

High Feed Radius Milling Cutter

AJXSeries
Expansion**Cost Reduction with ultra high feed milling
over a wide range of applications!**

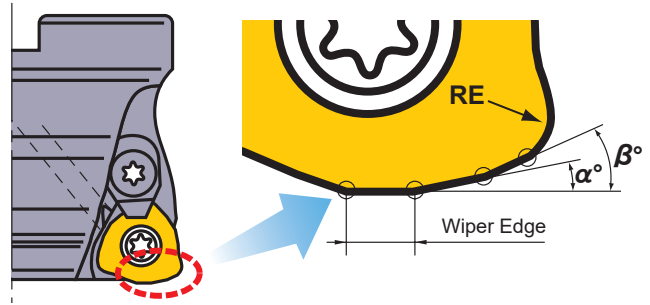
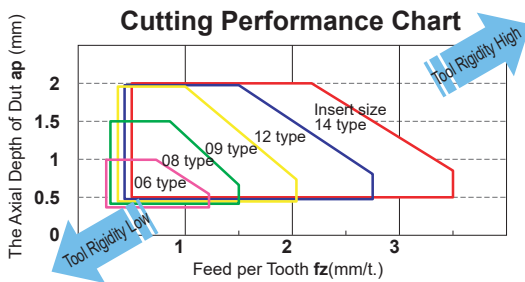
High Feed Radius Milling Cutter

AJX

Features

Ultra High Feed Cutting

Employing a two-step straight cutting edge to form the lead angle α and β with a wiper edge, the AJX can achieve an extra high feed rate of up to 3.5mm/tooth for ultimate efficiency in rough machining.



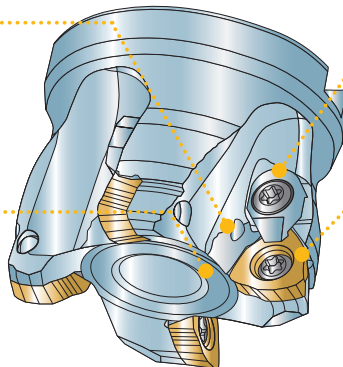
Highly Reliable Cutter Body

Standard with Coolant Holes

All AJX bodies are supplied with through coolant holes for smooth chip discharge and cutting edge cooling and lubrication.

Durable Tool Body

AJX bodies are made from a heat resistant alloy. The special surface treatment applied to the body increases corrosion and friction resistance.



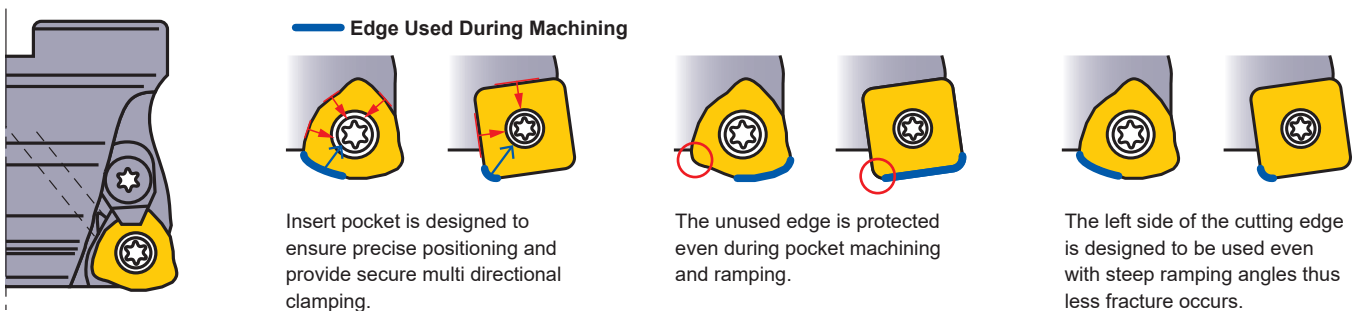
Highly Rigid Clamping

Insert clamp bridges are standard (except in the AJX 06, 08 types, and the super extra fine pitch type). Rigid insert clamping allows for stable and reliable cutting.

Cost-effective Insert

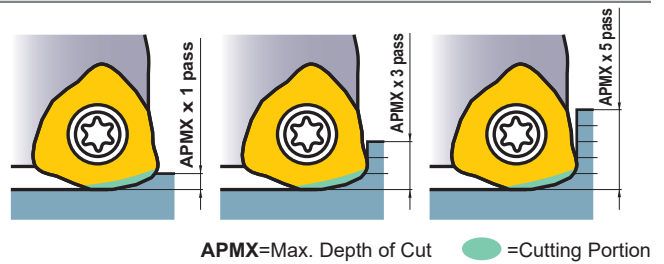
Specially designed triangular style insert geometry for cost effective milling.

Triangular Insert Shape is Ideal for Safe Multi-Functional Milling



Anti Vibration Properties

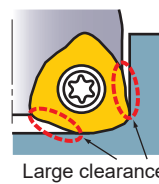
The AJX always uses the same portion of the cutting edge thereby maintaining stable cutting even when the tool overhang is long.



Preventing Chip Jamming Problems

The indents engineered into the inner and outer cutting edges maintain a large clearance, preventing chip jamming problems.

For improved efficiency and a more stable cutting performance when ramping and sinking compared to conventional products.



Comparison of Ramping Angles

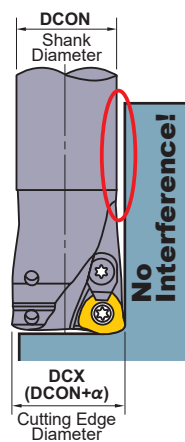
	Max. Ramping Angle
AJX	2.8°
4 Corner Insert	1°
Conventional Products	1°

*With DCX= ø63 mm type

No Workpiece Material Interference

The AJX shank type is designed with an offset cutting diameter for workpiece material and chip clearance as shown.

Ideal for deep cutting and reducing the need for special long tools.



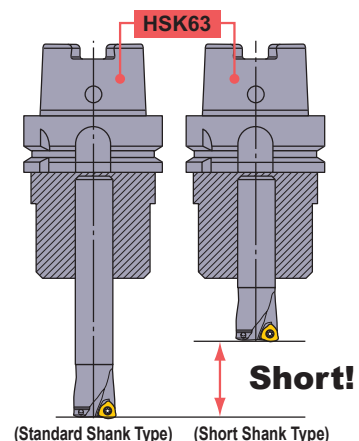
Order Number	(mm)	
	DCX	DCON
AJX06R172SA16	17	16
AJX06R223SA20	22	20
AJX06R284SA25	28	25
AJX08R222SA20	22	20
AJX08R283SA25	28	25
AJX08R406SA32	40	32
AJX09R282SA25	28	25
AJX09R353SA32	35	32
AJX09R404SA32	40	32
AJX12R352SA32	35	32
AJX12R40SA32	40	32
AJX14R503SA42	50	42
AJX14R634SA42	63	42

Please refer to page 12 for details about the holder.

HSK63 Type Short Shanks

Short shank type AJX06R○○○SA○○SS end mills are available. Although HSK63 holders are already short, the use of the short shank type AJX permits minimum overhang for maximum rigidity.

The minimum tool overhang length enables stable, high efficiency machining even on high-speed machining centres.



Selection Reference Table (Cutting Edge Count and Cutting Conditions)

<Cutting Conditions> Workpiece Material: SCM440, Insert Grade: FH7020, Cutting Speed: 150 m / min. Protrusion amount is calculated based on the maximum value in the table for recommended conditions. Rounded down to the last two digits.

(mm)

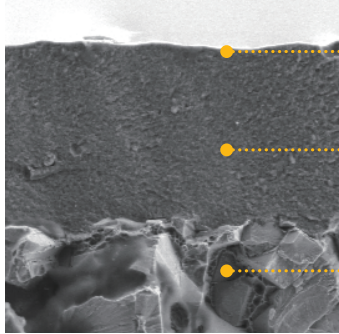
Type	DCX	Coarse Pitch			Fine Pitch			Extra Fine Pitch			Super Extra Fine Pitch					
		Tool Holder Type	Number of Teeth	Table Feed vf (mm/min)	Tool Holder Type	Number of Teeth	Table Feed vf (mm/min)	Tool Holder Type	Number of Teeth	Table Feed vf (mm/min)	Tool Holder Type	Number of Teeth	Table Feed vf (mm/min)	Tool Holder Type	Number of Teeth	Table Feed vf (mm/min)
Arbor Type	32										AJX06	5	7400	AJX06	6	8900
	40										AJX08	6	7100			
	42										AJX08	6	6800			
	50	AJX12	3	3100	AJX12	4	4200	AJX09	5	5200	AJX09	6	6300	AJX08	7	7300
	52										AJX09	6	6000	AJX08	7	7000
	63	AJX14	3	2500	AJX14	4	3300	AJX12	5	4100	AJX12	6	5000	AJX09	7	5800
	63	AJX14	3	2500	AJX14	4	3300	AJX12	5	4100	AJX12	6	5000	AJX09	7	5800
	66	AJX14	3	2300	AJX14	4	3100	AJX12	5	3900	AJX12	6	4700	AJX09	7	5500
	80	AJX14	4	2300	AJX14	5	2900	AJX12	6	3500	AJX12	8	4700			
	100	AJX14	5	2300	AJX14	6	2800	AJX12	7	3300	AJX12	9	4200			
	125	AJX14	5	1900	AJX14	7	2600				AJX14	9	3400			
160	AJX14	6	1700	AJX14	8	2300										
Shank Type and Long Shank Type	16	AJX06	2	2300												
	17	AJX06	2	2200												
	20	AJX08	2	2800	AJX06	3	4200									
	22	AJX08	2	2600	AJX06	3	3900									
	25	AJX09	2	3000	AJX08	3	4500	AJX06	4	6100						
	28	AJX09	2	2700	AJX08	3	4000	AJX06	4	5400						
	30	AJX12	2	3100	AJX09	3	4700									
	32	AJX12	2	2900	AJX09	3	4400	AJX08	4	5900	AJX06	5	7400	AJX06	6	8900
	40 DCON=40	AJX12	3	3500	AJX09	4	4700	AJX08	6	7100						
	40 DCON=42	AJX12	3	3900	AJX09	4	5200									
	50	AJX14	3	3700												
63	AJX14	4	3900													
Screw-in Type	16	AJX06	2	2300												
	17	AJX06	2	2200												
	20	AJX08	2	2800	AJX06	3	4200									
	22	AJX08	2	2600	AJX06	3	3900									
	25	AJX09	2	3000	AJX08	3	4500	AJX06	4	6100						
	28	AJX09	2	2700	AJX08	3	4000	AJX06	4	5400						
	30	AJX12	2	3100	AJX09	3	4700									
	32	AJX12	2	2900	AJX09	3	4400	AJX08	4	5900						
	35	AJX12	2	2700	AJX09	3	4000	AJX08	4	5400						
	40	AJX12	3	3500	AJX09	4	4700	AJX08	6	7100						

PVD Coated Grade for Difficult-to-cut Materials

MP9140



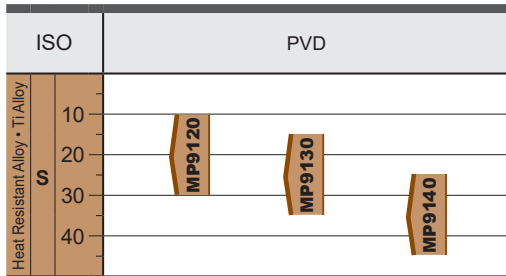
MP9140 Has Excellent Welding Resistance
Due to Smoothened Surface



Smooth surface is excellent in proving welding resistance.

The Al-rich AlTiN coating succeeds in dramatically improving wear and heat resistance.

Special cemented carbide substrate with improved fracture resistance.

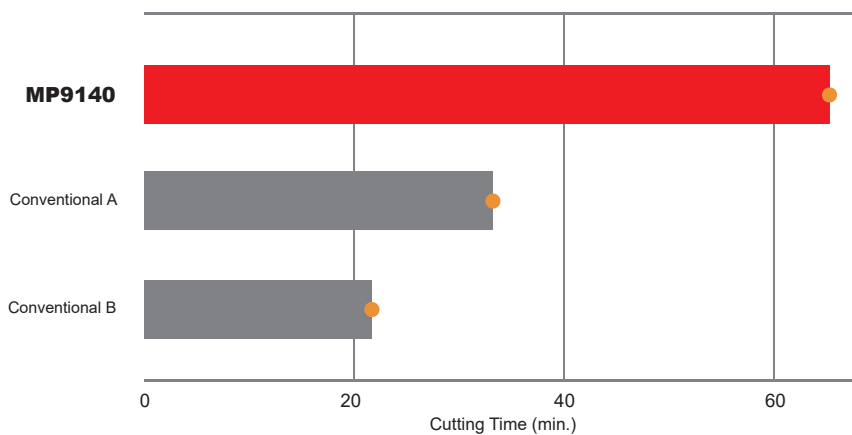


Grade	Features
MP9120	Focus on Wear Resistance
MP9130	Standard Grade
MP9140	Focus on Fracture Resistance

Cutting Performance

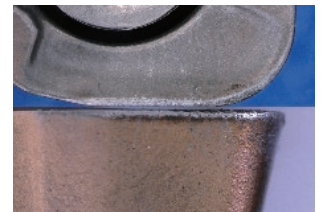
Comparison of Fracture Resistance in Titanium Alloy Machining.

