

INDEXABLE MILLING

SHOULDER MILLING

<GENERAL CUTTING>



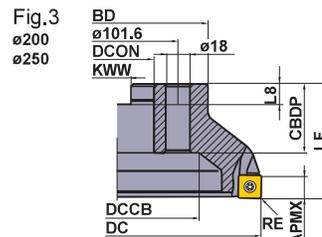
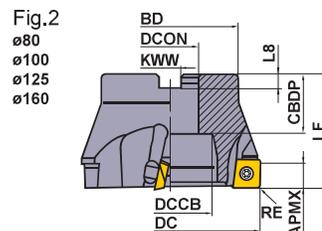
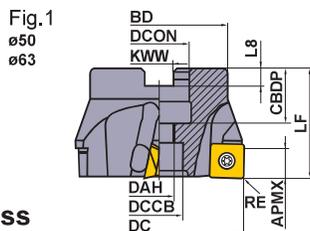
ASX400

- P
Steel
- M
Stainless Steel
- K
Cast Iron
- N
Non-ferrous Metal
- S
Heat Resistant Alloy
- H
Hardened Steel



- High tolerance M-class inserts.
- Economical 4 cutting edge inserts.
- Curved cutting edge and high rigidity holder.
- Screw-on type.

KAPR : 0°
GAMP : +11° T : -9° ~ -11°
GAMF : -9° ~ -11° I : +11°



ARBOR TYPE

Right hand tool holder only.

Type	Order Number	Stock	Number of Teeth	Dimensions(mm)									WT* (kg)	APMX (mm)	Type (Fig.)
				DC	LF	DCON	CBDP	DAH	BD	KWW	L8	DCCB			
Coarse Pitch	ASX400-050A03R	●	3	50	40	22	20	11	41	10.4	6.3	17	0.3	10	1
	ASX400-063A04R	●	4	63	40	22	20	11	50	10.4	6.3	17	0.5	10	1
	ASX400R08004C	●	4	80	50	25.4	26	—	60	9.5	6	38	1.0	10	2
	ASX400R10005D	●	5	100	50	31.75	32	—	70	12.7	8	45	1.5	10	2
	ASX400R12506E	●	6	125	63	38.1	35	—	80	15.9	10	60	2.5	10	2
	ASX400R16008F	●	8	160	63	50.8	38	—	100	19.1	11	90	4.0	10	2
	ASX400R20010K	●	10	200	63	47.625	35	—	160	25.4	14.22	135	7.0	10	3
	ASX400R25012K	●	12	250	63	47.625	35	—	210	25.4	14.22	180	12.0	10	3
Fine Pitch	ASX400-050A04R	●	4	50	40	22	20	11	41	10.4	6.3	17	0.3	10	1
	ASX400-063A05R	●	5	63	40	22	20	11	50	10.4	6.3	17	0.5	10	1
	ASX400R08006C	●	6	80	50	25.4	26	—	60	9.5	6	38	1.0	10	2
	ASX400R10007D	●	7	100	50	31.75	32	—	70	12.7	8	45	1.5	10	2
	ASX400R12508E	●	8	125	63	38.1	35	—	80	15.9	10	60	2.5	10	2
	ASX400R16012F	●	12	160	63	50.8	38	—	100	19.1	11	90	4.0	10	2
	ASX400R20016K	●	16	200	63	47.625	35	—	160	25.4	14.22	135	7.0	10	3
	ASX400R25018K	●	18	250	63	47.625	35	—	210	25.4	14.22	180	12.0	10	3

* WT : Tool Weight

SPARE PARTS

Tool Holder Number		*	*		
	Shim	Shim Screw	Clamp Screw	Wrench (Insert)	Wrench (Shim)
ASX400	STASX400N	WCS503507H	TPS35	TIP15T	HKY35R

* Clamp Torque (N · m) : WCS503507H=5.0, TPS35=3.5

● : Inventory maintained in Japan.



