

HRMDouble

High Feed Milling Tool of Double Sided 6 Corner Insert



■ Great Value for Money

The multi-corner use is simply cost-effective

■ Excellent Productivity

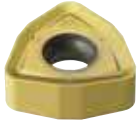
The high rake angle chip breaker and corner are designed for high feed milling

■ High Rigidity

Firm insert of negative shape



Double Sided 6 Corner Insert for High Feed Milling Machining



Insert



Cutter



Shank

High feed tools represents our answer to the call by machinists for cutting edge durable, efficient and value for money equipment that deliver excellent output.

KORLOY's latest **HRMDouble**, a double sided 6 corner insert milling tool designed for high feed machining places your machining needs one step higher by saving you the trouble of unexpected breakdowns, overhead repair costs and most importantly offers an extended tool life span.

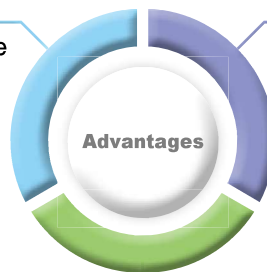
Its proprietary major cutting edges were designed to form thin chips even at high feed and reduce cutting load during machining. The HRMDouble inserts additionally feature more corners per insert than conventional 2/3/4 corner inserts.

The HRMDouble comes equipped with a high rake angle chip breaker for soft cutting and low cutting load. Its inscribed circle has 4 size variations-06/09/13/16 covering small to large diameters (Ø16 - Ø125mm). This is ultimately a question of sound investment.

- Optimized major cutting edge and chip breaker design

→ Thinner chip curls and reduced cutting load

→ Longer tool life



- Wide size variations (06/09/13/16)

→ Covers small to large diameters (Ø16 - Ø125 mm)

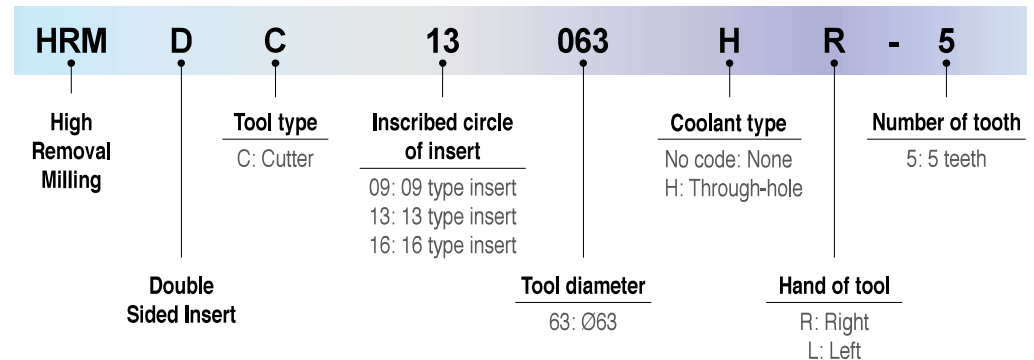
- Double sided 6 corner insert

→ Multi-corner use for cost efficiency

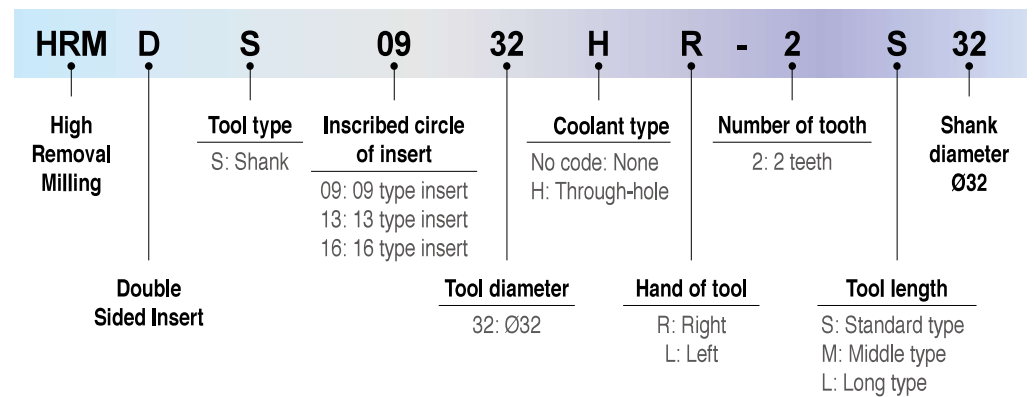


Code System

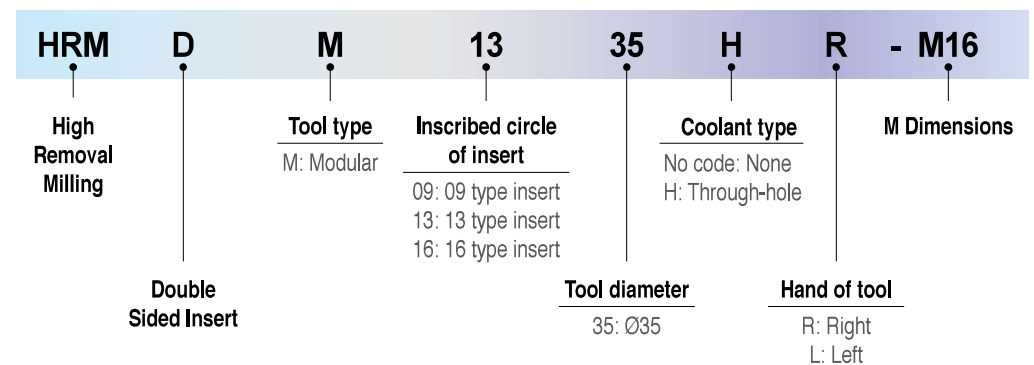
[Cutter Type]



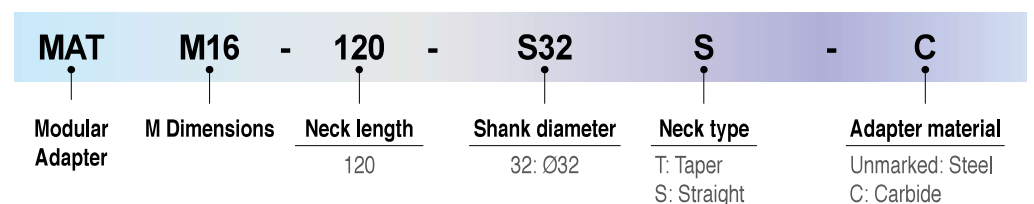
[Shank Type]



[Modular Head]



[Modular Adapter]



HRMDouble

⇒ HRMDouble

- The HRMD is more economical due to the use of 6 cutting edges compared to the HRM tool with positive inserts
- High rake angle cutting edge and chip breaker reduces cutting load
- Negative geometry has been designed for rigidity of cutting edge and double sided function
- Simple screw on system and stable support offers stronger clamping force
- Unique insert design for high feed and multifunctional machining
- The HRMD insert with symmetrical cutting edge is applicable for both R and L type machining

⇒ Insert Features

Nose-R

- Security of rigid edge in ramping pocket machining
- Round geometric insert edge suited for high feed rate machining
- Can use R/L type machining

Clamping surface

- Designed for stable clamping
- Designed to prevention chip friction

Chip breaker

- Reduction of cutting load due to high rake angle
- Improvement of chip flow and evacuation in various applications and materials
- Prevents damage to occur on the clamping face part

Major cutting edge

- Symmetrical design insert for R/L type tool
- Superior cutting performance due to high rake angle cutting edge
- Low cutting resistance in high feeds
- Special design for decreasing thrust force

Minor cutting edge

- Improves surface finish during high feed machining
- Special design for decreasing thrust force
- Symmetrical insert design for R/L type tool



➤ Cutter Features



Inner coolant system

- Improvement of chip control and evacuation
- Longer tool life due to reduced cutting temperature

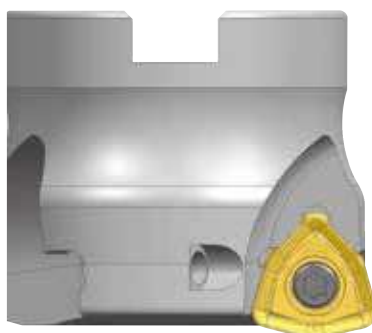
Simple screw on system

- Strong clamping of screw on system
- Convenient clamping system
- Wide chip pocket for better chip evacuation

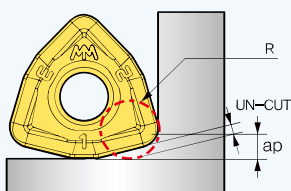
3-Surface constrained System

- Strong clamping of screw on system
- Stable clamping system against different cutting resistances in various machining applications

• NOTE: Some insert feature information is repeated. This occurs because multiple insert features provide the same benefit. Example: Symmetrical design.



