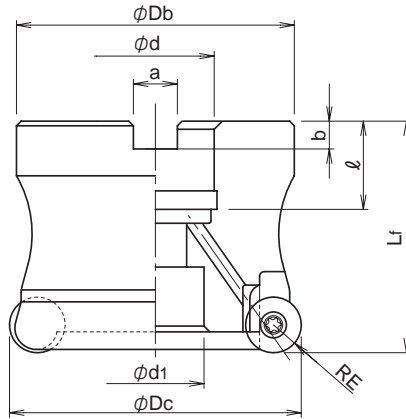
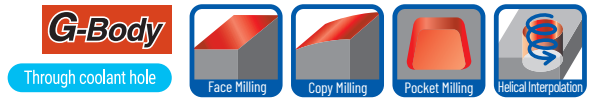


SUPER DIEMASTER **HDM/SDH Type**

■ HDM Type - Facemill / Fine Pitch



Cat.No.	Stock	No. of inserts	Dimensions(mm)									Arbor set bolt	Weight (kg)	Parts		Inserts
			φDc	RE	Lf	φDb	φd	φd1	a	b	ℓ			Screw	Wrench	
HDM-4050-R-22	●	4	50	8	55	47	22	16.5	10.4	6.3	20	M10	0.4	DSW-4512H	A-20	RD**1606MO...
HDM-5050-R-22	●	5		6								40	M10	0.4	DSW-410H	A-15T
HDM-5052-R-22	●	5	52	6	50	40	27	20	12.4	7	22	M10	0.5	DSW-410H	A-15T	RD**1204MO...
HDM-5063-R-27	●	6	63	8								60	M12	0.7	DSW-4512H	A-20
HDM-6063-R-27	●	6	63	6	55	60	27	20	12.4	7	22	M12	0.8	DSW-410H	A-15T	RD**1204MO...
HDM-6080-R-27	●	6	80	8								M12	1.3	DSW-4512H	A-20	RD**1606MO...
HDM-7080-R-27	●	7	80	6	55	76						M12	1.4	DSW-410H	A-15T	RD**1204MO...

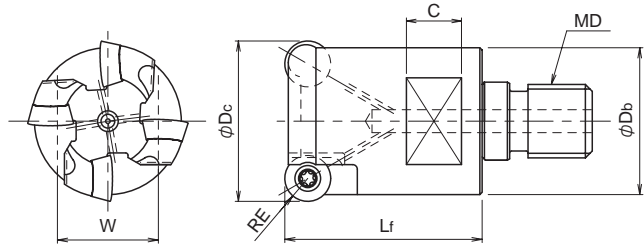
Screw	Torque (N.m)
DSW-4512H	6
DSW-410H	3.6

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

Inserts	Screw	Wrench
RD**1204MO*	DSW-410H	A-15T
RD**1606MO*	DSW-4512H	A-20

SUPER DIEMASTER **HDM/SDH Type**

■ SDH Type - Modular Head / Fine Pitch



Cat.No.	Stock	No. of inserts	Dimensions(mm)						Parts		Inserts	
			φDc	RE	Lf	φDb	MD	C	W	Screw		Wrench
SDH-3200-R07-M10	●	3	20	3.5	30	18	M10	8	14	TSW-2556H	A-08SD	RD**07T2MO...
SDH-3220-R07-M10	●		22			20						
SDH-3250-R07-M12	●		25	35	5	23	M12	10	17	CSW-408H	A-15	RD**1004MO...
SDH-3250-R10-M12	●	28	25									
SDH-3280-R10-M12	●	30	28			43	M16	12	22	DSW-410H	RD**1204MO...	
SDH-3300-R10-M16	●	32										
SDH-4300-R10-M16	●	35		M16	13							26
SDH-4320-R10-M16	●	40										
SDH-4350-R10-M16	●	4	40	6	M16	13	26	CSW-408H	RD**1204MO...			
SDH-4400-R12-M16	●	4	42	5								
SDH-5420-R10-M16	●	5	42	5	M16	13	26	CSW-408H	RD**1004MO...			

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

SUPER DIEMASTER

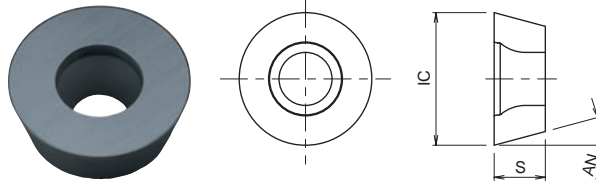
HDM/SDH Type

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

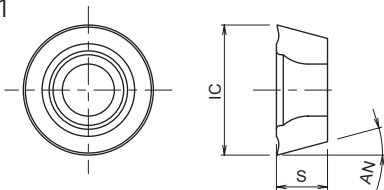
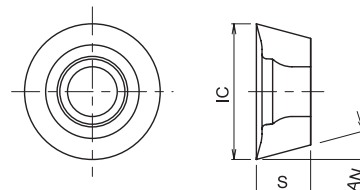