For metric arbor

The cutter bore diameter DCON is indicated in millimetre.

KAPR :0°
GAMP: +11° T: -9°--11°
GAMF: -9°--11° I: +11°

ARBOR TYPE

Right hand tool holder only.

Fig.1
ø50
ø63

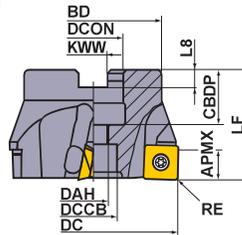


Fig.2
ø80
ø100
ø125

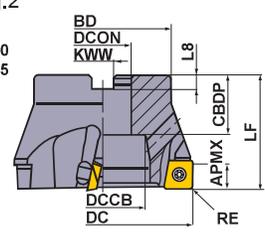


Fig.3
ø160

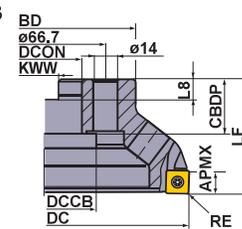
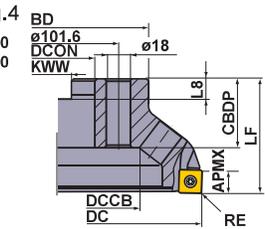


Fig.4
ø200
ø250

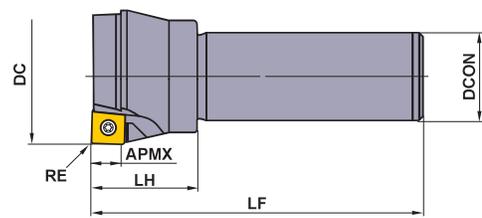
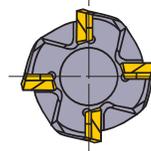


Type	Order Number	Stock R	Number of Teeth	Dimensions(mm)									WT (kg)	APMX (mm)	Type (Fig.)
				DC	LF	DCON	CBDP	DAH	BD	KWW	L8	DCCB			
Coarse Pitch	ASX400-050A03R	●	3	50	40	22	20	11	41	10.4	6.3	17	0.3	10	1
	ASX400-063A04R	●	4	63	40	22	20	11	50	10.4	6.3	17	0.5	10	1
	ASX400-080B04R	●	4	80	50	27	29	—	60	12.4	7	38	0.9	10	2
	ASX400-100B05R	●	5	100	50	32	32	—	70	14.4	8	45	1.4	10	2
	ASX400-125B06R	●	6	125	63	40	32	—	80	16.4	9	60	2.3	10	2
	ASX400-160C08R	●	8	160	63	40	29	—	100	16.4	9	56	3.6	10	3
	ASX400-200C10R	●	10	200	63	60	32	—	160	25.7	14.22	135	6.3	10	4
	ASX400-250C12R	●	12	250	63	60	32	—	210	25.7	14.22	180	10.8	10	4
Fine Pitch	ASX400-050A04R	●	4	50	40	22	20	11	41	10.4	6.3	17	0.3	10	1
	ASX400-063A05R	●	5	63	40	22	20	11	50	10.4	6.3	17	0.5	10	1
	ASX400-080B06R	●	6	80	50	27	29	—	60	12.4	7	38	0.9	10	2
	ASX400-100B07R	●	7	100	50	32	32	—	70	14.4	8	45	1.4	10	2
	ASX400-125B08R	●	8	125	63	40	32	—	80	16.4	9	60	2.2	10	2
	ASX400-160C12R	●	12	160	63	40	29	—	100	16.4	9	56	3.5	10	3
	ASX400-200C16R	●	16	200	63	60	32	—	160	25.7	14.22	135	6.2	10	4
	ASX400-250C18R	●	18	250	63	60	32	—	210	25.7	14.22	180	10.7	10	4
Extra Fine Pitch	ASX400-050A05R	●	5	50	40	22	20	11	41	10.4	6.3	17	0.3	10	1
	ASX400-063A06R	●	6	63	40	22	20	11	50	10.4	6.3	17	0.5	10	1
	ASX400-080B08R	●	8	80	50	27	29	—	60	12.4	7	38	0.9	10	2
	ASX400-100B10R	●	10	100	50	32	32	—	70	14.4	8	45	1.4	10	2
	ASX400-125B12R	●	12	125	63	40	32	—	80	16.4	9	60	2.1	10	2
	ASX400-160C15R	●	15	160	63	40	29	—	100	16.4	9	56	3.4	10	3
	ASX400-200C19R	●	19	200	63	60	32	—	160	25.7	14.22	135	6.2	10	4
	ASX400-250C22R	●	22	250	63	60	32	—	210	25.7	14.22	180	10.5	10	4

