HEPTA MILL — HEP Type

■ HEPTA MILL- High Feed Mill with 7 Cutting-Edge

G-Body

- Max. Depth of cut 5mm at fz=1mm/tooth is possible.
- Insert with thickness 6.35mm is durable for heavy roughing.
- Heptagonal insert with unique geometry for lower cutting force.
- Double clamping system
- Multi functional cutter for ramping , pocket milling , plunging.

Fig 1

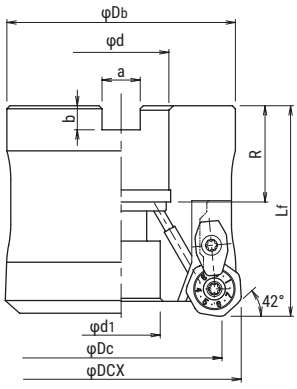


Fig 2

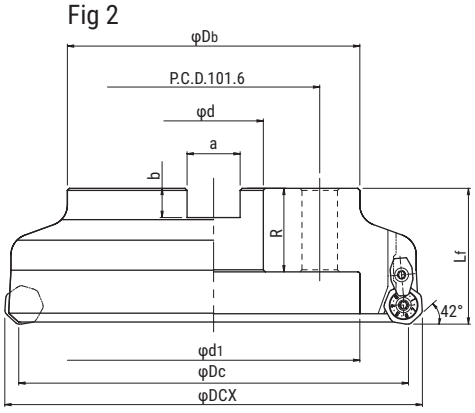
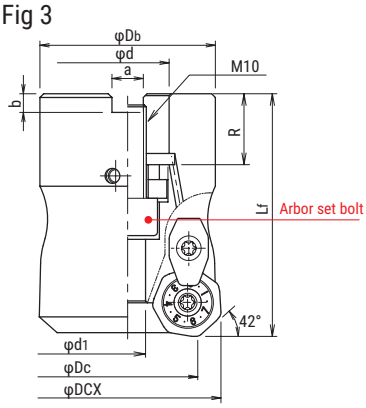


Fig 3



Cat.No.	Stock	No. of inserts	Dimensions (mm)									Arbor set bolt	Parts		Weight (kg)	Inserts	Fig.
			φDc	φDCX	Lf	φDb	φd	φd1	a	b	ℓ		Screw	Wrench			
HEP-3050R-08-22	●	3	36.7	50	65	47	22	9.6	10.4	6.3	19	M10X1.5X25★	DSW-4512H	A-20	0.9	XD**080...	3
HEP-4063R-08-22	●	4	49.5	63	50	60		17			20	M10			1.1		1
HEP-4063R-08-27	●						27	20	12.4	7	22	M12X1.75X30★			1.1		
HEP-5080R-08-27	●	5	66.6	80	55	76						M12X1.75X40★			1.9		
HEP-6100R-08-32	●	6	86.6	100	70	96	32	26	14.4	8	32	M16X2X45★			3.6		
HEP-7125R-08-40	●	7	111.6	125		100	40	32	16.4	9	35	M20X2.5X45★			5.5		
HEP-8160R-08-40	●	8	146.6	160								M20X2.5X45★		A-20L	8.4		
HEP-9200R-08-60	●	9	186.6	200	65	140	60	140	25.4	14.3	40	M16			10.2		2

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

HEPTA MILL — HEP Type

■ Insert

Fig 1

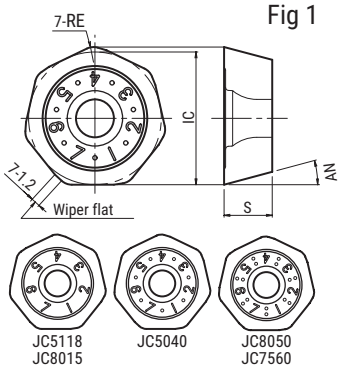
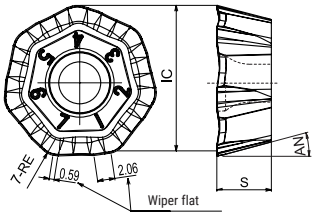


Fig 3



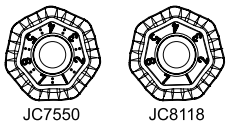
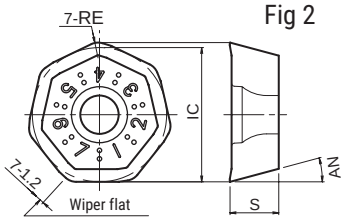


