CARBIDE

YG

Being the best through innovation



X5070 END MILLS

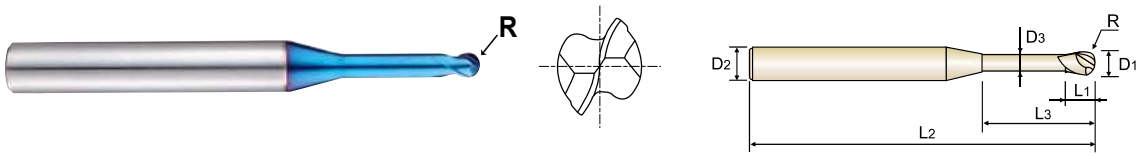
- High Hardened Steels HRc45 to HRc70, High Speed Machining, Dry Cutting

X5070 END MILLS

G8A46 SERIES PLAIN SHANK

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING

- Designed to machine high hardened materials.
- Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- Excellent workpiece finish.
- Designed for high precision milling operation.
- Higher wear-resistance.



NG | 2 | BLUE | 30° | R ±0.005 | PLAIN

P.655

◇ Call for Availability

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter		Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
		Metric	Inch					
	R (±0.005)	D1		D2	L1	L3	L2	D3
G8A46805	R0.05	0.1	.0039	4	0.1	0.3	45	0.085
G8A46806	R0.05	0.1	.0039	4	0.1	0.5	45	0.085
G8A46002	R0.1	0.2	.0079	4	0.2	0.5	45	0.17
G8A46977	R0.1	0.2	.0079	4	0.2	1	45	0.17
G8A46958	R0.1	0.2	.0079	4	0.2	1.5	45	0.17
G8A46003	R0.15	0.3	.0118	4	0.3	1	45	0.27
G8A46959	R0.15	0.3	.0118	4	0.3	2	45	0.27
G8A46986	R0.15	0.3	.0118	4	0.3	3	45	0.27
G8A46004	R0.2	0.4	.0157	4	0.4	1	45	0.37
G8A46960	R0.2	0.4	.0157	4	0.4	2	45	0.37
G8A46961	R0.2	0.4	.0157	4	0.4	3	45	0.37
G8A46981	R0.2	0.4	.0157	4	0.4	4	45	0.37
G8A46987	R0.2	0.4	.0157	4	0.4	5	45	0.37
G8A46005	R0.25	0.5	.0197	4	0.4	2	45	0.45
G8A46804	R0.25	0.5	.0197	4	0.4	2.5	45	0.45
G8A46962	R0.25	0.5	.0197	4	0.4	4	45	0.45
G8A46963	R0.25	0.5	.0197	4	0.4	6	45	0.45
G8A46964	R0.25	0.5	.0197	4	0.4	8	45	0.45
G8A46957	R0.3	0.6	.0236	4	0.5	2	45	0.55
G8A46988	R0.3	0.6	.0236	4	0.5	3	45	0.55
G8A46915	R0.3	0.6	.0236	4	0.5	4	45	0.55
G8A46989	R0.3	0.6	.0236	4	0.5	5	45	0.55

The original bright blue color may discolor during use, however, the performance will not be negatively affected

▶ NEXT PAGE

◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

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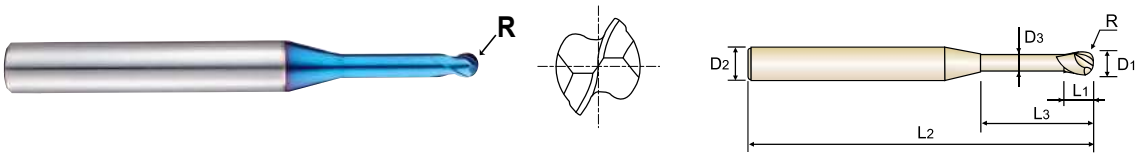