* WT : Tool Weight

MILLING

INDEXABLE MILLING



SHANK TYPE

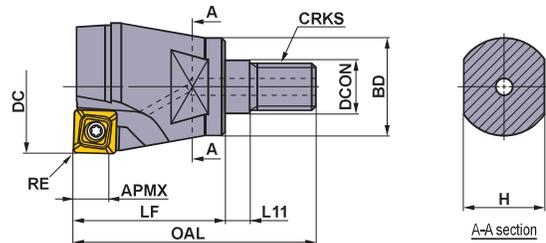
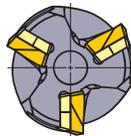
Right hand tool holder only.

Type	Order Number	Stock	Number of Teeth	Dimensions(mm)					
				R	DC	LF	DCON	LH	APMX
Coarse Pitch	ASX400R403S32	●	3		40	125	32	40	10
	ASX400R503S32	●	3		50	125	32	40	10
	ASX400R634S32	●	4		63	125	32	40	10
	ASX400R804S32	●	4		80	125	32	40	10
Fine Pitch	ASX400R504S32	●	4		50	125	32	40	10
	ASX400R635S32	●	5		63	125	32	40	10
	ASX400R806S32	●	6		80	125	32	40	10

SPARE PARTS

Tool Holder Number		*	*		
	Shim	Shim Screw	Clamp Screw	Wrench (Insert)	Wrench (Shim)
ASX400	STASX400N	WCS503507H	TPS35	TIP15T	HKY35R

* Clamp Torque (N · m) : WCS503507H=5.0, TPS35=3.5



SCREW-IN TYPE

Right hand tool holder only.

Order Number	Stock	Coolant Hole	Number of Teeth	Dimensions (mm)										*1 WT (kg)	*1 	*2 	*2 		
				DC	DCON	BD	OAL	LF	L11	H	CRKS	APMX							
ASX400R322AM1640	●	○	2	32	17	29	63	40	6	24	M16	10	0.3	—	WCS503507H	TPS35	TIP15T	HKY35R	
ASX400R403AM1645	●	○	3	40	17	29	68	45	6	24	M16	10	0.3	STASX400N	WCS503507H	TPS35	TIP15T	HKY35R	

(Note) For screw-in type arbors, refer to page L145—L146.

*1 WT : Tool Weight

*2 Clamp Torque (N · m) : WCS503507H=5.0, TPS35=3.5

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

INSERTS WITH BREAKER

Application	Shape	Order Number	Class	Honing	Coated										Cermets	Carbide	Dimensions (mm)				Geometry	
					F7030	MC5020	MP6120	MP6130	MP7130	MP7140	MP9120	MP9130	VP15TF	VP30RT			NX4545	HT10	IC	S		BS
Finish—Light Cutting	JL Breaker	SOET12T308PEER-JL	E	E	●	●	●	●	●	●	●	●	●	●	●	●	●	12.7	3.97	1.4	0.8	
	JM Breaker	SOMT12T308PEER-JM	M	E	●	●	●	●	●	●	●	●	●	●	●	●	●	12.7	3.97	1.4	0.8	
Light—Rough Cutting	JH Breaker	SOMT12T308PEER-JH	M	E	●	●	●	●	●	●	●	●	●	●	●	●	●	12.7	3.97	1.4	0.8	
	FT Breaker	SOMT12T320PEER-FT	M	E	●	●					●	●	●					12.7	3.97	0.5	2.0	
Medium—Heavy Cutting	JP Breaker	SOGT12T308PEFR-JP	G	F												●	12.7	3.97	1.4	0.8		
Heavy Interrupted Cutting																						
For Aluminium Alloy																						

