

SUPER DIEMASTER

HDM/SDH Type

■ HDM Type - Facemill / Standard Pitch

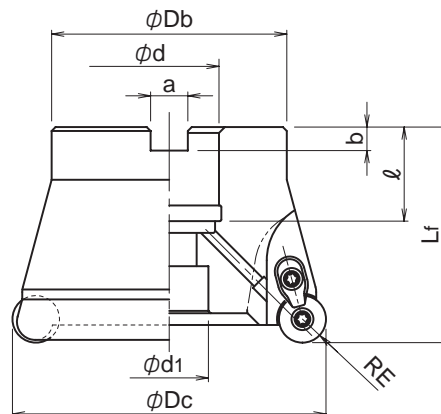
High Efficient Indexable Radius Tool

- High rigidity insert for stable machining.
- Positive axial rake reduces cutting force.



Through coolant hole



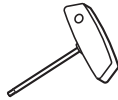
Double - Clamping



Cat.No.	Stock	No. of inserts	Dimensions(mm)									Arbor set bolt	Parts		Weight (kg)	Inserts
			φDc	RE	Lf	φDb	φd	φd1	a	b	ℓ		Screw	Wrench		
HDM-3050-12R-22	●	3	50	6	50	47	22	16.5	10.4	6.3	20	M10	DSW-410H	A-15T	0.5	RD**1204MO...
HDM-3050-16R-22	●			8	55							M10	DSW-4512H	A-20	0.5	RD**1606MO...
HDM-4063-12R-22	●	4	63	6	50	60	22	16.5	10.4	6.3	20	M10	DSW-410H	A-15T	0.7	RD**1204MO...
HDM-4063-16R-22	●			8	50							M10	DSW-4512H	A-20	0.7	RD**1606MO...

Screw	Torque (N.m)
DSW-410H	3.6
DSW-4512H	6.0

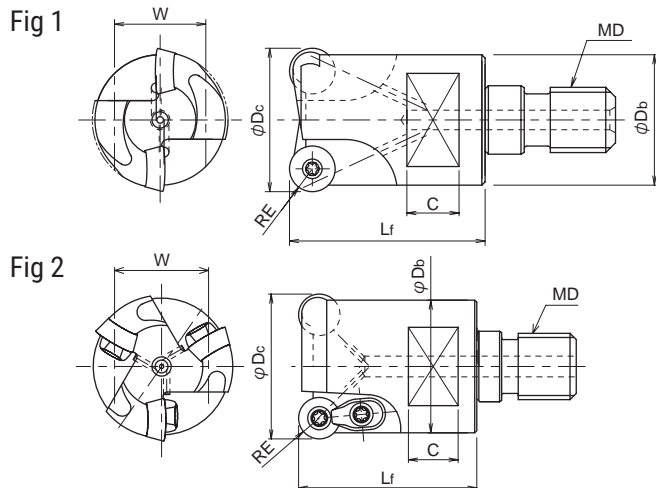
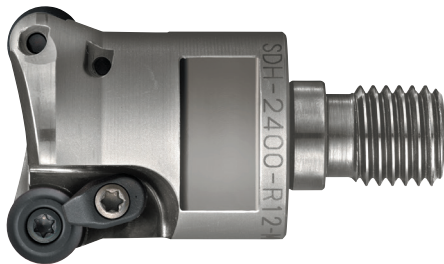
MD	Hexagonal wrench(mm) for Arbor set bolt
M10	8
M12	10
M16	14
M20	17
M24	19

Inserts	Screw	Clamp	Wrench
RD**1204MO*			
RD**1606MO*	DSW-4512H	DCM-17	A-20

SUPER DIEMASTER

HDM/SDH Type

■ SDH Type - Modular Head / Standard Pitch



Cat.No.	Stock	No. of inserts	Dimensions(mm)							Parts			Inserts	Fig.		
			φDc	RE	Lf	φDb	MD	C	W	Screw	Clamp	Wrench				
SDH-2150-R07-M8	●	2	15	3.5	23	13.8	M8	8	12	TSW-2556H	-	A-08SD	RD**07T2MO...	1		
SDH-2160-R07-M8	●		16			15	M8									
SDH-2200-R07-M10	●		20		18	M10	14									
SDH-2220-R07-M10	●		22		20	M10										
SDH-2250-R10-M12	●	3	25	5	35	23	M12	10	17	CSW-408H	DCM-18	A-15	RD**1004MO...	2		
SDH-2280-R10-M12	●		28			25	M12									
SDH-2300-R10-M16	●		30		43	28	M16		12				22		DSW-410H	RD**1204MO...
SDH-2320-R12-M16	●		32				M16								CSW-408H	RD**1004MO...
SDH-3320-R10-M16	●	2	35	6	32	M16	13	26	DSW-410H	RD**1204MO...						
SDH-2350-R12-M16	●								5	M16	CSW-408H	RD**1004MO...				
SDH-3350-R10-M16	●	3	5	6	32	M16	13	26	DSW-410H	RD**1204MO...						
SDH-2400-R12-M16	●								40	6	M16	CSW-408H	RD**1004MO...			

Screw	Torque (N.m)
TSW-2556H	1.1
CSW-408H	3.6
DSW-410H	3.6

SUPER DIEMASTER

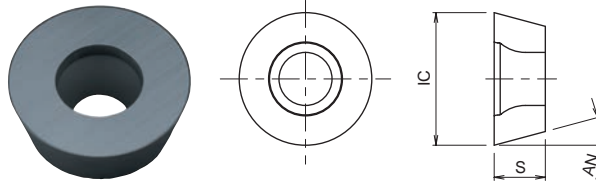
HDM/SDH Type

Insert

Standard type

Flat top inert

for General steel



Cat.No.	Tolerance	PVD Coating			Dimensions(mm)		
		DH103	JC5040	JC8015	IC	S	AN
RDMW07T2MOT	M	●	●	●	7	2.7	15°
RDMW1004MOT		●	●	●	10	4.1	
RDMW1204MOT		●	●	●	12	4.8	
RDMW1606MOT		●	●	●	16	6	

Low cutting force

Chip breaker style

for Titanium + Inconel

for Stainless steel



Fig 1

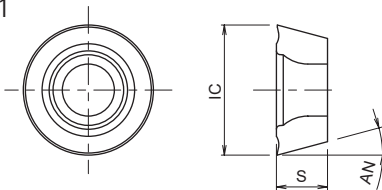
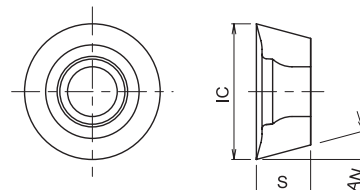