➤ Corner R Programming



• Uncut corner part can be changed depending on the cutting conditions and with unstable clamping system or workpiece.

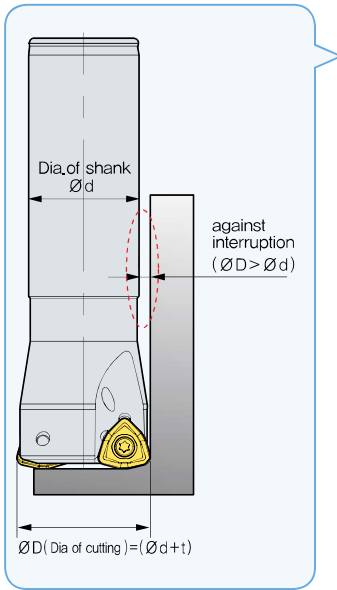
Designation	Cutting condition		Approx. R (mm)		
	Max.ap(mm)	Max.fz(mm/t)	Input. R	Uncut	
WNMX	060312ZNN-MM	1.0	1.2	1.8	0.4
	060312ZNN-MF	1.0	1.2	1.8	0.4
	09T316ZNN-MM	1.5	2.0	2.5	0.6
	09T316ZNN-MF	1.5	2.0	2.5	0.6
	09T316ZNN-MR	1.5	2.0	2.5	0.6
	130520ZNN-MM	2.0	3.0	3.0	0.8
	130520ZNN-MF	2.0	3.0	3.0	0.8
	130520ZNN-MR	2.0	3.0	3.0	0.8
	160720ZNN-MM	2.5	3.5	3.5	1.2
	160720ZNN-MF	2.5	3.5	3.5	1.2

• Information for uncut part by using "Input,R" for CAM program

HRMDouble

Interference Prevent System

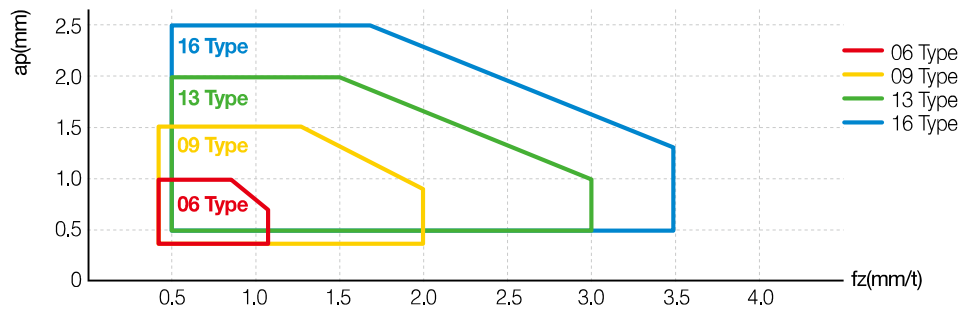
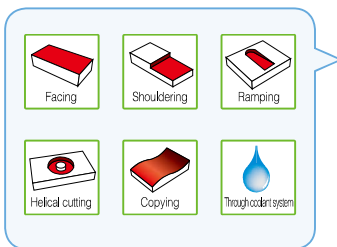
(mm)



Designation	$\varnothing D$	$\varnothing d$	t
HRMDS0617HR-2_16	17	16	1
HRMDS0618HR-2_16	18	16	2
HRMDS0621HR-2_20	21	20	1
HRMDS0626HR-3_25	26	25	1
HRMDS0633HR-4_32	33	32	1
HRMDS0926HR-2_25	26	25	1
HRMDS0933HR-3_32	33	32	1
HRMDS0935HR-4_32	35	32	3
HRMDS0940HR-4_32	40	32	8
HRMDS0950HR-5_32	50	32	18
HRMDS0950HR-5_40	50	40	10
HRMDS0950HR-5_42	50	42	8
HRMDS1333HR-3_32	33	32	1
HRMDS1335HR-4_32	35	32	3
HRMDS1340HR-4_30	40	30	8
HRMDS1350HR-4_32	50	32	18
HRMDS1350HR-4_40	50	40	10
HRMDS1350HR-4_42	50	42	8
HRMDS1363HR-5_32	63	32	31
HRMDS1363HR-5_40	63	40	23
HRMDS1363HR-5_42	63	42	21

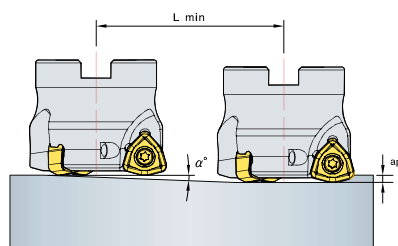
- The side clearance prevents to interference between tool and workpiece even in deep hole machining

Application Area

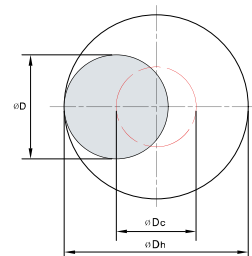


Ramping & Helical Cutting Technical Data

Ramping



Helical cutting



$$\bullet L \min = \frac{ap}{\tan \alpha^\circ} \text{ (mm)}$$

$$\bullet \text{ØDc} = \text{ØDh} - \text{ØD}$$

ØDc = Tool pass of tool center

ØDh = Desirable hole diameter on workpiece

ØD = Tool diameter

- Adjust feed to under 70% of recommended cutting condition when ramping & helical cutting
- In helical ramping, max. cutting depth per 1 helical revolution of cutter should not exceed max. cutting depth as per insert size
- In ramping, max. cutting depth for 1 ramping process should not exceed max. depth of cut as per used insert size

(mm)