WIPER INSERTS

Shape	Order Number	Class	Honing	Cermets	Carbide	Dimensions(mm)					Geometry
				NX2525	HT105T	L	W1	S	BS	RE	
	WOEW12T308PEER8C	E	E	●	●	12.5	13.2	3.97	8	0.8	
	WOEW12T308PETR8C	E	T	●		12.5	13.2	3.97	8	0.8	

MILLING

RECOMMENDED CUTTING CONDITIONS

Work Material	Hardness	Grade	Cutting Speed (SFM)	Finish—Light Cutting		Light—Rough Cutting		Medium—Heavy Cutting		
				Feed per Tooth (mm/t)	Breaker	Feed per Tooth (mm/t)	Breaker	Feed per Tooth (mm/t)	Breaker	
P Mild Steel	≤180HB	F7030	280 (210—350)	0.18 (0.08—0.28)	JL	0.20 (0.10—0.30)	JM	0.25 (0.10—0.35)	JH	
		MP6120 VP15TF	250 (200—300)	0.18 (0.08—0.28)	JL	0.20 (0.10—0.30)	JM	0.25 (0.10—0.35)	JH FT	
		MP6130	240 (190—290)	0.18 (0.08—0.28)	JL	0.20 (0.10—0.30)	JM	0.25 (0.10—0.35)	JH	
		VP30RT	230 (180—280)	0.18 (0.08—0.28)	JL	0.20 (0.10—0.30)	JM	0.25 (0.10—0.35)	JH	
		NX4545	180 (130—230)	0.15 (0.07—0.23)	JL	0.18 (0.10—0.28)	JM	—	—	
	Carbon Steel Alloy Steel	180—280HB	F7030	250 (200—300)	0.15 (0.07—0.23)	JL	0.18 (0.10—0.28)	JM	0.20 (0.10—0.30)	JH
			MP6120 VP15TF	220 (170—270)	0.15 (0.07—0.23)	JL	0.18 (0.10—0.28)	JM	0.20 (0.10—0.30)	JH FT
			MP6130	180 (150—230)	0.15 (0.07—0.23)	JL	0.18 (0.10—0.28)	JM	0.20 (0.10—0.30)	JH
			VP30RT	150 (120—180)	0.15 (0.07—0.23)	JL	0.18 (0.10—0.28)	JM	0.20 (0.10—0.30)	JH
			NX4545	150 (120—180)	0.13 (0.06—0.20)	JL	0.15 (0.10—0.25)	JM	—	—
Carbon Steel Alloy Steel	280—350HB	F7030	180 (130—230)	0.13 (0.06—0.20)	JL	0.15 (0.10—0.25)	JM	0.18 (0.10—0.28)	JH	
		MP6120 VP15TF	140 (100—180)	0.13 (0.06—0.20)	JL	0.15 (0.10—0.25)	JM	0.18 (0.10—0.28)	JH FT	
		MP6130	120 (90—150)	0.13 (0.06—0.20)	JL	0.15 (0.10—0.25)	JM	0.18 (0.10—0.28)	JH	
		VP30RT	100 (80—160)	0.13 (0.06—0.20)	JL	0.15 (0.10—0.25)	JM	0.18 (0.10—0.28)	JH	
		NX4545	100 (80—160)	0.10 (0.05—0.15)	JL	0.13 (0.10—0.20)	JM	—	—	
M Stainless Steel	≤270HB	MP7130 VP15TF	220 (170—270)	0.15 (0.07—0.23)	JL	0.18 (0.10—0.28)	JM	0.20 (0.10—0.30)	JH FT	
		MP7140 VP30RT	200 (150—250)	0.15 (0.07—0.23)	JL	0.18 (0.10—0.28)	JM	0.20 (0.10—0.30)	JH	
		NX4545	150 (120—180)	0.15 (0.07—0.23)	JL	0.18 (0.10—0.28)	JM	—	—	
K Cast Iron Ductile Cast Iron	Tensile Strength ≤450MPa	MC5020	200 (150—250)	—	—	0.20 (0.10—0.30)	JM	0.25 (0.10—0.35)	JH FT	
		VP15TF	180 (130—230)	0.18 (0.10—0.28)	JL	0.20 (0.10—0.30)	JM	0.25 (0.10—0.35)	JH FT	
N Aluminium Alloy	—	HTi10	650 (300—1000)	0.15 (0.10—0.20)	JP	0.20 (0.10—0.30)	JP	0.30 (0.20—0.40)	JP	
S Titanium Alloy	—	MP9120 VP15TF	50 (40—60)	0.12 (0.05—0.20)	JL	0.15 (0.05—0.20)	JM	0.18 (0.10—0.28)	JH FT	
		MP9130	45 (30—55)	0.10 (0.05—0.20)	JL	0.15 (0.05—0.20)	JM	0.18 (0.10—0.28)	JH FT	
	Heat Resistant Alloy (Inconel etc.)	—	MP9120 VP15TF	40 (20—50)	0.12 (0.05—0.20)	JL	0.15 (0.05—0.20)	JM	0.18 (0.10—0.28)	JH FT
			MP9130	35 (15—45)	0.10 (0.05—0.20)	JL	0.15 (0.05—0.20)	JM	0.18 (0.10—0.28)	JH FT
H Hardened Steel	40—55HRC	VP15TF	80 (60—100)	0.08 (0.04—0.13)	JL	0.10 (0.05—0.15)	JM	0.12 (0.07—0.17)	JH FT	

