



COMPLETE  
METALWORKING  
SOLUTIONS

(800) 991-4225

[www.ahbinc.com](http://www.ahbinc.com)

ISO Certified

[customerservice@ahbinc.com](mailto:customerservice@ahbinc.com)

 MITSUBISHI MATERIALS  
**AJX Series**

HIGH FEED RADIUS  
MILLING CUTTER



**TOOL NEWS B028A**

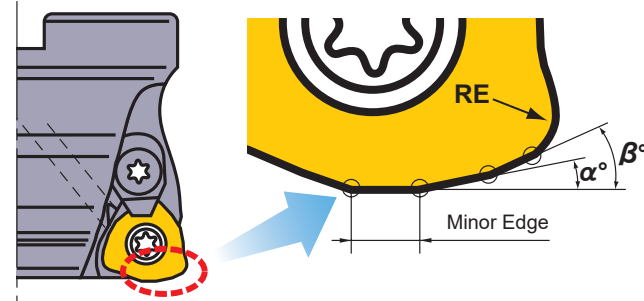
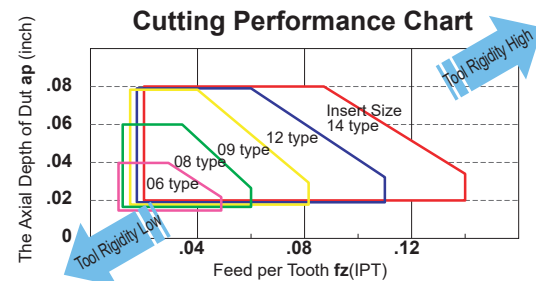
# High Feed Radius Milling Cutter

# AJX

## Features

### Ultra High Feed Cutting

Employing a double phased straight cutting edge to form the lead angle  $\alpha$  and  $\beta$  with a wiper edge, the AJX can achieve an ultra high feed rate for the ultimate efficiency in rough machining.



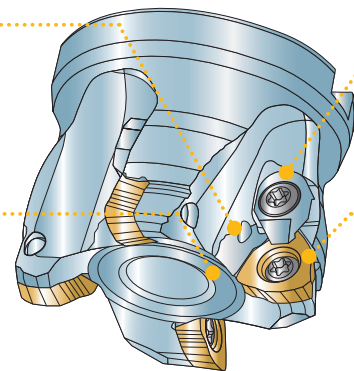
### High Reliability Cutter Body

#### Standard with Coolant Through

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

#### Durable Tool Body

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



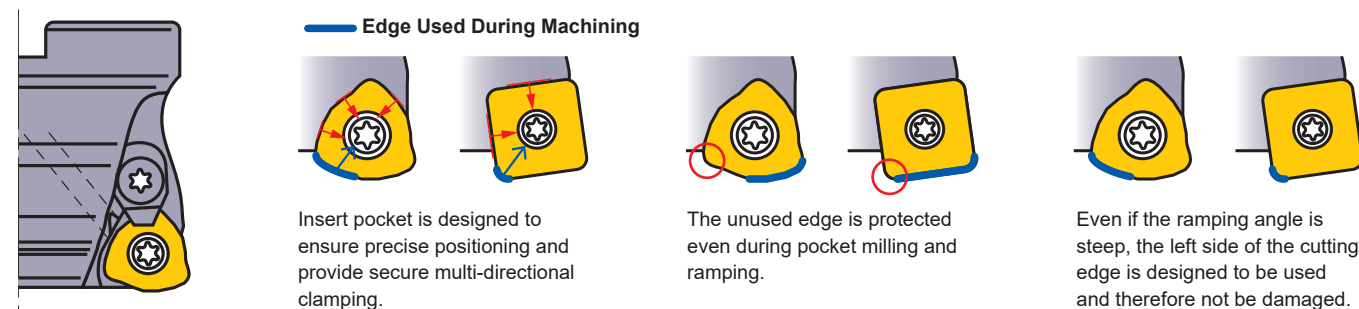
#### Highly Rigid Clamping

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

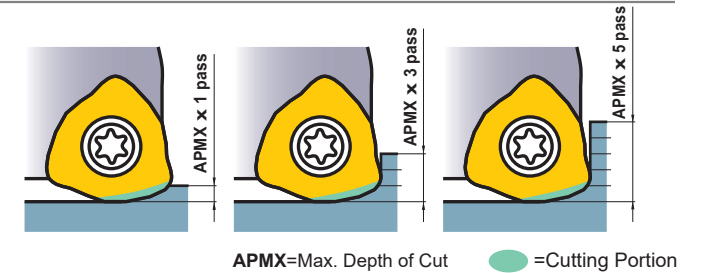
Specially designed triangular style insert geometry for cost effective milling.

### Triangular Insert Shape is Ideal for Safe Multi-Functional Milling



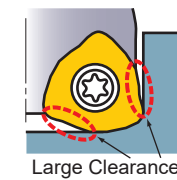
### Anti-Vibration Properties

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



### Preventing Chip Packing Problems

The indents engineered into the inner and outer cutting edges maintain a large clearance preventing chip packing problems. This provides improved efficiency and a more stable cutting performance when ramping and sinking compared to conventional products.



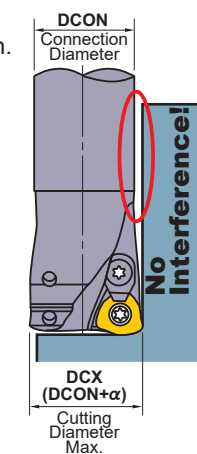
#### Comparison of Ramping Angles

	Max. Ramping Angle
<b>AJX</b>	3°
4 Corner Insert	1°
Conventional Products	1°

\*With DCX=.625" type

### No Workpiece Interference

Some AJX shank types are designed with an oversized cutting diameter for workpiece and chip clearance, as shown. Ideal for deep cutting and reduces the need for special long tools.



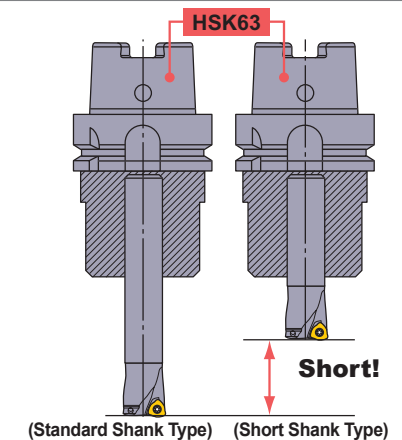
Order Number	DCX	DCONMS
AJXU06R112A10	.688	.625
AJXU08R142A12	.875	.750
AJXU09R182A16	1.125	1.000
AJXU09R244SA20M	1.500	1.250
AJXU12R243A20	1.500	1.250
AJXU14R323WA24S	2.000	1.500

Please refer to page 9 for details of the holder.

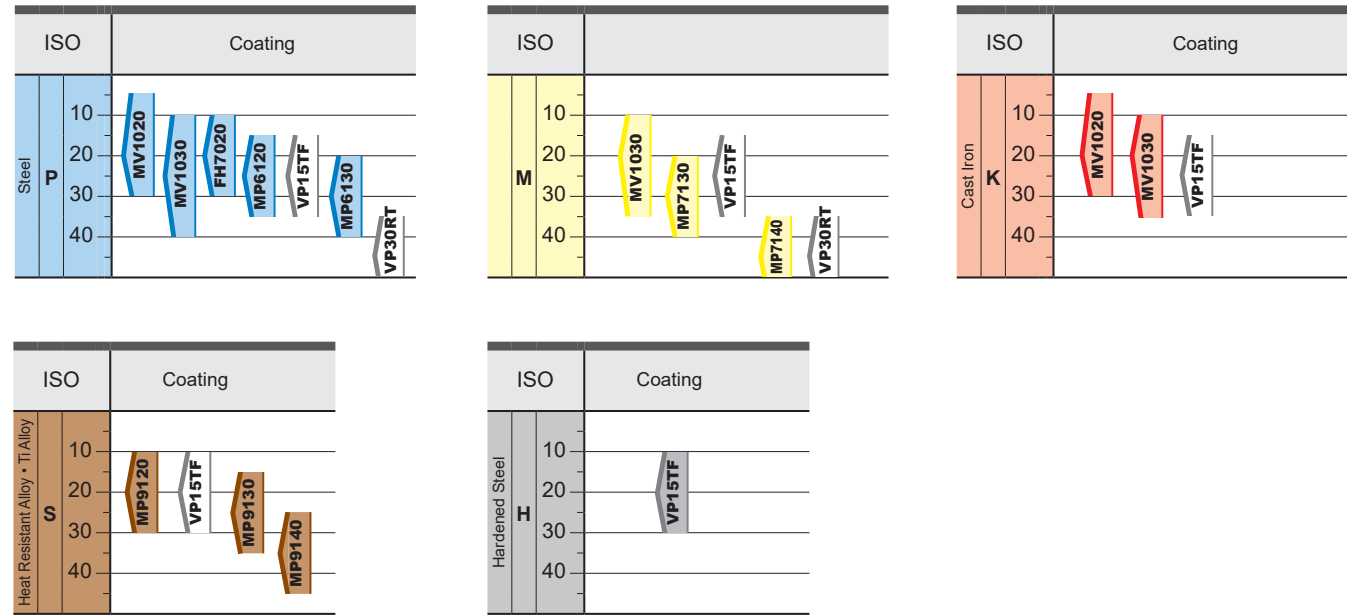
### HSK63 Type Short Shanks

Short shank type AJX06 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 centers.