MP9140 achieved more than triple the tool life than conventional product B.



<Cutting Conditions>
 Workpiece Material : Ti-6Al-4V
 Tool : AJX06R162AM0830
 Insert : JOMT06T216ZZER-JL
 Cutting Speed : vc=60 m/min
 Feed per Tooth : fz=0.5 mm/t
 Depth of Cut : ap=0.5 mm
 Width of Cut : ae=8 mm, 16 mm
 Cutting Mode : Wet Cutting

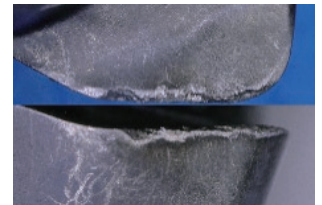
MP9140



Conventional A



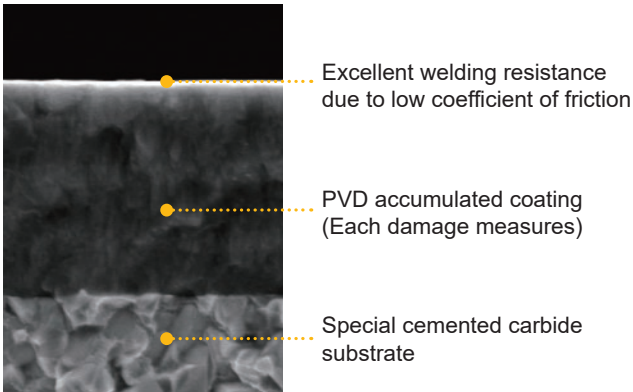
Conventional B



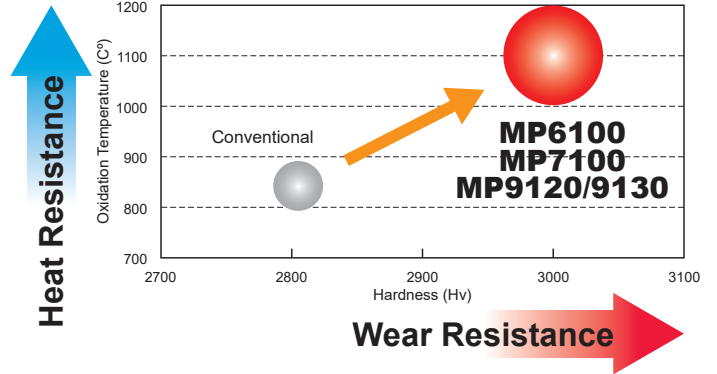
High Feed Radius Milling Cutter

Insert Grades for a Wide Range of Materials

Al-Ti-Cr-N base PVD Accumulated Coating



Dramatically Improving the Heat and Wear Resistance!



Excellent Welding Resistance due to Low Coefficient Friction!

	Workpiece Material	Grade	Coefficient of Friction		
			Measured at 600 Degrees		
			S55C	SUS304	Ti-6Al-4V
P	Carbon Steels, Alloy Steels	MP6100	0.4		
M	Stainless Steels	MP7100		0.5	
S	Titanium Alloys, Heat Resistant Alloys	MP9120/9130			0.3
	Conventional		0.7	0.7	0.7

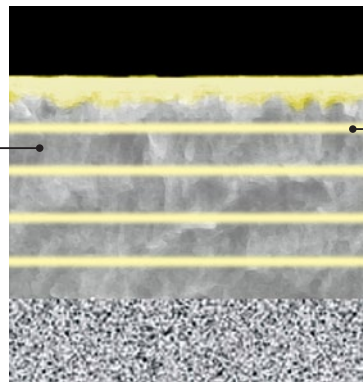
TOUGH-Σ Technology

A fusion of separate coating technologies; PVD and multilayering realises extra toughness.

PVD Accumulated Coating

Base Layer High Al-(Al, Ti)N

The new technology Al-(Al, Ti)N coating provides stabilisation of the high hardness phase and succeeds in dramatically improving wear, crater and welding resistance.

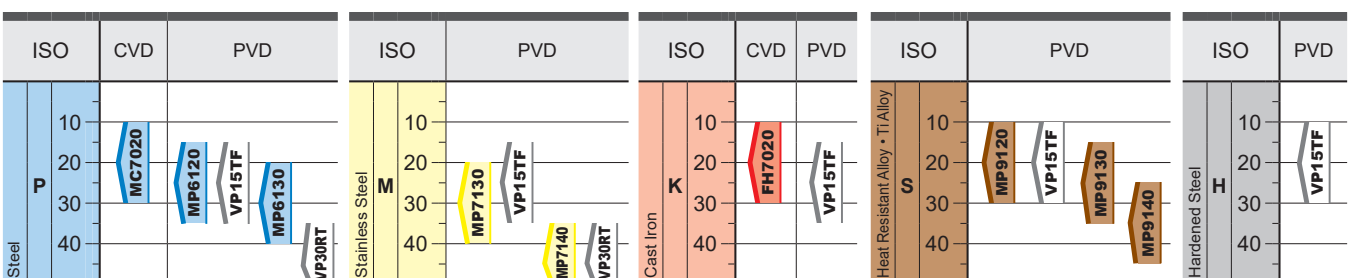


*Graphical Representation.

Best Layer of Each Workpiece Material

P		(Al,Cr)N Tough! Thermal Cracks
M		TiN Tough! Notching
S		CrN Tough! Resistant Chipping

Application Range




Wide Selection of Inserts

Focus on Cutting Edge Strength

ST

Strong Cutting Edge Type Chip Breaker



Stable Machining even on Interrupted Workpiece Material Surfaces

With increased fracture resistance during interrupted cutting due to tougher cutting edges.
Recommended for increased reliability and higher efficiency machining to reduce costs.

P

M


K

S

H

FT

General Use Type Chip Breaker



First Recommended Chip Breaker for General Cutting

An optimum balance of sharpness and fracture resistance.
Versatile insert for a wide range of workpiece materials and cutting conditions.

P

M

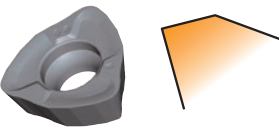
K

S

H

JM

Sharp Cutting Edge Type Chip Breaker (For General Use)



Suitable for Use on BT40 and HSK63 Machines

Boosts cutting performance with a large rake angle.
Effective for anti-vibration machining for long overhang applications at higher than normal feeds for cost saving efficiency.

P

M


K

S

H

JL

Sharp Cutting Edge Type Chip Breaker (For Difficult-to-cut Materials)



Optimised for Difficult-to-cut Materials

The optimised cutting edge of the JL breaker provides the sharpness and low cutting resistance that is ideal for difficult-to-cut materials.
The maximum depth of cut is depending on the insert size.
25 for more details.

P

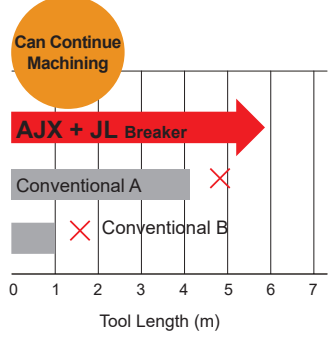
M

K

S

H

Can Continue Machining



AJX + JL Breaker

Conventional A

Conventional B

Tool Length (m)

<Cutting Conditions>

Tool : DCX=ø63-5 teeth

Workpiece Material : Ti-6Al-4V

Revolution : n=202 min⁻¹

Cutting Speed : vc=40 m/min

Table Feed : vf=606 mm/min

Feed per Tooth : fz=0.6 mm/t

Depth of Cut : ap=1.0 mm

Width of Cut : ae=45 mm

Cutting Mode : Wet Cutting

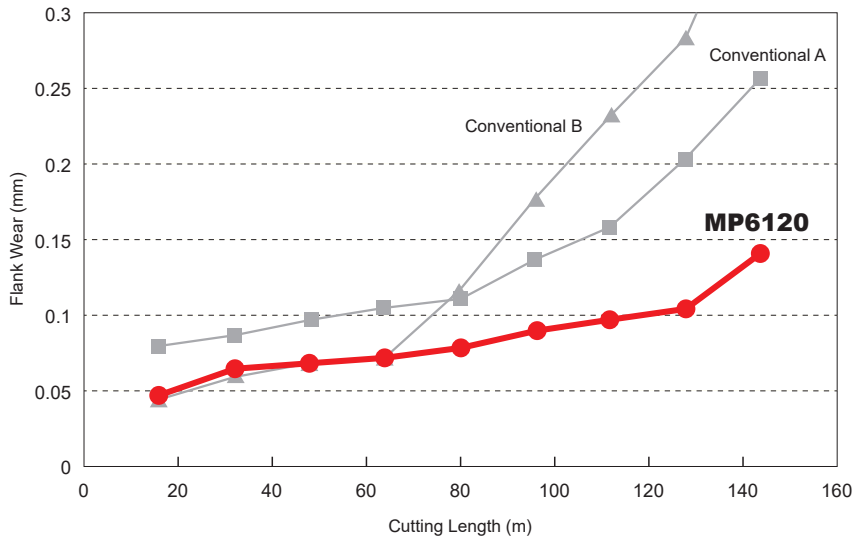
Focus on Cutting Edge Sharpness

Workpiece Material	Cutting Conditions		
	Light	General	Interrupted
<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> <div style="border: 1px solid black; background-color: #ADD8E6; padding: 5px;">P</div> <div style="border: 1px solid black; background-color: #FF6347; padding: 5px;">K</div> <div style="border: 1px solid black; background-color: #D3D3D3; padding: 5px;">H</div> </div>	JM	FT	ST
<div style="border: 1px solid black; background-color: #FFFF00; padding: 5px; width: 40px; margin: 0 auto;">M</div>	JM	FT	ST
<div style="border: 1px solid black; background-color: #D2B48C; padding: 5px; width: 40px; margin: 0 auto;">S</div>	JL	JM	FT

Cutting Performance

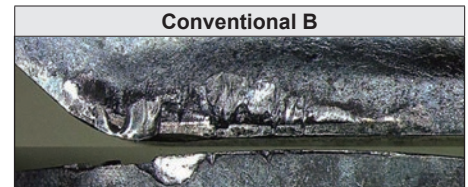
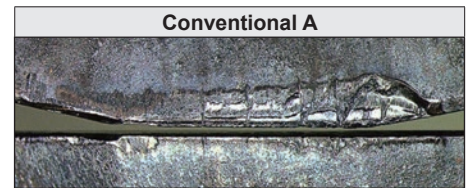
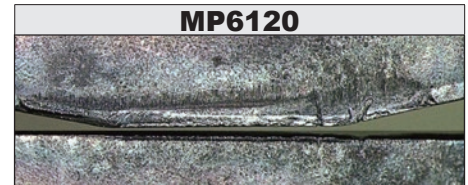
General Steel Machining

MP6120 Provides Superior Resistance to Thermal Cracking and Welding



<Cutting Conditions>

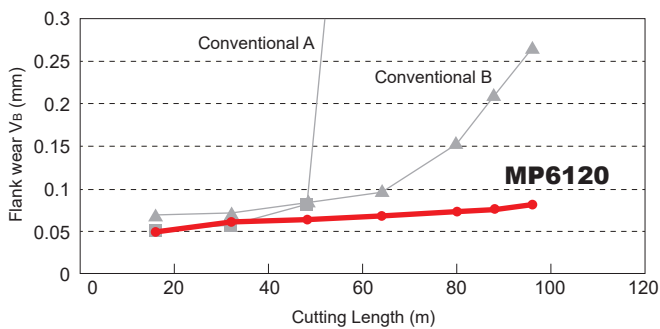
Tool : AJX14-063A04R
 Insert : JDMT140520ZDSR-JM
 Cutting Speed : vc=200 m/min
 Feed per Tooth : fz=1.5 mm/t
 Depth of Cut : ap=1.0 mm
 Width of Cut : ae=50 mm
 Cutting Mode : Dry Cutting



Cutting Length : 140 m

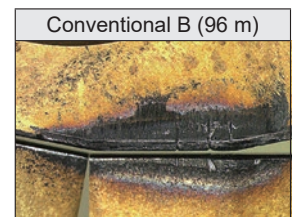
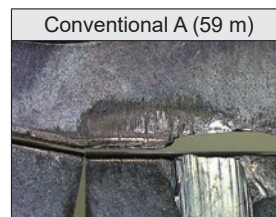
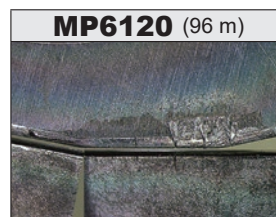
MP6120 Achieves Long Tool Life in Low to Middle Speed Cutting.