Designation	Tool Dia. ØD(mm)	Efficient cutting diameter ØDe(mm)	Ramping			Helical ramping		
			Max. ap(mm)	Max. angle α°	Cutting Length Lmin (mm)	Dh Min. Cutting diameter(mm)	Dh Max. Cutting diameter(mm)	
HRMDS	0616HR	16	9.5	1	4.8	11	23.8	29.6
	0617HR	17	10.5	1	4.1	13	25.8	31.6
	0618HR	18	11.5	1	3.5	16	27.8	33.6
	0620HR	20	13.5	1	2.5	22	31.8	37.6
	0621HR	21	14.5	1	2.2	26	33.8	39.6
	0625HR	25	18.5	1	1.3	44	41.8	47.6
	0626HR	26	19.5	1	1.2	47	43.8	49.6
	0632HR	32	25.5	1	0.6	95	55.8	61.6
	0633HR	33	26.5	1	0.5	114	57.8	63.6
	0925HR	25	15.4	1.5	5.4	15.8	37.6	46.8
	0926HR	26	16.4	1.5	5.0	17.0	39.6	48.8
	0930HR	30	20.4	1.5	3.9	22.0	47.6	56.8
	0932HR	32	22.3	1.5	3.5	24.5	51.6	60.8
	0933HR	33	23.3	1.5	3.3	25.8	53.6	62.8
	0935HR	35	25.4	1.5	3.0	28.3	57.6	66.8
	0940HR	40	30.2	1.5	2.5	34.5	67.6	76.8
	0950HR	50	40.2	1.5	1.8	47.0	87.6	96.8
	1332HR	32	19.3	2	5.7	20.0	47	60
	1333HR	33	20.3	2	5.4	21.3	49	62
	1335HR	35	22.3	2	4.8	24.0	53	66
	1340HR	40	27.2	2	3.7	30.7	63	76
	1350HR	50	37	2	2.6	44.0	83	96
	1363HR	63	50	2	1.9	61.3	109	122
	09040HR	40	30.2	1.5	2.5	34.5	67.6	76.8
	09050HR	50	40.2	1.5	1.8	47.0	87.6	96.8
	09063HR	63	53.1	1.5	1.4	63.3	113.6	122.8
	09080HR	80	70.1	1.5	1.0	84.5	147.6	156.8
	09100HR	100	90	1.5	0.8	109.5	187.6	196.8
	13050HR	50	37	2	2.6	44.0	83	96
	13063HR	63	50	2	1.9	61.3	109	122
	13080HR	80	66.9	2	1.4	84.0	143	156
	13100HR	100	86.9	2	1.0	110.7	183	196
	13125HR	125	111.9	2	0.8	144.0	233	246
16080HR	80	63.3	2.5	1.4	102	138	156	
16100HR	100	83.3	2.5	1	143	178	196	
16125HR	125	108.3	2.5	0.7	204	228	246	
16160R	160	143.3	2.5	0.5	286	298	316	
16200R	200	183.3	2.5	0.3	477	378	396	
16250R	250	233.3	2.5	0.2	716	478	496	
16315R	315	298.3	2.5	0.1	1432	608	626	

➔ Recommended Cutting Conditions

ISO	Workpiece	Material	Grade	Cutting speed, vc(m/min)	
P	Carbon steel	Low carbon steel	SUM22, C=0.1 - 0.25	PC5300 280 PC5400 245	
		General carbon steel	C=0.30 - 0.55	PC5300 255 PC5400 220	
		High carbon steel	C=0.55 - 0.80	PC5300 240 PC5400 205	
	Low alloy steel (Alloy constituent < 5%)	-	SCM415(H), SCM420, SCM440	PC5300 195 PC5400 170	
		Hardened	-	PC5300 115 PC5400 100	
	High alloy steel (Alloy constituent > 5%)	annealed	SKD61	PC5300 150 PC5400 130	
		Hardened	SKH51, SKH55	PC5300 120 PC5400 105	
	M	Stainless steel	Ferritic / martensitic	SUS410, SUS420, SUS430	PC5300 160 PC5400 135
			Austenitic	SUS303, SUS304, SUS316	PC5300 130 PC5400 110
			Duplex (Austenitic / Ferritic)	F51	PC5300 100 PC5400 85
K	Gray cast iron	Low tensile	FC200, FC250	PC5300 145 PC5400 110	
		High tensile	FC300, FC350	PC5300 120 PC5400 90	
		Ferric	FCD400, FCD500	PC5300 95 PC5400 70	
		Pearlitic	FCD600, FCD700	PC5300 85 PC5400 65	
		S	Fe Base	-	Incoloy
Ni Base	-		Inconel, Nimonic, Hastelloy	PC5300 55 PC5400 45	
Co base	-		stelite	PC5300 25 PC5400 20	
Titanium alloys	-		pure Ti	PC5300 130 PC5400 105	
			alloy(TiAl6V4)	PC5300 65 PC5400 55	

Application Examples



AISI 1045 (SM45C, HRC22)

- **Cutting conditions** $vc(m/min)=283$, $fz(mm/t)=1.4$, $vf(mm/min)=10.097$, $ap(mm)=0.8$, $ae(mm)=35$
Coolant: Dry, Machining : Copying
Overhang of tool: 250mm
- **Tools** Cutter HRMDCM13050HR-4
Insert WNMX130520ZNN-MM (PC3500)
- **Machine** MCT(Horizontal)

- **Productivity:** 40% increase
- **Tool cost:** 80% decrease

➔ In comparing HRMD with our competitor using the same cutting conditions, the cutting speed of HRMD was higher with the same depth of cut ($ap \times ae$), the cycle time was reduced by 40% and the tool life was increased to over 60%. HRMD is economically more efficient due to the use of 6 cutting edges compared to EDNW type with positive insert.



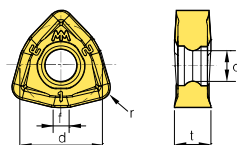
AISI 304 (STS304)

- **Cutting conditions** $vc(m/min)=130$, $fz(mm/t)=1.2$, $vf(mm/min)=2.981$, $ap(mm)=1.0$, $ae(mm)=80$
Machining: Facing and Slotting
Overhang of tool: 250mm
- **Tools** Cutter HRMDCM13100HR-6
Insert WNMX130520ZNN-MM (PC3545)
- **Machine** MCT(Vertical)

- **Productivity:** 80% increase
- **Tool cost:** 25% decrease

➔ When comparing the HRMD with our competitor with the same cutting conditions, the cutting speed of the HRMD was higher with the same depth of cut ($ap \times ae$). Even though the cycle time was reduced by 80% the tool life was the same, but the HRMD is more economically efficient due to the use of 6 cutting edges compared to SDKN positive insert type.

Inserts

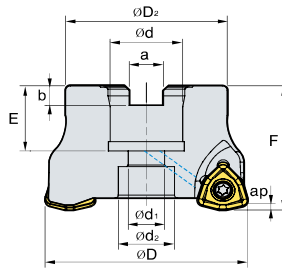
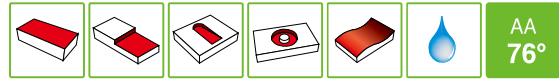


(mm)

Designation		d	t	r	d1	f
WNMX	060312ZNN-MF	6.35	3.18	1.2	2.86	1.2
	060312ZNN-MM	6.35	3.18	1.2	2.86	1.2
	09T316ZNN-MF	9.525	3.97	1.6	3.6	1.7
	09T316ZNN-MM	9.525	3.97	1.6	3.6	1.7
	09T316ZNN-MR	9.525	3.97	1.6	3.6	1.7
	130520ZNN-MF	12.7	5.56	2	5.8	2.5
	130520ZNN-MM	12.7	5.56	2	5.8	2.5
	130520ZNN-MR	12.7	5.56	2	5.8	2.5
	160720ZNN-MF	16	7	2	5.8	3
	160720ZNN-MM	16	7	2	5.8	3

HRMDouble

HRMDCM09



AR : -7°
RR : -12° - 18°

(mm)

Designation	Stock		ØD	ØD2	Ød	Ød1	Ød2	a	b	E	F	ap		Bolt	
HRMDCM	09040HR-3	▲	3	40	34	16	9	14	8.4	5.6	19	40	1.5	0.2	SB0825
	09040HR-4	▲	4	40	34	16	9	14	8.4	5.6	19	40	1.5	0.2	
	09050HR-4	▲	4	50	42	22	11	18	10.4	6.3	21	40	1.5	0.3	SB1025
	09050HR-5	▲	5	50	42	22	11	18	10.4	6.3	21	40	1.5	0.3	
	09063HR-5	▲	5	63	49	22	11	18	10.4	6.3	21	40	1.5	0.5	SB1025
	09063HR-6	▲	6	63	49	22	11	18	10.4	6.3	21	40	1.5	0.5	
	09080HR-6	▲	6	80	57	27	14	20	12.4	7	23	50	1.5	1.1	SB1230
	09080HR-7	▲	7	80	57	27	14	20	12.4	7	23	50	1.5	1.1	
	09100HR-7	▲	7	100	67	32	18	26	14.4	8	25	50	1.5	1.7	SB1630
	09100HR-8	▲	8	100	67	32	18	26	14.4	8	25	50	1.5	1.7	

