA Type

- *Solid carbide modular head with multi-edges & 45º helix angle.*
- *For general steel and difficult to cut materials such as heat resistant alloys and titanium alloys.*





CATALOG NUMBER	STK	Carbide Grade	DIMENSIONS								
			Dc	r	l	Lf	Db	MD	Head Torque Nm	W	No. of Flutes
SMSA-8160R05-M8	•	JC8015	16	0.5	16	30	15	M8	10~11	14	8
SMSA-8160R10-M8	•		16	1	16	30	15	M8	10~11	14	8
SMSA-6160R20-M8	•		16	2	16	30	15	M8	10~11	14	6
SMSA-6160R30-M8	•		16	3	16	30	15	M8	10~11	14	6
SMSA-8200R05-M10	•	JC8015	20	0.5	20	35	19	M10	10~16	17	8
SMSA-8200R10-M10	•		20	1	20	35	19	M10	10~16	17	8
SMSA-8200R20-M10	•		20	2	20	35	19	M10	10~16	17	8
SMSA-6200R30-M10	•		20	3	20	35	19	M10	10~16	17	6
SMSA-8250R10-M12	•	JC8015	25	1	25	43	24	M12	15~20	22	8
SMSA-8250R20-M12	•		25	2	25	43	24	M12	15~20	22	8
SMSA-6250R30-M12	•		25	3	25	43	24	M12	15~20	22	6
SMSA-8300R10-M16	•	JC8015	30	1	30	56	29	M16	20~25	27	8
SMSA-8300R20-M16	•		30	2	30	56	29	M16	20~25	27	8
SMSA-6300R30-M16	•		30	3	30	56	29	M16	20~25	27	6
SMSA-8320R10-M16	•	JC8015	32	1	32	56	30	M16	20~25	27	8
SMSA-8320R20-M16	•		32	2	32	56	30	M16	20~25	27	8
SMSA-6320R30-M16	•		32	3	32	56	30	M16	20~25	27	6

Note: Modular Head Holders on page 109.

Recommended Cutting Data for SMSA

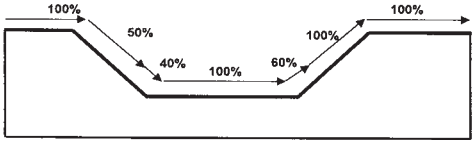
Material	Grade	SFM	IPT	DOC	WOC
Carbon Steel	JC8015	500	.005”	0.8Dc	0.1Dc
Mold Steel	JC8015	400	.004”	0.8Dc	0.1Dc
Hardened Die Steel (40-50 HRC)	JC8015	250	.003”	0.8Dc	0.05Dc
Stainless Steel	JC8015	350	.004”	0.8Dc	0.1Dc
Titanium	JC8015	200	.003”	0.8Dc	0.1Dc
Inconel	JC8015	75	.002”	0.8Dc	0.1Dc

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



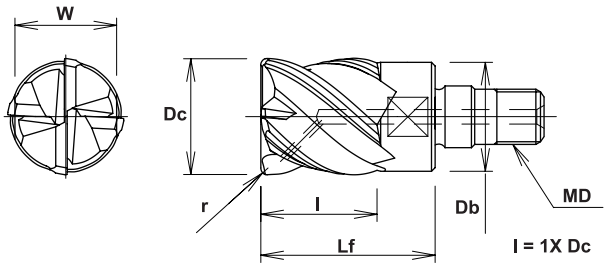
NOTE: Feed should be reduced when cutting the above pattern

METRIC

S Head

SMSR Type

- *Solid carbide modular head with multi-edges & 42º -45º helix angles.*
- *Widely applied from carbon & mold steel to stainless steel & Ti-Alloy.*
- *Irregular & un-equal flutes for anti-vibration and coolant thru.*