## Inserts Grades for a Wide Range of Materials



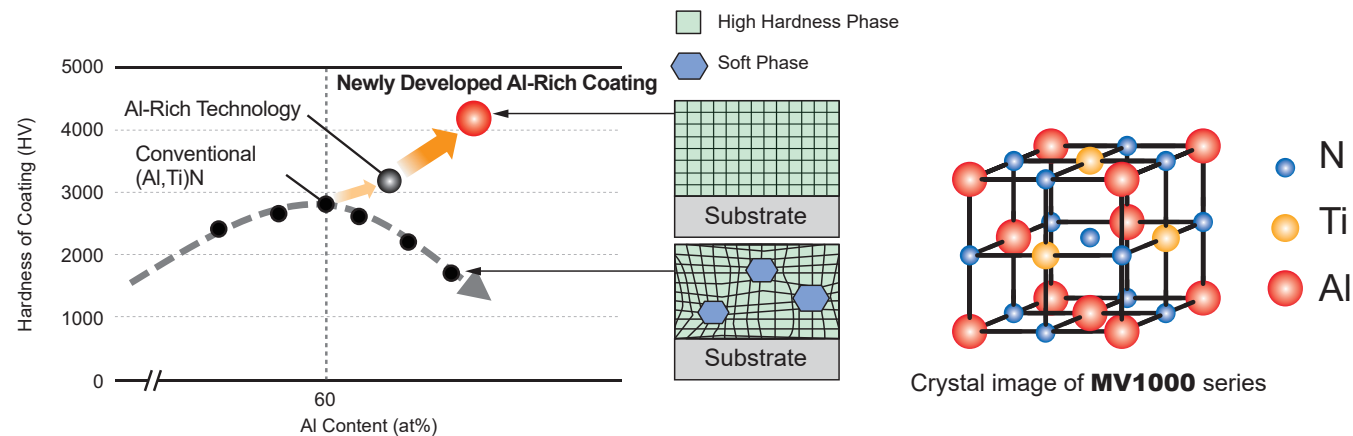
## Coated Carbide Grade for Milling

# MV1020/MV1030

## Newly Developed Al-Rich Coating

## Advanced Wear and Thermal Shock Resistance

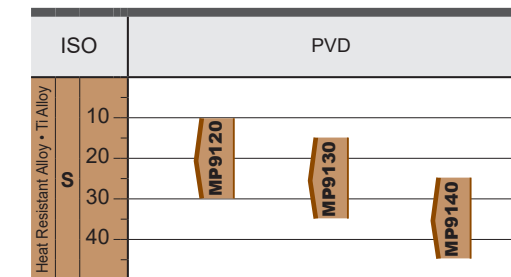
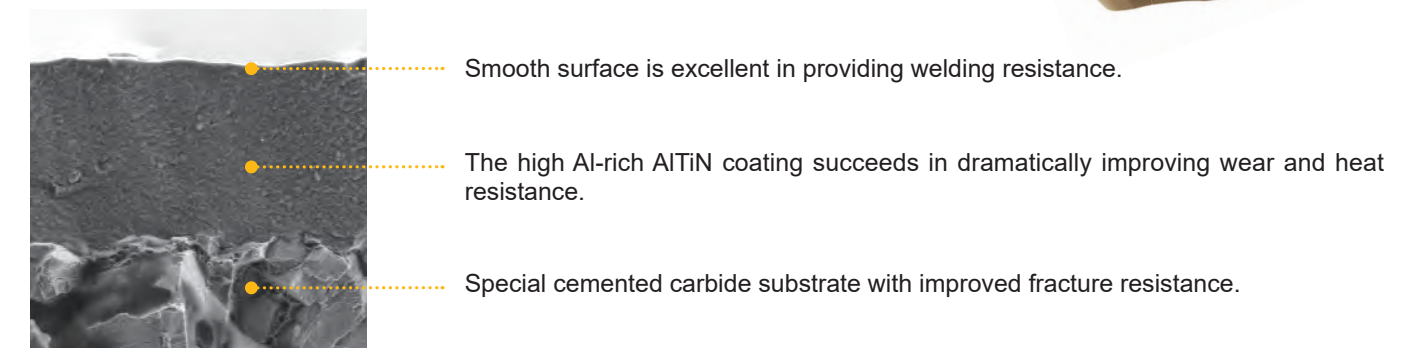
By adopting the newly developed Al-Rich coating technology, the (Al,Ti)N with a high Al content ratio displays a very high hardness. This greatly improves oxidation and wear resistance. The extreme heat resistance of this new series achieves amazing stability not only during dry cutting, but also when wet cutting where inserts are usually prone to thermal cracking. MV1020 offers overwhelmingly superior performance in high-speed cutting, and MV1030 achieves stable performance during interrupted and stainless steel machining.



## PVD Coated Grade for Difficult-to-Cut Materials

# MP9140

MP9140 provides excellent weld and fracture resistance resulting from a special cemented carbide substrate and a smoothed surface.

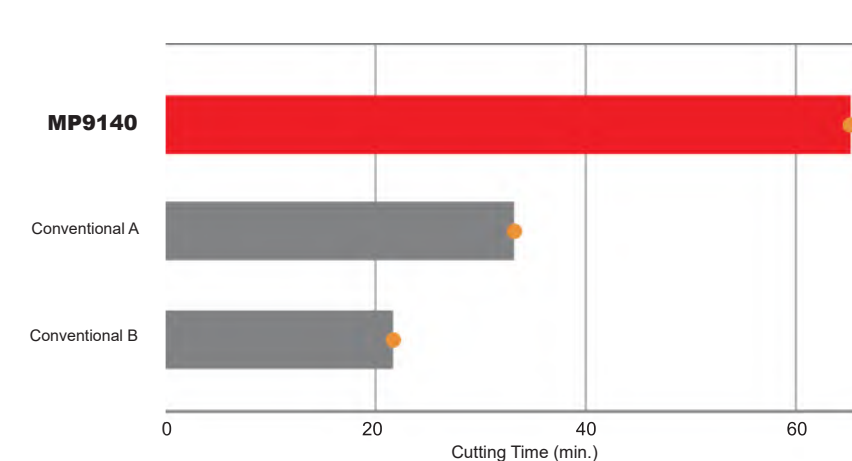


Grade	Features
<b>MP9120</b>	Focus on Wear Resistance
<b>MP9130</b>	Standard Grade
<b>MP9140</b>	Focus on Fracture Resistance

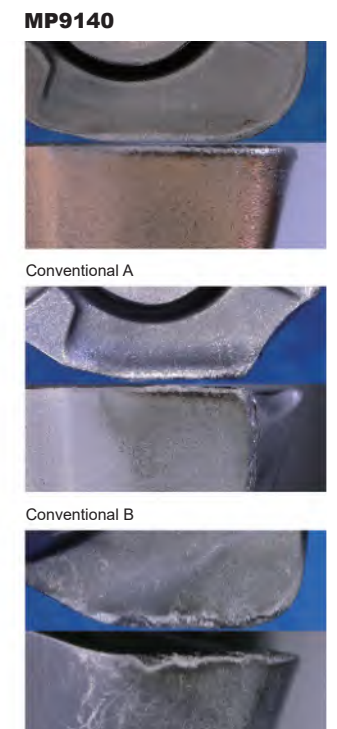
## Cutting Performance

## Comparison of Fracture Resistance by Titanium Alloy Machining

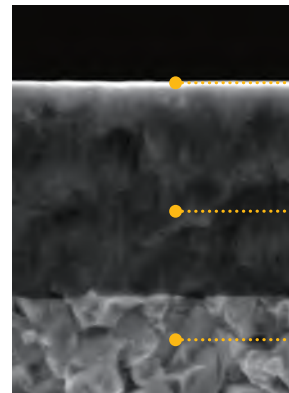
MP9140 achieved 3X more tool life than conventional product B.



<Cutting Conditions>  
 Material : Ti-6Al-4V  
 Tool : AJX06R162AM0830  
 Inserts : JOMT06T216ZZER-JL  
 Cutting Speed : vc=195 SFM  
 Feed per Tooth : fz=.020 IPT  
 Depth of Cut : ap=.02 inch  
 Width of Cut : ae=.315 inch, .63 inch  
 Cutting Mode : Wet Cutting



## Al-Ti-Cr-N Base PVD Accumulated Coating

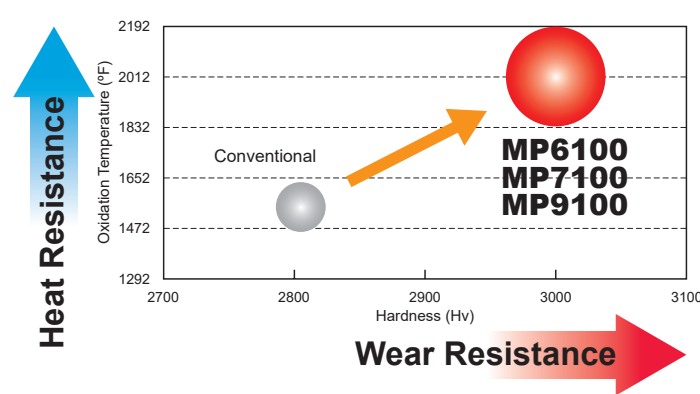


Excellent Welding Resistance  
Due to Low Coefficient of  
Friction

Pvd Accumulated Coating  
(Each Damage Measures)

Special Cemented Carbide  
Substrate

### Dramatically Improving the Heat and Wear Resistance!



### Excellent Welding Resistance due to Low Coefficient of Friction!

	Material	Grade	Coefficient of Friction Measured at 1112°F		
			1055	304	Ti-6Al-4V
P	Carbon Steel, Alloy Steel	MP6100	.4		
M	Stainless Steel	MP7100		.5	
S	Titanium Alloys, Heat Resistant Alloys	MP9100			.3
	Conventional		.7	.7	.7

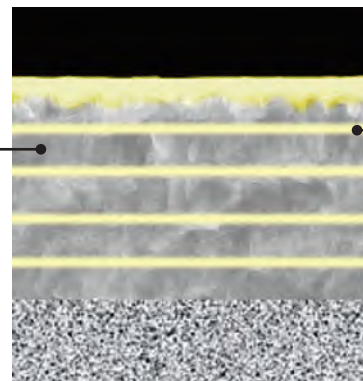
## TOUGH-Σ Technology

A fusion of the separate coating technologies; PVD and multi-layering realises extra toughness.

### PVD Accumulated Coating

#### Base Layer High Al-(Al, Ti)N

The new technology Al-(Al, Ti)N coating provides stabilization 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! Resists Chipping

## Wide Selection of Inserts

Focus on Cutting Edge Strength

↑

**Strong Cutting Edge Type Chipbreaker**

**Stable Machining even on Interrupted Workpiece Material Surfaces**

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

P M K S H

**General Use Type Chipbreaker**

**First Recommended Chipbreaker 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

**Sharp Cutting Edge Type Chipbreaker (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

**Sharp Cutting Edge Type Chipbreaker (For Difficult-to-cut Materials)**

**Optimized for Difficult-to-cut Materials**

The optimized cutting edge of the JL chipbreaker provides the sharpness and low cutting resistance that is ideal for difficult-to-cut materials. The maximum depth of cut is different in the insert size. Please refer to page 28.

**Can Continue Machining**

AJX + JL  
Conventional A  
Conventional B

<Cutting Conditions>

Tool : DCX=ø2.5"  
5 teeth  
Material : Ti-6Al-4V  
Revolution : n=202 min<sup>-1</sup>  
Cutting Speed : vc=130 SFM  
Table Feed : vf=23.86 IPM  
Feed per Tooth : fz=.024 IPT  
Depth of Cut : ap=.04 inch  
Width of Cut : ae=1.77 inch  
Cutting Mode : Wet Cutting

Material

P K H

M

S

Cutting Conditions

Light General Interrupted

JM/JL FT ST

JM FT ST

JL JM FT

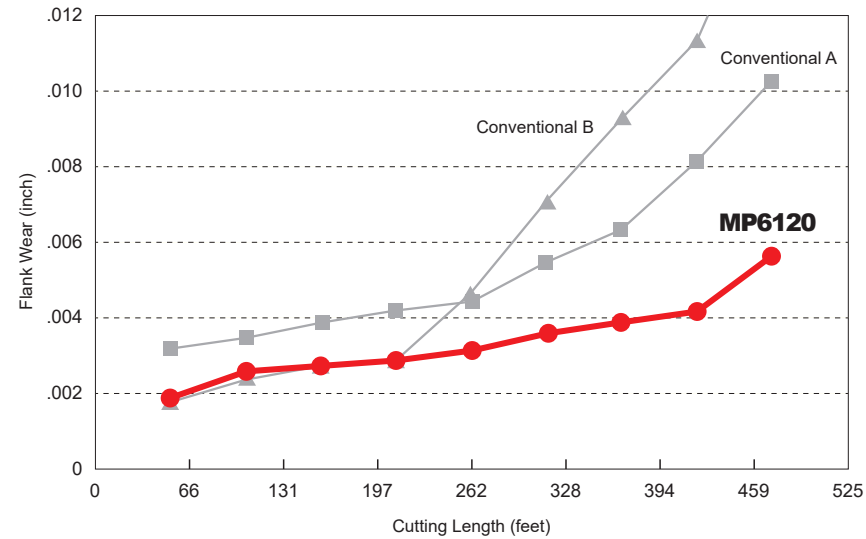
Focus on Cutting Edge Sharpness

↓

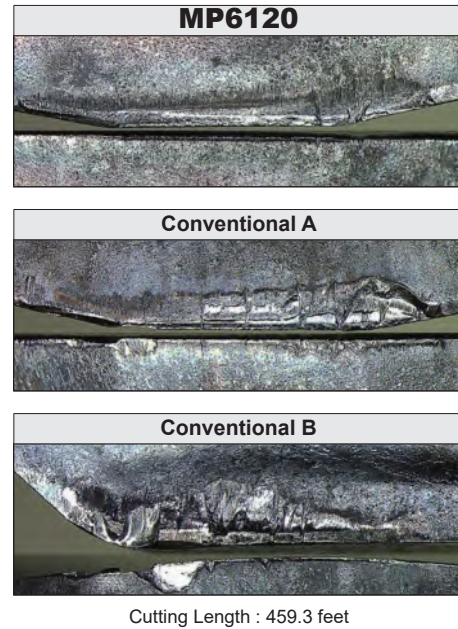
## Cutting Performance

### General Steel Machining

MP6120 Provides Superior Resistance to Thermal Cracking and Welding



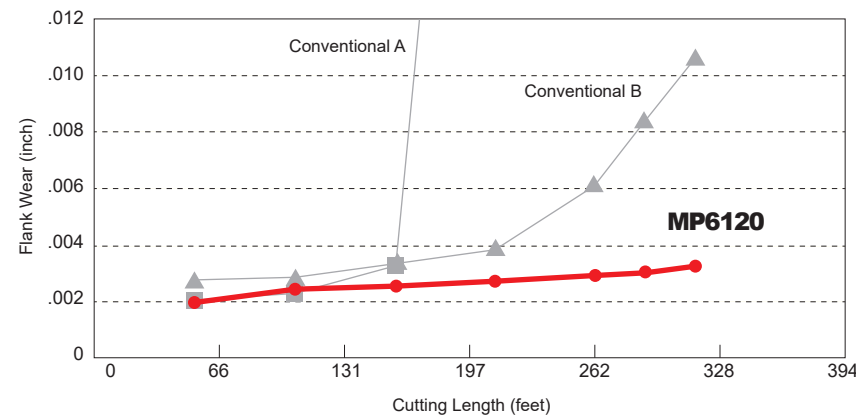
<Cutting Conditions>  
 Tool : AJX14-063A04R  
 Inserts : JDMT140520ZDSR-JM  
 Cutting Speed : vc=655 SFM  
 Feed per Tooth : fz=.059 IPT  
 Depth of Cut : ap=.039 inch  
 Width of Cut : ae=1.969 inch  
 Cutting Mode : Dry Cutting