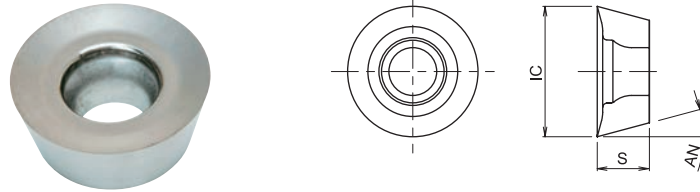
Fig 2



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		●	●					
RDMT07T2MOE	M		●	●	7	2.7	15°	2
RDMT1004MOE			●	●	10	4.1		
RDMT1004MOE-ML			●	●				
RDMT1004MOT			●	●	12	4.8		
RDMT1204MOE			●	●				
RDMT1204MOE-ML			●	●	16	6		
RDMT1204MOT			●	●				
RDMT1606MOE			●	●				
RDMT1606MOT			●	●				

SUPER DIEMASTER **HDM/SDH Type**

- Low cutting force
- Chip breaker style
- for Aluminium

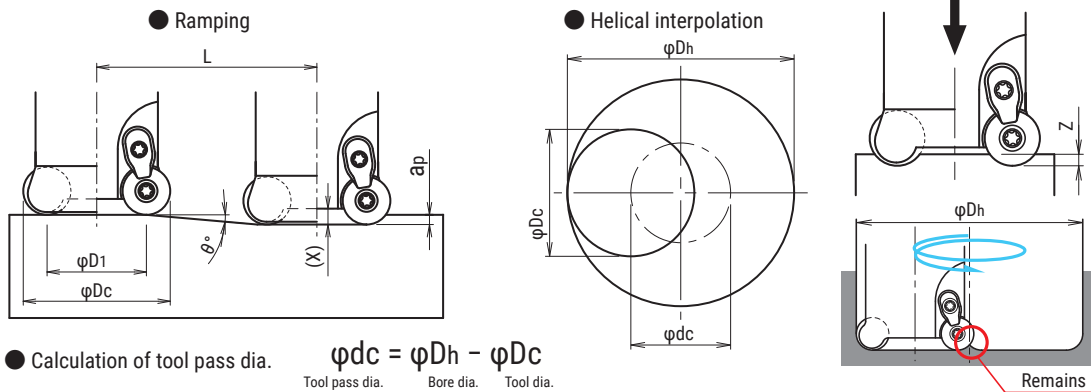


Cat.No.	Tolerance	Uncoated	Dimensions(mm)		
		FZ05	IC	S	AN
RDGT07T2MOF-AL	G	●	7	2.7	15°
RDGT1004MOF-AL		●	10	4.1	
RDGT1204MOF-AL		●	12	4.8	
RDGT1606MOF-AL		●	16	6	

SUPER DIEMASTER

HDM/SDH Type

Recommended Data for Profile Milling



- Calculation of tool pass dia. $\phi_{dc} = \phi_{Dh} - \phi_{Dc}$
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 / Fine pitch