▲: Available in Europe ●: Available in Korea ○: Order-made item

Available Inserts



WNMX-MF



WNMX-MM

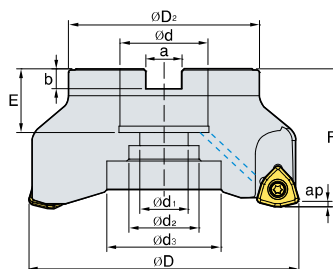
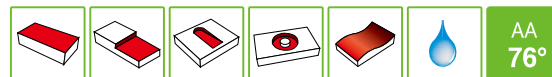
Designation	Cermet		Coated										Uncoated			
	CN30	CN2000	NC5330	NCM325	NCM335	PC3500	PC3545	PC3600	PC5300	PC5400	PC6510	PC8110	PC9530	A30	G10E	H01
WNMX 09T316ZNN-MF									▲	▲						
09T316ZNN-MM				▲	▲	▲	▲	▲	▲	▲	▲		▲			
09T316ZNN-MR									▲							

▲: Available in Europe ●: Available in Korea ○: Order-made item

Parts

Specification	Screw 	Wrench
Ø40 - Ø100	FTKA0307	TW09S

HRMDCM13



AA 76°
 · AR : -7°
 · RR : -12° - 4°

(mm)

Designation	Stock		ØD	ØD2	Ød	Ød1	Ød2	Ød3	a	b	E	F	ap		Bolt	
HRMDCM	13050HR-3	▲	3	50	42	22	11	17	-	10.4	6.3	21	40	2	0.3	SB1025
	13050HR-4	▲	4	50	42	22	11	17	-	10.4	6.3	21	40	2	0.3	
	13063HR-4	▲	4	63	49	22	11	18	-	10.4	6.3	21	40	2	0.5	SB1025
	13063HR-5	▲	5	63	49	22	11	18	-	10.4	6.3	21	40	2	0.5	
	13080HR-5	▲	5	80	57	27	14	20	-	12.4	7	23	50	2	1	SB1230
	13080HR-6	▲	6	80	57	27	14	20	-	12.4	7	23	50	2	1	
	13085HR-6	▲	6	85	57	27	14	20	-	12.4	7	23	50	2	1.2	SB1230
	13100HR-6	▲	6	100	67	32	18	26	-	14.4	8	25	50	2	1.6	SB1630
	13100HR-7	▲	7	100	67	32	18	26	-	14.4	8	25	50	2	1.6	
	13125HR-7	▲	7	125	87	40	22	32	52	16.4	9	29	63	2	3.2	SB2040 MBA-M20
	13125HR-8	▲	8	125	87	40	22	32	52	16.4	9	29	63	2	3.2	

▲: Available in Europe ●: Available in Korea ○: Order-made item

Available Inserts



WNMX-MF



WNMX-MM

Designation	Cermet		Coated										Uncoated			
	CN30	CN2000	NC5330	NCM825	NCM335	PC3500	PC3545	PC3600	PC5300	PC5400	PC6510	PC8110	PC9530	A30	G10E	H01
WNMX 130520ZNN-MF									▲	○						
130520ZNN-MM				●	●	●	●	○	○	●	●	●	●			
130520ZNN-MR									●							

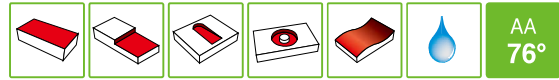
▲: Available in Europe ●: Available in Korea ○: Order-made item

Parts

Specification	Screw 	Wrench
Ø50 - Ø125	FTKA0412B	TW15S

HRMDouble

HRMDCM16



AR: -7°
RR: -12° - 4°

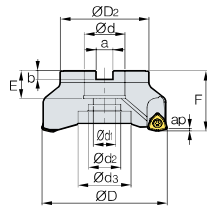


Fig. 1

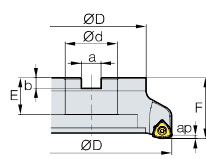


Fig. 2

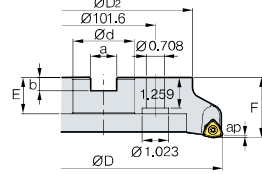


Fig. 3

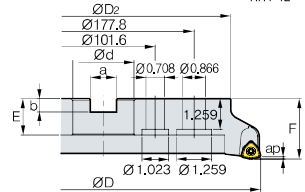


Fig. 4

(mm)

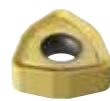
Designation	Stock		ØD	ØD2	Ød	Ød1	Ød2	Ød3	a	b	E	F	ap		Bolt	Fig.	
HRMDCM	16080HR-4	▲	4	80	65	27	14	20	-	12.4	7	23	50	2.5	0.99	SB1230	1
	16080HR-5	▲	5	80	65	27	14	20	-	12.4	7	23	50	2.5	0.91		
	16100HR-5	▲	5	100	85	32	18	26	-	14.4	8	25	50	2.5	1.68	SB1630	1
	16100HR-6	▲	6	100	85	32	18	26	-	14.4	8	25	50	2.5	1.64		
	16125HR-6	▲	6	125	100	40	22	32	52	16.4	9	29	63	2.5	3.23	SB2040	1
	16125HR-7	▲	7	125	100	40	22	32	52	16.4	9	29	63	2.5	3.24		
	16160R-7	▲	7	160	107	40	-	90	-	16.4	9	32	63	2.5	3.73	MBA-M24	2
	16160R-8	▲	8	160	107	40	-	90	-	16.4	9	32	63	2.5	3.77		
	16200R-8	▲	8	200	145	60	-	132	-	25.7	14	38	63	2.5	6.48	-	3
	16200R-10	▲	10	200	145	60	-	132	-	25.7	14	38	63	2.5	6.61		
	16250R-10	▲	10	250	190	60	-	190	-	25.7	14	38	63	2.5	11.01	-	3
	16250R-12	▲	12	250	190	60	-	190	-	25.7	14	38	63	2.5	11.04		
	16315R-12	▲	12	315	250	60	-	238	-	25.7	14	38	63	2.5	18.34	-	4
	16315R-14	▲	14	315	250	60	-	238	-	25.7	14	38	63	2.5	18.35		

▲: Available in Europe ●: Available in Korea ○: Order-made item

Available Inserts



WNMX-MF



WNMX-MM

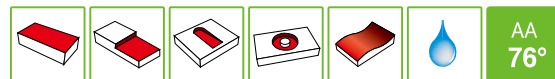
Designation	Cermet		Coated										Uncoated			
	CN30	CN2000	NC5330	NCM325	NCM335	PC3500	PC3545	PC3600	PC5300	PC5400	PC6510	PC8110	PC9530	A30	G10E	H01
WNMX 160720ZNN-MF									●	●						
160720ZNN-MM			●			●		●	●	●						

▲: Available in Europe ●: Available in Korea ○: Order-made item

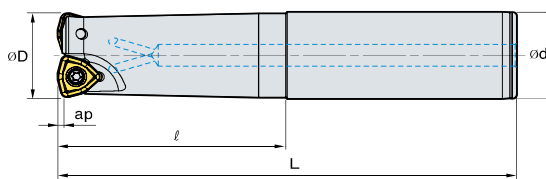
Parts

Specification	Screw	Wrench
Ø8 - Ø315	 FTGA0513-P	 TW20-100

HRMDS06



AA 76°
AR -7°
RR -17° - 25°



(mm)

