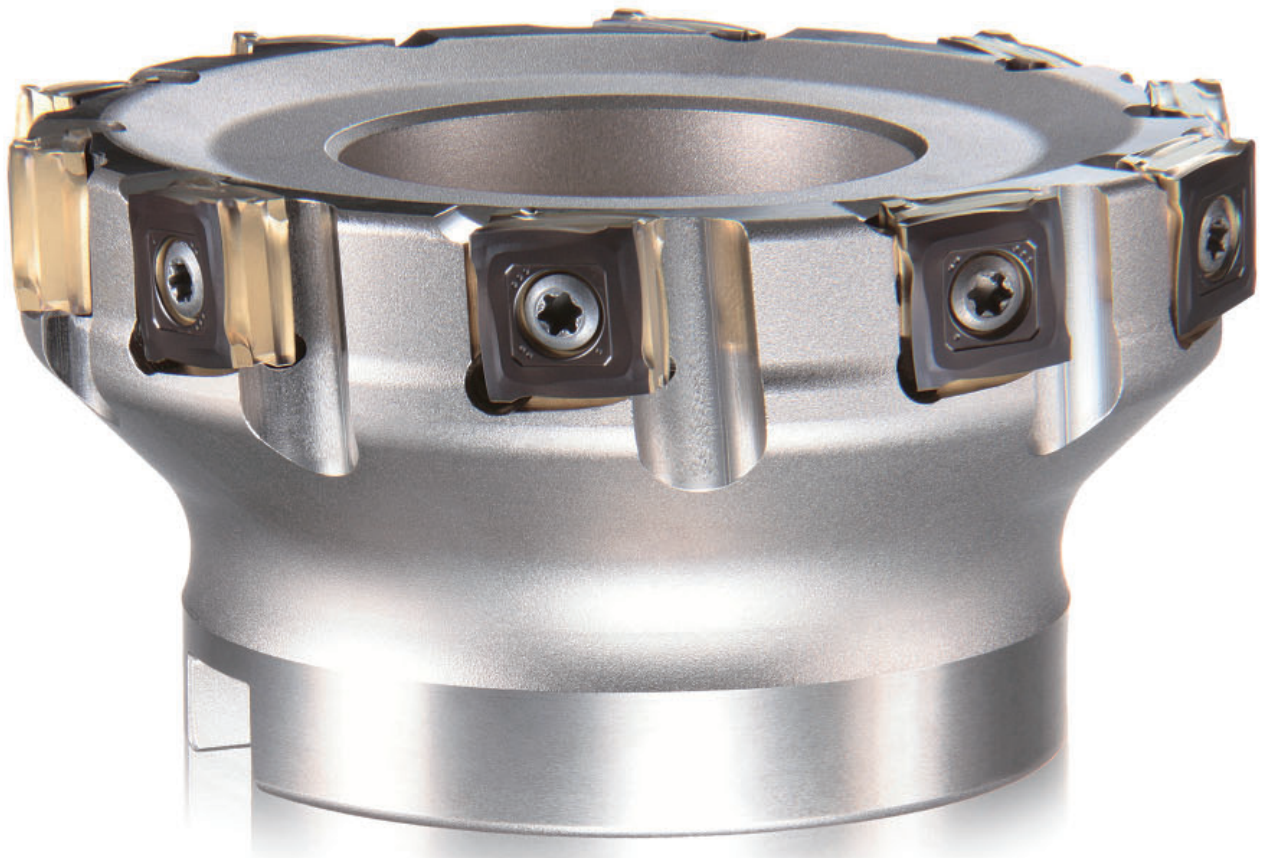


Strong Edge Insert Type Cutter for Cast Iron

VOX400

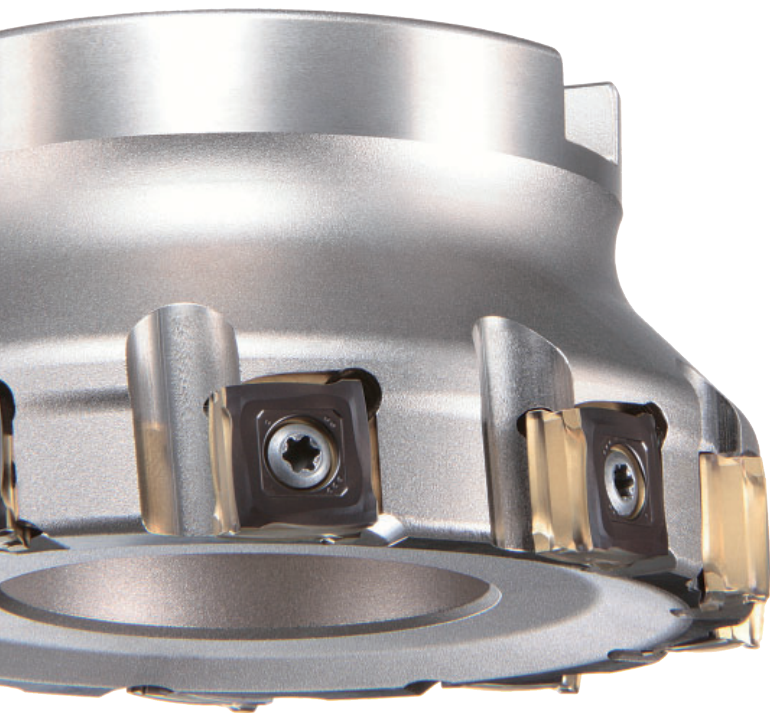
New style face mill for cast iron milling

VOX cutter with high strength cutting edge inserts for ultra high efficiency.



Vertical mounted inserts with ideal cutting edge is suitable for a wide range of cast iron rough milling applications

VOX400



High rigidity design

Arranging the inserts vertically absorbs the principal cutting force through the thickness of the insert and achieves extremely high rigidity.

Easy to clamp insert

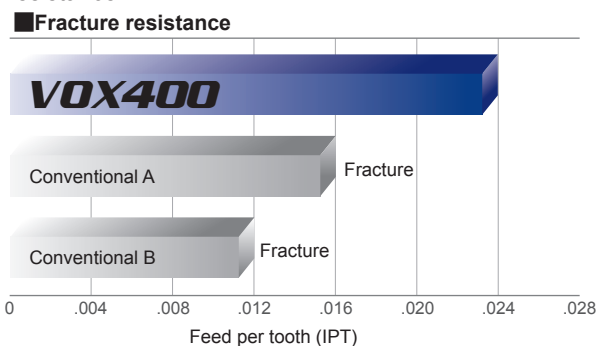
Inserts are screwed from the side of the holder, this simplifies clamping and unclamping.

Wide selection of bodies

VOX400 meets the needs of a wide range of cast iron roughing applications with a coarse pitch type and a high-productivity fine pitch type.

