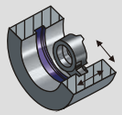


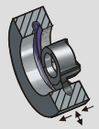
模块式小孔刀
Modular small hole cutter

- 齿链接设计,强大的加持力,
  非常适合小孔产品加工
- 精密级研磨刀片实现最佳卷屑效果
- 同刀杆可以实现多种加工方式的互换
- 最小切槽直径 ϕ7.0mm
- 非偏心设计刀杆
  既可以实现车削加工,亦可以做铣削加工
- 刀体颈部为完整圆设计,强度极大提升
  同一把刀体,可以使用左型和右型刀片

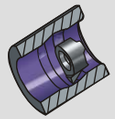
切 槽(GR)



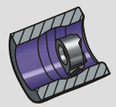
切槽、仿形
镗孔(GR)



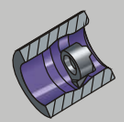
镗 孔(PR)



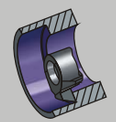
镗孔、仿形(PR)



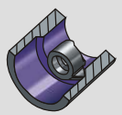
镗孔、仿形(QR)



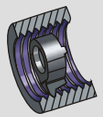
背 镗(XR)



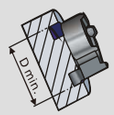
倒 角(CR)



螺 纹(IR)



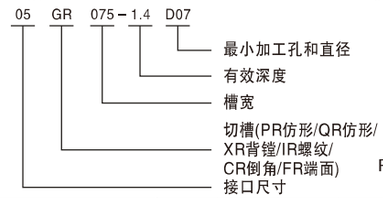
内端面槽(FNRB)



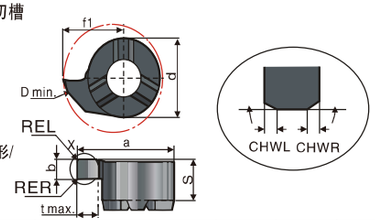
台阶端面槽(FERB)