Designation	Stock		ØD	Ød	l	L	ap		
HRMDS	0616HR-2S16	▲	2	16	16	30	110	1.0	0.15
	0616HR-2M16	▲	2	16	16	70	150	1.0	0.20
	0616HR-2L16	▲	2	16	16	100	200	1.0	0.26
	0617HR-2S16	▲	2	17	16	20	110	1.0	0.15
	0617HR-2M16	▲	2	17	16	20	150	1.0	0.21
	0617HR-2L16	▲	2	17	16	20	200	1.0	0.28
	0618HR-2S16	▲	2	18	16	20	110	1.0	0.15
	0618HR-2M16	▲	2	18	16	20	150	1.0	0.21
	0618HR-2L16	▲	2	18	16	20	200	1.0	0.28
	0620HR-2S20	▲	2	20	20	50	130	1.0	0.28
	0620HR-2M20	▲	2	20	20	100	180	1.0	0.38
	0620HR-2L20	▲	2	20	20	130	250	1.0	0.53
	0621HR-2S20	▲	2	21	20	20	130	1.0	0.29
	0621HR-2M20	▲	2	21	20	20	180	1.0	0.40
	0621HR-2L20	▲	2	21	20	20	250	1.0	0.57
	0625HR-3S25	▲	3	25	25	60	140	1.0	0.44
	0625HR-3M25	▲	3	25	25	80	180	1.0	0.57
	0625HR-3L25	▲	3	25	25	120	250	1.0	0.80
	0626HR-3S25	▲	3	26	25	30	140	1.0	0.46
	0626HR-3M25	▲	3	26	25	30	180	1.0	0.60
0626HR-3L25	▲	3	26	25	30	250	1.0	0.84	
0632HR-4S32	▲	4	32	32	70	150	1.0	0.82	
0632HR-4M32	▲	4	32	32	100	200	1.0	1.10	
0632HR-4L32	▲	4	32	32	180	300	1.0	1.66	
0633HR-4S32	▲	4	33	32	40	200	1.0	1.14	
0633HR-4M32	▲	4	33	32	40	250	1.0	1.43	
0633HR-4L32	▲	4	33	32	40	300	1.0	1.73	

▲: Available in Europe ●: Available in Korea ○: Order-made item

Available Inserts



WNMX-MF



WNMX-MM

Designation	Cermet		Coated										Uncoated			
	CN30	CN2000	NC5330	NCM325	NCM335	PC3500	PC3545	PC3600	PC5300	PC5400	PC6510	PC8110	PC9530	A30	G10E	H01
WMMX 060312ZNN-MF									▲	▲						
060312ZNN-MM			▲	▲		▲	▲	▲	○	○			▲			

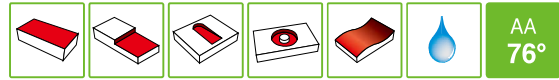
▲: Available in Europe ●: Available in Korea ○: Order-made item

Parts

Specification	Screw	Wrench
Ø16 - Ø33	ETNA02506	TW07S

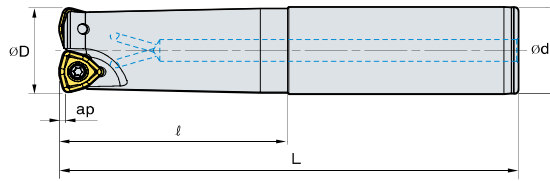
HRMDouble

HRMDS09



AA
76°

AR: -7°
RR: -17° - 25°



(mm)

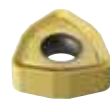
Designation	Stock		ØD	Ød	l	L	ap		
HRMDS	0925HR-2S25	▲	2	25	25	60	140	1.5	0.5
	0925HR-2M25	▲	2	25	25	120	200	1.5	0.6
	0925HR-2L25	▲	2	25	25	180	300	1.5	1
	0926HR-2S25	▲	2	26	25	60	140	1.5	0.5
	0926HR-2M25	▲	2	26	25	60	200	1.5	0.7
	0926HR-2L25	▲	2	26	25	60	300	1.5	1
	0930HR-3S32	○	3	30	32	70	150	1.5	0.8
	0930HR-3M32	▲	3	30	32	120	200	1.5	1
	0930HR-3L32	▲	3	30	32	180	300	1.5	1.5
	0932HR-3S32	▲	3	32	32	70	150	1.5	0.8
	0932HR-3M32	▲	3	32	32	120	200	1.5	1.1
	0932HR-3L32	▲	3	32	32	180	300	1.5	1.7
	0933HR-3S32	▲	3	33	32	70	150	1.5	0.8
	0933HR-3M32	▲	3	33	32	70	200	1.5	1.1
	0933HR-3L32	▲	3	33	32	70	300	1.5	1.7
	0935HR-4S32	▲	4	35	32	50	150	1.5	0.9
	0935HR-4M32	▲	4	35	32	50	200	1.5	1.1
	0935HR-4L32	▲	4	35	32	50	300	1.5	1.7
	0940HR-4S32	▲	4	40	32	50	150	1.5	0.9
0940HR-4L32	▲	4	40	32	50	300	1.5	1.8	
0940HR-4S40	▲	4	40	40	60	150	1.5	1.3	

▲: Available in Europe ●: Available in Korea ○: Order-made item

Available Inserts



WNMX-MF



WNMX-MM

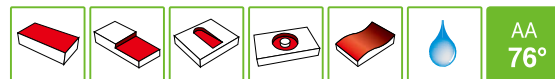
Designation	Cermet		Coated										Uncoated			
	CN30	CN2000	NC5330	NCM325	NCM335	PC3500	PC3545	PC3600	PC5300	PC5400	PC6510	PC8110	PC9530	A30	G10E	H01
WNMX 09T316ZNN-MF									▲	▲						
09T316ZNN-MM				▲	▲	▲	▲	▲	▲	▲	▲		▲			
09T316ZNN-MR									▲							

▲: Available in Europe ●: Available in Korea ○: Order-made item

Parts

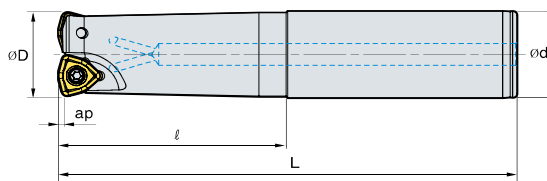
Specification	Screw 	Wrench
Ø25 - Ø40	FTKA0307	TW09S

HRMDS09



AA
76°

• AR : -7°
• RR : -17° - 25°



(mm)

Designation		Stock		ØD	Ød	l	L	ap	
HRMDS	0940HR-4M40	○	4	40	40	130	250	1.5	2.2
	0940HR-4L40	▲	4	40	40	180	300	1.5	2.7
	0950HR-4S32	▲	4	50	32	40	150	1.5	1.1
	0950HR-4M32	▲	4	50	32	40	250	1.5	1.6
	0950HR-4L32	▲	4	50	32	40	300	1.5	2
	0950HR-4S40	▲	4	50	40	40	150	1.5	1.4
	0950HR-4M40	▲	4	50	40	40	250	1.5	2.4
	0950HR-4L40	▲	4	50	40	40	300	1.5	2.9
	0950HR-5S32	▲	5	50	32	40	150	1.5	1.1
	0950HR-5M32	▲	5	50	32	40	250	1.5	1.6
	0950HR-5L32	▲	5	50	32	40	300	1.5	2
	0950HR-5S40	▲	5	50	40	40	150	1.5	1.4
	0950HR-5M40	▲	5	50	40	40	250	1.5	2.4
	0950HR-5L40	▲	5	50	40	40	300	1.5	2.9

▲: Available in Europe ●: Available in Korea ○: Order-made item

Available Inserts



WNMX-MF



WNMX-MM

Designation	Cermet		Coated										Uncoated			
	CN30	CN2000	NC5330	NCM325	NCM335	PC3500	PC3545	PC3600	PC5300	PC5400	PC6510	PC8110	PC9530	A30	G10E	H01
WNMX 09T316ZNN-MF									▲	▲						
09T316ZNN-MM				▲	▲	▲	▲	▲	▲	▲	▲		▲			
09T316ZNN-MR									▲							

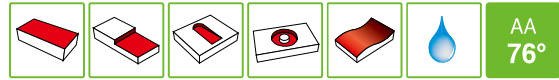
▲: Available in Europe ●: Available in Korea ○: Order-made item

Parts

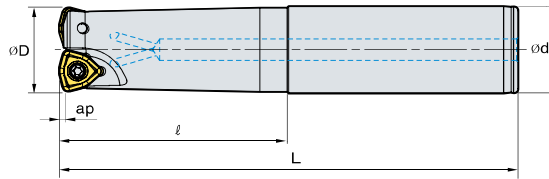
Specification	Screw 	Wrench
Ø40 - Ø50	FTKA0307	TW09S