CATALOG NUMBER	STK	Carbide Grade	DIMENSIONS								
			Dc	r	l	Lf	Db	MD	Head Torque Nm	W	No. of Flutes
SMSR-4160R05-M8	•	DH115	16	0.5	16	24	15	M8	10~11	14	4
SMSR-4160R10-M8	•		16	1	16	24	15	M8	10~11	14	4
SMSR-4160R20-M8	•		16	2	16	24	15	M8	10~11	14	4
SMSR-4160R30-M8	•		16	3	16	24	15	M8	10~11	14	4
SMSR-4200R05-M10	•	DH115	20	0.5	20	29	19	M10	10~16	17	4
SMSR-4200R10-M10	•		20	1	20	29	19	M10	10~16	17	4
SMSR-4200R20-M10	•		20	2	20	29	19	M10	10~16	17	4
SMSR-4200R30-M10	•		20	3	20	29	19	M10	10~16	17	4
SMSR-4250R10-M12	•	DH115	25	1	25	35	24	M12	15~20	22	4
SMSR-4250R20-M12	•		25	2	25	35	24	M12	15~20	22	4
SMSR-4250R30-M12	•		25	3	25	35	24	M12	15~20	22	4
SMSR-4300R10-M16	•	DH115	30	1	30	44	29	M16	20~25	27	4
SMSR-4300R20-M16	•		30	2	30	44	29	M16	20~25	27	4
SMSR-4300R30-M16	•		30	3	30	44	29	M16	20~25	27	4
SMSR-4320R10-M16	•	DH115	32	1	32	46	30	M16	20~25	27	4
SMSR-4320R20-M16	•		32	2	32	46	30	M16	20~25	27	4
SMSR-4320R30-M16	•		32	3	32	46	30	M16	20~25	27	4

Note: Modular Head Holders on page 109.

Recommended Cutting Data for SMSR

Material	Grade	SFM	IPT	DOC	WOC
Carbon Steel	DH115	500	.005”	0.8Dc	0.1Dc
Mold Steel	DH115	400	.004”	0.8Dc	0.1Dc
Hardened Die Steel (40-50 HRC)	DH115	250	.003”	0.8Dc	0.05Dc
Stainless Steel	DH115	350	.004”	0.8Dc	0.1Dc
Titanium	DH115	200	.003”	0.8Dc	0.1Dc
Inconel	DH115	75	.002”	0.8Dc	0.1Dc

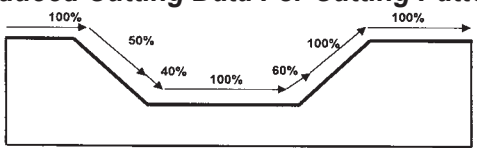
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

DIJET®

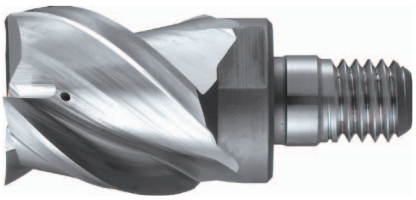
Shoulder Milling | Slotting | Pocket Milling | Helical Interpolation | Drilling

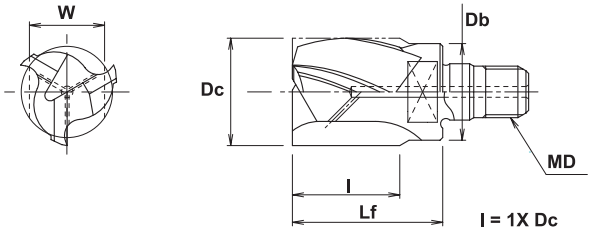
S Head

METRIC

SMAL Type

- *Solid carbide modular head with multi-edges for aluminum.*
- *Positive geometry; 45° helix & 20° rake angles achieve sharpness and high precision.*
- *Coolant thru prevents welding and improves chip ejection.*





CATALOG NUMBER	STK	Carbide Grade	DIMENSIONS							
			Dc	l	Lf	Db	MD	Head Torque Nm	W	No. of Flutes
SMAL-3180-M8	•	FZ15	18	18	26	15	M8	10~11	14	3
SMAL-3200-M10	•		20	20	28	18	M10	10~16	14	3
SMAL-3220-M10	•		22	22	31	19	M10	10~16	17	3
SMAL-3250-M12	•		25	25	35	23	M12	15~20	19	3
SMAL-3280-M12	•		28	28	38	24	M12	15~20	22	3
SMAL-3320-M16	•		32	32	42	29	M16	20~25	27	3

Note: Modular Head Holders on page 109.