规格表示方法



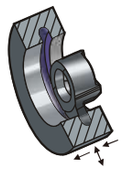
切槽



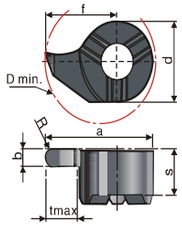
订货型号	b	ar (Tmax)	a	f1	REL/ RER	CHWL	CHWR	Dmin (mm)	OP630M	OD10
MB-05GR075-1.4D07	0.75	1.4	6.8	4.3	-	0.04	0.04	7	●	○
MB-05GR100-1.4D07	1.0	1.4	6.8	4.3	-	0.04	0.04	7	●	○
MB-05GR150-1.4D07	1.5	1.4	6.8	4.3	-	0.04	0.04	7	●	○
MB-05GR200-1.4D07	2.0	1.4	6.8	4.3	-	0.04	0.04	7	●	○
MB-05GR100-2.3D08	1.0	2.3	7.7	5.2	-	0.04	0.04	8	●	○
MB-05GR150-2.3D08	1.5	2.3	7.7	5.2	-	0.04	0.04	8	●	○
MB-05GR200-2.3D08	2.0	2.3	7.7	5.2	-	0.04	0.04	8	●	○
MB-05GR100-2.8D09	1.0	2.8	8.3	5.8	-	0.04	0.04	8.8	●	○
MB-05GR150-2.8D09	1.5	2.8	8.3	5.8	-	0.04	0.04	8.8	●	○
MB-05GR200-2.8D09	2.0	2.8	8.3	5.8	-	0.04	0.04	8.8	●	○
MB-07GR075-2.0D10	0.75	2.0	9.5	6.0	-	0.04	0.04	10	●	○
MB-07GR100-2.0D10	1.0	2.0	9.5	6.0	-	0.04	0.04	10	●	○
MB-07GR150-2.0D10	1.5	2.0	9.5	6.0	-	0.04	0.04	10	●	○
MB-07GR200-2.0D10	2.0	2.0	9.5	6.0	-	0.04	0.04	10	●	○
MB-07GR300-2.0D10	3.0	2.0	9.5	6.0	-	0.04	0.04	10	●	○
MB-07GR100-3.0D11	1.0	3.0	10.5	7.0	-	0.04	0.04	11	●	○
MB-07GR150-3.0D11	1.5	3.0	10.5	7.0	-	0.04	0.04	11	●	○
MB-07GR200-3.0D11	2.0	3.0	10.5	7.0	-	0.04	0.04	11	●	○
MB-07GR300-3.0D11	3.0	3.0	10.5	7.0	-	0.04	0.04	11	●	○
MB-07GR100-3.5D12	1.0	3.5	11.0	7.5	-	0.04	0.04	12	●	○
MB-07GR150-3.5D12	1.5	3.5	11.0	7.5	-	0.04	0.04	12	●	○
MB-07GR200-3.5D12	2.0	3.5	11.0	7.5	-	0.04	0.04	12	●	○
MB-07GR300-3.5D12	3.0	3.5	11.0	7.5	-	0.04	0.04	12	●	○
MB-09GR150-4.0D14	1.5	4.0	13.5	9.0	-	0.04	0.04	14	●	○
MB-09GR200-4.0D14	2.0	4.0	13.5	9.0	-	0.04	0.04	14	●	○
MB-09GR250-4.0D14	2.5	4.0	13.5	9.0	-	0.04	0.04	14	●	○
MB-09GR300-4.0D14	3.0	4.0	13.5	9.0	-	0.04	0.04	14	●	○
MB-09GR150-5.5D16	1.5	5.5	15.0	10.5	-	0.04	0.04	16	●	○
MB-09GR200-5.5D16	2.0	5.5	15.0	10.5	-	0.04	0.04	16	●	○
MB-09GR250-5.5D16	2.5	5.5	15.0	10.5	-	0.04	0.04	16	●	○
MB-09GR300-5.5D16	3.0	5.5	15.0	10.5	-	0.04	0.04	16	●	○
MB-09GR150-6.5D17	1.5	6.5	16.0	11.5	-	0.04	0.04	17	●	○
MB-09GR200-6.5D17	2.0	6.5	16.0	11.5	-	0.04	0.04	17	●	○
MB-09GR250-6.5D17	2.5	6.5	16.0	11.5	-	0.04	0.04	17	●	○
MB-09GR300-6.5D17	3.0	6.5	16.0	11.5	-	0.04	0.04	17	●	○
MB-11GR150-4.3D16	1.5	4.3	15.7	10.2	0.2	-	-	16	●	○
MB-11GR200-4.3D16	2.0	4.3	15.7	10.2	0.2	-	-	16	●	○
MB-11GR250-4.3D16	2.5	4.3	15.7	10.2	0.2	-	-	16	●	○
MB-11GR300-4.3D16	3.0	4.3	15.7	10.2	0.2	-	-	16	●	○
MB-11GR400-4.3D16	4.0	4.3	15.7	10.2	0.2	-	-	16	●	○
MB-11GR150-6.0D18	1.5	6.0	17.5	12	0.2	-	-	18	●	○
MB-11GR200-6.0D18	2.0	6.0	17.5	12	0.2	-	-	18	●	○
MB-11GR250-6.0D18	2.5	6.0	17.5	12	0.2	-	-	18	●	○
MB-11GR300-6.0D18	3.0	6.0	17.5	12	0.2	-	-	18	●	○
MB-11GR400-6.0D18	4.0	6.0	17.5	12	0.2	-	-	18	●	○
MB-11GR150-8.0D20	1.5	8.0	19.5	14	0.2	-	-	20	●	○
MB-11GR200-8.0D20	2.0	8.0	19.5	14	0.2	-	-	20	●	○
MB-11GR250-8.0D20	2.5	8.0	19.5	14	0.2	-	-	20	●	○
MB-11GR300-8.0D20	3.0	8.0	19.5	14	0.2	-	-	20	●	○
MB-11GR400-8.0D20	4.0	8.0	19.5	14	0.2	-	-	20	●	○
MB-09GL100-4.0D14	1.0	4.0	13.5	9	-	0.04	0.04	14	○	○
MB-09GL150-4.0D14	1.5	4.0	13.5	9	-	0.04	0.04	14	●	○
MB-09GL200-4.0D14	2.0	4.0	13.5	9	-	0.04	0.04	14	●	○
MB-09GL250-4.0D14	2.5	4.0	13.5	9	-	0.04	0.04	14	○	○
MB-09GL300-4.0D14	3.0	4.0	13.5	9	-	0.04	0.04	14	●	○
MB-09GL100-5.5D16	1.0	5.5	15	10.5	-	0.04	0.04	16	○	○
MB-09GL150-5.5D16	1.5	5.5	15	10.5	-	0.04	0.04	16	○	○
MB-09GL200-5.5D16	2.0	5.5	15	10.5	-	0.04	0.04	16	●	○
MB-09GL250-5.5D16	2.5	5.5	15	10.5	-	0.04	0.04	16	○	○
MB-09GL300-5.5D16	3.0	5.5	15	10.5	-	0.04	0.04	16	●	○
MB-09GL100-6.5D17	1.0	6.5	16	11.5	-	0.04	0.04	17	○	○
MB-09GL150-6.5D17	1.5	6.5	16	11.5	-	0.04	0.04	17	○	○
MB-09GL200-6.5D17	2.0	6.5	16	11.5	-	0.04	0.04	17	●	○
MB-09GL250-6.5D17	2.5	6.5	16	11.5	-	0.04	0.04	17	○	○
MB-09GL300-6.5D17	3.0	6.5	16	11.5	-	0.04	0.04	17	●	○

