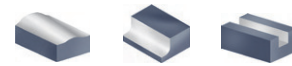


Profile milling tools



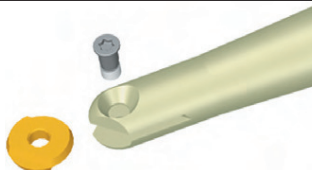
BMR02 P M K



Specification of tools

Type		Dimension(inch)					
		ØD	R	ød	L	L ₁	Z
BMR02	-12-G0.62" -S	0.472	0.236	0.625	4.50	1.50	2
	-12-G0.62" -M	0.472	0.236	0.625	5.00	2.00	2
	-12-G0.62" -L	0.472	0.236	0.625	6.00	2.00	2
	-16-G0.75" -S	0.630	0.315	0.75	6.00	1.75	2
	-16-G0.75" -M	0.630	0.315	0.75	6.50	2.50	2
	-16-G0.75" -L	0.630	0.315	0.75	8.00	2.50	2
	-20-G1.00" -S	0.787	0.394	1.00	6.50	2.50	2
	-20-G1.00" -M	0.787	0.394	1.00	8.00	3.00	2
	-20-G1.00" -L	0.787	0.394	1.00	9.50	3.00	2

Spare parts

Diameter ØD	Insert specification	Screw	Wrench	Sketch of installation
				
ØD=0.472"	ROHX1203	I70M4×10TT	WT15IS	
ØD=0.630"	ROHX1604	I70M5×12TT	WT20IS	
ØD=0.787"	ROHX2005	I70M5×16TT	WT20IS	

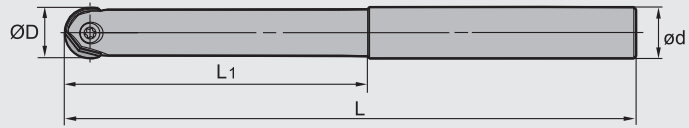
Profile milling tools



BMR04 P M K



Straight shank with straight neck



Specification of tools

Type		Dimensions(inch)				
		ØD	ød	L ₁	L	Z
BMR04	-0.625"-G0.625"-M	0.625	0.625	2.0	4.5	2
	-0.625"-G0.625"-L	0.625	0.625	3.0	6.5	2
	-0.75"-G0.75"-M	0.75	0.75	2.5	5.0	2
	-0.75"-G0.75"-L	0.75	0.75	3.5	7.0	2
	-1.00"-G1.00"-M	1.00	1.00	2.5	5.5	2
	-1.00"-G1.00"-L	1.00	1.00	3.5	8.0	2
	-1.00"-G1.00"-XL	1.00	1.00	5.0	10.0	2
	-1.25"-G1.25"-M	1.25	1.25	3.0	6.0	2
	-1.25"-G1.25"-L	1.25	1.25	4.0	9.0	2
	-1.25"-G1.25"-XL	1.25	1.25	5.0	12.0	2

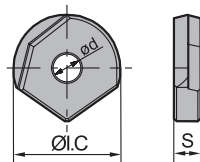
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Spare parts

Diameter ØD	Insert specification	Insert screw	Wrench	Sketch of installation
				
ØD=0.625"	ZOHX5-□□	I70M5×12TT	WT15IP	
ØD=0.75"	ZOHX6-□□	I70M5×16TT	WT20IP	
ØD=1.00"	ZOHX8-□□	I70M6×20TT	WT20IP	
ØD=1.25"	ZOHX10-□□	I70M8×25TT	WT30IT	

Selection of inserts



😊 Good working conditions 😐 General working conditions 😞 Adverse working conditions

[illegible]

Insert shape	Type	Dimensions(inch)			Coated grade						Uncoated grade		Adaptable tool holders
		ØI.C	ød	S	YBC302	YBM251	YBM253	YBG102	YBG205	YBG252	YBG302	YD101	
	ZOHX5-GF	0.625	0.197	0.157						●			D0.625"
	ZOHX6-GF	0.750	0.197	0.197						●			D0.75"
	ZOHX8-GF	1.000	0.236	0.236						●			D1.00"
	ZOHX10-GF	1.250	0.315	0.276						●			D1.25"
	ZOHX5-GM	0.625	0.197	0.157						●			D0.625"
	ZOHX6-GM	0.750	0.197	0.197						●			D0.75"
	ZOHX8-GM	1.000	0.236	0.236						●			D1.00"
	ZOHX10-GM	1.250	0.315	0.276						●			D1.25"