Recommended Cutting Data for SMAL

Material	Grade	SFM	IPT	DOC	WOC
Aluminum	FZ15	2000-4000	.003”	1D	.05D
Cast Aluminim (up to 13% Si)	FZ15	1500	.003”	1D	.05D
Copper	FZ15	300	.007”	1D	.05D

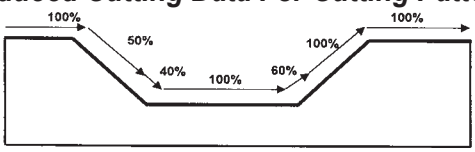
NOTE: 1. These parameters are for stable machining with steel bodies at lengths 4XD. See table below for longer applications.
2. RPM = 3.82 x SFM / Dia.
3. IPM = RPM x IPT x # of flutes (or teeth)

Additional Cutting Data For Longer Tools

Reach/Dia.	~4.0	4.0~4.5	4.5~5.3	5.3~5.7	5.7~6.2	6.3~
rpm %	100	90	80	80	75	70
Feed %	100	90	90	80	75	70

NOTE: The above percentages should be applied, according to tool ratio.

Reduced Cutting Data For Cutting Pattern



NOTE: Feed should be reduced when cutting the above pattern

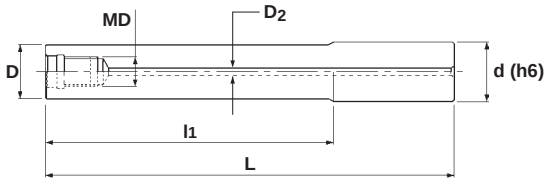
INCH

Modular Head Holders

MODULAR HEAD HOLDERS

MSN Type

Solid Carbide with Coolant Thru



Specifications

CATALOG NUMBER	STK	DIMENSIONS					
		D	l1	L	d	MD	D2
MSN-M6-0.5-S050C	•	.452	.500	2.50	.500	M6	.118
MSN-M6-1.0-S050C	•	.452	1.00	3.15	.500	M6	.118
MSN-M6-2.0-S050C	•	.452	2.00	3.93	.500	M6	.118
MSN-M6-3.0-S050C	•	.452	3.00	5.12	.500	M6	.118
MSN-M8-0.5-S062C	•	.591	.500	3.50	.625	M8	.157
MSN-M8-1.0-S062C	•	.591	1.00	4.00	.625	M8	.157
MSN-M8-2.0-S062C	•	.591	2.00	5.00	.625	M8	.157
MSN-M8-4.0-S062C	•	.591	4.00	7.00	.625	M8	.157
MSN-M8-6.0-S062C	•	.591	6.00	9.00	.625	M8	.157
MSN-M10-0.5-S075C	•	.728	.500	3.50	.750	M10	.157
MSN-M10-1.0-S075C	•	.728	1.00	4.00	.750	M10	.157
MSN-M10-2.0-S075C	•	.728	2.00	5.00	.750	M10	.157
MSN-M10-3.0-S075C	•	.728	3.00	6.00	.750	M10	.157
MSN-M10-4.0-S075C	•	.728	4.00	7.00	.750	M10	.157
MSN-M10-5.0-S075C	•	.728	5.00	8.00	.750	M10	.157
MSN-M10-6.0-S075C	•	.728	6.00	9.00	.750	M10	.157
MSN-M12-0.5-S100C	•	.945	.500	3.50	1.00	M12	.236
MSN-M12-1.0-S100C	•	.945	1.00	4.00	1.00	M12	.236
MSN-M12-2.0-S100C	•	.945	2.00	5.00	1.00	M12	.236
MSN-M12-3.0-S100C	•	.945	3.00	6.00	1.00	M12	.236
MSN-M12-4.0-S100C	•	.945	4.00	7.00	1.00	M12	.236
MSN-M12-5.0-S100C	•	.945	5.00	8.00	1.00	M12	.236
MSN-M12-6.0-S100C	•	.945	6.00	9.00	1.00	M12	.236
MSN-M12-8.0-S100C	•	.945	8.00	11.00	1.00	M12	.236
MSN-M16-0.5-S125C	•	1.14	.500	3.50	1.25	M16	.315
MSN-M16-1.0-S125C	•	1.14	1.00	4.00	1.25	M16	.315
MSN-M16-2.0-S125C	•	1.14	2.00	5.00	1.25	M16	.315
MSN-M16-4.0-S125C	•	1.14	4.00	7.00	1.25	M16	.315
MSN-M16-6.0-S125C	•	1.14	6.00	9.00	1.25	M16	.315
MSN-M16-8.0-S125C	•	1.14	8.00	11.00	1.25	M16	.315