Fig 2



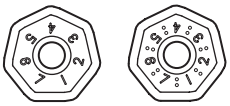
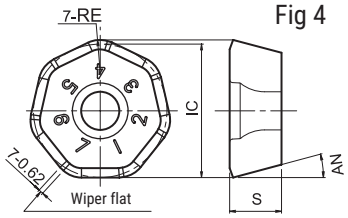


Fig 4



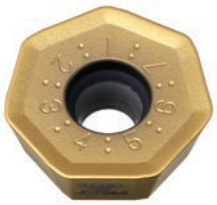


Fig 5

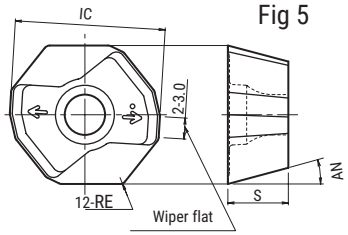
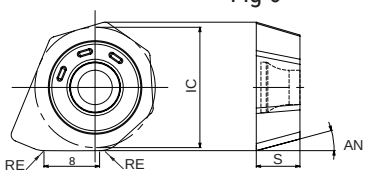


Fig 6



Cat.No.	Tolerance	PVD Coating							Dimensions(mm)				Fig.
		JC5040	JC7550	JC7560	JC8011	JC8015	JC8050	JC8118	RE	IC	S	AN	
XDMW080620ZTR	M	●		●		●	●	●	2	17.5	6.35	15°	1
XDMW080635ZTR-S						●			3.5				4
XDMT080620ZER				●		●	●	●	2				2
XDMT080620ZER-ML			●					●		17.341	6.5		3
XDMT080708ZER						○			0.8	18.6	7.5		5
XDHW080610ZER-W	H				●				4	17.5	6.35		6

HEPTA MILL — HEP Type

■ Recommended cutting conditions

GENERAL CUTTING

Material	Insert	Grade	Tool dia.(mm)									
			50					63				
			3N					4N				
			ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)	ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)
Carbon steel (S50C, S55C) below 250HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	4	~35	900	2,200	100	4	~42	700	2,300
			150	3.5	~35	800	1,700	150	3.5	~42	650	1,800
			200	3	~35	700	1,300	200	3	~42	600	1,500
Tool & die steel (SKD61, SKD11) below 255HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	3	~35	900	1,900	100	3	~42	700	2,000
			150	2.5	~35	800	1,400	150	2.5	~42	650	1,600
			200	2.5	~35	700	1,050	200	2.5	~42	600	1,200
Mold steel (HPM7, PX5, P20) 30-36 HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC7560) [JC5040]	100	3	~35	900	1,900	100	3	~42	700	2,000
			150	2.5	~35	800	1,400	150	2.5	~42	650	1,600
			200	2.5	~35	700	1,050	200	2.5	~42	600	1,200
Mold steel (NAK80,HPM1,P21) 38-43HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	3	~35	650	1,400	100	3	~42	500	1,400
			150	2.5	~35	600	1,100	150	2.5	~42	450	1,100
			200	2.5	~35	500	750	200	2.5	~42	400	700
Hardened die steel (SKD61, DAC, DHA) 42-52HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	2	~25	450	550	100	2	~30	450	700
			150	1.5	~25	400	450	150	1.5	~30	400	600
			200	1.5	~25	350	320	200	1.5	~30	300	350
Grey cast iron (FC250) 160-260HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	5	~35	900	2,700	100	5	~42	700	2,800
			150	4	~35	800	2,400	150	4	~42	600	2,400
			200	3.5	~35	700	1,800	200	3.5	~42	550	2,000
Nodular cast iron (FCD700) 170-300HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	4	~35	750	1,800	100	4	~42	600	2,000
			150	3	~35	680	1,350	150	3	~42	550	1,450
			200	2.5	~35	600	1,000	200	2.5	~42	500	1,150
Austenitic stainless steel (SUS304, 316, 317) 17Cr	XDMT080620ZER (XDMT080620ZER) [XDMT080620ZER-ML]	JC8050 (JC7560) [JC7550]	100	4	~35	800	1,200	100	4	~42	650	1,200
			150	3.5	~35	700	1,000	150	3.5	~42	600	1,000
			200	3	~35	600	700	200	3	~42	500	800
Titanium alloy (Ti-6Al-4V) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC7550 (JC5040) [JC8118]	100	3	~30	380	250	100	3	~38	300	250
			150	2.5	~30	320	150	150	2.5	~38	250	150
			200	2.5	~30	250	120	200	2.5	~38	200	120
Heat resistant alloy (INCO718) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC8118 (JC8118) [JC8015]	100	2	~25	200	120	100	2	~30	150	120
			150	1.5	~25	160	80	150	1.5	~30	120	80
			200	1.5	~25	120	60	200	1.5	~30	100	60

