AHB
TOOLING & MACHINERY
COMPLETE METALWORKING SOLUTIONS
(800) 991-4225
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DIA EDGE

AJX SERIES

HIGH FEED RADIUS MILLING CUTTER

ABOUT OUR BRAND

Your manufacturing success is our success.

It's simple. We want to provide high-quality cutting tool products that help deliver unparalleled performance and control for you to manufacture precisely perfect products every day.

Our long heritage of building partnerships through cutting tool solutions to metal working manufacturers, like yours, has given Mitsubishi Materials USA a solid reputation as an industry leader. We understand the importance of getting it right the first time by delivering high-quality cutting tool product brands to help overcome machining challenges to improve machining processes.

Your success is our success and is the driving force behind our innovative products. Our product brands, DIAEDGE and MOLDINO, are trusted globally in the metal manufacturing and die & mold industries for delivering expertly-designed manufactured tools of the trade for highly specialized industries like yours.

With the acquisition of MOLDINO Tool Engineering, Ltd, our traditional Mitsubishi Materials USA cutting tool product line is now sold under the DIAEDGE product brand name.

Brands you can trust:

MITSUBISHI MATERIALS U.S.A.

TRUSTED PRODUCT BRANDS

DIAEDGE MOLDINO

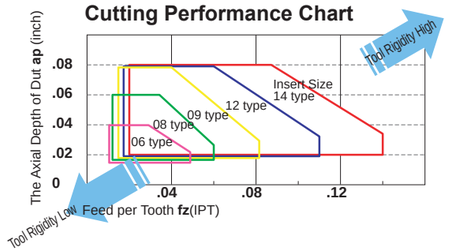
High Feed Radius Milling Cutter

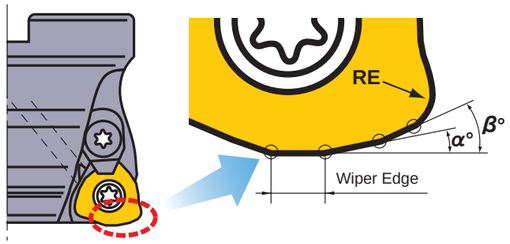
AJX

Features

Ultra High Feed Cutting

Employing a double phased straight cutting edge to form the lead angle α and β with a wiper edge, the AJX can achieve an ultra high feed rate of up to .138 IPT for the ultimate efficiency in rough machining.





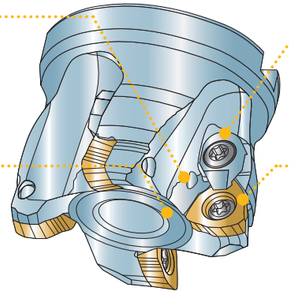
High Reliability Cutter Body

Standard with Coolant Holes

All AJX bodies are supplied with through coolant holes 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.



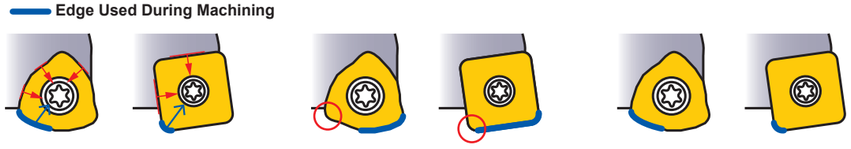
Highly Rigid Clamping

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



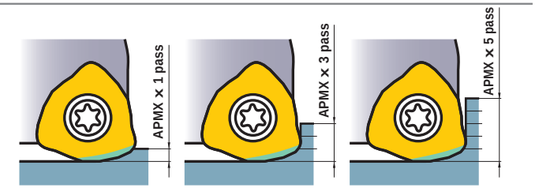
Insert pocket is designed to ensure precise positioning and provide secure multi directional clamping.

The unused edge is protected even during pocket milling and ramping.

Even if the ramping angle is steep, the left side of the cutting edge is designed to be used and therefore not be damaged.

Anti-Vibration Properties

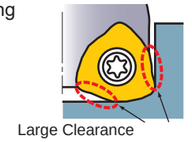
The AJX always uses the same portion of the cutting edge thereby maintaining stable cutting even when the tool overhang is long.



APMX=Max. Depth of Cut =Cutting Portion

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.



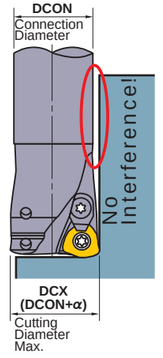
Comparison of Ramping Angles

	Max. Ramping Angle
AJX	3°
4 Corner Insert	1°
Conventional Products	1°

★With **DCX**=.625" type

No Workpiece Material Interference

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



(inch)

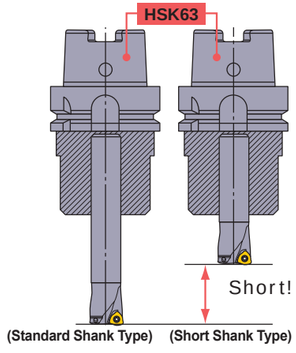
Order Number	DCX	DCON
AJXU06R112◌A10◌	.688	.625
AJXU08R142◌A12◌	.875	.750
AJXU09R182◌A16◌	1.125	1.000
AJXU09R244SA20M	1.500	1.250
AJXU12R243◌A20◌	1.500	1.250
AJXU14R323WA24S	2.000	1.500

Please refer to page 10 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.

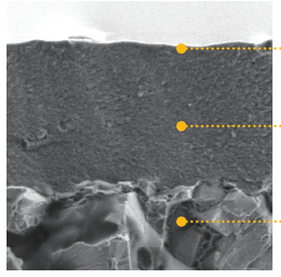
The minimum tool overhang length enables stable, high efficiency machining even on high-speed machining centers.



PVD Coated Grade for Difficult-to-Cut Materials

MP9140

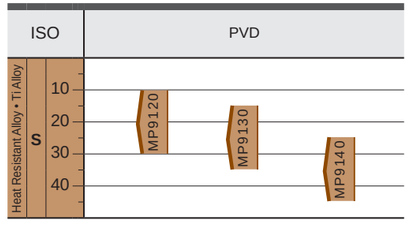
MP9140 provides excellent weld and fracture resistance resulting from a special cemented carbide substrate and a smoothened surface.



Smooth surface is excellent in providing welding resistance.

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

Special cemented carbide substrate with improved fracture resistance.

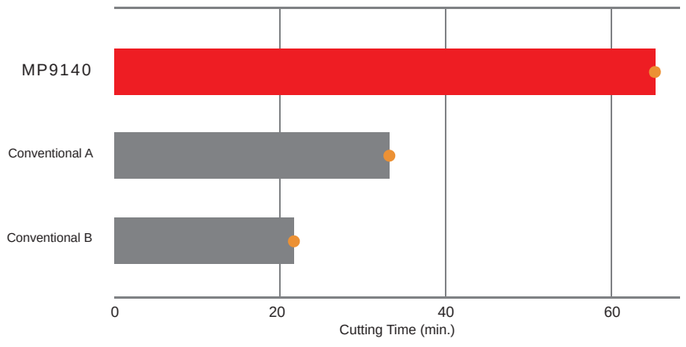


Grade	Features
MP9120	Focus on Wear Resistance
MP9130	Standard Grade
MP9140	Focus on Fracture Resistance

Cutting Performance

Comparison of Fracture Resistance by Titanium Alloy Machining

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

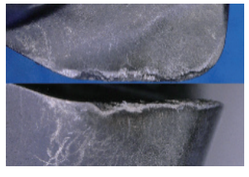


<Cutting Conditions>
Workpiece Material : Ti-6Al-4V
Tool : AJX06R162AM0830
Inserts : JOMT06T216ZZER-JL
Cutting Speed : vc=195 SFM
Feed per Tooth : fz=.020 IPT
Depth of Cut : ap=.02 inch
Width of Cut ae=.315 inch, .63 inch
Cutting Mode : Wet Cutting

MP9140

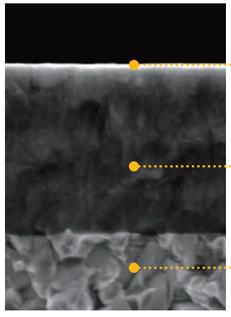
Conventional A

Conventional B



Insert Grades for a Wide Range of Workpiece Materials

Al-Ti-Cr-N Base PVD Accumulated Coating

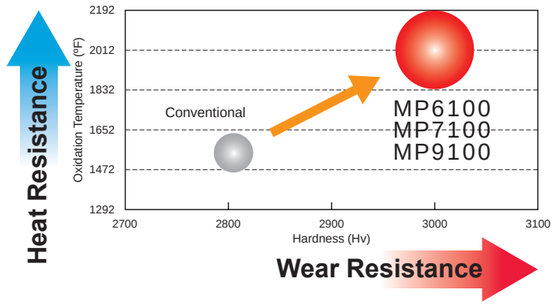


Excellent Welding Resistance Due to Low Coefficient of Friction

Pvd Accumulated Coating (Each Damage Measures)

Special Cemented Carbide Substrate

Dramatically Improving the Heat and Wear Resistance!



