PRODUCT NEWS

No. 548

DIJET®

NEW

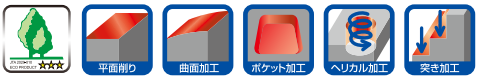
EXSKS SERIES

SERIES EXPANSION

05 type
- Facemill type φ40～φ63
- End Mill type φ20～φ32
- Modular type φ20～φ40

07 type
- Facemill type φ50～φ80
- End Mill type φ32～φ40
- Modular type φ32～φ42

09 type
- Facemill type φ50～φ160



NEW EXSKS-05type

EXSKS-07type

EXSKS-09type

DIJET® ダイジェット工業株式会社

Features

High-feed milling tools with double side inserts
which achieve ultimate high-feed machining

Features 1

Economical double-side insert (6 corners).

Features 2

Due to dovetail-shaped binding face, movement of inserts which occur by cutting force is prevented only single screw clamping.

Features 3

Application

使用分類記号 ISO	P 鋼					M ステンレス鋼					K 鋳鉄				H 高硬度材		
	P01	P10	P20	P30	P40	M01	M10	M20	M30	M40	K01	K10	K20	K30	H01	H10	H20
適用領域		JC8118	JC8050	JC7560				JC8050		JC7560		JC8118				JC8118	

Adopted 3 insert grades: PVD coated grade “JC7560” improved fracture toughness & heat impact resistance.
PVD coated grade “JC8118” achieved longer tool life for mold steel,
high hardened die steel less than 50HRC & cast iron. And new PVD coated grade “JC8050”, that adopted carbide substrate with improved fracture toughness & coating layer can be widely applied for carbon steel, mold steel, & stainless steel.

NEW

EXSKS-05 type

ϕ20~63

By adopting multi blade specification with small diameter, high-feed machining is possible

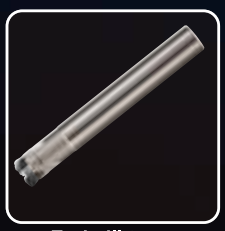
Endmill type

Modular head type

EXSKS-07 type

ϕ32~80

Adopted specifications
which achieved both insert strength and sharpness.
Stable high-feed machining is possible.



Endmill type

Modular head type

EXSKS-09 type

ϕ50~160

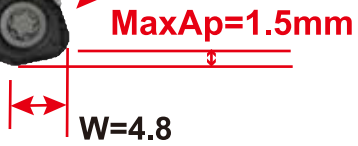
Lined up holders of big diameter.

High-feed machining with bigger depth of cut is possible by adopting high-rigid inserts with larger thickness

Insert Comparison

EXSKS-05

M3 size screw for firm clamping of inserts



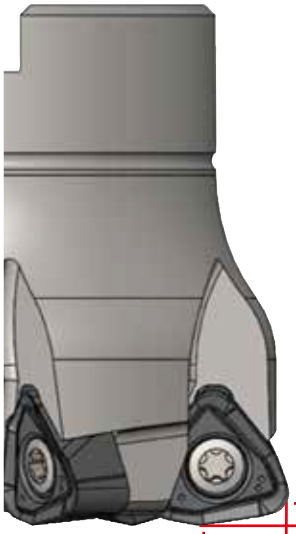
WNMU050320ZER-PM

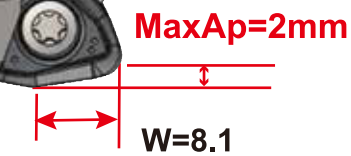
grade JC8050
JC8118

Optimal breaker for mold steel &
High hardened steel less than 50HRC

Coner radius for programming	Remains	Over cut
R2	0.59	0
R2.5	0.5	0
R3	0.41	0.13

EXSKS-07





WNMU070620ZER-PM

grade JC8050
JC8118

Optimal breaker for mold steel &
High hardened steel less than 50HRC

Coner radius for programming	Remains	Over cut
R3	0.80	0
R3.5	0.73	0.06
R4	0.66	0.21

EXSKS-09

WNMU090720ZER-PM

grade JC8050
JC8118
JC7560

MaxAp=3mm

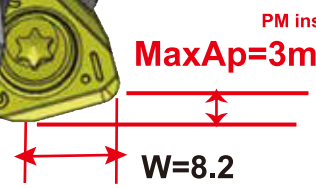
Suitable for face milling of ap=1.4mm or more
and shape machiningsuch as pocket machining.

WNMU090828ZER-PL

grade JC8050
JC8118

Suitable for machining shapessuch as pocket milling with ap = 0.6 mm to ap = 1.2 mm.
The composite shape of the straightand radius cutting edges reduces fluctuations
in cutting resistance during corner machining, realizing stable machining and extending tool life.

PM insert PL insert

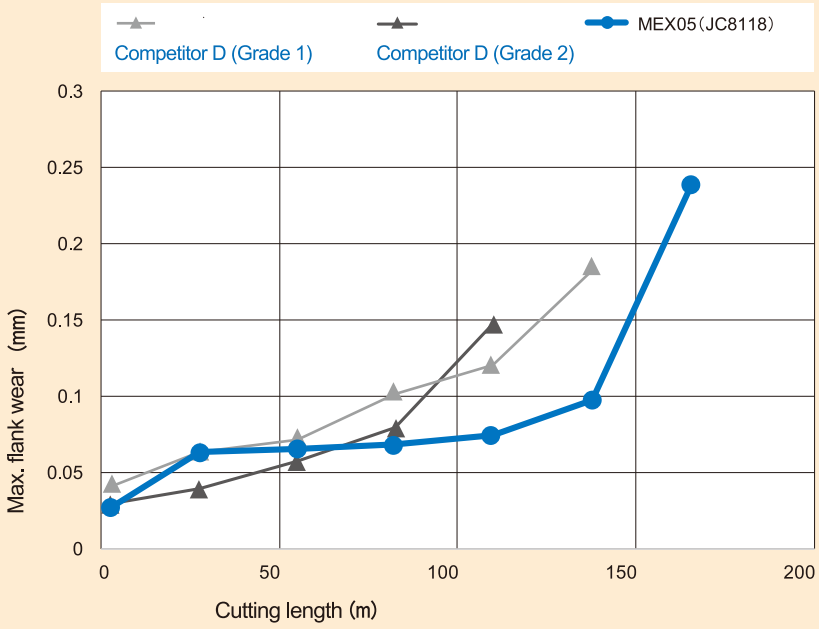


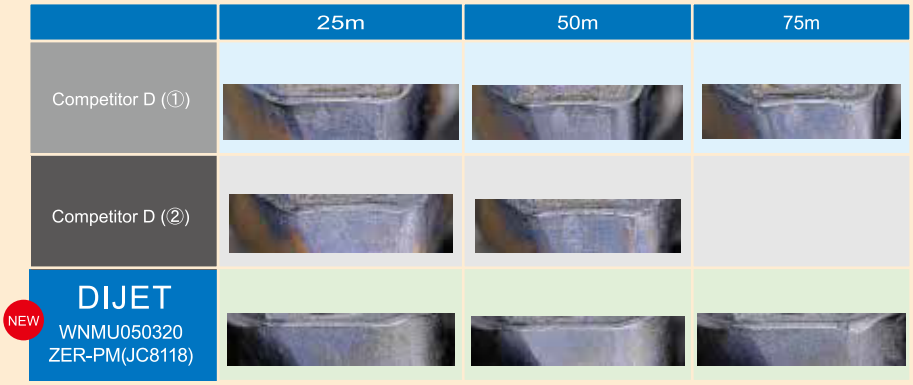
Coner radius for programming	Remains	Over cut
R3	1.41	0
R3.5	1.3	0
R4	1.19	0.025

Cutting performance

05 type

Tool life comparison





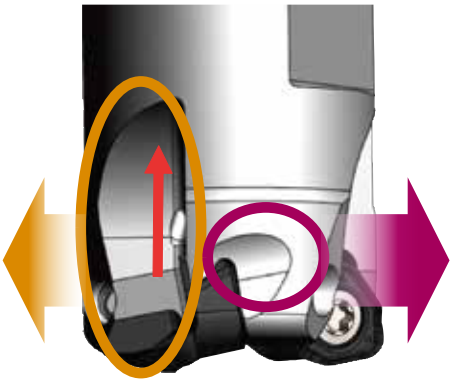
Material ： SUS420J2

- Tool dia.： ϕ25 (MEX-3025-05-M12)
- Insert grade ： JC8118
  WNMU050320ZER
- Cutting conditions:
  Vc=120m/min
  fz=1.5mm/t
  ap=0.8mm
  ae=14mm
- DOWN CUT, Air blow
- Test by one insert

EXSKS-05 type achieved small wear and long tool life in stainless steel high feed machining!

Chip removal performance

Large chip pocket achieved excellent chip removal



Peripheral groove prevented body rubbing!

Normal Indexable chip pocket

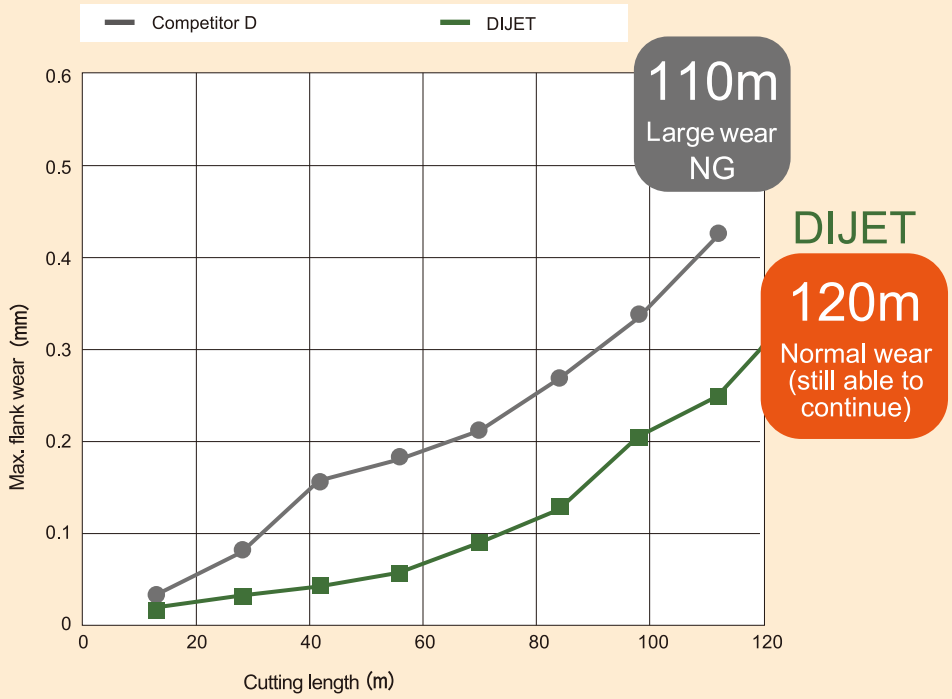
Peripheral groove 05 type

Not peripheral groove

Cutting performance

07 type

Tool life comparison



Material Mold steel (P20)

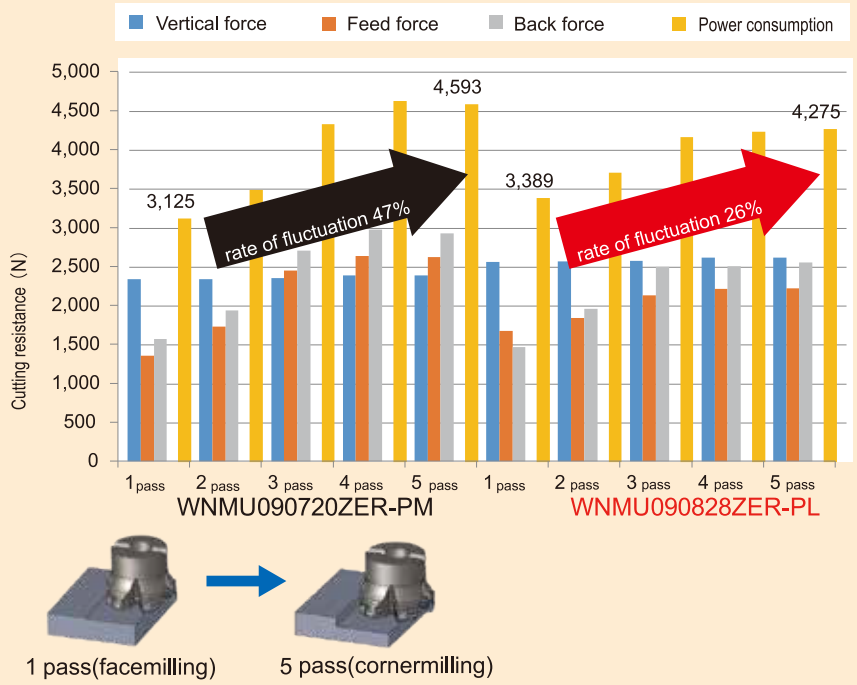
Machine Vertical MC

- Tool dia. : ϕ 32 (MEX-2032-07-M16)
- Cutting conditions:
  Vc=200m/min
  fz=1.5mm/t
  ap=1.5mm
  ae=22mm
- UP & DOWN CUT,
  Air blow
- Test by one insert

Possible to process with normal wear even in high feed milling.

09 type

Cutting force comparison



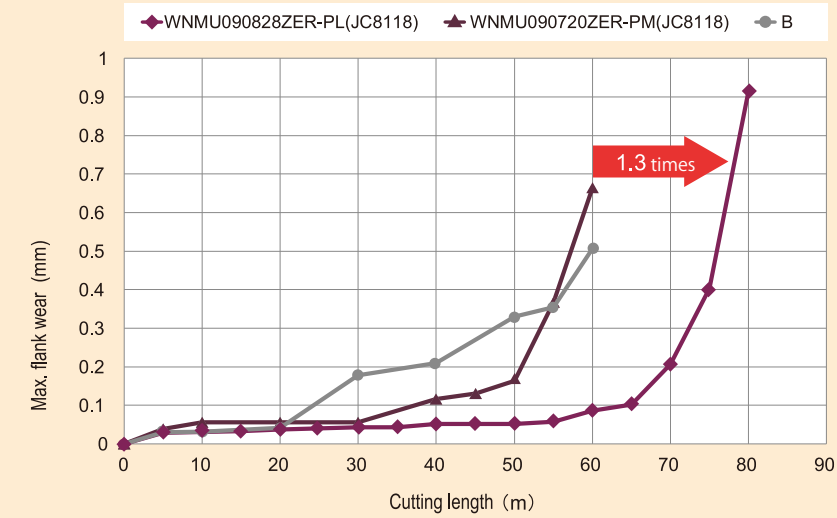
Material NAK80

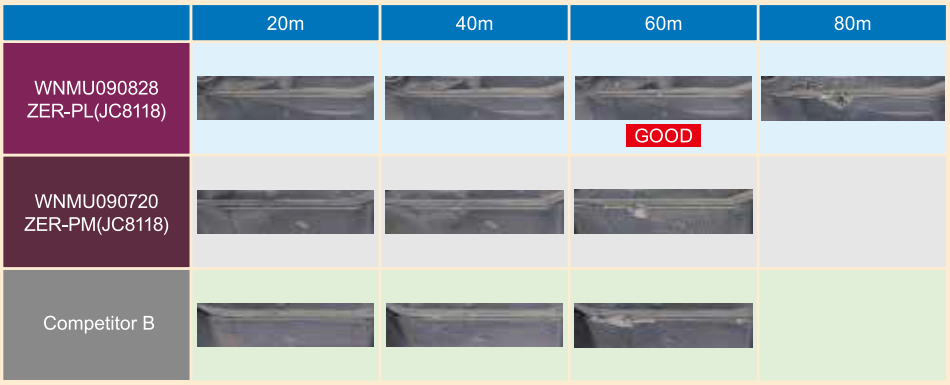
Tool dia. ϕ63

Cutting conditions:
n=450/min
Vc=90m/min
Vf=680mm/min
fz=1.5mm/t
ap=0.7mm×5
ae=45mm
down cut by one insert
Air blow(internal)
Overhung length 150mm

Steady machining is achieved by reducing the flucturation of cutting force

Tool life comparison





Material NAK80

Tool dia. ϕ63

Cutting conditions:
n=450/min
Vc=90m/min
Vf=680mm/min
fz=1.5mm/t
ap=0.7mm×10
ae=45mm
down cut by one insert
Air blow(internal)
Overhung length 150mm

Longer tool life is achieved by reducing the flucturation of cutting force.

