

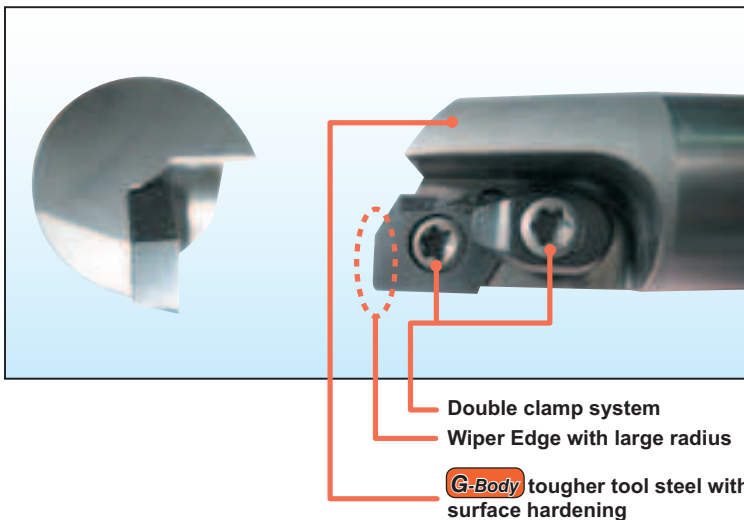


Finish-One

Finishing Indexable End Mill

Features:

- Can attain 1µm or less surface finish on 2D work.
- Finish achieved using wiper edge with large radius.
- No tool deflection occurs due to single cutting edge design.
- Insert available in DV coated and cermet.



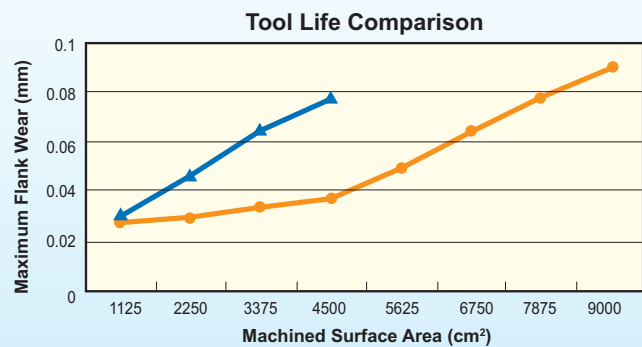
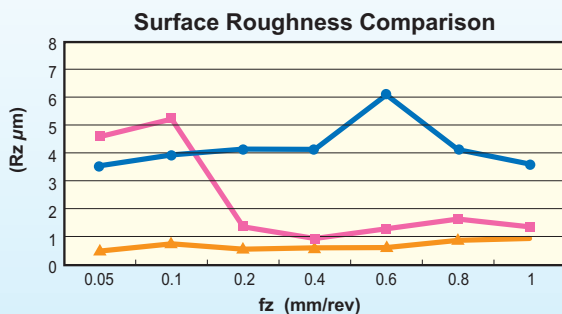
PERFORMANCE RESULTS

Material: Carbon Steel (C50)
(200-250HB)

Tool: T-FON1200 (Ø20mm)

Insert: LDGW120308

Running Parameters:
n=4775 min⁻¹
ap=0.1mm
ae=10mm



● RNM-200-R10 JC8015
 ■ T-FON1200 JC8003
 ▲ T-FON1200 CX75

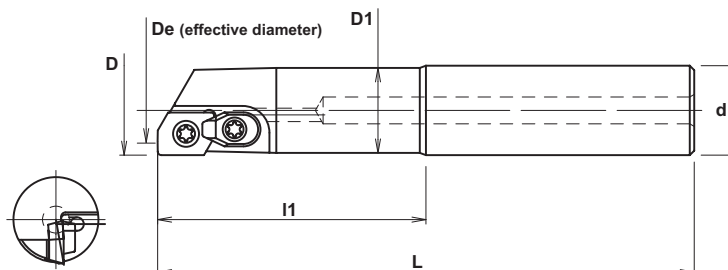
● T-FON1200 CX75
 ▲ RNM-200-R10 JC8015

Finish-One Indexable End Mill

METRIC

T-FON type

G-Body



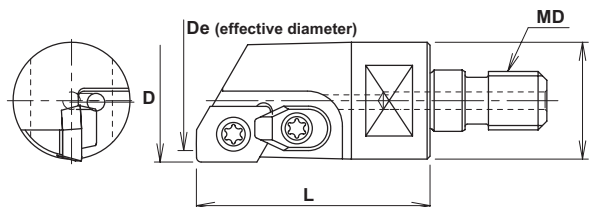
Specifications

CATALOG NUMBER	STK	DIMENSIONS						INSERT	Q	PARTS		
		D	De	D1	L	l1	d			Screw	Wrench	Clamp
T-FON1160	■	16	12.5	15	110	60	16	LDGW120308	1	CSW-406H	A-15	DCM-18
T-FON1200	■	20	16.5	19	120	60	20	LDGW120308	1	CSW-408H	A-15	DCM-18

Note: All cutters are supplied without inserts.

Modular Head

G-Body

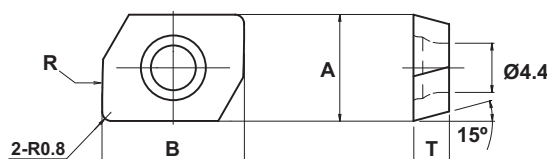


Specifications

CATALOG NUMBER	STK	DIMENSIONS						INSERT	PARTS		
		D	De	L	d	MD	Screw		Wrench	Clamp	
MFO-170-M8	•	17	13.5	40	16	M8	LDGW120308	CSW-406H	A-15	DCM-18	
MFO-210-M10	•	21	17.5	40	20	M10	LDGW120308	CSW-408H	A-15	DCM-18	

Note: All cutters are supplied without inserts.

Inserts



Specifications

CATALOG NUMBER	IC TOLERANCE	DIMENSIONS			PVD COATED	CERMET
		A	B	T	JC8003	CX75
LDGW120308	G	9.525	12.7	3.18	•	■



METRIC

Finish -One Indexable End Mill

CARBIDE SHANK HOLDER



Fig. 1

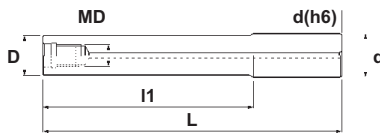
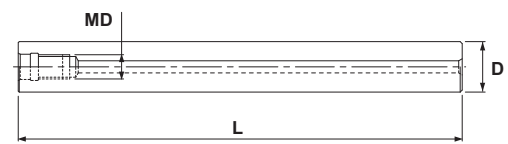
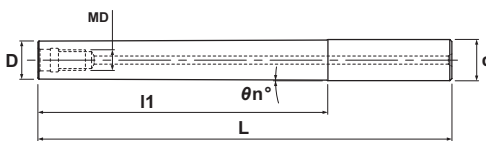


Fig. 2



Specifications

CATALOG NUMBER	STK	DIMENSIONS					FIG.
		D	l1	L	d	MD	
MSN-M8-20-S16C	•	15.5	20	75	16	M8	1
MSN-M8-40-S16C	•	15.5	40	95	16	M8	1
MSN-M8-80-S16C	•	15.5	80	135	16	M8	1
MSN-M8-120-S16C	•	15.5	120	175	16	M8	1
MSN-M10-20-S20C	•	19.5	20	80	20	M10	1
MSN-M10-40-S20C	•	19.5	40	100	20	M10	1
MSN-M10-40T-S20C	•	18.5	40	100	20	M10	2
MSN-M10-70-S20C	•	19.5	70	130	20	M10	1
MSN-M10-90-S20C	•	19.5	90	150	20	M10	1
MSN-M10-90T-S20C	•	18.5	90	150	20	M10	2
MSN-M10-140-S20C	•	19.5	140	200	20	M10	1
MSN-M10-140T-S20C	•	18.5	140	200	20	M10	2

Specifications - Straight

CATALOG NUMBER	STK	DIMENSIONS		
		L	d	MD
MSN-M8-97S-S15C	•	97	15	M8
MSN-M8-147S-S15C	•	147	15	M8
MSN-M8-107S-S16C	•	107	16	M8
MSN-M8-157S-S16C	•	157	16	M8
MSN-M10-130S-S18C	•	130	18	M10
MSN-M10-190S-S18C	•	190	18	M10
MSN-M10-130S-S20C	•	130	20	M10
MSN-M10-190S-S20C	•	190	20	M10
MSN-M10-250S-S20C	•	250	20	M10

Recommended Cutting Data

Work Materials	Insert Grade	Diameter							
		16mm (17mm Modular Head)				20mm (21mm Modular Head)			
		Vc (m/min)	fz (mm/rev)	ap (mm)	ae (mm)	Vc (m/min)	fz (mm/rev)	ap (mm)	ae (mm)
Carbon Steel (C50, C55) up to 250HB	CX75 (JC8003)	200~300	0.3~0.6	0.05~0.1	8~11	200~300	0.3~0.6	0.05~0.1	10~14
Mold Steel (1.2311, P20) 30-43HRC	JC8003 (CX75)	100~250	0.2~0.6	0.05~0.1	8~11	100~250	0.2~0.6	0.05~0.1	10~14
Cast Iron, Nodular Iron (GG, GGG) up to 300HB	JC8003	300~400	0.3~0.6	0.1~0.2	8~11	300~400	0.3~0.6	0.1~0.2	10~14

NOTE: 1. Continuous stroke processing is recommended to avoid vibration when tool is entering or exiting work material.
 2. In case of chattering, coarse surface or steps, recommended to reduce cutting speed & maintain feed rate.
 3. Figures should be adjusted according to the machine rigidity or work rigidity.

See Page A-177 for **G-Body** steel holder

See Pages A-175 thru A-177 for weights & coolant hole sizes



Super Diemaster

High Efficient Indexable Radius Tool



- Positive axial rake reduces cutting forces by up to 21% over conventional style.
- G-Body improves durability and tool life by 30% or more over conventional style.
- G-Body enhances rust proofing and anti welding properties.
- Insert has both edge sharpness and is 68% stronger than conventional insert.
- Insert is available with chipbreaker or as flat top style.
- Standard pitch style has double clamping system for deeper cut applications.