Efficient cutting performance

The original insert shape with convex cutting edge and shaped relief face offers excellent sharpness and extraordinary fracture resistance.



Long life insert grade

■ MC5020

The extremely smooth surface provided by the black super smooth coating technology in conjunction with the newly developed CVD coated carbide grade MC5020 helps prevent the problems with welding that are common when machining cast iron.

Highly economical

The VOX400 "on edge" insert provides eight right-hand high strength cutting edges, whereas the competition's "on edge" product typically provides only four right-hand cutting edges.



Strong Edge Insert Type Cutter for Cast Iron

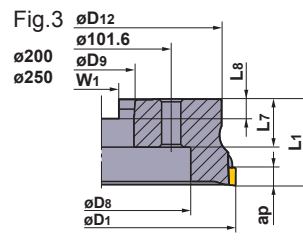
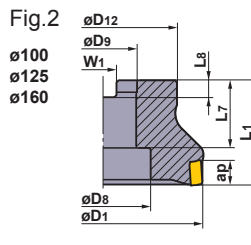
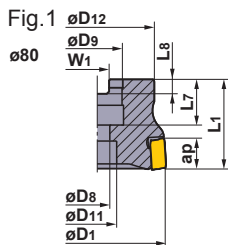
VOX400

ARBOR TYPE



METRIC Standard

For inch arbors



Right hand tool holder only.