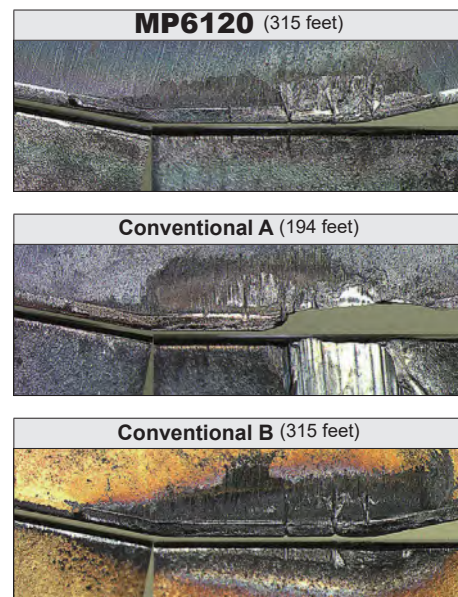
Cutting Length : 459.3 feet

MP6120 Achieves Long Tool Life in Low to Middle Speed Cutting

CVD coated FH7020 is recommended for higher speeds that exceed 655 SFM.



<Cutting Conditions>  
 Material : AISI 4140  
 Tool : AJX14-063A04R  
 Inserts : JDMW140520ZDSR-FT  
 Cutting Speed : vc=655 SFM  
 Feed per Tooth : fz=.059 IPT  
 Depth of Cut : ap=.039 inch  
 Width of Cut : ae=1.969 inch  
 Cutting Mode : Dry Cutting



## MULTI-FUNCTIONAL MILLING

### AJX



Fig.1 "FA" Flat Shank

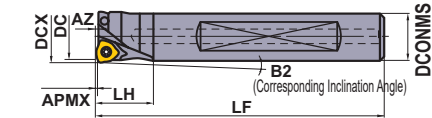


Fig.2

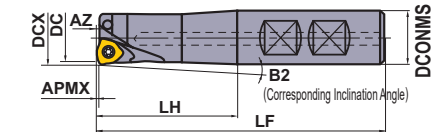


Fig.3

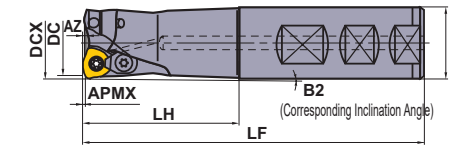
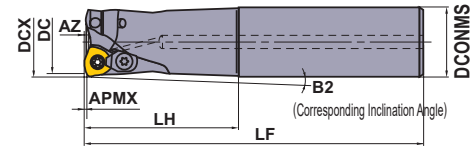


Fig.4



### Shank Type

With Coolant Through

Right hand tool holder only.

(inch)

DCX	Order Number	Stock R	No. T *	LF	DC	LH	DCONMS	B2	APMX	RMPX	Fig.	Insert Type
.625	AJXU06R102FA10S	●	2	3.750	.346	1.250	.625	2.12°	.039	3°	1	JOM06T2
.625	AJXU06R102SA10M	●	2	5.750	.346	1.500	.625	1.75°	.039	3°	4	JOM06T2
.625	AJXU06R102SA10L	●	2	5.750	.346	2.750	.625	0.93°	.039	3°	4	JOM06T2
.688	AJXU06R112FA10S	●	2	3.750	.409	.750	.625	—	.039	2.5°	1	JOM06T2
.688	AJXU06R112SA10L	●	2	5.750	.409	.750	.625	—	.039	2.5°	4	JOM06T2
.750	AJXU08R122WA12S	●	2	4.750	.417	2.000	.750	1.31°	.059	3.5°	2	JOM0803
.750	AJXU06R123SA12M	●	3	7.000	.472	2.375	.750	1.11°	.039	1.7°	4	JOM06T2
.750	AJXU08R122SA12L	●	2	7.000	.417	4.000	.750	0.64°	.059	3.5°	4	JOM0803
.875	AJXU08R142FA12S	●	2	4.750	.535	1.250	.750	—	.059	3°	1	JOM0803
.875	AJXU08R142SA12L	●	2	7.000	.535	1.250	.750	—	.059	3°	4	JOM0803
1.000	AJXU09R162WA16S	●	2	5.625	.602	2.375	1.000	1.1°	.079	4°	3	JDM09T3
1.000	AJXU08R163SA16M	●	3	8.000	.661	2.750	1.000	0.94°	.059	2°	4	JOM0803
1.000	AJXU09R162SA16L	●	2	8.000	.602	4.750	1.000	0.54°	.079	4°	4	JDM09T3
1.125	AJXU09R182FA16S	●	2	5.625	.728	1.625	1.000	—	.079	3°	1	JDM09T3
1.125	AJXU09R182SA16L	●	2	8.000	.728	1.625	1.000	—	.079	3°	4	JDM09T3
1.250	AJXU12R202WA20S	●	2	6.000	.789	2.750	1.250	0.94°	.079	4°	3	JDM1204
1.250	AJXU09R203SA20M	●	3	8.000	.854	3.125	1.250	0.82°	.079	3.3°	4	JDM09T3
1.250	AJXU12R202SA20L	●	2	8.000	.789	4.750	1.250	0.54°	.079	4°	4	JDM1204
1.500	AJXU12R243WA20S	●	3	6.000	1.038	2.000	1.250	—	.079	3°	3	JDM1204
1.500	AJXU09R244SA20M	●	4	10.000	1.114	2.375	1.250	—	.079	2.4°	4	JDM09T3
1.500	AJXU12R243SA20L	●	3	10.000	1.038	2.000	1.250	—	.079	3°	4	JDM1204
1.500	AJXU12R243SA24L	●	3	10.000	1.038	2.750	1.500	0.94°	.079	3°	4	JDM1204
2.000	AJXU14R323WA24S	●	3	6.000	1.534	2.000	1.500	—	.079	4.2°	3	JDM1204

\* Number of Teeth

Note 1) Refer to page 32, for the max. depth of cut (APMX) and max. drilling depth (AZ).

#### Dimensions and Symbols (ISO 13399 Compliance)

DCX = Cutting Diameter Max.      LH = Head Length      RMPX = Ramping Angle Max.  
 DC = Cutting Diameter      DCONMS = Connection Diameter Machine Side  
 LF = Functional Length      APMX = Depth of Cut Max.

● : USA Stock

# High Feed Radius Milling Cutter

## Spare Parts

Tool Holder Type	*		*		F	D
	Clamp Screw	Clamp Bridge	Clamp Bridge Screw	Spring	Wrench	
AJXU06R	TS25	—	—	—	TKY08F	
AJXU08R	TS33	—	—	—	TKY08D	
AJXU09R	TS351	AMS3	AJS3010T10	ASS2	TKY10D	
AJXU12R	TS43	AMS4	AJS4012T15	ASS2	TKY15D	
AJXU14R	TS54	AMS5	AJS5014T25	ASS3	TKY25D	

\* Clamp Torque (lbf-in) : TS25=8.9, TS33=8.9, TS351=22, TS43=31, TS54=66, AJS3010T10=22, AJS4012T15=31, AJS5014T25=66



Fig.1

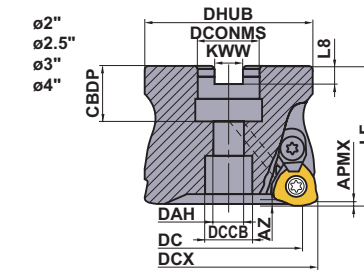
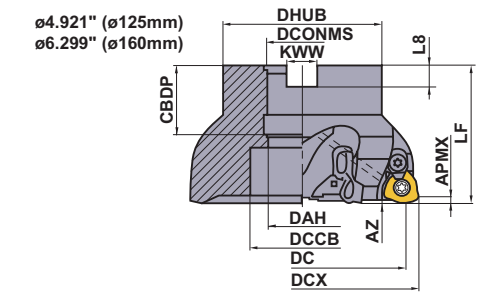


Fig.2



Right hand tool holder only.

(inch)

DCX	Set Bolt	Geometry
2.000"	HSCU37513H	<p>With Coolant Through</p>
2.500", 3.000"	HSCU50014H	
4.000"	HSCU75016H	
4.921"	MBAU75016H	
6.299"	MBAU100016H	

## Arbor Type

With Coolant Through

DCX = Inch, DCON = Inch

(inch)

DCX	Order Number	Stock	* No.T	DC	LF	DCONMS	WT (lbs)	APMX	RMPX	Fig.	Insert Type
2.000	AJXU12R0203	●	3	1.539	2.000	.750	.888	.059	2°	1	JDM1204
2.000	AJXU12R0204	●	4	1.539	2.000	.750	.866	.059	2°	1	JDM1204
2.000	AJXU09R0205	●	5	1.606	2.000	.750	.925	.039	1.1°	1	JDM09T3
2.500	AJXU14R2503C	●	3	2.032	2.000	1.000	1.393	.079	2.8°	1	JDM1405
2.500	AJXU14R2504C	●	4	2.032	2.000	1.000	1.338	.079	2.8°	1	JDM1405
2.500	AJXU12R2505C	●	5	2.039	2.000	1.000	1.427	.059	1.5°	1	JDM1204
3.000	AJXU14R0304C	●	4	2.532	2.000	1.000	2.133	.079	1.8°	1	JDM1405
3.000	AJXU14R0305C	●	5	2.532	2.000	1.000	2.078	.079	1.8°	1	JDM1405
3.000	AJXU12R0306C	●	6	2.543	2.000	1.000	2.274	.059	1.2°	1	JDM1204
4.000	AJXU14R0405E	●	5	3.531	2.500	1.500	4.806	.079	1.2°	1	JDM1405
4.000	AJXU14R0406E	●	6	3.531	2.500	1.500	4.981	.079	1.2°	1	JDM1405
4.000	AJXU12R0407E	●	7	3.539	2.500	1.500	5.283	.059	0.8°	1	JDM1204
4.921	AJX14RA12505E	●	5	4.457	2.480	1.500	7.275	.079	0.8°	2	JDM1405
4.921	AJX14RA12507E	●	7	4.457	2.480	1.500	7.275	.079	0.8°	2	JDM1405
6.299	AJX14RA16006F	●	6	5.835	2.480	2.000	11.023	.079	0.5°	2	JDM1405
6.299	AJX14RA16008F	●	8	5.835	2.480	2.000	11.023	.079	0.5°	2	JDM1405

\* Number of Teeth

Note 1) Refer to page 32, for the max. depth of cut (APMX) and max. drilling depth (AZ).

## Dimensions and Symbols (ISO 13399 Compliance)

DCX = Cutting Diameter Max.