Super Diemaster

METRIC

FACE MILL HDM Type



Fig. 1 - Standard Pitch

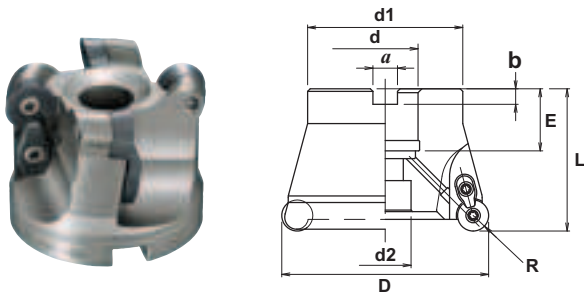
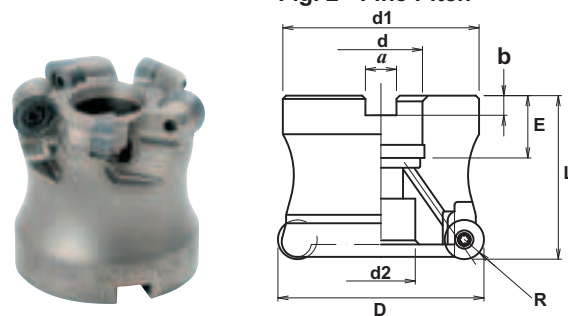


Fig. 2 - Fine Pitch



Specifications

CATALOG NUMBER	STK	DIMENSIONS									FIG.	INSERT	Q	PARTS			
		D	R	L	d	d1	a	b	E	d2				Screw	Wrench	Other	Weight (kg)
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	0.5
HDM-3050-12R-22	●	50	6	50	22	47	10.4	6.3	20	16.5	1						0.5
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	0.5
HDM-3050-16R-22	●	50	8	55	22	47	10.4	6.3	20	16.5	1						0.5
HDM-4050-16R	■	50	8	55	22.225	47	8.4	5	20	16.5	2	RD**1606MO*	4	DSW-4512H	A-20	-	0.4
HDM-4050-16R-22	●	50	8	55	22	47	10.4	6.3	20	16.5	2					0.4	
HDM-5050-12R	■	50	6	50	22.225	47	8.4	5	20	16.5	2	RD**1204MO*	5	DSW-410H	A-15T	-	0.4
HDM-5050-12R-22	●	50	6	50	22	47	10.4	6.3	20	16.5	2					0.4	
HDM-4052-16R-22	●	52	8	55	22	47	10.4	6.3	20	16.5	2	RD**1606MO*	4	DSW-4512H	A-20	-	0.5
HDM-5052-12R-22	●	52	6	50	22	47	10.4	6.3	20	16.5	2	RD**1204MO*	5	DSW-410H	A-15T	-	0.5
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	0.7
HDM-4063-12R-22	●	63	6	50	22	60	10.4	6.3	20	16.5	1						0.7
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	0.7
HDM-4063-16R-22	●	63	8	50	22	60	10.4	6.3	20	16.5	1						0.7
HDM-5063-16R	■	63	8	50	22.225	60	8.4	5	20	16.5	2	RD**1606MO*	5	DSW-4512H	A-20	-	0.7
HDM-5063-16R-27	●	63	8	50	27	60	12.4	7	22	20	2					0.7	
HDM-6063-12R	■	63	6	50	22.225	60	8.4	5	20	16.5	2	RD**1204MO*	6	DSW-410H	A-15T	-	0.8
HDM-6063-12R-27	●	63	6	50	27	60	12.4	7	22	20	2					0.8	

Note: All cutters are supplied without inserts.



METRIC

Super Diemaster

FACE MILL HDM Type



Fig. 1 - Standard Pitch

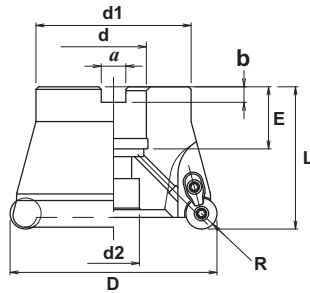
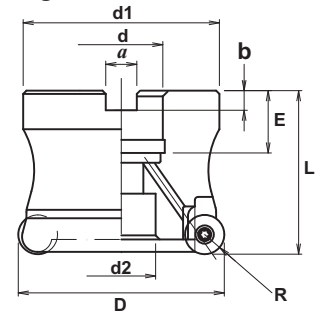


Fig. 2 - Fine Pitch



Specifications

CATALOG NUMBER	STK	DIMENSIONS									FIG.	INSERT	Q	PARTS			
		D	R	L	d	d1	a	b	E	d2				Screw	Wrench	Other	Weight (kg)
HDM-5066-16R-27	•	66	8	50	27	60	12.4	7	22	20	2	RD**1606MO*	5	DSW-4512H	A-20	-	0.7
HDM-6066-12R-27	•	66	6	50	27	60	12.4	7	22	20	2	RD**1204MO*	6	DSW-410H	A-15T	-	0.7
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	1.5
HDM-4080-12R	■	80	6	70	31.75	74	12.7	8	32	26	1	RD**1204MO*	4	DSW-410H	A-15T	DCM-18	1.5
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	1.4
HDM-4080-16R	■	80	8	70	31.75	76	12.7	8	32	26	1	RD**1606MO*	4	DSW-4512H	A-20	DCM-17	1.4
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	1.1
HDM-6080-16R-27	•	80	8	55	27	76	12.4	7	22	20	2	RD**1606MO*	6	DSW-4512H	A-20	-	1.3
HDM-7080-12R-27	•	80	6	55	27	76	12.4	7	22	20	2	RD**1204MO*	7	DSW-410H	A-15T	-	1.4
HDM-6100-16R	■	100	8	70	31.75	96	12.7	8	32	26	1	RD**1606MO*	6	DSW-4512H	A-20	DCM-17	2.8
HDM-8125-16R	■	125	8	70	38.1	100	15.9	10	37	32	1	RD**1606MO*	8	DSW-4512H	A-20	DCM-17	4.2
HDM-9160-16R		160	8	80	50.8	120	19	11	39	39	1	RD**1606MO*	9	DSW-4512H	A-20L	DCM-17	8.0

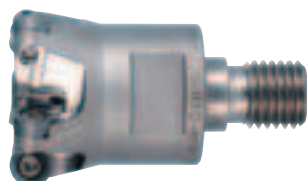
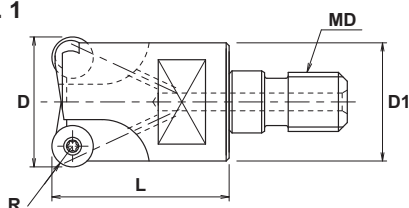
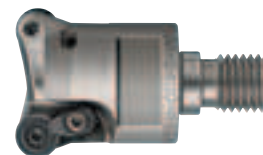
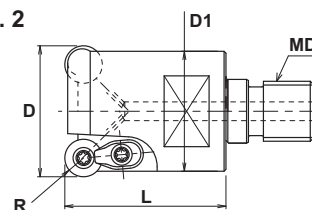
Note: All cutters are supplied without inserts.



Super Diemaster

METRIC

MODULAR HEAD SDH Type

G-Body

Fig. 1

G-Body

Fig. 2


Specifications - Standard

CATALOG NUMBER	STK	DIMENSIONS					FIG.	HEAD TORQUE Nm	INSERT	Q	PARTS		
		D	R	L	D1	MD					Screw	Wrench	Other
SDH-2150-R07-M8	•	15	3.5	23	13.8	M8	1	16	RD**07T2MO*	2	TSW-2556H	A08SD	-
SDH-2160-R07-M8	•	16	3.5	23	15	M8	1	16	RD**07T2MO*	2	TSW-2556H	A08SD	-
SDH-2200-R07-M10	•	20	3.5	30	18	M10	1	16	RD**07T2MO*	2	TSW-2556H	A08SD	-
SDH-2220-R07-M10	•	22	3.5	30	20	M10	1	16	RD**07T2MO*	2	TSW-2556H	A08SD	-
SDH-2250-R10-M12	•	25	5	35	23	M12	2	20	RD**1004MO*	2	CSW-408H	A-15	DCM-18
SDH-2280-R10-M12	•	28	5	35	25	M12	2	20	RD**1004MO*	2	CSW-408H	A-15	DCM-18
SDH-2300-R10-M16	•	30	5	43	28	M16	2	25	RD**1004MO*	2	CSW-408H	A-15	DCM-18
SDH-2320-R12-M16	•	32	6	43	28	M16	2	25	RD**1204MO*	2	DSW-410H	A-15	DCM-18
SDH-3320-R10-M16	•	32	5	43	28	M16	2	25	RD**1004MO*	3	CSW-408H	A-15	DCM-18
SDH-2350-R12-M16	•	35	6	43	32	M16	2	25	RD**1204MO*	2	DSW-410H	A-15	DCM-18
SDH-3350-R10-M16	•	35	5	43	32	M16	2	25	RD**1004MO*	3	CSW-408H	A-15	DCM-18
SDH-2400-R12-M16	•	40	6	43	32	M16	2	25	RD**1204MO*	2	DSW-410H	A-15	DCM-18

Specifications - Fine Pitch

CATALOG NUMBER	STK	DIMENSIONS					FIG.	HEAD TORQUE Nm	INSERT	Q	PARTS	
		D	R	L	D1	MD					Screw	Wrench
SDH-3200-R07-M10	•	20	3.5	30	18	M10	1	16	RD**07T2MO*	3	TSW-2556H	A08SD
SDH-3220-R07-M10	•	22	3.5	30	20	M10	1	16	RD**07T2MO*	3	TSW-2556H	A08SD
SDH-3250-R07-M12	•	25	3.5	35	23	M12	1	20	RD**07T2MO*	3	TSW-2556H	A08SD
SDH-3250-R10-M12	•	25	5	35	23	M12	1	20	RD**1004MO*	3	CSW-408H	A-15
SDH-3280-R10-M12	•	28	5	35	25	M12	1	20	RD**1004MO*	3	CSW-408H	A-15
SDH-3300-R10-M16	•	30	5	43	28	M16	1	25	RD**1004MO*	3	CSW-408H	A-15
SDH-4300-R10-M16	•	30	5	43	28	M16	1	25	RD**1004MO*	4	CSW-408H	A-15
SDH-4320-R10-M16	•	32	5	43	28	M16	1	25	RD**1004MO*	4	CSW-408H	A-15
SDH-3350-R12-M16	•	35	6	43	32	M16	1	25	RD**1204MO*	3	DSW-410H	A-15
SDH-4350-R10-M16	•	35	5	43	32	M16	1	25	RD**1004MO*	4	CSW-408H	A-15
SDH-4400-R12-M16	•	40	6	43	32	M16	1	25	RD**1204MO*	4	DSW-410H	A-15
SDH-5420-R10-M16	•	42	5	43	32	M16	1	25	RD**1004MO*	5	CSW-408H	A-15

Note: All cutters are supplied without inserts.