Excellent Welding Resistance due to Low Coefficient Friction!

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

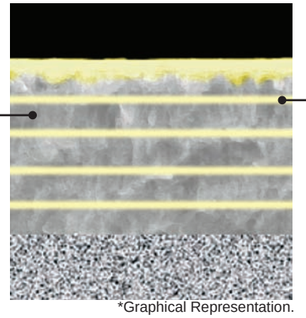
TOUGH-Σ Technology

A fusion of the separate coating technologies; PVD and multilayering 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.

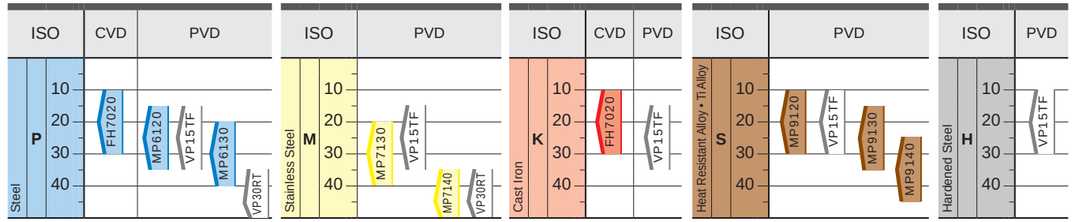


*Graphical Representation.

Best Layer of Each Workpiece Material

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

Application Range



Wide Selection of Inserts

Focus on Cutting Edge Strength

Focus on Cutting Edge Sharpness

ST — Strong Cutting Edge Type Chip Breaker

P M K ~~S~~ H

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.

FT — General Use Type Chip Breaker

P M K S H

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.

JM — Sharp Cutting Edge Type Chip Breaker (For General Use)

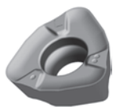
P M K S H

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.

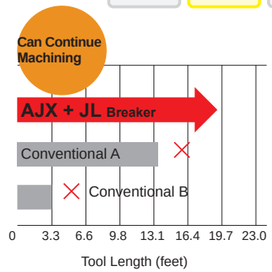
JL — Sharp Cutting Edge Type Chip Breaker (For Difficult-to-cut Materials)

P M ~~K~~ S H



Optimized for Difficult-to-cut Materials

The optimized 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 different in the insert size.
Please refer to page 30.



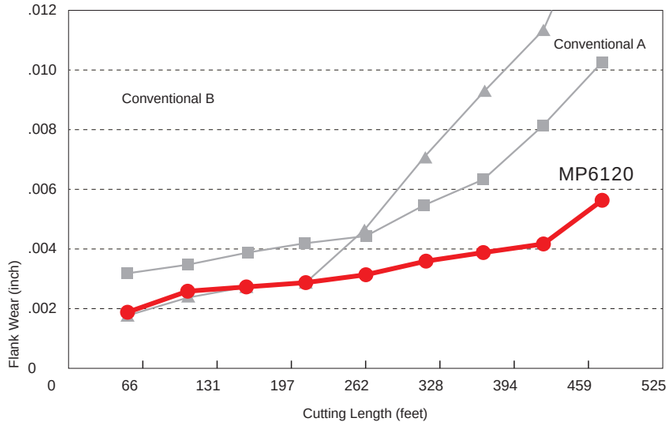
<Cutting Conditions>
Tool : DCX=ø2.5" 5 teeth
Workpiece Material : Ti-6Al-4V
Revolution : n=202 min^{-1}
Cutting Speed : vc=130 SFM
Table Feed : vf=23.86 IPM
Feed per Tooth : fz=.024 IPT
Depth of Cut : ap=.04 inch
Width of Cut : ae=1.77 inch
Cutting Mode : Wet Cutting

Workpiece Material	Cutting Conditions (Light / General / Interrupted)
P K H	JM, FT, ST
M	JL, JM, FT, ST
S	JL, JM, FT

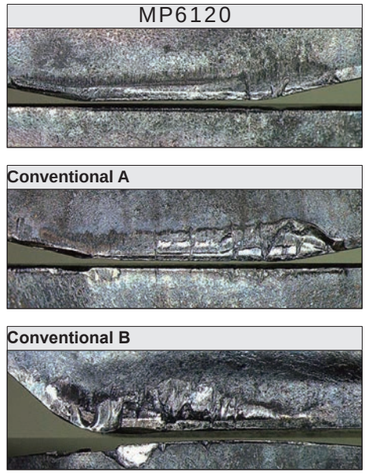
Cutting Performance

General Steel Machining

MP6120 Provides Superior Resistance to Thermal Cracking and Welding



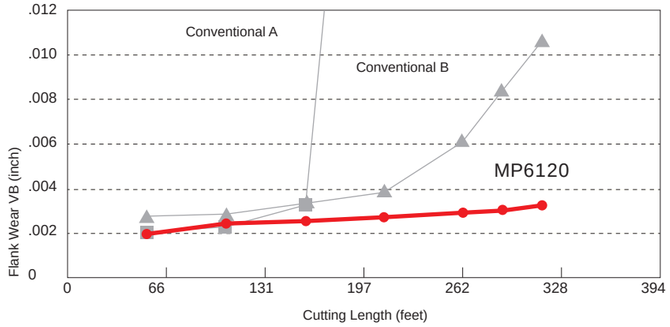
<Cutting Conditions>
Tool : AJX14-063A04R
Inserts : JDMT140520ZDSR-JM
Cutting Speed : vc=655 SFM
Feed per Tooth : fz=.059 IPT
Depth of Cut : ap=.039 inch
Width of Cut : ae=1.969 inch
Cutting Mode : Dry Cutting



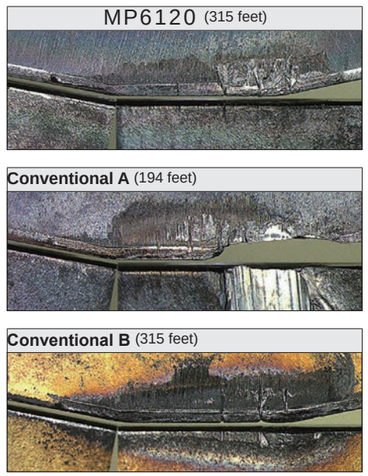
Cutting Length : 459.3 feet

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>
Workpiece 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

P M K N S H

Fig.1 **"FA" Flat Shank**

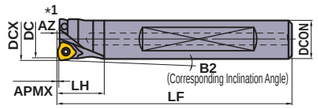


Fig.2

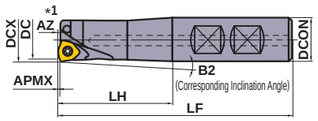


Fig.3

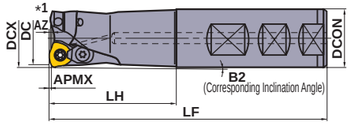
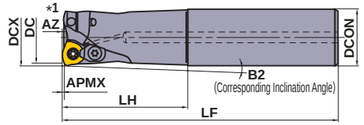


Fig.4



■ Shank Type

Right hand tool holder only.

With Coolant Hole

(inch)

DCX	Order Number	Stock R	*2 No.T	LF	DC	LH	DCON	B2	APMX	RMPX	Fig.	Insert Type
.625	**AJXU06R102FA10S**	●	2	3.750	.346	1.250	.625	2.12°	.039	3°	1	JOM□06T2
.625	**AJXU06R102SA10M**	●	2	5.750	.346	1.500	.625	1.75°	.039	3°	4	JOM□06T2
.625	**AJXU06R102SA10L**	●	2	5.750	.346	2.750	.625	0.93°	.039	3°	4	JOM□06T2
.688	**AJXU06R112FA10S**	●	2	3.750	.409	.750	.625	—	.039	2.5°	1	JOM□06T2
.688	**AJXU06R112SA10L**	●	2	5.750	.409	.750	.625	—	.039	2.5°	4	JOM□06T2
.750	**AJXU08R122WA12S**	●	2	4.750	.417	2.000	.750	1.31°	.059	3.5°	2	JOM□0803
.750	**AJXU06R123SA12M**	●	3	7.000	.472	2.375	.750	1.11°	.039	1.7°	4	JOM□06T2
.750	**AJXU08R122SA12L**	●	2	7.000	.417	4.000	.750	0.64°	.059	3.5°	4	JOM□0803
.875	**AJXU08R142FA12S**	●	2	4.750	.535	1.250	.750	—	.059	3°	1	JOM□0803
.875	**AJXU08R142SA12L**	●	2	7.000	.535	1.250	.750	—	.059	3°	4	JOM□0803
1.000	**AJXU09R162WA16S**	●	2	5.625	.602	2.375	1.000	1.1°	.079	4°	3	JDM□09T3
1.000	**AJXU08R163SA16M**	●	3	8.000	.661	2.750	1.000	0.94°	.059	2°	4	JOM□0803
1.000	**AJXU09R162SA16L**	●	2	8.000	.602	4.750	1.000	0.54°	.079	4°	4	JDM□09T3
1.125	**AJXU09R182FA16S**	●	2	5.625	.728	1.625	1.000	—	.079	3°	1	JDM□09T3
1.125	**AJXU09R182SA16L**	●	2	8.000	.728	1.625	1.000	—	.079	3°	4	JDM□09T3
1.250	**AJXU12R202WA20S**	●	2	6.000	.789	2.750	1.250	0.94°	.079	4°	3	JDM□1204
1.250	**AJXU09R203SA20M**	●	3	8.000	.854	3.125	1.250	0.82°	.079	3.3°	4	JDM□09T3
1.250	**AJXU12R202SA20L**	●	2	8.000	.789	4.750	1.250	0.54°	.079	4°	4	JDM□1204
1.500	**AJXU12R243WA20S**	●	3	6.000	1.038	2.000	1.250	—	.079	3°	3	JDM□1204
1.500	**AJXU09R244SA20M**	●	4	10.000	1.114	2.375	1.250	—	.079	2.4°	4	JDM□09T3
1.500	**AJXU12R243SA20L**	●	3	10.000	1.038	2.000	1.250	—	.079	3°	4	JDM□1204
1.500	**AJXU12R243SA24L**	●	3	10.000	1.038	2.750	1.500	0.94°	.079	3°	4	JDM□1204
2.000	**AJXU14R323WA24S**	●	3	6.000	1.534	2.000	1.500	—	.079	4.2°	3	JDM□1204