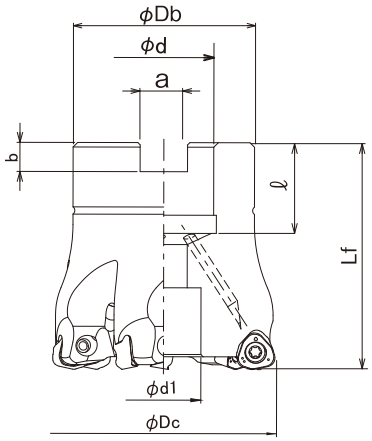
Line up

05 type

Facemill type

● Through coolant hole

G-Body



Body

Type	Cat. No.	Stock	No. of inserts	Dimensions (mm) ϕDc	Lf	ϕDb	ϕd	ϕd1	a	b	ℓ	Set bolt		(kg) Weight	inserts
Metric Bore	EXSKS-5040R-05-16	●	5	40	45	35	16	13.5	8.4	5.8	19	M8	Head cap screw (JIS Standard)	0.25	WNMU050320 ZER-PM
	EXSKS-7050R-05-22	●	7	50	50	40	22	16.5	10.4	6.3	20	M10		0.39	
	EXSKS-7052R-05-22	●	7	52	50	40	22	16.5	10.4	6.3	20	M10		0.41	
	EXSKS-8063R-05-22	●	8	63	50	48	22	17	10.4	6.3	20	M10		0.65	

● Standard stock items

Note)1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.
3. Please see page 27 for recommended Cutting conditions.

Parts	
Clamp screw	Wrench (not be included)
	
TSW-307H	A-10

Clamp screw	Recommended torque (N・m)
TSW-307H	2.1

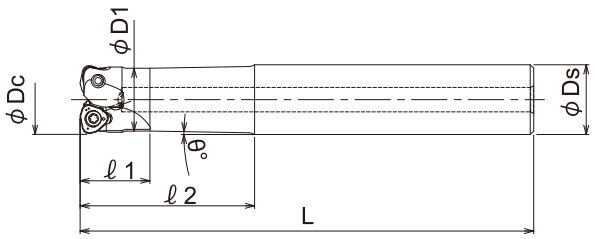
G-Body

Adopted GN surface-hardening treatment on thermal resistant high strength steel gives high hardness over 65HRC and secure insert pocket and holder against thermal deformation, improved body durability and tool life by 30% or more. Make it difficult to be damaged even under severe cutting conditions. Also rust-proof and anti-welding effect is much improved.

05 type

End Mill type

● Through coolant hole



Body

Cat. No.	Stock	No. of inserts	Dimensions (mm)							Parts		
			φDc	ℓ1	ℓ2	L	φD1	φDs	θ°	Inserts	Clamp screw	Wrench (not be included)
EXSKS-2020-05-50-S20	●	2	20	20	50	130	18	20	1	WNMU050320ZER-PM	TSW-307H	A-10
EXSKS-2020-05-80-S20	●	2	20	20	80	160	18	20	0.5			
EXSKS-2021-05-50-S20	●	2	21	20	50	130	18	20	1			
EXSKS-2021-05-80-S20	●	2	21	20	80	160	18	20	0.5			
EXSKS-3025-05-60-S25	●	3	25	25	60	140	23	25	1			
EXSKS-3025-05-100-S25	●	3	25	25	100	180	23	25	0.5			
EXSKS-3026-05-60-S25	●	3	26	25	60	140	23	25	1			
EXSKS-3026-05-100-S25	●	3	26	25	100	180	23	25	0.5			
EXSKS-4032-05-70-S32	●	4	32	30	70	150	29	32	1.5			
EXSKS-4032-05-120-S32	●	4	32	30	120	200	29	32	0.5			

● Standard stock items

Note) 1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.
3. Please see page 29 for recommended Cutting conditions.

Clamp screw	Recommended torque (N・m)
TSW-307H	2.1

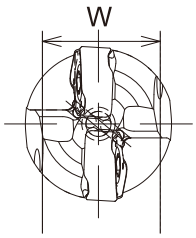
Line up

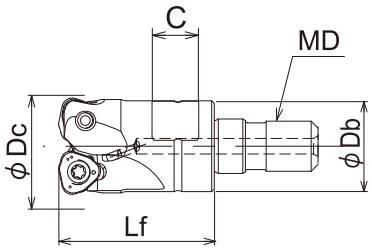
05 type

Modular head type

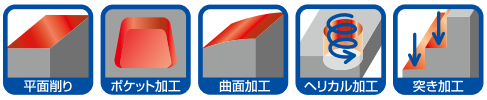
● Through coolant hole

G-Body





Body



Cat. No.	Stock	No. of inserts	Dimensions (mm) ϕDc	Lf	ϕDb	MD	C	W	inserts	Parts: Clamp screw	Parts: Wrench (not be included)
											
MEX-2020-05-M10	●	2	20	30	18	M10	9	14	WNMU050320ZER-PM	TSW-307H	A-10
MEX-2021-05-M10	●	2	21	30	18	M10	9	14			
MEX-3025-05-M12	●	3	25	35	23	M12	11	19			
MEX-3026-05-M12	●	3	26	35	23	M12	11	19			
MEX-3028-05-M12	●	3	28	28	23	M12	11	19			
MEX-4030-05-M16	●	4	30	43	27	M16	12	22			
MEX-4032-05-M16	●	4	32	43	29	M16	12	22			
MEX-4033-05-M16	●	4	33	43	29	M16	12	22			
MEX-4035-05-M16	●	4	35	43	29	M16	12	22			
MEX-5040-05-M16	●	5	40	43	32	M16	14	26			

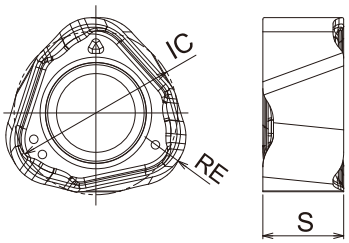
● Standard stock items

Note) 1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.
3. Please see page 18 for recommended tightening torque.
4. Please see page 31 for recommended Cutting conditions.

Clamp screw	Recommended torque (N・m)
TSW-307H	2.1

05 type

Insert

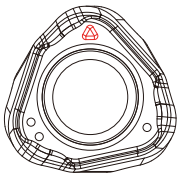


Cat. No.	Tolerance	PVD coated		Dimensions (mm)		
		JC8118	JC8050	RE	IC	S
WNMU050320ZER-PM	M	●	●	2	7.7	3.9

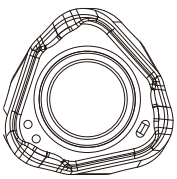
● Standard stock items

Note)1. 10 inserts per cace.

Each grade shows different mark around the hole for tool proof.



JC8050



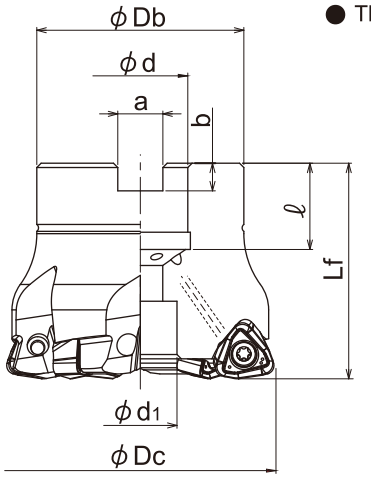
JC8118

Line up

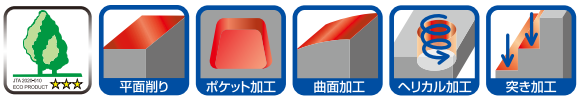
07 type

Facemill type

G-Body



● Through coolant hole



Body

Type	Cat. No.	Stock	No. of inserts	Dimensions (mm) ϕDc	Lf	ϕDb	ϕd	ϕd1	a	b	ℓ	Set bolt		(kg) Weight	inserts
Inch Bore	EXSKS-6063R-07	●	6	63	50	48	22.225	17	10.4	5	20	M10	Head cap screw (JIS Standard)	0.64	WNMU070620 ZER-PM
	EXSKS-7080R-07	●	7	80	70	65	31.75	26	12.7	8	32	M16X2.0X40★		1.43	
Metric Bore	EXSKS-5050R-07-22	●	5	50	50	40	22	16.5	10.4	6.3	20	M10		0.38	
	EXSKS-5052R-07-22	☆	5	52	50	40	22	16.5	10.4	6.3	20	M10		0.40	
	EXSKS-6063R-07-22	●	6	63	50	48	22	17	10.4	6.3	20	M10		0.64	
	EXSKS-7080R-07-27	●	7	80	55	65	27	20	12.4	7	22	M12X1.75X35★		1.23	

● Standard stock items ☆ Stock in Europe (14 days delivery upon ordering)

Note) 1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.
3. ★mark shows : these cutter bodies are equipped with the set bolt because of the specified bolt size. Except for these cutter bodies, please use the set bolt equipped with arbor.
4. The model number of EXM-HF will be changed to EXSKS-07 on April 19, 2023. (See below list.)
5. Please see page 33 for recommended Cutting conditions.

Parts	
Clamp screw	Wrench (not be induded)
	
TSW-410H	A-15T

Clamp screw	Recommended torque (N・m)
TSW-410H	3.5

07 type

End Mill type

● Through coolant hole

Fig.1 ● φDc＝φ32

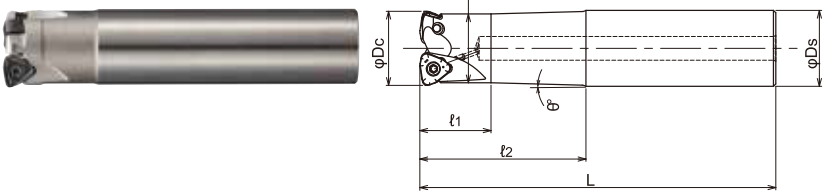
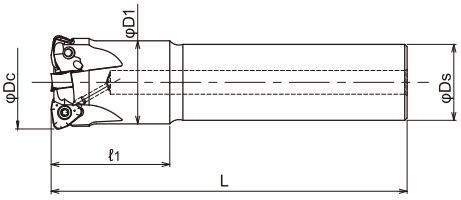
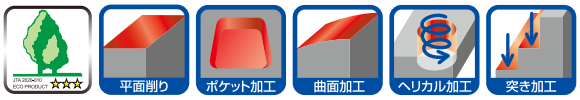


Fig.2 ● φDc＝φ35, 40



Body



Cat. No.	Stock	No. of inserts	Dimensions (mm)								Inserts	Parts	
			φDc	ℓ1	ℓ2	L	φD1	φDs	θ°	Fig.		Clamp screw	Wrench (not be included)
EXSKS-2032-07-70-S32	●	2	32	30	70	150	29	32	1.5°	1	WNMU070620ZER-PM	TSW-410H	A-15
EXSKS-2032-07-120-S32	●	2	32	30	120	200	29	32	0.6°	1			
EXSKS-3035-07-40-S32	●	3	35	40	-	150	31	32	-	2			
EXSKS-3035-07-40L-S32	●	3	35	40	-	200	31	32	-	2			
EXSKS-4040-07-50-S32	●	4	40	50	-	150	35	32	-	2			
EXSKS-4040-07-50L-S32	●	4	40	50	-	200	35	32	-	2			

● Standard stock items

Note) 1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.
3. The model number of EXM-HF will be changed to EXSKS-07 on April 19, 2023.
4. Please see page 35 for recommended Cutting conditions.

Clamp screw	Recommended torque (N・m)
TSW-410H	3.5

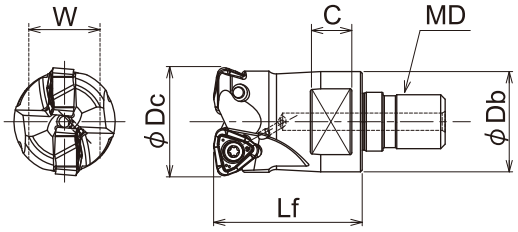
Line up

07 type

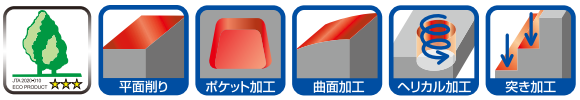
Modular head type

● Through coolant hole

G-Body



Body



Cat. No.	Stock	No. of inserts	Dimensions (mm)						inserts	Parts	
			φDc	Lf	φDb	MD	C	W		Clamp screw	Wrench (not be included)
											
MEX-2032-07-M16	●	2	32	43	29	M16	12	22	WNMU070620ZER-PM	TSW-410H	A-15
MEX-3035-07-M16	●	3	35	43	29	M16	12	22			
MEX-4040-07-M16	●	4	40	43	32	M16	14	26			
MEX-4042-07-M16	☆	4	42	43	32	M16	14	26			

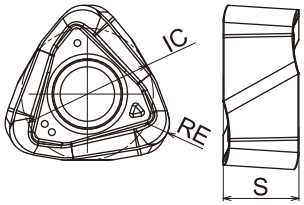
● Standard stock items ☆ Stock in Europe (14 days delivery upon ordering)

Note) 1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.
3. The model number of EXM-HF will be changed to EXSKS-07 on April 19, 2023.
4. Please see page 18 for recommended tightening torque.
5. Please see page 37 for recommended Cutting conditions.

Clamp screw	Recommended torque (N・m)
TSW-410H	3.5

07 type

Insert



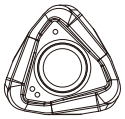
Cat. No.	Tolerance	PVD coated		Dimensions (mm)		
		JC8050	JC8118	RE	IC	S
WNMU070620ZER-PM	M	●	●	2	11.2	6.4

● Standard stock items

10 inserts per case.

Each grade shows different mark around the hole for tool proof.


JC8050


JC8118

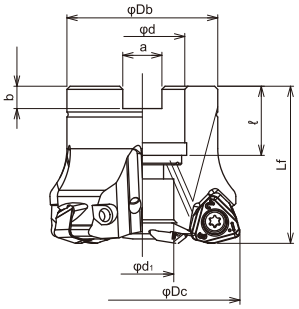
Line up

09 type

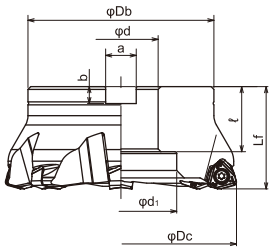
Facemill type

G-Body

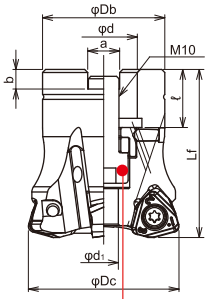
●Fig. 1
Through coolant hole



●Fig. 2
Without coolant hole



●Fig. 3
Through coolant hole



Set bolt built into the cutter body

Inch Bore

Type	Cat. No.	Stock	No. of inserts	Dimensions (mm) φDc	Lf	φDb	φd	φd1	a	b	ℓ	Set bolt		(kg) Weight	Fig.	Inserts
Inch Bore	EXSKS-3050R	●	3	50	55	40	22.225	9.6	8.4	5	19	M10×1.5×25★	Head cap screw (JIS standard)	0.4	3	WNMU090720 ZER-PM WNMU090828 ZER-PL
	EXSKS-4050R	●	4	50	55	40	22.225	9.6	8.4	5	19	M10×1.5×25★		0.4	3	
	EXSKS-4063R	●	4	63	50	48	22.225	17	8.4	5	20	M10		0.5	1	
	EXSKS-5063R	●	5	63	50	48	22.225	17	8.4	5	20	M10		0.5	1	
	EXSKS-6080R	●	6	80	70	65	31.75	26	12.7	8	32	M16		1.3	1	
	EXSKS-7100R	●	7	100	70	70	31.75	26	12.7	8	32	M16		2.0	1	
	EXSKS-8125R	●	8	125	70	100	38.1	32	15.9	10	35	M20×2.5×45★		3.9	1	
	EXSKS-9160R	●	9	160	63	100	50.8	75	19	11	43	M24	Clamp bolt	4.2	2	

● Standard stock items

Note) 1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.
3. Please see page 39 for recommended Cutting conditions.