METRIC

Super Diemaster

MODULAR HEAD HOLDER

(carbide with coolant hole)

MSN Type



Fig. 1

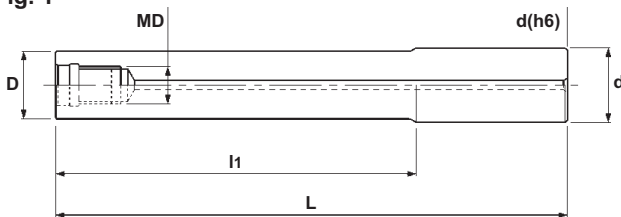
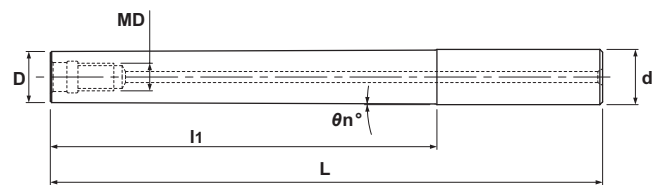


Fig. 2



Specifications

CATALOG NUMBER	STK	DIMENSIONS						FIG.	APPLICABLE HOLDERS
		D	l1	L	d	θ_n°	MD		
MSN-M8-20-S16C	•	15.5	20	75	16	-	M8	1	SDH-2150-M8, SDH-2160-M8
MSN-M8-40-S16C	•	15.5	40	95	16	-	M8	1	
MSN-M8-80-S16C	•	15.5	80	135	16	-	M8	1	
MSN-M8-120-S16C	•	15.5	120	175	16	-	M8	1	
MSN-M10-20-S20C	•	19.5	20	80	20	-	M10	1	SDH-2200-R07-M10, SDH-2220-R07-M10 SDH-3200-R07-M10, SDH-3220-R07-M10
MSN-M10-40-S20C	•	19.5	40	100	20	-	M10	1	
MSN-M10-40T-S20C	•	19.5	40	100	20	0°29'	M10	2	
MSN-M10-70-S20C	•	19.5	70	130	20	-	M10	1	
MSN-M10-90-S20C	•	19.5	90	150	20	-	M10	1	
MSN-M10-90T-S20C	•	19.5	90	150	20	0°17'	M10	2	
MSN-M10-140-S20C	•	19.5	140	200	20	-	M10	1	SDH-2250-R10-M12, SDH-2280-R10-M12 SDH-3250-R07-M12, SDH-3250-R10-M12 SDH-3280-R10-M12
MSN-M10-140T-S20C	•	19.5	140	200	20	0°12'	M10	2	
MSN-M12-25-S25C	•	24	25	90	25	-	M12	1	
MSN-M12-55-S25C	•	24	55	120	25	-	M12	1	
MSN-M12-105-S25C	•	24	105	170	25	-	M12	1	SDH-2300-R10-M16, SDH-2320-R12-M16 SDH-3320-R10-M16, SDH-2350-R12-M16 SDH-3350-R10-M16, SDH-2400-R12-M16 SDH-3300-R10-M16, SDH-4300-R10-M16 SDH-4320-R10-M16, SDH-3350-R12-M16 SDH-4350-R10-M16, SDH-4400-R12-M16 SDH-5420-R10-M16
MSN-M12-155-S25C	•	24	155	220	25	-	M12	1	
MSN-M16-25-S32C	•	29	25	90	32	-	M16	1	
MSN-M16-55-S32C	•	29	55	120	32	-	M16	1	
MSN-M16-105-S32C	•	29	105	170	32	-	M16	1	
MSN-M16-155-S32C	•	29	155	220	32	-	M16	1	
MSN-M16-195-S32C	•	29	195	260	32	-	M16	1	
MSN-M16-225-S32C	•	29	225	290	32	-	M16	1	
MSN-M16-245-S32C	•	29	245	310	32	-	M16	1	
MSN-M16-295-S32C	■	29	295	360	32	-	M16	1	

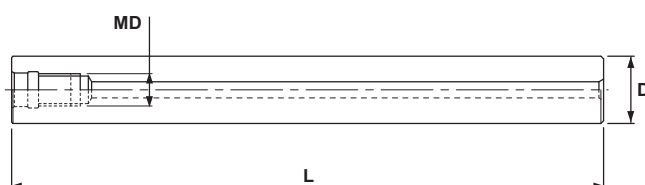
Note: See pages A-175 thru A-177 for weights and coolant hole sizes.



Super Diemaster

METRIC

MODULAR HEAD HOLDER

(carbide with coolant hole)
MSN Type


Specifications - Straight

CATALOG NUMBER	STK	DIMENSIONS			APPLICABLE HOLDERS
		D	L	MD	
MSN-M8-97S-S15C	•	15	97	M8	SDH-2150-M8, SDH-2160-M8
MSN-M8-147S-S15C	•	15	147	M8	
MSN-M8-107S-S16C	•	16	107	M8	
MSN-M8-97S-S16C	•	16	157	M8	
MSN-M10-130S-S18C	•	18	130	M10	SDH-2200-R07-M10, SDH-2220-R07-M10 SDH-3200-R07-M10, SDH-3220-R07-M10
MSN-M10-190S-S18C	•	18	190	M10	
MSN-M10-130S-S20C	•	20	130	M10	
MSN-M10-190S-S20C	•	20	190	M10	
MSN-M10-250S-S20C	•	20	250	M10	
MSN-M12-185S-S23C	•	23	185	M12	SDH-2250-R10-M12, SDH-2280-R10-M12 SDH-3250-R07-M12, SDH-3250-R10-M12 SDH-3280-R10-M12
MSN-M12-265S-S23C	•	23	265	M12	
MSN-M12-145S-S25C	•	25	145	M12	
MSN-M12-215S-S25C	•	25	215	M12	
MSN-M12-285S-S25C	•	25	285	M12	
MSN-M16-160S-S28C	•	28	160	M16	SDH-2300-R10-M16, SDH-2320-R12-M16 SDH-3320-R10-M16, SDH-2350-R12-M16 SDH-3350-R10-M16, SDH-2400-R12-M16 SDH-3300-R10-M16, SDH-4300-R10-M16 SDH-4320-R10-M16, SDH-3350-R12-M16 SDH-4350-R10-M16, SDH-4400-R12-M16 SDH-5420-R10-M16
MSN-M16-230S-S28C	•	28	230	M16	
MSN-M16-310S-S28C	•	28	310	M16	
MSN-M16-157S-S32C	•	32	157	M16	
MSN-M16-217S-S32C	•	32	217	M16	
MSN-M16-287S-S32C	•	32	287	M16	
MSN-M16-357S-S32C	•	32	357	M16	



METRIC

Super Diemaster

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
		JC8015 JC5118	JC5040	JC5118	JC8050	JC8015 JC5118		JC8050	JC8015 JC5118	JC8050	JC8015 JC5118	
RDMW07T2MOT	☉	☉			☉		☉	○		○		
RD*T07T2MOE	★		★	●	○	●		☉	●	☉	●	○
RDGT07T2MOF-AL												☉
RDMW1004MOT	☉	☉			☉		☉	○		○		
RD*T1004MOT	★		★		○					☉		
RD*T1004MOE				●		●		☉	●		●	
RDGT1004MOF-AL												☉
RDMW1204MOT	☉	☉			☉		☉	○		○		
RD*T1204MOT	★		★		○					☉		
RD*T1204MOE				●		●		☉	●		●	
RDGT1204MOF-AL												☉
RDMW1606MOT	☉	☉			☉		☉	○		○		
RD*T1606MOT	★		★		○					☉		
RD*T1606MOE				●		●		☉	●		●	
RDGT1606MOF-AL												☉

RDMW - without chip breaker
RDGT - with chip breaker

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

INSERTS

Fig. 1

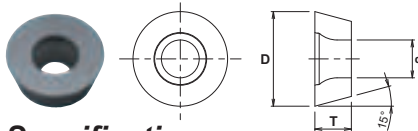


Fig. 2

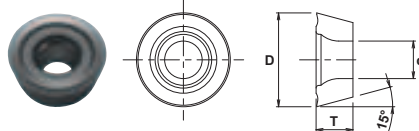
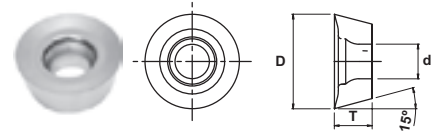


Fig. 3



Specifications

CATALOG NUMBER	IC TOLERANCE	DIMENSIONS			FIG.	COATED GRADES					UNCOATED
		D	T	d		JC8003	JC8015	JC5040	JC8050	JC5118	
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	●	●	●			
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		●		●	●	
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						●

☆ Coming Soon



Super Diemaster

METRIC

Recommended Cutting Data for HDM type

Work Materials	Insert Grade	L (mm)	Diameter / Insert type											
			50mm (R6)			50mm (R8)			50 / 52mm (R6)			50 / 52mm (R8)		
			3 Teeth (w/clamp)			3 Teeth (w/clamp)			5 Teeth			4 Teeth		
			Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)
Carbon Steel (C50, C55) Below 250HB	JC8050	150	3	1,250	1,090	4	1,260	1,100	2	1,290	2,250	3	1,300	1,700
	JC5040	200	2.5	1,250	1,160	3	1,260	1,210	1.7	1,290	1,920	2.5	1,300	1,820
	JC5118	250	2	880	870	2	880	980	1.5	900	1,620	2	910	1,350
		300	1.2	880	1,130	1.5	880	1,160	1	900	2,020	1.2	910	1,800
		350	0.7	750	950	1	760	1,000	0.5	780	2,150	0.7	780	1,870
		400	-	-	-	-	-	-	-	-	-	-	-	-
Mold Steel (1.2311, P20) 30-43HRC	JC8050	150	2.5	1,200	1,190	3.5	1,210	1,010	1.7	1,230	2,200	2.5	1,250	1,750
	JC5118	200	2	1,200	1,220	3	1,210	1,100	1.5	1,230	2,150	2	1,250	1,850
	JC8015	250	1.1	840	1,130	2.5	850	940	1.2	860	1,720	1.1	880	1,760
		300	0.9	840	1,260	2	850	970	0.8	860	1,720	0.9	880	1,760
		350	0.5	720	1,180	1	730	1,110	0.4	730	1,800	0.5	750	1,800
		400	-	-	-	-	-	-	-	-	-	-	-	-
Die Steel (1.2344, 1.2379) Below 255HB	JC5040	150	3	1,180	1,030	4	1,200	1,040	1.7	1,230	2,200	2.5	1,260	1,750
	JC5118	200	2.5	1,180	1,130	3	1,200	1,180	1.5	1,230	2,150	2	1,260	1,850
		250	2	830	840	2	840	960	1.2	860	1,720	1.1	880	1,760
		300	1.2	830	1,000	1.5	840	1,100	0.8	860	1,720	0.9	880	1,760
		350	0.7	700	950	1	720	950	0.4	730	1,800	0.5	750	1,850
		400	-	-	-	-	-	-	-	-	-	-	-	-
Stainless Steel (SUS304) Below 250HB	JC8050	150	3	990	860	4	1,000	870	2	1,020	1,780	3	1,030	1,350
	JC8015	200	2.5	990	890	3	1,000	990	1.7	1,020	1,520	2.5	1,030	1,440
	JC5118	250	2	690	700	2	700	780	1.5	710	1,240	2	720	1,060
		300	1.2	690	860	1.5	700	920	1	710	1,420	1.2	720	1,420
		350	0.7	590	820	1	600	790	0.5	610	1,530	0.7	620	1,490
		400	-	-	-	-	-	-	-	-	-	-	-	-
Hardened Die Steel (1.2344, 1.2379) 40-50HRC	JC5118	100	1.5	810	560	2	860	590	1.2	850	1,060	1.5	880	880
	JC8015	150	1.2	810	610	1.8	860	620	1	850	1,100	1.2	880	950
		200	1	570	410	1.6	600	470	0.8	560	980	1	620	740
		250	0.8	570	510	1.2	600	520	0.5	560	1,260	0.8	620	870
		300	0.4	490	440	0.8	520	465	0.3	510	1,270	0.4	530	850
		350	-	-	-	-	-	-	-	-	-	-	-	-
Gray & Nodular Cast Iron (GG, GGG) Below 300HB	JC8015	150	3	1,120	1,170	4	1,130	1,190	2	1,150	2,350	3	1,170	1,820
	JC5118	200	2.5	1,120	1,110	3	1,130	1,290	1.7	1,150	2,580	2.5	1,170	2,000
		250	2	780	960	2	790	1,060	1.5	800	1,840	2	820	1,470
		300	1.2	780	1,170	1.5	790	1,300	1	800	2,300	1.2	820	1,800
		350	0.7	670	920	1	680	900	0.5	690	2,400	0.7	700	1,680
		400	-	-	-	-	-	-	-	-	-	-	-	-
Titanium Alloy 35-43HRC	JC8050	150	1	420	270	1.5	440	330	1	420	420	1.5	440	440
	JC8015	200	0.8	420	315	1.2	440	265	0.8	420	630	1.2	440	410
	JC5118	250	0.6	290	260	1	310	205	0.6	290	460	1	310	310
		300	0.4	290	305	0.8	310	230	0.4	290	580	0.8	310	370
		350	0.2	250	375	0.4	260	255	0.2	250	630	0.4	260	420
		400	-	-	-	-	-	-	-	-	-	-	-	-
Inconel 35-43HRC	JC8015	150	1	210	135	1.5	220	145	1	210	210	1.5	220	220
	JC5118	200	0.8	210	155	1.2	220	165	0.8	210	320	1.2	220	210
	JC8050	250	0.6	150	135	1	150	115	0.6	150	230	1	150	160
		300	0.4	150	160	0.8	150	130	0.4	150	290	0.8	150	190
		350	0.2	130	195	0.4	130	155	0.2	130	320	0.4	130	210
		400	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum Alloy (A5052, A7075) 50-110 HB	FZ05 (RDGT insert)	150	4.5	4,450	5,200	6	4,450	5,200	4	4,300	8,400	5.5	4,300	6,700
		200	4	4,450	5,400	5	4,450	5,400	3.5	4,300	8,800	4.5	4,300	7,000
		250	3.5	3,800	4,900	4	3,800	4,900	3	3,650	7,800	3.5	3,650	6,300
		300	2.5	3,200	5,000	3	3,200	5,000	2	3,050	8,900	2.5	3,050	6,300
		350	1.5	3,100	4,200	2	3,100	4,200	1	2,950	6,600	1.5	2,950	5,300
		400	1	2,550	3,000	1	2,550	3,000	.07	2,450	4,300	1	2,450	3,400