DC = Cutting Diameter

LF = Functional Length

DCONMS = Connection Diameter Machine Side

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

DHUB = Hub Diameter

KWW = Keyway Width

● : USA Stock

# High Feed Radius Milling Cutter

## Mounting Dimensions

DCX = Inch, DCON = Inch

(inch)

DCX	Order Number	DCONMS	CBDP	DAH	DCCB	DHUB	KWW	L8	Fig.
2.000	AJXU12R0203	.750	.748	.415	.600	1.875	.313	.187	1
2.000	AJXU12R0204	.750	.748	.415	.600	1.875	.313	.187	1
2.000	AJXU09R0205	.750	.748	.415	.600	1.875	.313	.187	1
2.500	AJXU14R2503C	1.000	1.024	.539	.787	2.375	.375	.219	1
2.500	AJXU14R2504C	1.000	1.024	.539	.787	2.375	.375	.219	1
2.500	AJXU12R2505C	1.000	1.024	.539	.787	2.375	.375	.219	1
3.000	AJXU14R0304C	1.000	1.024	.539	.787	2.750	.375	.219	1
3.000	AJXU14R0305C	1.000	1.024	.539	.787	2.750	.375	.219	1
3.000	AJXU12R0306C	1.000	1.024	.539	.787	2.750	.375	.219	1
4.000	AJXU14R0405E	1.500	1.181	.787	1.181	3.750	.625	.375	1
4.000	AJXU14R0406E	1.500	1.181	.787	1.181	3.750	.625	.375	1
4.000	AJXU12R0407E	1.500	1.181	.787	1.181	3.750	.625	.375	1
4.921	AJX14RA12505E	1.500	1.575	-	2.205	3.937	.625	.375	2
4.921	AJX14RA12507E	1.500	1.575	-	2.205	3.937	.625	.375	2
6.299	AJX14RA16006F	2.000	1.693	-	2.835	3.937	.750	.437	2
6.299	AJX14RA16008F	2.000	1.693	-	2.835	3.937	.750	.437	2

## Spare Parts

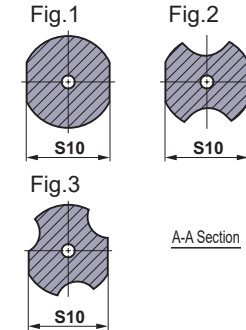
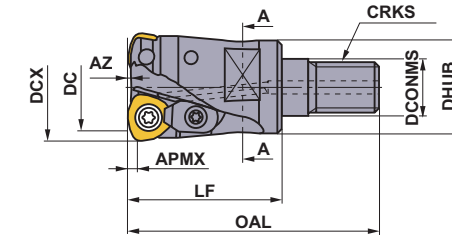
Tool Holder Type	*		*		T D
	Clamp Screw	Clamp Bridge	Clamp Bridge Screw	Spring	
AJXU09R	TS351	AMS3	AJS3010T10	ASS2	TKY10D
AJXU12R	TS43	AMS4	AJS4012T15	ASS2	TKY15T
AJXU14R	TS54	AMS5	AJS5014T25	ASS3	TKY25T
AJX14R	TS54	AMS5	AJS5014T25	ASS3	TKY25T

\* Clamp Torque (lbf-in) : TS351=22, TS43=31, TS54=66, AJS3010T10=22, AJS4012T15=31, AJS5014T25=66

### Dimensions and Symbols (ISO 13399 Compliance)

DCX = Cutting Diameter Max.	WT = Weight of Item	DAH = Diameter Access Hole
DC = Cutting Diameter	APMX = Depth of Cut Max.	DCCB = Counterbore Diameter Connection Bore
LF = Functional Length	RMPX = Ramping Angle Max.	DHUB = Hub Diameter
DCONMS = Connection Diameter Machine Side	CBDP = Connection Bore Depth	KWW = Keyway Width

● : USA Stock



## Screw-in Type

With Coolant Through

Right hand tool holder only.

(inch)

DCX	Order Number	Stock R	No. T *	DC	LF	OAL	DCONMS	DHUB	S10	CRKS	WT (lbs)	APMX	RMPX	Fig.	Shank Arbor Type	Insert Type
.750	AJXU08R122AM1030	●	2	.417	1.181	1.929	.413	.709	.551	M10	.2	.059	3.5°	2	SCU12M10	JOM00803
.750	AJXU06R123AM1030	●	3	.472	1.181	1.929	.413	.709	.551	M10	.2	.039	1.7°	3	SCU12M10	JOM006T2
.875	AJXU08R142AM1030	●	2	.535	1.181	1.929	.413	.709	.551	M10	.2	.059	3°	2	SCU12M10	JOM00803
.875	AJXU06R143AM1030	●	3	.595	1.181	1.929	.413	.709	.551	M10	.2	.039	0.7°	3	SCU12M10	JOM006T2
1.000	AJXU09R162AM1235	●	2	.602	1.378	2.244	.492	.827	.748	M12	.4	.079	4°	2	SCU16M12	JDM009T3
1.000	AJXU08R163AM1235	●	3	.661	1.378	2.244	.492	.827	.748	M12	.2	.059	2°	1	SCU16M12	JOM00803
1.125	AJXU09R182AM1235	●	2	.728	1.378	2.244	.492	.827	.748	M12	.4	.079	3°	2	SCU16M12	JDM009T3
1.125	AJXU08R183AM1235	●	3	.784	1.378	2.244	.492	.827	.748	M12	.2	.059	0.5°	1	SCU16M12	JOM00803
1.250	AJXU09R203AM1645	●	3	.854	1.772	2.677	.669	1.142	.945	M16	.4	.079	2.5°	1	SCU20M16	JDM009T3
1.375	AJXU09R223AM1645	●	3	.976	1.772	2.677	.669	1.142	.945	M16	.4	.079	2°	1	SCU20M16	JDM009T3

\* Number of Teeth

Note 1) Refer to page 32, for the max. depth of cut (APMX) and max. drilling depth (AZ).

Note 2) For screw-in type shank arbors, refer to page 21.

## Spare Parts

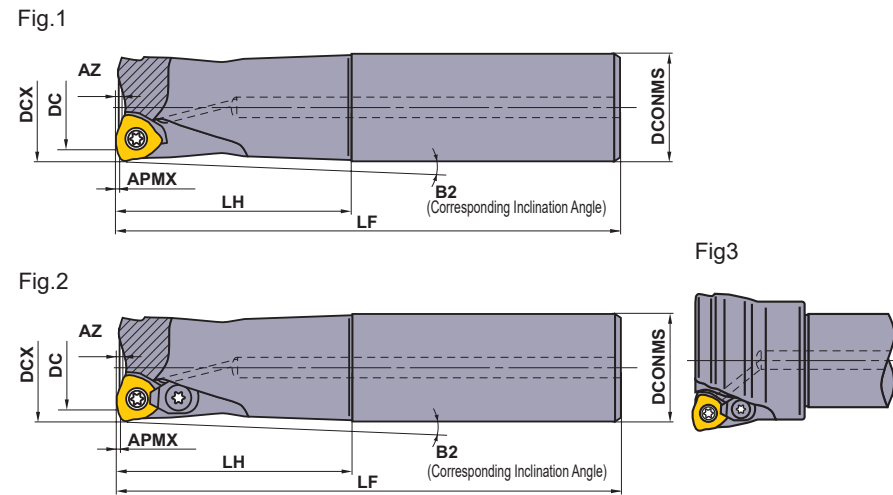
Tool Holder Type	*		*		F D
	Clamp Screw	Clamp Bridge	Clamp Bridge Screw	Spring	
AJXU06R	TS25	-	-	-	TKY08F
AJXU08R	TS33	-	-	-	TKY08D
AJXU09R	TS351	AMS3	AJS3010T10	ASS2	TKY10D

\* Clamp Torque (lbf-in) : TS25=8.9, TS33=8.9, TS351=22, AJS3010T10=22

### Dimensions and Symbols (ISO 13399 Compliance)

DCX = Cutting Diameter Max.	OAL = Overall Length	CRKS = Connection Retention Knob Thread Size
DC = Cutting Diameter	DCONMS = Connection Diameter Machine Side	APMX = Depth of Cut Max.
LF = Functional Length	DHUB = Hub Diameter	RMPX = Ramping Angle Max.

# High Feed Radius Milling Cutter



Metric Standard

Right hand tool holder only.

## Shank Type

With Coolant Through

DCX	Order Number	Stock		LF	DC	LH	DCONMS	B2	APMX	RMPX	Fig.	Insert Type
		R	No.T									
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
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
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

\* Number of Teeth

Note 1) Refer to page 32, for the max. depth of cut (APMX) and maximum drilling depth (AZ).

★ : Stocked in Japan

(mm)

DCX	Order Number	Stock		LF	DC	LH	DCONMS	B2	APMX	RMPX	Fig.	Insert Type
		R	No.T									
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
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
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
32	AJX08R324SA32S	★	4	150	23.4	70	32	0.95	0.9	1.4°	1	JOM0803
32	AJX06R325SA32S	★	5	150	24.9	70	32	0.94	0.6	0.5°	1	JOM06T2
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
32	AJX08R324SA32L	★	4	200	23.4	120	32	0.55	0.9	1.4°	1	JOM0803
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
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
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

\* Number of Teeth

Note 1) Refer to page 32, for the max. depth of cut (APMX) and maximum drilling depth (AZ).

## Dimensions and Symbols (ISO 13399 Compliance)

DCX = Cutting Diameter Max.

DC = Cutting Diameter

LF = Functional Length

LH = Head Length

DCONMS = Connection Diameter Machine Side

APMX = Depth of Cut Max.

RMPX = Ramping Angle Max.



# High Feed Radius Milling Cutter

DCX	Order Number	Stock	* No.T	DC	LF	DCONMS	WT (kg)	APMX	RMPX	Fig.	Insert Type
		R									
125	AJX14-125B05R	★	5	113.2	63	40	3.3	1.2	0.8°	2	JDM1405
125	AJX14-125B07R	★	7	113.2	63	40	3.3	1.2	0.8°	2	JDM1405
160	AJX14-160B06R	★	6	148.2	63	40	5.0	1.2	0.5°	2	JDM1405
160	AJX14-160B08R	★	8	148.2	63	40	5.0	1.2	0.5°	2	JDM1405

Fig.3

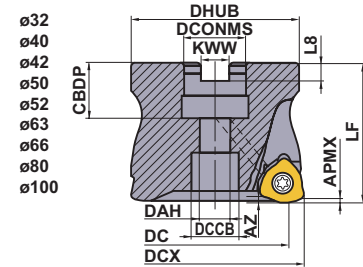
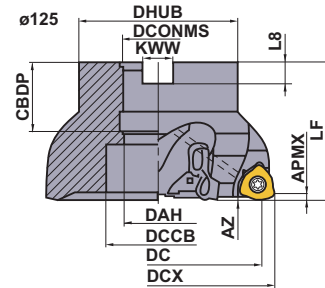


Fig.4



Right hand tool holder only. (mm)

DCX	Set Bolt	Geometry
ø32, ø40, ø42	HSC08025H	
ø50, ø52, ø63, ø66 (DCON=22)	HSC10030H	
ø63, ø66 (DCON=27), ø80	HSC12035H	
ø100	HSC16040H	
ø125	MBA20040H	



## Arbor Type Super Extra Fine Pitch

With Coolant Through  
DCX=mm size, DCON=mm size

DCX	Order Number	Stock	* No.T	DC	LF	DCONMS	WT (kg)	APMX	RMPX	Fig.	Insert Type
		R									
32	AJX06-032A05R	★	5	24.9	40	16	0.1	0.6	0.5°	3	JOM06T2
32	AJX06-032A06R	★	6	24.9	40	16	0.1	0.6	0.5°	3	JOM06T2
40	AJX08-040A06R	★	6	31.4	40	16	0.2	0.9	1°	3	JOM0803
42	AJX08-042A06R	★	6	33.4	40	16	0.2	0.9	0.9°	3	JOM0803
50	AJX09-050A06R	★	6	39.3	50	22	0.4	1.2	1.1°	3	JDM09T3
50	AJX08-050A07R	★	7	41.4	50	22	0.4	0.9	0.7°	3	JOM0803
52	AJX09-052A06R	★	6	41.9	50	22	0.4	1.2	1°	3	JDM09T3
52	AJX08-052A07R	★	7	43.4	50	22	0.5	0.9	0.7°	3	JOM0803
63	AJX12-063A06R	★	6	51.3	50	22	0.7	1.2	1.5°	3	JDM1204
63	AJX09-063A07R	★	7	52.9	50	22	0.7	1.2	0.8°	3	JDM09T3
63	AJX12-063X06R	★	6	51.3	50	27	0.6	1.2	1.5°	3	JDM1204
63	AJX09-063X07R	★	7	52.9	50	27	0.7	1.2	0.8°	3	JDM09T3
66	AJX12-066A06R	★	6	54.3	50	22	0.7	1.2	1.4°	3	JDM1204
66	AJX09-066A07R	★	7	55.9	50	22	0.8	1.2	0.8°	3	JDM09T3
66	AJX12-066X06R	★	6	54.3	50	27	0.7	1.2	1.4°	3	JDM1204
66	AJX09-066X07R	★	7	55.9	50	27	0.8	1.2	0.8°	3	JDM09T3
80	AJX12-080A08R	★	8	68.3	50	27	1.1	1.2	1.1°	3	JDM1204
100	AJX12-100A09R	★	9	88.3	63	32	2.5	1.2	0.8°	3	JDM1204
125	AJX14-125B09R	★	9	113.2	63	40	3.0	1.2	0.8°	4	JDM1405

\* Number of Teeth

Note 1) Refer to page 32, for the max. depth of cut (APMX) and maximum drilling depth (AZ).