HRMDouble

HRMDS13



AA
76°



(mm)

Designation	Stock		ØD	Ød	l	L	ap		
HRMDS	1332HR-2S32	▲	2	32	32	70	150	2	0.8
	1332HR-2M32	▲	2	32	32	120	200	2	1
	1332HR-2L32	▲	2	32	32	180	300	2	1.6
	1333HR-2S32	▲	2	33	32	70	150	2	0.8
	1333HR-2M32	▲	2	33	32	70	200	2	1.1
	1333HR-2L32	▲	2	33	32	70	300	2	1.7
	1335HR-2S32	▲	2	35	32	50	150	2	0.8
	1335HR-2M32	▲	2	35	32	50	200	2	1.1
	1335HR-2L32	▲	2	35	32	50	300	2	1.7
	1340HR-3S32	▲	3	40	32	50	150	2	0.8
	1340HR-3M32	▲	3	40	32	50	250	2	1.4
	1340HR-3L32	▲	3	40	32	50	300	2	1.7
	1340HR-3S40	▲	3	40	40	60	150	2	1.2
	1340HR-3M40	▲	3	40	40	130	250	2	2.1
	1340HR-3L40	▲	3	40	40	180	300	2	2.6
	1340HR-3S42	▲	3	40	42	60	150	2	1.4
	1340HR-3M42	▲	3	40	42	130	250	2	2.3
	1340HR-3L42	▲	3	40	42	180	300	2	2.7
	1350HR-3S32	▲	3	50	32	50	150	2	1.1
	1350HR-3M32	▲	3	50	32	50	250	2	1.7
1350HR-3L32	▲	3	50	32	50	300	2	2	
1350HR-3S40	▲	3	50	40	50	150	2	1.5	
1350HR-3M40	▲	3	50	40	50	250	2	2.4	
1350HR-3L40	▲	3	50	40	50	300	2	2.9	

▲: Available in Europe ●: Available in Korea ○: Order-made item

Available Inserts



WNMX-MF



WNMX-MM

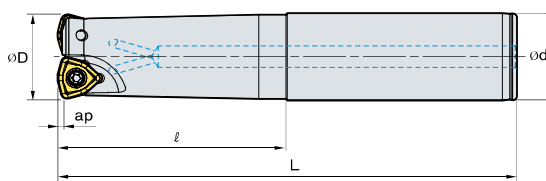
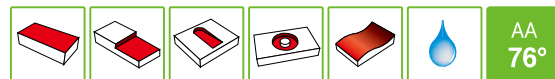
Designation	Cermet		Coated										Uncoated			
	CN30	CN2000	NC5330	NCM325	NCM335	PC3500	PC3545	PC3800	PC5300	PC5400	PC6510	PC8110	PC9530	A30	G10E	H01
WNMX 130520ZNN-MF									▲	○						
130520ZNN-MM				●	●	●	●	○	○	●	●	●	●			
130520ZNN-MR									●							

▲: Available in Europe ●: Available in Korea ○: Order-made item

Parts

Specification	Screw	Wrench
Ø32 - Ø50	 FTKA0412B	 TW15S

HRMDS13



AA 76°
 · AR : -7°
 · RR : -14° - 16°

(mm)

Designation	Stock		ØD	Ød	l	L	ap		
HRMDS	1350HR-4S32	▲	4	50	32	50	150	2	1.1
	1350HR-4M32	▲	4	50	32	50	250	2	1.7
	1350HR-4L32	▲	4	50	32	50	300	2	2
	1350HR-4S40	▲	4	50	40	50	150	2	1.5
	1350HR-4M40	▲	4	50	40	50	250	2	2.4
	1350HR-4L40	▲	4	50	40	50	300	2	2.9
	1350HR-4S42	▲	4	50	42	50	150	2	1.6
	1363HR-4S32	▲	4	63	32	50	150	2	1.4
	1363HR-4M32	▲	4	63	32	50	250	2	2.1
	1363HR-4L32	▲	4	63	32	50	300	2	2.4
	1363HR-4S40	▲	4	63	40	50	150	2	1.8
	1363HR-4M40	▲	4	63	40	50	250	2	2.8
	1363HR-4L40	▲	4	63	40	50	300	2	3.2
	1363HR-5S32	▲	5	63	32	50	150	2	1.5
	1363HR-5M32	▲	5	63	32	50	250	2	2
	1363HR-5L32	▲	5	63	32	50	300	2	2.3
1363HR-5S40	▲	5	63	40	50	150	2	1.8	
1363HR-5M40	▲	5	63	40	50	250	2	2.8	
1363HR-5L40	▲	5	63	40	50	300	2	3.2	

▲: Available in Europe ●: Available in Korea ○: Order-made item

Available Inserts



WNMX-MF



WNMX-MM

Designation	Cermet		Coated										Uncoated			
	CN30	CN2000	NC5330	NCM325	NCM335	PC3500	PC3545	PC3600	PC5300	PC5400	PC6510	PC8110	PC9530	A30	G10E	H01
WNMX 130520ZNN-MF									▲	○						
130520ZNN-MM				●	●	●	●	○	○	●	●	●	●			
130520ZNN-MR									●							

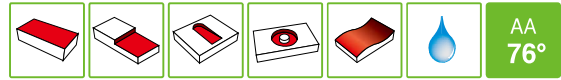
▲: Available in Europe ●: Available in Korea ○: Order-made item

Parts

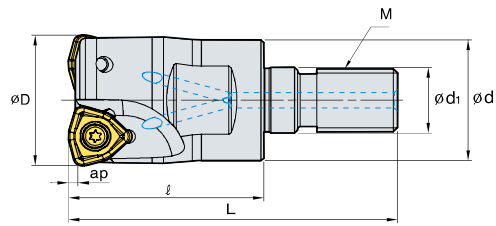
Specification	Screw	Wrench
Ø50 - Ø63	FTKA0412B	TW15S

HRMDouble

HRMDM06



AR : -7°
RR : -18° - 25°



(mm)

Designation	Stock		ØD	Ød	Ød1	l	L	M	ap		
HRMDM	0616HR-M08	▲	2	16	14.5	8.5	25	42	M8	1.0	0.03
	0617HR-M08	▲	2	17	14.5	8.5	25	42	M8	1.0	0.03
	0618HR-M08	▲	2	18	14.5	8.5	25	42	M8	1.0	0.03
	0620HR-M10	▲	2	20	18	10.5	30	51	M10	1.0	0.06
	0621HR-M10	▲	2	21	18	10.5	30	51	M10	1.0	0.07
	0625HR-M12	▲	3	25	23	12.5	35	59	M12	1.0	0.10
	0626HR-M12	▲	3	26	23	12.5	35	59	M12	1.0	0.11
	0632HR-M16	▲	4	32	29	17	40	67	M16	1.0	0.21
0633HR-M16	○	4	33	29	17	40	67	M16	1.0	0.22	

▲: Available in Europe ●: Available in Korea ○: Order-made item

Available Inserts



WNNX-MF



WNNX-MM

Designation	Cermet		Coated										Uncoated			
	CN80	CN2000	NC5330	NCM325	NCM335	PC3500	PC3545	PC3600	PC5300	PC5400	PC6510	PC8110	PC9530	A30	G10E	H01
WNNX	060312ZNN-MF								▲	▲						
	060312ZNN-MM			▲	▲		▲	▲	▲	○	○		▲			

▲: Available in Europe ●: Available in Korea ○: Order-made item

Available Adaptor

Designation	Available Adaptor	Designation	Available Adaptor		
HRMDM	06068HR-M08	MAT- M08	HRMDM	06112HR-M12	MAT- M12
	06075HR-M10	MAT- M10		06125HR-M16	MAT- M16
	06087HR-M10	MAT- M10		06137HR-M16	MAT- M16
	06100HR-M12	MAT- M12			