- NOTE:**
1. Speeds and Feeds should be adjusted according to the machine and work rigidity.
 2. If chattering occurs, reduce the Ap or Spindle speed and keep the feed per tooth the same.
 3. If machine does not have enough power, reduce the Ap or Spindle speed.
 4. If machining material that is 50-55HRC, reduce Ap, N and fz by 30% (Like Hardened Die Steel).
 5. Use air thru unless machining Titanium or Inconel, then coolant thru is recommended (wet cutting).

**METRIC**

Super Diemaster

Recommended Cutting Data for HDM type

Work Materials	Insert Grade	L (mm)	Diameter / Insert type											
			63mm (R6)			63mm (R8)			63 / 66mm (R6)			63 / 66mm (R8)		
			4 Teeth (w/clamp)			4 Teeth (w/clamp)			6 Teeth			5 Teeth		
			Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)
Carbon Steel (C50, C55) Below 250HB	JC8050 JC5040 JC5118	150	3	980	1,140	4	990	1,110	2	1,010	2,000	3	1,020	1,660
		200	2.7	980	1,300	3	990	1,290	1.8	1,010	1,800	2.7	1,020	1,530
		250	2.2	690	910	2	690	1,200	1.6	710	1,530	2.2	720	1,330
		300	1.6	690	1,100	1.5	690	1,210	1.2	710	1,910	1.6	720	1,450
		350	1	590	1,010	1	590	1,040	0.8	610	1,830	1	620	1,550
		400	0.5	540	1,190	0.5	540	1,360	0.4	560	1,850	0.5	560	1,800
Mold Steel (1.2311, P20) 30-43HRC	JC8050 JC5118 JC8015 (JC8015 above 40HRC)	150	2.5	940	1,160	3.5	950	1,140	1.7	960	2,060	2.5	970	1,690
		200	2.2	940	1,240	3	950	1,250	1.6	960	2,130	2.2	970	1,790
		250	1.6	660	970	2.5	670	980	1.4	670	1,610	1.6	680	1,460
		300	1.1	660	1,180	2	670	1,020	1	670	1,810	1.1	680	1,800
		350	0.7	560	1,120	1	570	1,000	0.6	570	2,200	0.7	580	1,590
		400	0.5	520	1,140	0.5	520	1,330	0.4	550	2,150	0.5	560	1,680
Die Steel (1.2344, 1.2379) Below 255HB	JC5040 JC5118	150	3	930	1,080	4	940	1,090	1.7	960	2,060	2.5	970	1,690
		200	2.7	930	1,120	3	940	1,240	1.6	960	2,130	2.2	970	1,790
		250	2.2	650	850	2	660	970	1.4	670	1,610	1.6	680	1,460
		300	1.6	650	1,040	1.5	660	1,160	1	670	1,850	1.1	680	1,800
		350	1	560	870	1	560	980	0.6	570	2,200	0.7	580	1,590
		400	0.5	510	1,100	0.5	520	1,330	0.4	550	2,150	0.5	560	1,680
Stainless Steel (SUS304) Below 250HB	JC8050 JC8015 JC5118	150	3	780	900	4	790	920	2	800	1,670	3	810	1,320
		200	2.7	780	930	3	790	1,040	1.8	800	1,770	2.7	810	1,330
		250	2.2	550	730	2	550	850	1.6	560	1,180	2.2	570	1,050
		300	1.6	550	830	1.5	550	960	1.2	560	1,340	1.6	570	1,220
		350	1	470	690	1	470	800	0.8	480	1,380	1	490	1,230
		400	0.5	430	940	0.5	430	1,100	0.4	440	1,580	0.5	450	1,420
Hardened Die Steel (1.2344, 1.2379) 40-50HRC	JC5118 JC8015 (RDMW) (JC8003 above 50HRC)	100	1.5	650	580	2	660	600	1.2	650	970	1.5	670	840
		150	1.5	650	650	1.8	660	610	1.1	650	1,010	1.2	670	900
		200	1	450	490	1.6	460	460	0.9	460	970	1	460	760
		250	0.8	450	520	1.2	460	500	0.6	460	1,250	0.8	460	920
		300	0.6	390	590	0.8	400	530	0.4	390	1,170	0.6	400	900
		350	0.3	360	620	0.4	370	470	0.2	360	1,300	0.3	360	900
Gray & Nodular Cast Iron (GG, GGG) Below 300HB	JC8015 JC5118	150	3	880	1,370	4	890	1,240	2	900	2,260	3	910	1,540
		200	2.7	880	1,440	3	890	1,350	1.8	900	2,420	2.7	910	1,860
		250	2.2	620	1,120	2	620	1,140	1.6	630	1,700	2.2	640	1,440
		300	1.6	620	1,240	1.5	620	1,310	1.2	630	1,920	1.6	640	1,700
		350	1	530	1,160	1	530	1,180	0.8	540	1,610	1	550	1,510
		400	0.5	480	1,220	0.5	490	1,250	0.4	500	1,730	0.5	510	1,630
Titanium Alloy 35-43HRC	JC8050 JC8015 JC5118	150	1	330	260	1.5	340	300	1	330	400	1.5	340	430
		200	0.9	330	290	1.3	340	325	0.9	330	460	1.3	340	470
		250	0.7	230	240	1.1	240	240	0.7	230	370	1.1	240	390
		300	0.5	230	295	0.9	240	250	0.5	230	460	0.9	240	400
		350	0.3	200	340	0.6	200	290	0.3	200	540	0.6	200	350
		400	0.2	180	360	0.3	190	300	0.2	180	560	0.3	180	490
Inconel 35-43HRC	JC8015 JC5118 JC8050	150	1	165	130	1.5	170	170	1	165	200	1.5	170	220
		200	0.9	165	160	1.3	170	155	0.9	165	230	1.3	170	240
		250	0.7	120	130	1.1	120	120	0.7	120	190	1.1	120	200
		300	0.5	120	150	0.9	120	130	0.5	120	230	0.9	120	200
		350	0.3	100	165	0.6	100	140	0.3	100	270	0.6	100	180
		400	0.2	90	180	0.3	95	180	0.2	90	280	0.3	90	250
Aluminum Alloy (A5052, A7075) 50-110 HB	FZ05 (RDGT insert)	150	4.5	3,500	5,500	6	3,500	5,500	4	3,350	7,800	5.5	3,350	6,500
		200	4	3,500	5,700	5	3,500	5,700	3.5	3,350	8,200	4.5	3,350	6,800
		250	3.5	3,050	5,200	4	3,050	5,200	3	2,900	7,400	3.5	2,900	6,200
		300	2.5	2,500	5,200	3	2,500	5,200	2	2,400	7,500	2.5	2,400	6,200
		350	1.5	2,400	4,300	2	2,400	4,300	1	2,300	7,200	1.5	2,300	5,200
		400	1	2,000	3,200	1	2,000	3,200	.07	2,150	5,200	1	2,150	4,300

- NOTE:**
1. Speeds and Feeds should be adjusted according to the machine and work rigidity.
 2. If chattering occurs, reduce the Ap or Spindle speed and keep the feed per tooth the same.
 3. If machine does not have enough power, reduce the Ap or Spindle speed.
 4. If machining material that is 50-55HRC, reduce Ap, N and fz by 30% (Like Hardened Die Steel).
 5. Use air thru unless machining Titanium or Inconel, then coolant thru is recommended (wet cutting).



