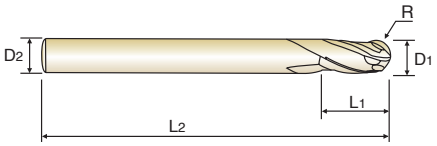
X5070 END MILLS

G8A59 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 3 FLUTE BALL NOSE - Center Match
VOLLHARTMETALL, 3 SCHNEIDEN STIRNRADIUS - Schneiden Mittelpunkt

- 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 Trockenfrasen und HSC-Frasen dank neuentwickeltem Material und Beschichtung.
- Excellente Werkstückoberflächen.
- Geeignet für hochpräzises Fräsen.
- Höhere Verschleißfestigkeit.



NG HM | 3 | BLUE | 30° | R ±0.005 (R1.5~R3) | R ±0.010 (R4~R10) | PLAIN P.688

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 erased 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	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

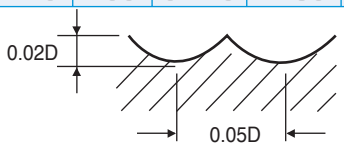
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 3 FLUTE BALL NOSE - Center Match
VOLLHARTMETALL, 3 SCHNEIDEN STIRNRADIUS - Schneiden Mittelpunkt

G8A59 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS				HARDENED STEELS							
HARDNESS	HRc 30 ~ HRc 45				HRc 45 ~ HRc 55				HRc 55 ~ HRc 60			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
R1.5 × 3.0	32000	8600	300	0.090	26840	5800	255	0.072	19840	4280	185	0.072
R2.0 × 4.0	24080	7700	305	0.107	20130	5430	255	0.090	14880	3880	185	0.087
R2.5 × 5.0	20000	7250	315	0.121	16780	5430	265	0.108	12400	3690	195	0.099
R3.0 × 6.0	18000	8570	340	0.159	15200	6220	285	0.136	12200	4500	230	0.123
R4.0 × 8.0	13500	7350	340	0.181	11300	5250	285	0.155	9200	3980	230	0.144
R5.0 × 10.0	10800	6530	340	0.202	9100	4590	285	0.168	7350	3450	230	0.156
R6.0 × 12.0	9050	6100	340	0.225	7590	4260	285	0.187	6130	3190	230	0.173
R8.0 × 16.0	6700	4600	335	0.229	5690	3250	285	0.190	4600	2480	230	0.180
R10.0 × 20.0	5400	3600	340	0.222	4550	2620	285	0.192	3670	1980	230	0.180

MATERIAL	HARDENED STEELS							
HARDNESS	HRc 60 ~ HRc 65				HRc 65 ~ HRc 70			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
R1.5 × 3.0	18680	4040	175	0.072	12780	2760	120	0.072
R2.0 × 4.0	14220	3650	180	0.086	9580	2500	120	0.087
R2.5 × 5.0	11670	3470	185	0.099	8000	2370	125	0.099
R3.0 × 6.0	11100	3830	210	0.115	7590	2460	145	0.108
R4.0 × 8.0	8320	3350	210	0.134	5690	2130	145	0.125
R5.0 × 10.0	6660	2870	210	0.144	4550	1960	145	0.144
R6.0 × 12.0	5530	2400	210	0.145	3800	1640	145	0.144
R8.0 × 16.0	4160	1800	210	0.144	2850	1230	145	0.144
R10.0 × 20.0	3300	1440	205	0.145	2280	980	145	0.143



RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t