Modular Head Holders

METRIC

MODULAR HEAD HOLDERS

MSN Type

Solid Carbide with Coolant Thru

Fig. 1

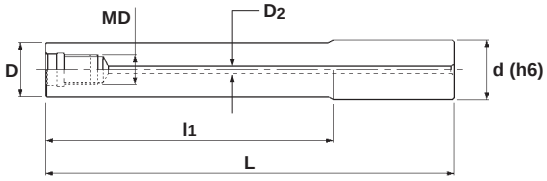
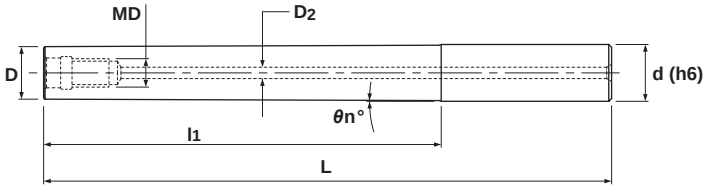


Fig. 2



Specifications

CATALOG NUMBER	STK	DIMENSIONS							FIG.
		D	l1	L	d	θn°	MD	D2	
MSN-M6-12-S10C	•	9.7	12	60	10	-	M6	3	1
MSN-M6-30-S10C	•	9.7	30	80	10	-	M6	3	1
MSN-M6-50-S10C	•	9.7	50	100	10	-	M6	3	1
MSN-M6-80-S10C	•	9.7	80	130	10	-	M6	3	1
MSN-M6-15-S12C	•	11.5	15	60	12	-	M6	3	1
MSN-M6-30-S12C	•	11.5	30	80	12	-	M6	3	1
MSN-M6-35T-S12C	•	9.5	35	92	12	3°	M6	3	2
MSN-M6-50-S12C	•	11.5	50	100	12	-	M6	3	1
MSN-M6-57T-S12C	•	9.5	57	114	12	2°	M6	3	2
MSN-M6-65T-S16C	•	11.2	65	125	16	3°30’	M6	3	2
MSN-M6-80-S12C	•	11.5	80	130	12	-	M6	3	1
MSN-M8-20-S16C	•	15.5	20	75	16	-	M8	4	1
MSN-M8-40-S16C	•	15.5	40	95	16	-	M8	4	1
MSN-M8-40T-S20C	•	14.5	40	100	20	7°	M8	4	2
MSN-M8-77T-S20C	•	14.5	77	143	20	3°30’	M8	4	2
MSN-M8-80-S16C	•	15.5	80	135	16	-	M8	4	1
MSN-M8-120-S16C	•	15.5	120	175	16	-	M8	4	1
MSN-M8-152-S16C	•	15.5	152	207	16	-	M8	4	1
MSN-M10-20-S20C	•	19.5	20	80	20	-	M10	6	1
MSN-M10-40-S20C	•	19.5	40	100	20	-	M10	4	1
MSN-M10-40T-S20C	•	18.5	40	100	20	0°43’	M10	4	2
MSN-M10-70-S20C	•	19.5	70	130	20	-	M10	4	1
MSN-M10-85T-S25C	•	18.5	85	161	25	4°	M10	4	2
MSN-M10-90-S20C	•	19.5	90	150	20	-	M10	4	1
MSN-M10-90T-S20C	•	18.5	90	150	20	0°19’	M10	4	2
MSN-M10-140-S20C	•	19.5	140	200	20	-	M10	4	1
MSN-M10-140T-S20C	•	18.5	140	200	20	0°12’	M10	4	2
MSN-M10-160-S20C	•	19.5	160	220	20	-	M10	4	1
MSN-M10-210-S20C	•	19.5	210	270	20	-	M10	4	1