*1 Refer to page 34, for the max. drilling depth (**AZ**).
*2 Number of Teeth
Note 1) Refer to page 34, for the max. depth of cut (**APMX**) and max. drilling depth (**AZ**).

● : USA Stock

Spare Parts

(inch)

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

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.

Fig.1

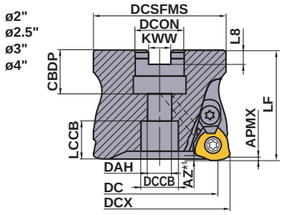
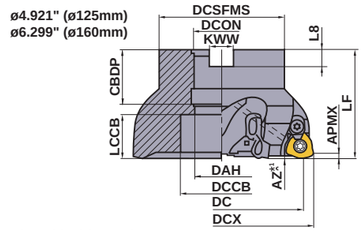


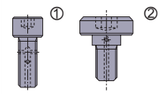
Fig.2



Right hand tool holder only.

(inch)

DCX	Set Bolt	Geometry
2.000"	HSCU37513H	①
2.500", 3.000"	HSCU50014H	
4.000"	HSCU75016H	
4.921"	MBAU75016H	②
6.299"	MBAU100016H	



■Arbor Type

With Coolant Hole

DCX = Inch, DCON = Inch

(inch)

DCX	Order Number	Stock R	*2 No.T	DC	LF	DCON	WT (lbs)	APMX	RMPX	Fig.	Insert Type
2.000	**AJXU12R0203**	●	3	1.539	2.000	.750	.888	.059	2°	1	JDM□1204
2.000	**AJXU12R0204**	●	4	1.539	2.000	.750	.866	.059	2°	1	JDM□1204
2.000	**AJXU09R0205**	●	5	1.606	2.000	.750	.925	.039	1.1°	1	JDM□09T3
2.500	**AJXU14R2503C**	●	3	2.032	2.000	1.000	1.393	.079	2.8°	1	JDM□1405
2.500	**AJXU14R2504C**	●	4	2.032	2.000	1.000	1.338	.079	2.8°	1	JDM□1405
2.500	**AJXU12R2505C**	●	5	2.039	2.000	1.000	1.427	.059	1.5°	1	JDM□1204
3.000	**AJXU14R0304C**	●	4	2.532	2.000	1.000	2.133	.079	1.8°	1	JDM□1405
3.000	**AJXU14R0305C**	●	5	2.532	2.000	1.000	2.078	.079	1.8°	1	JDM□1405
3.000	**AJXU12R0306C**	●	6	2.543	2.000	1.000	2.274	.059	1.2°	1	JDM□1204
4.000	**AJXU14R0405E**	●	5	3.531	2.500	1.500	4.806	.079	1.2°	1	JDM□1405
4.000	**AJXU14R0406E**	●	6	3.531	2.500	1.500	4.981	.079	1.2°	1	JDM□1405
4.000	**AJXU12R0407E**	●	7	3.539	2.500	1.500	5.283	.059	0.8°	1	JDM□1204
4.921	**AJX14RA12505E**	●	5	4.457	2.480	1.500	7.275	.079	0.8°	2	JDM□1405
4.921	**AJX14RA12507E**	●	7	4.457	2.480	1.500	7.275	.079	0.8°	2	JDM□1405
6.299	**AJX14RA16006F**	●	6	5.835	2.480	2.000	11.023	.079	0.5°	2	JDM□1405
6.299	**AJX14RA16008F**	●	8	5.835	2.480	2.000	11.023	.079	0.5°	2	JDM□1405

*1 Refer to page 34, for the max. drilling depth (**AZ**).

*2 Number of Teeth

Note 1) Refer to page 34, for the max. depth of cut (**APMX**) and max. drilling depth (**AZ**).

● : USA Stock

Mounting Dimensions

DCX = Inch, DCON = Inch

(inch)

DCX	Order Number	DCON	CBDP	DAH	DCCB	LCCB	DCSFMS	KWW	L8	Fig.
2.000	**AJXU12R0203**	.750	.748	.415	.600	.633	1.875	.313	.187	1
2.000	**AJXU12R0204**	.750	.748	.415	.600	.633	1.875	.313	.187	1
2.000	**AJXU09R0205**	.750	.748	.415	.600	.634	1.875	.313	.187	1
2.500	**AJXU14R2503C**	1.000	1.024	.539	.787	.628	2.375	.375	.219	1
2.500	**AJXU14R2504C**	1.000	1.024	.539	.787	.628	2.375	.375	.219	1
2.500	**AJXU12R2505C**	1.000	1.024	.539	.787	.633	2.375	.375	.219	1
3.000	**AJXU14R0304C**	1.000	1.024	.539	.787	.628	2.750	.375	.219	1
3.000	**AJXU14R0305C**	1.000	1.024	.539	.787	.628	2.750	.375	.219	1
3.000	**AJXU12R0306C**	1.000	1.024	.539	.787	.630	2.750	.375	.219	1
4.000	**AJXU14R0405E**	1.500	1.181	.787	1.181	.931	3.750	.625	.375	1
4.000	**AJXU14R0406E**	1.500	1.181	.787	1.181	.931	3.750	.625	.375	1
4.000	**AJXU12R0407E**	1.500	1.181	.787	1.181	.936	3.750	.625	.375	1
4.921	**AJX14RA12505E**	1.500	1.575	-	2.205	.872	3.937	.625	.375	2
4.921	**AJX14RA12507E**	1.500	1.575	-	2.205	.872	3.937	.625	.375	2
6.299	**AJX14RA16006F**	2.000	1.693	-	2.835	.754	3.937	.750	.437	2
6.299	**AJX14RA16008F**	2.000	1.693	-	2.835	.754	3.937	.750	.437	2

Spare Parts

(inch)

Tool Holder Type	* Clamp Screw	Clamp Bridge	* Clamp Bridge Screw	Spring	T D Wrench
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.
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

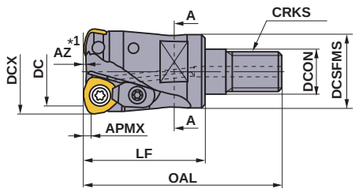


Fig.1

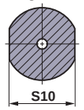


Fig.2

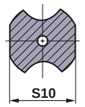


Fig.3

A-A Section

Right hand tool holder only.

■ Screw-in Type

With Coolant Hole

(inch)

DCX	Order Number	Stock R	*2 No.T	DC	LF	OAL	DCON	DCSFMS	S10	CRKS	WT (lbs)	APMX	RMPX	Fig.	Shank Arbor Type	Insert Type
.625	**AJXU06R102AM0830**	●	2	.346	1.181	1.890	.335	.512	.394	M8	.2	.039	3°	1	SCU10M08	JOM□06T2
.750	**AJXU08R122AM1030**	●	2	.417	1.181	1.929	.413	.709	.551	M10	.2	.059	3.5°	2	SCU12M10	JOM□0803
.750	**AJXU06R123AM1030**	●	3	.472	1.181	1.929	.413	.709	.551	M10	.2	.039	1.7°	3	SCU12M10	JOM□06T2
.875	**AJXU08R142AM1030**	●	2	.535	1.181	1.929	.413	.709	.551	M10	.2	.059	3°	2	SCU12M10	JOM□0803
.875	**AJXU06R143AM1030**	●	3	.595	1.181	1.929	.413	.709	.551	M10	.2	.039	0.7°	3	SCU12M10	JOM□06T2
1.000	**AJXU09R162AM1235**	●	2	.602	1.378	2.244	.492	.827	.748	M12	.4	.079	4°	2	SCU16M12	JDM□09T3
1.000	**AJXU08R163AM1235**	●	3	.661	1.378	2.244	.492	.827	.748	M12	.2	.059	2°	1	SCU16M12	JOM□0803
1.125	**AJXU09R182AM1235**	●	2	.728	1.378	2.244	.492	.827	.748	M12	.4	.079	3°	2	SCU16M12	JDM□09T3
1.125	**AJXU08R183AM1235**	●	3	.784	1.378	2.244	.492	.827	.748	M12	.2	.059	0.5°	1	SCU16M12	JOM□0803
1.250	**AJXU09R203AM1645**	●	3	.854	1.772	2.677	.669	1.142	.945	M16	.4	.079	2.5°	1	SCU20M16	JDM□09T3
1.375	**AJXU09R223AM1645**	●	3	.976	1.772	2.677	.669	1.142	.945	M16	.4	.079	2°	1	SCU20M16	JDM□09T3

*1 Refer to page 34, for the max. drilling depth (**AZ**).
*2 Number of Teeth
Note 1) Refer to page 34, for the max. depth of cut (**APMX**) and max. drilling depth (**AZ**).
Note 2) For screw-in type shank arbors, refer to page 23.