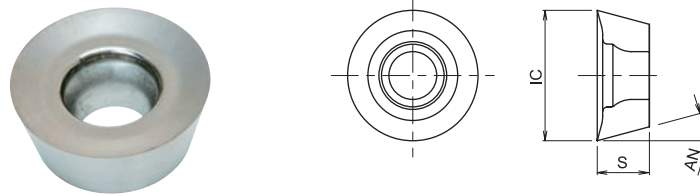
Fig 2



Cat.No.	Tolerance	PVD Coating			Dimensions(mm)			Fig.
		JC8015	JC8050	JC8118	IC	S	AN	
RDGT07T2MOE	G	●	●		7	2.7	15°	1
RDGT1004MOE		●	●		10	4.1		
RDGT1004MOT		●	●		12	4.8		
RDGT1204MOE		●	●		16	6		
RDGT1204MOT		●	●					
RDGT1606MOE		●	●					
RDGT1606MOT	●	●						
RDMT07T2MOE	M		●	●	7	2.7	15°	2
RDMT1004MOE			●	●	10	4.1		
RDMT1004MOE-ML			●	●				
RDMT1004MOT			●	●	12	4.8		
RDMT1204MOE			●	●				
RDMT1204MOE-ML			●	●	16	6		
RDMT1204MOT			●	●				
RDMT1606MOE			●	●	16	6		
RDMT1606MOT			●	●				

SUPER DIEMASTER **HDM/SDH Type**

- Low cutting force
- Chip breaker style
- for Aluminium

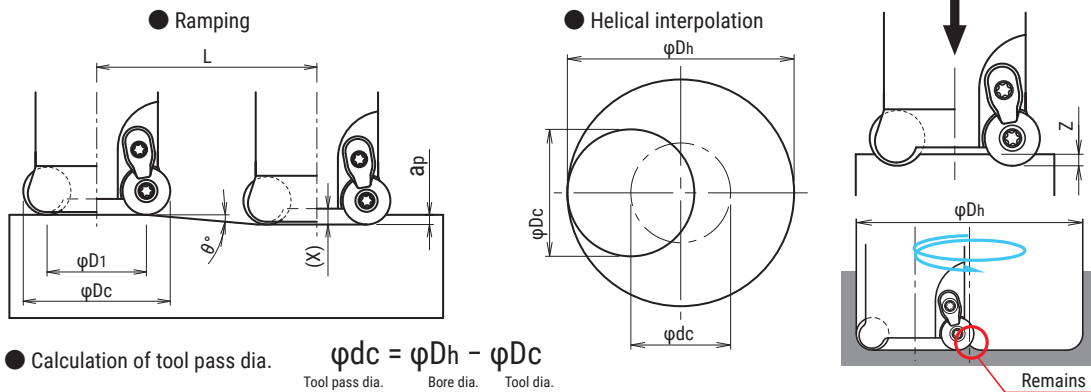


Cat.No.	Tolerance	Uncoated	Dimensions(mm)		
		FZ05	IC	S	AN
RDGT07T2MOF-AL	G	●	7	2.7	15°
RDGT1004MOF-AL		●	10	4.1	
RDGT1204MOF-AL		●	12	4.8	
RDGT1606MOF-AL		●	16	6	

SUPER DIEMASTER

HDM/SDH Type

Recommended Data for Profile Milling



- Calculation of tool pass dia. $\varphi_{dc} = \varphi_{Dh} - \varphi_{Dc}$
Tool pass dia. Bore dia. Tool dia.
- Depth of cut per one circuit should not exceed max. depth of cut A_p .
- Down cutting is recommended, tool pass rotation should be counterclockwise
- Do not combine drilling and ramping together

- In case of ramping and helical interpolation, apply 70% or less feed (V_f) from standard cutting condition table.
- In case of drilling, apply 50% or less feed (V_f) from standard cutting condition table.
- Long chips may come out in case of drilling, confirm safe operating conditions.

Tool dia. (mm)	Insert dia. (R) (mm)	Effective cutting dia. φ_{D1} (mm)	Min. Bore dia. D_h min (mm)	Max. Bore dia. D_h max (mm)	Max. ramping angle: θ	Max. depth of cut: a_p (mm)	Max. depth of cut (a_p) Total cutting length: L (mm)	Max. drilling length: Z (mm)	Depth of holder face: X (mm)
15	7 (R3.5)	8	20	28	3°00'	3.5	66.8	0.4	1.0
16	7 (R3.5)	9	22	30	9°00'	3.5	22.1	1.5	2.5
20	7 (R3.5)	13	30	38	5°30'	3.5	36.3	1.5	2.5
22	7 (R3.5)	15	34	42	4°35'	3.5	43.6	1.5	2.5
25	7 (R3.5)	18	40	48	3°40'	3.5	54.6	1.5	2.5
25	10 (R5)	15	34	48	10°45'	5.0	26.3	2.5	3.5
28	10 (R5)	18	40	54	8°20'	5.0	34.1	2.5	3.5
30	10 (R5)	20	44	58	7°15'	5.0	39.3	2.5	3.5
32	10 (R5)	22	48	62	6°25'	5.0	44.4	2.5	3.5
32	12 (R6)	20	44	62	7°35'	6.0	45.1	2.5	3.5
35	10 (R5)	25	54	68	5°30'	5.0	51.9	2.5	3.5
35	12 (R6)	23	50	68	6°15'	6.0	54.7	2.5	3.5
40	12 (R6)	28	60	78	4°55'	6.0	69.7	2.5	3.5
42	10 (R5)	32	68	82	4°05'	5.0	70.0	2.5	3.5
50	12 (R6)	38	80	98	5°15'	6.0	65.2	3.5	4.5
50	16 (R8)	34	75	98	7°25'	8.0	61.4	4.0	5.0
52	12 (R6)	40	84	102	4°55'	6.0	69.7	3.5	4.5
52	16 (R8)	36	79	102	6°55'	8.0	65.9	4.0	5.0
63	12 (R6)	51	106	124	3°45'	6.0	91.5	3.5	4.5
63	16 (R8)	47	101	124	5°00'	8.0	91.4	4.0	5.0
66	12 (R6)	54	112	130	3°30'	6.0	98.1	3.5	4.5
66	16 (R8)	50	107	130	4°40'	8.0	98.0	4.0	5.0
80	12 (R6)	68	140	158	2°45'	6.0	124.9	3.5	4.5
80	16 (R8)	64	135	158	3°30'	8.0	130.7	4.0	5.0
100	16 (R8)	84	175	198	2°35'	8.0	177.3	4.0	5.0
125	16 (R8)	109	225	248	1°55'	8.0	239.1	4.0	5.0
160	16 (R8)	144	295	318	1°25'	8.0	223.5	4.0	5.0