Designation: HRMDMA06125HR-M16
Modular Head Threading Measure size(M16)

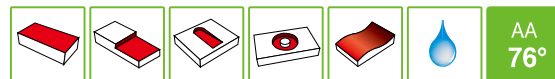
||

Adaptor Spec.: MATA-M16-137-S125S
Adaptor Threading Measure(M16)

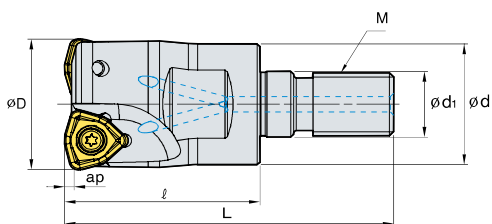
Parts

Specification	Screw	Wrench
Ø16 - Ø33	 ETNA02506	 TW07S

HRMDM09/13



AR : -7°
RR : -18° - 25°



(mm)

Designation	Stock		ØD	Ød	Ød1	l	L	M	ap	
HRMDM	0925HR-M12	▲	2	25	23	12.5	35	59	M12	0.10
	0926HR-M12	▲	2	26	23	12.5	35	59	M12	0.11
	0930HR-M16	▲	3	30	29	17	40	67	M16	0.19
	0932HR-M16	▲	3	32	29	17	40	67	M16	0.20
	0933HR-M16	▲	3	33	29	17	40	67	M16	0.21
	0935HR-M16	▲	4	35	29	17	40	67	M16	0.22
	0940HR-M16	▲	4	40	29	17	40	67	M16	0.25
	1332HR-M16	▲	2	32	29	17	40	67	M16	0.20
	1333HR-M16	▲	2	33	29	17	40	67	M16	0.20
	1335HR-M16	▲	2	35	29	17	40	67	M16	0.22
1340HR-M16	▲	3	40	29	17	45	72	M16	0.26	

▲: Available in Europe ●: Available in Korea ○: Order-made item

Available Inserts



WNMX-MF



WNMX-MM

Type	Designation	Cermet		Coated										Uncoated			
		CN30	CN2000	NC5330	NCM325	NCM335	PC3500	PC3545	PC3600	PC3300	PC5400	PC6510	PC8110	PC9530	A30	G10E	H01
09 type	WNMX 09T316ZNN-MF									▲	▲						
	WNMX 09T316ZNN-MM				▲	▲	▲	▲	▲	▲	▲			▲			
	WNMX 09T316ZNN-MR									▲							
13 type	WNMX 130520ZNN-MF									▲	○						
	WNMX 130520ZNN-MM				●	●	●	●	○	○	●	●	●				
	WNMX 130520ZNN-MR									●							

▲: Available in Europe ●: Available in Korea ○: Order-made item

Available Adaptor

Designation	Available Adaptor	Designation	Available Adaptor
HRMDM	MATA- M12	09100HR-M12	MATA- M16
		09106HR-M12	
		09118HR-M16	
	MATA- M16	09125HR-M16	
		09131HR-M16	
		09137HR-M16	
		09150HR-M16	
HRMDM		13125HR-M16	
		13131HR-M16	
		13137HR-M16	
		13150HR-M16	

Designation : HRMDMA09125HR-M16
Modular Head Threading Measure size(M16)

||

Adaptor Spec. : MATA-M16-035-S32S
Adaptor Threading Measure(M16)

Parts

Specification	Screw	Wrench
Ø25 - Ø40	FTKA0307	TW09S
Ø32 - Ø40	FTKA0412B	TW15S

HRMDouble

⇒ MAT (Steel Shank type)

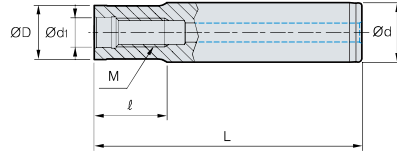


Fig. 1

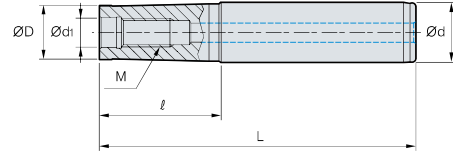


Fig. 2

(mm)

Designation		$\varnothing D$	$\varnothing d$	$\varnothing d_1$	ℓ	L	M	Fig.
MAT-	M06-020-S10S	9.5	10	6.5	20	70	M6	1
	M6B-020-S12S	11.0	12	6.5	20	76	M6	1
	M6B-040-S12S	11.0	12	6.5	40	96	M6	1
	M08-020-S16S	14.5	16	8.5	20	80	M8	1
	M10-030-S20S	18.0	20	10.5	30	100	M10	1
	M12-030-S25S	22.5	25	12.5	29	110	M12	1
	M16-035-S32S	28.5	32	17.0	35	125	M16	1
	M06-040-S12T	9.5	12	6.5	40	96	M6	2
	M06-065-S16T	9.5	16	6.5	65	125	M6	2
	M6B-065-S16T	11.0	16	6.5	65	125	M6	2
	M6B-080-S16T	11.0	16	6.5	80	140	M6	2
	M08-040-S16T	14.5	16	8.5	40	100	M8	2
	M08-065-S16T	14.5	16	8.5	65	125	M8	2
	M08-080-S20T	14.5	20	8.5	80	150	M8	2
	M08-110-S25T	14.5	25	8.5	110	190	M8	2
	M10-050-S20T	18.0	20	10.5	50	120	M10	2
	M10-070-S20T	18.0	20	10.5	70	140	M10	2
	M10-090-S25T	18.0	25	10.5	90	170	M10	2
	M10-110-S25T	18.0	25	10.5	110	190	M10	2
	M10-130-S32T	18.0	32	10.5	130	220	M10	2
	M12-050-S25T	22.5	25	12.5	50	130	M12	2
	M12-070-S25T	22.5	25	12.5	70	150	M12	2
	M12-090-S25T	22.5	25	12.5	90	170	M12	2
	M12-110-S32T	22.5	32	12.5	110	200	M12	2
	M12-175-S40T	22.5	40	12.5	175	300	M12	2
	M16-055-S32T	28.5	32	17.0	55	145	M16	2
	M16-080-S32T	28.5	32	17.0	80	170	M16	2
	M16-120-S32T	28.5	32	17.0	120	210	M16	2
	M16-175-S40T	28.5	40	17.0	175	300	M16	2

- S: Straight Neck Adapter
- T: Taper Neck Adapter

⇒ MAT-C (Carbide Shank type)

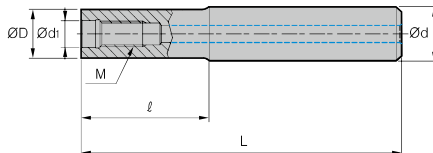


Fig. 1

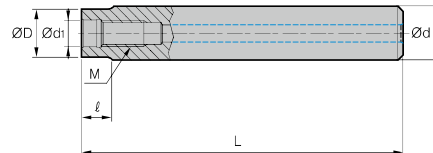


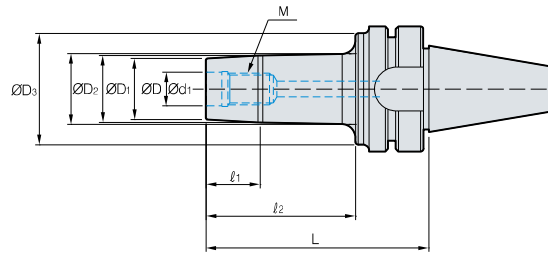
Fig. 1

(mm)