Spare Parts

(inch)

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

● : USA Stock ★ : Stocked in Japan

Fig.1

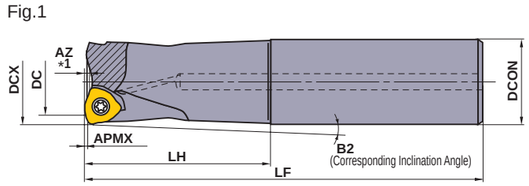


Fig.2

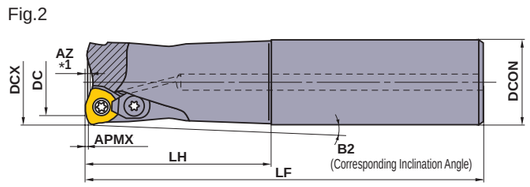
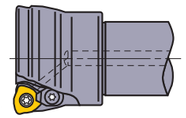


Fig3



Right hand tool holder only.

Metric Standard

■ Shank Type

With Coolant Hole

(mm)

DCX	Order Number	Stock R	*2 No.T	LF	DC	LH	DCON	B2	APMX	RMPX	Fig.	Insert Type
16	**AJX06R162SA16SS**	★	2	70	8.9	20	16	3.5	0.6	3°	1	JOM□06T2
16	**AJX06R162SA16S**	★	2	110	8.9	30	16	2.25	0.6	3°	1	JOM□06T2
16	**AJX06R162SA16L**	★	2	150	8.9	70	16	0.93	0.6	3°	1	JOM□06T2
16	**AJX06R162SA16EL**	★	2	200	8.9	100	16	0.64	0.6	3°	1	JOM□06T2
17	**AJX06R172SA16SS**	★	2	70	9.9	20	16	—	0.6	2.5°	1	JOM□06T2
17	**AJX06R172SA16S**	★	2	110	9.9	20	16	—	0.6	2.5°	1	JOM□06T2
17	**AJX06R172SA16L**	★	2	150	9.9	20	16	—	0.6	2.5°	1	JOM□06T2
17	**AJX06R172SA16EL**	★	2	200	9.9	20	16	—	0.6	2.5°	1	JOM□06T2
20	**AJX08R202SA20S**	★	2	130	11.4	50	20	1.34	0.9	3.5°	1	JOM□0803
20	**AJX06R203SA20S**	★	3	130	12.9	50	20	1.31	0.6	1.5°	1	JOM□06T2
20	**AJX08R202SA20L**	★	2	180	11.4	100	20	0.65	0.9	3.5°	1	JOM□0803
20	**AJX06R203SA20L**	★	3	180	12.9	100	20	0.64	0.6	1.5°	1	JOM□06T2
20	**AJX08R202SA20EL**	★	2	250	11.4	130	20	0.5	0.9	3.5°	1	JOM□0803
22	**AJX08R222SA20S**	★	2	130	13.4	30	20	—	0.9	3°	1	JOM□0803
22	**AJX06R223SA20S**	★	3	130	14.9	30	20	—	0.6	1°	1	JOM□06T2
22	**AJX08R222SA20L**	★	2	180	13.4	30	20	—	0.9	3°	1	JOM□0803
22	**AJX06R223SA20L**	★	3	180	14.9	30	20	—	0.6	1°	1	JOM□06T2
22	**AJX08R222SA20EL**	★	2	250	13.4	30	20	—	0.9	3°	1	JOM□0803
25	**AJX09R252SA25S**	★	2	140	14.9	60	25	1.1	1.2	4°	2	JDM□09T3
25	**AJX08R253SA25S**	★	3	140	16.4	60	25	1.1	0.9	2°	1	JOM□0803
NEW 25	**AJX06R254SA25S**	★	4	140	17.9	60	25	1.11	0.6	0.8°	1	JOM□06T2
25	**AJX09R252SA25L**	★	2	200	14.9	120	25	0.54	1.2	4°	2	JDM□09T3
25	**AJX08R253SA25L**	★	3	200	16.4	120	25	0.54	0.9	2°	1	JOM□0803
NEW 25	**AJX06R254SA25L**	★	4	200	17.9	120	25	0.54	0.6	0.8°	1	JOM□06T2
25	**AJX09R252SA25EL**	★	2	300	14.9	180	25	0.36	1.2	4°	2	JDM□09T3

*1 Refer to page 34, for the maximum drilling depth (**AZ**).
*2 Number of Teeth
Note 1) Refer to page 34, 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
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

(mm)

	DCX	Order Number	Stock R	✶2 No.T	LF	DC	LH	DCON	B2	APMX	RMPX	Fig.	Insert Type
	28	**AJX09R282SA25S**	★	2	140	17.9	40	25	–	1.2	3°	2	JDM□09T3
	28	**AJX08R283SA25S**	★	3	140	19.4	40	25	–	0.9	1.7°	1	JOM□0803
NEW	28	**AJX06R284SA25S**	★	4	140	20.9	40	25	–	0.6	0.7°	1	JOM□06T2
	28	**AJX09R282SA25L**	★	2	200	17.9	40	25	–	1.2	3°	2	JDM□09T3
	28	**AJX08R283SA25L**	★	3	200	19.4	40	25	–	0.9	1.7°	1	JOM□0803
NEW	28	**AJX06R284SA25L**	★	4	200	20.9	40	25	–	0.6	0.7°	1	JOM□06T2
	28	**AJX09R282SA25EL**	★	2	300	17.9	40	25	–	1.2	3°	2	JDM□09T3
	30	**AJX12R302SA32S**	★	2	150	18.3	70	32	1.82	1.2	4.5°	2	JDM□1204
	30	**AJX09R303SA32S**	★	3	150	20	70	32	1.79	1.2	2.7°	2	JDM□09T3
	30	**AJX12R302SA32L**	★	2	200	18.3	120	32	1.04	1.2	4.5°	2	JDM□1204
	30	**AJX09R303SA32L**	★	3	200	20	120	32	1.03	1.2	2.7°	2	JDM□09T3
	30	**AJX12R302SA32EL**	★	2	300	18.3	180	32	0.69	1.2	4.5°	2	JDM□1204
	32	**AJX12R322SA32S**	★	2	150	20.3	70	32	0.96	1.2	4°	2	JDM□1204
	32	**AJX09R323SA32S**	★	3	150	21.9	70	32	0.94	1.2	2.5°	2	JDM□09T3
NEW	32	**AJX08R324SA32S**	★	4	150	23.4	70	32	0.95	0.9	1.4°	1	JOM□0803
NEW	32	**AJX06R325SA32S**	★	5	150	24.9	70	32	0.94	0.6	0.5°	1	JOM□06T2
NEW	32	**AJX06R326SA32S**	★	6	150	24.9	70	32	0.94	0.6	0.5°	1	JOM□06T2
	32	**AJX12R322SA32L**	★	2	200	20.3	120	32	0.55	1.2	4°	2	JDM□1204
	32	**AJX09R323SA32L**	★	3	200	21.9	120	32	0.54	1.2	2.5°	2	JDM□09T3
NEW	32	**AJX08R324SA32L**	★	4	200	23.4	120	32	0.55	0.9	1.4°	1	JOM□0803
NEW	32	**AJX06R325SA32L**	★	5	200	24.9	120	32	0.54	0.6	0.5°	1	JOM□06T2
	32	**AJX12R322SA32EL**	★	2	300	20.3	180	32	0.36	1.2	4°	2	JDM□1204
	35	**AJX12R352SA32S**	★	2	150	23.3	50	32	–	1.2	3.5°	2	JDM□1204
	35	**AJX09R353SA32S**	★	3	150	24.9	50	32	–	1.2	2°	2	JDM□09T3
	35	**AJX12R352SA32L**	★	2	200	23.3	50	32	–	1.2	3.5°	2	JDM□1204
	35	**AJX09R353SA32L**	★	3	200	24.9	50	32	–	1.2	2°	2	JDM□09T3
	35	**AJX12R352SA32EL**	★	2	300	23.3	50	32	–	1.2	3.5°	2	JDM□1204
	40	**AJX12R403SA32S**	★	3	150	28.3	50	32	–	1.2	3°	2	JDM□1204
	40	**AJX09R404SA32S**	★	4	150	29.9	50	32	–	1.2	1.5°	2	JDM□09T3
NEW	40	**AJX08R406SA32S**	★	6	150	31.4	50	32	–	0.9	1°	1	JOM□0803
	40	**AJX12R403SA32L**	★	3	250	28.3	50	32	–	1.2	3°	2	JDM□1204
	40	**AJX09R404SA32L**	★	4	250	29.9	50	32	–	1.2	1.5°	2	JDM□09T3
NEW	40	**AJX08R406SA32L**	★	6	250	31.4	50	32	–	0.9	1°	1	JOM□0803
	40	**AJX12R402SA32EL**	★	2	350	28.3	50	32	–	1.2	3°	2	JDM□1204
	40	**AJX12R403SA42S**	★	3	150	28.3	70	42	1.79	1.2	3°	2	JDM□1204
	40	**AJX09R404SA42S**	★	4	150	29.9	70	42	1.8	1.2	1.5°	2	JDM□09T3
	40	**AJX12R403SA42L**	★	3	250	28.3	70	42	1.79	1.2	3°	2	JDM□1204
	40	**AJX09R404SA42L**	★	4	250	29.9	70	42	1.8	1.2	1.5°	2	JDM□09T3
	40	**AJX12R402SA42EL**	★	2	350	28.3	70	42	1.79	1.2	3°	2	JDM□1204
	50	**AJX14R503SA42S**	★	3	150	38.2	50	42	–	1.2	4.2°	2	JDM□1405
	50	**AJX14R503SA42L**	★	3	250	38.1	50	42	–	1.2	4.2°	2	JDM□1405
	63	**AJX14R634SA42S**	★	4	150	51.1	50	42	–	1.2	2.8°	3	JDM□1405
	63	**AJX14R634SA42L**	★	4	250	51.1	50	42	–	1.2	2.8°	3	JDM□1405