SUPER DIEMASTER**HDM/SDH Type**

■ Recommended cutting conditions

● Facemill type / Standard pitch

Material	Grade	Tool dia.(mm)											
		50 (R6)				50 (R8)				63 (R6)			
		3N				3N				4N			
		ℓ (mm)	a _p (mm)	n (min ⁻¹)	V _f (mm/min)	ℓ (mm)	a _p (mm)	n (min ⁻¹)	V _f (mm/min)	ℓ (mm)	a _p (mm)	n (min ⁻¹)	V _f (mm/min)
Carbon steel (S50C, S55C) below 250HB	JC8050	150	3	1,250	1,090	150	4	1,260	1,100	150	3	980	1,140
	JC5040	200	2.5	1,250	1,160	200	3	1,260	1,210	200	2.7	980	1,300
	JC8118	250	2	880	870	250	2	880	980	250	2.2	690	910
		300	1.2	880	1,130	300	1.5	880	1,160	300	1.6	690	1,100
		350	0.7	750	950	350	1	760	1,000	350	1	590	1,010
		400	-	-	-	400	-	-	-	400	0.5	540	1,190
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8050	150	2.5	1,200	1,190	150	3.5	1,210	1,010	150	2.5	940	1,160
	JC8118	200	2	1,200	1,220	200	3	1,210	1,100	200	2.2	940	1,240
	JC8015 (over 40HRC)	250	1.1	840	1,130	250	2.5	850	940	250	1.6	660	970
		300	0.9	840	1,260	300	2	850	970	300	1.1	660	1,180
		350	0.5	720	1,180	350	1	730	1,110	350	0.7	560	1,120
		400	-	-	-	400	-	-	-	400	0.5	520	1,140
Tool & die steel (SKD61, SKD11) below 255HB	JC5040	150	3	1,180	1,030	150	4	1,200	1,040	150	3	930	1,080
	JC8118	200	2.5	1,180	1,130	200	3	1,200	1,180	200	2.7	930	1,120
		250	2	830	840	250	2	840	960	250	2.2	650	850
		300	1.2	830	1,000	300	1.5	840	1,100	300	1.6	650	1,040
		350	0.7	700	950	350	1	720	950	350	1	560	870
		400	-	-	-	400	-	-	-	400	0.5	510	1,100
Stainless steel (SUS304) below 250HB	JC8050	150	3	990	860	150	4	1,000	870	150	3	780	900
	JC8015	200	2.5	990	890	200	3	1,000	990	200	2.7	780	930
	JC8118	250	2	690	700	250	2	700	780	250	2.2	550	730
		300	1.2	690	860	300	1.5	700	920	300	1.6	550	830
		350	0.7	590	820	350	1	600	790	350	1	470	690
		400	-	-	-	400	-	-	-	400	0.5	430	940
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	JC8015 *without chipbreaker (DH103 over 50HRC)	100	1.5	810	560	100	2	860	590	100	1.5	650	580
	JC8015 *without chipbreaker (DH103 over 50HRC)	150	1.2	810	610	150	1.8	860	620	150	1.2	650	650
		200	1	570	410	200	1.6	600	470	200	1	450	490
		250	0.8	570	510	250	1.2	600	520	250	0.8	450	520
		300	0.4	490	440	300	0.8	520	465	300	0.6	390	590
		350	-	-	-	350	-	-	-	350	0.3	360	620
Grey & Nodular cast iron (FC, FCD) below 300HB	JC8015	150	3	1,120	1,170	150	4	1,130	1,190	150	3	880	1,370
	JC8118	200	2.5	1,120	1,110	200	3	1,130	1,290	200	2.7	880	1,440
		250	2	780	960	250	2	790	1,060	250	2.2	620	1,120
		300	1.2	780	1,170	300	1.5	790	1,300	300	1.6	620	1,240
		350	0.7	670	920	350	1	680	900	350	1	530	1,160
		400	-	-	-	400	-	-	-	400	0.5	480	1,220
Titanium alloy 35-43HRC	JC8050	150	1	420	270	150	1.5	440	330	150	1	330	260
	JC8015	200	0.8	420	315	200	1.2	440	265	200	0.9	330	290
	JC8118	250	0.6	290	260	250	1	310	205	250	0.7	230	240
		300	0.4	290	305	300	0.8	310	230	300	0.5	230	295
		350	0.2	250	375	350	0.4	260	255	350	0.3	200	340
		400	-	-	-	400	-	-	-	400	0.2	180	360
Heat resistant alloy 35-43HRC	JC8015	150	1	210	135	150	1.5	220	145	150	1	165	130
	JC8118	200	0.8	210	155	200	1.2	220	165	200	0.9	165	160
	JC8050	250	0.6	150	135	250	1	150	115	250	0.7	120	130
		300	0.4	150	160	300	0.8	150	130	300	0.5	120	150
		350	0.2	130	195	350	0.4	130	155	350	0.3	100	165
		400	-	-	-	400	-	-	-	400	0.2	90	180
Aluminium alloy (A5052, A7075) below 50-110HB	FZ05	150	4.5	4,450	5,200	150	6	4,450	5,200	150	4.5	3,500	5,500
		200	4	4,450	5,400	200	5	4,450	5,400	200	4	3,500	5,700
		250	3.5	3,800	4,900	250	4	3,800	4,900	250	3.5	3,050	5,200
		300	2.5	3,200	5,000	300	3	3,200	5,000	300	2.5	2,500	5,200
		350	1.5	3,100	4,200	350	2	3,100	4,200	350	1.5	2,400	4,300
		400	1	2,550	3,000	400	1	2,550	3,000	400	1	2,000	3,200

Note 1. In case of cutting hard materials (50-55HRC), reduce a_p, n, V_f by 30% from standard conditions table.