Parts

Clamp screw	Wrench (not be included)
	
CSW-513H	A-20

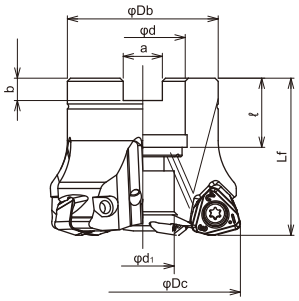
Clamp screw	Recommended torque (N・m)
CSW-513H	5.5

09 type

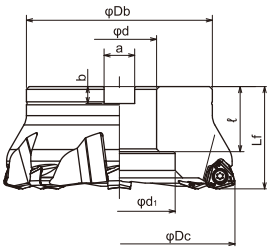
Facemill type

G-Body

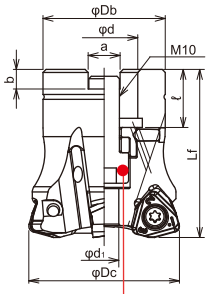
●Fig.1
Through coolant hole



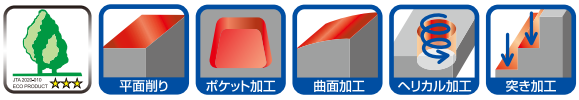
●Fig.2
Without coolant hole



●Fig.3
Through coolant hole



Set bolt built into the cutter body



Metric Bore

Type	Cat. No.	Stock	No. of inserts	Dimensions (mm) φDc	Lf	φDb	φd	φd1	a	b	ℓ	Set bolt		(kg) Weight	Fig.	Inserts
Metric Bore	EXSKS-3050R-22	●	3	50	55	40	22	9.6	10.4	6.3	19	M10×1.5×25★	Head cap screw (JIS standard)	0.4	3	WNMU090720 ZER-PM WNMU090828 ZER-PL
	EXSKS-4050R-22	●	4	50	55	40	22	9.6	10.4	6.3	19	M10×1.5×25★		0.3	3	
	EXSKS-4052R-22	☆	4	52	50	40	22	17	10.4	6.3	20	M10		0.4	1	
	EXSKS-4063R-22	●	4	63	50	48	22	17	10.4	6.3	20	M10		0.5	1	
	EXSKS-5063R-22	●	5	63	50	48	22	17	10.4	6.3	20	M10		0.5	1	
	EXSKS-5063R-27	●	5	63	50	48	27	20	12.4	7	22	M12×1.75×30★		0.5	1	
	EXSKS-5066R-27	☆	5	66	50	48	27	20	12.4	7	22	M12×1.75×30★		0.5	1	
	EXSKS-6080R-27	●	6	80	55	65	27	37	12.4	7	22	M12×1.75×40★		0.9	1	
	EXSKS-7100R-32	●	7	100	70	85	32	26	14.4	8	32	M16×2×45★		1.9	1	
	EXSKS-8125R-40	●	8	125	70	100	40	32	16.4	9	35	M20×2.5×45★		3.9	1	
	EXSKS-9160R-40	●	9	160	55	100	40	85	16.4	9	35	M20	Clamp bolt	3.9	2	

● Standard stock items ☆ Stock in Europe (14 days delivery upon ordering)

Note) 1. All cutters are supplied without inserts.
2. All cutters are supplied without wrench & MOLY.
3. ★mark shows : these cutter bodies are equipped with the set bolt because of the specified bolt size.
Except for these cutter bodies, please use the set bolt equipped with arbor.
4. Please see page 39 for recommended Cutting conditions.

Parts

Clamp screw	Wrench (not be included)
	
CSW-513H	A-20

Clamp screw	Recommended torque (N・m)
CSW-513H	5.5

Line up

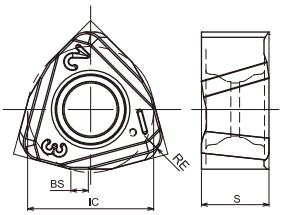
09 type

Insert

WNMU090720ZER-PM

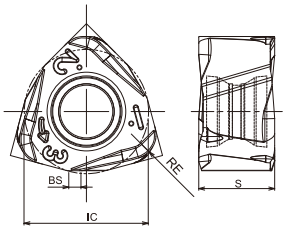
JC8050 , JC8118

JC7560



WNMU090828ZER-PL

JC8050 , JC8118



Cat. No.	Tolerance	PVD coated			Dimensions (mm)			
		JC8050	JC8118	JC7560	IC	S	BS	RE
WNMU090720ZER-PM	M	●	●	●	14	7.66	1.94	2
WNMU090828ZER-PL	M	●	●		13.91	8.66	1.37	2.8

● Standard stock items

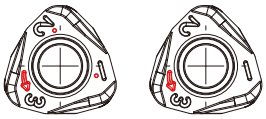
Note) 1. 10 inserts per cace.
2. When using PL inserts,tool dia.will be smaller the PM insert.In case dia. ϕ100 holder,tool dia.is 0.06mm smaller. in case dia. ϕ125 holder,tool dia.is 0.11mm smaller.in case dia. ϕ160 holder,tool dia.is 0.15mm smaller.

Each grade shows different mark around the hole for tool proof.

WNMU090720ZER-PM

JC8050 JC8118 JC7560

WNMU090828ZER-PL



JC8050 JC8118

Attention

⚠ Attention to mounting head and MSN/ MGN shank arbor.

■Tightening procedure

① Cleaning

Remove dirt and chips with air from the connecting thread and face of modular head and MSN/MGN shank arbor.

② Initial Tightening

Tighten by hand until the head and the shank arbor faces touch.

③ Final Tightening

Tighten slowly with torque control spanner wrench or DIJET DS type spanner wrench and confirm that there is no gap.

Attention : Final tightening without initial tightening cause connecting thread damage.

⚠ NOTE

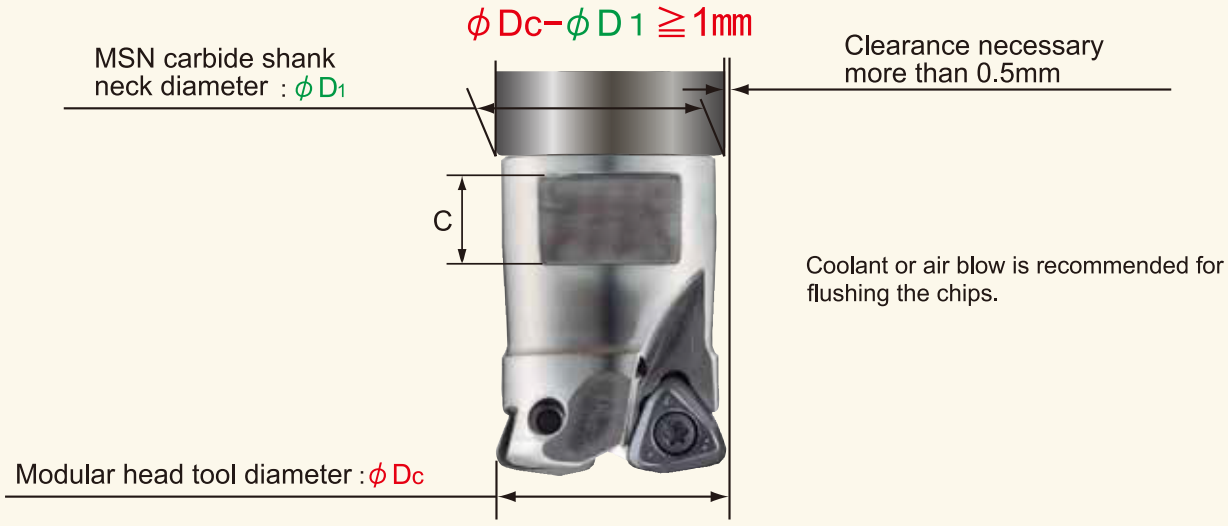
1. Only use the torque control spanner wrench or DIJET DS type spanner wrench.
2. Please gently apply pressure on wrench.
3. Please confirm that there is no gap between MSN/MGN shank arbor and modular

Thread	Tightening torque	Spanner size W(mm)
M6	8.0N・m	8☆, 10
M8	16N・m	12☆
M10	16N・m	14, 15
M12	20N・m	17, 19
M16	25N・m	22, 26

Note) 1. Modular heads are supplied without spanner wrench.
2. In case of choosing torque control spanner wrench,confirm that the wrench size is match to the dimensions W & C of each modular head.
(There are some cases that modifying the thickness of spanner wrench is necessary)
3. ☆ mark shows: DIJET have a stock of DS-8 and 12 type spanner wrenches.

⚠ Selection of "MSN Carbide shank arbor"

In case of using modular head overφ 16mm, please select MSN carbide shank that diameter (ϕD1) is 1mm or more smaller than modular head (ϕDc). A wrong selection causes damage to the carbide shank.



⚠ Caution for the mounting to shrink fit arbor.

When you use a carbide shank and a modular head on the shrink fit holder,please shring fit the only carbide shank without mounting a modular head. Please mouunt a modular head after shrinking fit operation.

Note)in case of shrink fit MSN shank+modular head together,it will be difficult to loose due to heat desipation.

MSN Carbide shank arbor

■ End mill shank type

● Through coolant hole ● For high productivity

Fig.1

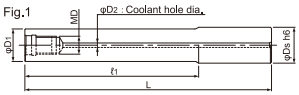
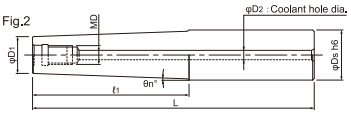


Fig.2



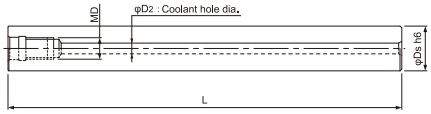
Cat. No.	Stock	Dimensions (mm) φDs	ℓ1	L	φD1	θn°	MD	φD2	(kg) Weight	Fig.
MSN-M10-20-S20C	●	20	20	80	19.5	–	M10	4	0.29	1
MSN-M10-40-S20C	●	20	40	100	19.5	–			0.39	1
MSN-M10-40T-S20C	●	20	40	100	18.5	0°43′			0.39	2
MSN-M10-70-S20C	●	20	70	130	19.5	–			0.50	1
MSN-M10-85T-S25C	●	25	85	161	18.5	2°			0.90	2
MSN-M10-90-S20C	●	20	90	150	19.5	–			0.60	1
MSN-M10-90T-S20C	●	20	90	150	18.5	0°19′			0.58	2
MSN-M10-140-S20C	●	20	140	200	19.5	–			0.80	1
MSN-M10-140T-S20C	●	20	140	200	18.5	0°12′			0.77	2
MSN-M10-160-S20C	●	20	160	220	19.5	–			0.87	1
MSN-M10-210-S20C	●	20	210	270	19.5	–			1,07	1
MSN-M12-25-S25C	●	25	25	90	24	–	M12	6	0.53	1
MSN-M12-55-S25C	●	25	55	120	24	–			0.72	1
MSN-M12-100T-S32C	●	32	100	180	23.5	2°			1.61	2
MSN-M12-105-S25C	●	25	105	170	24	–			1.03	1
MSN-M12-135-S25C	●	25	135	215	24	–			1.30	1
MSN-M12-155-S25C	●	25	155	220	24	–			1.34	1
MSN-M12-200-S25C	●	25	200	265	24	–			1.58	1
MSN-M16-25-S32C	●	32	25	90	29	–	M16	8	0.85	1
MSN-M16-55-S32C	●	32	55	120	29	–			1.13	1
MSN-M16-77-S32C	●	32	77	157	29	–			1.47	1
MSN-M16-97-S32C	●	32	97	177	29	–			1.64	1
MSN-M16-105-S32C	●	32	105	170	29	–			1.59	1
MSN-M16-117T-S32C	●	32	117	197	29	0°38′			1.88	2
MSN-M16-127-S32C	●	32	127	207	29	–			1.89	1
MSN-M16-127T-S32C	●	32	127	207	29	0°30′			2.23	2
MSN-M16-155-S32C	●	32	155	220	29	–			2.04	1
MSN-M16-177-S32C	●	32	177	257	29	–			2.32	1
MSN-M16-177T-S32C	●	32	177	257	29	0°23′			2.78	2
MSN-M16-195-S32C	●	32	195	260	29	–			2.40	1
MSN-M16-197T-S32C	●	32	197	277	29	0°23′			3.00	2
MSN-M16-225-S32C	●	32	225	290	29	–			2.57	1
MSN-M16-245-S32C	●	32	245	310	29	–			2.74	1
MSN-M16-295-S32C	●	32	295	360	29	–			3.17	1

● : Standard stock items

Note) Please see page 18 for recommended tightening torque.

■ Straight arbor type

● Through coolant hole ● For high productivity



形番 Cat. No.	在庫 Stock	寸法 (mm) Dimensions φDs	L	MD	φD2	重量(kg) Weight
MSN-M10-130S-S18C	●	18	130	M10	4	0.42
MSN-M10-190S-S18C	●		190			0.62
MSN-M10-240S-S18C	●		240			0.89
MSN-M10-130S-S20C	●	20	130	M10	4	0.53
MSN-M10-190S-S20C	●		190			0.78
MSN-M10-250S-S20C	●		250			1.02
MSN-M12-185S-S23C	●	23	185	M12	6	0.98
MSN-M12-265S-S23C	●		265			1.42
MSN-M12-185S-S24C	●	24	185	M12	6	1.07
MSN-M12-265S-S24C	●		265			1.54
MSN-M12-145S-S25C	●	25	145	M12	6	0.91
MSN-M12-215S-S25C	●		215			1.36
MSN-M12-285S-S25C	●		285			1.80
MSN-M16-160S-S28C	●	28	160	M16	8	1.22
MSN-M16-230S-S28C	●		230			1.77
MSN-M16-310S-S28C	●		310			2.41
MSN-M16-157S-S32C	●	32	157	M16	8	1.61
MSN-M16-217S-S32C	●		217			2.22
MSN-M16-287S-S32C	●		287			2.94
MSN-M16-357S-S32C	●		357			3.66

● : Standard stock items

Note) Please see page 18 for recommended tightening torque.

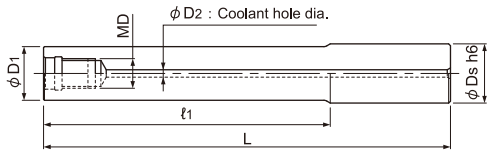
Please scan the following QR code for the other arbor (MSA type integrated carbide shank).

MGN G-Body steel shank arbor

●Adopted ultra-rigid and improved body durability "G-Body".
●Short type
●Cost-effective and high strength steel shank arbor.

■ End mill shank type
• Through coolant hole

G-Body



Cat. No.	Stock	Dimensions (mm)						(kg) Weight
		ϕDs	ℓ1	L	ϕD1	MD	ϕD2	
MGN-M10-30-S20	●	20	30	100	19	M10	4	0.21
MGN-M12-35-S25	●	25	35	105	24	M12	4	0.36
MGN-M12-85-S25	●	25	85	165	24	M12	4	0.57
MGN-M16-37-S32	●	32	37	107	29	M16	6	0.56
MGN-M16-77-S32	●	32	77	157	29	M16	6	0.83

● : Standard stock items

Note) 1. In case of using modular head combined with MGN steel shank arbor, apply the recommended cutting conditions sheet (see page 31~32 05 type/ page 37~38 07 type).
2. Please see page 18 for recommended tightening torque.