✶1 Refer to page 34, for the maximum drilling depth (**AZ**).
✶2 Number of Teeth
Note 1) Refer to page 34, for the max. depth of cut (**APMX**) and maximum drilling depth (**AZ**).

Fig.1

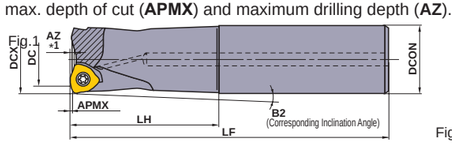


Fig.2

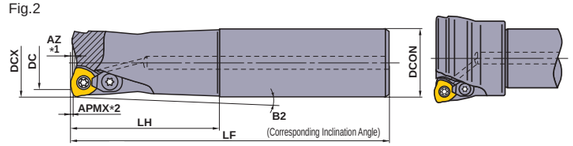
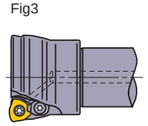


Fig3



Right hand tool holder only.

★ : **Stocked in Japan**

Spare Parts

(mm)

Tool Holder Type	✶ Clamp Screw	Clamp Bridge	✶ Clamp Bridge Screw	Spring	F D 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.

Fig.1

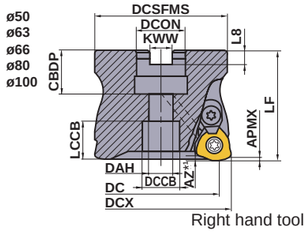
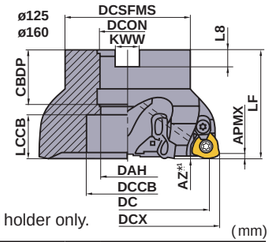


Fig.2



Right hand tool holder only.

(mm)

DCX		Set Bolt	Geometry
DCON inch size	DCON mm size		
ϕ50, ϕ63	ϕ50, ϕ63(DCON=22)	HSC10030H	①
	ϕ63(DCON=27), ϕ80	HSC12035H	
ϕ80, ϕ100	ϕ100	HSC16040H	
ϕ125	ϕ125, ϕ160	MBA20040H	②
ϕ160		MBA24045H	

Metric Standard

■Arbor Type

With Coolant Hole

DCX=mm size, DCON=inch size

(mm)

DCX	Order Number	Stock R	✶2 No.T	DC	LF	DCON	WT (kg)	APMX	RMPX	Fig.	Insert Type
50	**AJX12R05003B**	★	3	38.3	50	22.225	0.4	1.2	2°	1	JDM□1204
50	**AJX12R05004B**	★	4	38.3	50	22.225	0.4	1.2	2°	1	JDM□1204
50	**AJX09R05005B**	★	5	40.0	50	22.225	0.5	1.2	1.1°	1	JDM□09T3
63	**AJX14R06303B**	★	3	51.1	50	22.225	0.7	1.2	2.8°	1	JDM□1405
63	**AJX14R06304B**	★	4	51.1	50	22.225	0.7	1.2	2.8°	1	JDM□1405
63	**AJX12R06305B**	★	5	51.3	50	22.225	0.9	1.2	1.5°	1	JDM□1204
80	**AJX14R08004D**	★	4	68.1	63	31.75	1.3	1.2	1.8°	1	JDM□1405
80	**AJX14R08005D**	★	5	68.1	63	31.75	1.3	1.2	1.8°	1	JDM□1405
80	**AJX12R08006D**	★	6	68.3	63	31.75	1.7	1.2	1.1°	1	JDM□1204
100	**AJX14R10005D**	★	5	88.1	63	31.75	2.4	1.2	1.2°	1	JDM□1405
100	**AJX14R10006D**	★	6	88.1	63	31.75	2.4	1.2	1.2°	1	JDM□1405
100	**AJX12R10007D**	★	7	88.3	63	31.75	2.9	1.2	0.8°	1	JDM□1204
125	**AJX14R12505E**	★	5	113.2	63	38.1	3.3	1.2	0.8°	2	JDM□1405
125	**AJX14R12507E**	★	7	113.2	63	38.1	3.3	1.2	0.8°	2	JDM□1405
160	**AJX14R16006F**	★	6	148.2	63	50.8	5.0	1.2	0.5°	2	JDM□1405
160	**AJX14R16008F**	★	8	148.2	63	50.8	5.0	1.2	0.5°	2	JDM□1405

DCX=mm size, DCON=mm size

(mm)

DCX	Order Number	Stock R	✶2 No.T	DC	LF	DCON	WT (kg)	APMX	RMPX	Fig.	Insert Type
50	**AJX12-050A03R**	★	3	38.3	50	22	0.4	1.2	2°	1	JDM□1204
50	**AJX12-050A04R**	★	4	38.3	50	22	0.4	1.2	2°	1	JDM□1204
50	**AJX09-050A05R**	★	5	40.0	50	22	0.5	1.2	1.1°	1	JDM□09T3
63	**AJX14-063A03R**	★	3	51.1	50	22	0.7	1.2	2.8°	1	JDM□1405
63	**AJX14-063A04R**	★	4	51.1	50	22	0.7	1.2	2.8°	1	JDM□1405
63	**AJX12-063A05R**	★	5	51.3	50	22	0.9	1.2	1.5°	1	JDM□1204
NEW 63	**AJX14-063X03R**	★	3	51.1	50	27	0.6	1.2	2.8	1	JDM□1405
NEW 63	**AJX14-063X04R**	★	4	51.1	50	27	0.6	1.2	2.8	1	JDM□1405
NEW 63	**AJX12-063X05R**	★	5	51.3	50	27	0.6	1.2	1.5	1	JDM□1204
NEW 66	**AJX14-066X03R**	★	3	54.1	50	27	0.6	1.2	2.6	1	JDM□1405
NEW 66	**AJX14-066X04R**	★	4	54.1	50	27	0.6	1.2	2.6	1	JDM□1405
NEW 66	**AJX12-066X05R**	★	5	54.3	50	27	0.7	1.2	1.4	1	JDM□1204
80	**AJX14-080A04R**	★	4	68.1	50	27	1.2	1.2	1.8°	1	JDM□1405
80	**AJX14-080A05R**	★	5	68.1	50	27	1.2	1.2	1.8°	1	JDM□1405
80	**AJX12-080A06R**	★	6	68.3	50	27	1.2	1.2	1.1°	1	JDM□1204
100	**AJX14-100A05R**	★	5	88.1	63	32	2.4	1.2	1.2°	1	JDM□1405
100	**AJX14-100A06R**	★	6	88.1	63	32	2.4	1.2	1.2°	1	JDM□1405
100	**AJX12-100A07R**	★	7	88.3	63	32	2.6	1.2	0.8°	1	JDM□1204

★: Stocked in Japan

■Arbor Type Super Extra Fine Pitch

With Coolant Hole

DCX=mm size, DCON=mm size

(mm)

