

## DDM type



## “ Diemaster ”



# DIEMASTER TOOLS

## ENDMILLS AND PROFILING FACEMILLS

The Dijet Diemaster Tools are designed to offer high productivity and security in the die making, aerospace and automobile industries. Diemaster can be utilised on conventional, NC, CNC, and copy milling machines. For semi-finish and finish machining operations the endmill style tools in diameters 12, 16, 20, 25, 32 and 40mm are recommended for both shallow and deep forms.

For rough and semi-finish machining the profile type facemills are recommended in diameters 40 to 160mm. These products are ideally suited to external profile milling, cavity (pocket) milling and general face milling where high metal removal is required.

### DIEMASTER ENDMILLS

For slot milling, peripheral milling, rampmilling and drilling, pocket milling and copy milling. Precision type inserts are available in a wide range of coated or uncoated carbide grades, which will permit efficient machining in most materials.

Insert diameters include 5, 7, 10 and 12 mm.

Five choices of tool length are included as standard.



### DIEMASTER PROFILE TYPE FACEMILLS

Predominantly for facemilling, cavity milling and profile milling. The strength of the round insert enables Dijet Diemaster to achieve high metal removal rates with good insert security.

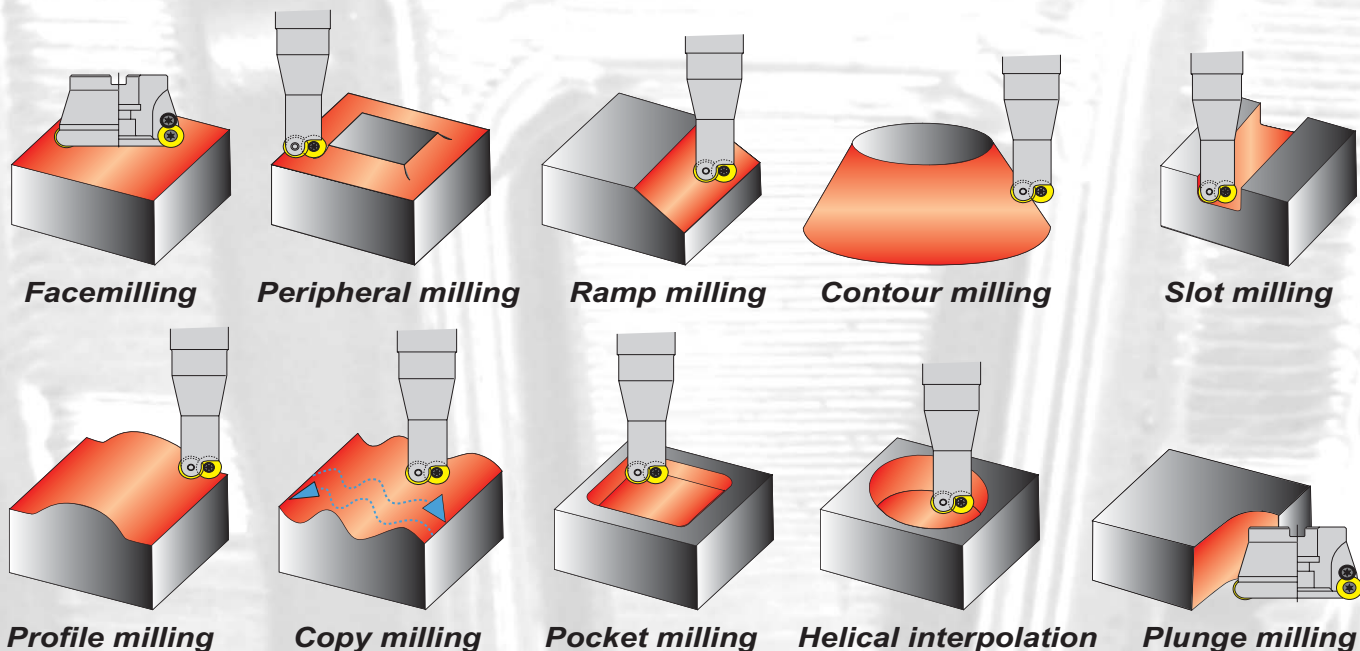
Insert diameters include 12 and 16 mm.

Eight body diameters are available from 40 to 160 mm.

Body diameters 52, 63, 66 and 80 mm provide a choice of either 12 or 16 mm insert diameter.



### Versatility of Diemaster



“ Diemaster ”



■ **DDM Indexable End Mill type**



Fig.1 Weldon shank type.

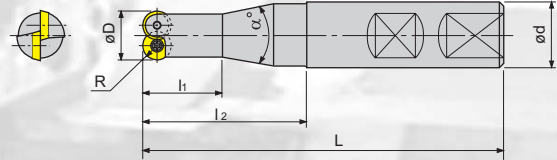
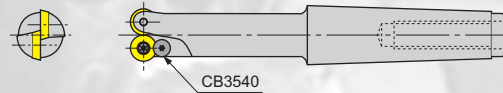


Fig.2 Morse taper shank type.