Cutting data

05 type

1.Machining on Carbon steel

Result

Possible to process with normal wear even in pocket milling.

Work	Part name		Test piece
	Material		Carbon steel (1018)
	Hardness		–
Tool	Tool No.		MEX-3025-05-M12
	Insert No.		WNMU050320ZER-PM(JC8118)
Cutting conditions	Cutting speed	n	2000 (min^{-1})
		Vc	157 (m/min)
	Feed speed	Vf	5,600 (mm/min)
		fz	0.93 (mm/t)
	ap		0.762 (mm)
	ae		15.24 (mm)
	Coolant		Air(external)
	Machine		Vertical MC

5099

2.Machining on Stainless steel

Overhung length : 152.4mm

Result

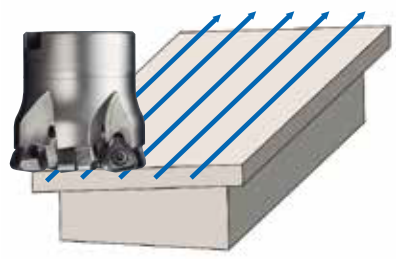
Stainless steel can be machined in 60 minutes.
Even the overhung length (L/D=6), it can be machined smoothly.

Work	Part name		Parts
	Material		Stainless steel (SUS630)
	Hardness		–
Tool	Tool No.		MEX-3025-05-M12
	Insert No.		WNMU050320ZER-PM(JC8118)
Cutting conditions	Cutting speed	n	1,719 (min^{-1})
		Vc	137 (m/min)
	Feed speed	Vf	6,985 (mm/min)
		fz	1.35 (mm/t)
	ap		0.762 (mm)
	ae		12.7 (mm)
	Coolant		Air(external)
	Machine		Vertical MC

5102

07 type

1. Roughing slope surface



Result

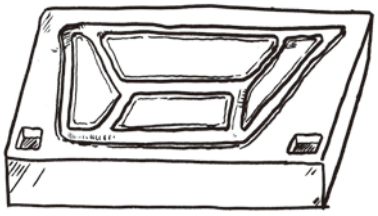
After 427m, still able to continue. Compared with Competitor F, tool cost can be reduced, due to increase number of insert corner (from 4 to 6 corners) .

Work	Part name		Large welding jig
	Material		SS400 Steel for structure
	Hardness		–
Tool	Tool No.		EXSKS-5050R-07-22
	Insert No.		WNMU070620ZER-PM (JC8050)
Cutting conditions	Cutting speed	n	800 (min^{-1})
		Vc	125 (m/min)
	Feed speed	Vf	6,000 (mm/min)
		fz	1.5 (mm/t)
	ap		1.5 (mm)
	ae		35 (mm)
	Coolant		External
	Machine		Vertical MC

4137

2. Helical interpolation (roughing)

Overhung length : 150mm



Result

After 1.5 hours, EXM showed normal wear (still able to continue). No chatter even in case of twice the feed speed (Vf) of competitor F.

Work	Part name		Press die for automoble
	Material		Die steel
	Hardness		30HRC
Tool	Tool No.		EXSKS-5050R-07-22
	Insert No.		WNMU070602ZER-PM (JC8118)
Cutting conditions	Cutting speed	n	850 (min^{-1})
		Vc	133 (m/min)
	Feed speed	Vf	2,400 (mm/min)
		fz	0.56 (mm/t)
	ap		1.0 (mm)
	ae		72 (mm)
	Coolant		Air (External)
	Machine		Double-column MC

4392

3. Helical interpolation (roughing)

Result

After 5 hours, EXM showed normal wear (still able to continue). Achieved 2.5 times longer tool life per corner compared with competitor A.
(Machining time(EXM): 5 hour per corner)

Work	Part name		Die casting mold
	Material		Mold steel (1.2311)
	Hardness		30HRC
Tool	Tool No.		EXSKS-5050R-07-22
	Insert No.		WNMU070602ZER-PM (JC8118)
Cutting conditions	Cutting speed	n	850 (min^{-1})
		Vc	133 (m/min)
	Feed speed	Vf	4,000 (mm/min)
		fz	0.94 (mm/t)
	ap		1.0 (mm)
	ae		30 (mm)
	Coolant		Air (External)
	Machine		Vertical MC

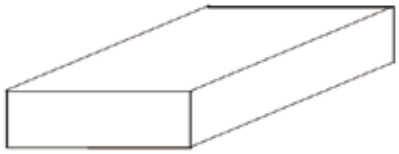
4342

Cutting data

09 type

①High feed machining of high hardened die steel

Surface roughing



150x300x500mm

gauge length : 170mm

Result

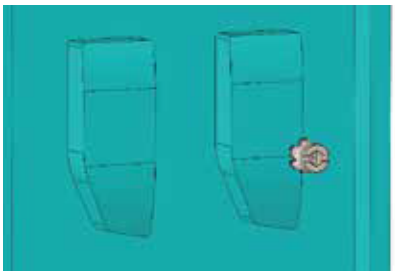
Achieved 2.4times better efficiency compare with our conventional tool .

Work	Part name		Plate
	Material		DAC-H
	Hardness		40HRC
Tool	Tool No.		EXSKS-7100R
	Insert No.		WNMU090720ZER-PM（JC8118）
Cutting conditions	Cutting speed	n	250 （min^{-1}）
		Vc	80 （m/min）
	Feed speed	Vf	1,400 （mm/min）
		fz	0.8 （mm/t）
	ap		0.7 （mm）
	ae		70 （mm）
	Coolant		Air(external)
	Machine		Double colmun type MC (BT50) 22KW

3552

② High feed milling of mold steel

Roughing of shape



Overhung length : 180mm

Result

1.5times longer tool life compare with competitor A. Both cutting noise and cutting force are reduced.

Work	Part name		Lamp mold(Nest)
	Material		NAK80
	Hardness		–
Tool	Tool No.		EXSKS-6080R
	Insert No.		WNMU090828ZER-PL（JC8118）
Cutting conditions	Cutting speed	n	600 （min^{-1}）
		Vc	150 （m/min）
	Feed speed	Vf	3,600 （mm/min）
		fz	1.0 （mm/t）
	ap		1 （mm）
	ae		56 （mm）
	Coolant		Air(internal)
	Machine		Horizontal MC (BT50)

4747

③ High feed milling of plastic mold

Roughing of shape

Overhung length : 200mm

Result

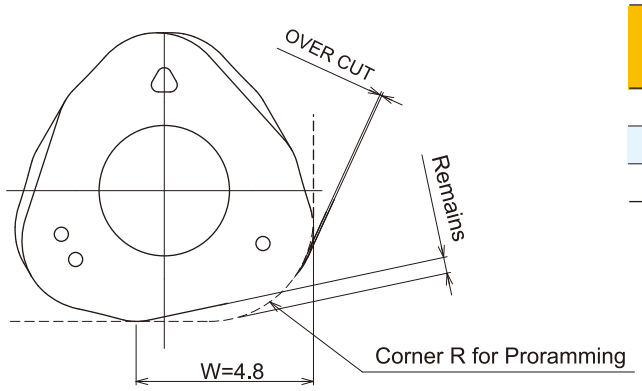
Achieved same efficiency against competitor F even the number of teeth is 5 (1 pcs less). Tool cost is deducted by increasing cutting edges.

Work	Part name		Automotive exterior parts molds
	Material		S55C
	Hardness		–
Tool	Tool No.		EXSKS-5063R
	Insert No.		WNMU090828ZER-PL（JC8050）
Cutting conditions	Cutting speed	n	580 （min^{-1}）
		Vc	115 （m/min）
	Feed speed	Vf	4,640 （mm/min）
		fz	1.6 （mm/t）
	ap		1.2 （mm）
	ae		44 （mm）
	Coolant		Water(external)
	Machine		Vertical MC (BT50)

3603

05 type

Definition of corner shape for programming(in case of using 05 type)

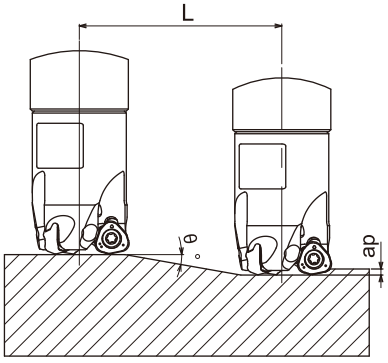


Corner radious for programming	Remains	Over cut
R2.0	0.59	0
R2.5(standard)	0.5	0
R3.0	0.41	0.13

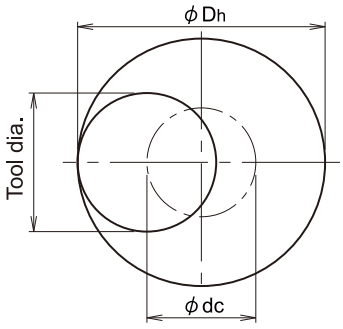
(mm)

Attention for profile milling

Ramping



Helical interpolation



- 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 ap.
- Down cutting is recommended, so tool pass rotation should be counterclockwise.
- To obtain a flat bottom surface when helical milling, it requires to remove “the uncut part” in the center of the work material at a final pass.

◎ In case of ramping and helical interpolation, apply 70% or less feed speed from standard cutting condition table.

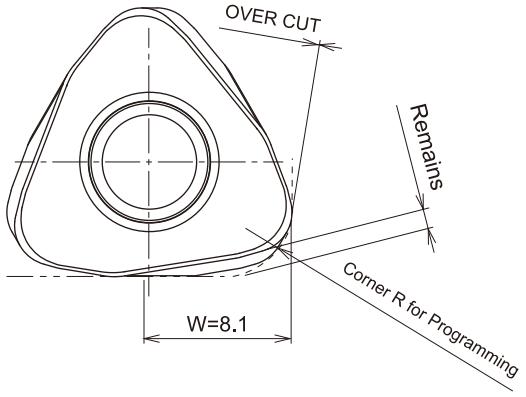
◎ In case of drilling,apply 50% or less Z axis feed speed from standard cutting condition table.

◎ Long consecutive chips may come out in case of drilling ,confirm the safe condition suffciently.

Cat. No.	Tool dia. (mm)	Eff. Cutting dia. (mm)	Max. depth of cut (mm) a_p	Ramping		Helical interpolation			Z (mm) Max. drilling depth
				Max. ramping angle θ°	Total cutting length at Max. a_p	Min. bore dia. Dh min (mm)	Dh min (mm)	Max. bore dia. Dh max (mm)	
EXSKS-*020/MEX-*020	20	10	1.5	2.8	31	28	31	36	0.4
EXSKS-*021/MEX-*021	21	11	1.5	2.6	34	30	33	38	0.4
EXSKS-*025/MEX-*025	25	15	1.5	1.8	48	38	41	46	0.4
EXSKS-*026/MEX-*026	26	16	1.5	1.7	51	40	43	48	0.4
EXSKS-*028/MEX-*028	28	18	1.5	1.5	58	44	47	52	0.4
MEX-*030	30	20	1.5	1.3	67	48	51	56	0.4
EXSKS-*032/MEX-*032	32	22	1.5	1.2	72	52	55	60	0.4
MEX-*033	33	23	1.5	1.1	79	54	57	62	0.4
MEX-*035	35	25	1.5	1	86	58	61	66	0.4
EXSKS-*040/MEX-*040	40	30	1.5	0.8	108	68	71	76	0.4
EXSKS-*050	50	40	1.5	0.6	144	88	91	96	0.4
EXSKS-*052	52	42	1.5	0.6	144	92	95	100	0.4
EXSKS-*063	63	53	1.5	0.5	172	114	117	122	0.4

07 type

Definition of corner shape for programming(in case of using 07 type)

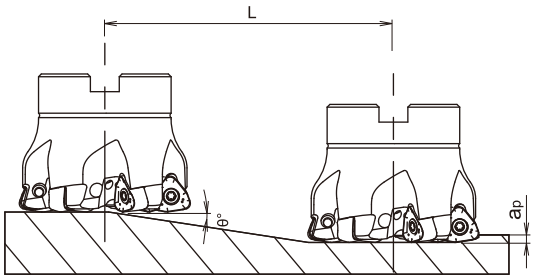


Corner radius for programming	Remains	Over cut
R3.0（Standard）	0.8	0
R3.5	0.73	0.06
R4.0	0.66	0.21

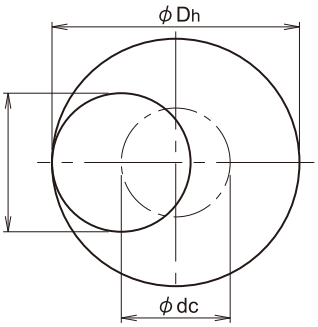
(mm)

Attention for profile milling

Ramping



Helical interpolation



- 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 ap.
- Down cutting is recommended, so tool pass rotation should be counterclockwise.
- To obtain a flat bottom surface when helical milling, it requires to remove “the uncut part” in the center of the work material at a final pass.

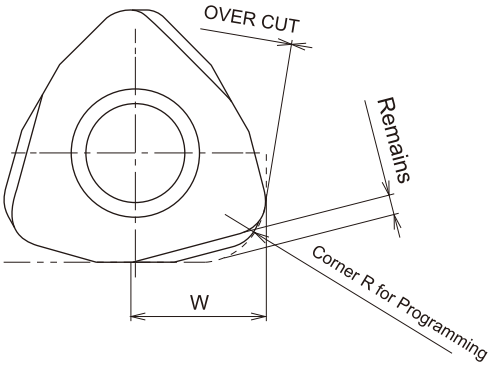
◎ In case of ramping and helical interpolation, apply 70% or less feed speed from standard cutting condition table.

◎ In case of drilling,apply 50% or less Z axis feed speed from standard cutting condition table.

◎ Long consecutive chips may come out in case of drilling ,confirm the safe condition suffciently.

Cat. No.	Tool dia. (mm)	Eff. Cutting dia. (mm)	Max. depth of cut (mm) a_p	Ramping		Helical interpolation			Z（mm） Max. drilling depth
				Max. ramping angle θ°	Total cutting length at Max. a_p	Min. bore dia. Dh min (mm)	Dh min (mm)	Max. bore dia. Dh max (mm)	
EXSKS-*032/MEX-*032	32	15	2	2.2	53	41	48	60	0.5
EXSKS-*035/MEX-*035	35	18	2	2.1	55	47	54	66	0.5
EXSKS-*040/MEX-*040	40	23	2	2	58	57	64	76	0.5
MEX-*042	42	25	2	1.8	64	61	68	80	0.5
EXSKS-*050	50	33	2	1.5	77	77	84	96	0.5
EXSKS-*052	52	35	2	1.2	96	81	88	100	0.5
EXSKS-*063	63	46	2	1	115	103	110	122	0.5
EXSKS-*080	80	63	2	0.8	144	137	144	156	0.5

Definition of corner shape for programming(in case of using 09 type)

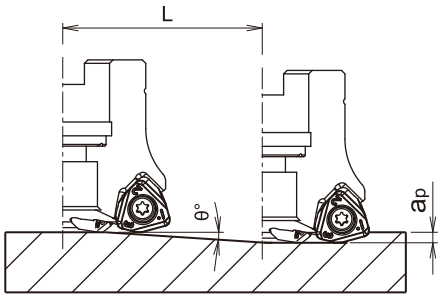


Insert	W	Corner radius for programming	Remains	Over cut
WNMU090720ZER-PM	8.2	R3.0	1.41	0
		R3.5	1.30	0
		R4.0	1.19	0.025

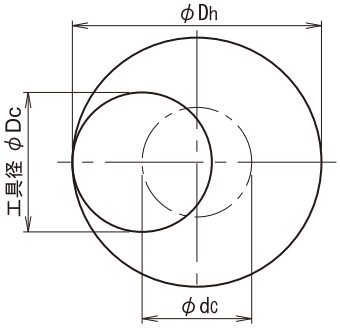
Insert	W	Corner radius for programming	Remains	Over cut
WNMU090828ZER-PL	8.4	R3.0	1.18	0
		R3.5	1.06	0
		R4.0	0.95	0.010

Attention for profile milling

Ramping



Helical interpolation



- 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 ap.
- Down cutting is recommended, so tool pass rotation should be counterclockwise.
- To obtain a flat bottom surface when helical milling, it requires to remove “the uncut part” in the center of the work material at a final pass.