CVD coated FH7020 is recommended for higher speeds that exceed 200m/min.



<Cutting Conditions>

Workpiece Material : JIS SCM440
 Tool : AJX14-063A04R
 Insert : JDMW140520ZDSR-FT
 Cutting Speed : vc=200 m/min
 Feed per Tooth : fz=1.5 mm/t
 Depth of Cut : ap=1.0 mm
 Width of Cut : ae=50 mm
 Cutting Mode : Dry Cutting



Memo

A series of horizontal dashed lines for writing, spanning the width of the page.

High Feed Radius Milling Cutter

MULTI-FUNCTIONAL MILLING



AJX

- P
- M
- K
- N
- S
- H



Fig.1

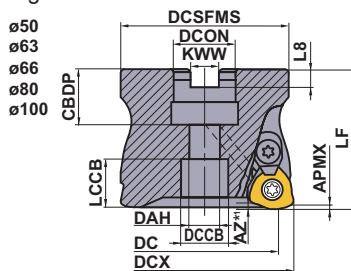
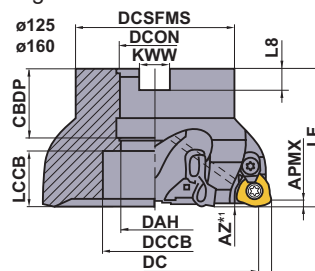


Fig.2



Right hand tool holder only.

(mm)

DCX		Set Bolt	Geometry
DCON inch size	DCON mm size		
ø50, ø63	ø50, ø63(DCON=22)	HSC10030H	①
	ø63(DCON=27), ø80	HSC12035H	
ø80, ø100	ø100	HSC16040H	②
ø125	ø125, ø160	MBA20040H	
ø160		MBA24045H	

Arbor Type

With Coolant Hole

DCX=mm size, DCON=inch size

(mm)

DCX	Order Number	Stock	*2 No.T	DC	LF	DCON	WT (kg)	APMX	RMPX	Fig.	Insert Type
		R									
50	AJX12R05003B	●	3	38.3	50	22.225	0.4	1.2	2°	1	JDM1204
50	AJX12R05004B	●	4	38.3	50	22.225	0.4	1.2	2°	1	JDM1204
50	AJX09R05005B	●	5	40.0	50	22.225	0.5	1.2	1.1°	1	JDM09T3
63	AJX14R06303B	●	3	51.1	50	22.225	0.7	1.2	2.8°	1	JDM1405
63	AJX14R06304B	●	4	51.1	50	22.225	0.7	1.2	2.8°	1	JDM1405
63	AJX12R06305B	●	5	51.3	50	22.225	0.9	1.2	1.5°	1	JDM1204
80	AJX14R08004D	●	4	68.1	63	31.75	1.3	1.2	1.8°	1	JDM1405
80	AJX14R08005D	●	5	68.1	63	31.75	1.3	1.2	1.8°	1	JDM1405
80	AJX12R08006D	●	6	68.3	63	31.75	1.7	1.2	1.1°	1	JDM1204
100	AJX14R10005D	●	5	88.1	63	31.75	2.4	1.2	1.2°	1	JDM1405
100	AJX14R10006D	●	6	88.1	63	31.75	2.4	1.2	1.2°	1	JDM1405
100	AJX12R10007D	●	7	88.3	63	31.75	2.9	1.2	0.8°	1	JDM1204
125	AJX14R12505E	●	5	113.2	63	38.1	3.3	1.2	0.8°	2	JDM1405
125	AJX14R12507E	●	7	113.2	63	38.1	3.3	1.2	0.8°	2	JDM1405
160	AJX14R16006F	●	6	148.2	63	50.8	5.0	1.2	0.5°	2	JDM1405
160	AJX14R16008F	●	8	148.2	63	50.8	5.0	1.2	0.5°	2	JDM1405

DCX=mm size, DCON=mm size

(mm)

DCX	Order Number	Stock	*2 No.T	DC	LF	DCON	WT (kg)	APMX	RMPX	Fig.	Insert Type	
		R										
50	AJX12-050A03R	●	3	38.3	50	22	0.4	1.2	2°	1	JDM1204	
50	AJX12-050A04R	●	4	38.3	50	22	0.4	1.2	2°	1	JDM1204	
50	AJX09-050A05R	●	5	40.0	50	22	0.5	1.2	1.1°	1	JDM09T3	
63	AJX14-063A03R	●	3	51.1	50	22	0.7	1.2	2.8°	1	JDM1405	
63	AJX14-063A04R	●	4	51.1	50	22	0.7	1.2	2.8°	1	JDM1405	
63	AJX12-063A05R	●	5	51.3	50	22	0.9	1.2	1.5°	1	JDM1204	
NEW	63	AJX14-063X03R	●	3	51.1	50	27	0.6	1.2	2.8	1	JDM1405
NEW	63	AJX14-063X04R	●	4	51.1	50	27	0.6	1.2	2.8	1	JDM1405
NEW	63	AJX12-063X05R	●	5	51.3	50	27	0.6	1.2	1.5	1	JDM1204
NEW	66	AJX14-066X03R	●	3	54.1	50	27	0.6	1.2	2.6	1	JDM1405
NEW	66	AJX14-066X04R	●	4	54.1	50	27	0.6	1.2	2.6	1	JDM1405
NEW	66	AJX12-066X05R	●	5	54.3	50	27	0.7	1.2	1.4	1	JDM1204
80	AJX14-080A04R	●	4	68.1	50	27	1.2	1.2	1.8°	1	JDM1405	
80	AJX14-080A05R	●	5	68.1	50	27	1.2	1.2	1.8°	1	JDM1405	
80	AJX12-080A06R	●	6	68.3	50	27	1.2	1.2	1.1°	1	JDM1204	
100	AJX14-100A05R	●	5	88.1	63	32	2.4	1.2	1.2°	1	JDM1405	
100	AJX14-100A06R	●	6	88.1	63	32	2.4	1.2	1.2°	1	JDM1405	
100	AJX12-100A07R	●	7	88.3	63	32	2.6	1.2	0.8°	1	JDM1204	

● : Inventory maintained in Japan.

High Feed Radius Milling Cutter

Mounting Dimensions

Fig.1

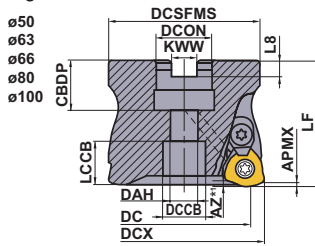


Fig.2

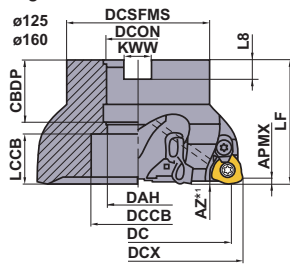


Fig.3

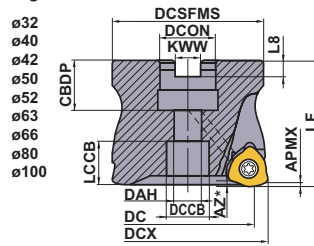
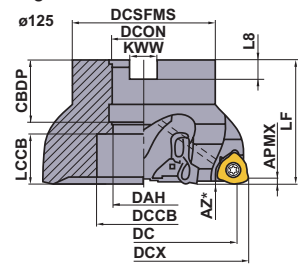


Fig.4



DCX = mm size, DCON = inch size

(mm)

DCX	Order Number	DCON	CBDP	DAH	DCCB	LCCB	DCSFMS	KWW	L8	Fig.
50	AJX12R050	22.225	19	11	17	18.3	47	8.4	5	1
50	AJX09R050	22.225	19	11	17	18.3	47	8.4	5	1
63	AJX14R063	22.225	19	11	17	18.2	60	8.4	5	1
63	AJX12R063	22.225	19	11	17	18.3	60	8.4	5	1
80	AJX14R080	31.75	32	17	26	20.2	76	12.7	8	1
80	AJX12R080	31.75	32	17	26	20.3	76	12.7	8	1
100	AJX14R100	31.75	32	17	26	20.2	96	12.7	8	1
100	AJX12R100	31.75	32	17	26	20.3	96	12.7	8	1
125	AJX14R125	38.1	40	40	56	22.1	100	15.9	10	2
160	AJX14R160	50.8	43	53	72	19.1	100	19.1	11	2





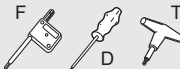
DCX = mm size, DCON = mm size

(mm)

DCX	Order Number	DCON	CBDP	DAH	DCCB	LCCB	DCSFMS	KWW	L8	Fig.
32	AJX06-032A	16	18	9	14	14.45	30	8.4	5.6	3
40	AJX08-040A	16	18	9	14	14.3	37	8.4	5.6	3
42	AJX08-042A	16	18	9	14	14.3	37	8.4	5.6	3
50	AJX12-050A	22	20	11	17	17.28	47	10.4	6.3	1
50	AJX09-050A	22	20	11	17	17.31	47	10.4	6.3	1, 3
50	AJX08-050A	22	20	11	17	17.36	47	10.4	6.3	3
52	AJX09-052A	22	20	11	17	17.31	47	10.4	6.3	3
52	AJX08-052A	22	20	11	17	17.36	47	10.4	6.3	3
63	AJX14-063A	22	20	11	17	17.16	60	10.4	6.3	1
63	AJX12-063A	22	20	11	17	17.28	60	10.4	6.3	1, 3
63	AJX09-063A	22	20	11	17	17.31	60	10.4	6.3	3
63	AJX14-063X	27	23	13	20	16.16	60	12.4	7.0	1
63	AJX12-063X	27	23	13	20	16.28	60	12.4	7.0	3
63	AJX09-063X	27	23	13	20	16.31	60	12.4	7.0	3
66	AJX12-066A	22	20	11	17	17.28	60	10.4	6.3	3
66	AJX09-066A	22	20	11	17	17.31	60	10.4	6.3	3
66	AJX14-066X	27	23	13	20	16.16	60	12.4	7.0	1
66	AJX12-066X	27	23	13	20	16.28	60	12.4	7.0	1, 3
66	AJX09-066X	27	23	13	20	16.31	60	12.4	7.0	3
80	AJX14-080A	27	23	13	19	16.16	76	12.4	7.0	1
80	AJX12-080A	27	23	13	19	16.28	76	12.4	7.0	1, 3
100	AJX14-100A	32	26	17	26	26.16	96	14.4	8.0	1
100	AJX12-100A	32	26	17	26	26.28	96	14.4	8.0	1, 3
125	AJX14-125B	40	40	42	56	22.14	100	16.4	9.0	2, 4
160	AJX14-160B	40	40	42	56	22.14	100	16.4	9.0	2

Spare Parts

(mm)

Tool Holder Type	 *		 *		
	Clamp Screw	Clamp Bridge	Clamp Bridge Screw	Spring	Wrench
AJX06 Super Extra Fine Pitch	TS25	—	—	—	TKY08F
AJX08 Super Extra Fine Pitch	TS33	—	—	—	TKY08D
AJX09	TS351	AMS3	AJS3010T10	ASS2	TKY10D
AJX09 Super Extra Fine Pitch	TS351	—	—	—	TKY10D
AJX12	TS43	AMS4	AJS4012T15	ASS2	TKY15T
AJX12 Super Extra Fine Pitch	TS43	—	—	—	TKY15T
AJX14	TS54	AMS5	AJS5014T25	ASS3	TKY25T
AJX14 Super Extra Fine Pitch	TS54	—	—	—	TKY25T

* Clamp Torque (N * m) : TS25=1.0, TS33=1.5, TS351=2.5, TS43=3.5, TS54=7.5, AJS3010T10=2.5, AJS4012T15=3.5, AJS5014T25=7.5

● : Inventory maintained in Japan.



Fig.1

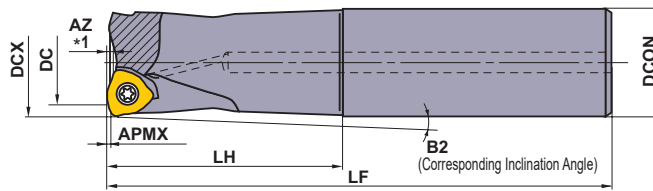


Fig.2

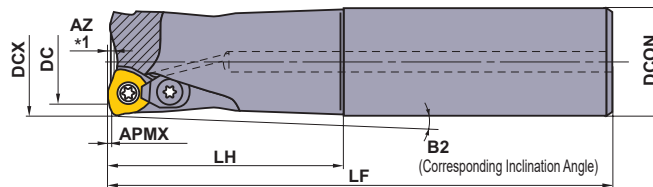
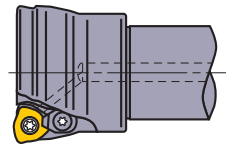


Fig3



Right hand tool holder only.