Super Diemaster

METRIC

Recommended Cutting Data for HDM type

Work Materials	Insert Grade	L (mm)	Diameter / Insert type											
			80mm (R6)			80mm (R6)			80mm (R8)			80mm (R8)		
			4 Teeth (w/clamp)			7 Teeth			4 Teeth (w/clamp)			5 Teeth (w/clamp)		
			Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)
Carbon Steel (C50, C55) Below 250HB	JC8050 JC5040 JC5118	150	42.7	770	890	2	790	1,830	4	780	870	4	780	1,050
		200	2.2	770	980	1.8	790	1,640	3	780	990	3	780	1,190
		250	1.6	540	710	1.6	550	1,380	2	550	830	2	550	1,000
		300	1	540	820	1.2	550	1,730	1.5	550	960	1.5	550	1,150
		350	0.5	460	700	0.8	470	1,650	1	470	810	1	470	970
		400	2.5	420	920	0.4	430	1,660	0.5	430	1,080	0.5	430	1,300
Mold Steel (1.2311, P20) 30-43HRC	JC8050 JC5118 JC8015 (JC8015 above 40HRC)	150	2.2	740	780	1.7	740	1,850	3.5	740	890	3.5	740	1,070
		200	1.6	740	970	1.6	740	1,920	3	740	970	3	740	1,160
		250	1.1	520	680	1.4	520	1,460	2.5	520	730	2.5	520	880
		300	0.7	520	930	1.0	520	1,640	2	520	770	2	520	920
		350	0.5	440	880	0.6	440	1,980	1	440	960	1	440	1,150
		400	3	410	900	0.4	410	1,870	0.5	410	1,050	0.5	410	1,260
Die Steel (1.2344, 1.2379) Below 255HB	JC5040 JC5118	150	2.7	730	820	1.7	740	1,850	4	740	830	4	740	1,070
		200	2.2	730	900	1.6	740	1,920	3	740	970	3	740	1,160
		250	1.6	510	670	1.4	520	1,460	2	520	770	2	520	880
		300	1	510	750	1.0	520	1,680	1.5	520	910	1.5	520	920
		350	0.5	440	670	0.6	440	1,980	1	440	770	1	440	1,150
		400	3	400	900	0.4	410	1,870	0.5	410	1,050	0.5	410	1,260
Stainless Steel (SUS304) Below 250HB	JC8050 JC8015 JC5118	150	2.7	610	710	2.0	620	1,510	4	610	710	4	610	850
		200	2.2	610	750	1.8	620	1,600	3	610	800	3	610	960
		250	1.6	430	560	1.6	430	1,060	2	430	630	2	430	750
		300	1	430	650	1.2	430	1,200	1.5	430	750	1.5	430	900
		350	0.5	370	540	0.8	370	1,240	1	370	630	1	370	750
		400	1.5	340	740	0.4	340	1,420	0.5	340	870	0.5	340	1,040
Hardened Die Steel (1.2344, 1.2379) 40-50HRC	JC5118 JC8015 (RDMW) (JC8003 above 50HRC)	100	1.2	500	480	1.2	500	870	2	510	470	2	510	560
		150	1	500	500	1.1	500	910	1.8	510	490	1.8	510	590
		200	0.8	350	380	0.9	350	860	1.6	360	380	1.6	360	450
		250	0.6	350	420	0.6	350	1,110	1.2	360	390	1.2	360	470
		300	0.3	300	460	0.4	300	1,050	0.8	310	400	0.8	310	480
		350	3	280	390	0.2	270	1,140	0.4	280	380	0.4	280	450
Gray & Nodular Cast Iron (GG, GGG) Below 300HB	JC8015 JC5118	150	2.7	690	970	2.0	700	2,050	4	700	980	4	700	1,170
		200	2.2	690	1,020	1.8	700	2,200	3	700	1,060	3	700	1,270
		250	1.6	480	730	1.6	490	1,540	2	490	900	2	490	1,080
		300	1	480	820	1.2	490	1,740	1.5	490	1,010	1.5	490	1,210
		350	0.5	410	780	0.8	420	1,460	1	420	920	1	420	1,100
		400	1	380	830	0.4	380	1,530	0.5	390	1,000	0.5	390	1,200
Titanium Alloy 35-43HRC	JC8050 JC8015 JC5118	150	0.9	250	200	1.0	250	350	1.5	260	260	1.5	260	310
		200	0.7	250	240	0.9	250	410	1.3	260	200	1.3	260	240
		250	0.5	180	190	0.7	170	320	1.1	180	170	1.1	180	200
		300	0.3	180	230	0.5	170	400	0.9	180	190	0.9	180	230
		350	0.2	150	250	0.3	150	470	0.6	160	215	0.6	160	260
		400	1	140	280	0.2	140	510	0.3	140	250	0.3	140	300
Inconel 35-43HRC	JC8015 JC5118 JC8050	150	0.9	125	100	1.0	120	170	1.5	130	130	1.5	130	150
		200	0.7	125	115	0.9	120	200	1.3	130	120	1.3	130	140
		250	0.5	90	100	0.7	80	150	1.1	90	90	1.1	90	110
		300	0.3	90	115	0.5	80	180	0.9	90	85	0.9	90	100
		350	0.2	75	130	0.3	70	220	0.6	80	105	0.6	80	125
		400	4.5	70	140	0.2	65	240	0.3	70	125	0.3	70	150
Aluminum Alloy (A5052, A7075) 50-110 HB	FZ05 (RDGT insert)	150	4	2,800	4,400	4.0	2,800	7,600	6	2,800	4,400	6	2,800	5,300
		200	3.5	2,800	4,600	3.5	2,800	8,000	5	2,800	4,600	5	2,800	5,500
		250	2.5	2,350	4,000	3.0	2,400	7,200	4	2,350	4,000	4	2,350	4,800
		300	1.5	2,000	4,100	2.0	2,000	7,300	3	2,000	4,100	3	2,000	4,900
		350	1	1,900	3,400	1.0	1,900	6,000	2	1,900	3,400	2	1,900	4,100
		400		1,600	2,600	0.7	1,600	4,500	1	1,600	2,600	1	1,600	3,100

- NOTE:**
1. Speeds and Feeds should be adjusted according to the machine and work rigidity.
 2. If chattering occurs, reduce the Ap or Spindle speed and keep the feed per tooth the same.
 3. If machine does not have enough power, reduce the Ap or Spindle speed.
 4. If machining material that is 50-55HRC, reduce Ap, N and fz by 30% (Like Hardened Die Steel).
 5. Use air thru unless machining Titanium or Inconel, then coolant thru is recommended (wet cutting).

**METRIC**

Super Diemaster

Recommended Cutting Data for HDM type

Work Materials	Insert Grade	L (mm)	Diameter / Insert type											
			80mm (R8)			100mm (R8)			125mm (R8)			160mm (R6)		
			6 Teeth			6 Teeth (w/clamp)			8 Teeth (w/clamp)			9 Teeth (w/clamp)		
			Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)
Carbon Steel (C50, C55) Below 250HB	JC8050 JC5040 JC5118	150	3	790	1,540	5	780	870	4	620	1,040	4	490	820
		200	2.7	790	1,320	3	620	1,180	3	490	930	3	380	720
		250	2.2	550	1,220	2	430	970	2	340	770	2	270	610
		300	1.6	550	1,330	1.5	430	1,120	1.5	340	890	1.5	270	710
		350	1.0	470	1,410	1	370	950	1	290	750	1	230	600
		400	0.5	430	1,660	0.5	370	1,390	0.5	290	1,090	0.5	230	870
Mold Steel (1.2311, P20) 30-43HRC	JC8050 JC5118 JC8015 (JC8015 above 40HRC)	150	2.5	750	1,570	3.5	580	1,040	3.5	460	830	3.5	360	650
		200	2.2	750	1,660	3	580	1,140	3	460	900	3	360	710
		250	1.6	530	1,370	2.5	400	840	2.5	320	670	2.5	250	530
		300	1.1	530	1,680	2	400	880	2	320	710	2	250	560
		350	0.7	450	1,480	1	350	1,140	1	270	880	1	220	720
		400	0.5	410	1,480	0.5	350	1,300	0.5	270	1,040	0.5	220	850
Die Steel (1.2344, 1.2379) Below 255HB	JC5040 JC5118	150	2.5	750	1,570	4	580	970	4	460	770	4	360	610
		200	2.2	750	1,660	3	580	1,140	3	460	900	3	360	710
		250	1.6	530	1,370	2	400	880	2	320	710	2	250	560
		300	1.1	530	1,680	1.5	400	1,050	1.5	320	840	1.5	250	660
		350	0.7	450	1,480	1	350	910	1	270	710	1	220	580
		400	0.5	410	1,480	0.5	350	1,340	0.5	270	1,040	0.5	220	850
Stainless Steel (SUS304) Below 250HB	JC8050 JC8015 JC5118	150	3.0	620	1,210	4	480	830	4	390	680	4	300	520
		200	2.7	620	1,220	3	480	940	3	390	770	3	300	590
		250	2.2	430	950	2	340	740	2	270	590	2	210	460
		300	1.6	430	1,100	1.5	340	880	1.5	270	710	1.5	210	550
		350	1.0	370	1,110	1	280	710	1	230	590	1	180	460
		400	0.5	340	1,290	0.5	280	1,070	0.5	230	880	0.5	180	690
Hardened Die Steel (1.2344, 1.2379) 40-50HRC	JC5118 JC8015 (RDMW) (JC8003 above 50HRC)	100	1.5	500	750	2	390	530	2	310	430	2	240	330
		150	1.2	500	810	1.8	390	560	1.8	310	450	1.8	240	350
		200	1.0	350	690	1.6	270	420	1.6	220	350	1.6	170	270
		250	0.8	350	840	1.2	270	430	1.2	220	360	1.2	170	280
		300	0.6	300	810	0.8	230	440	0.8	180	350	0.8	150	290
		350	0.3	270	810	0.4	230	460	0.4	180	370	0.4	150	310
Gray & Nodular Cast Iron (GG, GGG) Below 300HB	JC8015 JC5118	150	3.0	710	1,440	4	550	1,150	4	440	920	4	340	710
		200	2.7	710	1,740	3	550	1,240	3	440	1,000	3	340	770
		250	2.2	500	1,350	2	380	1,040	2	310	850	2	240	660
		300	1.6	500	1,590	1.5	380	1,170	1.5	310	960	1.5	240	740
		350	1.0	430	1,420	1	330	1,080	1	260	850	1	200	660
		400	0.5	390	1,500	0.5	330	1,260	0.5	260	1,000	0.5	200	770
Titanium Alloy 35-43HRC	JC8050 JC8015 JC5118	150	1.5	250	380	1.5	200	300	1.5	150	260	1.5	120	180
		200	1.3	250	420	1.3	200	230	1.3	150	170	1.3	120	140
		250	1.1	180	350	1.1	140	200	1.1	100	140	1.1	85	120
		300	0.9	180	360	0.9	140	220	0.9	100	160	0.9	85	135
		350	0.6	150	320	0.6	120	240	0.6	90	180	0.6	70	140
		400	0.3	140	460	0.3	120	320	0.3	90	240	0.3	70	190
Heat Resistance Alloy (Inconel 718, etc.) 35-43 HRC	JC8015 JC5118 JC8050	150	1.5	125	190	1.5	100	150	1.5	80	120	1.5	60	90
		200	1.3	125	210	1.3	100	130	1.3	80	110	1.3	60	80
		250	1.1	90	180	1.1	70	100	1.1	55	85	1.1	40	60
		300	0.9	90	180	0.9	70	100	0.9	55	80	0.9	40	55
		350	0.6	75	160	0.6	60	120	0.6	50	100	0.6	35	70
		400	0.3	70	230	0.3	60	160	0.3	50	130	0.3	35	90
Aluminum Alloy (A5052, A7075) 50-110 HB	FZ05 (RDGT insert)	150	5.5	2,800	6,500	6	2,400	5,600	6	1,900	5,900	6	1,500	5,250
		200	4.5	2,800	6,900	5	2,400	5,900	5	1,900	6,200	5	1,500	5,500
		250	3.5	2,400	6,200	4	2,050	5,300	4	1,650	5,600	4	1,300	5,000
		300	2.5	2,000	6,200	3	1,900	5,900	3	1,500	6,200	3	1,200	5,600
		350	1.5	1,900	5,100	2	1,750	4,700	2	1,400	5,000	2	1,100	4,400
		400	1.0	1,600	3,800	1	1,600	3,800	1	1,250	4,000	1	1,000	3,600

- NOTE:**
1. Speeds and Feeds should be adjusted according to the machine and work rigidity.
 2. If chattering occurs, reduce the Ap or Spindle speed and keep the feed per tooth the same.
 3. If machine does not have enough power, reduce the Ap or Spindle speed.
 4. If machining material that is 50-55HRC, reduce Ap, N and fz by 30% (Like Hardened Die Steel).
 5. Use air thru unless machining Titanium or Inconel, then coolant thru is recommended (wet cutting).