1.MB-05GR型刀片，不在标准库存的型号，更深更小的极限尺寸可以联系供应商是否可以修磨刀体或者改制产品。
2.MB-09GR型刀片，通过修磨刀片和刀杆，进孔16mm孔可以切深达6.0mm，使用刀片时尽量选用加强型或硬质合金抗震刀杆。
3.对刀尖R值有特殊要求可与供应商取得联系。

● 标准库存 ● 不常备库存

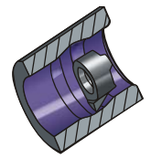


仿形、切槽

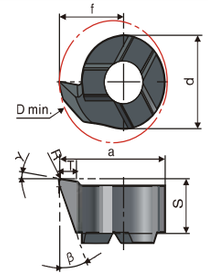


订货型号	b	tmax	a	f	R	Dmin (mm)	OP630M	OD10
MB-05GR100-R0.50D07	1.0	1.4	6.8	4.3	0.50	7.0	●	○
MB-05GR150-R0.75D07	1.5	1.4	6.8	4.3	0.75	7.0	●	○
MB-05GR200-R1.00D07	2.0	1.4	6.8	4.3	1.00	7.0	●	○
MB-05GR100-R0.50D08	1.0	2.3	7.7	5.3	0.50	8.0	●	○
MB-05GR150-R0.75D08	1.5	2.3	7.7	5.3	0.75	8.0	●	○
MB-05GR200-R1.00D08	2.0	2.3	7.7	5.3	1.00	8.0	●	○
MB-05GR100-R0.50D09	1.0	2.8	8.3	5.8	0.50	9.0	●	○
MB-05GR150-R0.75D09	1.5	2.8	8.3	5.8	0.75	9.0	●	○
MB-05GR200-R1.00D09	2.0	2.8	8.3	5.8	1.00	9.0	●	○
MB-07GR100-R0.50D10	1.0	2.0	9.5	6.0	0.50	10	●	○
MB-07GR150-R0.75D10	1.5	2.0	9.5	6.0	0.75	10	●	○
MB-07GR200-R1.00D10	2.0	2.0	9.5	6.0	1.00	10	●	○
MB-07GR300-R1.50D10	3.0	2.0	9.5	6.0	1.50	10	●	○
MB-07GR100-R0.50D11	1.0	3.0	10.5	7.0	0.50	11	●	○
MB-07GR150-R0.75D11	1.5	3.0	10.5	7.0	0.75	11	●	○
MB-07GR200-R1.00D11	2.0	3.0	10.5	7.0	1.00	11	●	○
MB-07GR300-R1.50D11	3.0	3.0	10.5	7.0	1.50	11	●	○
MB-07GR100-R0.50D12	1.0	3.5	11.0	7.5	0.50	12	●	○
MB-07GR150-R0.75D12	1.5	3.5	11.0	7.5	0.75	12	●	○
MB-07GR200-R1.00D12	2.0	3.5	11.0	7.5	1.00	12	●	○
MB-07GR300-R1.50D12	3.0	3.5	11.0	7.5	1.50	12	●	○
MB-09GR100-R0.50D14	1.0	4.0	13.5	9.0	0.50	14	●	○
MB-09GR150-R0.75D14	1.5	4.0	13.5	9.0	0.75	14	●	○
MB-09GR200-R1.00D14	2.0	4.0	13.5	9.0	1.00	14	●	○
MB-09GR300-R1.50D14	3.0	4.0	13.5	9.0	1.50	14	●	○
MB-09GR150-R0.75D16	1.5	5.5	15.0	10.5	0.75	16	●	○
MB-09GR200-R1.00D16	2.0	5.5	15.0	10.5	1.00	16	●	○
MB-09GR300-R1.50D16	3.0	5.5	15.0	10.5	1.50	16	●	○
MB-09GR150-R0.75D17	1.5	6.5	16.0	11.5	0.75	17	●	○
MB-09GR200-R1.00D17	2.0	6.5	16.0	11.5	1.00	17	●	○
MB-09GR300-R1.50D17	3.0	6.5	16.0	11.5	1.50	17	●	○
MB-11GR150-R0.75D16	1.5	4.3	15.7	10.2	0.75	16	●	○
MB-11GR200-R1.00D16	2.0	4.3	15.7	10.2	1.00	16	●	○
MB-11GR250-R1.25D16	2.5	4.3	15.7	10.2	1.25	16	●	○
MB-11GR300-R1.50D16	3.0	4.3	15.7	10.2	1.50	16	●	○
MB-11GR400-R2.00D16	4.0	4.3	15.7	10.2	2.00	16	●	○
MB-11GR150-R0.75D18	1.5	6.0	17.5	12	0.75	18	●	○
MB-11GR200-R1.00D18	2.0	6.0	17.5	12	1.00	18	●	○
MB-11GR250-R1.25D18	2.5	6.0	17.5	12	1.25	18	●	○
MB-11GR300-R1.50D18	3.0	6.0	17.5	12	1.50	18	●	○
MB-11GR400-R2.00D18	4.0	6.0	17.5	12	2.00	18	●	○
MB-11GR150-R0.75D20	1.5	8.0	19.5	14	0.75	20	●	○
MB-11GR200-R1.00D20	2.0	8.0	19.5	14	1.00	20	●	○
MB-11GR250-R1.25D20	2.5	8.0	19.5	14	1.25	20	●	○
MB-11GR300-R1.50D20	3.0	8.0	19.5	14	1.50	20	●	○
MB-11GR400-R2.00D20	4.0	8.0	19.5	14	2.00	20	●	○