Light Alloy	Cast Iron	Carbon Steel · Alloy Steel	Stainless Steel	Hardened Steel
	➔			

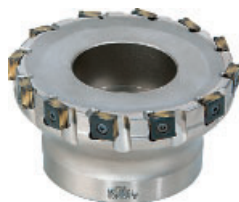
Type	Order Number	Stock R	Number of Teeth	Dimensions (mm) [inch]										Mass (kg)	Max. Depth of Cut ap (mm)	Fig.
				D1	L1	D9	L7	D8	D11	D12	W1	L8				
Coarse Pitch	VOX400R08004C	★	4	80	50	25.4 [1.0"]	26	13	20	55	9.5	6	1.0	10	1	
	R10006D	★	6	100	50	31.75 [1.25"]	32	45	—	70	12.7	8	1.5	10	2	
	R12508E	★	8	125	63	38.1 [1.5"]	40	60	—	80	15.9	10	2.7	10	2	
	R16010F	★	10	160	63	50.8 [2.0"]	43	80	—	120	19.1	11	5.3	10	2	
	R20012K	★	12	200	63	47.625 [1.875"]	35	130	—	175	25.4	14.22	8.5	10	3	
Fine Pitch	R25016K	★	16	250	63	47.625 [1.875"]	35	180	—	220	25.4	14.22	13.3	10	3	
	VOX400R08008C	★	8	80	50	25.4 [1.0"]	26	13	20	55	9.5	6	1.0	10	1	
	R10010D	★	10	100	50	31.75 [1.25"]	32	45	—	70	12.7	8	1.5	10	2	
	R12512E	★	12	125	63	38.1 [1.5"]	40	60	—	80	15.9	10	2.7	10	2	
	R16016F	★	16	160	63	50.8 [2.0"]	43	80	—	120	19.1	11	5.3	10	2	
R20020K	★	20	200	63	47.625 [1.875"]	35	130	—	175	25.4	14.22	8.5	10	3		
R25024K	★	24	250	63	47.625 [1.875"]	35	180	—	220	25.4	14.22	13.3	10	3		

SPARE PARTS

Tool Holder Number	*	*
	Clamp Screw	Wrench
VOX400	CS401160T	TKY15T

* Clamp Torque (lbf-in) : CS401160T=31

ARBOR TYPE



METRIC Standard

For metric arbors

Fig.1

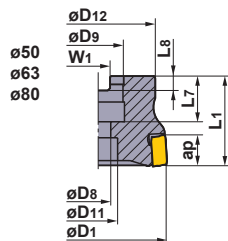


Fig.2

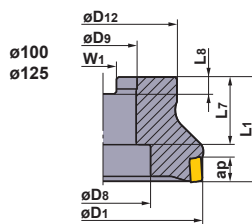
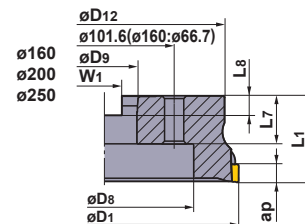


Fig.3





Right hand tool holder only.

Light Alloy	Cast Iron	Carbon Steel · Alloy Steel	Stainless Steel	Hardened Steel
	➔			