Shank Type

With Coolant Hole

(mm)

DCX	Order Number	Stock	*2 No.T	LF	DC	LH	DCON	B2	APMX	RMPX	Fig.	Insert Type	
		R											
16	AJX06R162SA16SS	●	2	70	8.9	20	16	3.5	0.6	3°	1	JOM06T2	
16	AJX06R162SA16S	●	2	110	8.9	30	16	2.25	0.6	3°	1	JOM06T2	
16	AJX06R162SA16L	●	2	150	8.9	70	16	0.93	0.6	3°	1	JOM06T2	
16	AJX06R162SA16EL	●	2	200	8.9	100	16	0.64	0.6	3°	1	JOM06T2	
17	AJX06R172SA16SS	●	2	70	9.9	20	16	—	0.6	2.5°	1	JOM06T2	
17	AJX06R172SA16S	●	2	110	9.9	20	16	—	0.6	2.5°	1	JOM06T2	
17	AJX06R172SA16L	●	2	150	9.9	20	16	—	0.6	2.5°	1	JOM06T2	
17	AJX06R172SA16EL	●	2	200	9.9	20	16	—	0.6	2.5°	1	JOM06T2	
20	AJX08R202SA20S	●	2	130	11.4	50	20	1.34	0.9	3.5°	1	JOM0803	
20	AJX06R203SA20S	●	3	130	12.9	50	20	1.31	0.6	1.5°	1	JOM06T2	
20	AJX08R202SA20L	●	2	180	11.4	100	20	0.65	0.9	3.5°	1	JOM0803	
20	AJX06R203SA20L	●	3	180	12.9	100	20	0.64	0.6	1.5°	1	JOM06T2	
20	AJX08R202SA20EL	●	2	250	11.4	130	20	0.5	0.9	3.5°	1	JOM0803	
22	AJX08R222SA20S	●	2	130	13.4	30	20	—	0.9	3°	1	JOM0803	
22	AJX06R223SA20S	●	3	130	14.9	30	20	—	0.6	1°	1	JOM06T2	
22	AJX08R222SA20L	●	2	180	13.4	30	20	—	0.9	3°	1	JOM0803	
22	AJX06R223SA20L	●	3	180	14.9	30	20	—	0.6	1°	1	JOM06T2	
22	AJX08R222SA20EL	●	2	250	13.4	30	20	—	0.9	3°	1	JOM0803	
25	AJX09R252SA25S	●	2	140	14.9	60	25	1.1	1.2	4°	2	JDM09T3	
25	AJX08R253SA25S	●	3	140	16.4	60	25	1.1	0.9	2°	1	JOM0803	
NEW	25	AJX06R254SA25S	●	4	140	17.9	60	25	1.11	0.6	0.8°	1	JOM06T2
25	AJX09R252SA25L	●	2	200	14.9	120	25	0.54	1.2	4°	2	JDM09T3	
25	AJX08R253SA25L	●	3	200	16.4	120	25	0.54	0.9	2°	1	JOM0803	
NEW	25	AJX06R254SA25L	●	4	200	17.9	120	25	0.54	0.6	0.8°	1	JOM06T2
25	AJX09R252SA25EL	●	2	300	14.9	180	25	0.36	1.2	4°	2	JDM09T3	

*1 Refer to page 25, for the maximum drilling depth (AZ).

*2 Number of Teeth

Note 1) Refer to page 25, for the max. depth of cut (APMX) and maximum drilling depth (AZ).

Continued on the next page.

Dimensions and Symbols (ISO 13399 Compliance)

DCX = Cutting Diameter Max.

DC = Cutting Diameter

LF = Functional Length

DCON = Connection Diameter

WT = Weight of Item

APMX = Depth of Cut Max.

RMPX = Ramping Angle Max.

CBDP = Connection Bore Depth

DAH = Diameter Access Hole

DCCB = Counterbore Diameter Connection Bore

LCCB = Counterbore Depth Connection Bore

DCSFMS = Contact Surface Diameter Machine Side

KWW = Keyway Width

High Feed Radius Milling Cutter

(mm)

DCX	Order Number	Stock	*2 No.T	LF	DC	LH	DCON	B2	APMX	RMPX	Fig.	Insert Type	
		R											
28	AJX09R282SA25S	●	2	140	17.9	40	25	—	1.2	3°	2	JDM09T3	
28	AJX08R283SA25S	●	3	140	19.4	40	25	—	0.9	1.7°	1	JOM0803	
NEW	28	AJX06R284SA25S	●	4	140	20.9	40	25	—	0.6	0.7°	1	JOM06T2
28	AJX09R282SA25L	●	2	200	17.9	40	25	—	1.2	3°	2	JDM09T3	
28	AJX08R283SA25L	●	3	200	19.4	40	25	—	0.9	1.7°	1	JOM0803	
NEW	28	AJX06R284SA25L	●	4	200	20.9	40	25	—	0.6	0.7°	1	JOM06T2
28	AJX09R282SA25EL	●	2	300	17.9	40	25	—	1.2	3°	2	JDM09T3	
30	AJX12R302SA32S	●	2	150	18.3	70	32	1.82	1.2	4.5°	2	JDM1204	
30	AJX09R303SA32S	●	3	150	20	70	32	1.79	1.2	2.7°	2	JDM09T3	
30	AJX12R302SA32L	●	2	200	18.3	120	32	1.04	1.2	4.5°	2	JDM1204	
30	AJX09R303SA32L	●	3	200	20	120	32	1.03	1.2	2.7°	2	JDM09T3	
30	AJX12R302SA32EL	●	2	300	18.3	180	32	0.69	1.2	4.5°	2	JDM1204	
32	AJX12R322SA32S	●	2	150	20.3	70	32	0.96	1.2	4°	2	JDM1204	
32	AJX09R323SA32S	●	3	150	21.9	70	32	0.94	1.2	2.5°	2	JDM09T3	
NEW	32	AJX08R324SA32S	●	4	150	23.4	70	32	0.95	0.9	1.4°	1	JOM0803
NEW	32	AJX06R325SA32S	●	5	150	24.9	70	32	0.94	0.6	0.5°	1	JOM06T2
NEW	32	AJX06R326SA32S	●	6	150	24.9	70	32	0.94	0.6	0.5°	1	JOM06T2
32	AJX12R322SA32L	●	2	200	20.3	120	32	0.55	1.2	4°	2	JDM1204	
32	AJX09R323SA32L	●	3	200	21.9	120	32	0.54	1.2	2.5°	2	JDM09T3	
NEW	32	AJX08R324SA32L	●	4	200	23.4	120	32	0.55	0.9	1.4°	1	JOM0803
NEW	32	AJX06R325SA32L	●	5	200	24.9	120	32	0.54	0.6	0.5°	1	JOM06T2
32	AJX12R322SA32EL	●	2	300	20.3	180	32	0.36	1.2	4°	2	JDM1204	
35	AJX12R352SA32S	●	2	150	23.3	50	32	—	1.2	3.5°	2	JDM1204	
35	AJX09R353SA32S	●	3	150	24.9	50	32	—	1.2	2°	2	JDM09T3	
35	AJX12R352SA32L	●	2	200	23.3	50	32	—	1.2	3.5°	2	JDM1204	
35	AJX09R353SA32L	●	3	200	24.9	50	32	—	1.2	2°	2	JDM09T3	
35	AJX12R352SA32EL	●	2	300	23.3	50	32	—	1.2	3.5°	2	JDM1204	
40	AJX12R403SA32S	●	3	150	28.3	50	32	—	1.2	3°	2	JDM1204	
40	AJX09R404SA32S	●	4	150	29.9	50	32	—	1.2	1.5°	2	JDM09T3	
NEW	40	AJX08R406SA32S	●	6	150	31.4	50	32	—	0.9	1°	1	JOM0803
40	AJX12R403SA32L	●	3	250	28.3	50	32	—	1.2	3°	2	JDM1204	
40	AJX09R404SA32L	●	4	250	29.9	50	32	—	1.2	1.5°	2	JDM09T3	
NEW	40	AJX08R406SA32L	●	6	250	31.4	50	32	—	0.9	1°	1	JOM0803
40	AJX12R402SA32EL	●	2	350	28.3	50	32	—	1.2	3°	2	JDM1204	
40	AJX12R403SA42S	●	3	150	28.3	70	42	1.79	1.2	3°	2	JDM1204	
40	AJX09R404SA42S	●	4	150	29.9	70	42	1.8	1.2	1.5°	2	JDM09T3	
40	AJX12R403SA42L	●	3	250	28.3	70	42	1.79	1.2	3°	2	JDM1204	
40	AJX09R404SA42L	●	4	250	29.9	70	42	1.8	1.2	1.5°	2	JDM09T3	
40	AJX12R402SA42EL	●	2	350	28.3	70	42	1.79	1.2	3°	2	JDM1204	
50	AJX14R503SA42S	●	3	150	38.2	50	42	—	1.2	4.2°	2	JDM1405	
50	AJX14R503SA42L	●	3	250	38.1	50	42	—	1.2	4.2°	2	JDM1405	
63	AJX14R634SA42S	●	4	150	51.1	50	42	—	1.2	2.8°	3	JDM1405	
63	AJX14R634SA42L	●	4	250	51.1	50	42	—	1.2	2.8°	3	JDM1405	

*1 Refer to page 25, for the maximum drilling depth (AZ).

*2 Number of Teeth

Note 1) Refer to page 25, for the max. depth of cut (APMX) and maximum drilling depth (AZ).

Fig.1

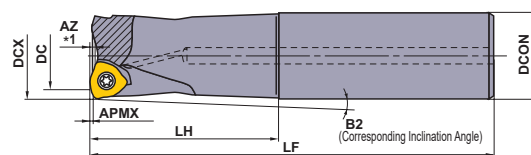


Fig.2

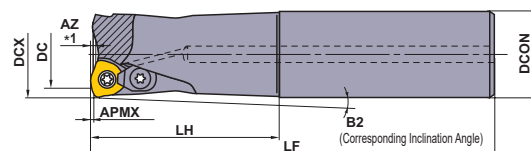
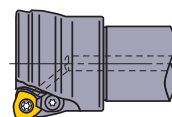


Fig.3









Right hand tool holder only.

● : Inventory maintained in Japan.

Spare Parts

(mm)

Tool Holder Type	 *	 *	 *		 F  D
	Clamp Screw	Clamp Bridge	Clamp Bridge Screw	Spring	Wrench
AJX06R	TS25	—	—	—	TKY08F
AJX08R	TS33	—	—	—	TKY08D
AJX09R	TS351	AMS3	AJS3010T10	ASS2	TKY10D
AJX12R30	TS407	AMS4	AJS4012T15	ASS2	TKY15D
AJX12R32	TS43	AMS4	AJS4012T15	ASS2	TKY15D
AJX12R35	TS43	AMS4	AJS4012T15	ASS2	TKY15D
AJX12R40	TS43	AMS4	AJS4012T15	ASS2	TKY15D
AJX14R	TS54	AMS5	AJS5014T25	ASS3	TKY25D

* Clamp Torque (N • m) : TS25=1.0, TS33=1.0, TS351=2.5, TS407=3.5, TS43=3.5, TS54=7.5, AJS3010T10=2.5, AJS4012T15=3.5, AJS5014T25=7.5

Dimensions and Symbols (ISO 13399 Compliance)

DCX = Cutting Diameter Max.

DC = Cutting Diameter

LF = Functional Length

LH = Head Length

DCON = Connection Diameter

APMX = Depth of Cut Max.

RMPX = Ramping Angle Max.

High Feed Radius Milling Cutter

Fig.1

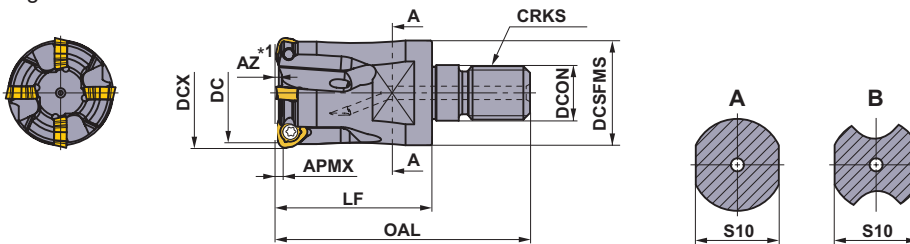
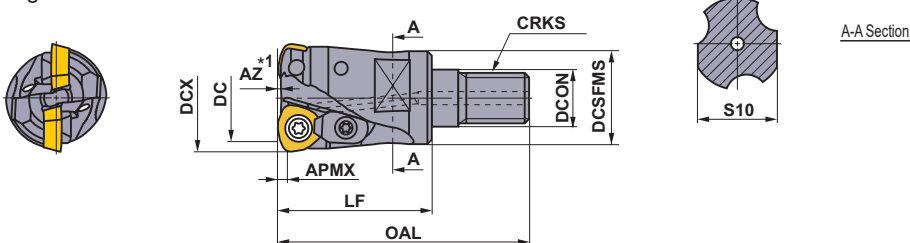


Fig.2



■ Screw-in Type

With Coolant Hole

Right hand tool holder only.