	Designation	ØD	Ød	Ød1	ℓ	L	M	Fig.
MAT-	M06-030-S10S-C-80	9.5	10	6.5	30	80	M6	1
	M06-050-S10S-C-100	9.5	10	6.5	50	100	M6	1
	M06-080-S10S-C-130	9.5	10	6.5	80	130	M6	1
	M08-080-S16S-C	14.5	16	8.5	80	150	M8	1
	M08-110-S16S-C	14.5	16	8.5	110	180	M8	1
	M08-150-S16S-C	14.5	16	8.5	150	250	M8	1
	M08-010-S16S-C-150	14.5	16	8.5	10	150	M8	2
	M08-010-S16S-C-180	14.5	16	8.5	10	180	M8	2
	M08-010-S16S-C-250	14.5	16	8.5	10	250	M8	2
	M10-090-S20S-C	18.0	20	10.5	90	170	M10	1
	M10-110-S20S-C	18.0	20	10.5	110	200	M10	1
	M10-175-S20S-C	18.0	20	10.5	175	300	M10	1
	M10-010-S20S-C-170	18.0	20	10.5	10	170	M10	2
	M10-010-S20S-C-200	18.0	20	10.5	10	200	M10	2
	M10-010-S20S-C-300	18.0	20	10.5	10	300	M10	2
	M12-090-S25S-C	22.5	25	12.5	90	170	M12	1
	M12-110-S25S-C	22.5	25	12.5	110	200	M12	1
	M12-175-S25S-C	22.5	25	12.5	175	300	M12	1
	M12-015-S25S-C-170	22.5	25	12.5	15	170	M12	2
	M12-015-S25S-C-200	22.5	25	12.5	15	200	M12	2
	M12-015-S25S-C-300	22.5	25	12.5	15	300	M12	2
	M16-090-S32S-C	28.5	32	17.0	90	180	M16	1
	M16-120-S32S-C	28.5	32	17.0	120	210	M16	1
	M16-175-S32S-C	28.5	32	17.0	175	300	M16	1
	M16-020-S32S-C-180	28.5	32	17.0	20	180	M16	2
	M16-020-S32S-C-210	28.5	32	17.0	20	210	M16	2
	M16-020-S32S-C-300	28.5	32	17.0	20	300	M16	2

HRMDouble

➔ BT30 / BT40 / BT50



* Also available as SK type

(mm)

	Designation	ØD	ØD1	ØD2	ØD3	Ød1	l1	l2	L	M
BT30-	MAT-M06-053	11	11.7	13	30	6.5	5	21	53	M6x1.0
	MAT-M08-057	14.5	15.7	17.5	35	8.5	7	25	57	M8x1.25
	MAT-M10-062	18	19.7	24	38	10.5	7	30	62	M10x1.5
	MAT-M12-067	23	24.7	27.5	41	12.5	10	35	67	M12x1.75
	MAT-M16-067	29	31.7	33.5	41	17	10	35	67	M16x2.0
BT40-	MAT-M06-062	11	11.7	14	40	6.5	5	25	62	M6x1.0
	MAT-M06-077	11	11.7	14	40	6.5	5	40	77	M6x1.0
	MAT-M06-092	11	11.7	14	40	6.5	5	55	92	M6x1.0
	MAT-M08-067	14.5	15.7	19	44	8.5	7	30	67	M8x1.25
	MAT-M08-082	14.5	15.7	19	44	8.5	7	45	82	M8x1.25
	MAT-M08-097	14.5	15.7	19	44	8.5	7	60	97	M8x1.25
	MAT-M10-072	18	19.7	23	50	10.5	10	35	72	M10x1.5
	MAT-M10-087	18	19.7	23	50	10.5	10	50	87	M10x1.5
	MAT-M10-102	18	19.7	23	50	10.5	10	65	102	M10x1.5
	MAT-M12-077	23	24.7	30	55	12.5	10	40	77	M12x1.75
	MAT-M12-092	23	24.7	30	55	12.5	13	55	92	M12x1.75
	MAT-M12-107	23	24.7	30	55	12.5	13	70	107	M12x1.75
	MAT-M16-077	29	31.7	37	55	17	13	40	77	M16x2.0
	MAT-M16-092	29	31.7	37	55	17	13	55	92	M16x2.0
	MAT-M16-107	29	31.7	37	55	17	13	70	107	M16x2.0
BT50-	MAT-M06-083	11	11.7	15	40	6.5	5	35	83	M6x1.0
	MAT-M06-098	11	11.7	15	40	6.5	5	50	98	M6x1.0
	MAT-M06-113	11	11.7	15	40	6.5	5	65	113	M6x1.0
	MAT-M08-088	14.5	15.7	20	45	8.5	7	40	88	M8x1.25
	MAT-M08-103	14.5	15.7	20	45	8.5	7	55	103	M8x1.25
	MAT-M08-118	14.5	15.7	20	45	8.5	7	70	118	M8x1.25
	MAT-M10-093	18	19.7	25	55	10.5	10	45	93	M10x1.5
	MAT-M10-113	18	19.7	25	55	10.5	10	65	113	M10x1.5
	MAT-M10-128	18	19.7	25	55	10.5	10	80	128	M10x1.5
	MAT-M12-103	23	24.7	33	65	12.5	10	55	103	M12x1.75
	MAT-M12-118	23	24.7	33	65	12.5	13	70	118	M12x1.75
	MAT-M12-133	23	24.7	33	65	12.5	13	85	133	M12x1.75
	MAT-M16-103	29	31.7	41	85	17	13	55	103	M16x2.0
	MAT-M16-118	29	31.7	41	85	17	13	70	118	M16x2.0
	MAT-M16-133	29	31.7	41	85	17	13	85	133	M16x2.0



Head Office

Holystar B/D, 1350, Nambusunhwan-ro, Geumcheon-gu, Seoul, 08536, Korea
Tel: +82-2-522-3181, Fax: +82-2-522-3184, +82-2-3474-4744
Web: www.korloy.com E-mail: export@korloy.com

Cheongju Factory

55, Sandan-ro, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do, 28589, Korea
Tel: +82-43-262-0141, Fax: +82-43-262-0146

Jincheon Factory

54, Gwanghyewonsandan 2-gil, Gwanghyewon-myeon, Jincheon-gun, Chungcheongbuk-do, 27807, Korea
Tel: +82-43-535-0141, Fax: +82-43-535-0144

R & D Institute

55, Sandan-ro, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do, 28589, Korea
Tel: +82-43-262-0141, Fax: +82-43-262-0711



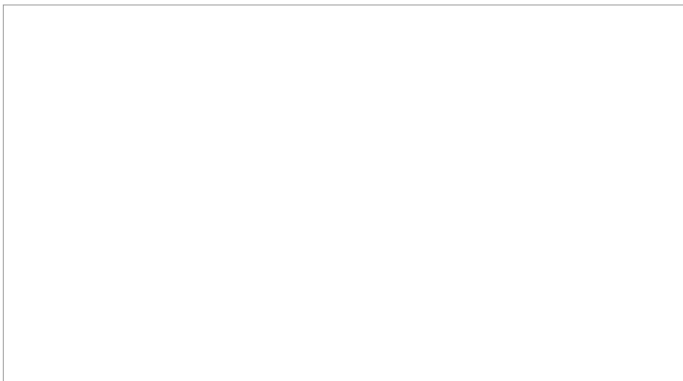
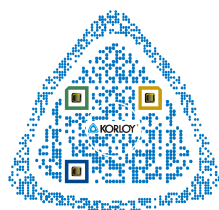
620 Maple Avenue, Torrance, CA 90503, USA
Tel: +1-310-782-3800, Toll Free: +1-888-711-0001, Fax: +1-310-782-3885
Web: www.korloyamerica.com E-mail: sales@korloy.us



Ground Floor, Property No. 217, Udyog Vihar Phase 4, Gurgaon 122016, Haryana, India
Tel: +91-124-4050030, Fax: +91-124-4050032
Web: www.korloyindia.com E-mail: sales.kip@korloy.com



Av. Aruana 280, conj.12, WLC, Alphaville, Barueri, CEP06460-010, SP, Brasil
Tel: +55-11-4193-3810
E-mail: vendas@korloy.com



Gablonzer Str. 25-27, D-61440 Oberursel, Germany
Tel: +49-6171-277-83-0, Fax: +49-6171-277-83-59
Web: www.korloyeurope.com E-mail: info@korloyeurope.com

20170621
TN13-EN-01