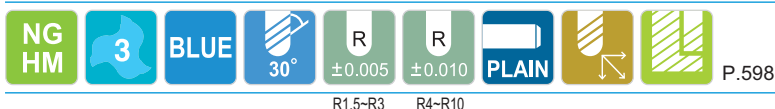
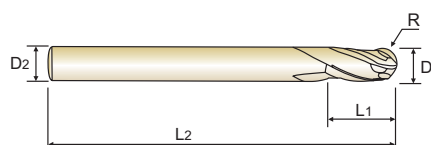


CARBIDE, 3 FLUTE BALL NOSE

VOLLHARTMETALL, 3 SCHNEIDEN STIRNRADIUS

- ▶ 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.

- ▶ Geeignet zum Fräsen hochgehärteter Stähle.
- ▶ Geeignet zum Trockenfräsen und HSC-Fräsen dank neuentwickeltem Material und Beschichtung.
- ▶ Excellente Werkstückoberflächen.
- ▶ Geeignet für hochpräzises Fräsen.
- ▶ Höhere Verschleißfestigkeit.



Unit : mm

EDP No.	Radius of Ball Nose R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Overall Length L2
G8A59030	R1.5	3.0	6	8	60
G8A59040	R2.0	4.0	6	8	70
G8A59050	R2.5	5.0	6	10	80
G8A59060	R3.0	6.0	6	12	90
G8A59080	R4.0	8.0	8	14	100
G8A59100	R5.0	10.0	10	18	100
G8A59120	R6.0	12.0	12	22	110
G8A59160	R8.0	16.0	16	30	140
G8A59200	R10.0	20.0	20	38	160



Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover.

However, it doesn' t effect on performance of tool.

Size	Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to R3	±0.005	0~-0.012	h6
over R3	±0.010	0~-0.015	

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRC30~40	HRC40~45	HRC45~55	HRC55~70							
	○	○	○	◎	◎							



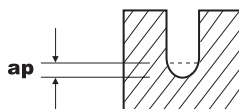
X5070 END MILLS

RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS für SCHMALE RIPPEN

G8A46, G8A54 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS			HARDENED STEELS						COPPER		
HARDNESS	HRc 30 ~ HRc 45			HRc 45 ~ HRc 55			HRc 55 ~ HRc 65					
DIAMETER	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)	RPM	FEED	ap (mm)
R0.1 × 0.2	50000	300~350	0.006~0.016	50000	265~310	0.005~0.013	50000	225~265	0.005~0.012	50000	455~530	0.010~0.022
R0.15 × 0.3	48000~50000	480~520	0.010~0.017	48000~50000	440~460	0.008~0.014	46000~50000	390~420	0.007~0.013	48000~50000	690~790	0.002~0.023
R0.2 × 0.4	48000~50000	720~790	0.013~0.032	48000~50000	450~550	0.011~0.026	46000~50000	400~460	0.010~0.024	48000~50000	1000~1150	0.019~0.048
R0.25 × 0.5	34100~49500	600~870	0.007~0.028	31900~35200	490~540	0.005~0.023	31900~35200	440~480	0.005~0.021	49000~50000	1100~1400	0.010~0.042
R0.3 × 0.6	28600~40700	590~850	0.007~0.034	26400~29700	480~540	0.006~0.028	26400~29700	400~480	0.006~0.025	42000~50000	1100~1700	0.011~0.050
R0.4 × 0.8	22000~30800	640~890	0.016~0.064	19800~22000	490~550	0.013~0.052	19800~22000	440~500	0.012~0.048	31000~50000	1100~2250	0.024~0.096
R0.5 × 1.0	17600~24200	600~850	0.008~0.080	15400~17600	470~540	0.007~0.065	15400~17600	440~500	0.006~0.060	24000~49500	1100~2200	0.012~0.120
R0.6 × 1.2	14300~18700	590~780	0.024~0.032	12000~14000	480~540	0.020~0.026	12000~14000	420~480	0.018~0.024	28500~38500	1480~1950	0.036~0.048
R0.75 × 1.5	11000~14300	580~760	0.031~0.048	10000~11500	480~540	0.025~0.039	10000~11500	420~480	0.023~0.036	17000~28500	1100~1950	0.046~0.072
R1.0 × 2.0	8500~11000	590~800	0.024~0.160	7900~8800	470~530	0.020~0.130	7900~8800	440~480	0.018~0.120	12600~24000	1100~2150	0.036~0.240
R1.5 × 3.0	5700~8200	730~1000	0.064~0.240	5300~5800	590~650	0.052~0.195	5300~5800	550~620	0.048~0.120	11900~17000	1850~2700	0.096~0.360
R2.0 × 4.0	4300~6200	680~990	0.080~0.320	3950~4400	550~620	0.065~0.026	3850~4400	530~570	0.060~0.240	6600~12500	1260~2500	0.120~0.480

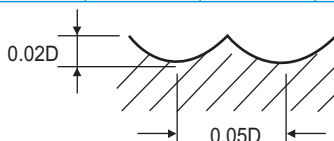


RPM = rev./min.
FEED = mm/min.

3 FLUTE, BALL NOSE 3 SCHNEIDEN, STIRNRADIUS

G8A59 SERIES

MATERIAL	HARDENED STEELS HEAT RESISTANT STEELS		HARDENED STEELS							
HARDNESS	HRc 30 ~ HRc 45		HRc 45 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65		HRc 65 ~ HRc 70	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R1.5 × 3.0	32000	8600	26840	5800	19840	4280	18680	4040	12780	2760
R2.0 × 4.0	24080	7700	20130	5430	14880	3880	14220	3650	9580	2500
R2.5 × 5.0	20000	7250	16780	5430	12400	3690	11670	3470	8000	2370
R3.0 × 6.0	18000	8570	15200	6220	12200	4500	11100	3830	7590	2460
R4.0 × 8.0	13500	7350	11300	5250	9200	3980	8320	3350	5690	2130
R5.0 × 10.0	10800	6530	9100	4590	7350	3450	6660	2870	4550	1960
R6.0 × 12.0	9050	6100	7590	4260	6130	3190	5530	2400	3800	1640
R8.0 × 16.0	6700	4600	5690	3250	4600	2480	4160	1800	2850	1230
R10.0 × 20.0	5400	3600	4550	2620	3670	1980	3300	1440	2280	980



RPM = rev./min.
FEED = mm/min.