订货示例: MB-05GR100-R0.50D07 OP630M 接受非标订制　　● 标准库存　○ 不常备库存

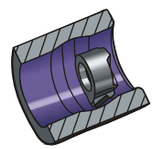


镗孔

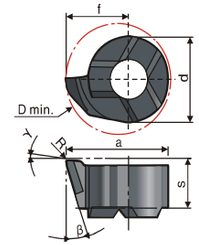


订货型号	d	S	T	γ	β	R	f	a	Dmin (mm)	OP630M
MB-05PR-R0.2-D07	5	3.5	1	8	18	0.2	3.6	6.1	6.5	●
MB-07PR-R0.2-D10	7	3.9	2	8	18	0.2	6.0	9.5	10.0	●
MB-09PR-R0.2-D14	9	5.3	4	8	18	0.2	8.7	13.2	13.8	●

订货示例: MB-05PR-R0. 2-D07 OP630M 接受非标订制　　● 标准库存　○ 不常备库存

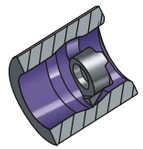


镗孔、仿形

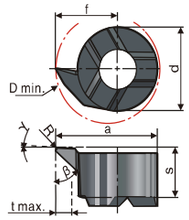


订货型号	d	S	γ	β	R	f	a	Dmin (mm)	CBN10
MB-05PR-R0.2-D07-CBN	5	3.5	8	18	0.2	3.8	6.3	6.8	○
MB-07PR-R0.2-D10-CBN	7	3.9	8	18	0.2	5.6	9.1	9.6	○
MB-09PR-R0.2-D14-CBN	9	5.3	8	18	0.2	8.7	13.3	13.8	○