◎ In case of ramping and helical interpolation, apply 70% or less feed speed from standard cutting condition table.
◎ In case of drilling,apply 50% or less Z axis feed speed from standard cutting condition table.
◎ Long consecutive chips may come out in case of drilling ,confirm the safe condition suffciently.

WNMU090720ZER-PM

Cat. No.	Tool dia. (mm)	Eff. Cutting dia. (mm)	Max. depth of cut (mm)	Ramping		Helical interpolation			Z (mm) Max. drilling depth
				Max. ramping angle θ°	Total cutting length at Max. ap	Min. bore dia. Dh min (mm)	Dh min (mm)	Max. bore dia. Dh max (mm)	
EXSKS-*050	50	33	3	2.5	69	73	81	96	1.1
EXSKS-*052	52	35	3	2.4	72	77	85	100	1.2
EXSKS-*063	63	46	3	1.8	96	99	107	122	1.2
EXSKS-*066	66	49	3	1.7	102	105	113	128	1.2
EXSKS-*080	80	63	3	1.3	133	133	141	156	1.3
EXSKS-*100	100	83	3	1	172	173	181	196	1.3
EXSKS-*125	125	108	3	0.9	191	223	231	246	1.3
EXSKS-*160	160	143	3	0.7	246	293	301	316	1.7

WNMU090828ZER-PL

Cat. No.	Tool dia. (mm)	Eff. Cutting dia. (mm)	Max. depth of cut (mm) ap	Ramping		Helical interpolation			Z (mm) Max. drilling depth
				Max. ramping angle θ°	Total cutting length at Max. ap	Min. bore dia. Dh min (mm)	Dh min (mm)	Max. bore dia. Dh max (mm)	
EXSKS-*050	50	33	2	2.3	50	74	82	96	1
EXSKS-*052	52	35	2	2.2	53	78	86	100	1
EXSKS-*063	63	46	2	1.8	64	100	108	122	1.2
EXSKS-*066	66	49	2	1.7	68	106	114	128	1.2
EXSKS-*080	80	63	2	1.3	89	134	142	156	1.3
EXSKS-*100	99.94	83	2	1	115	174	182	195	1.3
EXSKS-*125	124.89	108	2	0.9	128	224	232	245	1.4
EXSKS-*160	159.85	142	2	0.7	164	294	302	315	1.6

Recommended cutting conditions

05 type

Facemill type (EXSKS-05 type)

Work materials	Grades	Tool dia. (mm)									
		40					50/52				
		No. of teeth 5N					No. of teeth 7N				
		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 (C50,C55) Below 250HB	JC8050 (JC8118)	~150	1	~28	1,270	7,620	~150	1	~38	1,020	8,570
		200	0.8	~28	1,270	6,990	200	0.8	~38	1,020	7,850
		250	0.6	~28	1,110	5,550	250	0.6	~38	890	6,230
		300	-	-	-	-	300	0.5	~38	830	4,650
		350	-	-	-	-	350	-	-	-	-
Die steel (1.2344, 1.2379) Below 255HB	JC8050 (JC8118)	~150	1	~28	1,190	7,140	~150	1	~38	950	7,980
		200	0.8	~28	1,190	6,550	200	0.8	~38	950	7,320
		250	0.6	~28	1,030	5,150	250	0.6	~38	830	5,810
		300	-	-	-	-	300	0.5	~38	760	4,260
		350	-	-	-	-	350	-	-	-	-
Mold steel (1.2311, P20) 30~36HRC	JC8118 (JC8050)	~150	1	~28	1,190	7,140	~150	1	~38	950	7,980
		200	0.8	~28	1,190	6,550	200	0.8	~38	950	7,320
		250	0.6	~28	1,030	5,150	250	0.6	~38	830	5,810
		300	-	-	-	-	300	0.5	~38	760	4,260
		350	-	-	-	-	350	-	-	-	-
Mold steel (1.2311, P21) 38~43HRC	JC8118 (JC8050)	~150	0.8	~28	880	4,400	~150	0.8	~38	700	4,900
		200	0.6	~28	880	3,520	200	0.6	~38	700	3,920
		250	0.5	~28	720	2,880	250	0.5	~38	570	3,190
		300	-	-	-	-	300	0.4	~38	510	2,860
		350	-	-	-	-	350	-	-	-	-
Hardened die steel (1.2344, 1.2379) 42~52HRC	JC8118	~150	0.7	~28	720	2,880	~150	0.7	~38	570	3,190
		200	0.6	~28	720	2,880	200	0.6	~38	570	3,190
		250	0.5	~28	560	1,680	250	0.5	~38	450	1,890
		300	-	-	-	-	300	-	-	-	-
		350	-	-	-	-	350	-	-	-	-
Cast iron (GG25) 160~260HB	JC8118 (JC8050)	~150	1	~28	1,430	10,010	~150	1	~38	1,150	11,270
		200	0.8	~28	1,430	8,580	200	0.8	~38	1,150	9,660
		250	0.6	~28	1,270	6,350	250	0.6	~38	1,020	7,140
		300	-	-	-	-	300	0.5	~38	890	6,230
		350	-	-	-	-	350	-	-	-	-
Nodular cast iron (GGG70) 170~300HB	JC8118 (JC8050)	~150	1	~28	1,270	7,620	~150	1	~38	1,020	8,570
		200	0.8	~28	1,270	6,990	200	0.8	~38	1,020	7,850
		250	0.6	~28	1,110	5,550	250	0.6	~38	890	6,230
		300	-	-	-	-	300	0.5	~38	760	4,790
		350	-	-	-	-	350	-	-	-	-
Stainless steel Austenitic (AISI 304, 316, 317)	JC8050	~150	0.8	~28	1,030	5,150	~150	0.8	~38	830	5,810
		200	0.6	~28	1,030	4,640	200	0.6	~38	830	5,230
		250	0.5	~28	880	3,520	250	0.5	~38	700	3,920
		300	-	-	-	-	300	0.4	~38	640	3,580
		350	-	-	-	-	350	-	-	-	-
Stainless steel Ferritics / Martensitic (AISI 403, 420J2, 430)	JC8118 (JC8050)	~150	1	~28	1,190	7,140	~150	1	~38	950	7,980
		200	0.8	~28	1,190	7,140	200	0.8	~38	950	7,980
		250	0.6	~28	1,030	5,150	250	0.6	~38	830	5,810
		300	-	-	-	-	300	0.5	~38	0	0
		350	-	-	-	-	350	-	-	-	-

ℓ : Overhung length ap : Axial depth of cut ae : Radial depth of cut n : Spindle speed Vf : Feed speed

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.

Facemill type (EXSKS-05 type)

Work materials	Grades	工具径（mm） Tool dia. 63 刃数 No. of teeth 8N				
		ℓ (mm)	ap (mm)	ae (mm)	n (min^{-1})	Vf (mm/min)
Carbon steel（C50,C55） Below 250HB	JC8050 (JC8118)	～150	1	～46	810	6,800
		200	0.8	～46	810	6,240
		250	0.6	～46	710	4,970
		300	0.5	～46	660	3,700
		350	0.4	～46	610	3,420
Die steel（1.2344, 1.2379） Below 255HB	JC8050 (JC8118)	～150	1	～46	760	6,380
		200	0.8	～46	760	5,850
		250	0.6	～46	660	4,620
		300	0.5	～46	610	3,420
		350	0.4	～46	560	3,140
Mold steel（1.2311, P20） 30～36HRC	JC8118 (JC8050)	～150	1	～46	760	6,380
		200	0.8	～46	760	5,850
		250	0.6	～46	660	4,620
		300	0.5	～46	610	3,420
		350	0.4	～46	560	3,140
Mold steel（1.2311, P21） 38～43HRC	JC8118 (JC8050)	～150	0.8	～46	560	3,920
		200	0.6	～46	560	3,140
		250	0.5	～46	450	2,520
		300	0.4	～46	400	2,240
		350	-	-	-	-
Hardened die steel （1.2344, 1.2379） 42～52HRC	JC8118	～150	0.7	～46	450	2,520
		200	0.6	～46	450	2,520
		250	0.5	～46	350	1,470
		300	-	-	-	-
		350	-	-	-	-
Cast iron（GG25） 160～260HB	JC8118 (JC8050)	～150	1	～46	910	8,920
		200	0.8	～46	910	7,640
		250	0.6	～46	810	5,670
		300	0.5	～46	710	4,970
		350	0.5	～46	660	4,160
Nodular cast iron（GGG70） 170～300HB	JC8118 (JC8050)	～150	1	～46	810	6,800
		200	0.8	～46	810	6,240
		250	0.6	～46	710	4,970
		300	0.5	～46	610	3,840
		350	0.5	～46	560	3,140
Stainless steel Austenitic （AISI 304, 316, 317）	JC8050	～150	0.8	～46	660	4,620
		200	0.6	～46	660	4,160
		250	0.5	～46	560	3,140
		300	0.4	～46	510	2,860
		350	0.4	～46	450	2,520
Stainless steel Ferritics / Martensitic （AISI 403, 420J2, 430）	JC8118 (JC8050)	～150	1	～46	760	6,380
		200	0.8	～46	760	6,380
		250	0.6	～46	660	4,620
		300	0.5	～46	560	3,920
		350	0.5	～46	510	3,570

ℓ : Overhung length　ap : Axial depth of cut　ae : Radial depth of cut　n : Spindle speed　Vf : Feed speed

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.

Recommended cutting conditions

05 type

End mill type (EXSKS-05 type)

1/2

Work materials	Grades	Tool dia. (mm)									
		20/21					25/26				
		No. of teeth 2N					No. of teeth 3N				
		ℓ (mm)	a_p (mm)	a_e (mm)	n (min^{-1})	V_f (mm/min)	ℓ (mm)	a_p (mm)	a_e (mm)	n (min^{-1})	V_f (mm/min)
Carbon steel (C50,C55) Below 250HB	JC8050 (JC8118)	~60	0.7	~9	3,180	7,630	~70	0.7	~14	2,550	9,180
		60~100	0.6	~9	3,180	7,000	70~120	0.6	~14	2,550	8,420
Die steel (1.2344, 1.2379) Below 255HB	JC8050 (JC8118)	~60	0.7	~9	2,860	6,860	~70	0.7	~14	2,290	8,240
		60~100	0.6	~9	2,860	6,290	70~120	0.6	~14	2,290	7,560
Mold steel (1.2311, P20) 30~36HRC	JC8118 (JC8050)	~60	0.6	~9	2,860	6,860	~70	0.6	~14	2,290	8,240
		60~100	0.5	~9	2,860	6,290	70~120	0.5	~14	2,290	7,560
Mold steel (1.2311, P21) 38~43HRC	JC8118 (JC8050)	~60	0.5	~9	2,070	4,140	~70	0.5	~14	1,660	4,980
		60~100	0.4	~9	2,070	3,310	70~120	0.4	~14	1,660	3,980
Hardened die steel (1.2344, 1.2379) 42~52HRC	JC8118	~60	0.5	~9	1,590	2,540	~70	0.5	~14	1,270	3,050
		60~100	0.4	~9	1,590	2,540	70~120	0.4	~14	1,270	3,050
Cast iron (GG25) 160~260HB	JC8118 (JC8050)	~60	0.8	~9	3,180	8,900	~70	0.8	~14	2,550	10,710
		60~100	0.7	~9	3,180	7,630	70~120	0.7	~14	2,550	9,180
Nodular cast iron (GGG70) 170~300HB	JC8118 (JC8050)	~60	0.8	~9	2,860	6,860	~70	0.8	~14	2,290	8,240
		60~100	0.7	~9	2,860	6,290	70~120	0.7	~14	2,290	7,560
Stainless steel Austenitic (AISI 304, 316, 317)	JC8050	~60	0.6	~9	2,390	4,780	~70	0.6	~14	1,910	5,730
		60~100	0.5	~9	2,390	4,300	70~120	0.5	~14	1,910	5,160
Stainless steel Ferritics / Martensitic (AISI 403, 420J2, 430)	JC8118 (JC8050)	~60	0.7	~9	2,710	6,500	~70	0.7	~14	2,160	7,780
		60~100	0.6	~9	2,710	6,500	70~120	0.6	~14	2,160	7,780

ℓ : Overhung length a_p : Axial depth of cut a_e : Radial depth of cut n : Spindle speed V_f : Feed speed

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.

End mill type (EXSKS-05 type)

Work materials	Grades	Tool dia.（mm） 32 No. of teeth 4N				
		ℓ (mm)	ap (mm)	ae (mm)	n (min^{-1})	Vf (mm/min)
Carbon steel（C50,C55） Below 250HB	JC8050 (JC8118)	～90	0.7	～20	1,990	9,550
		90～140	0.6	～20	1,990	8,760
Die steel（1.2344, 1.2379） Below 255HB	JC8050 (JC8118)	～90	0.7	～20	1,790	8,590
		90～140	0.6	～20	1,790	7,880
Mold steel（1.2311, P20） 30～36HRC	JC8118 (JC8050)	～90	0.6	～20	1,790	8,590
		90～140	0.5	～20	1,790	7,880
Mold steel（1.2311, P21） 38～43HRC	JC8118 (JC8050)	～90	0.5	～20	1,290	5,160
		90～140	0.4	～20	1,290	4,130
Hardened die steel（1.2344, 1.2379） 42～52HRC	JC8118	～90	0.5	～20	990	3,170
		90～140	0.4	～20	990	3,170
Cast iron（GG25） 160～260HB	JC8118 (JC8050)	～90	0.8	～20	1,990	11,140
		90～140	0.7	～20	1,990	9,550
Nodular cast iron（GGG70） 170～300HB	JC8118 (JC8050)	～90	0.8	～20	1,790	8,590
		90～140	0.7	～20	1,790	7,880
Stainless steel Austenitic (AISI 304, 316, 317)	JC8050	～90	0.6	～20	1,490	5,960
		90～140	0.5	～20	1,490	5,360
Stainless steel Ferritics / Martensitic (AISI 403, 420J2, 430)	JC8118 (JC8050)	～90	0.7	～20	1,690	8,110
		90～140	0.6	～20	1,690	8,110

ℓ : Overhung length　ap : Axial depth of cut　ae : Radial depth of cut　n : Spindle speed　Vf : Feed speed

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.