Type	Order Number	Stock	Number of Teeth	Dimensions (mm)								Mass (kg)	Max. Depth of Cut ap (mm)	Fig.	
				D1	L1	D9	L7	D8	D11	D12	W1				L8
Coarse Pitch	VOX400-050A03R	★	3	50	40	22	20	11	17	50	10.4	6.3	0.3	10	1
	-063A04R	★	4	63	40	22	20	11	17	50	10.4	6.3	0.6	10	1
	-080A04R	★	4	80	50	27	23	13	20	56	12.4	7	1	10	1
	-100B06R	★	6	100	50	32	32	45	—	78	14.4	8	1.7	10	2
	-125B08R	★	8	125	63	40	32	56	—	89	16.4	9	3	10	2
	-160C10R	★	10	160	63	40	29	56	—	120	16.4	9	5.4	10	3
	-200C12R	★	12	200	63	60	32	130	—	175	25.7	14.22	8.1	10	3
-250C16R	★	16	250	63	60	32	180	—	210	25.7	14.22	11.8	10	3	
Fine Pitch	VOX400-050A05R	★	5	50	40	22	20	11	17	50	10.4	6.3	0.3	10	1
	-063A06R	★	6	63	40	22	20	11	17	50	10.4	6.3	0.6	10	1
	-080A08R	★	8	80	50	27	23	13	20	56	12.4	7	1	10	1
	-100B10R	★	10	100	50	32	32	45	—	78	14.4	8	1.7	10	2
	-125B12R	★	12	125	63	40	32	56	—	89	16.4	9	3	10	2
	-160C16R	★	16	160	63	40	29	56	—	120	16.4	9	5.4	10	3
	-200C20R	★	20	200	63	60	32	130	—	175	25.7	14.22	8.1	10	3
-250C24R	★	24	250	63	60	32	180	—	210	25.7	14.22	11.8	10	3	

SPARE PARTS

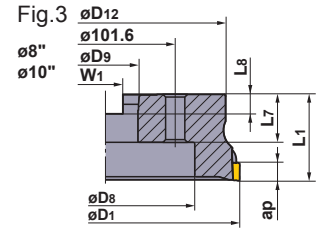
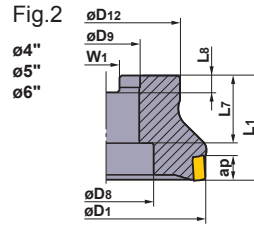
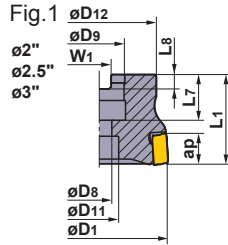
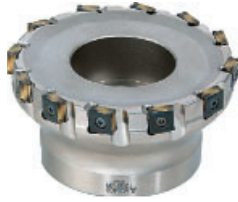
Tool Holder Number	★ 	
	Clamp Screw	Wrench
VOX400	CS401160T	TKY15T

* Clamp Torque (lbf-in) : CS401160T=31

Strong Edge Insert Type Cutter for Cast Iron

VOX400

ARBOR TYPE





Right hand tool holder only.

Light Alloy	Cast Iron	Carbon Steel · Alloy Steel	Stainless Steel	Hardened Steel
	➔			


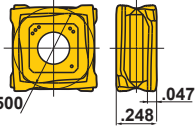
Type	Order Number	Stock	Number of Teeth	Dimensions (inch)								Mass (lbs)	Max. Depth of Cut ap (inch)	Fig.	
				D1	L1	D9	L7	D8	D11	D12	W1				L8
Coarse Pitch	VOX400UR0203C	●	3	2.000	2.000	1.000	1.339	.539	.787	2.190	.375	.219	.8	.394	1
	2504C	●	4	2.500	2.000	1.000	1.339	.539	.787	2.190	.375	.219	1.7	.394	1
	0304C	●	4	3.000	2.000	1.000	1.339	.539	.787	2.190	.375	.219	2.2	.394	1
	0406E	●	6	4.000	2.000	1.500	1.024	—	2.205	3.810	.625	.375	4.3	.394	2
	0508E	●	8	5.000	2.000	1.500	1.024	—	2.205	3.810	.625	.375	6.0	.394	2
	0610F	●	10	6.000	2.500	2.000	1.024	—	3.228	4.880	.750	.437	10.2	.394	2
	0812M	●	12	8.000	2.500	2.500	1.378	—	5.512	6.890	1.000	.560	17.6	.394	3
Fine Pitch	1016M	●	16	10.000	2.500	2.500	1.378	—	7.078	8.660	1.000	.560	29.4	.394	3
	VOX400UR0205C	●	5	2.000	2.000	1.000	1.339	.539	.787	2.190	.375	.219	.8	.394	1
	2506C	●	6	2.500	2.000	1.000	1.339	.539	.787	2.190	.375	.219	1.7	.394	1
	0308C	●	8	3.000	2.000	1.000	1.339	.539	.787	2.190	.375	.219	2.2	.394	1
	0410E	●	10	4.000	2.000	1.500	1.024	—	2.205	3.810	.625	.375	4.3	.394	2
	0512E	●	12	5.000	2.000	1.500	1.024	—	2.205	3.810	.625	.375	6.0	.394	2
	0616F	●	16	6.000	2.500	2.000	1.024	—	3.228	4.880	.750	.437	10.2	.394	2
0820M	●	20	8.000	2.500	2.500	1.378	—	5.512	6.890	1.000	.560	17.6	.394	3	
1024M	●	24	10.000	2.500	2.500	1.378	—	7.078	8.660	1.000	.560	29.4	.394	3	