■ **Body**

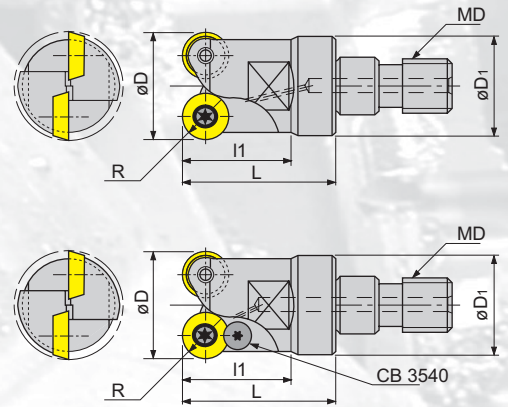
Cat. No.	Stock	No. of inserts	Dimensions (mm)							Fig.	Applicable insert	Parts		
			$\phi D$	R	$l_1$	$l_2$	L	$\alpha^\circ$	$\phi d$			Clamp screw	Clamp bolt	Wrench
DDM-2120 - 40-W16	●	2		3.5	20	40	88	23°	W16	1	RDHX0701MO.	CSW-2542 (0.9 Nm)	-	A-07
DDM-2120 - 60-W16	●	2	12	3.5	20	60	108	9°	W16	1				
DDM-2120 - 80-W20	●	2		3.5	20	80	130	10°	W20	1				
DDM-2160 - 40-W16	●	2		3.5	20	40	88	0°	W16	1	RDHX0702MO.	CSW-2547 (0.9 Nm)	-	A-07
DDM-2160 - 60-W16	●	2		3.5	20	60	108	2°41'	W16	1				
DDM-2160 - 60-MT2	○	2	16	3.5	60	60	129	0°	MT2	2				
DDM-2160 - 80-W20	●	2		3.5	20	80	130	6°03'	W20	1				
DDM-2160 -100-W20	●	2		3.5	20	100	150	4°22'	W20	1	RDHX1003MO.	CSW-3570 (2.1 Nm)	-	A-15
DDM-2160 -100-MT2	○	2		3.5	20	100	169	2°	MT2	2				
DDM-2200 - 40-W20	●	2		5	23	40	90	0°	W20	1				
DDM-2200 - 60-W20	●	2		5	23	60	110	3°10'	W20	1				
DDM-2200 - 60-MT3	○	2		5	21	60	136	6°40'	MT3	2	RDHX12T3MO.	CSW-3595 (2.1 Nm)	CB3540	A-15
DDM-2200 - 80-W25	●	2	20	5	23	80	136	8°	W25	1				
DDM-2200-100-W25	●	2		5	23	100	156	5°30'	W25	1				
DDM-2200-120-W25	●	2		5	23	120	176	4°20'	W25	1				
DDM-2200-120-MT3	○	2		5	30	120	206	3°	MT3	2	RDHX12T3MO.	CSW-3595 (2.1 Nm)	CB3540	A-15
DDM-2250 - 70-W25	●	2		6	23	70	126	3°40'	W25	1				
DDM-2250 - 80-W25	●	2		6	23	80	136	2°55'	W25	1				
DDM-2250 - 80-MT3	○	2	25	6	-	80	156	-	MT3	2				
DDM-2250-124-W25	●	2		6	-	124	180	-	W25	1	RDHX12T3MO.	CSW-3595 (2.1 Nm)	CB3540	A-15
DDM-2250-124-MT3	○	2		6	-	124	210	-	MT3	2				
DDM-2320 - 80-W32	●	2		6	30	80	140	3°	W32	1				
DDM-2320 - 80-MT3	○	2		6	-	80	160	-	MT3	2				
DDM-2320-120-MT4	○	2	32	6	-	120	229	-	MT4	2	RDHX12T3MO.	CSW-3595 (2.1 Nm)	CB3540	A-15
DDM-2320-140-W32	●	2		6	-	140	200	-	W32	1				
DDM-2320-140-MT4	○	2		6	-	140	249	-	MT4	2				
DDM-3400-110-MT4	○	3	40	6	-	110	219	-	MT4	2				
DDM-3400-140-MT4	○	3		6	-	140	249	-	MT4	2	RDHX12T3MO.	CSW-3595 (2.1 Nm)	CB3540	A-15

○ Will not be available after current stock exhausted.