Note
1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter ocurring, recommended to reduce ap or Vf.
3. Use air blow.
4. XDMW080635ZTR-S(JC8015) is recommended to cut cast steel with crusty and nonuniform suarface.

HEPTA MILL — HEP Type

■ Recommended cutting conditions

GENERAL CUTTING

Material	Insert	Grade	Tool dia.(mm)									
			80					100				
			5N					6N				
			ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)	ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)
Carbon steel (S50C, S55C) below 250HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	4	~55	550	2,200	100	4	~70	450	2,200
			150	4	~55	500	1,800	150	4	~70	400	1,700
			200	3.5	~55	450	1,400	200	3.5	~70	350	1,300
Tool & die steel (SKD61, SKD11) below 255HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	3	~55	550	2,000	100	3	~70	450	1,900
			150	3	~55	500	1,500	150	3	~70	400	1,500
			200	2.5	~55	450	1,100	200	2.5	~70	350	1,100
Mold steel (HPM7, PX5, P20) 30-36 HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC7560) [JC5040]	100	3	~55	550	2,000	100	3	~70	450	1,900
			150	3	~55	500	1,500	150	3	~70	400	1,500
			200	2.5	~55	450	1,100	200	2.5	~70	350	1,100
Mold steel (NAK80,HPM1,P21) 38-43HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	3	~55	400	1,300	100	3	~70	350	1,500
			150	3	~55	350	1,050	150	3	~70	300	1,200
			200	2.5	~55	300	800	200	2.5	~70	250	800
Hardened die steel (SKD61, DAC, DHA) 42-52HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	2	~40	350	700	100	2	~50	250	600
			150	2	~40	300	600	150	2	~50	200	500
			200	1.5	~40	250	400	200	1.5	~50	160	400
Grey cast iron (FC250) 160-260HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	5	~55	550	2,750	100	5	~70	450	2,700
			150	5	~55	500	2,400	150	5	~70	400	2,400
			200	4	~55	450	1,800	200	4	~70	350	2,000
Nodular cast iron (FCD700) 170-300HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	4	~55	450	1,750	100	4	~70	380	1,800
			150	4	~55	400	1,350	150	4	~70	350	1,350
			200	3	~55	380	1,000	200	3	~70	300	1,150
Austenitic stainless steel (SUS304, 316, 317) 17Cr	XDMT080620ZER (XDMT080620ZER) [XDMT080620ZER-ML]	JC8050 (JC7560) [JC7550]	100	4	~55	500	1,200	100	4	~70	400	1,100
			150	4	~55	450	900	150	4	~70	350	1,000
			200	3.5	~55	400	800	200	3.5	~70	300	700
Titanium alloy (Ti-6Al-4V) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC7550 (JC5040) [JC8118]	100	3	~50	240	240	100	3	~60	200	240
			150	3	~50	200	150	150	3	~60	160	150
			200	2.5	~50	160	120	200	2.5	~60	130	120
Heat resistant alloy (INCO718) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC8118 (JC8118) [JC8015]	100	2	~40	120	120	100	2	~50	100	120
			150	2	~40	100	75	150	2	~50	80	70
			200	1.5	~40	80	60	200	1.5	~50	70	60

Note
1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter ocurring, recommended to reduce ap or Vf.
3. Use air blow.
4. XDMW080635ZTR-S(JC8015) is recommended to cut cast steel with crusty and nonuniform suarface.