(mm)

DCX	Order Number	Stock	*2 No.T	DC	LF	OAL	DCON	WT (kg)	APMX	RMPX	Fig.	Insert Type	
		R											
16	AJX06R162AM0830	●	2	8.9	30	48	8.5	0.1	0.6	3°	1	JOM06T2	
17	AJX06R172AM0830	●	2	9.9	30	48	8.5	0.1	0.6	2.5°	1	JOM06T2	
20	AJX08R202AM1030	●	2	11.4	30	49	10.5	0.1	0.9	3.5°	1	JOM0803	
20	AJX06R203AM1030	●	3	12.9	30	49	10.5	0.1	0.6	1.5°	1	JOM06T2	
22	AJX08R222AM1030	●	2	13.4	30	49	10.5	0.1	0.9	3°	1	JOM0803	
22	AJX06R223AM1030	●	3	14.9	30	49	10.5	0.1	0.6	1°	1	JOM06T2	
25	AJX09R252AM1235	●	2	14.9	35	57	12.5	0.2	1.2	4°	2	JDM09T3	
25	AJX08R253AM1235	●	3	16.4	35	57	12.5	0.1	0.9	2°	1	JOM0803	
NEW	25	AJX06R254AM1235	●	4	17.9	35	57	12.5	0.1	0.6	0.8°	1	JOM06T2
28	AJX09R282AM1235	●	2	17.9	35	57	12.5	0.2	1.2	3°	2	JDM09T3	
28	AJX08R283AM1235	●	3	19.4	35	57	12.5	0.1	0.9	1.7°	1	JOM0803	
NEW	28	AJX06R284AM1235	●	4	20.9	35	57	12.5	0.1	0.6	0.7°	1	JOM06T2
30	AJX12R302AM1645	●	2	18.3	45	68	17.0	0.3	1.2	4.5°	2	JDM1204	
30	AJX09R303AM1645	●	3	20	45	68	17.0	0.2	1.2	2.7°	2	JDM09T3	
32	AJX12R322AM1645	●	2	20.3	45	68	17.0	0.3	1.2	4°	2	JDM1204	
32	AJX09R323AM1645	●	3	21.9	45	68	17.0	0.2	1.2	2.5°	2	JDM09T3	
NEW	32	AJX08R324AM1645	●	4	23.4	45	68	17.0	0.2	0.9	1.4°	1	JOM0803
35	AJX12R352AM1645	●	2	23.3	45	68	17.0	0.3	1.2	3.5°	2	JDM1204	
35	AJX09R353AM1645	●	3	24.9	45	68	17.0	0.2	1.2	2°	2	JDM09T3	
NEW	35	AJX08R354AM1645	●	4	26.4	45	68	17.0	0.2	0.9	1.2°	1	JOM0803
40	AJX12R403AM1645	●	3	28.3	45	68	17.0	0.3	1.2	3°	2	JDM1204	
40	AJX09R404AM1645	●	4	29.9	45	68	17.0	0.2	1.2	1.5°	2	JDM09T3	
NEW	40	AJX08R406AM1645	●	6	31.4	45	68	17.0	0.3	0.9	1°	1	JOM0803

*1 Refer to page 25, for the maximum drilling depth (AZ).

*2 Number of Teeth

Note 1) Refer to page 25, for the max. depth of cut (APMX) and maximum drilling depth (AZ).

Note 2) For screw-in type arbors, refer to page 17.

Spare Parts

(mm)

Tool Holder Type	● *	●	● *	●	F	D
	Clamp Screw	Clamp Bridge	Clamp Bridge Screw	Spring	Wrench	
AJX06R	TS25	—	—	—	TKY08F	
AJX08R	TS33	—	—	—	TKY08D	
AJX09R	TS351	AMS3	AJS3010T10	ASS2	TKY10D	
AJX12R30	TS407	AMS4	AJS4012T15	ASS2	TKY15D	
AJX12R32	TS43	AMS4	AJS4012T15	ASS2	TKY15D	
AJX12R35	TS43	AMS4	AJS4012T15	ASS2	TKY15D	
AJX12R40	TS43	AMS4	AJS4012T15	ASS2	TKY15D	

* Clamp Torque (N · m) : TS25=1.0, TS33=1.0, TS351=2.5, TS407=3.5, TS43=3.5, AJS3010T10=2.5, AJS4012T15=3.5, AJS5014T25=7.5

● : Inventory maintained in Japan.

Mounting Dimensions

(mm)

DCX	Order Number	DCON	DCSFMS	S10	CRKS	Connection Type	Shank Arbor Type
16	AJX06R162AM0830	8.5	13	10	M8	A	SC16M08
17	AJX06R172AM0830	8.5	13	10	M8	A	SC16M08
20	AJX08R202AM1030	10.5	18	14	M10	B	SC20M10
20	AJX06R203AM1030	10.5	18	14	M10	C	SC20M10
22	AJX08R222AM1030	10.5	18	14	M10	B	SC20M10
22	AJX06R223AM1030	10.5	18	14	M10	C	SC20M10
25	AJX09R252AM1235	12.5	21	19	M12	B	SC25M12
25	AJX08R253AM1235	12.5	21	19	M12	A	SC25M12
NEW	25	AJX06R254AM1235	12.5	23.5	M12	A	SC25M12
28	AJX09R282AM1235	12.5	21	19	M12	B	SC25M12
28	AJX08R283AM1235	12.5	21	19	M12	A	SC25M12
NEW	28	AJX06R284AM1235	12.5	23.5	M12	A	SC25M12
30	AJX12R302AM1645	17.0	29	24	M16	B	SC32M16
30	AJX09R303AM1645	17.0	29	24	M16	A	SC32M16
32	AJX12R322AM1645	17.0	29	24	M16	B	SC32M16
32	AJX09R323AM1645	17.0	29	24	M16	A	SC32M16
NEW	32	AJX08R324AM1645	17.0	29	M16	A	SC32M16
35	AJX12R352AM1645	17.0	29	24	M16	B	SC32M16
35	AJX09R353AM1645	17.0	29	24	M16	A	SC32M16
NEW	35	AJX08R354AM1645	17.0	29	M16	A	SC32M16
40	AJX12R403AM1645	17.0	29	24	M16	B	SC32M16
40	AJX09R404AM1645	17.0	29	24	M16	A	SC32M16
NEW	40	AJX08R406AM1645	17.0	29	M16	A	SC32M16

How to Install the Screw-in Head

- ① Thoroughly clean the clamp section of the head and the arbor with an air blower or brush before installation.
- ② Tighten the head at the recommended torque and ensure that there is no gap between the head and arbor.

(mm)

Screw Size	Recommended Torque (N • m)	Wrench Size
M8	23	10
M10	46	14
M12	80	19
M16	90	24



- Cutting tools become extremely hot during cutting. Never touch them with bare hands after operation as this may produce risk of injuries or burns.
- Do not handle the cutting tools with bare hands as this may cause injuries.

Dimensions and Symbols (ISO 13399 Compliance)

DCX = Cutting Diameter Max.
DC = Cutting Diameter
LF = Functional Length

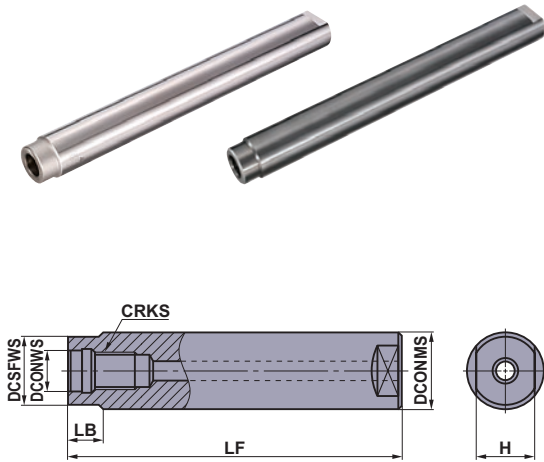
OAL = Overall Length
DCON = Connection Diameter
DCSFMS = Contact Surface Diameter Machine Side

CRKS = Connection Retention Knob Thread Size
APMX = Depth of Cut Max.
RMPX = Ramping Angle Max.

High Feed Radius Milling Cutter

■ Straight Shank Arbor

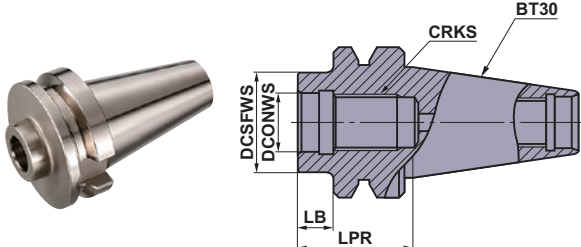
(mm)



Type	Order Number	Stock	DCONWS	DCONMS	DCSFWS	LF	LB	H	CRKS
Steel Shank Type	SC16M08S100S	●	8.5	16	14.5	100	10	10	M8
	SC16M08S200L	●	8.5	16	14.5	200	10	10	M8
	SC20M10S120S	●	10.5	20	18.5	120	10	14	M10
	SC20M10S220L	●	10.5	20	18.5	220	10	14	M10
	SC25M12S125S	●	12.5	25	23.5	125	10	19	M12
	SC25M12S245L	●	12.5	25	23.5	245	10	19	M12
	SC32M16S140S	●	17.0	32	28.5	140	15	24	M16
	SC32M16S280L	●	17.0	32	28.5	280	15	24	M16
Carbide Shank Type	SC16M08S100SW	●	8.5	16	14.5	100	10	10	M8
	SC16M08S200LW	●	8.5	16	14.5	200	10	10	M8
	SC20M10S120SW	●	10.5	20	18.5	120	10	14	M10
	SC20M10S220LW	●	10.5	20	18.5	220	10	14	M10
	SC25M12S125SW	●	12.5	25	23.5	125	10	19	M12
	SC25M12S245LW	●	12.5	25	23.5	245	10	19	M12
	SC32M16S140SW	●	17.0	32	28.5	140	15	24	M16
	SC32M16S280LW	●	17.0	32	28.5	280	15	24	M16

■ BT30 Shank Arbor

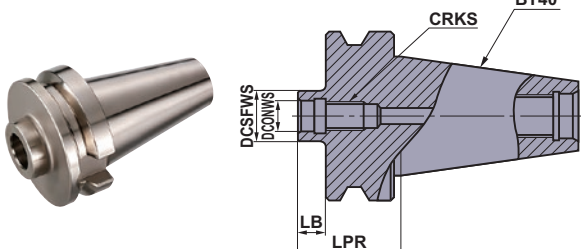
(mm)



Order Number	Stock	DCONWS	DCSFWS	LPR	LB	CRKS
SC16M08S10-BT30	●	8.5	14.5	32	10	M8
SC20M10S10-BT30	●	10.5	18.5	32	10	M10
SC25M12S10-BT30	●	12.5	23.5	32	10	M12
SC32M16S10-BT30	●	17.0	28.5	32	10	M16

■ BT40 Shank Arbor

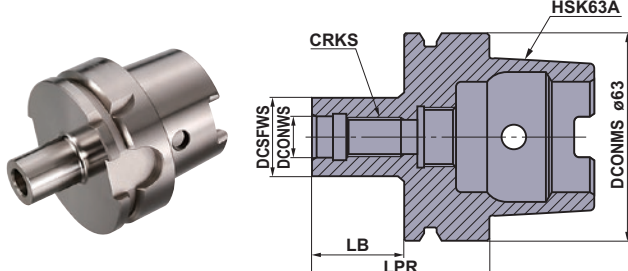
(mm)



Order Number	Stock	DCONWS	DCSFWS	LPR	LB	CRKS
SC16M08S10-BT40	●	8.5	14.5	37	10	M8
SC20M10S10-BT40	●	10.5	18.5	37	10	M10
SC25M12S10-BT40	●	12.5	23.5	37	10	M12
SC32M16S10-BT40	●	17.0	28.5	37	10	M16

■ HSK63A Shank Arbor

(mm)


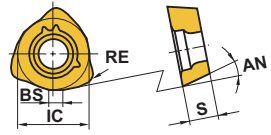

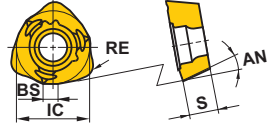

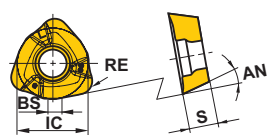

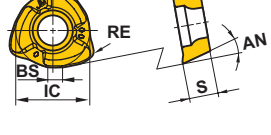


Order Number	Stock	DCONWS	DCSFWS	LPR	LB	CRKS
SC16M08S22-HSK63A	●	8.5	14.5	48	22	M8
SC20M10S24-HSK63A	●	10.5	18.5	50	24	M10
SC25M12S27-HSK63A	●	12.5	23.5	53	27	M12
SC32M16S28-HSK63A	●	17.0	28.5	54	28	M16