Super Diemaster

METRIC

H.S.C. Cutting Data for HDM type - Fine Pitch

Work Materials	*Insert Grade	L (mm)	Diameter / Insert type											
			50 / 52mm (R6)			50 / 52mm (R8)			63 / 66mm (R6)			63 / 66mm (R8)		
			No. of Teeth 5N			No. of Teeth 4N			No. of Teeth 6N			No. of Teeth 5N		
			Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)
Carbon Steel (C50, C55) Below 250HB	JC8015 (w/o chip breaker)	150	1.4	1,590	3,180	1.9	1,640	2,400	1.4	1,240	2,980	1.9	1,270	2,350
		200	1.2	1,590	3,180	1.7	1,640	2,400	1.2	1,240	2,980	1.7	1,270	2,350
		250	1	1,110	2,220	1.3	1,150	1,680	1	870	2,090	1.3	890	1,650
		300	0.6	1,030	2,830	1	1,070	1,710	0.6	800	2,200	1	830	1,600
		350	0.3	950	2,610	0.4	980	2,350	0.3	740	2,040	0.4	760	2,280
		400	-	-	-	-	-	-	-	-	-	-	-	-
Mold Steel (1.2311, P20) 30-43HRC	JC8015 (w/o chip breaker)	150	1.4	1,520	3,040	1.9	1,570	2,300	1.4	1,190	2,850	1.9	1,220	2,250
		200	1.2	1,520	3,040	1.7	1,570	2,300	1.2	1,190	2,850	1.7	1,220	2,250
		250	1	1,060	2,120	1.3	1,100	1,600	1	830	1,990	1.3	850	1,570
		300	0.6	990	2,720	1	1,020	1,630	0.6	770	2,220	1	790	1,580
		350	0.3	910	2,500	0.4	940	2,250	0.3	710	1,950	0.4	730	2,200
		400	-	-	-	-	-	-	-	-	-	-	-	-
Die Steel (1.2344, 1.2379) Below 255HB	JC8015 (w/o chip breaker)	150	1.4	1,520	3,040	1.9	1,570	2,300	1.4	1,190	2,850	1.9	1,220	2,250
		200	1.2	1,520	3,040	1.7	1,570	2,300	1.2	1,190	2,850	1.7	1,220	2,250
		250	1	1,060	2,120	1.3	1,100	1,600	1	830	1,990	1.3	850	1,570
		300	0.6	990	2,720	1	1,020	1,630	0.6	770	2,120	1	790	1,580
		350	0.3	910	2,500	0.4	940	2,250	0.3	710	1,950	0.4	730	2,200
		400	-	-	-	-	-	-	-	-	-	-	-	-
Stainless Steel (SUS304) Below 250HB	JC8015 (w/o chip breaker)	150	1.4	1,320	2,640	1.9	1,360	2,000	1.4	1,030	2,470	1.9	1,050	1,940
		200	1.2	1,320	2,640	1.7	1,360	2,000	1.2	1,030	2,470	1.7	1,050	1,940
		250	1	920	1,840	1.3	950	1,390	1	720	1,730	1.3	730	1,440
		300	0.6	860	2,360	1	880	1,400	0.6	670	1,840	1	680	1,360
		350	0.3	790	2,170	0.4	820	1,970	0.3	620	1,700	0.4	630	1,890
		400	-	-	-	-	-	-	-	-	-	-	-	-
Hardened Die Steel (1.2344, 1.2379) 40-50HRC	JC8003	100	1	1,070	1,870	1.2	1,100	1,540	1	830	1,710	1.2	840	1,470
		150	0.8	1,070	1,870	1	1,100	1,540	0.8	830	1,710	1	840	1,470
		200	0.6	750	3,740	0.8	770	1,120	0.6	580	1,390	0.8	590	1,090
		250	0.3	700	2,100	0.5	710	1,700	0.3	540	1,620	0.5	550	1,320
		300	0.2	640	2,170	0.3	660	1,650	0.2	500	1,980	0.3	510	1,270
		350	-	-	-	-	-	-	-	-	-	-	-	-
Gray & Nodular Cast Iron (GG, GGG) Below 300HB	JC8003	150	1.4	1,450	3,980	1.9	1,600	3,000	1.4	1,130	3,660	1.9	1,160	2,900
		200	1.2	1,450	3,980	1.7	1,500	3,000	1.2	1,130	3,660	1.7	1,160	2,900
		250	1	1,010	2,020	1.3	1,050	1,500	1	790	1,900	1.3	810	1,930
		300	0.6	940	3,520	1	970	2,700	0.6	730	2,400	1	750	2,600
		350	0.3	870	3,260	0.4	900	2,880	0.3	680	2,150	0.4	700	2,800
		400	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum Alloy (A5052, A7075) 50-110 HB	FZ05 (RDGT insert)	150	1.6	5,500	15,000	2.1	5,500	12,000	1.6	4,300	14,000	2.1	4,300	11,800
		200	1.4	5,500	15,000	1.9	5,500	12,000	1.4	4,300	14,000	1.9	4,300	11,800
		250	1.2	4,900	17,000	1.5	4,900	13,600	1.2	3,850	16,000	1.5	3,850	13,500
		300	0.8	4,300	15,000	1.2	4,300	12,000	0.8	3,350	14,000	1.2	3,350	11,700
		350	0.6	4,000	14,000	0.6	4,000	11,200	0.6	3,150	13,000	0.6	3,150	11,000
		400	0.4	3,650	13,000	0.4	3,650	10,400	0.4	2,900	13,000	0.4	2,900	11,000

- NOTE:**
1. Speeds and Feeds should be adjusted according to the machine and work rigidity.
 2. If chattering occurs, reduce the Ap or Spindle speed and keep the feed per tooth the same.
 3. If machine does not have enough power, reduce the Ap or Spindle speed.
 4. If machining material that is 50-55HRC, reduce Ap, N and fz by 30% (Like Hardened Die Steel).
 5. Use air thru unless machining Titanium or Inconel, then coolant thru is recommended (wet cutting).

*RDMW Style insert recommended for High Speed Cutting


METRIC

Super Diemaster

H.S.C. Cutting Data for HDM type - Fine Pitch

Work Materials	*Insert Grade	L (mm)	Diameter / Insert type					
			80mm (R8)			80mm (R6)		
			No. of Teeth 6			No. of Teeth 7		
			Ap (mm)	N (min ⁻¹)	Vf (mm/min)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)
Carbon Steel (C50, C55) Below 250HB	JC8015 (w/o chip breaker)	150	1.9	980	2,180	1.4	970	2,720
		200	1.7	980	2,180	1.2	970	2,720
		250	1.3	690	1,530	1.0	680	1,900
		300	1.0	640	1,490	0.6	630	2,030
		350	0.4	590	2,120	0.3	580	1,870
		400	-	-	-	-	-	-
Mold Steel (1.2311, P20) 30-43HRC	JC8015 (w/o chip breaker)	150	1.9	940	2,090	1.4	920	2,580
		200	1.7	940	2,090	1.2	920	2,580
		250	1.3	660	1,470	1.0	640	1,790
		300	1.0	610	1,460	0.6	600	1,930
		350	0.4	560	2,030	0.3	550	1,770
		400	-	-	-	-	-	-
Die Steel (1.2344, 1.2379) Below 255HB	JC8015 (w/o chip breaker)	150	1.9	940	2,090	1.4	920	2,580
		200	1.7	940	2,090	1.2	920	2,580
		250	1.3	660	1,470	1.0	640	1,790
		300	1.0	610	1,460	0.6	600	1,930
		350	0.4	560	2,030	0.3	550	1,770
		400	-	-	-	-	-	-
Stainless Steel (SUS304) Below 250HB	JC8015 (w/o chip breaker)	150	1.9	810	1,800	1.4	800	2,240
		200	1.7	810	1,800	1.2	800	2,240
		250	1.3	570	1,370	1.0	560	1,570
		300	1.0	530	1,270	0.6	520	1,680
		350	0.4	490	1,760	0.3	480	1,550
		400	-	-	-	-	-	-
Hardened Die Steel (1.2344, 1.2379) 40-50HRC	JC8003	100	1.2	660	1,390	1.0	640	1,540
		150	1.0	660	1,390	0.8	640	1,540
		200	0.8	460	1,020	0.6	450	1,260
		250	0.5	430	1,240	0.3	420	1,470
		300	0.3	400	1,200	0.2	380	1,750
		350	-	-	-	-	-	-
Gray & Nodular Cast Iron (GG, GGG) Below 300HB	JC8003	150	1.9	900	2,700	1.4	880	3,320
		200	1.7	900	2,700	1.2	880	3,320
		250	1.3	630	1,800	1.0	620	1,740
		300	1.0	590	2,480	0.6	570	2,180
		350	0.4	540	2,590	0.3	530	1,950
		400	-	-	-	-	-	-
Aluminum Alloy (A5052, A7075) 50-110 HB	FZ05 (RDGT insert)	150	2.1	3,600	11,900	1.6	3,600	13,800
		200	1.9	3,600	11,900	1.4	3,600	13,800
		250	1.5	3,200	13,400	1.2	3,200	15,600
		300	1.2	2,800	11,750	0.8	2,800	13,700
		350	0.6	2,600	11,000	0.6	2,600	12,700
		400	0.4	2,400	10,800	0.4	2,400	12,600

- NOTE:**
1. Speeds and Feeds should be adjusted according to the machine and work rigidity.
 2. If chattering occurs, reduce the Ap or Spindle speed and keep the feed per tooth the same.
 3. If machine does not have enough power, reduce the Ap or Spindle speed.
 4. If machining material that is 50-55HRC, reduce Ap, N and fz by 30% (Like Hardened Die Steel).
 5. Use air thru unless machining Titanium or Inconel, then coolant thru is recommended (wet cutting).