### Dimensions and Symbols (ISO 13399 Compliance)

DCX = Cutting Diameter Max.	WT = Weight of Item	DAH = Diameter Access Hole
DC = Cutting Diameter	APMX = Depth of Cut Max.	DCCB = Counterbore Diameter Connection Bore
LF = Functional Length	RMPX = Ramping Angle Max.	DHUB = Hub Diameter
DCONMS = Connection Diameter Machine Side	CBDP = Connection Bore Depth	KWW = Keyway Width

★ : Stocked in Japan

## Mounting Dimensions

Fig.1

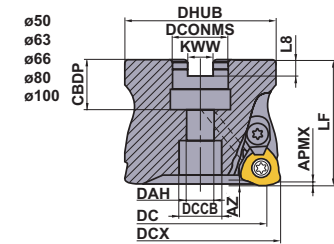


Fig.2

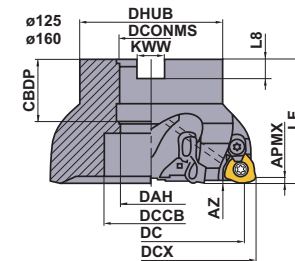


Fig.3

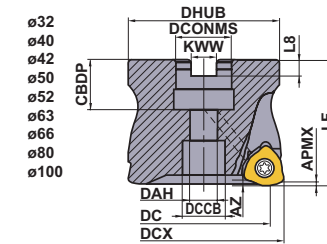
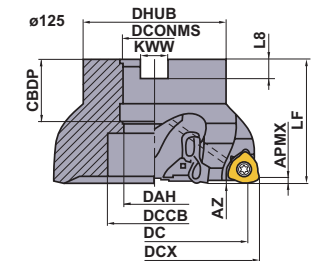


Fig.4



DCX = mm size, DCON = inch size (mm)

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

DCX = mm size, DCON = mm size (mm)

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

## Spare Parts

Tool Holder Type	* Clamp Screw	* Clamp Bridge	* Clamp Bridge Screw	* Spring	F Wrench
	AJX06 Super Extra Fine Pitch	TS25	—	—	—
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

# High Feed Radius Milling Cutter

Fig.1

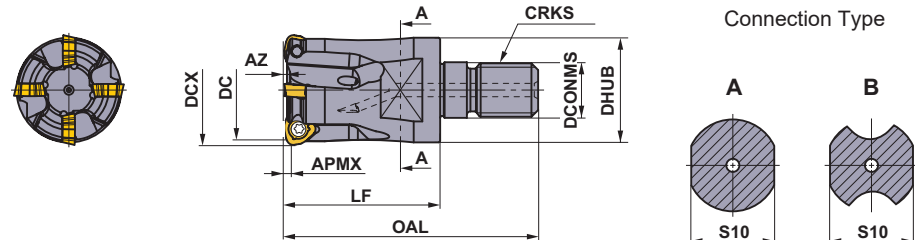
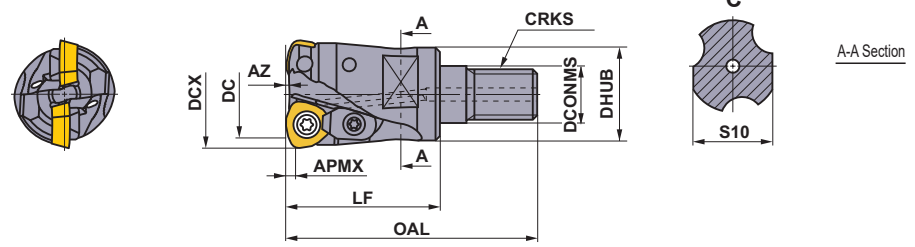


Fig.2



Right hand tool holder only.

(mm)

## Screw-in Type

With Coolant Through

DCX	Order Number	Stock R	* No.T	DC	LF	OAL	DCONMS	WT (kg)	APMX	RMPX	Fig.	Insert Type
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
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
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
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
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
40	AJX08R406AM1645	★	6	31.4	45	68	17.0	0.3	0.9	1°	1	JOM0803

\* Number of Teeth

Note 1) Refer to page 32, for the max. depth of cut (APMX) and maximum drilling depth (AZ).

Note 2) For screw-in type arbors, refer to page 21.

## Spare Parts

Tool Holder Type	*		*		F	
	Clamp Screw	Clamp Bridge	Clamp Bridge Screw	Spring	Wrench	D
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

★ : Stocked in Japan

## Mounting Dimensions

(mm)

DCX	Order Number	DCONMS	DHUB	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
25	AJX06R254AM1235	12.5	23.5	19	M12	A	SC25M12
28	AJX09R282AM1235	12.5	21	19	M12	B	SC25M12
28	AJX08R283AM1235	12.5	21	19	M12	A	SC25M12
28	AJX06R284AM1235	12.5	23.5	19	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
32	AJX08R324AM1645	17.0	29	24	M16	A	SC32M16
35	AJX12R352AM1645	17.0	29	24	M16	B	SC32M16
35	AJX09R353AM1645	17.0	29	24	M16	A	SC32M16
35	AJX08R354AM1645	17.0	29	24	M16	A	SC32M16
40	AJX12R403AM1645	17.0	29	24	M16	B	SC32M16
40	AJX09R404AM1645	17.0	29	24	M16	A	SC32M16
40	AJX08R406AM1645	17.0	29	24	M16	A	SC32M16

## How to Install the Screw-in Head

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



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

DCONMS = Connection Diameter Machine Side

DHUB = Hub Diameter

CRKS = Connection Retention Knob Thread Size

APMX = Depth of Cut Max.

RMPX = Ramping Angle Max.

# High Feed Radius Milling Cutter

## Inserts

(inch)

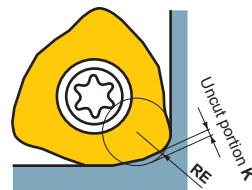
Material	P	M	K	S	H	Coated										Edge Preparation							
	Steel	Stainless Steel	Cast Iron	Heat Resistant Alloys, Titanium Alloys	Hardened Steel	MV1020	MV1030	FH7020	MP6120	MP6130	MP7130	MP7140	MP9120	MP9130	MP9140	VP15TF	VP30RT	AN	IC	S	BS	RE	Geometry
General Use Type	JOMW06T215ZZSR-FT	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	13°	.250	.109	.047	.059	
	JOMW080320ZZSR-FT	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	13°	.315	.125	.055	.079	
	JDMW09T320ZDSR-FT	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	15°	.375	.156	.071	.079	
	JDMW120420ZDSR-FT	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	15°	.472	.187	.098	.079	
	JDMW140520ZDSR-FT	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	15°	.551	.219	.110	.079	
Strong Cutting Edge Type	JDMT120420ZDSR-ST	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	15°	.472	.187	.098	.079	
	JDMT140520ZDSR-ST	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	15°	.551	.219	.110	.079	
Sharp Cutting Edge Type (For Difficult-to-cut Materials)	JOMT06T216ZZER-JL	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	13°	.250	.109	.047	.063	
	JOMT080322ZZER-JL	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	13°	.315	.125	.055	.087	
	JDMT09T323ZDER-JL	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	15°	.375	.156	.071	.091	
	JDMT120423ZDER-JL	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	15°	.472	.187	.098	.091	
Sharp Cutting Edge Type (For General Use)	JOMT06T215ZZSR-JM	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	13°	.250	.109	.047	.059	
	JOMT080320ZZSR-JM	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	13°	.315	.125	.055	.079	
	JDMT09T320ZDSR-JM	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	15°	.375	.156	.071	.079	
	JDMT120420ZDSR-JM	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	15°	.472	.187	.098	.079	
	JDMT140520ZDSR-JM	M	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	15°	.551	.219	.110	.079	

This is the selection guideline for AJX. Please note that the cutting conditions differ depending on multiple factors, for more details refer to the Recommended Cutting Conditions.

Edge Preparation : E : Round S : Chamfer + Hone

Note 1) When using ST chipbreaker, please check the height setting as it differs from other chipbreakers.

## Note for Programming



When using the AJX, please program the approximate radius as indicated. The approximate uncut portions for the program are as in the right table.

(inch)

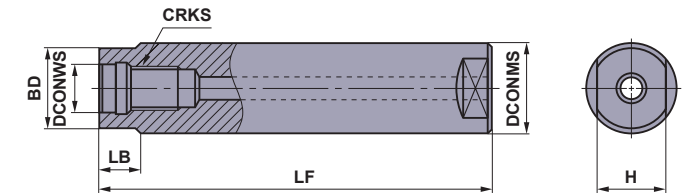
Insert Size	Chipbreaker	Approx. RE	Uncut Portion K
JOM06T20ZZR00	FT / JM	.079	.013
	JL	.098	.013
JOM08030ZZR00	FT / JM	.098	.018
	JL	.079	.016
JOM09T30ZDR00	FT / JM	.118	.019
	JL	.118	.018
JOM12040ZDR00	FT / JM / ST	.118	.025
	JL	.118	.021
JOM14050ZDR00	FT / JM / ST	.118	.025
	JL	.118	.022

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

● : USA Stock  
(10 inserts in one case)

# SCREW-IN HOLDERS

## STRAIGHT SHANK TYPE



### Steel Shank Type

With Coolant Through

(inch)

CRKS	Order Number	Stock	DCONMS	LF	BD	DCSFWS	LB	H	WT (lbs)
M8	SCU10M08S100S	●	.625	3.937	.335	.571	.394	.394	.2
M8	SCU10M08S200L	●	.625	7.874	.335	.571	.394	.394	.7
M10	SCU12M10S120S	●	.750	4.724	.413	.728	.394	.551	.4
M10	SCU12M10S220L	●	.750	8.661	.413	.728	.394	.551	.9
M12	SCU16M12S125S	●	1.000	4.921	.492	.925	.394	.748	.9
M12	SCU16M12S245L	●	1.000	9.646	.492	.925	.394	.748	2.0
M16	SCU20M16S140S	●	1.250	5.512	.669	1.122	.591	.945	1.8
M16	SCU20M16S280L	●	1.250	11.024	.669	1.122	.591	.945	3.5