METRIC

Modular Head Holders

MODULAR HEAD HOLDERS

MSN Type

Solid Carbide with Coolant Thru

Fig. 1

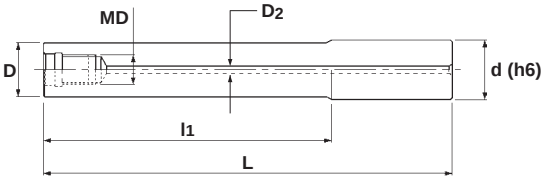
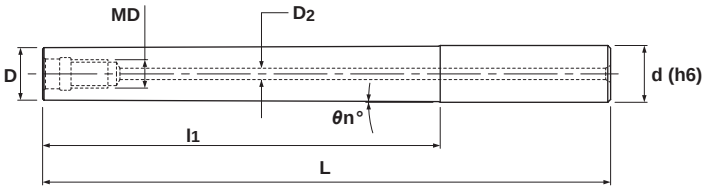


Fig. 2



Specifications

CATALOG NUMBER	STK	DIMENSIONS							FIG.
		D	l1	L	d	θn°	MD	D2	
MSN-M12-25-S25C	•	24	25	90	25	-	M12	6	1
MSN-M12-55-S25C	•	24	55	120	25	-	M12	6	1
MSN-M12-100T-S32C	•	23.5	100	180	32	4°	M12	6	2
MSN-M12-105-S25C	•	24	105	170	25	-	M12	6	1
MSN-M12-135-S25C	•	24	135	215	25	-	M12	6	1
MSN-M12-155-S25C	•	24	155	220	25	-	M12	6	1
MSN-M12-200-S25C	•	24	200	265	25	-	M12	6	1
MSN-M16-25-S32C	•	29	25	90	32	-	M16	8	1
MSN-M16-55-S32C	•	29	55	120	32	-	M16	8	1
MSN-M16-77-S32C	•	29	77	157	32	-	M16	8	1
MSN-M16-97-S32C	•	29	97	177	32	-	M16	8	1
MSN-M16-105-S32C	•	29	105	170	32	-	M16	8	1
MSN-M16-117T-S32C	•	29	117	197	32	1°15’	M16	8	2
MSN-M16-127-S32C	•	29	127	207	32	-	M16	8	1
MSN-M16-127T-S32C	•	29	127	207	32	1°	M16	8	2
MSN-M16-155-S32C	•	29	155	220	32	-	M16	8	1
MSN-M16-177-S32C	•	29	177	257	32	-	M16	8	1
MSN-M16-177T-S32C	•	29	177	257	32	0°45’	M16	8	2
MSN-M16-195-S32C	•	29	195	260	32	-	M16	8	1
MSN-M16-197T-S32C	•	29	197	277	32	0°45’	M16	8	2
MSN-M16-225-S32C	•	29	225	290	32	-	M16	8	1
MSN-M16-245-S32C	•	29	245	310	32	-	M16	8	1
MSN-M16-295-S32C	•	29	295	360	32	-	M16	8	1