## “ Diemaster ”



### ■ MDH Modular Heads type (with Through Hole)

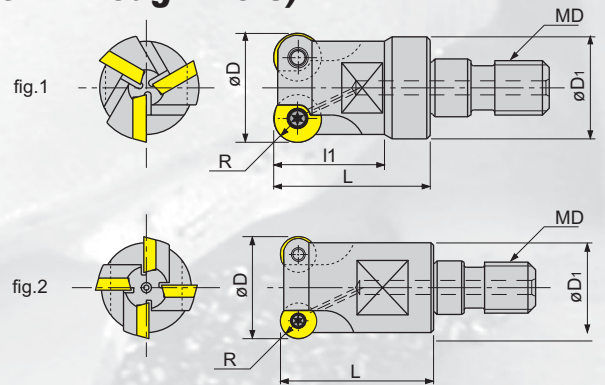


#### ■ Body

Cat. No.	Stock	No. of inserts	Dimensions (mm)						Applicable insert	Parts		
			øD	R	l <sub>1</sub>	L	øD <sub>1</sub>	MD		Clamp screw / Torque	Clamp bolt	Wrench
MDH-2120-M8	●	2	12	3.5	15	23	13	M8		CSW-2542 / (0.9 Nm)	—	A-07
MDH-2160-M8	●	2	16	3.5	16	23	15	M8		CSW-2547 / (0.9 Nm)	—	A-07
MDH-2200-M10	●	2	20	5	23	30	19	M10		CSW-3570 / (2.1 Nm)	—	A-15
MDH-2250-M12	●	2	25	5	—	35	21	M12		CSW-3570 / (2.1 Nm)	—	A-15
MDH-3320-R10-M16	●	3	32	5	—	43	29	M16		CSW-3575 / (2.1 Nm)	CB-3540	A-15
MDH-2320-R16-M16	●	2	32	8	—	43	29	M16		CSW-4510 / (5.0 Nm)	—	A-20
MDH-4400-M16	●	4	40	6	—	42	29	M16		CSW-3595 / (2.1 Nm)	CB-3540	A-15

● Soon available only with coolant hole

### ■ MDH High Speed Cutting type (with Through Hole)



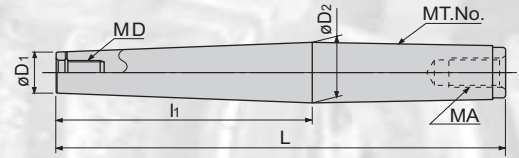
#### ■ Body

Cat. No.	Stock	No. of inserts	Fig.	Dimensions (mm)						Applicable insert	Parts	
				øD	R	l <sub>1</sub>	L	øD <sub>1</sub>	MD		Clamp screw / Torque	Wrench
MDH-3160-M8	●	3	1	16	3.5	16	23	15	M8		CSW-2542 / (0.9 Nm)	A-07
MDH-4160-M8	●	4	2		2.5	—		13.7			CSW-1838 / (0.25 Nm)	A-06
MDH-4200-M10	●	4	2	20	3.5	—	30	17.6	M10		CSW-2547 / (0.9 Nm)	A-07
MDH-5200-M10	●	5	2		2.5	—		17.8			CSW-1838 / (0.25 Nm)	A-06
MDH-5250-M12	●	5	2	25	3.5	—	35	20.8	M12		CSW-2547 / (0.9 Nm)	A-07
MDH-6350-M16	●	6	2	35	3.5	—	43	29	M16		CSW-2547 / (0.9 Nm)	A-07

● Soon available only with coolant hole

# “ Diemaster ”

## MMT Morse Taper type



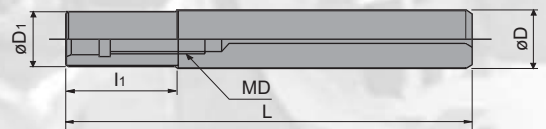
### Body

Cat. No.	Stock	Dimensions (mm)							Applicable head
		øD <sub>1</sub>	øD <sub>2</sub>	l <sub>1</sub>	L	MD	MT. No.	MA	
MMT-M8-50-MT2	○		18.030	50	119		MT2	M10	MDH-3160-M8, MDH-4160-M8 MDH-2120-M8, MDH-2160-M8
MMT-M8-80-MT3	○	15	24.076	80	166	<b>M8</b>	MT3	M12	
MMT-M8-110-MT3	○		24.076	110	196		MT3	M12	
MMT-M10-60-MT3	○		24.076	60	146		MT3	M12	MDH-4200-M10, MDH-5200-M10 MDH-2200-M10
MMT-M10-80-MT3	○	19	24.076	80	166	<b>M10</b>	MT3	M12	
MMT-M10-110-MT4	○		31.605	110	219		MT4	M16	
MMT-M12-50-MT3	○		24.076	50	136		MT3	M12	MDH-5250-M12, MDH-2250-M12
MMT-M12-80-MT3	○	21	24.076	80	166	<b>M12</b>	MT3	M12	
MMT-M12-110-MT4	○		31.605	110	219		MT4	M16	
MMT-M12-140-MT4	○		31.605	140	249		MT4	M16	
MMT-M16-50-MT4	○		31.605	50	159		MT4	M16	MDH-6350-M16, MDH-3320-R10-M16 MDH-2320-R10-M16, MDH-4400-M16
MMT-M16-80-MT4	○		31.605	80	189		MT4	M16	
MMT-M16-110-MT5	○	29	44.741	110	246	<b>M16</b>	MT5	M20	
MMT-M16-140-MT5	○		44.741	140	276		MT5	M20	
MMT-M16-180-MT5	○		44.741	180	316		MT5	M20	

○ Will not be available after current stock exhausted.