Recommended cutting conditions

05 type

MEX-05 and MSN type

1/2

Work materials	Grades	Tool dia.（mm）									
		20/21					25/26/28				
		No. of teeth 2N					No. of teeth 3N				
		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（C50,C55） Below 250HB	JC8050 (JC8118)	~60	0.8	~9	3,180	7,630	~75	0.8	~14	2,550	9,180
		100	0.7	~9	3,180	7,000	125	0.7	~14	2,550	8,420
		140	0.5	~9	2,860	5,720	175	0.5	~14	2,290	6,870
Die steel（1.2344, 1.2379） Below 255HB	JC8050 (JC8118)	~60	0.8	~9	2,860	6,860	~75	0.8	~14	2,290	8,240
		100	0.7	~9	2,860	6,290	125	0.7	~14	2,290	7,560
		140	0.5	~9	2,550	5,100	175	0.5	~14	2,040	6,120
Mold steel（1.2311, P20） 30~36HRC	JC8118 (JC8118)	~60	0.8	~9	2,860	6,860	~75	0.8	~14	2,290	8,240
		100	0.7	~9	2,860	6,290	125	0.7	~14	2,290	7,560
		140	0.5	~9	2,550	5,100	175	0.5	~14	2,040	6,120
Mold steel（1.2311, P21） 38~43HRC	JC8118 (JC8118)	~60	0.6	~9	2,070	4,140	~75	0.6	~14	1,660	4,980
		100	0.6	~9	2,070	3,310	125	0.6	~14	1,660	3,980
		140	0.5	~9	1,750	2,800	175	0.5	~14	1,400	3,360
Hardened die steel （1.2344, 1.2379）42~52HRC	JC8118	~60	0.6	~9	1,590	2,540	~75	0.6	~14	1,270	3,050
		100	0.6	~9	1,590	2,540	125	0.6	~14	1,270	3,050
		140	0.5	~9	1,430	1,720	175	0.5	~14	1,150	2,070
Cast iron（GG25） 160~260HB	JC8118 (JC8050)	~60	1	~9	3,180	8,900	~75	1	~14	2,550	10,710
		100	0.8	~9	3,180	7,630	125	0.8	~14	2,550	9,180
		140	0.6	~9	2,860	5,720	175	0.6	~14	2,290	6,870
Nodular cast iron（GGG70） 170~300HB	JC8118 (JC8050)	~60	1	~9	2,860	6,860	~75	1	~14	2,290	8,240
		100	0.8	~9	2,860	6,290	125	0.8	~14	2,290	7,560
		140	0.6	~9	2,550	5,100	175	0.6	~14	2,040	6,120
Stainless steel Austenitic （AISI 304, 316, 317）	JC8050	~60	0.6	~9	2,390	4,780	~75	0.6	~14	1,910	5,730
		100	0.5	~9	2,390	4,300	125	0.5	~14	1,910	5,160
		140	0.5	~9	2,070	3,310	175	0.5	~14	1,660	3,980
Stainless steel Ferritics / Martensitic （AISI 403, 420J2, 430）	JC8118 (JC8050)	~60	0.8	~9	2,710	6,500	~75	0.8	~14	2,160	7,780
		100	0.7	~9	2,710	6,500	125	0.7	~14	2,160	7,780
		140	0.5	~9	2,390	4,780	175	0.5	~14	1,910	5,730

ℓ : Overhung length　ap : Axial depth of cut　ae : Radial depth of cut　n : Spindle speed　Vf : Feed speed

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.

MEX-05 and MSN type

Work materials	Grades	工具径（mm） Tool dia.									
		30/32/33/35					40				
		刃数 No. of teeth 4N					刃数 No. of teeth 5N				
		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（C50,C55） Below 250HB	JC8050 (JC8118)	~90	0.8	~20	1,990	9,550	~120	0.8	~28	1,430	8,580
		150	0.7	~20	1,990	8,760	200	0.7	~28	1,430	7,870
		210	0.5	~20	1,790	7,160	280	0.5	~28	1,270	6,350
Die steel（1.2344, 1.2379） Below 255HB	JC8050 (JC8118)	~90	0.8	~20	1,790	8,590	~120	0.8	~28	1,270	7,620
		150	0.7	~20	1,790	7,880	200	0.7	~28	1,270	6,990
		210	0.5	~20	1,590	6,360	280	0.5	~28	1,110	5,550
Mold steel（1.2311, P20） 30~36HRC	JC8118 (JC8118)	~90	0.8	~20	1,790	8,590	~120	0.8	~28	1,270	7,620
		150	0.7	~20	1,790	7,880	200	0.7	~28	1,270	6,990
		210	0.5	~20	1,590	6,360	280	0.5	~28	1,110	5,550
Mold steel（1.2311, P21） 38~43HRC	JC8118 (JC8118)	~90	0.6	~20	1,290	5,160	~120	0.6	~28	880	4,400
		150	0.6	~20	1,290	4,130	200	0.6	~28	880	3,520
		210	0.5	~20	1,090	3,490	280	0.5	~28	720	2,880
Hardened die steel （1.2344, 1.2379）42~52HRC	JC8118	~90	0.6	~20	990	3,170	~120	0.6	~28	720	2,880
		150	0.6	~20	990	3,170	200	0.6	~28	720	2,880
		210	0.5	~20	900	2,160	280	0.5	~28	560	1,680
Cast iron（GG25） 160~260HB	JC8118 (JC8050)	~90	1	~20	1,990	11,140	~120	1	~28	1,430	10,010
		150	0.8	~20	1,990	9,550	200	0.8	~28	1,430	8,580
		210	0.6	~20	1,790	7,160	280	0.6	~28	1,270	6,350
Nodular cast iron（GGG70） 170~300HB	JC8118 (JC8050)	~90	1	~20	1,790	8,590	~120	1	~28	1,270	7,620
		150	0.8	~20	1,790	7,880	200	0.8	~28	1,270	6,990
		210	0.6	~20	1,590	6,360	280	0.6	~28	1,110	5,550
Stainless steel Austenitic （AISI 304, 316, 317）	JC8050	~90	0.6	~20	1,490	5,960	~120	0.6	~28	1,030	5,150
		150	0.5	~20	1,490	5,360	200	0.5	~28	1,030	4,640
		210	0.5	~20	1,290	4,130	280	0.5	~28	880	3,520
Stainless steel Ferritics / Martensitic （AISI 403, 420J2, 430）	JC8118 (JC8050)	~90	0.8	~20	1,690	8,110	~120	0.8	~28	1,190	7,140
		150	0.7	~20	1,690	8,110	200	0.7	~28	1,190	7,140
		210	0.5	~20	1,490	5,960	280	0.5	~28	1,030	5,150

ℓ : Overhung length　ap : Axial depth of cut　ae : Radial depth of cut　n : Spindle speed　Vf : Feed speed

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.

Recommended cutting conditions

07 type

Facemill type (EXSKS-07 type)

1/2

Work materials	Grades	Tool dia.（mm）									
		50/52					63				
		No. of teeth 5N					No. of teeth 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（C50,C55） Below 250HB	JC8050	～150	1.5	～33	950	7,130	～150	1.5	～46	760	6,840
		200	1.2	～33	950	6,180	200	1.2	～46	760	5,930
		250	1	～33	830	5,400	250	1	～46	660	5,150
		300	0.7	～33	760	4,180	300	0.7	～46	610	4,030
		350	-	-	-	-	350	0.5	～46	610	4,030
Die steel（1.2344, 1.2379） Below 255HB	JC8050	～150	1.5	～33	830	6,230	～150	1.5	～46	660	5,940
		200	1.2	～33	830	5,400	200	1.2	～46	660	5,150
		250	1	～33	700	4,550	250	1	～46	560	4,370
		300	0.7	～33	640	3,520	300	0.7	～46	510	3,370
		350	-	-	-	-	350	0.5	～46	510	3,370
Mold steel（1.2311, P20） 30～36HRC	JC8118	～150	1.5	～33	830	6,230	～150	1.5	～46	660	5,940
		200	1.2	～33	830	5,400	200	1.2	～46	660	5,150
		250	1	～33	700	4,550	250	1	～46	560	4,370
		300	0.7	～33	640	3,520	300	0.7	～46	510	3,370
		350	-	-	-	-	350	0.5	～46	510	3,370
Mold steel（1.2311, P21） 38～43HRC	JC8118	～150	1.2	～33	700	4,550	～150	1.2	～46	560	4,370
		200	1	～33	700	3,850	200	1	～46	560	3,700
		250	0.7	～33	570	3,140	250	0.7	～46	450	2,970
		300	0.5	～33	510	2,550	300	0.5	～46	400	2,400
		350	-	-	-	-	350	-	-	-	-
Hardened die steel （1.2344, 1.2379） 42～52HRC	JC8118	～150	1	～33	570	2,850	～150	1	～46	450	2,700
		200	0.8	～33	570	2,570	200	0.8	～46	450	2,430
		250	0.6	～33	510	2,300	250	0.6	～46	400	2,160
		300	0.4	～33	450	1,800	300	0.4	～46	350	1,680
		350	-	-	-	-	350	-	-	-	-
Cast iron（GG25） 160～260HB	JC8118	～150	2	～33	950	7,130	～150	2	～46	760	6,840
		200	1.5	～33	950	6,180	200	1.5	～46	760	5,930
		250	1	～33	830	5,400	250	1	～46	660	5,150
		300	0.7	～33	760	4,180	300	0.7	～46	610	4,030
		350	-	-	-	-	350	0.5	～46	610	4,030
Nodular cast iron（GGG70） 170～300HB	JC8118	～150	1.5	～33	830	6,230	～150	1.5	～46	660	5,940
		200	1.2	～33	830	5,400	200	1.2	～46	660	5,150
		250	1	～33	700	4,550	250	1	～46	560	4,370
		300	0.7	～33	640	3,520	300	0.7	～46	510	3,370
		350	-	-	-	-	350	0.5	～46	510	3,370
Stainless steel Austenitic （AISI 304, 316, 317）	JC8050	～150	1.2	～33	700	4,550	～150	1.2	～46	560	4,370
		200	1	～33	700	3,850	200	1	～46	560	3,700
		250	0.7	～33	570	3,140	250	0.7	～46	450	2,970
		300	0.5	～33	510	2,550	300	0.5	～46	400	2,400
		350	-	-	-	-	350	0.4	～46	400	2,400
Stainless steel Ferritics / Martensitic （AISI 403, 420J2, 430）	JC8118	～150	1.5	～33	830	5,400	～150	1.5	～46	660	5,150
		200	1.2	～33	830	4,570	200	1.2	～46	660	4,360
		250	1	～33	700	3,850	250	1	～46	560	3,700
		300	0.7	～33	640	3,200	300	0.7	～46	510	3,060
		350	-	-	-	-	350	0.5	～46	510	3,060

ℓ : Overhung length　ap : Axial depth of cut　ae : Radial depth of cut　n : Spindle speed　Vf : Feed speed

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.

Facemill type (EXSKS-07 type)

Work materials	Grades	Tool dia.（mm） 80 刃数 No. of teeth 7N				
		ℓ (mm)	ap (mm)	ae (mm)	n (min-1)	Vf (mm/min)
Carbon steel（C50,C55） Below 250HB	JC8050	～150	1.5	～63	600	6,300
		200	1.2	～63	600	5,460
		250	1	～63	520	4,730
		300	0.7	～63	480	3,700
		350	0.5	～63	480	3,700
Die steel（1.2344, 1.2379） Below 255HB	JC8050	～150	1.5	～63	520	5,460
		200	1.2	～63	520	4,730
		250	1	～63	440	4,000
		300	0.7	～63	400	3,080
		350	0.5	～63	400	3,080
Mold steel（1.2311, P20） 30～36HRC	JC8118	～150	1.5	～63	520	5,460
		200	1.2	～63	520	4,730
		250	1	～63	440	4,000
		300	0.7	～63	400	3,080
		350	0.5	～63	400	3,080
Mold steel（1.2311, P21） 38～43HRC	JC8118	～150	1.2	～63	440	4,000
		200	1	～63	440	3,390
		250	0.7	～63	360	2,770
		300	0.5	～63	320	2,240
		350	-	-	320	2,240
Hardened die steel （1.2344, 1.2379） 42～52HRC	JC8118	～150	1	～63	360	2,520
		200	0.8	～63	360	2,270
		250	0.6	～63	320	2,020
		300	0.4	～63	280	1,570
		350	-	-	-	-
Cast iron（GG25） 160～260HB	JC8118	～150	2	～63	600	6,300
		200	1.5	～63	600	5,460
		250	1	～63	520	4,730
		300	0.7	～63	480	3,700
		350	0.5	～63	480	3,700
Nodular cast iron（GGG70） 170～300HB	JC8118	～150	1.5	～63	520	5,460
		200	1.2	～63	520	4,730
		250	1	～63	440	4,000
		300	0.7	～63	400	3,080
		350	0.5	～63	400	3,080
Stainless steel Austenitic （AISI 304, 316, 317）	JC8050	～150	1.2	～63	440	4,000
		200	1	～63	440	3,390
		250	0.7	～63	360	2,770
		300	0.5	～63	320	2,240
		350	0.4	～63	320	2,240
Stainless steel Ferritics / Martensitic （AISI 403, 420J2, 430）	JC8118	～150	1.5	～63	520	4,730
		200	1.2	～63	520	4,000
		250	1	～63	440	3,390
		300	0.7	～63	400	2,800
		350	0.5	～63	400	2,800

ℓ : Overhung length　ap : Axial depth of cut　ae : Radial depth of cut　n : Spindle speed　Vf : Feed speed

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.

Recommended cutting conditions

07 type

End mill type (EXSKS-07-S32 type)

Work materials	Grades	Tool dia.（mm）									
		32					35				
		No. of teeth 2N					No. of teeth 3N				
		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（C50,C55） Below 250HB	JC8050	～70	0.8	～14	1,990	4,780	～90	0.8	～18	1,820	6,550
		～120	0.7	～14	1,790	3,940	～140	0.7	～18	1,640	5,410
		-	-	-	-	-	-	-	-	-	-
Die steel（1.2344, 1.2379） Below 255HB	JC8050	～70	0.8	～14	1,790	4,300	～90	0.8	～18	1,640	5,900
		～120	0.7	～14	1,590	3,500	～140	0.7	～18	1,460	4,820
		-	-	-	-	-	-	-	-	-	-
Mold steel（1.2311, P20） 30～36HRC	JC8118	～70	0.8	～14	1,790	4,300	～90	0.8	～18	1,640	5,900
		～120	0.7	～14	1,590	3,500	～140	0.7	～18	1,460	4,820
		-	-	-	-	-	-	-	-	-	-
Mold steel（1.2311, P21） 38～43HRC	JC8118	～70	0.6	～14	1,290	2,580	～90	0.6	～18	1,180	3,540
		～120	0.5	～14	1,090	1,960	～140	0.5	～18	1,000	2,700
		-	-	-	-	-	-	-	-	-	-
Hardened die steel （1.2344, 1.2379）42～52HRC	JC8118	～70	0.6	～14	990	1,780	～90	0.6	～18	910	2,460
		～120	0.5	～14	800	1,280	～140	0.5	～18	730	1,750
		-	-	-	-	-	-	-	-	-	-
Cast iron（GG25） 160～260HB	JC8118	～70	1.2	～14	1,990	4,780	～90	1.2	～18	1,820	6,550
		～120	1	～14	1,790	4,300	～140	1	～18	1,640	5,900
		-	-	-	-	-	-	-	-	-	-
Nodular cast iron（GGG70） 170～300HB	JC8118	～70	0.8	～14	1,690	4,060	～90	0.8	～18	1,550	5,580
		～120	0.6	～14	1,490	3,280	～140	0.6	～18	1,360	4,490
		-	-	-	-	-	-	-	-	-	-
Stainless steel Austenitic （AISI 304, 316, 317）	JC8050	～70	0.6	～14	1,490	2,980	～90	0.6	～18	1,360	4,080
		～120	0.5	～14	1,290	2,320	～140	0.5	～18	1,180	3,190
		-	-	-	-	-	-	-	-	-	-
Stainless steel Ferritics / Martensitic （AISI 403, 420J2, 430）	JC8118	～70	0.8	～14	1,690	3,380	～90	0.8	～18	1,550	4,650
		～120	0.7	～14	1,490	2,680	～140	0.7	～18	1,360	3,670
		-	-	-	-	-	-	-	-	-	-

ℓ : Overhung length　ap : Axial depth of cut　ae : Radial depth of cut　n : Spindle speed　Vf : Feed speed

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.