2. Wet cutting is recommended when machining Titanium, Inconel. 3. Use air blow

SUPER DIEMASTER

HDM/SDH Type

- Recommended cutting conditions
- Facemill type / Standard pitch

Material	Grade	Tool dia. (mm)											
		63 (R8)				80 (R6)				80 (R8)			
		4N				4N				4N			
		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 (S50C, S55C) below 250HB	JC8050	150	4	990	1,110	150	3	770	890	150	4	780	870
	JC5040	200	3	990	1,290	200	2.7	770	980	200	3	780	990
	JC8118	250	2	690	1,200	250	2.2	540	710	250	2	550	830
		300	1.5	690	1,210	300	1.6	540	820	300	1.5	550	960
		350	1	590	1,040	350	1	460	700	350	1	470	810
		400	0.5	540	1,360	400	0.5	420	920	400	0.5	430	1,080
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8050	150	3.5	950	1,140	150	2.5	740	780	150	3.5	740	890
	JC8118	200	3	950	1,250	200	2.2	740	970	200	3	740	970
	JC8015 (over 40HRC)	250	2.5	670	980	250	1.6	520	680	250	2.5	520	730
		300	2	670	1,020	300	1.1	520	930	300	2	520	770
		350	1	570	1,000	350	0.7	440	880	350	1	440	960
		400	0.5	520	1,330	400	0.5	410	900	400	0.5	410	1,050
Tool & die steel (SKD61, SKD11) below 255HB	JC5040	150	4	940	1,090	150	3	730	820	150	4	740	830
	JC8118	200	3	940	1,240	200	2.7	730	900	200	3	740	970
		250	2	660	970	250	2.2	510	670	250	2	520	770
		300	1.5	660	1,160	300	1.6	510	750	300	1.5	520	910
		350	1	560	980	350	1	440	670	350	1	440	770
		400	0.5	520	1,330	400	0.5	400	900	400	0.5	410	1,050
Stainless steel (SUS304) below 250HB	JC8050	150	4	790	920	150	3	610	710	150	4	610	710
	JC8015	200	3	790	1,040	200	2.7	610	750	200	3	610	800
	JC8118	250	2	550	850	250	2.2	430	560	250	2	430	630
		300	1.5	550	960	300	1.6	430	650	300	1.5	430	750
		350	1	470	800	350	1	370	540	350	1	370	630
		400	0.5	430	1,100	400	0.5	340	740	400	0.5	340	870
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	JC8015 *without chipbreaker	100	2	660	600	100	1.5	500	480	100	2	510	470
	(DH103 over 50HRC)	150	1.8	660	610	150	1.2	500	500	150	1.8	510	490
		200	1.6	460	460	200	1	350	380	200	1.6	360	380
		250	1.2	460	500	250	0.8	350	420	250	1.2	360	390
		300	0.8	400	530	300	0.6	300	460	300	0.8	310	400
		350	0.4	370	470	350	0.3	280	390	350	0.4	280	380
Grey & Nodular Cast iron (FC, FCD) below 300HB	JC8015	150	4	890	1,240	150	3	690	970	150	4	700	980
	JC8118	200	3	890	1,350	200	2.7	690	1,020	200	3	700	1,060
		250	2	620	1,140	250	2.2	480	730	250	2	490	900
		300	1.5	620	1,310	300	1.6	480	820	300	1.5	490	1,010
		350	1	530	1,180	350	1	410	780	350	1	420	920
		400	0.5	490	1,250	400	0.5	380	830	400	0.5	390	1,000
Titanium alloy 35-43HRC	JC8050	150	1.5	340	300	150	1	250	200	150	1.5	260	260
	JC8015	200	1.3	340	325	200	0.9	250	240	200	1.3	260	200
	JC8118	250	1.1	240	240	250	0.7	180	190	250	1.1	180	170
		300	0.9	240	250	300	0.5	180	230	300	0.9	180	190
		350	0.6	200	290	350	0.3	150	250	350	0.6	160	215
		400	0.3	190	300	400	0.2	140	280	400	0.3	140	250
Heat resistant alloy 35-43HRC	JC8015	150	1.5	170	170	150	1	125	100	150	1.5	130	130
	JC8118	200	1.3	170	155	200	0.9	125	115	200	1.3	130	120
	JC8050	250	1.1	120	120	250	0.7	90	100	250	1.1	90	90
		300	0.9	120	130	300	0.5	90	115	300	0.9	90	85
		350	0.6	100	140	350	0.3	75	130	350	0.6	80	105
		400	0.3	95	180	400	0.2	70	140	400	0.3	70	125
Aluminium alloy (A5052, A7075) below 50-110HB	FZ05	150	6	3,500	5,500	150	4.5	2,800	4,400	150	6	2,800	4,400
		200	5	3,500	5,700	200	4	2,800	4,600	200	5	2,800	4,600
		250	4	3,050	5,200	250	3.5	2,350	4,000	250	4	2,350	4,000
		300	3	2,500	5,200	300	2.5	2,000	4,100	300	3	2,000	4,100
		350	2	2,400	4,300	350	1.5	1,900	3,400	350	2	1,900	3,400
		400	1	2,000	3,200	400	1	1,600	2,600	400	1	1,600	2,600

Note 1. In case of cutting hard materials (50-55HRC), reduce ap, n, Vf by 30% from standard conditions table.
 2. Wet cutting is recommended when machining Titanium, Inconel. 3. Use air blow