## MSN Straight Neck type (Through Coolant Hole)

- For high productivity
- High rigidity



### Body

Cat. No.	Stock	Dimensions (mm)					Applicable head
		øD	l <sub>1</sub>	L	øD <sub>1</sub>	MD	
<b>NEW</b> MSN-M8-40-S16C	●		40	95			MDH-3160-M8, MDH-4160-M8 MDH-2120-M8, MDH-2160-M8
<b>NEW</b> MSN-M8-80-S16C	●	16	80	135	15.5	<b>M8</b>	
<b>NEW</b> MSN-M8-120-S16C	●		120	175			
MSN-M10-40-S20C	●		40	100			MDH-4200-M10, MDH-5200-M10 MDH-2200-M10,
MSN-M10-90-S20C	●	20	90	150	19.5	<b>M10</b>	
MSN-M10-140-S20C	●		140	200			
MSN-M12-55-S25C	●		55	120			MDH-5250-M12, MDH-2250-M12
MSN-M12-105-S25C	●	25	105	170	24	<b>M12</b>	
MSN-M12-155-S25C	●		155	220			
MSN-M16-55-S32C	●		55	120			MDH-6350-M16, MDH-3320-R10-M16 MDH-2320-R10-M16, MDH-4400-M16
MSN-M16-105-S32C	●	32	105	170	29	<b>M16</b>	
MSN-M16-155-S32C	●		155	220			

## “ Diemaster ”

### ■ DDM-MDH Inserts



Fig.1

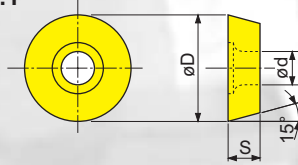
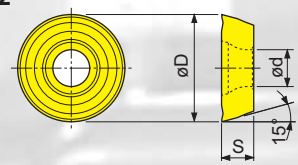


Fig.2

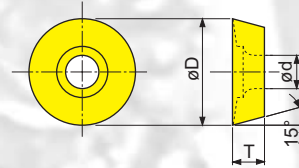


### ■ Inserts

Cat.No.	Coated					Cermet CX90	Uncoated KT9	Dimensions (mm)			Fig.	Applicable holders
	JC5003	JC5015	JC5030	JC5040	JC610			$\phi D$	S	$\phi d$		
RDHX0501MOT		●						5.0	1.38	2.0	1	MDH-4160..... MDH-5200.....
RDHX0501MOS	●											
RDHX0701MOT		●	●	●		●		7.0	1.99	2.8	1	DDM-2120..... MDH-2120..... MDH-3160.....
RDHX0701MOS	●											
RDHX0701MOF					○							
RDHX0702MOT		●	●	●		●		7.0	2.38	2.8	1	DDM-2150..... DDM-2160..... MDH-2160..... MDH-4200..... MDH-5250..... MDH-6350.....
RDHX0702MOS	●											
RDHX0702MOF					○							
RDHX1003MOT		●	●	●		●		10.0	3.18	3.9	1	DDM-2200..... MDH-2200..... MDH-2250..... MDH-3320.....
RDHX1003MOS	●											
RDHX1003MOF					○							
RDHX12T3MOT		●	●	●		●		12.0	3.97	3.9	1	DDM-2250..... DDM-2320..... DDM-3400..... MDH-4400.....
RDHX12T3MOS	●											
RDHX12T3MOF					○		●					
RDMX12T3MOT			●	●		●		12.0	3.97	3.9	2	
RDHX1604MOT		●	●	●		●		16.0	4.76	5.0	1	MDH-2320-R16-M16
RDHX1604MOS	●											
RDMX1604MOF					●							
RDMX1604MOT		●	●	●				16.0	4.76	5.5	2	
RDMT1604MOT				●								

○ Will not be available after current stock exhausted.

### ■ Alu-RDHT (Polished for Aluminium)



Cat.No.	Dimensions (mm)				Coated						Cermet		Uncoated	
	$\phi D$	R	T	$\phi d$	JC5003	JC5015	JC5030	JC5040	JC730U	JC610	CX90	CX75	UM30	KT9
RDHT0501MOF	5	2.5	1.5	2.0										●
RDHT0701MOF	7	3.5	1.99	2.8										●
RDHT0702MOF	7	3.5	2.38	2.8										●
RDHT1003MOF	10	5.0	3.18	3.9										●
RDHT12T3MOF	12	6.0	3.97	3.9										●
RDHT1604MOF	16	8.0	4.76	5.0										●