● : Inventory maintained in Japan.
(10 inserts in one case)

Inserts

(mm)

Workpiece Material	P	Steels	●	●	●											Cutting Conditions : ● : Stable Cutting ● : General Cutting ✦ : Unstable Cutting	
	M	Stainless Steels				●	●										
Shape	K	Cast Irons															
	S	Heat-resistant Alloys, Titanium Alloys						●	●	●							
	H	Hardened Steels															
Order Number	Class	Coated										AN	IC	S	BS	RE	Geometry
		FH7020	MP6120	MP6130	MP7130	MP7140	MP9120	MP9130	MP9140	VP15TF	VP30RT						
	JOMW06T215ZZSR-FT	M	●	●	●	●	●	●		●	●	13°	6.35	2.78	1.2	1.5	
	JOMW080320ZZSR-FT	M	●	●	●	●	●	●		●	●	13°	8.00	3.18	1.4	2.0	
	JDMW09T320ZDSR-FT	M	●	●	●	●	●	●		●	●	15°	9.525	3.97	1.8	2.0	
	JDMW120420ZDSR-FT	M	●	●	●	●	●	●		●	●	15°	12.00	4.76	2.5	2.0	
	JDMW140520ZDSR-FT	M	●	●	●	●	●	●		●	●	15°	14.00	5.56	2.8	2.0	
	JDMT120420ZDSR-ST	M	●	●	●	●	●			●	●	15°	12.00	4.76	2.5	2.0	
	JDMT140520ZDSR-ST	M	●	●	●	●	●			●	●	15°	14.00	5.56	2.8	2.0	
	JOMT06T216ZZER-JL	M			●	●	●	●				13°	6.35	2.78	1.2	1.6	
	JOMT080322ZZER-JL	M			●	●	●	●				13°	8.00	3.18	1.4	2.2	
	JDMT09T323ZDER-JL	M			●	●	●	●				15°	9.525	3.97	1.8	2.3	
	JDMT120423ZDER-JL	M			●	●	●	●				15°	12.00	4.76	2.5	2.3	
	JDMT140523ZDER-JL	M			●	●	●	●				15°	14.00	5.56	2.8	2.3	
	JOMT06T215ZZSR-JM	M	●	●	●	●	●	●		●	●	13°	6.35	2.78	1.2	1.5	
	JOMT080320ZZSR-JM	M	●	●	●	●	●	●		●	●	13°	8.00	3.18	1.4	2.0	
	JDMT09T320ZDSR-JM	M	●	●	●	●	●	●		●	●	15°	9.525	3.97	1.8	2.0	
	JDMT120420ZDSR-JM	M	●	●	●	●	●	●		●	●	15°	12.00	4.76	2.5	2.0	
	JDMT140520ZDSR-JM	M	●	●	●	●	●	●		●	●	15°	14.00	5.56	2.8	2.0	

Note 1) When using ST breaker, please check the height setting as it differs from other chip breakers.

Memo

A series of horizontal dashed lines for writing, spanning the width of the page.

Recommended Cutting Conditions

■ Cutting Speed

Workpiece Material	Properties	Cutting Speed v_c (m/min)			
P		FH7020	MP6120	MP6130	VP30RT
Mild Steels	Hardness $\leq 180\text{HB}$	170 (120–220)	150 (100–200)	130 (80–180)	110 (60–160)
Carbon Steels Alloy Steels	Hardness 180–280HB	150 (100–200)	130 (80–180)	110 (60–160)	90 (40–140)
Carbon Steels Alloy Steels	Hardness 280–350HB	130 (80–180)	100 (50–150)	80 (30–130)	60 (20–110)
Alloy Tool Steels	Hardness $\leq 350\text{HB}$ (Annealing)	130 (80–180)	100 (50–150)	80 (30–120)	60 (20–90)
Pre-hardened Steels	Hardness 35–45HRC	–	100 (70–130)	80 (50–110)	80 (30–90)
M		MP7130	MP7140		
Stainless Steels	Hardness $\leq 270\text{HB}$	140 (100–180)	120 (80–160)	–	–
K		FH7020	VP15TF		
Gray Cast Irons	Tensile Strength $\leq 350\text{MPa}$	150 (100–200)	–	–	–
Ductile Cast Irons	Tensile Strength $\leq 800\text{MPa}$	–	120 (80–160)	–	–
S		MP9120	MP9130	MP9140	
Heat Resistant Alloys	Hardness $\leq 350\text{HB}$	30 (20–40)	25 (20–35)	20 (15–30)	–
Titanium Alloys	–	50 (40–60)	45 (30–55)	40 (30–50)	–
H		VP15TF			
Hardened Steels	Hardness 40–55HRC	70 (50–90)	–	–	–

High Feed Radius Milling Cutter

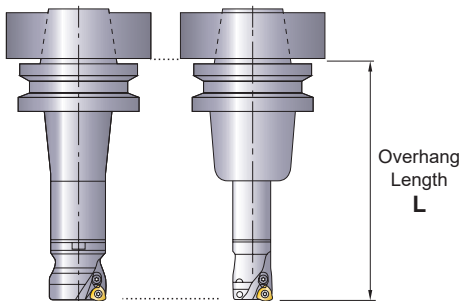
Coarse, Fine Pitch and Arbor Type Extra Fine Pitch

Recommended Cutting Conditions

Depth of Cut / Feed

Workpiece Material	Properties	Shank Type / Screw-in Type									
		DCX=ø16, ø17			DCX=ø20, ø22			DCX=ø25, ø28			
		L	ap	fz (mm/t.)	L	ap	fz (mm/t.)	L	ap	fz (mm/t.)	
P	Mild Steels	Hardness ≤180HB	140	0.8	0.8	160	1.0	1.0	170	1.0	1.2
			180	0.6	0.6	210	0.8	0.8	230	0.8	1.0
			210	0.4	0.4	240	0.6	0.6	290	0.6	0.8
	Carbon Steels Alloy Steels	Hardness 180–280HB	140	0.8	0.8	160	1.0	1.0	170	1.0	1.2
			180	0.6	0.6	210	0.8	0.8	230	0.8	1.0
			210	0.4	0.4	240	0.6	0.6	290	0.6	0.8
	Carbon Steels Alloy Steels	Hardness 280–350HB	140	0.7	0.8	160	0.8	1.0	170	0.8	1.2
			180	0.5	0.6	210	0.6	0.8	230	0.6	1.0
			210	0.3	0.4	240	0.4	0.6	290	0.4	0.8
	Alloy Tool Steels	Hardness ≤350HB	140	0.7	0.8	160	0.8	1.0	170	0.8	1.2
			180	0.5	0.6	210	0.6	0.8	230	0.6	1.0
			210	0.3	0.4	240	0.4	0.6	290	0.4	0.8
	Pre-hardened Steels	Hardness 35–45HRC	140	0.7	0.7	160	0.8	0.8	170	0.8	1.0
			180	0.5	0.5	210	0.6	0.6	230	0.6	0.8
			210	0.3	0.3	240	0.4	0.4	290	0.4	0.6
M	Stainless Steels	Hardness ≤270HB	140	0.8	0.7	160	1.0	0.8	170	1.0	1.0
			180	0.6	0.5	210	0.8	0.6	230	0.8	0.8
			210	0.4	0.3	240	0.6	0.4	290	0.6	0.6
K	Gray Cast Irons	Tensile Strength ≤350MPa	140	0.8	1.0	160	1.0	1.2	170	1.0	1.4
			180	0.6	0.8	210	0.8	1.0	230	0.8	1.2
			210	0.4	0.6	240	0.6	0.8	290	0.6	1.0
	Ductile Cast Irons	Tensile Strength ≤800MPa	140	0.7	0.8	160	0.8	1.0	170	0.8	1.2
			180	0.5	0.6	210	0.6	0.8	230	0.6	1.0
			210	0.3	0.4	240	0.4	0.6	290	0.4	0.8
S	Heat Resistant Alloys	Hardness ≤350HB	140	0.6	0.6	160	0.8	0.6	170	1.0	0.6
			180	0.4	0.4	210	0.6	0.4	230	0.8	0.4
	Titanium Alloys	—	210	0.3	0.3	240	0.4	0.3	290	0.6	0.3
H	Hardened Steels	Hardness 40–55HRC	140	0.5	0.5	160	0.5	0.6	170	0.5	0.8
			180	0.4	0.3	210	0.4	0.4	230	0.4	0.6
			210	0.3	0.2	240	0.3	0.2	290	0.3	0.4

① Overhang Length L



② Main Spindle Revolution

$$n(\text{min}^{-1}) = (\text{Recommended Cutting Speed} \times 1000) \div (\text{DCX} \times 3.14)$$

③ Table Feed Rate

$$vf(\text{mm/min}) = n \times \text{Feed per Tooth} \times \text{Number of Teeth}$$

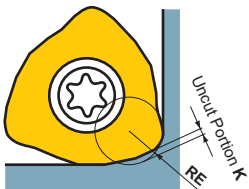
- ④ Recommended width of cut (ae) is more than 60% of the cutting edge diameter.
- ⑤ The above cutting conditions are guides to cutting on a #50 BT machine. In case of #40 BT and #63 HSK machines, a cutting edge diameter of under 35mm is recommended. In this case, reduce the depth of cut and table feed rate.
- ⑥ Use of ST breaker with tougher cutting edges is recommended for machining parts that require interrupted cutting. First recommended insert grade for non-standard 06/08/09 ST breakers is VP30RT irrespective of the workpiece material.
- ⑦ Cutter body with coarse pitch is recommended for the unstable cutting caused by the long tool overhang.
- ⑧ Use the "sharp" JM breaker to lower cutting forces or when long tool overhangs are used.
- ⑨ Heavy chips are generated when machining with the AJX. To avoid chip jamming-related problems, use air blow while machining to discharging chips effectively.
- ⑩ The maximum depth of cut of JL breaker is different in the insert size. 06 size is up to 0.6mm, 08 size is up to 0.9mm, and 09,12,14 size is up to 1.2mm.

(mm)

	Shank Type / Screw-in Type												Arbor Type					
	DCX=ø30, ø32, ø35			DCX=ø40 (ø32 Shank)			DCX=ø40 (ø42 Shank)			DCX=ø50, ø63			DCX=ø50, ø63, ø66			DCX≥ø80		
	L	ap	fz (mm/t.)	L	ap	fz (mm/t.)	L	ap	fz (mm/t.)	L	ap	fz (mm/t.)	L	ap	fz (mm/t.)	L	ap	fz (mm/t.)
180	1.2	1.4	180	1.2	1.4	180	1.2	1.5	180	1.4	1.5	150	1.5	1.5	170	1.5	1.5	
230	1.0	1.2	240	1.0	1.2	240	1.0	1.3	240	1.2	1.3	250	1.3	1.3	300	1.3	1.3	
290	0.8	1.0	300	0.8	1.0	300	0.8	1.1	—	—	—	350	1.1	1.1	450	1.0	1.0	
180	1.2	1.4	180	1.2	1.4	180	1.2	1.5	180	1.4	1.5	150	1.5	1.5	170	1.5	1.5	
230	1.0	1.2	240	1.0	1.2	240	1.0	1.3	240	1.2	1.3	250	1.3	1.3	300	1.3	1.3	
290	0.8	1.0	300	0.8	1.0	300	0.8	1.1	—	—	—	350	1.1	1.1	450	1.0	1.0	
180	1.0	1.4	180	1.0	1.4	180	1.0	1.5	180	1.2	1.5	150	1.3	1.5	170	1.3	1.5	
230	0.8	1.2	240	0.8	1.2	240	0.8	1.3	240	1.0	1.3	250	1.1	1.3	300	1.1	1.3	
290	0.6	1.0	300	0.6	1.0	300	0.6	1.1	—	—	—	350	0.9	1.1	450	0.8	1.0	
180	1.0	1.4	180	1.0	1.4	180	1.0	1.5	180	1.2	1.5	150	1.3	1.5	170	1.3	1.5	
230	0.8	1.2	240	0.8	1.2	240	0.8	1.3	240	1.0	1.3	250	1.1	1.3	300	1.1	1.3	
290	0.6	1.0	300	0.6	1.0	300	0.6	1.1	—	—	—	350	0.9	1.1	450	0.8	1.0	
180	1.0	1.2	180	1.0	1.2	180	1.0	1.3	180	1.2	1.3	150	1.3	1.3	170	1.3	1.3	
230	0.8	1.0	240	0.8	1.0	240	0.8	1.1	240	1.0	1.1	250	1.1	1.1	300	1.1	1.1	
290	0.6	0.8	300	0.6	0.8	300	0.6	0.9	—	—	—	350	0.9	0.9	450	0.8	0.8	
180	1.2	1.2	180	1.2	1.2	180	1.2	1.3	180	*1.4	1.3	150	*1.5	1.3	170	*1.5	1.3	
230	1.0	1.0	240	1.0	1.0	240	1.0	1.1	240	1.2	1.1	250	*1.3	1.1	300	*1.3	1.1	
290	0.8	0.8	300	0.8	0.8	300	0.8	0.9	—	—	—	350	1.1	0.9	450	1.0	0.8	
180	1.2	1.6	180	1.2	1.6	180	1.2	1.7	180	1.4	1.7	150	1.5	1.7	170	1.5	1.7	
230	1.0	1.4	240	1.0	1.4	240	1.0	1.5	240	1.2	1.5	250	1.3	1.5	300	1.3	1.5	
290	0.8	1.2	300	0.8	1.2	300	0.8	1.3	—	—	—	350	1.1	1.3	450	1.0	1.2	
180	1.0	1.4	180	1.0	1.4	180	1.0	1.5	180	1.2	1.5	150	1.3	1.5	170	1.3	1.5	
230	0.8	1.2	240	0.8	1.2	240	0.8	1.3	240	1.0	1.3	250	1.1	1.3	300	1.1	1.3	
290	0.6	1.0	300	0.6	1.0	300	0.6	1.1	—	—	—	350	0.9	1.1	450	0.8	1.0	
180	1.2	0.6	180	1.2	0.6	180	1.2	0.6	180	1.2	0.6	150	1.2	0.6	170	1.2	0.6	
230	1.0	0.4	240	1.0	0.4	240	1.0	0.4	240	1.0	0.4	250	1.0	0.4	300	1.0	0.4	
290	0.8	0.3	300	0.8	0.3	300	0.8	0.3	—	—	—	350	0.8	0.3	450	0.8	0.3	
180	0.6	1.0	180	0.6	1.0	180	0.6	1.1	180	0.8	1.1	150	0.9	1.1	170	0.9	1.1	
230	0.5	0.8	240	0.5	0.8	240	0.5	0.9	240	0.6	0.9	250	0.7	0.9	300	0.7	0.9	
290	0.4	0.6	300	0.4	0.6	300	0.4	0.7	—	—	—	—	—	—	—	—	—	