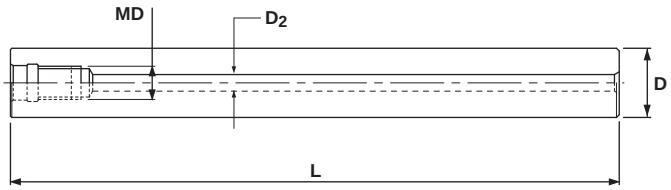
Modular Head Holders

METRIC

MODULAR HEAD HOLDERS

MSN Type - Straight

Solid Carbide with Coolant Thru



Specifications

CATALOG NUMBER	STK	DIMENSIONS			
		D	L	MD	D2
MSN-M6-67S-S9.8C	•	9.8	67	M6	3
MSN-M6-107S-S9.8C	•	9.8	107	M6	3
MSN-M6-82S-S10C	•	10	82	M6	3
MSN-M6-122S-S10C	•	10	122	M6	3
MSN-M6-80S-S11.8C	•	11.8	80	M6	3
MSN-M6-120S-S11.8C	•	11.8	120	M6	3
MSN-M6-90S-S12C	•	12	90	M6	3
MSN-M6-130S-S12C	•	12	130	M6	3
MSN-M8-97S-S15C	•	15	97	M8	4
MSN-M8-147S-S15C	•	15	147	M8	4
MSN-M8-197S-S15C	•	15	197	M8	4
MSN-M8-107S-S16C	•	16	107	M8	4
MSN-M8-157S-S16C	•	16	157	M8	4
MSN-M10-130S-S18C	•	18	130	M10	4
MSN-M10-190S-S18C	•	18	190	M10	4
MSN-M10-240S-S18C	•	18	240	M10	4
MSN-M10-130S-S20C	•	20	130	M10	4
MSN-M10-190S-S20C	•	20	190	M10	4
MSN-M10-250S-S20C	•	20	250	M10	4
MSN-M12-185S-S23C	•	23	185	M12	6
MSN-M12-265S-S23C	•	23	265	M12	6
MSN-M12-185S-S24C	•	24	185	M12	6
MSN-M12-265S-S24C	•	24	265	M12	6
MSN-M12-145S-S25C	•	25	145	M12	6
MSN-M12-215S-S25C	•	25	215	M12	6
MSN-M12-285S-S25C	•	25	285	M12	6
MSN-M16-160S-S28C	•	28	160	M16	8
MSN-M16-230S-S28C	•	28	230	M16	8
MSN-M16-310S-S28C	•	28	310	M16	8
MSN-M16-157S-S32C	•	32	157	M16	8
MSN-M16-217S-S32C	•	32	217	M16	8
MSN-M16-287S-S32C	•	32	287	M16	8
MSN-M16-357S-S32C	•	32	357	M16	8

INCH METRIC

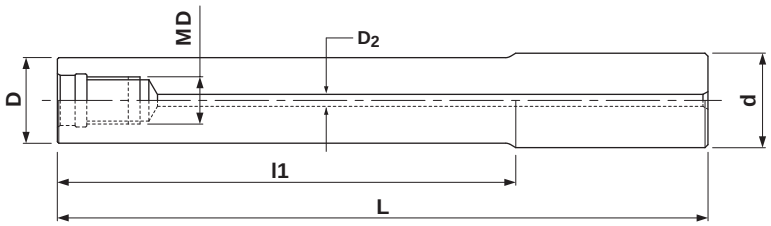
Modular Head Holders

MODULAR HEAD HOLDERS

MGN Type

G-Body with Coolant Thru

G-Body



Specifications - Inch

CATALOG NUMBER	STK	DIMENSIONS					
		D	l1	L	d	MD	D2
MGN-M6-0.5-S050	•	.452	.500	2.50	.500	M6	.118
MGN-M6-1.0-S050	•	.452	1.00	3.15	.500	M6	.118
MGN-M6-2.0-S050	•	.452	2.00	3.93	.500	M6	.118
MGN-M8-0.5-S062	•	.591	.500	3.50	.625	M8	.157
MGN-M8-1.0-S062	•	.591	1.00	4.00	.625	M8	.157
MGN-M8-2.0-S062	•	.591	2.00	5.00	.625	M8	.157
MGN-M10-0.5-S075	•	.728	.500	3.50	.750	M10	.157
MGN-M10-1.0-S075	•	.728	1.00	4.00	.750	M10	.157
MGN-M10-2.0-S075	•	.728	2.00	5.00	.750	M10	.157
MGN-M12-0.5-S100	•	.945	.500	3.50	1.00	M12	.236
MGN-M12-1.0-S100	•	.945	1.00	4.00	1.00	M12	.236
MGN-M12-2.0-S100	•	.945	2.00	5.00	1.00	M12	.236
MGN-M12-3.0-S100	•	.945	3.00	6.00	1.00	M12	.236
MGN-M16-0.5-S125	•	1.14	.500	3.50	1.25	M16	.315
MGN-M16-1.0-S125	•	1.14	1.00	4.00	1.25	M16	.315
MGN-M16-2.0-S125	•	1.14	2.00	5.00	1.25	M16	.315
MGN-M16-3.0-S125	•	1.14	3.00	6.00	1.25	M16	.315

Specifications - Metric

CATALOG NUMBER	STK	DIMENSIONS					
		D	l1	L	d	MD	D2
MGN-M8-17-S16	•	15.5	17	97	16	M8	4
MGN-M10-30-S20	•	19	30	100	20	M10	4
MGN-M12-35-S25	•	24	35	105	25	M12	4
MGN-M12-85-S25	•	24	85	165	25	M12	4
MGN-M16-37-S32	•	29	37	107	32	M16	6
MGN-M16-77-S32	•	29	77	157	32	M16	6

INDEX

Notes

DIJET, INC. (USA)