HEPTA MILL — HEP Type

■ Recommended cutting conditions

GENERAL CUTTING

Material	Insert	Grade	Tool dia.(mm)									
			125					160				
			7N					8N				
			ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)	ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)
Carbon steel (S50C, S55C) below 250HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	4	~90	350	2,000	100	4	~120	300	1,900
			150	4	~90	320	1,600	150	4	~120	260	1,500
			200	4	~90	300	1,300	200	4	~120	220	1,100
Tool & die steel (SKD61, SKD11) below 255HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	3	~90	350	1,700	100	3	~120	300	1,700
			150	3	~90	320	1,350	150	3	~120	260	1,250
			200	3	~90	300	1,050	200	3	~120	220	900
Mold steel (HPM7, PX5, P20) 30-36 HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC7560) [JC5040]	100	3	~90	350	1,700	100	3	~120	300	1,700
			150	3	~90	320	1,350	150	3	~120	260	1,250
			200	3	~90	300	1,050	200	3	~120	220	900
Mold steel (NAK80,HPM1,P21) 38-43HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	3	~90	300	1,500	100	3	~120	250	1,400
			150	3	~90	250	1,100	150	3	~120	200	1,000
			200	3	~90	200	750	200	3	~120	150	600
Hardened die steel (SKD61, DAC, DHA) 42-52HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	2	~60	200	550	100	2	~80	170	550
			150	2	~60	150	400	150	2	~80	150	500
			200	2	~60	125	260	200	2	~80	120	300
Grey cast iron (FC250) 160-260HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	5	~90	350	2,450	100	5	~120	300	2,250
			150	5	~90	320	2,200	150	5	~120	260	2,100
			200	5	~90	280	1,800	200	5	~120	220	1,700
Nodular cast iron (FCD700) 170-300HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	4	~90	300	1,700	100	4	~120	250	1,500
			150	4	~90	270	1,250	150	4	~120	220	1,200
			200	3	~90	250	1,000	200	4	~120	180	950
Austenitic stainless steel (SUS304, 316, 317) 17Cr	XDMT080620ZER (XDMT080620ZER) [XDMT080620ZER-ML]	JC8050 (JC7560) [JC7550]	100	4	~90	300	1,000	100	4	~120	240	900
			150	4	~90	250	800	150	4	~120	200	750
			200	3	~90	220	650	200	3	~120	180	600
Titanium alloy (Ti-6Al-4V) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC7550 (JC5040) [JC8118]	100	3	~75	160	220	100	3	~100	120	200
			150	3	~75	130	140	150	3	~100	100	120
			200	3	~75	100	100	200	3	~100	80	100
Heat resistant alloy (INCO718) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC8118 (JC8118) [JC8015]	100	2	~60	80	120	100	2	~80	60	100
			150	2	~60	65	70	150	2	~80	50	60
			200	2	~60	50	50	200	2	~80	40	50

Note
1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter ocurring, recommended to reduce ap or Vf.
3. Use air blow.
4. XDMW080635ZTR-S(JC8015) is recommended to cut cast steel with crusty and nonuniform suarface.

HEPTA MILL — HEP Type

■ Recommended cutting conditions

GENERAL CUTTING

Material	Insert	Grade	Tool dia.(mm)									
			200									
			9N									
			ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)					
Carbon steel (S50C, S55C) below 250HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	4	~150	220	1,600					
			150	4	~150	200	1,300					
			200	4	~150	180	1,000					
Tool & die steel (SKD61, SKD11) below 255HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	3	~150	220	1,400					
			150	3	~150	200	1,100					
			200	3	~150	180	800					
Mold steel (HPM7, PX5, P20) 30-36 HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC7560) [JC5040]	100	3	~150	220	1,400					
			150	3	~150	200	1,100					
			200	3	~150	180	800					
Mold steel (NAK80, HPM1, P21) 38-43HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	3	~150	200	1,100					
			150	3	~150	170	1,000					
			200	3	~150	130	600					
Hardened die steel (SKD61, DAC, DHA) 42-52HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	2	~100	140	500					
			150	2	~100	120	450					
			200	2	~100	100	280					
Grey cast iron (FC250) 160-260HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	5	~150	220	2,000					
			150	5	~150	200	1,800					
			200	5	~150	180	1,400					
Nodular cast iron (FCD700) 170-300HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	4	~150	180	1,350					
			150	4	~150	170	1,000					
			200	3	~150	150	800					
Austenitic stainless steel (SUS304, 316, 317) 17Cr	XDMT080620ZER (XDMT080620ZER) [XDMT080620ZER-ML]	JC8050 (JC7560) [JC7550]	100	4	~150	200	800					
			150	4	~150	160	650					
			200	3	~150	140	550					
Titanium alloy (Ti-6Al-4V) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC7550 (JC5040) [JC8118]	100	3	~120	100	180					
			150	3	~120	80	110					
			200	3	~120	60	80					
Heat resistant alloy (INCO718) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC8118 (JC8118) [JC8015]	100	2	~100	50	90					
			150	2	~100	40	60					
			200	2	~100	30	40					