Material	Grade	Tool dia.(mm)											
		50/52 (R6)				50/52 (R8)				63/66 (R6)			
		5N				4N				6N			
		φ (mm)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	φ (mm)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	φ (mm)	ap (mm)	n (min ⁻¹)	Vf (mm/min)
Carbon steel (S50C, S55C) below 250HB	JC8050	150	2	1,290	2,250	150	3	1,300	1,700	150	2	1,010	2,000
		200	1.7	1,290	1,920	200	2.5	1,300	1,820	200	1.8	1,010	1,800
		250	1.5	900	1,620	250	2	910	1,350	250	1.6	710	1,530
	JC5040	300	1	900	2,020	300	1.2	910	1,800	300	1.2	710	1,910
		350	0.5	780	2,150	350	0.7	780	1,870	350	0.8	610	1,830
		400	-	-	-	400	-	-	-	400	0.4	560	1,850
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8050	150	1.7	1,230	2,200	150	2.5	1,250	1,750	150	1.7	960	2,060
		200	1.5	1,230	2,150	200	2	1,250	1,850	200	1.6	960	2,130
	JC8118	250	1.2	860	1,720	250	1.1	880	1,760	250	1.4	670	1,610
		300	0.8	860	1,720	300	0.9	880	1,760	300	1	670	1,810
	JC8015 (over 40HRC)	350	0.4	730	1,800	350	0.5	750	1,800	350	0.6	570	2,200
		400	-	-	-	400	-	-	-	400	0.4	550	2,150
Tool & die steel (SKD61, SKD11) below 255HB	JC5040	150	1.7	1,230	2,200	150	2.5	1,260	1,750	150	1.7	960	2,060
		200	1.5	1,230	2,150	200	2	1,260	1,850	200	1.6	960	2,130
	JC8118	250	1.2	860	1,720	250	1.1	880	1,760	250	1.4	670	1,610
		300	0.8	860	1,720	300	0.9	880	1,760	300	1	670	1,850
	JC8015	350	0.4	730	1,800	350	0.5	750	1,850	350	0.6	570	2,200
		400	-	-	-	400	-	-	-	400	0.4	550	2,150
Stainless steel (SUS304) below 250HB	JC8050	150	2	1,020	1,780	150	3	1,030	1,350	150	2	800	1,670
		200	1.7	1,020	1,520	200	2.5	1,030	1,440	200	1.8	800	1,770
	JC8015	250	1.5	710	1,240	250	2	720	1,060	250	1.6	560	1,180
		300	1	710	1,420	300	1.2	720	1,420	300	1.2	560	1,340
	JC8118	350	0.5	610	1,530	350	0.7	620	1,490	350	0.8	480	1,380
		400	-	-	-	400	-	-	-	400	0.4	440	1,580
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	JC8015 *without chipbreaker (DH103 over 50HRC)	100	1.2	850	1,060	100	1.5	880	880	100	1.2	650	970
		150	1	850	1,100	150	1.2	880	950	150	1.1	650	1,010
		200	0.8	560	980	200	1	620	740	200	0.9	460	970
		250	0.5	560	1,260	250	0.8	620	870	250	0.6	460	1,250
		300	0.3	510	1,270	300	0.4	530	850	300	0.4	390	1,170
		350	-	-	-	350	-	-	-	350	0.2	360	1,300
Grey & Nodular cast iron (FC, FCD) below 300HB	JC8015	150	2	1,150	2,350	150	3	1,170	1,820	150	2	900	2,260
		200	1.7	1,150	2,580	200	2.5	1,170	2,000	200	1.8	900	2,420
	JC8118	250	1.5	800	1,840	250	2	820	1,470	250	1.6	630	1,700
		300	1	800	2,300	300	1.2	820	1,800	300	1.2	630	1,920
	JC8015	350	0.5	690	2,410	350	0.7	700	1,680	350	0.8	540	1,610
		400	-	-	-	400	-	-	-	400	0.4	500	1,730
Titanium alloy 35-43HRC	JC8050	150	1	420	420	150	1.5	440	440	150	1	330	400
		200	0.8	420	630	200	1.2	440	410	200	0.9	330	460
	JC8015	250	0.6	290	460	250	1	310	310	250	0.7	230	370
		300	0.4	290	580	300	0.8	310	370	300	0.5	230	460
	JC8118	350	0.2	250	630	350	0.4	260	420	350	0.3	200	540
		400	-	-	-	400	-	-	-	400	0.2	180	560
Heat resistant alloy 35-43HRC	JC8015	150	1	210	210	150	1.5	220	220	150	1	165	200
		200	0.8	210	320	200	1.2	220	210	200	0.9	165	230
	JC8118	250	0.6	150	230	250	1	150	160	250	0.7	120	190
		300	0.4	150	290	300	0.8	150	190	300	0.5	120	230
	JC8050	350	0.2	130	320	350	0.4	130	210	350	0.3	100	270
		400	-	-	-	400	-	-	-	400	0.2	90	280
Aluminium alloy (A5052, A7075) below 50-110HB	FZ05	150	4	4,300	8,400	150	5.5	4,300	6,700	150	4	3,350	7,800
		200	3.5	4,300	8,800	200	4.5	4,300	7,000	200	3.5	3,350	8,200
		250	3	3,650	7,800	250	3.5	3,650	6,300	250	3	2,900	7,400
		300	2	3,050	8,900	300	2.5	3,050	6,300	300	2	2,400	7,500
		350	1	2,950	6,600	350	1.5	2,950	5,300	350	1	2,300	7,200
		400	0.7	2,450	4,300	400	1	2,450	3,400	400	0.7	2,150	5,200