订货示例: MB-05PR-R0.2-D07-CBN CBN10 接受非标订制　　● 标准库存　○ 不常备库存



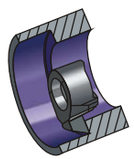
仿形、镗孔



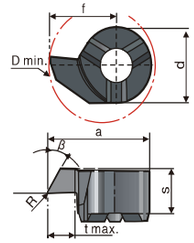
订货型号	d	S	tmax	γ	β	R	f	a	Dmin (mm)	OP630M
MB-05QR-R0.2-1.4D07	5	3.5	1.5	3	47	0.2	4.3	6.8	7	●
MB-05QR-R0.2-2.0D09	5	3.5	2.5	3	47	0.2	5.5	8.0	9	●
MB-07QR-R0.2-2.0D10	7	3.9	2.0	3	47	0.2	6.0	9.5	10	●
MB-07QR-R0.2-3.5D12	7	3.9	3.5	3	47	0.2	7.5	11.0	12	●
MB-09QR-R0.2-4.0D14	9	5.6	4.0	3	47	0.2	9.0	13.5	14	●
MB-09QR-R0.2-5.5D16	9	5.6	5.5	3	47	0.2	10.5	15.0	16	●
MB-09QR-R0.2-6.5D17	9	5.6	6.5	3	47	0.2	11.5	16.0	17	●

订货示例: MB-05QR-R0.2-1.4D07 OP630M 接受非标订制

● 标准库存　○ 不常备库存



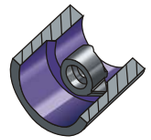
背车



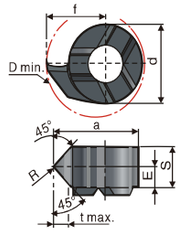
订货型号	d	S	T	β	R	a	f	Dmin (mm)	OP630M
MB-05XR-R0.2-1.4D07	5	3.5	1.5	47	0.2	6.8	4.3	7	●
MB-05XR-R0.2-2.0D08	5	3.5	2.0	47	0.2	7.5	5.0	8	●
MB-05XR-R0.2-2.5D09	5	3.5	2.5	47	0.2	8.3	5.8	9	●
MB-07XR-R0.2-2.0D10	7	3.9	2.0	47	0.2	9.5	6.0	10	●
MB-07XR-R0.2-3.5D12	7	3.9	3.5	47	0.2	11.0	7.5	12	○
MB-09XR-R0.2-4.0D14	9	5.6	4.0	47	0.2	13.5	9.0	14	●
MB-09XR-R0.2-5.5D16	9	5.6	5.5	47	0.2	15.0	10.5	16	●
MB-09XR-R0.2-6.5D17	9	5.6	6.5	47	0.2	16.0	11.5	17	●

订货示例: MB-05XR-R0.2-1.4D07 OP630M 接受非标订制

● 标准库存　○ 不常备库存



倒角

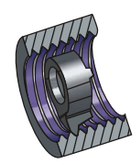


订货型号	d	S	tmax	β	R	a	f	Dmin (mm)	OP630M
MB-05CR-R0.2-D07	5	3.6	0.8	45	0.2	6.2	3.7	6.7	○
MB-07CR-R0.2-D10	7	3.9	2.0	45	0.2	9.5	6.0	10	○

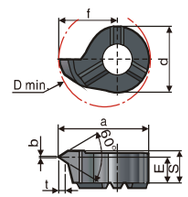
非加强型刀杆的情况，可以做旋转倒角刀使用，请根据f值计算其最小进孔尺寸的变化，最小进孔直径= (f+0.2)*2

订货示例: MB-05CR-R0.2-D07 OP630M 接受非标订制

● 标准库存　○ 不常备库存



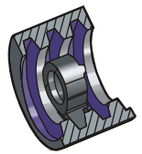
螺纹加工



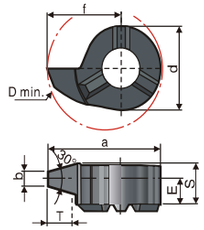
订货型号	d	螺距		E	B	S	t	螺旋升角	a	Dmin (mm)	OP630M
MB-05IR1.0-1.75-D07	5	24-14	1.0-1.75	2.8	0.12	3.6	0.95	2.5	6.8	7	●
MB-07IR1.0-2.00-D09	7	24-14	1.0-2.0	2.8	0.12	3.8	1.08	1.5	9.5	10	●
MB-09IR1.5-3.00-D12	9	16-8	1.5-3.0	3.55	0.18	5.7	1.35	1.5	12.5	13	●