Note
1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter ocurring, recommended to reduce ap or Vf.
3. Use air blow.
4. XDMW080635ZTR-S(JC8015) is recommended to cut cast steel with crusty and nonuniform suarface.

HEPTA MILL — HEP Type

■ Recommended cutting conditions

UNSTABLE CUTTING

Material	Insert	Grade	Tool dia.(mm)									
			50					63				
			3N					4N				
			ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)	ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)
Carbon steel (S50C, S55C) below 250HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	4	~35	750	1,800	100	4	~42	600	1,950
			150	3.5	~35	680	1,450	150	3.5	~42	550	1,500
			200	3	~35	600	1,100	200	3	~42	500	1,300
Tool & die steel (SKD61, SKD11) below 255HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	3	~35	750	1,600	100	3	~42	600	1,700
			150	2.5	~35	680	1,200	150	2.5	~42	550	1,350
			200	2.5	~35	600	900	200	2.5	~42	500	1,000
Mold steel (HPM7, PX5, P20) 30-36 HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC7560) [JC5040]	100	3	~35	750	1,600	100	3	~42	600	1,700
			150	2.5	~35	680	1,200	150	2.5	~42	550	1,350
			200	2.5	~35	600	900	200	2.5	~42	500	1,000
Mold steel (NAK80,HPM1,P21) 38-43HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	3	~35	550	1,100	100	3	~42	450	1,250
			150	2.5	~35	500	900	150	2.5	~42	400	1,000
			200	2.5	~35	400	600	200	2.5	~42	350	700
Hardened die steel (SKD61, DAC, DHA) 42-52HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	2	~25	450	450	100	2	~30	450	550
			150	1.5	~25	400	350	150	1.5	~30	400	500
			200	1.5	~25	350	250	200	1.5	~30	300	300
Grey cast iron (FC250) 160-260HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	5	~35	750	2,250	100	5	~42	600	2,400
			150	4	~35	680	2,000	150	4	~42	550	2,200
			200	3.5	~35	600	1,500	200	3.5	~42	500	1,700
Nodular cast iron (FCD700) 170-300HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	4	~35	650	1,400	100	4	~42	550	1,500
			150	3	~35	600	1,100	150	3	~42	500	1,200
			200	2.5	~35	500	750	200	2.5	~42	400	800
Austenitic stainless steel (SUS304, 316, 317) 17Cr	XDMT080620ZER (XDMT080620ZER) [XDMT080620ZER-ML]	JC8050 (JC7560) [JC7550]	100	4	~35	650	1,000	100	4	~42	500	1,000
			150	3.5	~35	550	800	150	3.5	~42	450	800
			200	3	~35	500	550	200	3	~42	400	650
Titanium alloy (Ti-6Al-4V) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC7550 (JC5040) [JC8118]	100	3	~30	300	200	100	3	~38	240	200
			150	2.5	~30	250	120	150	2.5	~38	200	120
			200	2.5	~30	200	100	200	2.5	~38	160	100
Heat resistant alloy (INCO718) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC8118 (JC8118) [JC8015]	100	2	~25	160	100	100	2	~30	120	100
			150	1.5	~25	130	65	150	1.5	~30	100	65
			200	1.5	~25	100	50	200	1.5	~30	80	50

Note
1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter ocurring, recommended to reduce ap or Vf.
3. Use air blow.
4. XDMW080635ZTR-S(JC8015) is recommended to cut cast steel with crusty and nonuniform suarface.