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 / Fine pitch

Material	Grade	Tool dia. (mm)											
		63/66 (R8)				80 (R 6)				80 (R 8)			
		5N				7N				6N			
		φ (mm)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	φ (mm)	ap (mm)	n (min ⁻¹)	Vf (mm/min)	φ (mm)	ap (mm)	n (min ⁻¹)	Vf (mm/min)
Carbon steel (S50C, S55C) below 250HB	JC8050	150	3	1,020	1,660	150	2	790	1,830	150	3	790	1,540
	JC5040	200	2.7	1,020	1,530	200	1.8	790	1,640	200	2.7	790	1,320
	JC8118	250	2.2	720	1,330	250	1.6	550	1,380	250	2.2	550	1,220
		300	1.6	720	1,450	300	1.2	550	1,730	300	1.6	550	1,330
		350	1	620	1,550	350	0.8	470	1,650	350	1	470	1,410
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8050	150	2.5	970	1,690	150	1.7	740	1,850	150	2.5	750	1,570
	JC8118	200	2.2	970	1,790	200	1.6	740	1,920	200	2.2	750	1,660
	JC8015 (over 40HRC)	250	1.6	680	1,460	250	1.4	520	1,460	250	1.6	530	1,370
		300	1.1	680	1,800	300	1	520	1,640	300	1.1	530	1,680
		350	0.7	580	1,590	350	0.6	440	1,980	350	0.7	450	1,480
Tool & die steel (SKD61, SKD11) below 255HB	JC8050	150	2.5	970	1,690	150	1.7	740	1,850	150	2.5	750	1,570
	JC5040	200	2.2	970	1,790	200	1.6	740	1,920	200	2.2	750	1,660
	JC8118	250	1.6	680	1,460	250	1.4	520	1,460	250	1.6	530	1,370
		300	1.1	680	1,800	300	1	520	1,680	300	1.1	530	1,680
		350	0.7	580	1,590	350	0.6	440	1,980	350	0.7	450	1,480
Stainless steel (SUS304) below 250HB	JC8050	150	3	810	1,320	150	2	620	1,510	150	3	620	1,210
	JC8015	200	2.7	810	1,330	200	1.8	620	1,600	200	2.7	620	1,220
	JC8118	250	2.2	570	1,050	250	1.6	430	1,060	250	2.2	430	950
		300	1.6	570	1,220	300	1.2	430	1,200	300	1.6	430	1,100
		350	1	490	1,230	350	0.8	370	1,240	350	1	370	1,110
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	JC8015 *without chipbreaker (DH103 over 50HRC)	100	1.5	670	840	100	1.2	500	870	100	1.5	500	750
	JC8015 (over 50HRC)	150	1.2	670	900	150	1.1	500	910	150	1.2	500	810
		200	1	460	760	200	0.9	350	860	200	1	350	690
		250	0.8	460	920	250	0.6	350	1,110	250	0.8	350	840
		300	0.6	400	900	300	0.4	300	1,050	300	0.6	300	810
Grey & Nodular cast iron (FC, FCD) below 300HB	JC8015	150	3	910	1,540	150	2	700	2,050	150	3	710	1,440
	JC8118	200	2.7	910	1,860	200	1.8	700	2,200	200	2.7	710	1,740
		250	2.2	640	1,440	250	1.6	490	1,540	250	2.2	500	1,350
		300	1.6	640	1,700	300	1.2	490	1,740	300	1.6	500	1,590
		350	1	550	1,510	350	0.8	420	1,460	350	1	430	1,420
Titanium alloy 35-43HRC	JC8050	150	1.5	340	430	150	1	250	350	150	1.5	250	380
	JC8015	200	1.3	340	470	200	0.9	250	410	200	1.3	250	420
	JC8118	250	1.1	240	390	250	0.7	170	320	250	1.1	180	350
		300	0.9	240	400	300	0.5	170	400	300	0.9	180	360
		350	0.6	200	350	350	0.3	150	470	350	0.6	150	320
Heat resistant alloy 35-43HRC	JC8015	150	1.5	170	220	150	1	120	170	150	1.5	125	190
	JC8118	200	1.3	170	240	200	0.9	120	200	200	1.3	125	210
	JC8050	250	1.1	120	200	250	0.7	80	150	250	1.1	90	180
		300	0.9	120	200	300	0.5	80	180	300	0.9	90	180
		350	0.6	100	180	350	0.3	70	220	350	0.6	75	160
Aluminium alloy (A5052, A7075) below 50-110HB	FZ05	150	5.5	3,350	6,500	150	4	2,800	7,600	150	5.5	2,800	6,500
	FZ05	200	4.5	3,350	6,800	200	3.5	2,800	8,000	200	4.5	2,800	6,900
		250	3.5	2,900	6,200	250	3	2,400	7,200	250	3.5	2,400	6,200
		300	2.5	2,400	6,200	300	2	2,000	7,300	300	2.5	2,000	6,200
		350	1.5	2,300	5,200	350	1	1,900	6,000	350	1.5	1,900	5,100
400	1	2,150	4,300	400	0.7	1,600	4,500	400	1	1,600	3,800		

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 / Fine pitch **HIGH SPEED CUTTING**