SUPER DIEMASTER **HDM/SDH Type**

- Recommended cutting conditions
- Facemill type / Standard pitch

Material	Grade	Tool dia.(mm)															
		80 (R8)				100 (R8)				125 (R8)				160 (R8)			
		5N				6N				8N				9N			
		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 (S50C, S55C) below 250HB	JC8050	150	4	780	1,050	150	4	620	1,040	150	4	490	820	150	4	380	640
	JC5040	200	3	780	1,190	200	3	620	1,180	200	3	490	930	200	3	380	720
	JC8118	250	2	550	1,000	250	2	430	970	250	2	340	770	250	2	270	610
		300	1.5	550	1,150	300	1.5	430	1,120	300	1.5	340	890	300	1.5	270	710
		350	1	470	970	350	1	370	950	350	1	290	750	350	1	230	600
400	0.5	430	1,300	400	0.5	370	1,390	400	0.5	290	1,090	400	0.5	230	870		
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8050	150	3.5	740	1,070	150	3.5	580	1,040	150	3.5	460	830	150	3.5	360	650
	JC8118	200	3	740	1,160	200	3	580	1,140	200	3	460	900	200	3	360	710
	JC8015 (over 40HRC)	250	2.5	520	880	250	2.5	400	840	250	2.5	320	670	250	2.5	250	530
		300	2	520	920	300	2	400	880	300	2	320	710	300	2	250	560
		350	1	440	1,150	350	1	350	1,140	350	1	270	880	350	1	220	720
400	0.5	410	1,260	400	0.5	350	1,300	400	0.5	270	1,040	400	0.5	220	850		
Tool & die steel (SKD61, SKD11) below 255HB	JC5040	150	4	740	1,070	150	4	580	970	150	4	460	770	150	4	360	610
	JC8118	200	3	740	1,160	200	3	580	1,140	200	3	460	900	200	3	360	710
		250	2	520	880	250	2	400	880	250	2	320	710	250	2	250	560
		300	1.5	520	920	300	1.5	400	1,050	300	1.5	320	840	300	1.5	250	660
		350	1	440	1,150	350	1	350	910	350	1	270	710	350	1	220	580
400	0.5	410	1,260	400	0.5	350	1,340	400	0.5	270	1,040	400	0.5	220	850		
Stainless steel (SUS304) below 250HB	JC8050	150	4	610	850	150	4	480	830	150	4	390	680	150	4	300	520
	JC8015	200	3	610	960	200	3	480	940	200	3	390	770	200	3	300	590
	JC8118	250	2	430	750	250	2	340	740	250	2	270	590	250	2	210	460
		300	1.5	430	900	300	1.5	340	880	300	1.5	270	710	300	1.5	210	550
		350	1	370	750	350	1	280	710	350	1	230	590	350	1	180	460
400	0.5	340	1,040	400	0.5	280	1,070	400	0.5	230	880	400	0.5	180	690		
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	JC8015 *without chipbreaker	100	2	510	560	100	2	390	530	100	2	310	430	100	2	240	330
	(DH103 over 50HRC)	150	1.8	510	590	150	1.8	390	560	150	1.8	310	450	150	1.8	240	350
		200	1.6	360	450	200	1.6	270	420	200	1.6	220	350	200	1.6	170	270
		250	1.2	360	470	250	1.2	270	430	250	1.2	220	360	250	1.2	170	280
		300	0.8	310	480	300	0.8	230	440	300	0.8	180	350	300	0.8	150	290
350	0.4	280	450	350	0.4	230	460	350	0.4	180	370	350	0.4	150	310		
Grey & Nodular cast iron (FC, FCD) below 300HB	JC8015	150	4	700	1,170	150	4	550	1,150	150	4	440	920	150	4	340	710
	JC8118	200	3	700	1,270	200	3	550	1,240	200	3	440	1,000	200	3	340	770
		250	2	490	1,080	250	2	380	1,040	250	2	310	850	250	2	240	660
		300	1.5	490	1,210	300	1.5	380	1,170	300	1.5	310	960	300	1.5	240	740
		350	1	420	1,100	350	1	330	1,080	350	1	260	850	350	1	200	660
400	0.5	390	1,200	400	0.5	330	1,260	400	0.5	260	1,000	400	0.5	200	770		
Titanium alloy 35-43HRC	JC8050	150	1.5	260	310	150	1.5	200	300	150	1.5	150	260	150	1.5	120	180
	JC8015	200	1.3	260	240	200	1.3	200	230	200	1.3	150	170	200	1.3	120	140
	JC8118	250	1.1	180	200	250	1.1	140	200	250	1.1	100	140	250	1.1	85	120
		300	0.9	180	230	300	0.9	140	220	300	0.9	100	160	300	0.9	85	135
		350	0.6	160	260	350	0.6	120	240	350	0.6	90	180	350	0.6	70	140
400	0.3	140	300	400	0.3	120	320	400	0.3	90	240	400	0.3	70	190		
Heat resistant alloy 35-43HRC	JC8015	150	1.5	130	150	150	1.5	100	150	150	1.5	80	120	150	1.5	60	90
	JC8118	200	1.3	130	140	200	1.3	100	130	200	1.3	80	110	200	1.3	60	80
	JC8050	250	1.1	90	110	250	1.1	70	100	250	1.1	55	85	250	1.1	40	60
		300	0.9	90	100	300	0.9	70	100	300	0.9	55	80	300	0.9	40	55
		350	0.6	80	125	350	0.6	60	120	350	0.6	50	100	350	0.6	35	70
400	0.3	70	150	400	0.3	60	160	400	0.3	50	130	400	0.3	35	90		
Aluminium alloy (A5052, A7075) below 50-110HB	FZ05	150	6	2,800	5,300	150	6	2,400	5,600	150	6	1,900	5,900	150	6	1,500	5,250
		200	5	2,800	5,500	200	5	2,400	5,900	200	5	1,900	6,200	200	5	1,500	5,500
		250	4	2,350	4,800	250	4	2,050	5,300	250	4	1,650	5,600	250	4	1,300	5,000
		300	3	2,000	4,900	300	3	1,900	5,900	300	3	1,500	6,200	300	3	1,200	5,600
		350	2	1,900	4,100	350	2	1,750	4,700	350	2	1,400	5,000	350	2	1,100	4,400
400	1	1,600	3,100	400	1	1,600	3,800	400	1	1,250	4,000	400	1	1,000	3,600		

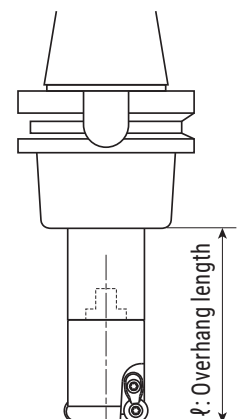
Note 1. In case of cutting hard materials (50-55HRC), reduce ap, n, Vf by 30% from standard conditions table.
 2. Wet cutting is recommended when machining Titanium, Inconel. 3. Use air blow

SUPER DIEMASTER
HDM/SDH Type
■ Recommended cutting conditions
● Modular head SDH type

Material	Grade	Tool dia.(mm)							
		15/16 (R3.5)				20/22 (R3.5)			
		2N				2N			
		ℓ (mm)	a_p (mm)	n (min ⁻¹)	V_f (mm/min)	ℓ (mm)	a_p (mm)	n (min ⁻¹)	V_f (mm/min)
Carbon steel (S50C, S55C) below 250HB	JC8050	70	1.4	3,500	1,650	70	1.5	2,900	1,450
	JC5040	120	1.1	3,500	1,650	120	1.2	2,900	1,450
	JC8118	160	0.6	3,300	1,500	160	0.7	2,800	1,350
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8050	70	1.4	3,300	1,550	70	1.5	2,800	1,400
	JC8118	120	1.1	3,300	1,550	120	1.2	2,800	1,400
	JC8015 (over 40HRC)	160	0.6	3,200	1,500	160	0.7	2,700	1,350
Tool & die steel (SKD61, SKD11) below 255HB	JC5040	70	1.4	3,300	1,550	70	1.5	2,800	1,400
	JC8118	120	1.1	3,300	1,550	120	1.2	2,800	1,400
		160	0.6	3,200	1,500	160	0.7	2,700	1,350
Stainless steel (SUS304) below 250HB	JC8050	70	1.4	2,700	1,300	70	1.5	2,300	1,200
	JC8015	120	1.1	2,700	1,300	120	1.2	2,300	1,200
	JC8118	160	0.6	2,600	1,250	160	0.7	2,200	1,100
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	JC8015 *without chipbreaker DH103 (over 50HRC)	70	0.7	2,400	1,150	70	0.8	2,000	1,000
		120	0.5	2,400	1,150	120	0.6	2,000	1,000
		160	0.3	2,200	1,050	160	0.3	1,900	950
Grey & Nodular cast iron (FC, FCD) below 300HB	JC8015	70	1.4	3,100	1,550	70	1.5	2,600	1,400
	JC8118	120	1.1	3,100	1,550	120	1.2	2,600	1,400
		160	0.6	3,000	1,400	160	0.7	2,500	1,300
Titanium alloy 35-43HRC	JC8050	70	0.5	1,200	600	70	0.5	1,000	500
	JC8015	120	0.4	1,200	600	120	0.4	1,000	500
	JC8118	160	0.2	1,100	490	160	0.2	980	440
Heat resistant alloy 35-43HRC	JC8015	70	0.5	620	190	70	0.5	510	160
	JC8118	120	0.4	560	190	120	0.4	470	160
	JC8050	160	0.2	520	190	160	0.2	440	160
Aluminium alloy below 50-110HB	FZ05	70	2	8,600	4,800	70	2	7,200	4,300
		120	1.7	8,600	4,800	120	1.7	7,200	4,300
		160	1.2	7,000	4,900	160	1.2	5,800	4,300

Note

1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter occurring, recommended to reduce a_p or V_f .
3. a_p should be reduced when using on low rigidity machine.
4. Use air blow.
5. In case of cutting hard materials (50-55HRC), reduce a_p , n , V_f by 30% from standard conditions table.
6. Wet cutting is recommended when machining Titanium, Inconel.