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		Metric	Inch					
	R (±0.005)	D1		D2	L1	L3	L2	D3
G8A46916	R0.3	0.6	.0236	4	0.5	6	45	0.55
G8A46917	R0.3	0.6	.0236	4	0.5	8	45	0.55
G8A46990	R0.3	0.6	.0236	4	0.5	10	45	0.55
G8A46918	R0.4	0.8	.0315	4	0.6	2	45	0.75
G8A46919	R0.4	0.8	.0315	4	0.6	4	45	0.75
G8A46008	R0.4	0.8	.0315	4	0.6	6	45	0.75
G8A46901	R0.4	0.8	.0315	4	0.6	8	45	0.75
G8A46965	R0.4	0.8	.0315	4	0.6	10	45	0.75
G8A46920	R0.5	1.0	.0394	4	0.8	3	45	0.95
G8A46921	R0.5	1.0	.0394	4	0.8	4	45	0.95
G8A46923	R0.5	1.0	.0394	4	0.8	5	45	0.95
G8A46010	R0.5	1.0	.0394	4	0.8	6	45	0.95
G8A46924	R0.5	1.0	.0394	4	0.8	7	45	0.95
G8A46902	R0.5	1.0	.0394	4	0.8	8	45	0.95
G8A46925	R0.5	1.0	.0394	4	0.8	9	45	0.95
G8A46903	R0.5	1.0	.0394	4	0.8	10	45	0.95
G8A46904	R0.5	1.0	.0394	4	0.8	12	45	0.95
G8A46926	R0.5	1.0	.0394	4	0.8	14	50	0.95
G8A46927	R0.5	1.0	.0394	4	0.8	16	50	0.95
G8A46966	R0.5	1.0	.0394	4	0.8	20	55	0.95
G8A46982	R0.6	1.2	.0472	4	1.0	6	45	1.15
G8A46012	R0.6	1.2	.0472	4	1.0	8	45	1.15

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~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
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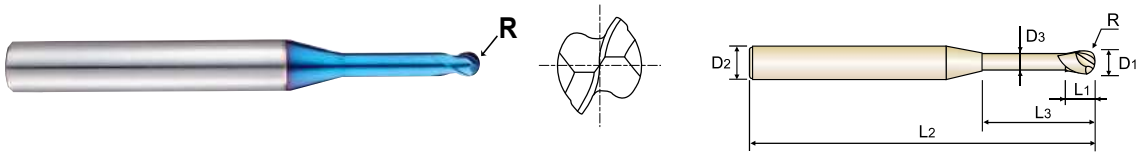

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		Metric	Inch					
	R (±0.005)	D1		D2	L1	L3	L2	D3
G8A46983	R0.6	1.2	.0472	4	1.0	10	45	1.15
G8A46905	R0.6	1.2	.0472	4	1.0	12	45	1.15
G8A46930	R0.75	1.5	.0472	4	1.2	6	45	1.45
G8A46015	R0.75	1.5	.0472	4	1.2	8	45	1.45
G8A46931	R0.75	1.5	.0472	4	1.2	10	45	1.45
G8A46906	R0.75	1.5	.0472	4	1.2	12	45	1.45
G8A46992	R0.75	1.5	.0472	4	1.2	14	50	1.45
G8A46907	R0.75	1.5	.0472	4	1.2	16	50	1.45
G8A46932	R0.75	1.5	.0472	4	1.2	20	55	1.45
G8A46939	R1.0	2.0	.0787	4	1.6	4	45	1.95
G8A46940	R1.0	2.0	.0787	4	1.6	6	45	1.95
G8A46020	R1.0	2.0	.0787	4	1.6	8	45	1.95
G8A46941	R1.0	2.0	.0787	4	1.6	10	45	1.95
G8A46942	R1.0	2.0	.0787	4	1.6	12	50	1.95
G8A46943	R1.0	2.0	.0787	4	1.6	14	50	1.95
G8A46909	R1.0	2.0	.0787	4	1.6	16	50	1.95
G8A46993	R1.0	2.0	.0787	4	1.6	18	55	1.95
G8A46910	R1.0	2.0	.0787	4	1.6	20	55	1.95
G8A46944	R1.0	2.0	.0787	4	1.6	22	60	1.95
G8A46945	R1.0	2.0	.0787	4	1.6	25	60	1.95
G8A46967	R1.0	2.0	.0787	4	1.6	30	70	1.95
G8A46948	R1.5	3.0	.1181	6	2.4	12	50	2.85