Material	Grade	Tool dia.(mm)											
		50/52 (R6)				50/52 (R8)				63/66 (R6)			
		5N				4N				6N			
		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		150	1.4	1,590	3,180	150	1.9	1,640	2,400	150	1.4	1,240	2,980
		200	1.2	1,590	3,180	200	1.7	1,640	2,400	200	1.2	1,240	2,980
		250	1	1,110	2,220	250	1.3	1,150	1,680	250	1	870	2,090
		300	0.6	1,030	2,830	300	1	1,070	1,710	300	0.6	800	2,200
		350	0.3	950	2,610	350	0.4	980	2,350	350	0.3	740	2,040
		400	-	-	-	400	-	-	-	400	-	-	-
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8015	150	1.4	1,520	3,040	150	1.9	1,570	2,300	150	1.4	1,190	2,850
		200	1.2	1,520	3,040	200	1.7	1,570	2,300	200	1.2	1,190	2,850
		250	1	1,060	2,120	250	1.3	1,100	1,600	250	1	830	1,990
		300	0.6	990	2,720	300	1	1,020	1,630	300	0.6	770	2,220
		350	0.3	910	2,500	350	0.4	940	2,250	350	0.3	710	1,950
		400	-	-	-	400	-	-	-	400	-	-	-
Tool & die steel (SKD61, SKD11) below 255HB	*without chipbreaker	150	1.4	1,520	3,040	150	1.9	1,570	2,300	150	1.4	1,190	2,850
		200	1.2	1,520	3,040	200	1.7	1,570	2,300	200	1.2	1,190	2,850
		250	1	1,060	2,120	250	1.3	1,100	1,600	250	1	830	1,990
		300	0.6	990	2,720	300	1	1,020	1,630	300	0.6	770	2,120
		350	0.3	910	2,500	350	0.4	940	2,250	350	0.3	710	1,950
		400	-	-	-	400	-	-	-	400	-	-	-
Stainless steel (SUS304) below 250HB		150	1.4	1,320	2,640	150	1.9	1,360	2,000	150	1.4	1,030	2,470
		200	1.2	1,320	2,640	200	1.7	1,360	2,000	200	1.2	1,030	2,470
		250	1	920	1,840	250	1.3	950	1,390	250	1	720	1,730
		300	0.6	860	2,360	300	1	880	1,400	300	0.6	670	1,840
		350	0.3	790	2,170	350	0.4	820	1,970	350	0.3	620	1,700
		400	-	-	-	400	-	-	-	400	-	-	-
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	DH103	100	1	1,070	1,870	100	1.2	1,100	1,540	100	1	830	1,710
		150	0.8	1,070	1,870	150	1	1,100	1,540	150	0.8	830	1,710
		200	0.6	750	3,740	200	0.8	770	1,120	200	0.6	580	1,390
		250	0.3	700	2,100	250	0.5	710	1,700	250	0.3	540	1,620
		300	0.2	640	2,170	300	0.3	660	1,650	300	0.2	500	1,980
		350	-	-	-	350	-	-	-	350	-	-	-
Grey & Nodular cast iron (FC, FCD) below 300HB		150	1.4	1,450	3,980	150	1.9	1,600	3,000	150	1.4	1,130	3,660
		200	1.2	1,450	3,980	200	1.7	1,500	3,000	200	1.2	1,130	3,660
		250	1	1,010	2,020	250	1.3	1,050	1,500	250	1	790	1,900
		300	0.6	940	3,520	300	1	970	2,700	300	0.6	730	2,400
		350	0.3	870	3,260	350	0.4	900	2,880	350	0.3	680	2,150
		400	-	-	-	400	-	-	-	400	-	-	-
Aluminium alloy (A5052, A7075) below 50-110HB	FZ05	150	1.6	5,500	15,000	150	2.1	5,500	12,000	150	1.6	4,300	14,000
		200	1.4	5,500	15,000	200	1.9	5,500	12,000	200	1.4	4,300	14,000
		250	1.2	4,900	17,000	250	1.5	4,900	13,600	250	1.2	3,850	16,000
		300	0.8	4,300	15,000	300	1.2	4,300	12,000	300	0.8	3,350	14,000
		350	0.6	4,000	14,000	350	0.6	4,000	11,200	350	0.6	3,150	13,000
		400	0.4	3,650	13,000	400	0.4	3,650	10,400	400	0.4	2,900	13,000