### Metric Standard

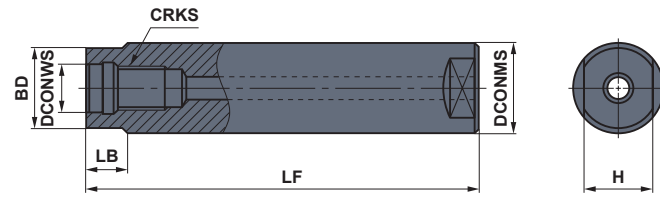
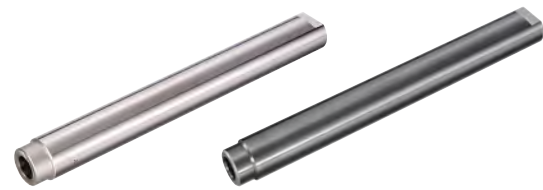
With Coolant Through

(mm)

CRKS	Order Number	Stock	DCONMS	LF	BD	DCSFWS	LB	H	WT (kg)
M8	SC16M08S100S	★	16	100	8.5	14.5	10	10	0.1
M8	SC16M08S200L	★	16	200	8.5	14.5	10	10	0.3
M10	SC20M10S120S	★	20	120	10.5	18.5	10	14	0.3
M10	SC20M10S220L	★	20	220	10.5	18.5	10	14	0.5
M12	SC25M12S125S	★	25	125	12.5	23.5	10	19	0.4
M12	SC25M12S245L	★	25	245	12.5	23.5	10	19	0.8
M16	SC32M16S140S	★	32	140	17	28.5	15	24	0.8
M16	SC32M16S280L	★	32	280	17	28.5	15	24	1.6

● : USA Stock ★ : Stocked in Japan

# SCREW-IN HOLDERS



## Carbide Shank Type

With Coolant Through

(inch)

CRKS	Order Number	Stock	DCONMS	LF	BD	DCSFWS	LB	H	WT (lbs)
M8	SCU10M08S100SW	●	.625	3.937	.335	.571	.394	.394	.4
M8	SCU10M08S200LW	●	.625	7.874	.335	.571	.394	.394	1.1
M10	SCU12M10S120SW	●	.750	4.724	.413	.728	.394	.551	.9
M10	SCU12M10S220LW	●	.750	8.661	.413	.728	.394	.551	1.8
M12	SCU16M12S125SW	●	1.000	4.921	.492	.925	.394	.748	1.8
M12	SCU16M12S245LW	●	1.000	9.646	.492	.925	.394	.748	3.5
M16	SCU20M16S140SW	●	1.250	5.512	.669	1.122	.591	.945	3.1
M16	SCU20M16S280LW	●	1.250	11.024	1.250	1.122	.591	.945	6.4

## Metric Standard

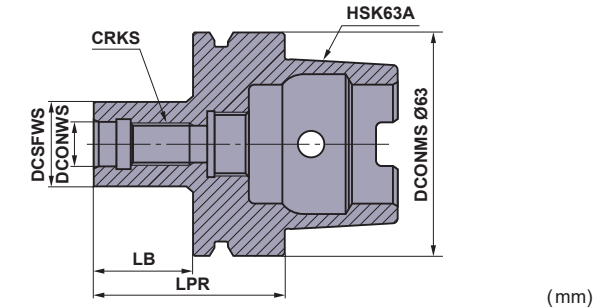
With Coolant Through

(mm)

CRKS	Order Number	Stock	DCONMS	LF	BD	DCSFWS	LB	H	WT (kg)
M8	SC16M08S100SW	★	16	100	8.5	14.5	10	10	0.2
M8	SC16M08S200LW	★	16	200	8.5	14.5	10	10	0.5
M10	SC20M10S120SW	★	20	120	10.5	18.5	10	14	0.5
M10	SC20M10S220LW	★	20	220	10.5	18.5	10	14	0.9
M12	SC25M12S125SW	★	25	125	12.5	23.5	10	19	0.8
M12	SC25M12S245LW	★	25	245	12.5	23.5	10	19	1.5
M16	SC32M16S140SW	★	32	140	17	28.5	15	24	1.4
M16	SC32M16S280LW	★	32	280	17	28.5	15	24	2.8

● : USA Stock ★ : Stocked in Japan

## HSK63A Shank Arbor



## Metric Standard

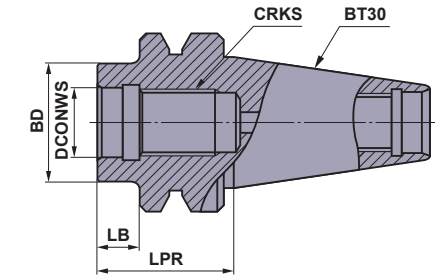
With Coolant Through

(mm)

CRKS	Order Number	Stock	DCONWS	DCSFWS	LPR	LB	WT (kg)
M8	SC16M08S22-HSK63A	★	8.5	14.5	48	22	0.7
M10	SC20M10S24-HSK63A	★	10.5	18.5	50	24	0.7
M12	SC25M12S27-HSK63A	★	12.5	23.5	53	27	0.7
M16	SC32M16S28-HSK63A	★	17	28.5	54	28	0.8

Note 1) The HSK63A shank type has a built-in coolant pipe for installation.

## BT30 Shank Arbor



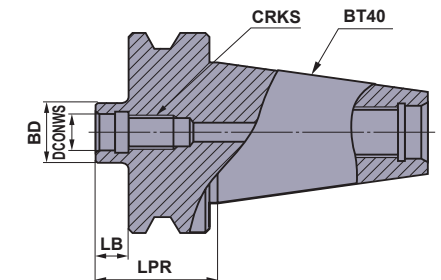
## Metric Standard

With Coolant Through

(mm)

CRKS	Order Number	Stock	DCONWS	BD	LPR	LB	WT (kg)
M8	SC16M08S10-BT30	★	8.5	14.5	32	10	0.4
M10	SC20M10S10-BT30	★	10.5	18.5	32	10	0.4
M12	SC25M12S10-BT30	★	12.5	23.5	32	10	0.4
M16	SC32M16S10-BT30	★	17	28.5	32	10	0.4

## BT40 Shank Arbor



## Metric Standard

With Coolant Through

(mm)

CRKS	Order Number	Stock	DCONWS	BD	LPR	LB	WT (kg)
M8	SC16M08S10-BT40	★	8.5	14.5	37	10	1
M10	SC20M10S10-BT40	★	10.5	18.5	37	10	1
M12	SC25M12S10-BT40	★	12.5	23.5	37	10	1
M16	SC32M16S10-BT40	★	17	28.5	37	10	1

# High Feed Radius Milling Cutter

## 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.



Screw Size	Recommended Torque (lbf-ft)	Wrench Size (inch)
<b>M8</b>	17.0	.394
<b>M10</b>	33.9	.551
<b>M12</b>	59.0	.748
<b>M16</b>	66.4	.945

- 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.

## Recommended Cutting Conditions

### Cutting Speed

Material	Properties	Cutting Speed vc (SFM)					
		MV1020	MV1030	FH7020	MP6120	MP6130	VP30RT
<b>P</b>		<b>Grade</b>					
Mild Steel	Hardness ≤180HB	755 (590-920)	525 (330-720)	560 (395-720)	490 (330-655)	425 (260-590)	360 (195-525)
Carbon Steel Alloy Steel	Hardness 180-280HB	720 (560-885)	490 (260-720)	490 (330-655)	425 (260-590)	360 (195-525)	295 (130-460)
Carbon Steel Alloy Steel	Hardness 280-350HB	590 (330-820)	460 (230-690)	425 (260-590)	330 (165-490)	260 (100-425)	195 (65-360)
Alloy Tool Steel	Hardness ≤350HB (Annealing)	590 (330-820)	460 (230-690)	425 (260-590)	330 (165-490)	260 (100-395)	195 (65-295)
Pre-hardened Steel	Hardness 35-45HRC			—	330 (230-425)	260 (165-360)	260 (100-295)
<b>M</b>		<b>Grade</b>	<b>MV1030</b>	<b>MP7130</b>	<b>MP7140</b>		
Stainless Steel	Hardness ≤200HB		525 (425-655)	460 (330-590)	395 (260-525)	—	—
	Hardness >200HB						
<b>K</b>		<b>Grade</b>	<b>MV1020</b>	<b>MV1030</b>	<b>FH7020</b>	<b>VP15TF</b>	
Gray Cast Iron	Tensile Strength ≤350MPa		690 (525-850)	525 (395-690)	490 (330-655)	—	—
Ductile Cast Iron	Tensile Strength ≤800MPa		620 (460-785)	425 (295-560)	—	395 (260-525)	—
<b>S</b>		<b>Grade</b>	<b>MP9120</b>	<b>MP9130</b>	<b>MP9140</b>		
Heat Resistant Alloys	Hardness ≤350HB		100 (65-130)	80 (65-115)	65 (50-100)	—	—
Titanium Alloys	—		165 (130-195)	150 (100-180)	130 (100-165)	—	—
<b>H</b>		<b>Grade</b>	<b>VP15TF</b>				
Hardened Steel	Hardness 40-55HRC		230 (165-295)	—	—	—	—

# High Feed Radius Milling Cutter

## Recommended Cutting Conditions

### Depth of Cut/Feed

(inch)