# “ Diemaster ”

## ■ DDM-MDH End-mill Type Cutting Data

### ■ Recommended cutting conditions

Work materials	Tool dia.													
	ø12		ø15		ø16		ø20		ø25		ø32		ø40	
	Max. Ap=0.5mm	Max. Ap=0.75mm	Max. Ap=1.0mm	Max. Ap=2.0mm	Max. Ap=2.5mm	Max. Ap=3.0mm	Max. Ap=3.5mm	Revolution N (min <sup>-1</sup> )	Feed rate Vf (mm/min)	Revolution N (min <sup>-1</sup> )	Feed rate Vf (mm/min)	Revolution N (min <sup>-1</sup> )	Feed rate Vf (mm/min)	Revolution N (min <sup>-1</sup> )
Low carbon steel (125-180HB)	8,500	4,400	5,200	2,700	5,200	2,700	4,000	2,800	3,100	2,100	2,450	1,700	2,000	1,400
Medium Carbon steel (170-220HB)	7,500	4,000	4,500	2,300	4,500	2,300	3,500	2,400	2,700	1,900	2,200	1,550	1,750	1,200
Alloy steel (200-260HB)	5,200	2,700	3,200	1,800	3,200	1,800	2,500	1,700	2,200	1,400	1,700	1,100	1,400	900
Tool steel, Die steel (280-370HB)	4,500	2,300	2,700	1,400	2,700	1,400	2,200	1,500	1,900	1,200	1,500	1,000	1,200	800
Stainless steel (150-270HB)	6,300	3,300	3,600	1,900	3,600	1,900	2,800	1,800	2,200	1,400	1,700	1,100	1,350	900
Grey cast iron (200-250HB)	6,500	3,900	3,850	2,700	3,850	2,700	3,000	2,500	2,400	2,000	1,900	1,500	1,500	1,200
Nodular cast iron (180-250HB)	5,100	3,000	3,000	2,500	3,600	2,500	2,400	2,000	1,900	1,600	1,500	1,250	1,200	1,000

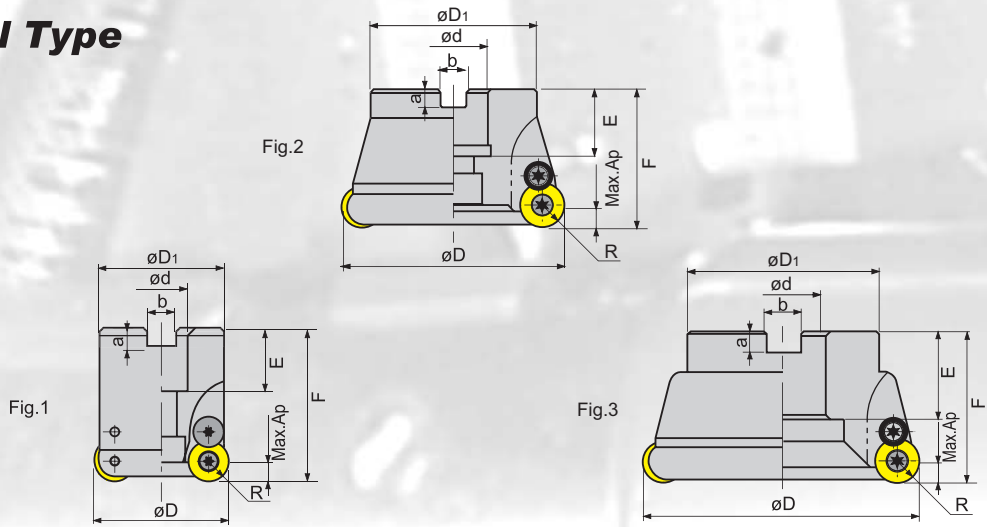
### ■ H.S.C. Data Recommendations

Work materials (Mat. No.)	Hardness	Insert grade	Cutting speed Vc (m/min)	feed per tooth fz (mm/tooth)	Depth of cut Ap (mm)
Grey cast iron (GG25, GG30)	160 - 260HB	JC5003	400 - 500	0.2 - 0.3	0.1 - 0.3
Nodular cast iron (GGG60, GGG70)	170 - 300HB	JC5003	300 - 400	0.2 - 0.3	0.1 - 0.3
Carbon steel (C50, C55)	180 - 280HB	JC5003	300 - 400	0.2 - 0.3	0.1 - 0.3
Low alloy steel (1.7225)	180 - 280HB	JC5003	250 - 350	0.2 - 0.3	0.1 - 0.3
Mold steel (1.2311, P20)	280 - 400HB	JC5003	250 - 350	0.2 - 0.3	0.1 - 0.3
Tool & die steel (1.2344, 1.2379)	180 - 255HB	JC5003	250 - 350	0.2 - 0.3	0.1 - 0.3
Hardened die steel (1.2344, 1.2379)	40 - 55HRc	JC5003	200 - 300	0.1 - 0.25	0.1 - 0.2
Hardened die steel (1.2344, 1.2379)	55HRc -	JC5003	150 - 250	0.1 - 0.2	0.1 - 0.2
Stainless steel (1.4301, 1.4401)	150 - 250HB	JC5003	200 - 300	0.15 - 0.3	0.1 - 0.3