订货示例: MB-05IR1.0-1.75-D07 OP630M 接受非标订制

● 标准库存　○ 不常备库存

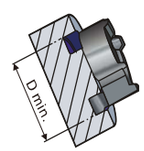


螺纹

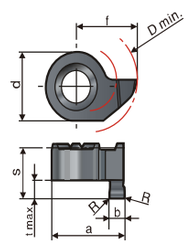


订货型号	d	螺距	E	T	S	B	螺旋升角	a	f	Dmin (mm)	OP630M
MB-05IR15TR-D07	5	TR10X1.5	2.9	0.90	3.6	0.47	3.0	6.8	4.3	7	○
MB-05IR20TR-D08	5	TR10X2 TR11X2 TR12X2	2.7	1.25	3.6	0.6	3.5	7.2	4.7	8	●
MB-05IR30TR-D08	5	TR11X3 TR12X3	2.4	1.75	3.6	0.96	5.0	7.5	5.0	8	●
MB-07IR30TR-D10	7	TR14X3 TR22X3 TR26X3	2.7	1.75	3.9	0.96	5.0	9.7	6.2	10	○
MB-07IR40TR-D11	7	TR16X4 TR18X4 TR20X4	2.2	2.25	3.9	1.33	4.5	10.2	6.7	11	●
MB-09IR40TR-D14	9	TR18X4 TR20X4	2.2	2.25	5.3	1.33	4.5	12.5	8.0	14	○
MB-09IR50TR-D14	9	TR22X5 TR24X5 TR26X5 TR28X5	3.55	2.75	5.3	1.69	4.5	13.5	9.0	14	●
MB-11IR40TR-D15	11	TR18X4 TR20X4	4.0	2.25	5.5	1.33	4.5	14.5	9.0	15	●
MB-11IR50TR-D16	11	TR22X5 TR24X5 TR26X5 TR28X5	3.6	2.75	5.5	1.69	4.5	15.5	10.0	16	●
MB-11IR60TR-D16	11	TR30X6 TR36X6	3.3	3.50	5.5	1.92	4.5	15.7	10.2	16	●

订货示例: MB-05IR15TR-D07 OP630M 接受非标订制　　● 标准库存　○ 不常备库存

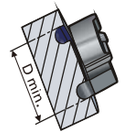


端面槽

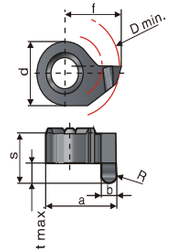


订货型号	d	T	S	B	R	a	f	Dmin (mm)	OP630M
MB-09FNRB1.0-3.0D14	9	3.0	8.3	1.0	–	13.5	9	14	●
MB-09FNRB1.5-3.0D14	9	3.0	8.3	1.5	0.1	13.5	9	14	●
MB-09FNRB2.0-3.0D14	9	3.0	8.3	2.0	0.2	13.5	9	14	●
MB-09FNRB3.0-3.0D14	9	3.0	8.3	3.0	0.2	13.5	9	14	●
MB-09FNRB2.0-5.0D14	9	5.0	10.3	2.0	0.2	13.5	9	14	●
MB-09FNRB3.0-5.0D14	9	5.0	10.3	3.0	0.2	13.5	9	14	●
MB-09FNRB3.0-6.0D14	9	6.0	11.3	3.0	0.2	13.5	9	14	●

订货示例: MB-09FNRB1.0-3.0D14 OP630M 接受非标订制　　● 标准库存　○ 不常备库存

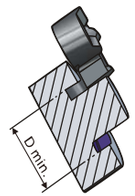


端面、圆弧槽

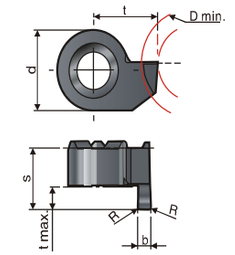


订货型号	d	T	S	B	R	a	f	Dmin (mm)	OP630M
MB-09ZNR-R0.50-3.0D14	9	3.0	8.3	1.0	0.5	13.5	9	14	○
MB-09ZNR-R0.75-3.0D14	9	3.0	8.3	1.5	0.75	13.5	9	14	○
MB-09ZNR-R1.00-3.0D14	9	3.0	8.3	2.0	1.0	13.5	9	14	○
MB-09ZNR-R1.50-3.0D14	9	3.0	8.3	3.0	1.5	13.5	9	14	○
MB-09ZNR-R1.00-5.0D14	9	5.0	10.3	2.0	1.0	13.5	9	14	○
MB-09ZNR-R1.50-5.0D14	9	5.0	10.3	3.0	1.5	13.5	9	14	○
MB-09ZNR-R1.50-6.0D14	9	6.0	11.3	3.0	1.5	13.5	9	14	○