HEPTA MILL — HEP Type

■ Recommended cutting conditions

UNSTABLE CUTTING

Material	Insert	Grade	Tool dia.(mm)									
			80					100				
			5N					6N				
			ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)	ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)
Carbon steel (S50C, S55C) below 250HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	4	~55	450	1,800	100	4	~70	380	1,800
			150	4	~55	400	1,500	150	4	~70	350	1,400
			200	3.5	~55	380	1,200	200	3.5	~70	300	1,100
Tool & die steel (SKD61, SKD11) below 255HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	3	~55	450	1,700	100	3	~70	380	1,600
			150	3	~55	400	1,250	150	3	~70	350	1,250
			200	2.5	~55	380	900	200	2.5	~70	300	900
Mold steel (HPM7, PX5, P20) 30-36 HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC7560) [JC5040]	100	3	~55	450	1,700	100	3	~70	380	1,600
			150	3	~55	400	1,250	150	3	~70	350	1,250
			200	2.5	~55	380	900	200	2.5	~70	300	900
Mold steel (NAK80,HPM1,P21) 38-43HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	3	~55	350	1,150	100	3	~70	300	1,200
			150	3	~55	300	900	150	3	~70	250	900
			200	2.5	~55	250	700	200	2.5	~70	200	550
Hardened die steel (SKD61, DAC, DHA) 42-52HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	2	~40	350	550	100	2	~50	250	500
			150	2	~40	300	500	150	2	~50	200	400
			200	1.5	~40	250	320	200	1.5	~50	160	320
Grey cast iron (FC250) 160-260HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	5	~55	450	2,250	100	5	~70	380	2,250
			150	5	~55	400	1,900	150	5	~70	350	2,000
			200	4	~55	380	1,500	200	4	~70	300	1,700
Nodular cast iron (FCD700) 170-300HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	4	~55	400	1,350	100	4	~70	330	1,200
			150	4	~55	350	1,100	150	4	~70	300	900
			200	3	~55	300	800	200	3	~70	250	750
Austenitic stainless steel (SUS304, 316, 317) 17Cr	XDMT080620ZER (XDMT080620ZER) [XDMT080620ZER-ML]	JC8050 (JC7560) [JC7550]	100	4	~55	400	1,000	100	4	~70	300	900
			150	4	~55	350	700	150	4	~70	300	800
			200	3.5	~55	300	650	200	3.5	~70	250	600
Titanium alloy (Ti-6Al-4V) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC7550 (JC5040) [JC8118]	100	3	~50	200	200	100	3	~60	160	200
			150	3	~50	160	120	150	3	~60	130	120
			200	2.5	~50	130	100	200	2.5	~60	100	100
Heat resistant alloy (INCO718) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC8118 (JC8118) [JC8015]	100	2	~40	100	100	100	2	~50	80	100
			150	2	~40	80	60	150	2	~50	65	60
			200	1.5	~40	65	50	200	1.5	~50	60	50

Note
1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter ocurring, recommended to reduce ap or Vf.
3. Use air blow.
4. XDMW080635ZTR-S(JC8015) is recommended to cut cast steel with crusty and nonuniform suarface.

HEPTA MILL — HEP Type

■ Recommended cutting conditions

UNSTABLE CUTTING

Material	Insert	Grade	Tool dia.(mm)									
			125					160				
			7N					8N				
			ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)	ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)
Carbon steel (S50C, S55C) below 250HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	4	~90	300	1,700	100	4	~120	250	1,600
			150	4	~90	270	1,400	150	4	~120	220	1,200
			200	4	~90	250	1,100	200	4	~120	180	900
Tool & die steel (SKD61, SKD11) below 255HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	3	~90	300	1,400	100	3	~120	250	1,400
			150	3	~90	270	1,100	150	3	~120	220	1,000
			200	3	~90	250	900	200	3	~120	180	750
Mold steel (HPM7, PX5, P20) 30-36 HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC7560) [JC5040]	100	3	~90	300	1,400	100	3	~120	250	1,400
			150	3	~90	270	1,100	150	3	~120	220	1,000
			200	3	~90	250	900	200	3	~120	180	750
Mold steel (NAK80,HPM1,P21) 38-43HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	3	~90	250	1,150	100	3	~120	200	1,100
			150	3	~90	200	800	150	3	~120	150	800
			200	3	~90	150	550	200	3	~120	120	550
Hardened die steel (SKD61, DAC, DHA) 42-52HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	2	~60	200	450	100	2	~80	170	450
			150	2	~60	150	320	150	2	~80	150	400
			200	2	~60	125	200	200	2	~80	120	250
Grey cast iron (FC250) 160-260HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	5	~90	300	2,100	100	5	~120	250	2,000
			150	5	~90	270	1,850	150	5	~120	220	1,750
			200	5	~90	250	1,500	200	5	~120	180	1,450
Nodular cast iron (FCD700) 170-300HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	4	~90	250	1,100	100	4	~120	200	1,000
			150	4	~90	230	850	150	4	~120	170	800
			200	3	~90	200	700	200	4	~120	150	600
Austenitic stainless steel (SUS304, 316, 317) 17Cr	XDMT080620ZER (XDMT080620ZER) [XDMT080620ZER-ML]	JC8050 (JC7560) [JC7550]	100	4	~90	250	800	100	4	~120	200	700
			150	4	~90	200	650	150	4	~120	160	600
			200	3	~90	180	500	200	3	~120	150	500
Titanium alloy (Ti-6Al-4V) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC7550 (JC5040) [JC8118]	100	3	~75	130	180	100	3	~100	100	160
			150	3	~75	100	110	150	3	~100	80	100
			200	3	~75	80	80	200	3	~100	65	80
Heat resistant alloy (INCO718) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC8118 (JC8118) [JC8015]	100	2	~60	65	100	100	2	~80	50	80
			150	2	~60	50	60	150	2	~80	40	50
			200	2	~60	40	40	200	2	~80	30	40