## “ Diemaster ”



### DDM Face Mill Type

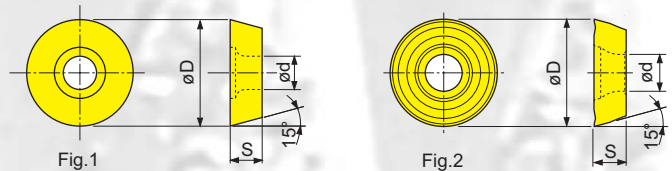


### Body

Cat. No.	Stock	No. of inserts	Dimensions (mm)									Applicable inserts	Parts				Fig.
			$\phi D$	R	$\phi D_1$	F	$\phi d$	a	b	E	Max. Ap		Clamp screw/Torque	Clamp washer	Clamp bolt	Wrench	
DDM-3040-16R-12	○	3	40	6	35	45	16	5.6	8.4	18	4	RDHX (M) 12T3MO.	CSW-3595/(2.1 Nm)	—	CB3540	A-15SD	1
DDM-5052-22R-12	●	5	52	6	45	50	22	6.3	10.4	20	4	RDHX (M) 12T3MO.	CSW-3595/(2.1 Nm)	—	CB3540	A-15SD	2
DDM-4052-22R-16	○	4	52	8	45	50	22	6.3	10.4	20	4	RDHX (M) 1604MO.	CSW-4510/(5.0 Nm)	CW-11	—	A-20SD	2
DDM-3063-27R-12	●	3	63	6	50	50	27	7	12.4	22	4	RDHX (M) 12T3MO.	CSW-3595/(2.1 Nm)	—	CB3540	A-15SD	2
DDM-6063-27R-12	●	6	63	6	50	50	27	7	12.4	20	4	RDHX (M) 12T3MO.	CSW-3595/(2.1 Nm)	—	CB3540	A-15SD	2
DDM-5063-27R-16	●	5	63	8	50	50	27	7	12.4	20	5	RDHX (M) 1604MO.	CSW-4510/(5.0 Nm)	CW-11	—	A-20SD	2
DDM-3066-27R-12	●	3	66	6	50	50	27	7	12.4	20	4	RDHX (M) 12T3MO.	CSW-3595/(2.1 Nm)	—	CB3540	A-15SD	2
DDM-6066-27R-12	●	6	66	6	50	50	27	7	12.4	22	4	RDHX (M) 12T3MO.	CSW-3595/(2.1 Nm)	—	CB3540	A-15SD	2
DDM-5066-27R-16	●	5	66	8	50	50	27	7	12.4	22	5	RDHX (M) 1604MO.	CSW-4510/(5.0 Nm)	CW-11	—	A-20SD	2
DDM-4080-27R-12	●	4	80	6	60	55	27	7	12.4	22	4	RDHX (M) 12T3MO.	CSW-3595/(2.1 Nm)	—	CB3540	A-15SD	3
DDM-7080-27R-12	●	7	80	6	60	55	27	7	12.4	22	4	RDHX (M) 12T3MO.	CSW-3595/(2.1 Nm)	—	CB3540	A-15SD	3
DDM-6080-27R-16	●	6	80	8	60	55	27	7	12.4	22	5	RDHX (M) 1604MO.	CSW-4510/(5.0 Nm)	CW-11	—	A-20SD	3
DDM-7100-32R-16	●	7	100	8	70	55	32	8	14.4	32	5	RDHX (M) 1604MO.	CSW-4510/(5.0 Nm)	CW-11	—	A-20SD	3
DDM-8125-40R-16	●	8	125	8	85	55	40	9	16.4	32	5	RDHX (M) 1604MO.	CSW-4510/(5.0 Nm)	CW-11	—	A-20SD	3
DDM-9160-40R-16	●	9	160	8	120	55	40	9	16.4	32	5	RDHX (M) 1604MO.	CSW-4510/(5.0 Nm)	CW-11	—	A-20SD	3

○ Will not be available after current stock exhausted.

### DDM Inserts Type



### Inserts

Cat. No.	Coated					Cermet	Uncoated	Dimensions (mm)			Fig.
	JC5003	JC5015	JC5030	JC5040	JC610			$\phi D$	S	$\phi d$	
RDHX12T3MOF					○		●	12.0	3.97	3.9	1
RDHX12T3MOS	●							12.0	3.97	3.9	
RDHX12T3MOT		●	●	●		●		12.0	3.97	3.9	
RDMX12T3MOF					○	○		12.0	3.97	3.9	
RDMX12T3MOT			●	●				12.0	3.97	3.9	
RDHX1604MOF					○		○	16.0	4.76	5.0	
RDHX1604MOS	●							16.0	4.76	5.0	
RDHX1604MOT		●	●	●		●		16.0	4.76	5.0	
RDMX1604MOF					●			16.0	4.76	5.0	
RDMX1604MOT		●	●	●		○		16.0	4.76	5.0	
RDMT1604MOT			●	●				16.0	4.76	5.0	2
RDHX2006MOT			●					20.0	6.0	5.5	1

○ Will not be available after current stock exhausted.



# “ Diemaster ”

## ■ Recommended Cutting Conditions for Diemaster Face Mill Type

### 1. For 40mm tool dia. series (3 teeth)

Material group	Hardness (HB)	Typical groups	Ap (mm)	Ae (mm)	N (N/min)	Vf (mm/min)	Insert	Z	Power (kw)
Low carbon steel	125 - 180	C15, ST137, 1.0401	3 - 3.5	40	1,900	2,000	12T3	3	12
Low alloy steel	170 - 220	CK45, 1.1231, 16MnCr5	3 - 3.5	40	1,750	1,850	12T3	3	12
High alloy steel	200 - 260	X20Cr13, 1.4923	3 - 3.5	40	1,600	1,700	12T3	3	12
Tool & Die steel	280 - 370	1.2379, 1.2311	3 - 3.5	40	1,450	1,300	12T3	3	10
Stainless steel	150 - 270	1.4404, 316, 321	3 - 3.5	40	1,550	1,400	12T3	3	11
Grey cast iron	200 - 250	GG25, GRADE220	3 - 3.5	40	1,700	1,550	12T3	3	5
S.G. iron	180 - 250	GGG60, SNG600/3	3 - 3.5	40	1,600	1,450	12T3	3	5