订货示例: MB-09ZNR-R1.00-3.0D14 OP630M 接受非标订制　　● 标准库存　○ 不常备库存

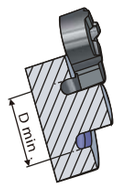


端面槽

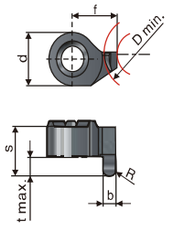


订货型号	d	T	S	B	R	f	Dmin (mm)	OP630M
MB-09FERB1.0-3.0D12	9	1.5	8.3	1.0	–	7	12	●
MB-09FERB1.5-3.0D12	9	2.5	8.3	1.5	0.2	7.5	12	●
MB-09FERB2.0-3.0D12	9	3.0	8.3	2.0	0.2	8	12	●
MB-09FERB3.0-3.0D12	9	3.0	8.3	3.0	0.2	9	12	●
MB-09FERB2.0-5.0D12	9	5.0	10.3	2.0	0.2	8	12	●
MB-09FERB3.0-5.0D12	9	5.0	10.3	3.0	0.2	9	12	●
MB-09FERB3.0-6.0D12	9	6.0	11.3	3.0	0.2	9	12	●

订货示例: MB-09FERB2.0-3.0D12 OP630M 接受非标订制　　● 标准库存　○ 不常备库存



端面、圆弧槽



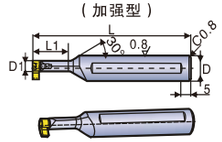
订货型号	d	T	S	B	R	f	Dmin (mm)	OP630M
MB-09ZER-R1.00-3.0D12	9	3.0	8.3	2.0	1.0	8	12	○
MB-09ZER-R1.50-3.0D12	9	3.0	8.3	3.0	1.5	9	12	○
MB-09ZER-R1.00-5.0D12	9	5.0	10.3	2.0	1.0	8	12	○
MB-09ZER-R1.50-5.0D12	9	5.0	10.3	3.0	1.5	9	12	○
MB-09ZER-R1.50-6.0D12	9	6.0	11.3	3.0	1.5	9	12	○

订货示例: MB-09ZER-R1.00-3.0D12 OP630M 接受非标订制　　● 标准库存　○ 不常备库存

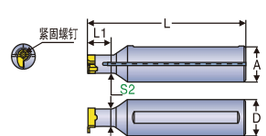
MG刀杆



（加强型）



图示 Fig.1



图示 Fig.2

订货型号	D	S1	S2	L1	L	A	适用刀片	紧固螺钉	扳手	无冷却孔
MG-H16-20-07R	16	7	7	20	120	15	MB-07	CSTB3.0	T10	Fig.2
MG-H16-30-09R	16	9	9	30	120	15	MB-09	CSTB4.0	T15	Fig.2
MG-H20-40-11R	20	11	11	40	130	19	MB-11	CSTB5.0	T20	Fig.2
MG-H12-18-05ST	12	5	6.7	18	80	11	MB-05	CSTB2.2	T6	Fig.1
MG-H16-20-07ST	16	7	8.5	20	120	15	MB-07	CSTB3.0	T10	Fig.1
MG-H16-30-09ST	16	9	11	30	120	15	MB-09	CSTB4.0	T15	Fig.1
MG-H20-40-11ST	20	11	13.5	40	130	19	MB-11	CSTB5.0	T20	Fig.1

订货型号	D	d1	L2	L1	A	适用刀片	紧固螺钉	扳手	内冷	库存
MG-E12-20-05	12	5	20	80	11	MB-05	CSTB2.2	T6	Fig.2	●
MG-E12-28-05	12	5	28	90	11	MB-05	CSTB2.2	T6	Fig.2	○
MG-E12-36-05	12	5	36	100	11	MB-05	CSTB2.2	T6	Fig.2	○
MG-E12-26-07	12	7	26	90	11	MB-07	CSTB3.0	T10	Fig.2	●
MG-E12-37-07	12	7	37	110	11	MB-07	CSTB3.0	T10	Fig.2	○
MG-E12-49-07	12	7	49	110	11	MB-07	CSTB3.0	T10	Fig.2	○
MG-E12-34-09	12	9	34	100	11	MB-09	CSTB4.0	T15	Fig.2	●
MG-E12-45-09	12	9	45	110	11	MB-09	CSTB4.0	T15	Fig.2	○
MG-E12-56-09	12	9	56	120	11	MB-09	CSTB4.0	T15	Fig.2	○
MG-E09-00-09	9	9	–	120	8.5	MB-09	CSTB4.0	T15	Fig.2	○
MG-E12-40-11	12	11	40	110	11	MB-11	CSTB5.0	T20	Fig.2	●
MG-E12-56-11	12	11	56	120	11	MB-11	CSTB5.0	T20	Fig.2	○
MG-E12-80-11	12	11	80	150	11	MB-11	CSTB5.0	T20	Fig.2	○