DIJET INDUSTRIAL (JAPAN)

Oaska Plant (Carbide, CT, Wear Parts)

Mie Plant (TA & IT Plant)

Mie Plant (Raw Material Powder)

Tondabayashi Plant

Mie Plant (Carbide)

WORLDWIDE DISTRIBUTION

Europe:

Austria
Belgium
Denmark
England
Finland
France
Germany
Greece
Holland
Hungary
Italy
Ireland
Netherlands
Norway
Poland
Portugal
Spain
Sweden
Switzerland

North East:

Russia

Middle East:

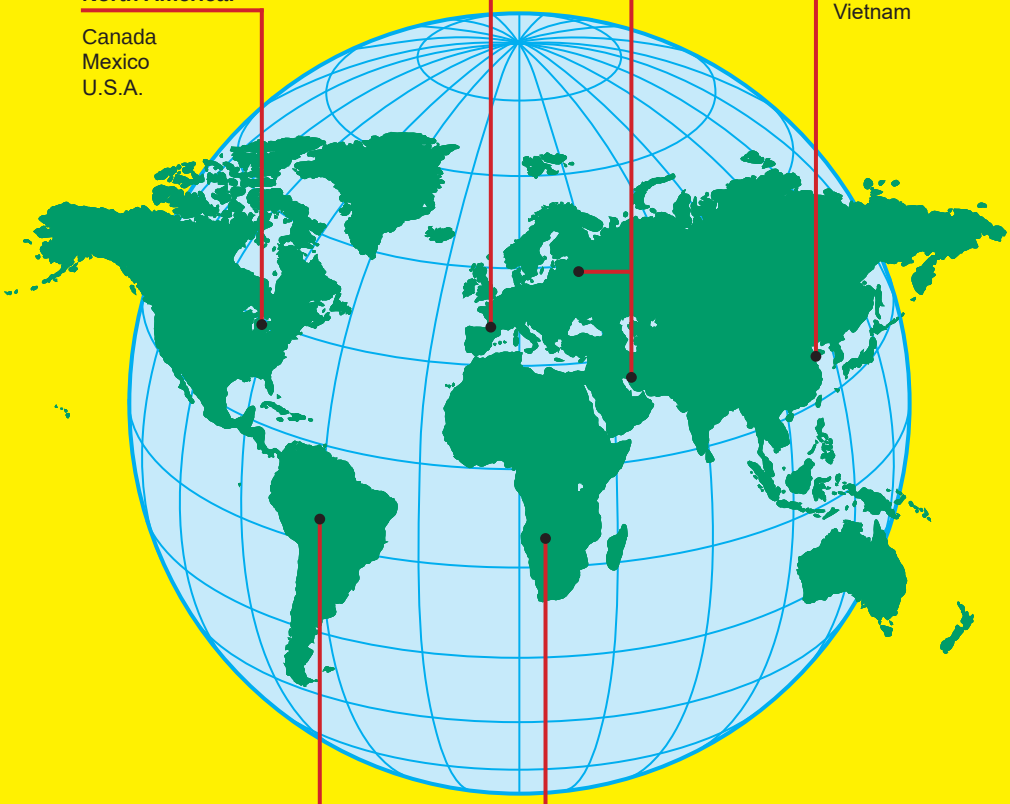
India
Israel
Pakistan
Turkey

Asia:

China
Indonesia
Japan
Korea
Malaysia
Philippines
Singapore
Taiwan
Thailand
Vietnam

North America:

Canada
Mexico
U.S.A.



South America:

Brazil

Africa:

South Africa

DIJET, INC.
45807 Helm Street, Plymouth, MI 48170
Phone: 1-800-743-4538 Fax: 1-734-454-9395
www.dijetusa.com

DIJET INDUSTRIAL CO., LTD.
2-1-18, Kami-Higashi, Hirano-ku,
Osaka 547-0002, Japan
Phone: +81-6-6794-0167
Fax: +81-6-6793-3930
www.dijet.co.jp

DIJET INDUSTRIAL CO., LTD.
Immarmannstr 9
40210 Düsseldorf, Germany
Phone: +49 (0) 211-50088820
Fax: +49 (0) 211-50088823

ISO9001 JQA-2089 ISO14001 JQA-EM1580