End mill type (EXSKS-07-S32 type)

Work materials	Grades	Tool dia.（mm） 40 No. of teeth 4N				
		ℓ (mm)	ap (mm)	ae (mm)	n (min^{-1})	Vf (mm/min)
Carbon steel（C50,C55） Below 250HB	JC8050	～90	0.8	～23	1,430	6,860
		～140	0.7	～23	1,350	5,940
		-	-	-	-	-
Die steel（1.2344, 1.2379） Below 255HB	JC8050	～90	0.8	～23	1,270	6,100
		～140	0.7	～23	1,190	5,240
		-	-	-	-	-
Mold steel（1.2311, P20） 30～36HRC	JC8118	～90	0.8	～23	1,270	6,100
		～140	0.7	～23	1,190	5,240
		-	-	-	-	-
Mold steel（1.2311, P21） 38～43HRC	JC8118	～90	0.6	～23	880	3,520
		～140	0.5	～23	800	2,880
		-	-	-	-	-
Hardened die steel （1.2344, 1.2379）42～52HRC	JC8118	～90	0.6	～23	720	2,590
		～140	0.5	～23	640	2,050
		-	-	-	-	-
Cast iron（GG25） 160～260HB	JC8118	～90	1.2	～23	1,430	6,860
		～140	1	～23	1,350	6,480
		-	-	-	-	-
Nodular cast iron（GGG70） 170～300HB	JC8118	～90	0.8	～23	1,190	5,710
		～140	0.6	～23	1,110	4,880
		-	-	-	-	-
Stainless steel Austenitic （AISI 304, 316, 317）	JC8050	～90	0.6	～23	1,030	4,120
		～140	0.5	～23	950	3,420
		-	-	-	-	-
Stainless steel Ferritics / Martensitic （AISI 403, 420J2, 430）	JC8118	～90	0.8	～23	1,190	4,760
		～140	0.7	～23	1,110	4,000
		-	-	-	-	-

ℓ : Overhung length　ap : Axial depth of cut　ae : Radial depth of cut　n : Spindle speed　Vf : Feed speed

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.

Recommended cutting conditions

07 type

MEX-07 and MSN type

1/2

Work materials	Grades	Tool dia.（mm）									
		32					35				
		No. of teeth 2N					No. of teeth 3N				
		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（C50,C55） Below 250HB	JC8050	～100	1	～14	1,990	5,970	～100	1	～18	1,820	8,190
		150	0.8	～14	1,990	5,570	150	0.8	～18	1,820	7,640
		210	0.6	～14	1,790	4,650	210	0.6	～18	1,640	6,400
Die steel（1.2344, 1.2379） Below 255HB	JC8050	～100	1	～14	1,790	5,370	～100	1	～18	1,640	7,380
		150	0.8	～14	1,790	5,010	150	0.8	～18	1,640	6,890
		210	0.6	～14	1,590	4,130	210	0.6	～18	1,460	5,690
Mold steel（1.2311, P20） 30～36HRC	JC8118	～100	1	～14	1,790	5,370	～100	1	～18	1,640	7,380
		150	0.8	～14	1,790	5,010	150	0.8	～18	1,640	6,890
		210	0.6	～14	1,590	4,130	210	0.6	～18	1,460	5,690
Mold steel（1.2311, P21） 38～43HRC	JC8118	～100	0.8	～14	1,290	3,100	～100	0.8	～18	1,180	4,250
		150	0.6	～14	1,290	2,840	150	0.6	～18	1,180	3,890
		210	0.4	～14	1,090	2,180	210	0.4	～18	1,000	3,000
Hardened die steel （1.2344, 1.2379）42～52HRC	JC8118	～100	0.8	～14	990	1,980	～100	0.8	～18	910	2,730
		150	0.6	～14	990	1,780	150	0.6	～18	910	2,460
		210	0.4	～14	800	1,280	210	0.4	～18	730	1,750
Cast iron（GG25） 160～260HB	JC8118	～100	1.5	～14	1,990	5,970	～100	1.5	～18	1,820	8,190
		150	1.2	～14	1,990	5,970	150	1.2	～18	1,820	8,190
		210	0.8	～14	1,790	5,010	210	0.8	～18	1,640	6,890
Nodular cast iron（GGG70） 170～300HB	JC8118	～100	1	～14	1,690	5,070	～100	1	～18	1,550	6,980
		150	0.8	～14	1,690	4,730	150	0.8	～18	1,550	6,510
		210	0.6	～14	1,490	3,870	210	0.6	～18	1,360	5,300
Stainless steel Austenitic （AISI 304, 316, 317）	JC8050	～100	0.8	～14	1,490	3,580	～100	0.8	～18	1,360	4,900
		150	0.6	～14	1,490	3,280	150	0.6	～18	1,360	4,490
		210	0.4	～14	1,290	2,580	210	0.4	～18	1,180	3,540
Stainless steel Ferritics / Martensitic （AISI 403, 420J2, 430）	JC8118	～100	1	～14	1,690	4,060	～100	1	～18	1,550	5,580
		150	0.8	～14	1,690	3,720	150	0.8	～18	1,550	5,120
		210	0.6	～14	1,490	2,980	210	0.6	～18	1,360	4,080

ℓ : Overhung length　ap : Axial depth of cut　ae : Radial depth of cut　n : Spindle speed　Vf : Feed speed

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.

MEX-07 and MSN type

2/2

Work materials	Grades	Tool dia.（mm） 40/42 No. of teeth 4N ℓ（mm）	ap（mm）	ae（mm）	n（min^{-1}）	Vf（mm/min）
Carbon steel（C50,C55） Below 250HB	JC8050	～100	1	～23	1,430	8,580
		150	0.8	～23	1,430	8,010
		210	0.6	～23	1,270	6,600
Die steel（1.2344, 1.2379） Below 255HB	JC8050	～100	1	～23	1,270	7,620
		150	0.8	～23	1,270	7,110
		210	0.6	～23	1,110	5,770
Mold steel（1.2311, P20） 30～36HRC	JC8118	～100	1	～23	1,270	7,620
		150	0.8	～23	1,270	7,110
		210	0.6	～23	1,110	5,770
Mold steel（1.2311, P21） 38～43HRC	JC8118	～100	0.8	～23	880	4,220
		150	0.6	～23	880	3,870
		210	0.4	～23	720	2,880
Hardened die steel （1.2344, 1.2379）42～52HRC	JC8118	～100	0.8	～23	720	2,880
		150	0.6	～23	720	2,590
		210	0.4	～23	560	1,790
Cast iron（GG25） 160～260HB	JC8118	～100	1.5	～23	1,430	8,580
		150	1.2	～23	1,430	8,580
		210	0.8	～23	1,270	7,110
Nodular cast iron（GGG70） 170～300HB	JC8118	～100	1	～23	1,190	7,140
		150	0.8	～23	1,190	6,660
		210	0.6	～23	1,030	5,360
Stainless steel Austenitic （AISI 304, 316, 317）	JC8050	～100	0.8	～23	1,030	4,940
		150	0.6	～23	1,030	4,530
		210	0.4	～23	880	3,520
Stainless steel Ferritics / Martensitic （AISI 403, 420J2, 430）	JC8118	～100	1	～23	1,190	5,710
		150	0.8	～23	1,190	5,240
		210	0.6	～23	1,030	4,120

ℓ : Overhung length　ap : Axial depth of cut　ae : Radial depth of cut　n : Spindle speed　Vf : Feed speed

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.

Recommended cutting conditions

09 type

Facemill type (EXSKS-09type)

Work materials	Grades	Tool dia. (mm)														
		50					50/52					63				
		No. of teeth 3N					No. of teeth 4N					No. of teeth 4N				
		ℓ (mm)	ap (mm)	n (min^{-1})	Vf (mm/min)	Pc (kW)	ℓ (mm)	ap (mm)	n (min^{-1})	Vf (mm/min)	Pc (kW)	ℓ (mm)	ap (mm)	n (min^{-1})	Vf (mm/min)	Pc (kW)
Carbon steel (C50,C55) Below 250HB	JC7560 JC8050 (JC8118)	~150	2	950	5,700	9.3	~150	2	950	7,600	12.4	~150	2	750	6,000	12.3
		200	1.5	800	4,800	5.9	200	1.5	800	6,400	7.8	200	1.8	680	5,440	10.0
		250	1	650	2,925	2.4	250	1	650	3,900	3.2	250	1.5	600	4,800	7.4
		300	0.6	650	1,950	1.0	300	0.6	650	2,600	1.3	300	1	550	4,400	4.5
		350	-	-	-	-	350	-	-	-	-	350	0.6	550	3,300	2.0
		400	-	-	-	-	400	-	-	-	-	400	0.4	550	2,200	0.9
Die steel (1.2344, 1.2379) Below 255HB	JC7560 JC8050 (JC8118)	~150	2	950	5,700	9.3	~150	2	950	7,600	12.4	~150	2	750	6,000	12.3
		200	1.5	800	4,800	5.9	200	1.5	800	6,400	7.8	200	1.8	680	5,440	10.0
		250	1	650	2,925	2.4	250	1	650	3,900	3.2	250	1.5	600	4,800	7.4
		300	0.6	650	1,950	1.0	300	0.6	650	2,600	1.3	300	1	550	4,400	4.5
		350	-	-	-	-	350	-	-	-	-	350	0.6	550	3,300	2.0
		400	-	-	-	-	400	-	-	-	-	400	0.4	550	2,200	0.9
Mold steel (1.2311, P20) 30~36HRC	JC7560 JC8050 (JC8118)	~150	2	830	4,980	9.2	~150	2	830	6,640	12.3	~150	2	650	5,200	12.2
		200	1.5	700	4,200	5.9	200	1.5	700	5,600	7.8	200	1.8	580	4,640	9.8
		250	1	570	2,565	2.4	250	1	570	3,420	3.2	250	1.5	520	4,160	7.3
		300	0.6	570	1,710	1.0	300	0.6	570	2,280	1.3	300	1	460	3,680	4.3
		350	-	-	-	-	350	-	-	-	-	350	0.6	460	2,760	1.9
		400	-	-	-	-	400	-	-	-	-	400	0.4	460	1,840	0.9
Mold steel (1.2311, P21) 38~43HRC	JC8118 (JC8050)	~150	1.5	700	2,100	5.1	~150	1.5	700	2,800	6.8	~150	1.5	550	2,200	6.8
		200	1	600	1,800	2.9	200	1	600	2,400	3.9	200	1.2	500	2,000	4.9
		250	0.7	490	1,470	1.7	250	0.7	490	1,960	2.2	250	1	440	1,760	3.6
		300	0.4	490	735	0.5	300	0.4	490	980	0.6	300	0.7	380	1,520	2.2
		350	-	-	-	-	350	-	-	-	-	350	0.5	380	1,520	1.6
		400	-	-	-	-	400	-	-	-	-	400	-	-	-	-
Hardened die steel (1.2344, 1.2379) 42~52HRC	JC8118	~150	1.5	510	1,530	5.0	~150	1.5	510	2,040	6.6	~150	1.5	400	1,600	6.6
		200	1	460	1,380	3.0	200	1	460	1,840	4.0	200	1.2	360	1,440	4.7
		250	0.7	420	1,260	1.9	250	0.7	420	1,680	2.5	250	1	320	1,280	3.5
		300	0.4	420	630	0.5	300	0.4	420	840	0.7	300	0.7	280	1,120	2.1
		350	-	-	-	-	350	-	-	-	-	350	0.5	280	1,120	1.5
		400	-	-	-	-	400	-	-	-	-	400	-	-	-	-
Cast iron (GG25) 160~260HB	JC8118	~150	2.5	950	5,700	9.3	~150	2.5	950	7,600	12.4	~150	2.5	750	6,000	12.3
		200	2	800	4,800	6.2	200	2	800	6,400	8.3	200	2	680	5,440	8.9
		250	1.5	650	2,925	2.9	250	1.5	650	3,900	3.8	250	1.5	600	4,800	5.9
		300	1	650	1,950	1.3	300	1	650	2,600	1.7	300	1	550	4,400	3.6
		350	-	-	-	-	350	-	-	-	-	350	0.6	550	3,300	1.6
		400	-	-	-	-	400	-	-	-	-	400	0.4	550	2,200	0.7
Nodular cast iron (GGG70) 170~300HB	JC8118	~150	2.5	950	5,700	9.3	~150	2.5	950	7,600	12.4	~150	2.5	750	6,000	12.3
		200	2	800	4,800	6.2	200	2	800	6,400	8.3	200	2	680	5,440	8.9
		250	1.5	650	2,925	2.9	250	1.5	650	3,900	3.8	250	1.5	600	4,800	5.9
		300	1	650	1,950	1.3	300	1	650	2,600	1.7	300	1	550	4,400	3.6
		350	-	-	-	-	350	-	-	-	-	350	0.6	550	3,300	1.6
		400	-	-	-	-	400	-	-	-	-	400	0.4	550	2,200	0.7
Stainless steel (SUS304) Below 250HB	JC8050 (JC7560)	~150	2	950	4,275	11.1	~150	2	950	5,700	14.8	~150	2	750	4,500	14.7
		200	1.5	800	3,600	7.0	200	1.5	800	4,800	9.4	200	1.8	680	4,080	12.0
		250	1	650	1,950	2.5	250	1	650	2,600	3.4	250	1.5	600	3,600	8.8
		300	0.6	650	1,950	1.5	300	0.6	650	2,600	2.0	300	1	550	2,640	4.3
		350	-	-	-	-	350	-	-	-	-	350	0.6	550	2,200	2.2
		400	-	-	-	-	400	-	-	-	-	400	0.4	550	2,200	1.4

ℓ : Overhung length ap : Depth of cut n : Spindle speed Vf : Feed speed Pc : Net powet consumption

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.
*5.When using PL type inserts, depth of cut ap must be kept within 2mm.

Facemill type (EXSKS-09type)