Material	Properties	DCX=φ.625", φ.688" (φ16mm, φ17mm) (Shank Type)			DCX=φ.750", φ.875" (φ20mm, φ22mm) (Shank Type)			DCX=φ.750" (φ20mm, φ22mm) (Shank Type)			DCX=φ1.000", φ1.125" (φ25mm, φ28mm) (Shank Type)			DCX=φ1.000" (φ25mm) (Shank Type)			DCX=φ1.250" (φ32mm) (Shank Type)			DCX=φ1.250" (φ32mm) (Shank Type)			DCX=φ1.500" (φ40mm) (φ1.250"Shank)			DCX=φ1.500" (φ40mm) (φ1.250"Shank)							
		AJXU06 Type			AJXU08 Type			AJXU06 Type			AJXU09 Type			AJXU08 Type			AJXU12 Type			AJXU09 Type			AJXU12 Type			AJXU09 Type							
		2 (Number of Teeth)			2 (Number of Teeth)			3 (Number of Teeth)			2 (Number of Teeth)			3 (Number of Teeth)			2 (Number of Teeth)			3 (Number of Teeth)			3 (Number of Teeth)			4 (Number of Teeth)							
		Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)	Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)	Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)	Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)	Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)	Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)	Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)	Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)	Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)					
P	Mild Steel	Hardness ≤180HB	5.5	.031	.031	6.3	.039	.039	6.3	.035	.035				6.7	.039	.047	6.7	.035	.039	7.0	.047	.055	7.0	.043	.047	7.0	.047	.055	7.0	.043	.047	
			7.0	.024	.024	8.3	.031	.031	8.3	.028	.028				9.0	.031	.039	9.0	.028	.031	9.0	.039	.047	9.0	.035	.039	9.5	.039	.047	9.5	.035	.039	
			8.2	.016	.016	9.4	.024	.024	9.4	.020	.020				11.5	.024	.031	11.5	.020	.024	11.0	.031	.039	11.5	.028	.031	12.0	.031	.039	12.0	.028	.031	
	Carbon Steel Alloy Steel	Hardness 180–280HB	5.5	.031	.031	6.3	.039	.039	6.3	.035	.035				6.7	.039	.047	6.7	.035	.039	7.0	.047	.055	7.0	.043	.047	7.0	.047	.055	7.0	.043	.047	
			7.0	.024	.024	8.3	.031	.031	8.3	.028	.028				9.0	.031	.039	9.0	.028	.031	9.0	.039	.047	9.0	.035	.039	9.5	.039	.047	9.5	.035	.039	
			8.2	.016	.016	9.4	.024	.024	9.4	.020	.020				11.5	.024	.031	11.5	.020	.024	11.0	.031	.039	11.5	.028	.031	12.0	.031	.039	12.0	.028	.031	
	Carbon Steel Alloy Steel	Hardness 280–350HB	5.5	.028	.031	6.3	.031	.039	6.3	.028	.035				6.7	.031	.047	6.7	.028	.039	7.0	.039	.055	7.0	.035	.047	7.0	.039	.055	7.0	.035	.047	
			7.0	.020	.024	8.3	.024	.031	8.3	.020	.028				9.0	.024	.039	9.0	.020	.031	9.0	.031	.047	9.0	.028	.039	9.5	.031	.047	9.5	.028	.039	
			8.2	.012	.016	9.4	.016	.024	9.4	.016	.020				11.5	.016	.031	11.5	.016	.024	11.0	.024	.039	11.5	.020	.031	12.0	.024	.039	12.0	.020	.031	
	Alloy Tool Steel	Hardness ≤350HB (Annealing)	5.5	.028	.031	6.3	.031	.039	6.3	.028	.035				6.7	.031	.047	6.7	.028	.039	7.0	.039	.055	7.0	.035	.047	7.0	.039	.055	7.0	.035	.047	
			7.0	.020	.024	8.3	.024	.031	8.3	.020	.028				9.0	.024	.039	9.0	.020	.031	9.0	.031	.047	9.0	.028	.039	9.5	.031	.047	9.5	.028	.039	
			8.2	.012	.016	9.4	.016	.024	9.4	.016	.020				11.5	.016	.031	11.5	.016	.024	11.0	.024	.039	11.5	.020	.031	12.0	.024	.039	12.0	.020	.031	
	Pre-hardened Steel	Hardness 35–45HRC	5.5	.028	.028	6.3	.031	.031	6.3	.028	.028				6.7	.031	.039	6.7	.028	.035	7.0	.039	.047	7.0	.035	.039	7.0	.039	.047	7.0	.035	.039	
			7.0	.020	.020	8.3	.024	.024	8.3	.020	.020				9.0	.024	.031	9.0	.020	.028	9.0	.031	.039	9.0	.028	.031	9.5	.031	.039	9.5	.028	.031	
			8.2	.012	.012	9.4	.016	.016	9.4	.016	.012				11.5	.016	.024	11.5	.016	.020	11.0	.024	.031	11.5	.020	.024	12.0	.024	.031	12.0	.020	.024	
	M	Stainless Steel	Hardness ≤270HB	5.5	.031	.028	6.3	.039	.031	6.3	.035	.028				6.7	.039	.039	6.7	.035	.035	7.0	.047	.047	7.0	.043	.039	7.0	.047	.047	7.0	.043	.039
				7.0	.024	.020	8.3	.031	.024	8.3	.028	.020				9.0	.031	.031	9.0	.028	.028	9.0	.039	.039	9.0	.035	.031	9.5	.039	.039	9.5	.035	.031
				8.2	.016	.012	9.4	.024	.016	9.4	.020	.012				11.5	.024	.024	11.5	.020	.020	11.0	.031	.031	11.5	.028	.024	12.0	.031	.031	12.0	.028	.024
K	Gray Cast Iron	Tensile Strength ≤350MPa	5.5	.031	.039	6.3	.039	.047	6.3	.035	.039				6.7	.039	.055	6.7	.035	.047	7.0	.047	.063	7.0	.043	.055	7.0	.047	.063	7.0	.043	.055	
			7.0	.024	.031	8.3	.031	.039	8.3	.028	.031				9.0	.031	.047	9.0	.028	.039	9.0	.039	.055	9.0	.035	.047	9.5	.039	.055	9.5	.035	.047	
			8.2	.016	.024	9.4	.024	.031	9.4	.020	.024				11.5	.024	.039	11.5	.020	.031	11.0	.031	.047	11.5	.028	.035	12.0	.031	.047	12.0	.028	.035	
	Ductile Cast Iron	Tensile Strength ≤800MPa	5.5	.028	.031	6.3	.031	.039	6.3	.028	.035				6.7	.031	.047	6.7	.028	.039	7.0	.039	.055	7.0	.035	.047	7.0	.039	.055	7.0	.035	.047	
			7.0	.020	.024	8.3	.024	.031	8.3	.020	.028				9.0	.024	.039	9.0	.020	.031	9.0	.031	.047	9.0	.028	.039	9.5	.031	.047	9.5	.028	.039	
			8.2	.012	.016	9.4	.016	.024	9.4	.016	.020				11.5	.016	.031	11.5	.016	.024	11.0	.024	.039	11.5	.020	.031	12.0	.024	.039	12.0	.020	.031	
S	Heat Resistant Alloy	Hardness ≤350HB	5.5	.024	.024	6.3	.031	.024	5.5	.024	.024				6.7	.047	.024	6.3	.031	.024	7.0	.047	.024	7.0	.047	.024	7.0	.047	.024	7.0	.047	.024	
			7.0	.016	.016	8.2	.024	.016	7.0	.016	.016				9.0	.039	.016	8.2	.024	.016	9.0	.039	.016	9.0	.039	.016	9.5	.039	.016	9.5	.039	.016	
	Titanium Alloys	—	8.2	.012	.012	9.4	.016	.012	8.2	.012	.012				11.5	.031	.012	9.4	.016	.012	11.0	.031	.012	11.5	.031	.012	12.0	.031	.012	12.0	.031	.012	
H	Hardened Steel	Hardness 40–55HRC	5.5	.020	.020	6.3	.020	.024	6.3	.020	.020				6.7	.020	.031	6.7	.020	.028	7.0	.024	.039	7.0	.020	.035	7.0	.024	.039	7.0	.020	.035	
			7.0	.016	.012	8.3	.016	.016	8.3	.016	.016				9.0	.016	.024	9.0	.016	.020	9.0	.020	.031	9.0	.016	.028	9.5	.020	.031	9.5	.016	.028	
			8.2	.012	.008	9.4	.012	.008	9.4	.012	.008				11.5	.012	.016	11.5	.012	.012	11.0	.016	.024	11.5	.012	.020	12.0	.016	.024	12.0	.012	.020	

\* Depth of cut of JL chipbreaker is up to .024 inch. (06 size)  
\* Depth of cut of JL chipbreaker is up to .035 inch. (08 size)

\* Depth of cut of JL chipbreaker is up to .047 inch. (09, 12, 14 sizes)

# High Feed Radius Milling Cutter

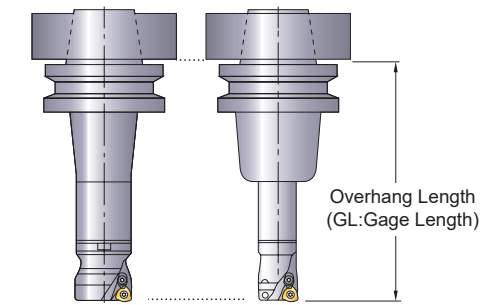
## Recommended Cutting Conditions

### Depth of Cut/Feed

Material	Properties	(inch)																		
		DCX=φ1.500" (φ40mm) (φ1.500"Shank)			DCX=φ2.000" (φ50mm) (Shank Type)			DCX=φ2.000", φ2.500" (φ50mm, φ63mm, φ66mm) (Arbor Type)			DCX=φ2.000", φ2.500" (φ50mm, φ63mm, φ66mm) (Arbor Type)			DCX=φ3.000", φ4.000", φ4.921", φ6.299" (φ80mm, φ100mm, φ125mm, φ160mm) (Arbor Type)			DCX=φ3.000", φ4.000" (φ80mm, φ100mm) (Arbor Type)			
		AJXU12 Type			AJXU14 Type			AJXU09, 12 (φ2.000") AJXU12, 14 (φ2.500")			AJXU09 Type (φ2.000") AJXU12 Type (φ2.500")			AJXU14 Type AJX14 Type			AJXU12 Type			
		3 (Number of Teeth)			3 (Number of Teeth)			3, 4, 5 (Number of Teeth)			5 (Number of Teeth)			4 or 5 or 6 or 7 or 8 (Number of Teeth)			6 or 7 (Number of Teeth)			
Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)	Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)	Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)	Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)	Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)	Over-hang	Axial Depth of Cut	Feed per Tooth (IPT)			
P	Mild Steel	Hardness ≤180HB	7.0	.047	.059	7.0	.055	.059	6.0	.059	.059	6.0	.053	.051	7.0	.059	.059	7.0	.053	.051
			9.5	.039	.051	9.5	.047	.051	10.0	.051	.051	10.0	.046	.043	12.0	.051	.051	12.0	.046	.043
			12.0	.031	.043	—	—	—	14.0	.043	.043	14.0	.039	.035	18.0	.039	.039	18.0	.035	.031
	Carbon Steel Alloy Steel	Hardness 180—280HB	7.0	.047	.059	7.0	.055	.059	6.0	.059	.059	6.0	.053	.051	7.0	.059	.059	7.0	.053	.051
			9.5	.039	.051	9.5	.047	.051	10.0	.051	.051	10.0	.046	.043	12.0	.051	.051	12.0	.046	.043
			12.0	.031	.043	—	—	—	14.0	.043	.043	14.0	.039	.035	18.0	.039	.039	18.0	.035	.031
	Carbon Steel Alloy Steel	Hardness 280—350HB	7.0	.039	.059	7.0	.047	.059	6.0	.051	.059	6.0	.046	.051	7.0	.051	.059	7.0	.046	.051
			9.5	.031	.051	9.5	.039	.051	10.0	.043	.051	10.0	.039	.043	12.0	.043	.051	12.0	.039	.043
			12.0	.024	.043	—	—	—	14.0	.035	.043	14.0	.032	.035	18.0	.031	.039	18.0	.028	.031
	Alloy Tool Steel	Hardness ≤350HB (Annealing)	7.0	.039	.059	7.0	.047	.059	6.0	.051	.059	6.0	.046	.051	7.0	.051	.059	7.0	.046	.051
			9.5	.031	.051	9.5	.039	.051	10.0	.043	.051	10.0	.039	.043	12.0	.043	.051	12.0	.039	.043
			12.0	.024	.043	—	—	—	14.0	.035	.043	14.0	.032	.035	18.0	.031	.039	18.0	.028	.031
Pre-hardened Steel	Hardness 35—45HRC	7.0	.039	.051	7.0	.047	.051	6.0	.051	.051	6.0	.046	.043	7.0	.051	.051	7.0	.046	.043	
		9.5	.031	.043	9.5	.039	.043	10.0	.043	.043	10.0	.039	.035	12.0	.043	.043	12.0	.039	.035	
		12.0	.024	.035	—	—	—	14.0	.035	.035	14.0	.032	.028	18.0	.031	.031	18.0	.028	.024	
M	Stainless Steel	Hardness ≤270HB	7.0	.047	.051	7.0	.055	.051	6.0	.059	.051	6.0	.053	.043	7.0	.059	.051	7.0	.053	.043
			9.5	.039	.043	9.5	.047	.043	10.0	.051	.043	10.0	.046	.035	12.0	.051	.043	12.0	.046	.035
			12.0	.031	.035	—	—	—	14.0	.043	.035	14.0	.039	.028	18.0	.039	.031	18.0	.035	.024
K	Gray Cast Iron	Tensile Strength ≤350MPa	7.0	.047	.067	7.0	.055	.067	6.0	.059	.067	6.0	.053	.059	7.0	.059	.067	7.0	.053	.059
			9.5	.039	.059	9.5	.047	.059	10.0	.051	.059	10.0	.046	.051	12.0	.051	.059	12.0	.046	.051
			12.0	.031	.051	—	—	—	14.0	.043	.051	14.0	.039	.039	18.0	.039	.047	18.0	.035	.035
	Ductile Cast Iron	Tensile Strength ≤800MPa	7.0	.039	.059	7.0	.047	.059	6.0	.051	.059	6.0	.046	.051	7.0	.051	.059	7.0	.046	.051
			9.5	.031	.051	9.5	.039	.051	10.0	.043	.051	10.0	.039	.043	12.0	.043	.051	12.0	.039	.043
			12.0	.024	.043	—	—	—	14.0	.035	.043	14.0	.032	.035	18.0	.031	.039	18.0	.028	.031
S	Heat Resistant Alloys	Hardness ≤350HB	7.0	.047	.024	7.0	.047	.024	6.0	.047	.024	6.0	.047	.024	7.0	.047	.024	7.0	.047	.024
			9.5	.039	.016	9.5	.039	.016	10.0	.039	.016	10.0	.039	.016	12.0	.039	.016	12.0	.039	.016
	Titanium Alloys	—	12.0	.031	.012	—	—	—	14.0	.031	.012	14.0	.031	.012	18.0	.031	.012	18.0	.031	.012
H	Hardened Steel	Hardness 40—55HRC	7.0	.024	.043	7.0	.031	.043	6.0	.035	.043	6.0	.032	.039	7.0	.035	.043	7.0	.032	.039
			9.5	.020	.035	9.5	.024	.035	10.0	.028	.035	10.0	.025	.031	12.0	.028	.035	12.0	.025	.031
			12.0	.016	.028	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

\* Depth of cut of JL chipbreaker is up to .047 inch.