Note
1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter ocurring, recommended to reduce ap or Vf.
3. Use air blow.
4. XDMW080635ZTR-S(JC8015) is recommended to cut cast steel with crusty and nonuniform suarface.

HEPTA MILL — HEP Type

■ Recommended cutting conditions

UNSTABLE CUTTING

Material	Insert	Grade	Tool dia.(mm)									
			200									
			9N									
			ℓ (mm)	ap (mm)	ae (mm)	n (min⁻¹)	Vf (mm/min)					
Carbon steel (S50C, S55C) below 250HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	4	~150	180	1,300					
			150	4	~150	170	1,100					
			200	4	~150	150	850					
Tool & die steel (SKD61, SKD11) below 255HB	XDMT080620ZER (XDMW080620ZTR) [XDMW080620ZTR]	JC7560 (JC5040) [JC7560]	100	3	~150	180	1,200					
			150	3	~150	170	900					
			200	3	~150	150	700					
Mold steel (HPM7, PX5, P20) 30-36 HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC7560) [JC5040]	100	3	~150	180	1,200					
			150	3	~150	170	900					
			200	3	~150	150	700					
Mold steel (NAK80,HPM1,P21) 38-43HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	3	~150	170	1,000					
			150	3	~150	150	800					
			200	3	~150	100	500					
Hardened die steel (SKD61, DAC, DHA) 42-52HRC	XDMT080620ZER (XDMT080620ZER) [XDMW080620ZTR]	JC8118 (JC8015) [JC8118]	100	2	~100	140	400					
			150	2	~100	120	350					
			200	2	~100	100	220					
Grey cast iron (FC250) 160-260HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	5	~150	180	1,600					
			150	5	~150	170	1,500					
			200	5	~150	150	1,200					
Nodular cast iron (FCD700) 170-300HB	XDMW080620ZTR (XDMW080620ZTR) [XDMW080620ZTR-S]	JC8015 (JC8118) [JC8015]	100	4	~150	160	900					
			150	4	~150	140	700					
			200	3	~150	120	500					
Austenitic stainless steel (SUS304, 316, 317) 17Cr	XDMT080620ZER (XDMT080620ZER) [XDMT080620ZER-ML]	JC8050 (JC7560) [JC7550]	100	4	~150	160	650					
			150	4	~150	130	500					
			200	3	~150	110	450					
Titanium alloy (Ti-6Al-4V) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC7550 (JC5040) [JC8118]	100	3	~120	80	150					
			150	3	~120	65	90					
			200	3	~120	50	65					
Heat resistant alloy (INCO718) 35-43HRC	XDMT080620ZER-ML (XDMT080620ZER) [XDMT080620ZER]	JC8118 (JC8118) [JC8015]	100	2	~100	40	70					
			150	2	~100	30	50					
			200	2	~100	25	30					

Note
1. Please adjust cutting conditions according to machine rigidity or work rigidity.
2. In case of chatter ocurring, recommended to reduce ap or Vf.
3. Use air blow.
4. XDMW080635ZTR-S(JC8015) is recommended to cut cast steel with crusty and nonuniform suarface.