*RDMW Style insert recommended for High Speed Cutting



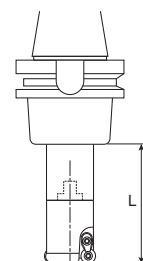
Super Diemaster

METRIC

Recommended Cutting Data for SDH with MSN

Work Materials	Insert Grade	Diameter / Insert type															
		15mm / 16mm (R3.5)				20 / 22mm (R3.5)				20 / 22mm (R3.5)				25 / 28mm (R5)			
		No. of Teeth 2N				No. of Teeth 2N				No. of Teeth 3N				No. of Teeth 2N			
		L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)
Carbon Steel (C50, C55) Below 250HB	JC8050	70	1.4	3,500	1,650	70	1.5	2,900	1,450	70	1.2	3,500	2,900	90	2	2,400	1,400
	JC5040	120	1.1	3,500	1,650	120	1.2	2,900	1,450	120	0.8	3,500	2,900	140	1.5	2,400	1,400
	JC5118	160	0.6	3,300	1,500	160	0.7	2,800	1,350	160	0.5	3,200	2,700	210	1	2,300	1,300
Mold Steel (1.2311, P20) 30-43HRC	JC8050	70	1.4	3,300	1,550	70	1.5	2,800	1,400	70	1.2	3,300	2,600	90	2	2,200	1,300
	JC5118	120	1.1	3,300	1,550	120	1.2	2,800	1,400	120	0.8	3,300	2,600	140	1.5	2,200	1,300
	JC8015 (JC8015 above 40HRC)	160	0.6	3,200	1,500	160	0.7	2,700	1,350	160	0.5	3,100	2,300	210	1	2,100	1,200
Die Steel (1.2344, 1.2379) Below 255HB	JC5040	70	1.4	3,300	1,550	70	1.5	2,800	1,400	70	1.2	3,300	2,600	90	2	2,200	1,300
	JC5118	120	1.1	3,300	1,550	120	1.2	2,800	1,400	120	0.8	3,300	2,600	140	1.5	2,200	1,300
	JC5118	160	0.6	3,200	1,500	160	0.7	2,700	1,350	160	0.5	3,100	2,300	210	1	2,100	1,200
Stainless Steel (SUS304) Below 250HB	JC8050	70	1.4	2,700	1,300	70	1.5	2,300	1,200	70	1.2	2,700	2,400	90	2	1,800	1,050
	JC8015	120	1.1	2,700	1,300	120	1.2	2,300	1,200	120	0.8	2,700	2,400	140	1.5	1,800	1,050
	JC5118	160	0.6	2,600	1,250	160	0.7	2,200	1,100	160	0.5	2,600	2,200	210	1	1,700	1,000
Hardened Die Steel (1.2344, 1.2379) 40-50HRC	JC5118	70	0.7	2,400	1,150	70	0.8	2,000	1,000	70	0.7	2,500	2,000	90	1	1,600	1,000
	JC8015 (RDMW) (JC8003 above 50HRC)	120	0.5	2,400	1,150	120	0.6	2,000	1,000	120	0.5	2,500	2,000	140	0.5	1,600	1,000
	JC8015	160	0.3	2,200	1,050	160	0.3	1,900	950	160	0.3	2,200	1,800	210	0.3	1,500	950
Gray & Nodular Cast Iron (GG, GGG) Below 300HB	JC8015	70	1.4	3,100	1,550	70	1.5	2,600	1,400	70	1.2	3,050	2,600	90	2	2,100	1,300
	JC5118	120	1.1	3,100	1,550	120	1.2	2,600	1,400	120	0.8	3,050	2,600	140	1.5	2,100	1,300
	JC5118	160	0.6	3,000	1,400	160	0.7	2,500	1,300	160	0.5	2,900	2,400	210	1	1,200	1,200
Titanium Alloy 35-43HRC	JC8050	70	0.5	1,200	600	70	0.5	1,000	500	70	0.5	1,000	750	90	0.5	780	460
	JC8015	120	0.4	1,200	600	120	0.4	1,000	500	120	0.4	1,000	750	140	0.4	780	460
	JC5118	160	0.2	1,100	490	160	0.2	980	440	160	0.2	980	660	210	0.2	750	410
Inconel 35-43HRC	JC8015	70	0.5	620	190	70	0.5	510	160	70	0.5	510	240	90	0.5	430	170
	JC5118	120	0.4	560	190	120	0.4	470	160	120	0.4	470	240	140	0.4	390	140
	JC8050	160	0.2	520	190	160	0.2	440	160	160	0.2	440	240	210	0.2	370	140
Aluminum Alloy (A5052, A7075) 50-110 HB	FZ05 (RDGT insert)	70	2.0	8,600	4,800	70	2	7,200	4,300	70	2	7,200	6,400	90	3.5	5,700	3,400
	FZ05 (RDGT insert)	120	1.7	8,600	4,800	120	1.7	7,200	4,300	120	1.7	7,200	6,400	140	2	5,700	3,400
	FZ05 (RDGT insert)	160	1.2	7,000	4,900	160	1.2	5,800	4,300	160	1.2	5,800	4,300	210	1.5	4,500	2,200

- NOTE:**
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 - If chattering occurs, reduce the Ap or Spindle speed and keep the feed per tooth the same.
 - If machine does not have enough power, reduce the Ap or Spindle speed.
 - If machining material that is 50-55HRC, reduce Ap, N and fz by 30% (Like Hardened Die Steel).
 - Use air thru unless machining Titanium or Inconel, then coolant thru is recommended (wet cutting).



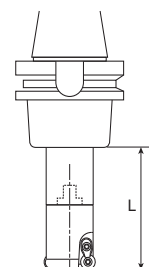
**METRIC**

Super Diemaster

Recommended Cutting Data for SDH with MSN

Work Materials	Insert Grade	Diameter / Insert type															
		25mm (R3.5) 25mm (R5) / 28mm (R5)				30mm (R5) 32mm (R6) / 35mm (R5)				32 / 35mm (R5)				30mm (R5), 35mm (R6)			
		No. of Teeth 3N				No. of Teeth 2N				No. of Teeth 3N				No. of Teeth 3N			
		L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)
Carbon Steel (C50, C55) Below 250HB	JC8050	90	1.5	2,800	2,100	100	2.5	2,000	1,100	100	2.5	2,000	1,600	100	2	2,000	1,600
	JC5040	140	1.2	2,800	2,100	150	2	2,000	1,100	150	2	2,000	1,600	150	1.5	2,100	1,900
	JC5118	210	0.7	2,600	1,900	210	1.2	1,900	1,000	210	1.2	1,900	1,400	210	0.8	2,000	1,600
Mold Steel (1.2311, P20) 30-43HRC	JC8050	90	1.5	2,600	2,000	100	2.5	1,900	1,050	100	2.5	1,900	1,550	100	2	2,000	1,800
	JC5118	140	1.2	2,600	2,000	150	2	1,900	1,050	150	2	1,900	1,550	150	1.5	2,000	1,800
	JC8015 (JC8015 above 40HRC)	210	0.7	2,400	1,800	210	1.2	1,800	950	210	1.2	1,800	1,400	210	0.8	1,900	1,550
Die Steel (1.2344, 1.2379) Below 255HB	JC5040	90	1.5	2,500	1,600	100	2.5	1,900	1,050	100	2.5	1,900	1,550	100	2	2,000	1,800
	JC5118	140	1.2	2,500	1,600	150	2	1,900	1,050	150	2	1,900	1,550	150	1.5	2,000	1,800
		210	0.7	2,400	1,400	210	1.2	1,800	950	210	1.2	1,800	1,400	210	0.8	1,900	1,500
Stainless Steel (SUS304) Below 250HB	JC8050	90	1.5	2,100	1,400	100	2.5	1,550	850	100	2.5	1,550	1,250	100	2	1,750	1,500
	JC8015	140	1.2	2,100	1,400	150	2	1,550	850	150	2	1,550	1,250	150	1.5	1,750	1,500
	JC5118	210	0.7	2,000	1,000	210	1.2	1,400	800	210	1.2	1,400	1,200	210	0.8	1,600	1,300
Hardened Die Steel (1.2344, 1.2379) 40-50HRC	JC5118	90	0.8	1,900	1,400	100	1.5	1,300	750	100	1.5	1,300	1,100	100	1.2	1,400	1,250
	JC8015 (RDMW) (JC8003 above 50HRC)	140	0.6	1,900	1,400	150	1.2	1,300	750	150	1.2	1,300	1,100	150	1	1,400	1,250
		210	0.4	1,800	1,000	210	0.7	1,200	700	210	0.7	1,200	950	210	0.5	1,300	1,100
Gray & Nodular Cast Iron (GG, GGG) Below 300HB	JC8015	90	1.2	2,500	2,200	100	2.5	1,800	1,000	100	2.5	1,800	1,500	100	2	1,900	1,700
	JC5118	140	0.8	2,500	2,200	150	2	1,800	1,000	150	2	1,800	1,500	150	1.5	1,900	1,700
		210	0.5	2,300	1,700	210	1.2	1,700	900	210	1.2	1,700	1,350	210	0.8	1,800	1,600
Titanium Alloy 35-43HRC	JC8050	90	0.5	780	690	100	0.5	730	470	100	0.5	730	650	100	0.5	730	650
	JC8015	140	0.4	780	690	150	0.4	730	330	150	0.4	730	650	150	0.4	730	650
	JC5118	210	0.2	750	620	210	0.2	700	260	210	0.2	700	600	210	0.2	700	600
Inconel 35-43HRC	JC8015	90	0.5	430	260	100	0.5	400	170	100	0.5	400	250	100	0.5	400	250
	JC5118	140	0.4	390	210	150	0.4	380	150	150	0.4	380	230	150	0.4	380	230
	JC8050	210	0.2	370	210	210	0.2	350	130	210	0.2	350	200	210	0.2	350	200
Aluminum Alloy (A5052, A7075) 50-110 HB	FZ05	90	2.2	5,700	5,100	100	3.5	4,500	2,700	100	3.5	4,500	4,100	100	3.5	4,500	4,100
	(RDGT insert)	120	1.9	5,700	5,100	150	2	4,500	2,700	150	2	4,500	4,100	150	2	4,500	4,100
		160	1.5	4,500	5,100	210	1.5	3,600	1,800	210	1.5	3,600	2,700	210	1.5	3,600	2,700

- NOTE:**
1. Speeds and Feeds should be adjusted according to the machine and work rigidity.
 2. If chattering occurs, reduce the Ap or Spindle speed and keep the feed per tooth the same.
 3. If machine does not have enough power, reduce the Ap or Spindle speed.
 4. If machining material that is 50-55HRC, reduce Ap, N and fz by 30% (Like Hardened Die Steel).
 5. Use air thru unless machining Titanium or Inconel, then coolant thru is recommended (wet cutting).