SUPER DIEMASTER**HDM/SDH Type**

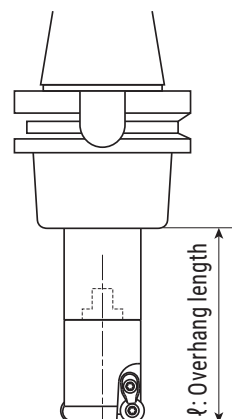
■ Recommended cutting conditions

● Modular head SDH type

Material	Grade	Tool dia.(mm)							
		20/22 (R3.5)				25/28 (R5)			
		3N				2N			
		ℓ (mm)	a_p (mm)	n (min ⁻¹)	V_f (mm/min)	ℓ (mm)	a_p (mm)	n (min ⁻¹)	V_f (mm/min)
Carbon steel (S50C, S55C) below 250HB	JC8050	70	1.2	3,500	2,900	90	2	2,400	1,400
	JC5040	120	0.8	3,500	2,900	140	1.5	2,400	1,400
	JC8118	160	0.5	3,200	2,700	210	1	2,300	1,300
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8050	70	1.2	3,300	2,600	90	2	2,200	1,300
	JC8118	120	0.8	3,300	2,600	140	1.5	2,200	1,300
	JC8015 (over 40HRC)	160	0.5	3,100	2,300	210	1	2,100	1,200
Tool & die steel (SKD61, SKD11) below 255HB	JC5040	70	1.2	3,300	2,600	90	2	2,200	1,300
	JC8118	120	0.8	3,300	2,600	140	1.5	2,200	1,300
		160	0.5	3,100	2,300	210	1	2,100	1,200
Stainless steel (SUS304) below 250HB	JC8050	70	1.2	2,700	2,400	90	2	1,800	1,050
	JC8015	120	0.8	2,700	2,400	140	1.5	1,800	1,050
	JC8118	160	0.5	2,600	2,200	210	1	1,700	1,000
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	JC8015 *without chipbreaker DH103 (over 50HRC)	70	0.7	2,500	2,000	90	1	1,600	1,000
		120	0.5	2,500	2,000	140	0.5	1,600	1,000
		160	0.3	2,200	1,800	210	0.3	1,500	950
Grey & Nodular cast iron (FC, FCD) below 300HB	JC8015	70	1.2	3,050	2,600	90	2	2,100	1,300
	JC8118	120	0.8	3,050	2,600	140	1.5	2,100	1,300
		160	0.5	2,900	2,400	210	1	1,200	1,200
Titanium alloy 35-43HRC	JC8050	70	0.5	1,000	750	90	0.5	780	460
	JC8015	120	0.4	1,000	750	140	0.4	780	460
	JC8118	160	0.2	980	660	210	0.2	750	410
Heat resistant alloy 35-43HRC	JC8015	70	0.5	510	240	90	0.5	430	170
	JC8118	120	0.4	470	240	140	0.4	390	140
	JC8050	160	0.2	440	240	210	0.2	370	140
Aluminium alloy below 50-110HB	FZ05	70	2	7,200	6,400	90	3.5	5,700	3,400
		120	1.7	7,200	6,400	140	2	5,700	3,400
		160	1.2	5,800	4,300	210	1.5	4,500	2,200

Note

1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter occurring, recommended to reduce a_p or V_f .
3. a_p should be reduced when using on low rigidity machine.
4. Use air blow.
5. In case of cutting hard materials (50-55HRC), reduce a_p , n , V_f by 30% from standard conditions table.
6. Wet cutting is recommended when machining Titanium, Inconel.

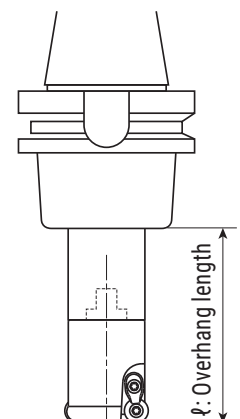


SUPER DIEMASTER
HDM/SDH Type
■ Recommended cutting conditions
● Modular head SDH type

Material	Grade	Tool dia.(mm)							
		25 (R3.5) /25 (R5) /28 (R5)				30 (R5) /32 (R6) /35 (R5)			
		3N				2N			
		ℓ (mm)	a_p (mm)	n (min ⁻¹)	V_f (mm/min)	ℓ (mm)	a_p (mm)	n (min ⁻¹)	V_f (mm/min)
Carbon steel (S50C, S55C) below 250HB	JC8050	90	1.5	2,800	2,100	100	2.5	2,000	1,100
	JC5040	140	1.2	2,800	2,100	150	2	2,000	1,100
	JC8118	210	0.7	2,600	1,900	210	1.2	1,900	1,000
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8050	90	1.5	2,600	2,000	100	2.5	1,900	1,050
	JC8118	140	1.2	2,600	2,000	150	2	1,900	1,050
	JC8015 (over 40HRC)	210	0.7	2,400	1,800	210	1.2	1,800	950
Tool & die steel (SKD61, SKD11) below 255HB	JC5040	90	1.5	2,500	1,600	100	2.5	1,900	1,050
	JC8118	140	1.2	2,500	1,600	150	2	1,900	1,050
		210	0.7	2,400	1,400	210	1.2	1,800	950
Stainless steel (SUS304) below 250HB	JC8050	90	1.5	2,100	1,400	100	2.5	1,550	850
	JC8015	140	1.2	2,100	1,400	150	2	1,550	850
	JC8118	210	0.7	2,000	1,000	210	1.2	1,400	800
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	JC8015 *without chipbreaker DH103 (over 50HRC)	90	0.8	1,900	1,400	100	1.5	1,300	750
		140	0.6	1,900	1,400	150	1.2	1,300	750
		210	0.4	1,800	1,000	210	0.7	1,200	700
Grey & Nodular cast iron (FC, FCD) below 300HB	JC8015	90	1.2	2,500	2,200	100	2.5	1,800	1,000
	JC8118	140	0.8	2,500	2,200	150	2	1,800	1,000
		210	0.5	2,300	1,700	210	1.2	1,700	900
Titanium alloy 35-43HRC	JC8050	90	0.5	780	690	100	0.5	730	470
	JC8015	140	0.4	780	690	150	0.4	730	330
	JC8118	210	0.2	750	620	210	0.2	700	260
Heat resistant alloy 35-43HRC	JC8015	90	0.5	430	260	100	0.5	400	170
	JC8118	140	0.4	390	210	150	0.4	380	150
	JC8050	210	0.2	370	210	210	0.2	350	130
Aluminium alloy below 50-110HB	FZ05	90	2.2	5,700	5,100	100	3.5	4,500	2,700
		120	1.9	5,700	5,100	150	2	4,500	2,700
		160	1.5	4,500	5,100	210	1.5	3,600	1,800

Note

1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter occurring, recommended to reduce a_p or V_f .
3. a_p should be reduced when using on low rigidity machine.
4. Use air blow.
5. In case of cutting hard materials (50-55HRC), reduce a_p , n , V_f by 30% from standard conditions table.
6. Wet cutting is recommended when machining Titanium, Inconel.