* Depth of cut of JL breaker is up to 1.2 mm.

Note for Programming



When using the AJAX, please programme as an R3 radius cutter. The approximate uncut portions for the programme are as follows.

(mm)

Insert Size	Chip Breaker	Approx. RE	Uncut Portion K
06	FT / JM	2.0	0.33
	JL	2.5	0.32
08	FT / JM	2.5	0.46
	JL	2.0	0.40
09	FT / JM	3.0	0.47
	JL	3.0	0.46
12	FT / JM / ST	3.0	0.63
	JL	3.0	0.53
14	FT / JM / ST	3.0	0.64
	JL	3.0	0.55

Note 1) The uncut portion may change slightly depending on cutting conditions.

High Feed Radius Milling Cutter

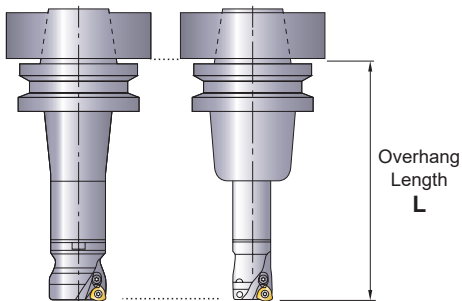
Shank / Screw-in Type Extra Fine Pitch and Arbor Type Super Extra Fine Pitch

Recommended Cutting Conditions

Depth of Cut / Feed

Workpiece Material	Properties	Shank Type / Screw-in Type									
		DCX=ø25, ø28			DCX=ø30, ø32, ø35			DCX=ø40 (ø32 Shank)			
		L	ap	fz (mm/t.)	L	ap	fz (mm/t.)	L	ap	fz (mm/t.)	
P	Mild Steels	Hardness ≤180HB	170	0.5	1.2	180	0.7	1.4	180	0.8	1.4
			230	0.4	1.0	230	0.5	1.2	240	0.6	1.2
			290	0.3	0.8	290	0.3	1.0	300	0.4	1.0
	Carbon Steels Alloy Steels	Hardness 180–280HB	170	0.5	1.2	180	0.7	1.4	180	0.8	1.4
			230	0.4	1.0	230	0.5	1.2	240	0.6	1.2
			290	0.3	0.8	290	0.3	1.0	300	0.4	1.0
	Carbon Steels Alloy Steels	Hardness 280–350HB	170	0.4	1.2	180	0.5	1.4	180	0.6	1.4
			230	0.3	1.0	230	0.4	1.2	240	0.5	1.2
			290	0.2	0.8	290	0.3	1.0	300	0.4	1.0
	Alloy Tool Steels	Hardness ≤350HB	170	0.4	1.2	180	0.5	1.4	180	0.6	1.4
			230	0.3	1.0	230	0.4	1.2	240	0.5	1.2
			290	0.2	0.8	290	0.3	1.0	300	0.4	1.0
	Pre-hardened Steels	Hardness 35–45HRC	170	0.4	1.0	180	0.5	1.2	180	0.6	1.2
			230	0.3	0.8	230	0.4	1.0	240	0.5	1.0
			290	0.2	0.6	290	0.3	0.8	300	0.4	0.8
M	Stainless Steels	Hardness ≤270HB	170	0.5	1.0	180	0.7	1.2	180	0.8	1.2
			230	0.4	0.8	230	0.5	1.0	240	0.6	1.0
			290	0.3	0.6	290	0.3	0.8	300	0.4	0.8
K	Gray Cast Irons	Tensile Strength ≤350MPa	170	0.5	1.4	180	0.7	1.6	180	0.8	1.6
			230	0.4	1.2	230	0.5	1.4	240	0.6	1.4
			290	0.3	1.0	290	0.3	1.2	300	0.4	1.2
	Ductile Cast Irons	Tensile Strength ≤800MPa	170	0.4	1.2	180	0.5	1.4	180	0.6	1.4
			230	0.3	1.0	230	0.4	1.2	240	0.5	1.2
			290	0.2	0.8	290	0.3	1.0	300	0.4	1.0
S	Heat Resistant Alloys	Hardness ≤350HB	170	0.5	0.6	180	0.7	0.6	180	0.8	0.6
			230	0.4	0.4	230	0.5	0.4	240	0.6	0.4
	Titanium Alloys	—	290	0.3	0.3	290	0.3	0.3	300	0.4	0.3
H	Hardened Steels	Hardness 40–55HRC	170	0.3	0.8	180	0.4	1.0	180	0.5	1.0
			230	0.2	0.6	230	0.3	0.8	240	0.4	0.8
			290	0.1	0.4	290	0.2	0.6	300	0.3	0.6

① Overhang Length L



② Main Spindle Revolution

$$n(\text{min}^{-1}) = (\text{Recommended Cutting Speed} \times 1000) \div (\text{DCX} \times 3.14)$$

③ Table Feed Rate

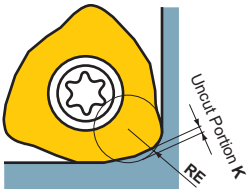
$$vf(\text{mm/min}) = n \times \text{Feed per Tooth} \times \text{Number of Teeth}$$

- ④ Recommended width of cut (ae) is more than 60% of the cutting edge diameter.
- ⑤ The above cutting conditions are guides to cutting on a #50 BT machine. In case of #40 BT and #63 HSK machines, a cutting edge diameter of under 35mm is recommended. In this case, reduce the depth of cut and table feed rate.
- ⑥ Use of ST breaker with tougher cutting edges is recommended for machining parts that require interrupted cutting. First recommended insert grade for non-standard 06/08/09 ST breakers is VP30RT irrespective of the workpiece material.
- ⑦ Cutter body with coarse pitch is recommended for the unstable cutting caused by the long tool overhang.
- ⑧ Use the "sharp" JM breaker to lower cutting forces or when long tool overhangs are used.
- ⑨ Heavy chips are generated when machining with the AJX. To avoid chip jamming-related problems, use air blow while machining to discharging chips effectively.
- ⑩ The maximum depth of cut of JL breaker is different in the insert size. 06 size is up to 0.6mm, 08 size is up to 0.9mm, and 09,12,14 size is up to 1.2mm.

(mm)

				Arbor Type								
DCX=ø40 (ø42 Shank)				DCX=ø32, ø40, ø42			DCX=ø50, ø63, ø66			DCX≥ø80		
L	ap	fz (mm/t.)		L	ap	fz (mm/t.)	L	ap	fz (mm/t.)	L	ap	fz (mm/t.)
180	0.8	1.5		180	0.8	1.4	150	0.8	1.5	170	1.1	1.5
240	0.6	1.3		230	0.6	1.2	250	0.6	1.3	300	0.9	1.3
300	0.4	1.1		290	0.4	1.0	350	0.3	1.1	450	0.7	1.0
180	0.8	1.5		180	0.8	1.4	150	0.8	1.5	170	1.1	1.5
240	0.6	1.3		230	0.6	1.2	250	0.6	1.3	300	0.9	1.3
300	0.4	1.1		290	0.4	1.0	350	0.3	1.1	450	0.7	1.0
180	0.6	1.5		180	0.6	1.4	150	0.6	1.5	170	0.9	1.5
240	0.5	1.3		230	0.5	1.2	250	0.5	1.3	300	0.7	1.3
300	0.4	1.1		290	0.4	1.0	350	0.3	1.1	450	0.5	1.0
180	0.6	1.5		180	0.6	1.4	150	0.6	1.5	170	0.9	1.5
240	0.5	1.3		230	0.5	1.2	250	0.5	1.3	300	0.7	1.3
300	0.4	1.1		290	0.4	1.0	350	0.3	1.1	450	0.5	1.0
180	0.6	1.3		180	0.6	1.2	150	0.6	1.3	170	0.9	1.3
240	0.5	1.1		230	0.5	1.0	250	0.5	1.1	300	0.7	1.1
300	0.4	0.9		290	0.4	0.8	350	0.3	0.9	450	0.5	0.8
180	0.8	1.3		180	0.8	1.2	150	0.8	1.3	170	1.1	1.3
240	0.6	1.1		230	0.6	1.0	250	0.6	1.1	300	0.9	1.1
300	0.4	0.9		290	0.4	0.8	350	0.3	0.9	450	0.7	0.8
180	0.8	1.7		180	0.8	1.6	150	0.8	1.7	170	1.1	1.7
240	0.6	1.5		230	0.6	1.4	250	0.6	1.5	300	0.9	1.5
300	0.4	1.3		290	0.4	1.2	350	0.3	1.3	450	0.7	1.2
180	0.6	1.5		180	0.6	1.4	150	0.6	1.5	170	0.9	1.5
240	0.5	1.3		230	0.5	1.2	250	0.5	1.3	300	0.7	1.3
300	0.4	1.1		290	0.4	1.0	350	0.3	1.1	450	0.5	1.0
180	0.8	0.6		180	0.5	0.6	150	0.5	0.6	170	0.8	0.6
240	0.6	0.4		230	0.4	0.4	250	0.4	0.4	300	0.6	0.4
300	0.4	0.3		290	0.3	0.3	350	0.3	0.3	450	0.4	0.3
180	0.5	1.1		180	0.4	1.0	150	0.4	1.1	170	0.7	1.1
240	0.4	0.9		230	0.3	0.8	250	0.3	0.9	300	0.5	0.9
300	0.3	0.7		—	—	—	—	—	—	—	—	—

Note for Programming



When using the AJX, please programme as an R3 radius cutter. The approximate uncut portions for the programme are as follows.

(mm)

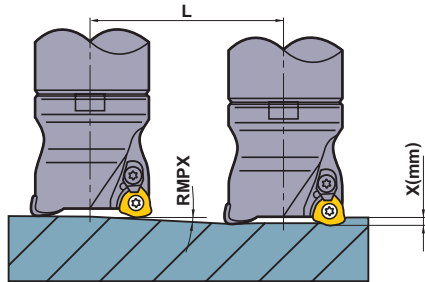
Insert Size	Chip Breaker	Approx. RE	Uncut Portion K
06	FT / JM	2.0	0.33
	JL	2.5	0.32
08	FT / JM	2.5	0.46
	JL	2.0	0.40
09	FT / JM	3.0	0.47
	JL	3.0	0.46
12	FT / JM / ST	3.0	0.63
	JL	3.0	0.53
14	FT / JM / ST	3.0	0.64
	JL	3.0	0.55

Note 1) The uncut portion may change slightly depending on cutting conditions.