DCX	Order Number	Stock R	✶2 No.T	DC	LF	DCON	WT (kg)	APMX	RMPX	Fig.	Insert Type
NEW 32	**AJX06-032A05R**	★	5	24.9	40	16	0.1	0.6	0.5°	3	JOM□06T2
NEW 32	**AJX06-032A06R**	★	6	24.9	40	16	0.1	0.6	0.5°	3	JOM□06T2
NEW 40	**AJX08-040A06R**	★	6	31.4	40	16	0.2	0.9	1°	3	JOM□0803
NEW 42	**AJX08-042A06R**	★	6	33.4	40	16	0.2	0.9	0.9°	3	JOM□0803
NEW 50	**AJX09-050A06R**	★	6	39.3	50	22	0.4	1.2	1.1°	3	JDM□09T3
NEW 50	**AJX08-050A07R**	★	7	41.4	50	22	0.4	0.9	0.7°	3	JOM□0803
NEW 52	**AJX09-052A06R**	★	6	41.9	50	22	0.4	1.2	1°	3	JDM□09T3
NEW 52	**AJX08-052A07R**	★	7	43.4	50	22	0.5	0.9	0.7°	3	JOM□0803
NEW 63	**AJX12-063A06R**	★	6	51.3	50	22	0.7	1.2	1.5°	3	JDM□1204
NEW 63	**AJX09-063A07R**	★	7	52.9	50	22	0.7	1.2	0.8°	3	JDM□09T3
NEW 63	**AJX12-063X06R**	★	6	51.3	50	27	0.6	1.2	1.5°	3	JDM□1204
NEW 63	**AJX09-063X07R**	★	7	52.9	50	27	0.7	1.2	0.8°	3	JDM□09T3
NEW 66	**AJX12-066A06R**	★	6	54.3	50	22	0.7	1.2	1.4°	3	JDM□1204
NEW 66	**AJX09-066A07R**	★	7	55.9	50	22	0.8	1.2	0.8°	3	JDM□09T3
NEW 66	**AJX12-066X06R**	★	6	54.3	50	27	0.7	1.2	1.4°	3	JDM□1204
NEW 66	**AJX09-066X07R**	★	7	55.9	50	27	0.8	1.2	0.8°	3	JDM□09T3
NEW 80	**AJX12-080A08R**	★	8	68.3	50	27	1.1	1.2	1.1°	3	JDM□1204
NEW 100	**AJX12-100A09R**	★	9	88.3	63	32	2.5	1.2	0.8°	3	JDM□1204
NEW 125	**AJX14-125B09R**	★	9	113.2	63	40	3.0	1.2	0.8°	4	JDM□1405

Fig.3

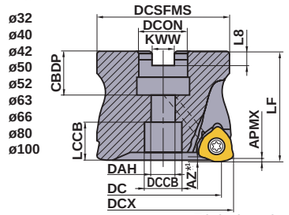
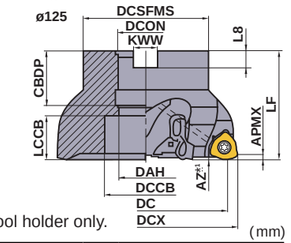


Fig.4



Right hand tool holder only.

(mm)

DCX	Set Bolt	Geometry
ϕ32, ϕ40, ϕ42	HSC08025H	①
ϕ50, ϕ52, ϕ63 ϕ66 (DCON=22)	HSC10030H	
ϕ63 ϕ66 (DCON=27), ϕ80	HSC12035H	
ϕ100	HSC16040H	
ϕ125	MBA20040H	②

✶1 Refer to page 34, for the maximum drilling depth (**AZ**).

✶2 Number of Teeth

Note 1) Refer to page 34, 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
DCON = Connection Diameter
APMX = Depth of Cut Max.
RMPX = Ramping Angle Max.

Mounting Dimensions

Fig.1

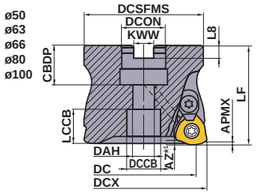


Fig.2

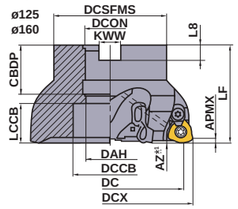


Fig.3

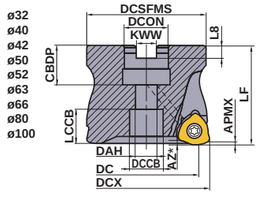
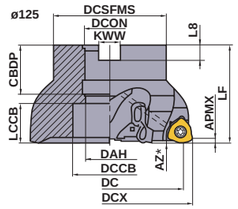


Fig.4



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	—	56	22.1	100	15.9	10	2
160	**AJX14R160**	50.8	43	—	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	14.5	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	17.3	47	10.4	6.3	1
50	**AJX09-050A**	22	20	11	17	17.3	47	10.4	6.3	1, 3
52	**AJX09-052A**	22	20	11	17	17.3	47	10.4	6.3	3
52	**AJX08-052A**	22	20	11	17	17.4	47	10.4	6.3	3
63	**AJX14-063A**	22	20	11	17	17.2	60	10.4	6.3	1
63	**AJX12-063A**	22	20	11	17	17.3	60	10.4	6.3	1, 3
63	**AJX09-063A**	22	20	11	17	17.3	60	10.4	6.3	3
63	**AJX12-063X**	27	23	13	20	16.3	60	12.4	7.0	3
63	**AJX09-063X**	27	23	13	20	16.3	60	12.4	7.0	3
66	**AJX12-066A**	22	20	11	17	17.3	60	10.4	6.3	3
66	**AJX09-066A**	22	20	11	17	17.3	60	10.4	6.3	3
66	**AJX14-066X**	27	23	13	20	16.2	60	12.4	7.0	1
66	**AJX12-066X**	27	23	13	20	16.3	60	12.4	7.0	1, 3
66	**AJX09-066X**	27	23	13	20	16.3	60	12.4	7.0	3
80	**AJX14-080A**	27	23	13	19	16.2	76	12.4	7.0	1
80	**AJX12-080A**	27	23	13	19	16.3	76	12.4	7.0	1, 3
100	**AJX14-100A**	32	26	17	26	26.2	96	14.4	8.0	1
100	**AJX12-100A**	32	26	17	26	26.3	96	14.4	8.0	1, 3
125	**AJX14-125B**	40	40	—	56	22.1	100	16.4	9.0	2, 4
160	**AJX14-160B**	40	40	—	56	22.1	100	16.4	9.0	2

Spare Parts

(mm)

Tool Holder Type	Clamp Screw *	Clamp Bridge	Clamp Bridge Screw *	Spring	Wrench (F, D, T)
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

Fig.1

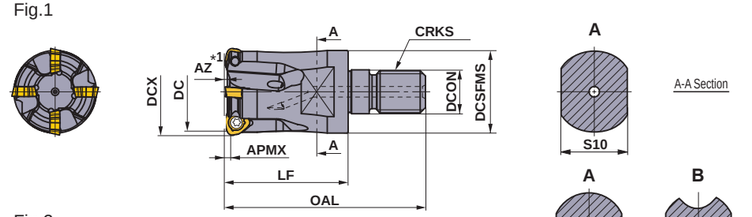
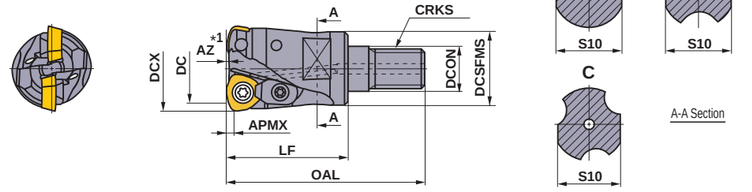


Fig.2



Right hand tool holder only.

■ Screw-in Type

With Coolant Hole (mm)

DCX	Order Number	Stock R	*2 No.T	DC	LF	OAL	DCON	WT (kg)	APMX	RMPX	Fig.	Insert Type
16	**AJX06R162AM0830**	★	2	8.9	30	48	8.5	0.1	0.6	3°	1	JOM□06T2
17	**AJX06R172AM0830**	★	2	9.9	30	48	8.5	0.1	0.6	2.5°	1	JOM□06T2
20	**AJX08R202AM1030**	★	2	11.4	30	49	10.5	0.1	0.9	3.5°	1	JOM□0803
20	**AJX06R203AM1030**	★	3	12.9	30	49	10.5	0.1	0.6	1.5°	1	JOM□06T2
22	**AJX08R222AM1030**	★	2	13.4	30	49	10.5	0.1	0.9	3°	1	JOM□0803
22	**AJX06R223AM1030**	★	3	14.9	30	49	10.5	0.1	0.6	1°	1	JOM□06T2
25	**AJX09R252AM1235**	★	2	14.9	35	57	12.5	0.2	1.2	4°	2	JDM□09T3
25	**AJX08R253AM1235**	★	3	16.4	35	57	12.5	0.1	0.9	2°	1	JOM□0803
NEW 25	**AJX06R254AM1235**	★	4	17.9	35	57	12.5	0.1	0.6	0.8°	1	JOM□06T2
28	**AJX09R282AM1235**	★	2	17.9	35	57	12.5	0.2	1.2	3°	2	JDM□09T3
28	**AJX08R283AM1235**	★	3	19.4	35	57	12.5	0.1	0.9	1.7°	1	JOM□0803
NEW 28	**AJX06R284AM1235**	★	4	20.9	35	57	12.5	0.1	0.6	0.7°	1	JOM□06T2
30	**AJX12R302AM1645**	★	2	18.3	45	68	17.0	0.3	1.2	4.5°	2	JDM□1204
30	**AJX09R303AM1645**	★	3	20	45	68	17.0	0.2	1.2	2.7°	2	JDM□09T3
32	**AJX12R322AM1645**	★	2	20.3	45	68	17.0	0.3	1.2	4°	2	JDM□1204
32	**AJX09R323AM1645**	★	3	21.9	45	68	17.0	0.2	1.2	2.5°	2	JDM□09T3
NEW 32	**AJX08R324AM1645**	★	4	23.4	45	68	17.0	0.2	0.9	1.4°	1	JOM□0803
35	**AJX12R352AM1645**	★	2	23.3	45	68	17.0	0.3	1.2	3.5°	2	JDM□1204
35	**AJX09R353AM1645**	★	3	24.9	45	68	17.0	0.2	1.2	2°	2	JDM□09T3
NEW 35	**AJX08R354AM1645**	★	4	26.4	45	68	17.0	0.2	0.9	1.2°	1	JOM□0803
40	**AJX12R403AM1645**	★	3	28.3	45	68	17.0	0.3	1.2	3°	2	JDM□1204
40	**AJX09R404AM1645**	★	4	29.9	45	68	17.0	0.2	1.2	1.5°	2	JDM□09T3
NEW 40	**AJX08R406AM1645**	★	6	31.4	45	68	17.0	0.3	0.9	1°	1	JOM□0803