1、Fig.1刀杆偏心加强设计，不能做旋转刀具使用；Fig.2刀杆可以作为旋转工具使用，注意刀片最小进孔直径的变化
2、在使用ST加强型刀杆时,请留意S2尺寸,是否与要求加工尺寸产生干涉情况

模块式小孔刀参数

推荐材质，切削速度Vc[m/分钟]，进给f[mm/转]以及最大切深。

材料	材料		布氏硬度	OP630M Vc[M/分钟]		半径方向最大切深(mm)
				螺纹 镗孔	切槽	镗孔
P 钢	非合金钢	低碳(C=0.1–0.25%)	125	40-210	40-180	0.30-0.50
		中碳(C=0.25–0.55%)	150	40-180	40-170	0.30-0.50
		高碳(C=0.55–0.85%)	170	40-170	40-160	0.25-0.35
	低合金钢 (合金元素 ≤5%)	非硬化	180	40-90	40-155	0.28-0.45
		淬硬	275	40-150	40-160	0.25-0.45
		淬硬	350	40-140	40-190	0.25-0.40
	高合金钢 (合金元素 >5%)	退火	200	40-130	40-115	0.20-0.30
		淬硬	325	40-110	40-100	0.18-0.30
	铸钢	低合金(合金含量≤5%)	200	40-170	40-170	0.20-0.30
		高合金(合金含量≥5%)	225	40-120	40-130	0.17-0.30
M 不锈钢	不锈钢铁素体	非硬化	200	40-170	40-180	0.22-0.34
		淬硬	330	40-170	40-180	0.21-0.32
	不锈钢奥氏体	奥氏体	180	140-40	40-140	0.25-0.40
		超级奥氏体	200	40-140	40-140	0.17-0.26
	不锈钢铁素体铸件	非硬化	200	40-140	40-140	0.25-0.37
		硬化	330	40-140	40-140	0.17-0.26
	不锈钢奥氏体铸件	奥氏体	200	40-120	40-120	0.20-0.30
		淬硬	330	40-120	40-120	0.17-0.26
K 铸铁	可锻铸铁	铁素体(短屑)	130	40-130	40-120	0.25-0.37
		珠光体(长屑)	230	40-120	40-100	0.20-0.30
	灰铸铁	低抗拉强度	180	40-130	40-100	0.22-0.34
		高拉伸强度	260	40-100	40-100	0.20-0.30
	球墨铸铁	铁素体	160	40-125	40-100	0.15-0.25
		珠光体	260	40-90	40-90	0.20-0.30
N(K) Non-非铁金属	铝合金-锻造件	未时效	60	40-250	40-400	0.60-1.00
		时效	100	40-180	40-400	0.50-0.90
	铝合金	铸造	75	40-400	40-400	0.50-0.90
		铸造和时效的	90	40-280	40-200	0.40-0.60
	铝合金	铸件硅含量13–22%	130	40-150	40-200	0.50-0.90
	铜和铜合金	黄铜	90	40-210	40-200	0.60-1.00
		青铜和不含铅铜	100	40-210	40-200	0.50-0.90
S(M) 抗热，耐热材料	高温合金	退火的(铁基)	200	20-45	20-40	0.12-0.22
		时效(铁基)	280	20-30	20-30	0.10-0.20
		退火的(镍或钴基)	250	15-20	15-20	0.08-0.20
		时效(镍或钴基)	350	10-15	10-15	0.08-0.20
	钛合金	纯度99.5 钛99.5Ti	400Rm	40-140	70-120	0.10-0.20
		α+β 合金	1050Rm	20-50	20-50	0.10-0.20