SUPER DIEMASTER**HDM/SDH Type**

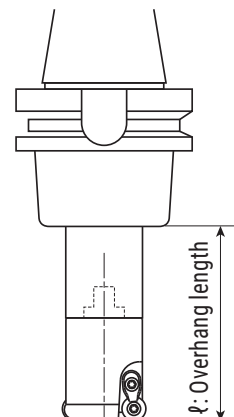
■ Recommended cutting conditions

● Modular head SDH type

Material	Grade	Tool dia.(mm)							
		32/35 (R5)				30 (R5) /35 (R6)			
		3N				3N			
		ℓ (mm)	a_p (mm)	n (min ⁻¹)	V_f (mm/min)	ℓ (mm)	a_p (mm)	n (min ⁻¹)	V_f (mm/min)
Carbon steel (S50C, S55C) below 250HB	JC8050	100	2.5	2,000	1,600	100	2	2,100	1,900
	JC5040	150	2	2,000	1,600	150	1.5	2,100	1,900
	JC8118	210	1.2	1,900	1,400	210	0.8	2,000	1,600
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8050	100	2.5	1,900	1,550	100	2	2,000	1,800
	JC8118	150	2	1,900	1,550	150	1.5	2,000	1,800
	JC8015 (over 40HRC)	210	1.2	1,800	1,400	210	0.8	1,900	1,550
Tool & die steel (SKD61, SKD11) below 255HB	JC5040	100	2.5	1,900	1,550	100	2	2,000	1,800
	JC8118	150	2	1,900	1,550	150	1.5	2,000	1,800
	JC8118	210	1.2	1,800	1,400	210	0.8	1,900	1,500
Stainless steel (SUS304) below 250HB	JC8050	100	2.5	1,550	1,250	100	2	1,750	1,500
	JC8015	150	2	1,550	1,250	150	1.5	1,750	1,500
	JC8118	210	1.2	1,400	1,200	210	0.8	1,600	1,300
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	JC8015 *without chipbreaker DH103 (over 50HRC)	100	1.5	1,300	1,100	100	1.2	1,400	1,250
	JC8015	150	1.2	1,300	1,100	150	1	1,400	1,250
	JC8015	210	0.7	1,200	950	210	0.5	1,300	1,100
Grey & Nodular cast iron (FC, FCD) below 300HB	JC8015	100	2.5	1,800	1,500	100	2	1,900	1,700
	JC8118	150	2	1,800	1,500	150	1.5	1,900	1,700
	JC8118	210	1.2	1,700	1,350	210	0.8	1,800	1,600
Titanium alloy 35-43HRC	JC8050	100	0.5	730	650	100	0.5	730	650
	JC8015	150	0.4	730	650	150	0.4	730	650
	JC8118	210	0.2	700	600	210	0.2	700	600
Heat resistant alloy 35-43HRC	JC8015	100	0.5	400	250	100	0.5	400	250
	JC8118	150	0.4	380	230	150	0.4	380	230
	JC8050	210	0.2	350	200	210	0.2	350	200
Aluminium alloy below 50-110HB	FZ05	100	3.5	4,500	4,100	100	3.5	4,500	4,100
	FZ05	150	2	4,500	4,100	150	2	4,500	4,100
	FZ05	210	1.5	3,600	2,700	210	1.5	3,600	2,700

Note

1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter occurring, recommended to reduce a_p or V_f .
3. a_p should be reduced when using on low rigidity machine.
4. Use air blow.
5. In case of cutting hard materials (50-55HRC), reduce a_p , n , V_f by 30% from standard conditions table.
6. Wet cutting is recommended when machining Titanium, Inconel.

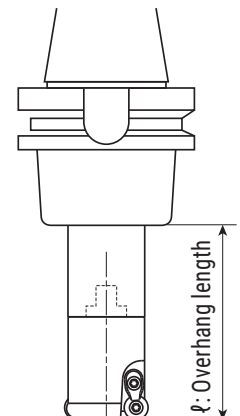


SUPER DIEMASTER
HDM/SDH Type
■ Recommended cutting conditions
● Modular head SDH type

Material	Grade	Tool dia.(mm)							
		30/32/35 (R5)				40 (R6)			
		4N				2N			
		ℓ (mm)	a_p (mm)	n (min ⁻¹)	V_f (mm/min)	ℓ (mm)	a_p (mm)	n (min ⁻¹)	V_f (mm/min)
Carbon steel (S50C, S55C) below 250HB	JC8050	100	2	2,100	2,500	100	2.5	1,550	890
	JC5040	150	1.5	2,100	2,500	150	2	1,550	890
	JC8118	210	0.8	2,000	2,400	210	1.2	1,450	780
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8050	100	2	2,000	2,400	100	2.5	1,500	840
	JC8118	150	1.5	2,000	2,400	150	2	1,500	840
	JC8015 (over 40HRC)	210	0.8	1,900	2,100	210	1.2	1,450	780
Tool & die steel (SKD61, SKD11) below 255HB	JC5040	100	2	2,000	2,400	100	2.5	1,500	840
	JC8118	150	1.5	2,000	2,400	150	2	1,500	840
		210	0.8	1,900	2,100	210	1.2	1,450	780
Stainless steel (SUS304) below 250HB	JC8050	100	2	1,750	2,000	100	2.5	1,250	700
	JC8015	150	1.5	1,750	2,000	150	2	1,250	700
	JC8118	210	0.8	1,600	1,700	210	1.2	1,200	670
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	JC8015 *without chipbreaker DH103 (over 50HRC)	100	1.2	1,400	1,850	100	1.5	1,050	550
		150	1	1,400	1,850	150	1.2	1,050	550
		210	0.5	1,300	1,700	210	0.7	1,000	520
Grey & Nodular cast iron (FC, FCD) below 300HB	JC8015	100	2	1,900	2,250	100	2.5	1,400	800
	JC8118	150	1.5	1,900	2,250	150	2	1,400	800
		210	0.8	1,800	2,100	210	1.2	1,300	750
Titanium alloy 35-43HRC	JC8050	100	0.5	730	860	100	0.5	580	350
	JC8015	150	0.4	730	860	150	0.4	580	350
	JC8118	210	0.2	700	800	210	0.2	550	330
Heat resistant alloy 35-43HRC	JC8015	100	0.5	400	330	100	0.5	290	170
	JC8118	150	0.4	380	310	150	0.4	270	160
	JC8050	210	0.2	350	270	210	0.2	250	120
Aluminium alloy below 50-110HB	FZ05	100	3.5	4,500	5,400	100	4	4,000	2,400
		150	2	4,500	5,400	150	2.5	4,000	2,400
		210	1.5	3,600	3,600	210	2	3,200	1,600

Note

1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter occurring, recommended to reduce a_p or V_f .
3. a_p should be reduced when using on low rigidity machine.
4. Use air blow.
5. In case of cutting hard materials (50-55HRC), reduce a_p , n , V_f by 30% from standard conditions table.
6. Wet cutting is recommended when machining Titanium, Inconel.