Note

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

SUPER DIEMASTER**HDM/SDH Type**

■ Recommended cutting conditions

● Facemill type / Fine pitch **HIGH SPEED CUTTING**

Material	Grade	Tool dia.(mm)											
		63/66 (R8)				80 (R6)				80 (R8)			
		5N				7N				6N			
		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		150	1.9	1,270	2,350	150	1.4	970	2,720	150	1.9	980	2,180
		200	1.7	1,270	2,350	200	1.2	970	2,720	200	1.7	980	2,180
		250	1.3	890	1,650	250	1	680	1,900	250	1.3	690	1,530
		300	1	830	1,600	300	0.6	630	2,030	300	1	640	1,490
		350	0.4	760	2,280	350	0.3	580	1,870	350	0.4	590	2,120
		400	-	-	-	400	-	-	-	400	-	-	-
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8015 *without chipbreaker	150	1.9	1,220	2,250	150	1.4	920	2,580	150	1.9	940	2,090
		200	1.7	1,220	2,250	200	1.2	920	2,580	200	1.7	940	2,090
		250	1.3	850	1,570	250	1	640	1,790	250	1.3	660	1,470
		300	1	790	1,580	300	0.6	600	1,930	300	1	610	1,460
		350	0.4	730	2,200	350	0.3	550	1,770	350	0.4	560	2,030
		400	-	-	-	400	-	-	-	400	-	-	-
Tool & die steel (SKD61, SKD11) below 255HB	JC8015 *without chipbreaker	150	1.9	1,220	2,250	150	1.4	920	2,580	150	1.9	940	2,090
		200	1.7	1,220	2,250	200	1.2	920	2,580	200	1.7	940	2,090
		250	1.3	850	1,570	250	1	640	1,790	250	1.3	660	1,470
		300	1	790	1,580	300	0.6	600	1,930	300	1	610	1,460
		350	0.4	730	2,200	350	0.3	550	1,770	350	0.4	560	2,030
		400	-	-	-	400	-	-	-	400	-	-	-
Stainless steel (SUS304) below 250HB	JC8015 *without chipbreaker	150	1.9	1,050	1,940	150	1.4	800	2,240	150	1.9	810	1,800
		200	1.7	1,050	1,940	200	1.2	800	2,240	200	1.7	810	1,800
		250	1.3	730	1,440	250	1	560	1,570	250	1.3	570	1,370
		300	1	680	1,360	300	0.6	520	1,680	300	1	530	1,270
		350	0.4	630	1,890	350	0.3	480	1,550	350	0.4	490	1,760
		400	-	-	-	400	-	-	-	400	-	-	-
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	DH103	100	1.2	840	1,470	100	1	640	1,540	100	1.2	660	1,390
		150	1	840	1,470	150	0.8	640	1,540	150	1	660	1,390
		200	0.8	590	1,090	200	0.6	450	1,260	200	0.8	460	1,020
		250	0.5	550	1,320	250	0.3	420	1,470	250	0.5	430	1,240
		300	0.3	510	1,270	300	0.2	380	1,750	300	0.3	400	1,200
		350	-	-	-	350	-	-	-	350	-	-	-
Grey & Nodular cast iron (FC, FCD) below 300HB	DH103	150	1.9	1,160	2,900	150	1.4	880	3,320	150	1.9	900	2,700
		200	1.7	1,160	2,900	200	1.2	880	3,320	200	1.7	900	2,700
		250	1.3	810	1,930	250	1	620	1,740	250	1.3	630	1,800
		300	1	750	2,600	300	0.6	570	2,180	300	1	590	2,480
		350	0.4	700	2,800	350	0.3	530	1,950	350	0.4	540	2,590
		400	-	-	-	400	-	-	-	400	-	-	-
Aluminium alloy (A5052, A7075) below 50-110HB	FZ05	150	2.1	4,300	11,800	150	1.6	3,600	13,800	150	2.1	3,600	11,900
		200	1.9	4,300	11,800	200	1.4	3,600	13,800	200	1.9	3,600	11,900
		250	1.5	3,850	13,500	250	1.2	3,200	15,600	250	1.5	3,200	13,400
		300	1.2	3,350	11,700	300	0.8	2,800	13,700	300	1.2	2,800	11,750
		350	0.6	3,150	11,000	350	0.6	2,600	12,700	350	0.6	2,600	11,000
		400	0.4	2,900	11,000	400	0.4	2,400	12,600	400	0.4	2,400	10,800

Note

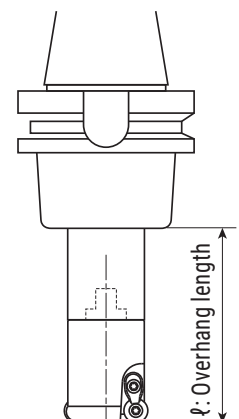
1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter occurring, recommended to reduce a_p or V_f.
3. a_p should be reduced when using on low rigidity machine.
4. Use air blow.
5. In case of cutting hard materials (50-55HRC), reduce a_p, n, V_f by 30%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

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
	JC8118	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
	JC8015	120	0.5	2,400	1,150	120	0.6	2,000	1,000
	JC8118	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
	JC8118	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
	FZ05	120	1.7	8,600	4,800	120	1.7	7,200	4,300
	FZ05	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**

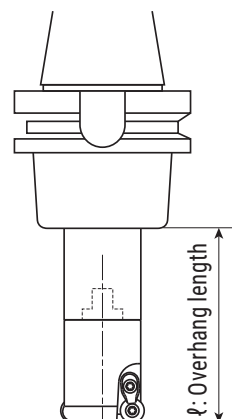
■ Recommended cutting conditions

● 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
	JC8118	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
	JC8015	120	0.5	2,500	2,000	140	0.5	1,600	1,000
	JC8015	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
	JC8118	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
	FZ05	120	1.7	7,200	6,400	140	2	5,700	3,400
	FZ05	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.