SPARE PARTS

Tool Holder Number	*	
		
	Clamp Screw	Wrench
VOX400	CS401160T	TKY15T

* Clamp Torque (lbf-in) : CS401160T=31

INSERTS

Shape	Order Number	Class	Honing	Coated	Geometry (inch)
				MC5020	
	SONX1206PER	N	E	●	

● : Inventory maintained. (10 inserts in a case)

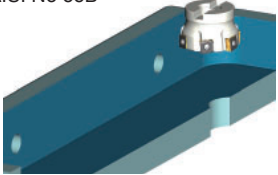
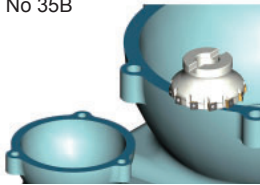
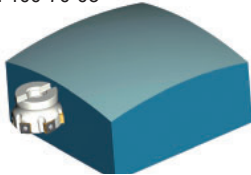
Strong Edge Insert Type Cutter for Cast Iron

VOX400

RECOMMENDED CUTTING CONDITIONS

Work Material	Tensile Strength	Insert Grade	Cutting Speed (SFM)	Feed per Tooth (IPT)
K Gray Cast Iron	≤200MPa	MC5020	985(820—1150)	.016(.012—.020)
	250—350MPa	MC5020	720(490—985)	.012(.008—.016)
Ductile Cast Iron	≤450MPa	MC5020	655(490—820)	.012(.008—.016)
	500—800MPa	MC5020	560(490—655)	.008(.004—.012)

APPLICATION EXAMPLES

Tool	VOX400UR2506C	VOX400UR0512E	VOX400UR2506C	
Workpiece	AISI No 55B 	AISI No 35B 	AISI 100-70-03 	
Component	Press mold base	Gear case	Press mold part	
Cutting Conditions	Cutting Speed (SFM)	750	395	655
	Table Feed (IPM)	80.6	28.9	31.5
	Feed per Tooth (IPT)	.012	.008	.006
	Radial Depth of cut ap (inch)	.197	1.575	.669
	Axial Depth of cut ae (inch)	.394	.118	.118
Coolant	Dry cutting	Dry cutting	Dry cutting	
Results	Conventional products required the axial depth of cut to be set at .197" for stable milling. But the VOX400 allowed stable milling with twice the depth of cut and produced a good wall surface accuracy.	Due to the unstable workpiece, conventional products were usually damaged and became unusable. VOX400 is more stable and gave 3 times tool life.	Due to high cutting resistance of some products, the width of cut was limited to .335". The VOX400 low cutting resistance design allowed for stable cutting at twice the width of cut.	

●With reference to the above examples, adjust the cutting conditions according to the machine specifications, workpiece geometry and clamping method used.

For your safety

●Don't touch breakers and chips without gloves. ●Please machine within recommended application range, and exchange expired tools with new parts in advance. ●Please use safety cover and wear safety glasses. ●When using compounded cutting oils, please take fire prevention. ●When attaching chips or spare parts, please use the attached wrench or spanner. ●When using tools in revolution machining, please make a trial run to check run-out, vibration, abnormal sounds etc.

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MITSUBISHI MATERIALS U.S.A. CORPORATION

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