SUPER DIEMASTER**HDM/SDH Type**

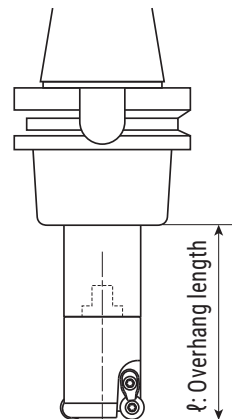
■ Recommended cutting conditions

● Modular head SDH type

Material	Grade	Tool dia.(mm)							
		40 (R6)				42 (R5)			
		4N				5N			
		ℓ (mm)	a_p (mm)	n (min ⁻¹)	V_f (mm/min)	ℓ (mm)	a_p (mm)	n (min ⁻¹)	V_f (mm/min)
Carbon steel (S50C, S55C) below 250HB	JC8050	100	2	1,900	2,300	100	1.8	1,750	2,600
	JC5040	150	1.5	1,900	2,300	150	1.3	1,750	2,600
	JC8118	210	0.8	1,800	2,200	210	0.7	1,650	2,400
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8050	100	2	1,800	2,100	100	1.8	1,700	2,500
	JC8118	150	1.5	1,800	2,100	150	1.3	1,700	2,500
	JC8015 (over 40HRC)	210	0.8	1,700	2,000	210	0.7	1,600	2,200
Tool & die steel (SKD61, SKD11) below 255HB	JC5040	100	2	1,800	2,100	100	1.8	1,700	2,600
	JC8118	150	1.5	1,800	2,100	150	1.3	1,700	2,600
		210	0.8	1,700	2,000	210	0.7	1,600	2,400
Stainless steel (SUS304) below 250HB	JC8050	100	2	1,550	1,600	100	1.8	1,400	2,100
	JC8015	150	1.5	1,550	1,600	150	1.3	1,400	2,100
	JC8118	210	0.8	1,500	1,400	210	0.7	1,250	1,600
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	JC8015 *without chipbreaker DH103 (over 50HRC)	100	1.2	1,350	1,350	100	1.1	1,250	1,500
		150	1	1,350	1,350	150	0.9	1,250	1,500
		210	0.5	1,300	1,100	210	0.4	1,150	1,300
Grey & Nodular cast iron (FC, FCD) below 300HB	JC8015	100	2	1,700	2,050	100	1.8	1,650	2,400
	JC8118	150	1.5	1,700	2,050	150	1.3	1,650	2,400
		210	0.8	1,600	1,800	210	0.7	1,550	2,200
Titanium alloy 35-43HRC	JC8050	100	0.5	580	700	100	0.5	610	730
	JC8015	150	0.4	580	700	150	0.4	610	730
	JC8118	210	0.2	550	660	210	0.2	580	690
Heat resistant alloy 35-43HRC	JC8015	100	0.5	290	340	100	0.5	300	310
	JC8118	150	0.4	270	320	150	0.4	280	290
	JC8050	210	0.2	250	240	210	0.2	260	250
Aluminium alloy below 50-110HB	FZ05	100	4	4,000	4,800	100	3.5	3,800	5,700
		150	2.5	4,000	4,800	150	2	3,800	5,700
		210	2	3,200	3,200	210	1.5	3,000	3,700

Note

1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter occurring, recommended to reduce a_p or V_f .
3. a_p should be reduced when using on low rigidity machine.
4. Use air blow.
5. In case of cutting hard materials (50-55HRC), reduce a_p , n , V_f by 30% from standard conditions table.
6. Wet cutting is recommended when machining Titanium, Inconel.



SUPER DIEMASTER **HDM/SDH Type**

■ **Insert grades**

ISO	P				M				K				N				S				H			
	P01	P10	P20	P30	P40	M01	M10	M20	M30	M40	K01	K10	K20	K30	N01	N10	N20	N30	S01	S10	S20	S30	H01	H10
Range	JC5040				JC8118				JC8015				FZ05				JC8118				JC8118			
	JC8118				JC8015				JC8015				JC8015				JC8015				DH103			
	JC8015				JC8050				JC8015				JC8015				JC8050				DH103			
	JC8015				JC8050				JC8015				JC8015				JC8050				DH103			

■ **Grade selection guide**

Material	Cast iron	Carbon steel · Tool steel			Mold steel		Hardened steel	Titanium alloy Inconel		Stainless steel		Aluminium		
		Grade	JC8015	JC5040	JC8118	JC8050		JC8015	JC8050	DH103 (over 50HRC)	JC8015		JC8050	JC8015
RDMW07T2MOT	◎	◎	○		◎		◎	○		○				
RD * T07T2MOE	☆		☆	●	☆	●		◎	●	◎	●			
RDMW1004MOT	◎	◎	○		◎		◎							
RD * T1004MOT	☆				○					○	●			
RD * T1004MOE			☆	●	☆	●		○	●	☆				
RDMT1004MOE-ML									◎		◎			
RDMW1204MOT	◎	◎	○		◎		◎							
RD * T1204MOT	☆				○					○	●			
RD * T1204MOE			☆	●	☆	●		○	●	☆				
RDMT1204MOE-ML									◎		◎			
RDMW1606MOT	◎	◎	○		◎		◎							
RD * T1606MOT	☆				○					○	●			
RD * T1606MOE			☆	●	☆	●		○	◎	☆	◎			
RDGT****MOF-AL												◎		

■ **Grade selection guide**

Material	Cast iron	Carbon steel Tool steel	Mold steel	Hardened steel	Stainless steel	Aluminium
Cat.No./Grade	DH103	JC8015	JC8015	DH103	JC8015	FZ05
RDMW****MOT	◎	◎	◎	◎	◎	
RDGT****MOF-AL						◎

• RDMW type : without chip breaker • RD*T type : with chip breaker
 ◎ : First choice ○ : General cutting ● : Unstable cutting ☆ : Light cutting