*1 Refer to page 34, for the maximum drilling depth (**AZ**).
*2 Number of Teeth
Note 1) Refer to page 34, for the max. depth of cut (**APMX**) and maximum drilling depth (**AZ**).
Note 2) For screw-in type arbors, refer to page 23.

Spare Parts

(mm)

Tool Holder Type	Clamp Screw *	Clamp Bridge	Clamp Bridge Screw *	Spring	Wrench (F, 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	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	19	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	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
NEW	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
NEW	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
NEW	40	**AJX08R406AM1645**	17.0	29	24	M16	A	SC32M16

How to Install the Screw-in Head

①Thoroughly clean the clamp section of the head and the arbor with an air blower or brush before installation.

②Tighten 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

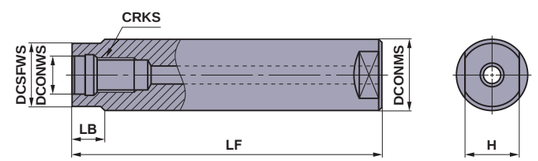
●Cutting tools become extremely hot during cutting. Never touch them with bare hands after operation as this may produce risk of injuries or burns.
●Do not handle the cutting tools with bare hands as this may cause injuries.

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.

SCREW-IN HOLDERS

STRAIGHT SHANK TYPE



■ Steel Shank Type

(inch)

CRKS	Order Number	Stock	DCONMS	LF	DCONWS	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

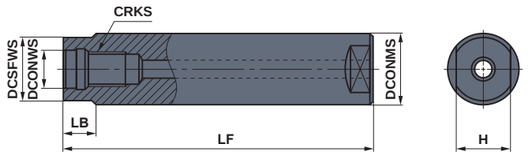
Metric Standard

(mm)

CRKS	Order Number	Stock	DCONMS	LF	DCONWS	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

(inch)

CRKS	Order Number	Stock	DCONMS	LF	DCONWS	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

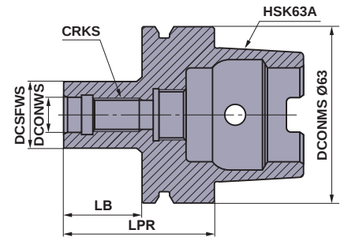
Metric Standard

(mm)

CRKS	Order Number	Stock	DCONMS	LF	DCONWS	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

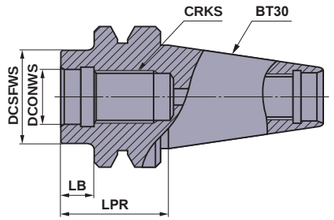


Metric Standard

(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

■ BT30 Shank Arbor

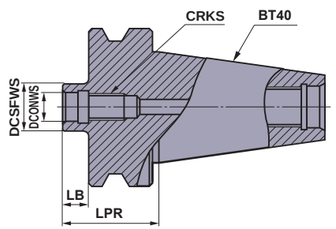


Metric Standard

(mm)

CRKS	Order Number	Stock	DCONWS	DCSFWS	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

(mm)

CRKS	Order Number	Stock	DCONWS	DCSFWS	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

How To Install the Screw-in Head

①Thoroughly clean the clamp section of the head and the arbor with an air blower or brush before installation.

②Tighten 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)
M8	17.0	.394
M10	33.9	.551
M12	59.0	.748
M16	66.4	.945

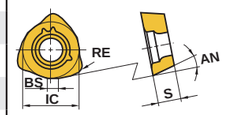
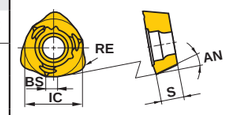
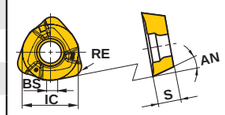
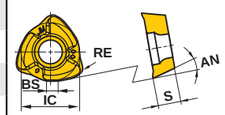
- Cutting tools become extremely hot during cutting. Never touch them with bare hands after operation as this may produce risk of injuries or burns.
- Do not handle the cutting tools with bare hands as this may cause injuries.

Inserts

(inch)

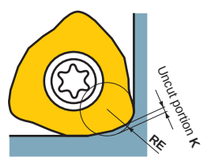
Workpiece Material			FH7020	MP6120	MP6130	MP7130	MP7140	MP9120	MP9130	MP9140 (NEW)	VP15TF	VP30RT
	P	Steels	●	◕	✤						◕	✤
	M	Stainless Steels				◔	✣				◔	✣
	K	Cast Iron	●								✤	
	S	Heat Resistant Alloys, Titanium Alloys						◕	✤	✤	◕	
	H	Hardened Steels									◔	

Cutting Conditions : ● : Stable Cutting ◕ : General Cutting ✤ : Unstable Cutting

Shape	Order Number	Class	Coated										AN	IC	S	BS	RE	Geometry
			FH7020	MP6120	MP6130	MP7130	MP7140	MP9120	MP9130	MP9140 (NEW)	VP15TF	VP30RT						
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	
	JDMT140523ZDER-JL	M				●	●	●	●	●			15°	.551	.219	.110	.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	

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

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	Breaker	Approx. **RE**	Uncut Portion **K**
JOM◌06T2◌◌ZZ◌R-◌◌	**FT / JM**	.079	.013
	JL	.098	.013
JOM◌0803◌◌ZZ◌R-◌◌	**FT / JM**	.098	.018
	JL	.079	.016
JOM◌09T3◌◌ZD◌R-◌◌	**FT / JM**	.118	.019
	JL	.118	.018
JOM◌1204◌◌ZD◌R-◌◌	**FT / JM / ST**	.118	.025
	JL	.118	.021
JOM◌1405◌◌ZD◌R-◌◌	**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)

Memo

Recommended Cutting Conditions

Cutting Speed

	Workpiece Material	Properties	Cutting Speed **vc** (SFM)			
P			**FH7020**	**MP6120**	**MP6130**	**VP30RT**
	Mild Steels	Hardness ≤180HB	850 (700—1000)	750 (580—910)	685 (515—845)	620 (450—880)
	Carbon Steels Alloy Steels	Hardness 180—280HB	550 (400—700)	480 (320—630)	415 (255—565)	350 (190—500)
	Carbon Steels Alloy Steels	Hardness 280—350HB	450 (300—600)	350 (190—500)	285 (125—435)	220 (60—370)
	Alloy Tool Steels	Hardness ≤350HB (Annealing)	450 (300—600)	350 (190—500)	285 (125—435)	220 (60—370)
	Pre-hardened Steels	Hardness 35—45HRC	—	330 (230—425)	265 (165—360)	200 (100—295)
M			**MP7130**	**MP7140**		
	Stainless Steels	Hardness ≤270HB	450 (300—600)	385 (235—535)	—	—
K			**FH7020**	**VP15TF**		
	Gray Cast Irons	Tensile Strength ≤350MPa	850 (700—1000)	—	—	—
	Ductile Cast Irons	Tensile Strength ≤800MPa	—	500 (400—700)	—	—
S			**MP9120**	**MP9130**	**MP9140**	
	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)	—
H			**VP15TF**			
	Hardened Steels	Hardness 40—55HRC	230 (165—295)	—	—	—

Recommended Cutting Conditions

■ Depth of Cut / Feed

(inch)

	Workpiece 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 Steels	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 Steels Alloy Steels	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 Steels Alloy Steels	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 Steels	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 Steels	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 Steels	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 Irons	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 Irons	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 Alloys	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 Steels	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 breaker is up to .024 inch. (06 size)
∗ Depth of cut of JL breaker is up to .035 inch. (08 size)