● Revolution (min⁻¹)=(1000 x Cutting Speed)÷(3.14 x DC) ● Table Feed (mm/min)=Feed per Tooth x Number of Teeth x Cutter Revolution

INSTRUCTIONS FOR USING INSERTS

Instructions for use of the JP breaker

- The JP breaker has sharp cutting edges. Wear gloves when handling.
- When machining aluminium alloy, welding to the cutting edge tends to occur, often leading to insert failure. To prevent this, wet cutting is recommended.

Instructions for use of wiper inserts

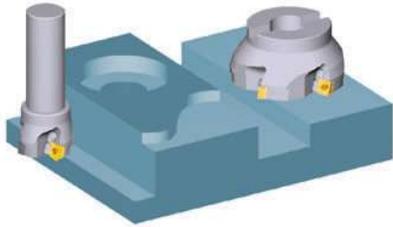


- Wiper inserts for the ASX400 are single-cornered.
- When installing the wiper insert, place the insert so that the small chamfer is located as shown.
- The peripheral cutting edge of the wiper insert is located back than general inserts. Beware of wear of the insert just behind the wiper insert.
- When using wiper set the following standard conditions. Depth of Cut (ap) ≤ 0.5mm, Feed per Tooth (fz) ≤ 0.2mm/t.

FEATURES

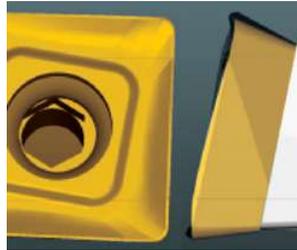
ECONOMICAL

ASX400 is economical as it employs inserts that have 4 cutting edges. Additionally with one tool, it is possible to carry out face milling, shoulder milling, and slotting operations.