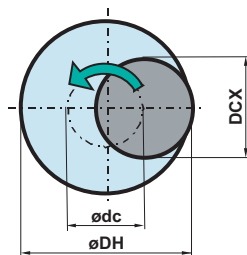
High Feed Radius Milling Cutter

Maximum Capacities by Mode

Ramping



Helical Drilling



- How to derive a locus of the centre of the tool.

$$\text{ødc} = \text{øDH} - \text{DCX}$$

Locus of the centre of the tool Desired hole diameter Cutting Diameter Maximum

- For the depth of cut per pass, refer to the cutting conditions above for helical drilling.
- Set the machine spindle revolution so that the tool is rotating and cutting in a down cut direction.

- When ramping and helical cutting, please apply a lower feed (50% of the calculated feed rate or less).
- When drilling, please set the feed in the axial direction at 0.2mm/rev or less.
- The long chips generated can disperse, ensure that adequate safety precautions are taken.

(mm)

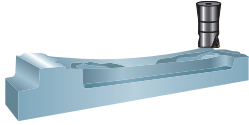
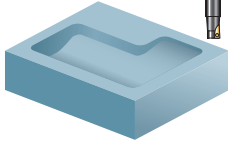
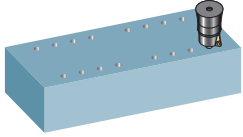
Tool Holder Type	DCX	DC	APMX		RMPX	Ramping				Helical Drilling		AZ	
			FT/JM/ST Breaker	JL Breaker		L Required Distance for X mm Depth	DH		Min	Max			
							X=1	X=1.2			X=1.5		X=2
Shank Type/Screw-in Type	AJX06	16	8.9	1.0	0.6	3°	19.1	—	—	—	23	29	0.3
	AJX06	17	9.9	1.0	0.6	2.5°	22.9	—	—	—	25	31	0.3
	AJX06	20	12.9	1.0	0.6	1.5°	38.2	—	—	—	31	37	0.3
	AJX06	22	14.9	1.0	0.6	1°	57.3	—	—	—	35	41	0.3
	AJX08	20	11.4	1.5	0.9	3.5°	16.3	19.6	24.5	—	27	36	0.5
	AJX08	22	13.4	1.5	0.9	3°	19.1	22.9	28.6	—	31	40	0.5
	AJX08	25	16.4	1.5	0.9	2°	28.6	34.4	43.0	—	37	46	0.5
	AJX08	28	19.4	1.5	0.9	1.7°	33.7	40.4	50.5	—	43	52	0.5
	AJX09	25	14.9	2.0	1.2	4°	14.3	17.2	21.5	28.6	33	46	1.0
	AJX09	28	17.9	2.0	1.2	3°	19.1	22.9	28.6	38.1	39	52	1.0
	AJX09	30	20.0	2.0	1.2	2.7°	21.2	25.4	31.8	42.4	43	56	1.0
	AJX09	32	21.9	2.0	1.2	2.5°	22.9	27.5	34.4	45.8	47	60	1.0
	AJX09	35	24.9	2.0	1.2	2°	28.6	34.4	43.0	57.3	53	66	1.0
	AJX09	40	29.9	2.0	1.2	1.5°	38.2	45.8	57.3	76.4	63	76	1.0
	AJX12	30	18.3	2.0	1.2	4.5°	12.7	15.2	19.0	25.4	39	56	1.5
	AJX12	32	20.3	2.0	1.2	4°	14.3	17.2	21.4	28.6	41	60	1.5
AJX12	35	23.3	2.0	1.2	3.5°	16.3	19.6	24.5	32.7	47	66	1.5	
AJX12	40	28.3	2.0	1.2	3°	19.1	22.9	28.6	38.2	57	76	1.5	
AJX14	50	38.2	2.0	1.2	4.2°	13.6	16.3	20.4	27.2	72	96	2.0	
AJX14	63	51.1	2.0	1.2	2.8°	20.4	24.5	30.7	40.9	98	122	2.0	
Arbor Type	AJX06	32	24.9	1.0	0.6	0.5°	114.6	137.5	171.9	229.2	51	61	0.3
	AJX08	40	31.4	1.5	0.9	1°	57.3	68.7	85.9	114.6	65	76	0.5
	AJX08	42	33.4	1.5	0.9	0.9°	63.7	76.4	95.5	127.3	69	80	0.5
	AJX08	50	41.4	1.5	0.9	0.7°	81.8	98.2	122.8	163.7	85	96	0.5
	AJX08	52	43.4	1.5	0.9	0.7°	81.8	98.2	122.8	163.7	89	100	0.5
	AJX09	50	40.0	2.0	1.2	1.1°	52.1	62.5	78.1	104.2	83	96	1.0
	AJX09	52	41.9	2.0	1.2	1°	57.3	68.7	85.9	114.6	85	100	1.0
	AJX09	63	52.9	2.0	1.2	0.8°	71.6	85.9	107.4	143.2	107	122	1.0
	AJX09	66	55.9	2.0	1.2	0.8°	71.6	85.9	107.4	143.2	113	128	1.0
	AJX12	50	38.3	2.0	1.2	2°	28.6	34.4	43	57.3	77	96	1.5
	AJX12	63	51.3	2.0	1.2	1.5°	38.2	45.8	57.3	76.4	103	122	1.5
	AJX12	66	54.3	2.0	1.2	1.4°	40.9	49.1	61.4	81.8	109	128	1.5
	AJX12	80	68.3	2.0	1.2	1.1°	52.1	62.5	78.1	104.2	137	156	1.5
	AJX12	100	88.3	2.0	1.2	0.8°	71.6	85.9	107.4	143.2	177	196	1.5
	AJX14	63	51.1	2.0	1.2	2.8°	20.4	24.5	30.7	40.9	98	122	2.0
	AJX14	66	54.1	2.0	1.2	2.6°	22.0	26.4	33.0	44.0	108	128	2.0
AJX14	80	68.1	2.0	1.2	1.8°	31.8	38.2	47.7	63.6	132	156	2.0	
AJX14	100	88.1	2.0	1.2	1.2°	47.7	57.3	71.6	95.5	172	196	2.0	
AJX14	125	113.2	2.0	1.2	0.8°	71.6	85.9	107.4	143.2	222	246	2.0	
AJX14	160	148.2	2.0	1.2	0.5°	114.6	137.5	171.9	229.2	292	316	2.0	

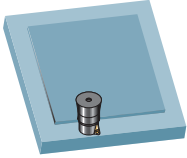
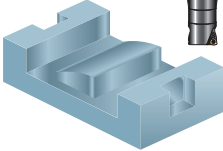
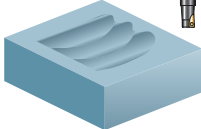
DCX = Cutting Diameter Max.
APMX = Depth of Cut Max.

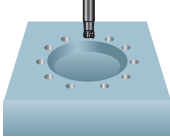
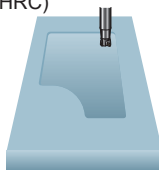
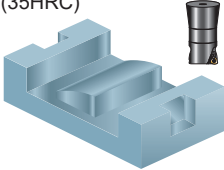
DC = Cutting Diameter
RMPX = Ramping Angle Max.

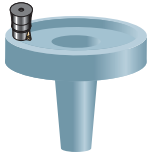
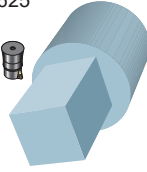
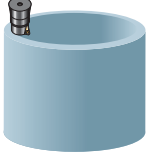
DH = Desired Hole Diameter
AZ = Maximum Drilling Depth

Application Examples

Tool (Grade)		AJX14-063A04R FT Breaker (FH7020)	AJX09R323SA32S FT Breaker (VP15TF)	AJX14R08004D ST Breaker (FH7020)
Workpiece		JIS S55C (220HB) 	JIS SKD11 (56HRC) 	JIS S50C (200HB) 
Component		Resin Mould	Press Mould	Resin Mould
Cutting Conditions	Cutting Speed (mm ⁻¹)	178 m/min(900 min ⁻¹)	100 m/min(995 min ⁻¹)	150 m/min(597 min ⁻¹)
	Feed vf (Feed per T. fz)	4000 mm/min(1.1 mm/t.)	1200 mm/min(0.4 mm/t.)	4776 mm/min(2.0 mm/t.)
	Depth of Cut ap (mm)	1.5	0.35	1.5
	Depth of Cut ae (mm)	45	18	50
	Overhang Length (mm)	248	170	213
Cutting Mode		Air Blow	Air Blow	Air Blow
Results		Tool life increased by 50% and gave an excellent reduction in costs.	Use of the AJX extra fine pitch type allows for high feed machining and increases the metal removal rate by 44%. Longer insert life and improved productivity.	The workpiece was perforated and conventional inserts suffered from fracturing. The ST breaker with tougher cutting edges did not fracture, making unmanned machining possible.

Tool (Grade)		AJX14R06304B FT Breaker (MP7130)	AJX14R08005D FT Breaker (FH7020)	AJX12R403SA32S ST Breaker (VP15TF)
Workpiece		SUS304 (200HB) 	JIS FC300 	JIS SKD61 (48-52HRC) 
Component		Electronics Part Manufacturing Component	Press Mould	Forging Mould
Cutting Conditions	Cutting Speed (mm ⁻¹)	178 m/min(900 min ⁻¹)	196 m/min(780 min ⁻¹)	60 m/min(477 min ⁻¹)
	Feed vf (Feed per T. fz)	4000 mm/min(1.1 mm/t.)	4000 mm/min(1.0 mm/t.)	1145 mm/min(0.8 mm/t.)
	Depth of Cut ap (mm)	1	2	1
	Depth of Cut ae (mm)	60	50	30
	Overhang Length (mm)	138	298	200
Cutting Mode		Dry Cutting	Air Blow	Air Blow
Results		Although the workpiece was a thin stainless plate, AJX displayed stable cutting performance without suffering from vibrations. AJX achieved triple longer tool life than a conventional product.	Enabled a stable cutting performance despite an uneven machining allowance. FH7020 achieved a longer tool life due to less crater wear of the insert.	When machining recycled moulds with holes or welds, conventional inserts suffered from fracturing. The ST breaker with tougher cutting edges suffered no sudden fracturing.

Tool (Grade)		AJX09R252SA25S JM Breaker (FH7020)	AJX08R222SA20L FT Breaker (VP15TF)	AJX14R10006D JM Breaker (MP6120)
Workpiece		PX-5 (33HRC) 	DH31-S (48HRC) 	SKT4 (35HRC) 
Component		Resin Mould	Die Casting Mould	Press Mould
Cutting Conditions	Cutting Speed (mm ⁻¹)	150 m/min(597 min ⁻¹)	70 m/min(1013 min ⁻¹)	100 m/min(318 min ⁻¹)
	Feed vf (Feed per T. fz)	4776 mm/min(2.0 mm/t.)	1620 mm/min(0.8 mm/t.)	760 mm/min(0.4 mm/t.)
	Depth of Cut ap (mm)	0.8	1	1.5
	Depth of Cut ae (mm)	12	9	70
	Overhang Length (mm)	170	200	80
Cutting Mode		Air Blow	Air Blow	Air Blow
Results		Possible to use an HSK63 high-speed machining centre to full capacity. No fear of workpiece distortion thanks to low cutting resistance and low heat generation of the JM breaker.	High efficiency machining is possible even on a high speed machining centre with a BT40 main spindle. Manufacturing costs have been slashed by directly machining quenched steel.	Achieved twice the tool life compared to a conventional product.

Tool (Grade)		AJX12R08006D JL Breaker (MP9130)	AJX12-080A06R JL Breaker (MP9120)	AJX12-080A06R JL Breaker (MP9130)
Workpiece		Co-Cr Alloy 	INCONEL 625 	Ti-6Al-4V 
Component		Medical Component	Aerospace Component	Aerospace Component
Cutting Conditions	Cutting Speed (mm ⁻¹)	50 m/min(240 min ⁻¹)	35 m/min(140 min ⁻¹)	50 m/min(240 min ⁻¹)
	Feed vf (Feed per T. fz)	864 mm/min(0.6 mm/t.)	501 mm/min(0.6 mm/t.)	454 mm/min(0.38 mm/t.)
	Depth of Cut ap (mm)	0.5	0.8	1
	Depth of Cut ae (mm)	60	65	50
	Overhang Length (mm)	–	–	–
Cutting Mode		Wet Cutting	Wet Cutting	Wet Cutting
Results		The reduced wear displayed by MP9130 grade with JL breaker gave an increase in efficiency of 40%.	JL breaker + MP9120 achieves 1.5 times longer tool life compared to conventional products.	The increased tool life and reduced wear displayed by MP9130 grade with JL breaker gave an increase in efficiency of 40%.

For Your Safety

●Don't handle inserts and chips without gloves. ●Please machine within the recommended application range and exchange expired tools with new ones in advance of breakage. ●Please use safety covers and wear safety glasses. ●When using compounded cutting oils, please take fire precautions. ●When attaching inserts or spare parts, please use only the correct wrench or driver. ●When using rotating tools, please make a trial run to check run-out, vibration and abnormal sounds etc.

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(Tools specifications subject to change without notice.)