### ① Overhang Length



### ② Main Spindle Speed

$$n(\text{min}^{-1}) = (\text{Recommended Cutting Speed} \times 12) \div (\text{DCX} \times 3.14)$$

### ③ Table Feed Rate

$$vf(\text{IPM}) = n \times \text{feed per tooth } fz \times \text{number of teeth}$$

④ Recommended width of cut (ae) is more than 60% of cutting edge diameter.

⑤ The cutting condition on the left are guide when using a CAT50 size holder. In case of CAT40 and HSK63 machines, a cutter diameter of under 1.5 inch is recommended. In this case, reduce the depth of cut and table feed rate.

⑥ Use of ST chipbreaker with a tougher cutting edge is recommended for interrupted cutting.

⑦ A cutter body with a coarse pitch is recommended for use in unstable conditions such as a long tool overhang.

⑧ Use "sharp" JM chipbreaker to lower cutting forces or when there is a long tool overhang.

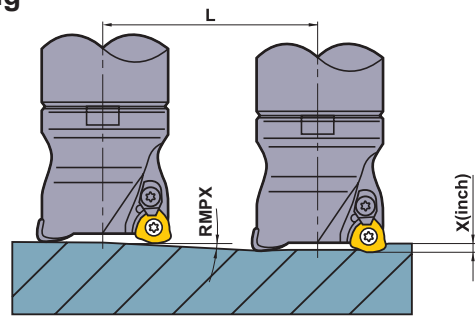
⑨ Large chips are generated when machining with the AJX. To avoid chip jamming-related problems, machine using an air blow to disperse the chips effectively.

⑩ The maximum depth of cut JL chipbreaker is different in the insert size. 06 size is up to .024 inch, 08 size is up to .035 inch, and 09, 12, 14 size is up to .047 inch.

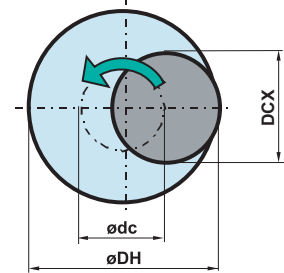
# High Feed Radius Milling Cutter

## Maximum Capacities by Mode

### Ramping



### Helical Milling and Drilling



- How to calculate the theoretical center of the tool path.  

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

Theoretical Center of the Tool      Desired Hole Diameter      Cutting Diameter Max.
- Please set the depth of cut per cycle under max. depth of cut (APMX).
- Please machine in a down (Climb) cutting direction.

When ramping and helical milling, it is recommended to reduce the feed rate by 40%.

When drilling, please set the feed in the axial direction .008 IPR or less.

The long chips generated can discharge in any direction, so ensure that adequate safety precautions are taken.

(inch)

Tool Holder Type	DCX	DC	Max. Depth of Cut APMX		Ramping machining					Helical Milling		AZ	
			FT/JM/ST	JL	RMPX	L Required Distance for X Inch Depth				Min. Hole Diameter	Max. Hole Diameter		
						Z=.039	Z=.047	Z=.059	Z=.079				
Shank Type	AJXU06R102	.625	.340	.039	.024	3°	.744	—	—	—	.90	1.13	.012
	AJXU06R112	.688	.400	.039	.024	2.5°	.893	—	—	—	1.02	1.26	.012
	AJXU06R123	.750	.472	.039	.024	1.7°	1.314	—	—	—	1.15	1.38	.012
	AJXU06R143	.875	.595	.039	.024	0.7°	3.192	—	—	—	1.40	1.63	.012
	AJXU08R122	.750	.410	.059	.035	3.5°	.638	.768	.965	—	.99	1.34	.020
	AJXU08R142	.875	.530	.059	.035	3°	.744	.897	1.126	—	1.24	1.59	.020
	AJXU08R163	1.000	.661	.059	.035	2°	1.117	1.346	1.690	—	1.49	1.84	.020
	AJXU08R183	1.125	.784	.059	.035	0.5°	4.469	5.386	6.761	—	1.74	2.09	.020
	AJXU09R162	1.000	.590	.079	.047	4°	.558	.672	.844	1.130	1.33	1.84	.039
	AJXU09R182	1.125	.720	.079	.047	3°	.744	.897	1.126	1.507	1.58	2.09	.039
	AJXU09R203	1.250	.854	.079	.047	3.3°	.676	.815	1.023	1.370	1.83	2.34	.039
	AJXU09R223	1.375	.976	.079	.047	2°	1.117	1.346	1.690	2.262	2.08	2.59	.039
	AJXU09R244	1.500	1.114	.079	.047	2.4°	.931	1.121	1.408	1.885	2.33	2.84	.039
	AJXU12R202	1.250	.790	.079	.047	4°	.558	.672	.844	1.130	1.59	2.34	.059
AJXU12R243	1.500	1.040	.079	.047	3°	.744	.897	1.126	1.507	2.09	2.84	.059	
AJXU14R323	2.000	1.530	.079	.047	4.2°	.531	.640	.803	1.076	2.90	3.84	.079	
Arbor Type	AJXU09R02	2.000	1.606	.079	.047	1.1°	2.031	2.448	3.073	4.114	3.33	3.84	.039
	AJXU12R02	2.000	1.540	.079	.047	2°	1.117	1.346	1.690	2.262	3.09	3.84	.059
	AJXU12R2505	2.500	2.039	.079	.047	1.5°	1.489	1.795	2.253	3.017	4.09	4.84	.059
	AJXU12R0306	3.000	2.543	.079	.047	1.2°	1.862	2.244	2.817	3.771	5.09	5.84	.059
	AJXU12R0407	4.000	3.539	.079	.047	0.8°	2.793	3.366	4.225	5.658	7.09	7.84	.059
	AJXU14R25	2.500	2.030	.079	.047	2.8°	.797	.961	1.206	1.615	3.90	4.84	.079
	AJXU14R03	3.000	2.530	.079	.047	1.8°	1.241	1.496	1.877	2.514	4.90	5.84	.079
	AJXU14R04	4.000	3.530	.079	.047	1.2°	1.862	2.244	2.817	3.771	6.90	7.84	.079
AJX14RA125	4.920	4.530	.079	.047	0.8°	2.793	3.366	4.225	5.658	8.74	9.68	.079	
AJX14RA160	6.300	5.830	.079	.047	0.5°	4.469	5.386	6.761	9.053	11.50	12.44	.079	

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

DC = Cutting Diameter  
RMPX = Ramping Angle Max.

DH = Desired Hole Diameter  
AZ = Max. Drilling Depth

## Application Examples

Tool (Grade)	AJXU14R2504C FT Chipbreaker (FH7020)	AJXU06R112FA10S FT Chipbreaker (VP15TF)	AJXU14R0304C ST Chipbreaker (FH7020)	
Workpiece	AISI 1055 (220HB) 	ATSM H13 (40HRC) 	AISI 1049 (200HB) 	
Component	Resin Mold	Resin Mold (Pocket Milling for Bushes)	Resin Mold	
Cutting Conditions	Cutting Speed <b>vc</b> (SFM)	589 SFM (900 min <sup>-1</sup> )	504 SFM (2800 min <sup>-1</sup> )	471 SFM (600 min <sup>-1</sup> )
	Table Feed <b>vf</b> (Feed per T. fz)	160 IPM (.045 IPT)	157 IPM (.028 IPT)	192 IPM (.08 IPT)
	Depth of Cut <b>ap</b> (inch)	.060	.020	.060
	Width of Cut <b>ae</b> (inch)	1.8	.315	2.0
	Overhang Length (inch)	9.8	7.0(GL)	8.4(GL)
Cutting Mode	Air Blow	Air Blow	Air Blow	
Results	Compared to a conventional product whose tool life was 2 hours, the AJX improved tool life by 3 hours. Realization of long tool life achieves great cost reductions.	Conventional solid end mills were used for pocket milling, but low efficiency and high costs were problematic. The use of the ø.688"AJX achieved high efficiency and cut costs.	The workpiece was perforated and conventional inserts suffered from fracturing. The ST chipbreaker with tougher cutting edges did not fracture, making unmanned machining possible.	

Tool (Grade)	AJXU14R0406E FT Chipbreaker (VP30RT)	AJXU14R0305C FT Chipbreaker (FH7020)	AJXU12R243WA20S ST Chipbreaker (VP15TF)	
Workpiece	304SS (200HB) 	Cast iron, Class45 	ASTM H13 (50HRC) 	
Component	Electronics Part Manufacturing Device Component	Press Mold	Forging Mold	
Cutting Conditions	Cutting Speed <b>vc</b> (SFM)	419 SFM (400 min <sup>-1</sup> )	628 SFM (800 min <sup>-1</sup> )	190 SFM (490 min <sup>-1</sup> )
	Table Feed <b>vf</b> (Feed per T. fz)	100 IPM (.042 IPT)	160 IPM (.040 IPT)	47 IPM (.032 IPT)
	Depth of Cut <b>ap</b> (inch)	.040	.080	.040
	Width of Cut <b>ae</b> (inch)	2.4	2.1	1.2
	Overhang Length (inch)	5.4 (GL)	11.7 (GL)	7.9 (GL)
Cutting Mode	Wet Cutting	Air Blow	Air Blow	
Results	Although the workpiece was a thin stainless plate, the AJX displayed stable cutting performance without suffering from vibrations. The AJX achieved 3X 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.	Machining recycled molds with holes or welds, conventional inserts suffered from fracturing. The ST chipbreaker with tougher cutting edges suffered no sudden fracturing.	

Please note that the machining performed in the application examples is dependent on the rigidity of the machine used and the rigidity of the workpiece and clamping.





**MITSUBISHI MATERIALS U.S.A. CORPORATION**

**California Office  
(Headquarters)**

3535 Hyland Avenue, Suite 200  
Costa Mesa, CA 92626  
Customer Service: 800.523.0800  
Technical Service: 800.486.2341

**Chicago Office  
(Engineering)**

300 N. Martingale Road, Suite 500  
Schaumburg, IL 60173  
Main: 847.252.6300  
Fax: 847.519.1732

**MMC Metal de Mexico, S.A. DE C.V.**

Av. La Cañada No.16,  
Parque Industrial Bernardo  
Quintana, El Marques,  
Queretaro C.P. 76246 MEXICO  
Main: +52.442.221.61.36  
Fax: +52.442.221.61.34

**North Carolina-MTEC  
(Marketing & Technical Center)**

105 Corporate Center Drive, Suite A  
Mooresville, NC 28117  
Main: 980.312.3100  
Fax: 704.746.9292

**Toronto Office  
(Canada Branch)**

600 Matheson Blvd. Unit 5 (Office)  
Mississauga, ON L5R 4C1  
Main: 905.814.0240  
Fax: 905.814.0245

**Detroit Office  
(Moldino CS)**

41700 Gardenbrook Road, Suite 120  
Novi, MI 48375  
Main: 248.308.2620  
Fax: 248.308.2627

**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.

[www.mmc-carbide.com/us](http://www.mmc-carbide.com/us)

Tools specifications subject to change without notice.

B028A-US-2025.8



**COMPLETE  
METALWORKING  
SOLUTIONS**

**(800) 991-4225**

[www.ahbinc.com](http://www.ahbinc.com)

ISO Certified

[customerservice@ahbinc.com](mailto:customerservice@ahbinc.com)