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~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

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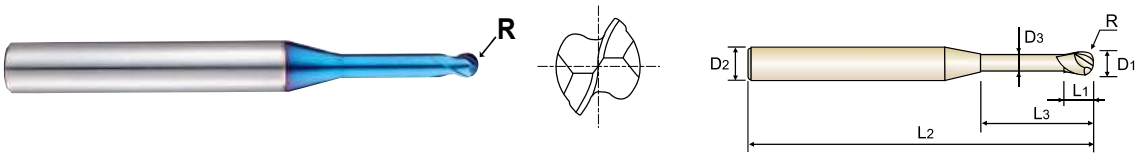

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◇ Call for Availability

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter		Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
		Metric	Inch					
	R (±0.005)	D1		D2	L1	L3	L2	D3
G8A46984	R1.5	3.0	.1181	6	2.4	14	55	2.85
G8A46030	R1.5	3.0	.1181	6	2.4	16	55	2.85
G8A46985	R1.5	3.0	.1181	6	2.4	18	60	2.85
G8A46911	R1.5	3.0	.1181	6	2.4	20	60	2.85
G8A46968	R1.5	3.0	.1181	6	2.4	25	65	2.85
G8A46969	R1.5	3.0	.1181	6	2.4	30	70	2.85
G8A46970	R1.5	3.0	.1181	6	2.4	35	80	2.85
G8A46950	R2.0	4.0	.1575	6	3.2	12	60	3.85
G8A46040	R2.0	4.0	.1575	6	3.2	16	60	3.85
G8A46912	R2.0	4.0	.1575	6	3.2	20	65	3.85
G8A46913	R2.0	4.0	.1575	6	3.2	25	70	3.85
G8A46971	R2.0	4.0	.1575	6	3.2	30	70	3.85
G8A46972	R2.0	4.0	.1575	6	3.2	35	80	3.85
G8A46973	R2.0	4.0	.1575	6	3.2	40	90	3.85
G8A46974	R2.0	4.0	.1575	6	3.2	45	90	3.85
G8A46975	R2.0	4.0	.1575	6	3.2	50	100	3.85

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Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.012	h6

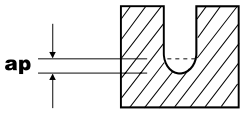
◎ : Excellent ○ : Good

P					H	M	K	N					S	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Stainless Steels	Cast Iron	Copper	Graphite	Aluminum	Acrylic	CFRP	Titanium	High Temperature Alloy
~HRc20	HRc20~30	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING

G8A46, G8A54 SERIES

MATERIAL	P						H			N		
	ALLOY STEELS HEAT RESISTANT STEELS			HARDENED STEELS			HIGH HARDENED STEELS			COPPER		
HARDNESS	HRc30 ~ HRc45			HRc45 ~ HRc55			HRc55 ~ HRc65					
DIAMETER	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)
R0.1 × 0.2	50000	11.8~13.8	0.006~0.016	50000	10.4~12.2	0.005~0.013	50000	8.9~10.4	0.005~0.012	50000	17.9~20.9	0.010~0.022
R0.15 × 0.3	48000~50000	18.9~20.5	0.010~0.017	48000~50000	17.3~18.1	0.008~0.014	46000~50000	15.4~16.5	0.007~0.013	48000~50000	27.2~31.1	0.002~0.023
R0.2 × 0.4	48000~50000	28.4~31.1	0.013~0.032	48000~50000	17.7~21.7	0.011~0.026	46000~50000	15.8~18.1	0.010~0.024	48000~50000	39.4~45.3	0.019~0.048
R0.25 × 0.5	34100~49500	23.6~34.3	0.007~0.028	31900~35200	19.3~21.3	0.005~0.023	31900~35200	17.3~18.9	0.005~0.021	49000~50000	39.4~55.1	0.010~0.042
R0.3 × 0.6	28600~40700	23.2~33.5	0.007~0.034	26400~29700	18.9~21.3	0.006~0.028	26400~29700	15.8~18.9	0.006~0.025	42000~50000	43.3~66.9	0.011~0.050
R0.4 × 0.8	22000~30800	25.2~35.0	0.016~0.064	19800~22000	19.3~21.7	0.013~0.052	19800~22000	17.3~19.7	0.012~0.048	31000~50000	43.3~88.6	0.024~0.096
R0.5 × 1.0	17600~24200	23.6~33.5	0.008~0.080	15400~17600	18.5~21.3	0.007~0.065	15400~17600	17.3~19.7	0.006~0.060	24000~49500	43.3~86.6	0.012~0.120
R0.6 × 1.2	14300~18700	23.2~30.7	0.024~0.032	12000~14000	18.9~21.3	0.020~0.026	12000~14000	16.5~18.9	0.018~0.024	28500~38500	58.3~76.8	0.036~0.048
R0.75 × 1.5	11000~14300	22.8~29.9	0.031~0.048	10000~11500	18.9~21.3	0.025~0.039	10000~11500	16.5~18.9	0.023~0.036	17000~28500	43.3~76.8	0.046~0.072
R1.0 × 2.0	8500~11000	23.2~31.5	0.024~0.160	7900~8800	18.5~20.9	0.020~0.130	7900~8800	17.3~18.9	0.018~0.120	12600~24000	43.3~84.7	0.036~0.240
R1.5 × 3.0	5700~8200	28.7~39.4	0.064~0.240	5300~5800	23.2~25.6	0.052~0.195	5300~5800	21.7~24.4	0.048~0.120	11900~17000	72.8~106.3	0.096~0.360
R2.0 × 4.0	4300~6200	26.8~39.0	0.080~0.320	3950~4400	21.7~24.4	0.065~0.026	3850~4400	20.9~22.4	0.060~0.240	6600~12500	49.6~98.4	0.120~0.480

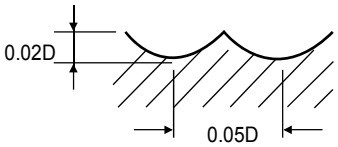


RPM = rev./min.
FEED = inch/min.

CARBIDE, 3 FLUTE BALL NOSE

G8A59 SERIES

MATERIAL	P				H					
	ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS		HIGH HARDENED STEELS					
HARDNESS	HRc30 ~ HRc45		HRc45 ~ HRc55		HRc55 ~ HRc60		HRc60 ~ HRc65		HRc65 ~ HRc70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R1.5 × 3.0	32000	338.6	26840	228.4	19840	168.5	18680	159.1	12780	108.7
R2.0 × 4.0	24080	303.2	20130	213.8	14880	152.8	14220	143.7	9580	98.4
R2.5 × 5.0	20000	285.4	16780	213.8	12400	145.3	11670	136.6	8000	93.3
R3.0 × 6.0	18000	337.4	15200	244.9	12200	177.2	11100	150.8	7590	96.9
R4.0 × 8.0	13500	289.4	11300	206.7	9200	156.7	8320	131.9	5690	83.9
R5.0 × 10.0	10800	257.1	9100	180.7	7350	135.8	6660	113.0	4550	77.2
R6.0 × 12.0	9050	240.2	7590	167.7	6130	125.6	5530	94.5	3800	64.6
R8.0 × 16.0	6700	181.1	5690	128.0	4600	97.6	4160	70.9	2850	48.4
R10.0×20.0	5400	141.7	4550	103.2	3670	78.0	3300	56.7	2280	38.6



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