Work materials	Grades	Tool dia. (mm)														
		63/66					80					100				
		No. of teeth 5N					No. of teeth 6N					No. of teeth 7N				
		ℓ (mm)	ap (mm)	n (min^{-1})	Vf (mm/min)	Pc (kW)	ℓ (mm)	ap (mm)	n (min^{-1})	Vf (mm/min)	Pc (kW)	ℓ (mm)	ap (mm)	n (min^{-1})	Vf (mm/min)	Pc (kW)
Carbon steel (C50,C55) Below 250HB	JC7560 JC8050 (JC8118)	~150	2	750	7,500	15.4	~150	2	600	7,200	18.7	~150	2	480	6,720	21.8
		200	1.8	680	6,800	12.5	200	1.8	540	6,480	15.2	200	2	430	6,020	19.6
		250	1.5	600	6,000	9.2	250	1.8	480	5,760	13.5	250	2	380	5,320	17.3
		300	1	550	5,500	5.6	300	1.5	440	5,280	10.3	300	1.5	350	4,900	11.9
		350	0.6	550	4,125	2.5	350	1	440	5,280	6.9	350	1.5	350	4,900	11.9
		400	0.4	550	2,750	1.1	400	0.6	440	3,960	3.1	400	1	350	4,900	8.0
Die steel 1.2344, 1.2379 Below 255HB	JC7560 JC8050 (JC8118)	~150	2	750	7,500	15.4	~150	2	600	7,200	18.7	~150	2	480	6,720	21.8
		200	1.8	680	6,800	12.5	200	1.8	540	6,480	15.2	200	2	430	6,020	19.6
		250	1.5	600	6,000	9.2	250	1.8	480	5,760	13.5	250	2	380	5,320	17.3
		300	1	550	5,500	5.6	300	1.5	440	5,280	10.3	300	1.5	350	4,900	11.9
		350	0.6	550	4,125	2.5	350	1	440	5,280	6.9	350	1.5	350	4,900	11.9
		400	0.4	550	2,750	1.1	400	0.6	440	3,960	3.1	400	1	350	4,900	8.0
Mold steel (1.2311, P20) 30~36HRC	JC7560 JC8050 (JC8118)	~150	2	650	6,500	15.2	~150	2	520	6,240	18.5	~150	2	410	5,740	21.3
		200	1.8	580	5,800	12.2	200	1.8	470	5,640	15.1	200	2	370	5,180	19.2
		250	1.5	520	5,200	9.1	250	1.8	420	5,040	13.5	250	2	330	4,620	17.2
		300	1	460	4,600	5.4	300	1.5	360	4,320	9.6	300	1.5	280	3,920	10.9
		350	0.6	460	3,450	2.4	350	1	360	4,320	6.4	350	1.5	280	3,920	10.9
		400	0.4	460	2,300	1.1	400	0.6	360	3,240	2.9	400	1	280	3,920	7.3
Mold steel (1.2311, P21) 38~43HRC	JC8118 (JC8050)	~150	1.5	550	2,750	8.4	~150	1.5	430	2,580	10.1	~150	1.5	350	2,450	11.9
		200	1.2	500	2,500	6.1	200	1.2	390	2,340	7.3	200	1.5	310	2,170	10.6
		250	1	440	2,200	4.5	250	1.2	340	2,040	6.4	250	1.2	280	1,960	7.6
		300	0.7	380	1,900	2.7	300	1	300	1,800	4.7	300	1	250	1,750	5.7
		350	0.5	380	1,900	1.9	350	0.7	300	1,800	3.3	350	1	250	1,750	5.7
		400	-	-	-	-	400	0.4	300	1,800	1.9	400	0.7	250	1,750	4.0
Hardened die steel (1.2344, 1.2379) 42~52HRC	JC8118	~150	1.5	400	2,000	8.2	~150	1.5	320	1,920	10.0	~150	1.5	250	1,750	11.4
		200	1.2	360	1,800	5.9	200	1.2	290	1,740	7.2	200	1.5	230	1,610	10.5
		250	1	320	1,600	4.4	250	1.2	260	1,560	6.5	250	1.2	200	1,400	7.3
		300	0.7	280	1,400	2.7	300	1	220	1,320	4.6	300	1	180	1,260	5.5
		350	0.5	280	1,400	1.9	350	0.7	220	1,320	3.2	350	1	180	1,260	5.5
		400	-	-	-	-	400	0.4	220	1,320	1.8	400	0.7	180	1,260	3.8
Cast iron (GG25) 160~260HB	JC8118	~150	2.5	750	7,500	15.4	~150	2.5	600	7,200	18.7	~150	2.5	480	6,720	21.8
		200	2	680	6,800	11.1	200	2	540	6,480	13.5	200	2.5	430	6,020	19.6
		250	1.5	600	6,000	7.4	250	2	480	5,760	12.0	250	2	380	5,320	13.8
		300	1	550	5,500	4.5	300	1.5	440	5,280	8.2	300	2	350	4,900	12.7
		350	0.6	550	4,125	2.0	350	1	440	5,280	5.5	350	1.5	350	4,900	9.6
		400	0.4	550	2,750	0.9	400	0.6	440	3,960	2.5	400	1	350	4,900	6.4
Nodular cast iron (GGG70) 170~300HB	JC8118	~150	2.5	750	7,500	15.4	~150	2.5	600	7,200	18.7	~150	2.5	480	6,720	21.8
		200	2	680	6,800	11.1	200	2	540	6,480	13.5	200	2.5	430	6,020	19.6
		250	1.5	600	6,000	7.4	250	2	480	5,760	12.0	250	2	380	5,320	13.8
		300	1	550	5,500	4.5	300	1.5	440	5,280	8.2	300	2	350	4,900	12.7
		350	0.6	550	4,125	2.0	350	1	440	5,280	5.5	350	1.5	350	4,900	9.6
		400	0.4	550	2,750	0.9	400	0.6	440	3,960	2.5	400	1	350	4,900	6.4
Stainless steel (SUS304) Below 250HB	JC8050 (JC7560)	~150	2	750	5,625	18.4	~150	2	600	5,400	22.5	~150	2	480	5,040	26.2
		200	1.8	680	5,100	15.0	200	1.8	540	4,860	18.2	200	2	430	4,515	23.5
		250	1.5	600	4,500	11.1	250	1.8	480	4,320	16.2	250	2	380	3,990	20.7
		300	1	550	3,300	5.4	300	1.5	440	3,960	12.4	300	1.5	350	3,675	14.3
		350	0.6	550	2,750	2.7	350	1	440	3,168	6.6	350	1.5	350	3,675	14.3
		400	0.4	550	2,750	1.8	400	0.6	440	2,640	3.3	400	1	350	3,675	9.6

ℓ : Overhung length ap : Depth of cut n : Spindle speed Vf : Feed speed Pc : Net powet consumption

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.
*5.When using PL type inserts, depth of cut ap must be kept within 2mm.

Recommended cutting conditions

09 type

Facemill type (EXSKS-09 type)

3/3

Work materials	Grades	Tool dia. (mm)									
		125					160				
		No. of teeth 8N					No. of teeth 9N				
		ℓ (mm)	ap (mm)	n (min^{-1})	Vf (mm/min)	Pc (kW)	ℓ (mm)	ap (mm)	n (min^{-1})	Vf (mm/min)	Pc (kW)
Carbon steel (C50,C55) Below 250HB	JC7560 JC8050 (JC8118)	~150	2	380	6,080	24.7	~150	2	300	5,400	28.1
		200	2	340	5,440	22.1	200	2	270	4,860	25.3
		250	2	300	4,800	19.5	250	2	240	4,320	22.5
		300	2	280	4,480	18.2	300	2	220	3,960	20.6
		350	1.5	280	4,480	13.7	350	2	220	3,960	20.6
		400	1.5	280	4,480	13.7	400	1.5	220	3,960	15.4
Die steel 1.2344, 1.2379 Below 255HB	JC7560 JC8050 (JC8118)	~150	2	380	6,080	24.7	~150	2	300	5,400	28.1
		200	2	340	5,440	22.1	200	2	270	4,860	25.3
		250	2	300	4,800	19.5	250	2	240	4,320	22.5
		300	2	280	4,480	18.2	300	2	220	3,960	20.6
		350	1.5	280	4,480	13.7	350	2	220	3,960	20.6
		400	1.5	280	4,480	13.7	400	1.5	220	3,960	15.4
Mold steel (1.2311, P20) 30~36HRC	JC7560 JC8050 (JC8118)	~150	2	330	5,280	24.5	~150	2	260	4,680	27.8
		200	2	300	4,800	22.3	200	2	230	4,140	24.6
		250	2	260	4,160	19.3	250	2	210	3,780	22.5
		300	2	230	3,680	17.1	300	2	180	3,240	19.3
		350	1.5	230	3,680	12.8	350	2	180	3,240	19.3
		400	1.5	230	3,680	12.8	400	1.5	180	3,240	14.4
Mold steel (1.2311, P21) 38~43HRC	JC8118 (JC8050)	~150	1.5	280	2,240	13.7	~150	1.5	220	1,980	15.4
		200	1.5	250	2,000	12.2	200	1.5	200	1,800	14.0
		250	1.5	220	1,760	10.7	250	1.5	180	1,620	12.6
		300	1.5	200	1,600	9.8	300	1.5	150	1,350	10.5
		350	1	200	1,600	6.5	350	1.5	150	1,350	10.5
		400	1	200	1,600	6.5	400	1	150	1,350	7.0
Hardened die steel (1.2344, 1.2379) 42~52HRC	JC8118	~150	1.5	200	1,600	13.0	~150	1.5	160	1,440	15.0
		200	1.5	180	1,440	11.7	200	1.5	150	1,350	14.0
		250	1.5	160	1,280	10.4	250	1.5	130	1,170	12.2
		300	1.5	140	1,120	9.1	300	1.5	110	990	10.3
		350	1	140	1,120	6.1	350	1.5	110	990	10.3
		400	1	140	1,120	6.1	400	1	110	990	6.9
Cast iron (GG25) 160~260HB	JC8118	~150	2.5	380	6,080	24.7	~150	2.5	300	5,400	28.1
		200	2.5	340	5,440	22.1	200	2.5	270	4,860	25.3
		250	2.5	300	4,800	19.5	250	2.5	240	4,320	22.5
		300	2	280	4,480	14.6	300	2.5	220	3,960	20.6
		350	1.5	280	4,480	10.9	350	2	220	3,960	16.5
		400	1.5	280	4,480	10.9	400	1.5	220	3,960	12.4
Nodular cast iron (GGG70) 170~300HB	JC8118	~150	2.5	380	6,080	24.7	~150	2.5	300	5,400	28.1
		200	2.5	340	5,440	22.1	200	2.5	270	4,860	25.3
		250	2.5	300	4,800	19.5	250	2.5	240	4,320	22.5
		300	2	280	4,480	14.6	300	2.5	220	3,960	20.6
		350	1.5	280	4,480	10.9	350	2	220	3,960	16.5
		400	1.5	280	4,480	10.9	400	1.5	220	3,960	12.4
Stainless steel (SUS304) Below 250HB	JC8050 (JC7560)	~150	2	380	4,560	29.6	~150	2	300	4,050	33.7
		200	2	340	4,080	26.5	200	2	270	3,645	30.3
		250	2	300	3,600	23.4	250	2	240	3,240	27.0
		300	2	280	3,360	21.8	300	2	220	2,970	24.7
		350	1.5	280	3,360	16.4	350	2	220	2,970	24.7
		400	1.5	280	3,360	16.4	400	1.5	220	2,970	18.5

ℓ : Overhung length ap : Depth of cut n : Spindle speed Vf : Feed speed Pc : Net powet consumption

Note:
*1. The figure to be adjusted according to the machine rigidity or work rigidity.
*2. In case of chatter occurring, recommend to reduce the depth of cut ap or Spindle speed and keep feed per tooth.
*3. If machine does not have enough power, recommend to reduce the depth of cut ap or Spindle speed and Feed speed.
*4. Use air blow.
*5.When using PL type inserts, depth of cut ap must be kept within 2mm.

ダイジェットWEBコンテンツについて

公式サイト https://www.dijet.co.jp/

製品サイト https://www.dijet-tool.com

1 製品の最新情報や詳細情報

2 製品カタログ
安全データシート(SDS)ダウンロード

YouTubeオフィシャルチャンネル
加工動画を配信

製品検索サイト DJ-Search

https://database.dijet.co.jp/web/search/indexable-tool/

製品検索/CADデータはこちらから DJ Search

- 工具種別、加工用途、被削材、工具寸法などから最適工具を検索。
- 該当製品のカタログ表示ができ、条件表など詳細情報も併せて閲覧可能。
- CADデータ(DXF/STEP)のダウンロードが可能(2019年7月より随時公開)。
- なお、お探しのCADデータが公開されていない場合はWEBサイトのお問い合わせ画面よりお尋ねください。
- マイリスト機能でお気に入り工具をピックアップ、テキスト出力もできー覧表作成も簡単。

ダイジェット工業株式会社 DIJET INDUSTRIAL CO., LTD.

本　　社　〒547－0002　大阪市平野区加美東 2 丁目 1 番 18 号
TEL. 06(6791)6781 代表　FAX. 06(6793)1221

Headquarters 2-1-18, Kami-Higashi, Hirano-ku, Osaka 547-0002, Japan
Phone: 81-6-6791-6781　Fax: 81-6-6793-1221

ISO9001 JQA-2089　ISO14001 JQA-EM1580

国内拠点

■東京支店(南関東営業所)
〒221－0835 神奈川県横浜市神奈川区鶴屋町 2 丁目 26 番地 4 第 3 安田ビル 5F
TEL. 045(290)5100　FAX. 045(312)0066

■北関東営業所
〒373－0818 群馬県太田市小舞木町 614 番地
TEL. 0276(45)8588　FAX. 0276(46)7446

■仙台オフィス
〒983－0852 仙台市宮城野区榴岡 5 丁目 2 番 3 号
TEL. 022(299)0528　FAX. 022(299)3270

■名古屋支店(名古屋営業所)
〒466－0034 名古屋市昭和区明月町 1 丁目 39 番地 2 エクセル御器所 1F
TEL. 052(851)5500　FAX. 052(851)8311

■大阪支店(大阪営業所)
〒547-0002 大阪市平野区加美東 2 丁目 1 番 18 号
TEL. 06(6794)0216　FAX. 06(6794)0217

■広島営業所
〒732-0053 広島市東区若草町 2 番 10 号 リブレ若草 101 号
TEL. 082(536)3712　FAX. 082(536)3742

■富山オフィス
〒939－8096 富山市西大泉 17 番 20 号 浜忠第二ビル 1-B
TEL. 076(425)5171　FAX. 076(425)5187

■業務課
〒547-0002　大阪市平野区加美東 2 丁目 1 番 18 号
TEL. 06(7223)8565　FAX. 06(7223)8566

工　場

■本　社　工　場　〒547－0002 大阪市平野区加美東 2 丁目 1 番 18 号　TEL. 06(6791)6781　FAX. 06(6793)1221
■三 重 事 業 所　〒518－0205 三重県伊賀市伊勢路 758－14　TEL. 0595(52)2800　FAX. 0595(52)2841
■富 田 林 工 場　〒584－0022 大阪府富田林市中野町東 2 丁目 1 番 23 号　TEL. 0721(23)2700　FAX. 0721(23)2705

海外拠点

■DIJET GmbH (Europe)
Immermannstr.9 40210 Düsseldorf, Germany
Phone. 49-211-50088820, 50088822　Fax. 49-211-50088823

■DIJET INDUSTRIAL CO., LTD. (Bangkok Representative Office)
699 Srinakarindr Road, Modernform Tower 15th Floor, Kweang Suanluang
Khet Suanluang, Bangkok 10250, Thailand
Phone. 66-2-722-8258, 8259　Fax. 66-2-722-8260

■DIJET INDUSTRIAL CO., LTD. (Shanghai Representative Office)
Room No.712 Tomson Commercial Building., 710 Dongfang Rd.,
Shanghai 200122, China
Phone. 86-21-5058-1698　Fax. 86-21-5058-1699

■DIJET INDUSTRIAL CO., LTD. (Guandong Representative Office)
Rm.903, No.98, Zhenan East-Road, Changan Town, Dongguan City,
Guangdong Provence 523850, China
Phone. 86-769-8188-6001　Fax. 86-769-8188-6608

■**DIJET INDUSTRIAL CO., LTD. (Chengdu Office)**
Rm 1-302, No.27 Dongfeng Road, Jinjiang District, Chengdu, 610065, China
Phone. 86-28-8511-4585　Fax. 86-28-8511-2758

■**DIJET INDUSTRIAL CO., LTD. (Wuhan Office)**
B-2513, Jiayu Jianyin Business Masion, No.10 Chuangye Road,
Wuhan Eco. & Tech. Development Zone, Wuhan City, Hubei 430056, China
Phone. 86-27-8773-8919　Fax. 86-27-8773-8959

■**DIJET INDUSTRIAL CO., LTD. (Mumbai Representative Office)**
305, Mahant Chambers Plot No. 315, Road No. 34, Wagle Estate
MIDC Industrial Area, Thane (W) 400604, India
Phone. 91-22-4012-1231　Fax. 91-22-4024-0919

■**DIJET Incorporated (U.S.A.)**
45807 Helm Street, Plymouth, MI 48170 U.S.A.
Phone. 1-734-454-9100　Fax. 1-734-454-9395

インターネットホームページ
https://www.dijet.co.jp

技術相談フリーコール
サンキュー　ハ　イ　サンキュー
0120-39-81-39
9：00～12：00、13：00～17：00（土・日・祝日を除く）
営業企画課
FAX 06-6793-1230

LINE ダイジェット工業 公式LINEアカウント
https://lin.ee/p0YdfUy

ダイジェット工業 公式YouTubeチャンネル
https://www.youtube.com/channel/UC1AdnZ3YtAg-h3rrlDa5uXA

https://twitter.com/DijetTool

ご使用上の注意　工具を安全にご使用いただくために
●不適切な切削条件で使用しないでください。●大きな摩耗や欠けのある工具は使用しないでください。
●切りくずの飛散、巻き付きによるケガにご注意ください。又、保護眼鏡や安全カバーをご使用ください。
WARNING: •Grinding produces hazardous dust. •To avoid adverse health, use adequate ventilation and read Material Safety Data Sheet first.
•Cutting tools may fragment in use. Wear eye protection in the vicinity of their operation.

●工具仕様は、改良のため予告なく変更することがあります。Specification shall be changed without notice.

販売店