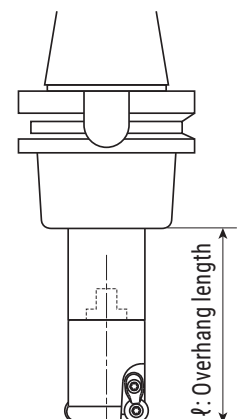


SUPER DIEMASTER
HDM/SDH Type
■ Recommended cutting conditions
● Modular head SDH type

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**

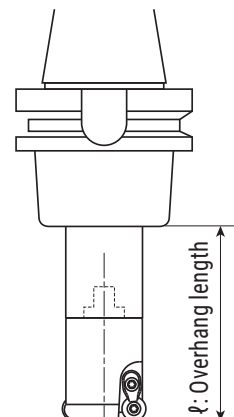
■ Recommended cutting conditions

● 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.

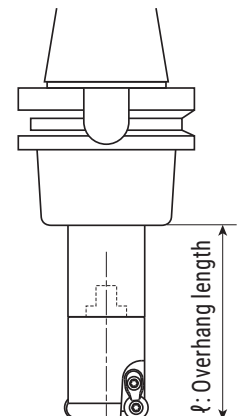


SUPER DIEMASTER
HDM/SDH Type
■ Recommended cutting conditions
● Modular head SDH type

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**

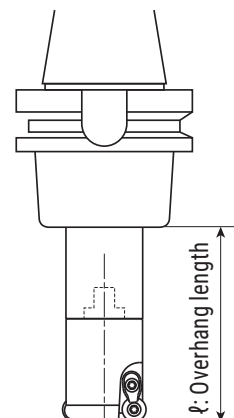
■ Recommended cutting conditions

● 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.

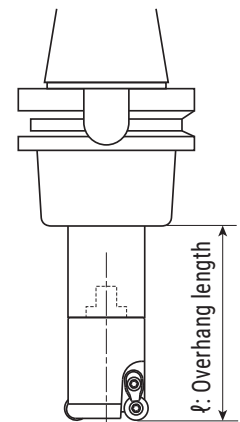


SUPER DIEMASTER
HDM/SDH Type
Recommended cutting conditions
Modular head SDH type
HIGH SPEED CUTTING

Material	Grade	Tool dia.(mm)							
		20/22 (R3.5)				25 (R3.5) /25 (R5) /28 (R5)			
		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		70	0.3	5,400	4,800	90	0.3	4,200	3,800
		120	0.2	5,100	4,300	140	0.2	4,000	3,400
		160	0.1	4,300	3,600	210	0.1	3,400	2,850
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8015	70	0.3	4,300	3,200	90	0.3	3,400	2,500
		120	0.2	4,100	2,900	140	0.2	3,200	2,250
		160	0.1	3,400	2,400	210	0.1	2,700	1,900
Tool & die steel (SKD61, SKD11) below 255HB	*without chipbreaker	70	0.3	4,300	3,200	90	0.3	3,400	2,500
		120	0.2	4,100	2,900	140	0.2	3,200	2,250
		160	0.1	3,400	2,400	210	0.1	2,700	1,900
Stainless steel (SUS304) below 250HB		70	0.3	3,600	3,200	90	0.3	2,800	2,500
		120	0.2	3,400	2,900	140	0.2	2,700	2,250
		160	0.1	2,900	2,400	210	0.1	2,250	1,900
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	DH103	70	0.2	4,000	3,000	90	0.2	3,100	2,300
		120	0.12	3,700	2,600	140	0.12	3,000	2,100
		160	0.06	3,200	2,200	210	0.06	2,500	1,700
Grey & Nodular cast iron (FC, FCD) below 300HB		70	0.3	5,700	5,100	90	0.3	4,500	4,000
		120	0.2	5,100	4,600	140	0.2	4,300	3,600
		160	0.1	4,550	3,800	210	0.1	3,600	3,000
Aluminium alloy below 50-110HB	FZ05	70	1.5	10,100	12,000	90	1.7	8,000	9,600
		120	1.2	10,100	12,000	140	1.4	8,000	9,600
		160	0.7	8,700	7,800	210	1	6,800	6,100

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.