### 2. For 52mm tool dia. series (5 teeth)

Material group	Hardness (HB)	Typical groups	Ap (mm)	Ae (mm)	N (N/min)	Vf (mm/min)	Insert	Z	Power (kw)
Low carbon steel	125 - 180	C15, ST137, 1.0401	3 - 4	52	1,400	2,100	12T3	5	16
Low alloy steel	170 - 220	CK45, 1.1231, 16MnCr5	3 - 4	52	1,250	1,875	12T3	5	16
High alloy steel	200 - 260	X20Cr13, 1.4923	3 - 4	52	900	1,350	12T3	5	13
Tool & Die steel	280 - 370	1.2379, 1.2311	3 - 4	52	750	1,125	12T3	5	12
Stainless steel	150 - 270	1.4404, 316, 321	3 - 4	52	1,050	1,575	12T3	5	17
Grey cast iron	200 - 250	GG25, GRADE220	3 - 4	52	1,080	2,160	12T3	5	9
S.G. iron	180 - 250	GGG60, SNG600/3	3 - 4	52	900	1,800	12T3	5	8

### 3. For 52mm tool dia. series (4 teeth)

Material group	Hardness (HB)	Typical groups	Ap (mm)	Ae (mm)	N (N/min)	Vf (mm/min)	Insert	Z	Power (kw)
Low carbon steel	125 - 180	C15, ST137, 1.0401	3 - 4	52	1,400	1,680	1604	4	13
Low alloy steel	170 - 220	CK45, 1.1231, 16MnCr5	3 - 4	52	1,250	1,500	1604	4	13
High alloy steel	200 - 260	X20Cr13, 1.4923	3 - 4	52	900	1,080	1604	4	10
Tool & Die steel	280 - 370	1.2379, 1.2311	3 - 4	52	750	900	1604	4	9.5
Stainless steel	150 - 270	1.4404, 316, 321	3 - 4	52	1,050	1,260	1604	4	13
Grey cast iron	200 - 250	GG25, GRADE220	3 - 4	52	1,080	1,728	1604	4	7
S.G. iron	180 - 250	GGG60, SNG600/3	3 - 4	52	900	1,440	1604	4	6.5

### 4. For 63-66mm tool dia. series (6 teeth)

Material group	Hardness (HB)	Typical groups	Ap (mm)	Ae (mm)	N (N/min)	Vf (mm/min)	Insert	Z	Power (kw)
Low carbon steel	125 - 180	C15, ST137, 1.0401	3 - 4	66	1,090	1,960	12T3	6	19
Low alloy steel	170 - 220	CK45, 1.1231, 16MnCr5	3 - 4	66	950	1,700	12T3	6	19
High alloy steel	200 - 260	X20Cr13, 1.4923	3 - 4	66	670	1,200	12T3	6	14
Tool & Die steel	280 - 370	1.2379, 1.2311	3 - 4	66	580	1,050	12T3	6	14
Stainless steel	150 - 270	1.4404, 316, 321	3 - 4	66	820	1,450	12T3	6	19
Grey cast iron	200 - 250	GG25, GRADE220	3 - 4	66	850	2,040	12T3	6	10.5
S.G. iron	180 - 250	GGG60, SNG600/3	3 - 4	66	700	1,700	12T3	6	9.5

### 5. For 63-66mm tool dia. series (5 teeth)

Material group	Hardness (HB)	Typical groups	Ap (mm)	Ae (mm)	N (N/min)	Vf (mm/min)	Insert	Z	Power (kw)
Low carbon steel	125 - 180	C15, ST137, 1.0401	4 - 5	63 - 66	1,090	1,600	1604	5	19
Low alloy steel	170 - 220	CK45, 1.1231, 16MnCr5	4 - 5	63 - 66	950	1,400	1604	5	19
High alloy steel	200 - 260	X20Cr13, 1.4923	4 - 5	63 - 66	670	1,000	1604	5	15
Tool & Die steel	280 - 370	1.2379, 1.2311	4 - 5	63 - 66	580	870	1604	5	14
Stainless steel	150 - 270	1.4404, 316, 321	4 - 5	63 - 66	820	1,200	1604	5	20
Grey cast iron	200 - 250	GG25, GRADE220	4 - 5	63 - 66	850	1,250	1604	5	8
S.G. iron	180 - 250	GGG60, SNG600/3	4 - 5	63 - 66	700	1,070	1604	5	7.5