∗ Depth of cut of JL breaker is up to .047 inch.(09, 12, 14 sizes)

Recommended Cutting Conditions

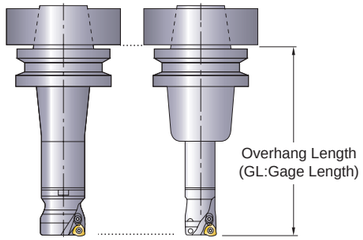
■ Depth of Cut / Feed

(inch)

	Workpiece Material	Properties	DCX=ϕ1.500" (ϕ40mm) (ϕ1.500"Shank) AJXU12 Type 3 (Number of Teeth)			DCX=ϕ2.000" (ϕ50mm) (Shank Type) AJXU14 Type 3 (Number of Teeth)			DCX=ϕ2.000", ϕ2.500" (ϕ50mm, ϕ63mm, ϕ66mm) (Arbor Type) AJXU09, 12 (ϕ2.000") AJXU12, 14 (ϕ2.500") 3, 4, 5 (Number of Teeth)			DCX=ϕ2.000", ϕ2.500" (ϕ50mm, ϕ63mm, ϕ66mm) (Arbor Type) AJXU09 Type (ϕ2.000") AJXU12 Type (ϕ2.500") 5 (Number of Teeth)			DCX=ϕ3.000", ϕ4.000", ϕ4.921", ϕ6.299" (ϕ80mm, ϕ100mm, ϕ125mm, ϕ160mm) (Arbor Type) AJX14 Type 4 or 5 or 6 or 7 or 8 (Number of Teeth)			DCX=ϕ3.000", ϕ4.000" (ϕ80mm, ϕ100mm) (Arbor Type) AJXU12 Type 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 Steels	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 Steels Alloy Steels	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 Steels Alloy Steels	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 Steels	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 Steels	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 Steels	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 Irons	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 Irons	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 Steels	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 breaker is up to .047 inch.

①Overhang Length



②Main Spindle Speed
n(min^{-1})=(Recommended Cutting Speed x 12)÷(DCX x 3.14)

③Table Feed Rate
vf(IPM)=n x feed per tooth fz x number of teeth

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

⑤The 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.

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

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

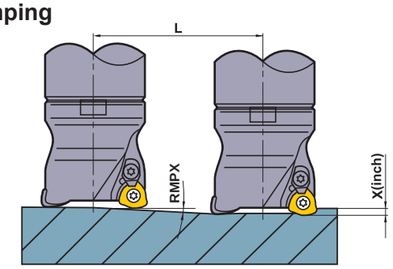
⑧Use “sharp” JM chip breaker to lower cutting forces or when there is a long tool overhang.

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

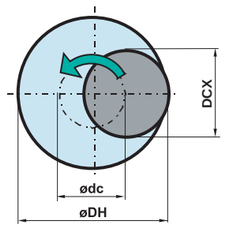
⑩The maximum depth of cut JL chip breaker is different in the insert size. 06 size is up to .024 inch, 08 size is up to .035 inch, and 09, 12, 14 size is up to .047 inch.

Maximum Capacities by Mode

■ Ramping



■ Helical Milling and Drilling



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

ødc = øDH - DCX

ødc	øDH	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.

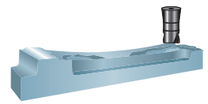
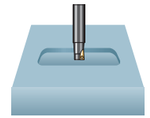
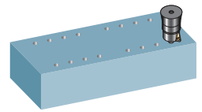
- When ramping and helical milling, it is recommended to reduce the feed rate by 40%.
- When drilling, please set the feed in the axial direction .008 IPR or less.
- The long chips generated can discharge in any direction, so ensure that adequate safety precautions are taken.

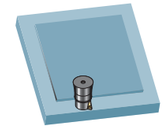
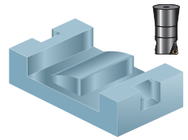
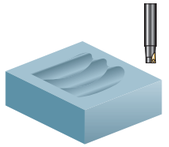
(inch)

	Tool Holder Type	DCX	DC	Max. Depth of Cut APMX		Ramping machining					Helical Milling		AZ
						RMPX	L Required Distance for X Inch Depth				Min. Hole Diameter	Max. Hole Diameter	
				FT/JM/ST	JL		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

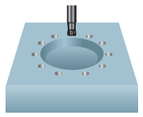
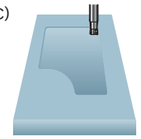
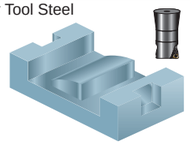
DCX = Cutting Diameter Max. **DC** = Cutting Diameter **DH** = Desired Hole Diameter
APMX = Depth of Cut Max. **RMPX** = Ramping Angle Max. **AZ** = Max. Drilling Depth

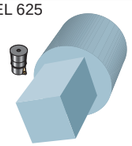
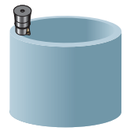
Application Examples

	Tool (Grade)	AJXU14R2504C FT Chip Breaker (FH7020)	AJXU06R112FA10S FT Chip Breaker (VP15TF)	AJXU14R0304C ST Chip Breaker (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 **vc** (SFM)	589 SFM (900 min-1)	504 SFM (2800 min-1)	471 SFM (600 min-1)
	Table Feed **vf** (Feed per T. **fz**)	160 IPM (.045 IPT)	157 IPM (.028 IPT)	192 IPM (.08 IPT)
	Depth of Cut **ap** (inch)	.060	.020	.060
	Width of Cut **ae** (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 chip breaker with tougher cutting edges did not fracture, making un-manned machining possible.

	Tool (Grade)	AJXU14R0406E FT Chip Breaker (VP30RT)	AJXU14R0305C FT Chip Breaker (FH7020)	AJXU12R243WA20S ST Chip Breaker (VP15TF)
	Workpiece	304SS (200HB) 	Cast iron, Class45 	ASTM H13 (50HRC) 
	Component	Electronics Part Manufacturing Device Component	Press Mold	Forging Mold
Cutting Conditions	Cutting Speed **vc** (SFM)	419 SFM (400 min-1)	628 SFM (800 min-1)	190 SFM (490 min-1)
	Table Feed **vf** (Feed per T. **fz**)	100 IPM (.042 IPT)	160 IPM (.040 IPT)	47 IPM (.032 IPT)
	Depth of Cut **ap** (inch)	.040	.080	.040
	Width of Cut **ae** (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 chip breaker with tougher cutting edges suffered no sudden fracturing.

Application Examples

	Tool (Grade)	AJX09R252SA25S JM Chip Breaker (FH7020)	AJXU08R122WA12S FT Chip Breaker (VP15TF)	AJX14R10006D JM Chip Breaker (MP6120)
	Workpiece	ASTM52100 	P20 (45HRC) 	Alloy Tool Steel 
	Component	Automotive Part	Die Casting Mold	Press Mold
Cutting Conditions	Cutting Speed **vc** (SFM)	600 SFM (2300 min^{-1})	196 SFM (1000 min^{-1})	330 SFM (320 min^{-1})
Cutting Conditions	Table Feed **vf** (Feed per T. **fz**)	184 IPM (.040 IPT)	64 IPM (.032 IPT)	46 IPM (.024 IPT)
Cutting Conditions	Depth of Cut **ap** (inch)	.039	.039	.059
Cutting Conditions	Width of Cut **ae** (inch)	.710	.35	2.756
Cutting Conditions	Overhang Length (inch)	3.8(GL)	4.2(GL)	3.150
	Cutting Mode	Air Blow	Air Blow	Air Blow
	Results	Possible to use an HSK63 high-speed machining center to full capacity. No fear of workpiece distortion thanks to low cutting resistance and low heat generation of the JM chip breaker.	High efficiency machining possible even on a high speed machining center with a CAT40 main spindle. Manufacturing costs have been slashed by directly machining quenched steel.	Achieved 2X longer tool life compared to conventional product.

	Tool (Grade)	AJX12R08006D JL Chip Breaker (MP9130)	AJX12-080A06R JL Chip Breaker (MP9120)	AJX12-080A06R JL Chip Breaker (MP9130)
	Workpiece	Co-Cr Alloy 	INCONEL 625 	Ti-6Al-4V 
	Component	Medical Component	Aerospace Component	Aerospace Component
Cutting Conditions	Cutting Speed **vc** (SFM)	165 SFM (240 min^{-1})	115 SFM (140 min^{-1})	165 SFM (240 min^{-1})
Cutting Conditions	Table Feed **vf** (Feed per T. **fz**)	34.0 IPM (.024 IPT)	19.7 IPM (.024 IPT)	17.9 IPM (.015 IPT)
Cutting Conditions	Depth of Cut **ap** (inch)	.02	.031	.04
Cutting Conditions	Width of Cut **ae** (inch)	2.36	2.56	1.97
Cutting Conditions	Overhang Length (inch)	—	—	—
	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 1.5X longer tool life compared to conventional product.	The increased tool life and reduced wear displayed by MP9130 grade with JL breaker gave an increase in efficiency of 40%.

●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.

Memo

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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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