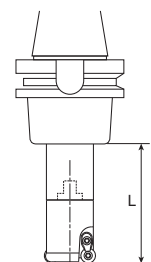
Super Diemaster

METRIC

Recommended Cutting Data for SDH with MSN

Work Materials	Insert Grade	Diameter / Insert type															
		30 / 32 / 35mm (R5)				40mm (R6)				40mm (R6)				42mm (R5)			
		No. of Teeth 4N				No. of Teeth 2N				No. of Teeth 4N				No. of Teeth 5N			
		L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)
Carbon Steel (C50, C55) Below 250HB	JC8050	100	2	2,100	2,500	100	2.5	1,550	890	100	2	1,900	2,300	100	1.8	1,750	2,600
	JC5040	150	1.5	2,100	2,500	150	2	1,550	890	150	1.5	1,900	2,300	150	1.3	1,750	2,600
	JC5118	210	0.8	2,000	2,400	210	1.2	1,450	780	210	0.8	1,800	2,200	210	0.7	1,650	2,400
Mold Steel (1.2311, P20) 30-43HRC	JC8050	100	2	2,000	2,400	100	2.5	1,500	840	100	2	1,800	2,100	100	1.8	1,700	2,500
	JC5118	150	1.5	2,000	2,400	150	2	1,500	840	150	1.5	1,800	2,100	150	1.3	1,700	2,500
	JC8015 (JC8015 above 40HRC)	210	0.8	1,900	2,100	210	1.2	1,450	780	210	0.8	1,700	2,000	210	0.7	1,600	2,200
Die Steel (1.2344, 1.2379) Below 255HB	JC5040	100	2	2,000	2,400	100	2.5	1,500	840	100	2	1,800	2,100	100	1.8	1,700	2,600
	JC5118	150	1.5	2,000	2,400	150	2	1,500	840	150	1.5	1,800	2,100	150	1.3	1,700	2,600
	JC5118	210	0.8	1,900	2,100	210	1.2	1,450	780	210	0.8	1,700	2,000	210	0.7	1,600	2,400
Stainless Steel (SUS304) Below 250HB	JC8050	100	2	1,750	2,000	100	2.5	1,250	700	100	2	1,550	1,600	100	1.8	1,400	2,100
	JC8015	150	1.5	1,750	2,000	150	2	1,250	700	150	1.5	1,550	1,600	150	1.3	1,400	2,100
	JC5118	210	0.8	1,600	1,700	210	1.2	1,200	670	210	0.8	1,500	1,400	210	0.7	1,250	1,600
Hardened Die Steel (1.2344, 1.2379) 40-50HRC	JC5118	100	1.2	1,400	1,850	100	1.5	1,050	550	100	1.2	1,350	1,350	100	1.1	1,250	1,500
	JC8015 (RDMV) (JC8003 above 50HRC)	150	1	1,400	1,850	150	1.2	1,050	550	150	1	1,350	1,350	150	0.9	1,250	1,500
	JC5118	210	0.5	1,300	1,700	210	0.7	1,000	520	210	0.5	1,300	1,100	210	0.4	1,150	1,300
Gray & Nodular Cast Iron (GG, GGG) Below 300HB	JC8015	100	2	1,900	2,250	100	2.5	1,400	800	100	2	1,700	2,050	100	1.8	1,650	2,400
	JC5118	150	1.5	1,900	2,250	150	2	1,400	800	150	1.5	1,700	2,050	150	1.3	1,650	2,400
	JC5118	210	0.8	1,800	2,100	210	1.2	1,300	750	210	0.8	1,600	1,800	210	0.7	1,550	2,200
Titanium Alloy 35-43HRC	JC8050	100	0.5	730	860	100	0.5	580	350	100	0.5	580	700	100	0.5	610	730
	JC8015	150	0.4	730	860	150	0.4	580	350	150	0.4	580	700	150	0.4	610	730
	JC5118	210	0.2	700	800	210	0.2	550	330	210	0.2	550	660	210	0.2	580	690
Inconel 35-43HRC	JC8015	100	0.5	400	330	100	0.5	290	170	100	0.5	290	340	100	0.5	300	310
	JC5118	150	0.4	380	310	150	0.4	270	160	150	0.4	270	320	150	0.4	280	290
	JC8050	210	0.2	350	270	210	0.2	250	120	210	0.2	250	240	210	0.2	260	250
Aluminum Alloy (A5052, A7075) 50-110 HB	FZ05 (RDGT insert)	100	3.5	4,500	5,400	100	4	4,000	2,400	100	4	4,000	4,800	100	3.5	2,800	5,700
	FZ05 (RDGT insert)	150	2	4,500	5,400	150	2.5	4,000	2,400	150	2.5	4,000	4,800	150	2	3,800	5,700
	FZ05 (RDGT insert)	210	1.5	3,600	3,600	210	2	3,200	1,600	210	2	3,200	3,200	210	1.5	3,000	3,700

- NOTE:**
1. Speeds and Feeds should be adjusted according to the machine and work rigidity.
 2. If chattering occurs, reduce the Ap or Spindle speed and keep the feed per tooth the same.
 3. If machine does not have enough power, reduce the Ap or Spindle speed.
 4. If machining material that is 50-55HRC, reduce Ap, N and fz by 30% (Like Hardened Die Steel).
 5. Use air thru unless machining Titanium or Inconel, then coolant thru is recommended (wet cutting).



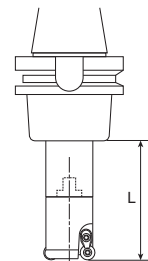
**METRIC**

Super Diemaster

H.S.C. Cutting Data for SDH with MSN

Work Materials	Insert Grade	Diameter / Insert type											
		20 / 22mm (R3.5)				25mm (R3.5) / 25mm (R5) / 28mm (R5)				30mm (R5) / 35mm (R6)			
		No. of Teeth 3N				No. of Teeth 3N				No. of Teeth 3N			
		L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)
Carbon Steel (C50, C55) Below 250HB	JC8015 (w/o chip breaker)	70	0.3	5,400	4,800	90	0.3	4,200	3,800	100	0.3	3,300	2,900
		120	0.2	5,100	4,300	140	0.2	4,000	3,400	150	0.2	3,100	2,800
		160	0.1	4,300	3,600	210	0.1	3,400	2,850	210	0.1	2,600	2,150
Mold Steel (1.2311, P20) 30-43HRC	JC8015 (w/o chip breaker)	70	0.3	4,300	3,200	90	0.3	3,400	2,500	100	0.3	2,800	2,000
		120	0.2	4,100	2,900	140	0.2	3,200	2,250	150	0.2	2,700	1,800
		160	0.1	3,400	2,400	210	0.1	2,700	1,900	210	0.1	2,200	1,500
Die Steel (1.2344, 1.2379) Below 255HB	JC8015 (w/o chip breaker)	70	0.3	4,300	3,200	90	0.3	3,400	2,500	100	0.3	2,800	2,000
		120	0.2	4,100	2,900	140	0.2	3,200	2,250	150	0.2	2,400	1,800
		160	0.1	3,400	2,400	210	0.1	2,700	1,900	210	0.1	2,200	1,500
Stainless Steel (SUS304) Below 250HB	JC8015 (w/o chip breaker)	70	0.3	3,600	3,200	90	0.3	2,800	2,500	100	0.3	2,300	2,000
		120	0.2	3,400	2,900	140	0.2	2,700	2,250	150	0.2	2,200	1,800
		160	0.1	2,900	2,400	210	0.1	2,250	1,900	210	0.1	1,850	1,500
Hardened Die Steel (1.2344, 1.2379) 40-50HRC	JC8003	70	0.2	4,000	3,000	90	0.2	3,100	2,300	100	0.2	2,500	1,850
		120	0.12	3,700	2,600	140	0.12	3,000	2,100	150	0.15	2,450	1,650
		160	0.06	3,200	2,200	210	0.06	2,500	1,700	210	0.1	2,050	1,400
Gray & Nodular Cast Iron (GG, GGG) Below 300HB	JC8003	70	0.3	5,700	5,100	90	0.3	4,500	4,000	100	0.3	3,600	3,200
		120	0.2	5,100	4,600	140	0.2	4,300	3,600	150	0.2	3,400	2,900
		160	0.1	4,550	3,800	210	0.1	3,600	3,000	210	0.1	2,900	2,400
Aluminum Alloy (A5052, A7075) 50-110 HB	FZ05 (RDGT insert)	70	1.5	10,100	12,000	90	1.7	8,000	9,600	100	2	6,400	7,700
		120	1.2	10,100	12,000	140	1.4	8,000	9,600	150	1.5	6,400	7,700
		160	0.7	8,700	7,800	210	1	6,800	6,100	210	1	5,500	5,000

- NOTE:**
1. Speeds and Feeds should be adjusted according to the machine and work rigidity.
 2. If chattering occurs, reduce the Ap or Spindle speed and keep the feed per tooth the same.
 3. If machine does not have enough power, reduce the Ap or Spindle speed.
 4. If machining material that is 50-55HRC, reduce Ap, N and fz by 30% (Like Hardened Die Steel).
 5. Use air thru unless machining Titanium or Inconel, then coolant thru is recommended (wet cutting).





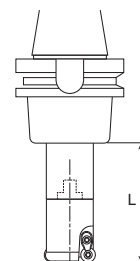
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H.S.C. Cutting Data for SDH with MSN

Work Materials	Insert Grade	Diameter / Insert type											
		30mm (R5) / 32mm (R5) / 35mm (R5)				40mm (R6)				42mm (R5)			
		No. of Teeth 4N				No. of Teeth 4N				No. of Teeth 5N			
		L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)	L (mm)	Ap (mm)	N (min ⁻¹)	Vf (mm/min)
Carbon Steel (C50, C55) Below 250HB	JC8015 (w/o chip breaker)	100	0.3	3,300	4,000	100	0.3	2,900	3,400	100	0.3	2,800	4,200
		150	0.2	3,100	3,600	150	0.2	2,700	3,050	150	0.2	2,650	2,400
		210	0.1	2,600	3,000	210	0.1	2,300	2,550	210	0.1	2,250	3,150
Mold Steel (1.2311, P20) 30-43HRC	JC8015 (w/o chip breaker)	100	0.3	2,800	2,800	100	0.3	2,400	2,400	100	0.3	2,300	2,800
		150	0.2	2,700	2,500	150	0.2	2,300	2,150	150	0.2	2,200	2,500
		210	0.1	2,250	2,100	210	0.1	1,900	1,800	210	0.1	1,850	2,100
Die Steel (1.2344, 1.2379) Below 255HB	JC8015 (w/o chip breaker)	100	0.3	2,800	2,800	100	0.3	2,400	2,400	100	0.3	2,300	2,800
		150	0.2	2,700	2,500	150	0.2	2,300	2,150	150	0.2	2,200	2,500
		210	0.1	2,250	2,100	210	0.1	1,900	1,800	210	0.1	1,850	2,100
Stainless Steel (SUS304) Below 250HB	JC8015 (w/o chip breaker)	100	0.3	2,300	2,700	100	0.3	2,000	2,400	100	0.3	1,900	2,800
		150	0.2	2,200	2,400	150	0.2	1,900	2,150	150	0.2	1,800	2,500
		210	0.1	2,850	2,000	210	0.1	1,600	1,800	210	0.1	1,500	2,100
Hardened Die Steel (1.2344, 1.2379) 40-50HRC	JC8003	100	0.2	2,550	2,550	100	0.2	2,200	2,200	100	0.2	2,100	2,500
		150	0.15	2,400	2,250	150	0.15	2,100	2,000	150	0.15	2,000	2,250
		210	0.1	2,050	1,850	210	0.1	1,750	1,650	210	0.1	1,650	1,850
Gray & Nodular Cast Iron (GG, GGG) Below 300HB	JC8003	100	0.3	3,600	4,300	100	0.3	3,200	4,000	100	0.3	3,000	3,600
		150	0.2	3,400	3,900	150	0.2	3,000	3,600	150	0.2	2,850	3,250
		210	0.1	2,900	3,200	210	0.1	2,550	3,000	210	0.1	2,400	2,700
Aluminum Alloy (A5052, A7075) 50-110 HB	FZ05 (RDGT insert)	100	2	6,400	10,200	100	2.5	5,600	9,000	100	2	5,300	10,600
		150	1.5	6,400	10,200	150	2	5,600	9,000	150	1.5	5,300	10,600
		210	1	5,500	6,600	210	1.3	4,800	5,800	210	1	4,500	6,800

- NOTE:**
1. Speeds and Feeds should be adjusted according to the machine and work rigidity.
 2. If chattering occurs, reduce the Ap or Spindle speed and keep the feed per tooth the same.
 3. If machine does not have enough power, reduce the Ap or Spindle speed.
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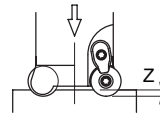
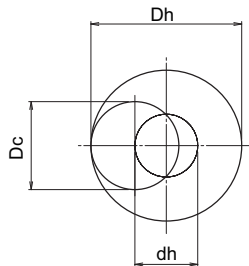
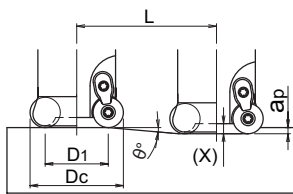




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HELICAL INTERPOLATION CUTTING DATA



• Calculation of tool pass dia.

$$\text{ØDc} = \text{ØDh} - I$$

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			
15	7 (R3.5)	8	3°00'	66.8	20	28	3.5	0.4	1.0
16	7 (R3.5)	9	9°00'	22.1	22	30	3.5	1.5	2.5
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
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