# “ Diemaster ”

## ■ Recommended Cutting Conditions for Diemaster

### 6. For 80mm tool dia. series (7 teeth)

Material group	Hardness (HB)	Typical groups	Ap (mm)	Ae (mm)	N (N/min)	Vf (mm/min)	Insert	Z	Power (kw)
Low carbon steel	125 - 180	C15, ST137, 1.0401	3 - 4	80	900	1,800	12T3	7	22
Low alloy steel	170 - 220	CK45, 1.1231, 16MnCr5	3 - 4	80	750	1,500	12T3	7	21
High alloy steel	200 - 260	X20Cr13, 1.4923	3 - 4	80	500	1,050	12T3	7	16
Tool & Die steel	280 - 370	1.2379, 1.2311	3 - 4	80	450	950	12T3	7	16
Stainless steel	150 - 270	1.4404, 316, 321	3 - 4	80	650	1,350	12T3	7	23
Grey cast iron	200 - 250	GG25, GRADE220	3 - 4	80	700	1,950	12T3	7	13
S.G. iron	180 - 250	GGG60, SNG600/3	3 - 4	80	600	1,660	12T3	7	12

### 7. For 80mm tool dia. series (6 tooth)

Material group	Hardness (HB)	Typical groups	Ap (mm)	Ae (mm)	N (N/min)	Vf (mm/min)	Insert	Z	Power (kw)
Low carbon steel	125 - 180	C15, ST137, 1.0401	4 - 5	80	900	1,620	1604	6	25
Low alloy steel	170 - 220	CK45, 1.1231, 16MnCr5	4 - 5	80	750	1,350	1604	6	23
High alloy steel	200 - 260	X20Cr13, 1.4923	4 - 5	80	500	900	1604	6	17
Tool & Die steel	280 - 370	1.2379, 1.2311	4 - 5	80	450	810	1604	6	17
Stainless steel	150 - 270	1.4404, 316, 321	4 - 5	80	650	1,170	1604	6	25
Grey cast iron	200 - 250	GG25, GRADE220	4 - 5	80	700	1,680	1604	6	14
S.G. iron	180 - 250	GGG60, SNG600/3	4 - 5	80	600	1,440	1604	6	13

### 8. For 100mm tool dia. series (7 tooth)

Material group	Hardness (HB)	Typical groups	Ap (mm)	Ae (mm)	N (N/min)	Vf (mm/min)	Insert	Z	Power (kw)
Low carbon steel	125 - 180	C15, ST137, 1.0401	4 - 5	100	720	1,960	1604	7	38
Low alloy steel	170 - 220	CK45, 1.1231, 16MnCr5	4 - 5	100	610	1,700	1604	7	37
High alloy steel	200 - 260	X20Cr13, 1.4923	4 - 5	100	400	1,200	1604	7	29
Tool & Die steel	280 - 370	1.2379, 1.2311	4 - 5	100	350	1,050	1604	7	28
Stainless steel	150 - 270	1.4404, 316, 321	4 - 5	100	520	1,450	1604	7	38
Grey cast iron	200 - 250	GG25, GRADE220	4 - 5	100	560	2,040	1604	7	21
S.G. iron	180 - 250	GGG60, SNG600/3	4 - 5	100	460	1,700	1604	7	19

### 9. For 125mm tool dia. series (8 tooth)

Material group	Hardness (HB)	Typical groups	Ap (mm)	Ae (mm)	N (N/min)	Vf (mm/min)	Insert	Z	Power (kw)
Low carbon steel	125 - 180	C15, ST137, 1.0401	4 - 5	125	570	1,350	1604	8	32
Low alloy steel	170 - 220	CK45, 1.1231, 16MnCr5	4 - 5	125	500	1,200	1604	8	33
High alloy steel	200 - 260	X20Cr13, 1.4923	4 - 5	125	350	840	1604	8	25
Tool & Die steel	280 - 370	1.2379, 1.2311	4 - 5	125	300	700	1604	8	23
Stainless steel	150 - 270	1.4404, 316, 321	4 - 5	125	400	900	1604	8	30
Grey cast iron	200 - 250	GG25, GRADE220	4 - 5	125	450	1,400	1604	8	18
S.G. iron	180 - 250	GGG60, SNG600/3	4 - 5	125	370	1,150	1604	8	16

### 10. For 160mm tool dia. series (9 tooth)

Material group	Hardness (HB)	Typical groups	Ap (mm)	Ae (mm)	N (N/min)	Vf (mm/min)	Insert	Z	Power (kw)
Low carbon steel	125 - 180	C15, ST137, 1.0401	4 - 5	160	450	1,600	1604	9	49
Low alloy steel	170 - 220	CK45, 1.1231, 16MnCr5	4 - 5	160	400	1,400	1604	9	49
High alloy steel	200 - 260	X20Cr13, 1.4923	4 - 5	160	280	1,000	1604	9	38
Tool & Die steel	280 - 370	1.2379, 1.2311	4 - 5	160	200	870	1604	9	37
Stainless steel	150 - 270	1.4404, 316, 321	4 - 5	160	320	1,200	1604	9	51
Grey cast iron	200 - 250	GG25, GRADE220	4 - 5	160	360	1,250	1604	9	20
S.G. iron	180 - 250	GGG60, SNG600/3	4 - 5	160	300	1,130	1604	9	20