SUPER DIEMASTER**HDM/SDH Type**

■ Recommended cutting conditions

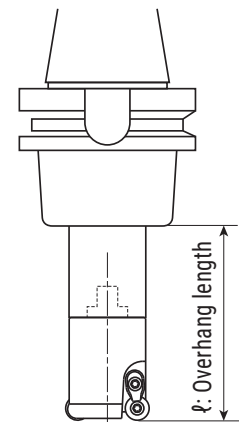
● Modular head SDH type

HIGH SPEED CUTTING

Material	Grade	Tool dia.(mm)							
		30 (R5) /35 (R6)				30/32/35 (R5)			
		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)
Carbon steel (S50C, S55C) below 250HB		100	0.3	3,300	2,900	100	0.3	3,300	4,000
		150	0.2	3,100	2,800	150	0.2	3,100	3,600
		210	0.1	2,600	2,150	210	0.1	2,600	3,000
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8015	100	0.3	2,800	2,000	100	0.3	2,800	2,800
		150	0.2	2,700	1,800	150	0.2	2,700	2,500
		210	0.1	2,200	1,500	210	0.1	2,250	2,100
Tool & die steel (SKD61, SKD11) below 255HB	*without chipbreaker	100	0.3	2,800	2,000	100	0.3	2,800	2,800
		150	0.2	2,400	1,800	150	0.2	2,700	2,500
		210	0.1	2,200	1,500	210	0.1	2,250	2,100
Stainless steel (SUS304) below 250HB		100	0.3	2,300	2,000	100	0.3	2,300	2,700
		150	0.2	2,200	1,800	150	0.2	2,200	2,400
		210	0.1	1,850	1,500	210	0.1	1,850	2,000
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	DH103	100	0.2	2,500	1,850	100	0.2	2,550	2,550
		150	0.15	2,450	1,650	150	0.15	2,400	2,250
		210	0.1	2,050	1,400	210	0.1	2,050	1,850
Grey & Nodular cast iron (FC, FCD) below 300HB		100	0.3	3,600	3,200	100	0.3	3,600	4,300
		150	0.2	3,400	2,900	150	0.2	3,400	3,900
		210	0.1	2,900	2,400	210	0.1	2,900	3,200
Aluminium alloy below 50-110HB	FZ05	100	2	6,400	7,700	100	2	6,400	10,200
		150	1.5	6,400	7,700	150	1.5	6,400	10,200
		210	1	5,500	5,000	210	1	5,500	6,600

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.

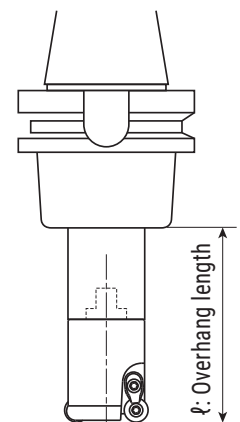


SUPER DIEMASTER
HDM/SDH Type
Recommended cutting conditions
Modular head SDH type
HIGH SPEED CUTTING

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		100	0.3	2,900	3,400	100	0.3	2,800	4,200
		150	0.2	2,700	3,050	150	0.2	2,650	2,400
		210	0.1	2,300	2,550	210	0.1	2,250	3,150
Mold steel (HPM7, PX5, NAK80, P20) 30-43HRC	JC8015	100	0.3	2,400	2,400	100	0.3	2,300	2,800
		150	0.2	2,300	2,150	150	0.2	2,200	2,500
		210	0.1	1,900	1,800	210	0.1	1,850	2,100
Tool & die steel (SKD61, SKD11) below 255HB	*without chipbreaker	100	0.3	2,400	2,400	100	0.3	2,300	2,800
		150	0.2	2,300	2,150	150	0.2	2,200	2,500
		210	0.1	1,900	1,800	210	0.1	1,850	2,100
Stainless steel (SUS304) below 250HB		100	0.3	2,000	2,400	100	0.3	1,900	2,800
		150	0.2	1,900	2,150	150	0.2	1,800	2,500
		210	0.1	1,600	1,800	210	0.1	1,500	2,100
Hardened die steel (SKD61, DAC, DHA) 40-50HRC	DH103	100	0.2	2,200	2,200	100	0.2	2,100	2,500
		150	0.15	2,100	2,000	150	0.15	2,000	2,250
		210	0.1	1,750	1,650	210	0.1	1,650	1,850
Grey & Nodular cast iron (FC, FCD) below 300HB		100	0.3	3,200	4,000	100	0.3	3,000	3,600
		150	0.2	3,000	3,600	150	0.2	2,850	3,250
		210	0.1	2,550	3,000	210	0.1	2,400	2,700
Aluminium alloy below 50-110HB	FZ05	100	2.5	5,600	9,000	100	2	5,300	10,600
		150	2	5,600	9,000	150	1.5	5,300	10,600
		210	1.3	4,800	5,800	210	1	4,500	6,800

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.



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