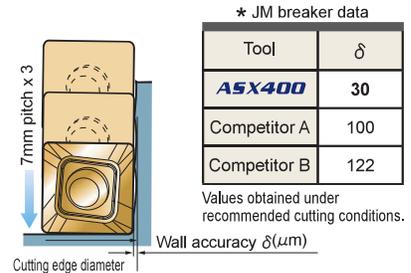
LOW RESISTANCE

Due to the 3D design of the cutting edge and a large rake angle, high cutting edge sharpness has been achieved with reduced cutting resistance.



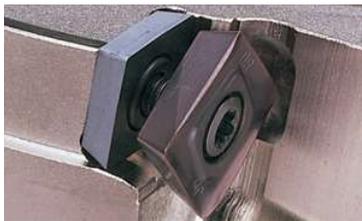
HIGH ACCURACY

Due to the curved edge and high accuracy body and insert, high accuracy surface finish on walls and high quality surface finish on faces can be achieved.



EASY TO USE

Employs a screw on type mechanism, therefore, the inserts can be easily set. Additionally when indexing the insert, it is not necessary to remove the screw completely.



HIGH RELIABILITY

Uses a carbide shim and Mitsubishi's proprietary Anti-Fly-Insert (A.F.I) to prevent the inserts from moving when machining. Additionally the clamp screw uses TORXPLUS®, for high clamping force ensuring high reliability.



HIGH HEAT-RESISTANT BODY

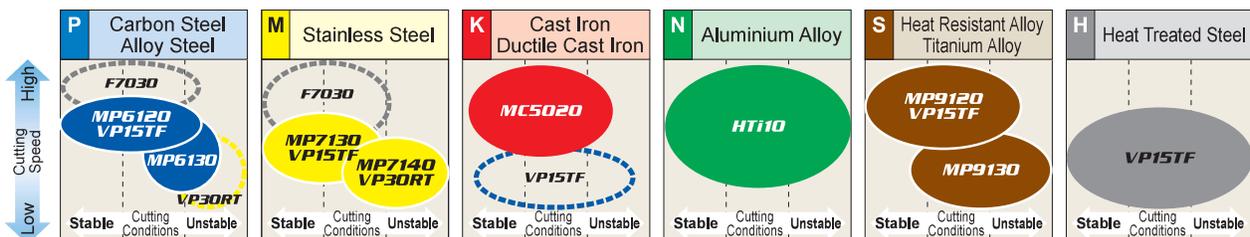
The cutter body is made from a special alloy that provides high strength at high temperatures. A special surface treatment improves the corrosion and friction resistance. The **ASX400** can be used for long hours even under harsh conditions.



CHIPBREAKERS FOR A WIDE RANGE OF APPLICATIONS

JL Finish to Light cutting Breaker	JM Light to Rough cutting Breaker	JH Medium to Heavy cutting Breaker	FT Heavy cutting/Heavy interrupted cutting Breaker	JP Aluminium alloy cutting Breaker
<ul style="list-style-type: none"> ● High accuracy insert with ground-finished periphery. ● Large rake angle leading to low cutting resistance. 	<ul style="list-style-type: none"> ● High accuracy M class insert. ● For a wide range of workpiece materials and cutting conditions. 	<ul style="list-style-type: none"> ● High accuracy M class insert. ● Strong cutting edge for high fracture resistance. 	<ul style="list-style-type: none"> ● High accuracy M-class insert. ● Nose radius of 2.0mm has improved fracture resistance. Strong main cutting edge allows heavy cutting and heavy interrupted cutting. Stable cutting performance. 	<ul style="list-style-type: none"> ● High accuracy insert with ground-finished periphery. ● Large rake angle and mirror-finished rake face lead to sharp cutting performance and high welding resistance.

INSERT GRADES FOR A WIDE RANGE OF MATERIALS



(Note) When machining steel or stainless steel and the emphasis is on surface finish, use cermet grade NX4545.
 Stable Cutting : Continuous cutting, Constant depth of cut, Pre-machined securely clamped component cutting
 Unstable Cutting : Heavy interrupted, Irregular depth of cut, Low clamping rigidity cutting

MILLING