● Always stock available ○ Produce according to order

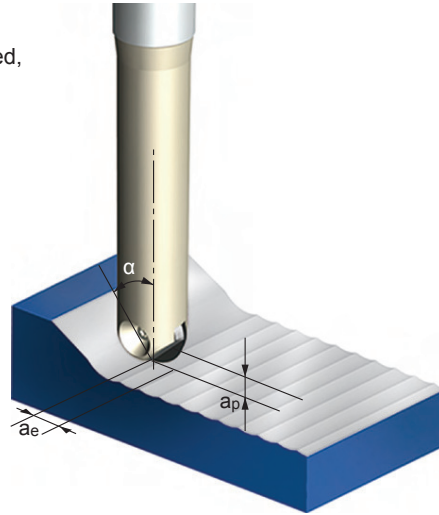
Calculation of cutting speed for BMR02/04 series ball nose end mills

1. When the tool axial line is vertical to the surface being machined,

$$N = \frac{1000 V_c}{\pi D c} (r/min)$$

$$D c = 2 \sqrt{a_p (D - a_p)}$$

N: rotating speed
Vc: actual cutting speed
Dc: effective cutting diameter
D: tool nominal diameter
ap: axial cutting depth



2. When there is an inclined angle between the tool axial line and the surface being machined, the recommended cutting speed should be multiplied by a factor in the table below to obtain the cutting speed used for programming.

Diameter (inch)		Ø0.625		Ø0.75		Ø1.00		Ø1.25	
Cutting depth ap(inch)		0.008	0.020	0.020	0.039	0.020	0.039	0.020	0.060
Inclined angle α	15°	1.00	1.00	1.00	1.02	1.00	1.01	1.00	1.00
	30°	1.05	1.01	1.02	1.04	1.03	1.04	1.04	1.00
	45°	1.18	1.10	1.12	1.06	1.14	1.08	1.16	1.06
	60°	1.47	1.30	1.34	1.21	1.38	1.25	1.43	1.22
	75°	2.14	1.73	1.83	1.53	1.93	1.62	2.04	1.55
	90°	4.48	2.87	3.20	2.29	3.57	2.55	4.03	2.37

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters				
					Ø0.625	Ø0.75	Ø1.00	Ø1.25
P	Carbon steel	HB ≤180	YBG252	V(SFPM)	300~650	300~650	300~650	300~650
				fz(in/z)	0.008~0.012	0.008~0.012	0.01~0.014	0.01~0.014
				apmax(inch)	0.04	0.05	0.06	0.08
				aemax(inch)	0.04	0.05	0.06	0.08
	Alloy steel	HB180~280		V(SFPM)	260~600	260~600	260~600	260~600
				fz(in/z)	0.008~0.012	0.008~0.012	0.01~0.014	0.01~0.014
				apmax(inch)	0.04	0.05	0.06	0.08
				aemax(inch)	0.04	0.05	0.06	0.08
	Hardened steel	HRC55~65		V(SFPM)	200~300	200~300	200~300	200~300
				fz(in/z)	0.008~0.012	0.008~0.012	0.01~0.014	0.01~0.014
				apmax(inch)	0.02	0.024	0.032	0.04
				aemax(inch)	0.02	0.024	0.032	0.04
M	Stainless steel	HB ≤270		V(SFPM)	230~500	230~500	230~500	230~500
				fz(in/z)	0.004~0.01	0.004~0.01	0.008~0.012	0.008~0.012
				apmax(inch)	0.032	0.04	0.05	0.06
				aemax(inch)	0.032	0.04	0.05	0.06
K	Cast iron	HB180-250	V(SFPM)	500~1000	500~1000	500~1000	500~1000	
			fz(in/z)	0.01~0.014	0.01~0.014	0.012~0.016	0.012~0.016	
			apmax(inch)	0.06	0.07	0.08	0.1	
			aemax(inch)	0.06	0.07	0.08	0.1	

