



**X5070
END MILLS**

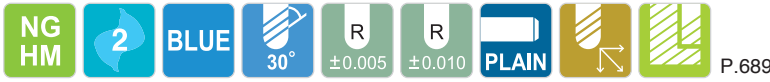
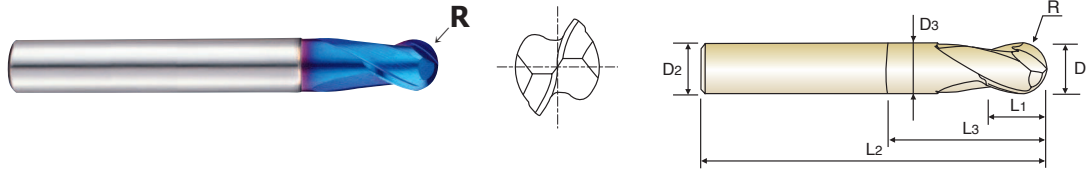
G8A38 SERIES

PLAIN SHANK
GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE STUB LENGTH BALL NOSE with EXTENDED NECK
VOLLHARTMETALL, 2 SCHNEIDEN EXTRA KURZ STIRNRADIUS mit ABGESETZTEM SCHAFTTEIL

- ▶ 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.



R0.5-R3 R3.5-R12.5

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
	R	D1	D2	L1	L3	L2	D3
G8A38010	R0.5	1.0	4	1	2.2	50	0.95
G8A38012	R0.6	1.2	4	1.2	2.6	50	1.15
G8A38015	R0.75	1.5	4	1.5	3	50	1.45
G8A38020	R1.0	2.0	6	2	4	50	1.95
G8A38030	R1.5	3.0	6	3	6	60	2.85
G8A38040	R2.0	4.0	6	4	8	70	3.85
G8A38050	R2.5	5.0	6	5	10	80	4.85
G8A38060	R3.0	6.0	6	6	12	90	5.85
G8A38070	R3.5	7.0	8	7	14	90	6.7
G8A38080	R4.0	8.0	8	8	16	100	7.7
G8A38090	R4.5	9.0	10	9	18	100	8.7
G8A38100	R5.0	10.0	10	10	20	100	9.7
G8A38120	R6.0	12.0	12	12	24	110	11.7
G8A38140	R7.0	14.0	14	14	28	110	13.7
G8A38160	R8.0	16.0	16	16	32	140	15.7
G8A38180	R9.0	18.0	18	18	36	140	17.7
G8A38200	R10.0	20.0	20	20	40	160	19.7
G8A38250	R12.5	25.0	25	25	50	180	24.7

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									
		○	○	◎	◎									



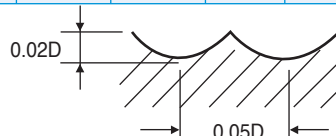
**RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN**

**CARBIDE, 2 FLUTE BALL NOSE
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS**

G8A28, G8A38, G8A53 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS				HARDENED STEELS							
	HRc 30 ~ HRc 40				HRc 40 ~ HRc 50				HRc 50 ~ HRc 55			
	HARDNESS DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc
R0.1 × 0.2	50000	1200	30	0.012	50000	1050	30	0.011	45000	960	30	0.011
R0.15 × 0.3	50000	1500	45	0.015	50000	1350	45	0.014	45000	1200	40	0.013
R0.2 × 0.4	50000	1900	65	0.019	50000	1700	65	0.017	45000	1500	55	0.017
R0.25 × 0.5	50000	2400	80	0.024	50000	2100	80	0.021	45000	1900	70	0.021
R0.3 × 0.6	50000	2900	95	0.029	50000	2500	95	0.025	45000	2200	85	0.024
R0.4 × 0.8	50000	3900	125	0.039	50000	3300	125	0.033	45000	3000	115	0.033
R0.5 × 1.0	50000	4800	155	0.048	50000	4200	155	0.042	45000	3800	140	0.042
R0.6 × 1.2	50000	5100	190	0.051	48000	4300	180	0.045	43000	3850	160	0.045
R0.75 × 1.5	50000	5400	235	0.054	48000	4500	225	0.047	43000	4000	205	0.047
R1.0 × 2.0	49700	5700	310	0.057	47800	4800	300	0.050	40000	4000	250	0.050
R1.5 × 3.0	33100	6000	310	0.091	31800	5300	300	0.083	26500	4000	250	0.075
R2.0 × 4.0	24900	6000	315	0.120	23900	5300	300	0.111	20000	4000	250	0.100
R2.5 × 5.0	18600	5800	290	0.156	17800	4900	280	0.138	15000	3750	235	0.125
R3.0 × 6.0	13900	4850	260	0.174	13400	4100	255	0.153	11000	3100	205	0.141
R4.0 × 8.0	11100	4200	280	0.189	10700	3500	270	0.164	9000	2700	225	0.150
R5.0 × 10.0	9300	3700	290	0.199	8900	3100	280	0.174	7500	2400	235	0.160
R6.0 × 12.0	6950	2950	260	0.212	6680	2500	250	0.187	5600	1900	210	0.170
R8.0 × 16.0	5570	2650	280	0.238	5350	2200	270	0.206	4500	1700	225	0.189
R10.0 × 20.0	4450	2350	280	0.264	4300	1950	270	0.227	3600	1500	225	0.208

MATERIAL	HARDENED STEELS											
	HRc 55 ~ HRc 60				HRc 60 ~ HRc 65				HRc 65 ~ HRc 70			
	HARDNESS DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc
R0.1 × 0.2	40000	770	25	0.010	35000	674	20	0.010	31500	570	20	0.009
R0.15 × 0.3	40000	965	40	0.012	35000	840	35	0.012	31500	700	30	0.011
R0.2 × 0.4	40000	1200	50	0.015	35000	1050	45	0.015	31500	890	40	0.014
R0.25 × 0.5	40000	1500	65	0.019	35000	1300	55	0.019	31500	1100	50	0.017
R0.3 × 0.6	40000	1800	75	0.023	35000	1600	65	0.023	31500	1400	60	0.022
R0.4 × 0.8	40000	2400	100	0.030	35000	2100	90	0.030	31500	1800	80	0.029
R0.5 × 1.0	40000	3000	125	0.038	35000	2600	110	0.037	35000	2300	110	0.033
R0.6 × 1.2	38000	3000	145	0.039	34000	2700	130	0.040	30600	2300	115	0.038
R0.75 × 1.5	37000	3100	175	0.042	33000	2700	155	0.041	29700	2300	140	0.039
R1.0 × 2.0	35000	3150	220	0.045	32000	2800	200	0.044	28500	2300	180	0.040
R1.5 × 3.0	23500	3150	220	0.067	21000	2800	200	0.067	19000	2300	180	0.061
R2.0 × 4.0	17500	3150	220	0.090	16000	2800	200	0.088	14500	2300	180	0.079
R2.5 × 5.0	13500	3050	210	0.113	11500	2550	180	0.111	10500	2100	165	0.100
R3.0 × 6.0	10000	2500	190	0.125	8800	2150	165	0.122	8000	1750	150	0.109
R4.0 × 8.0	8000	2150	200	0.134	7000	1850	175	0.132	6500	1550	165	0.119
R5.0 × 10.0	6600	1900	205	0.144	5800	1650	180	0.142	5300	1380	165	0.130
R6.0 × 12.0	5000	1550	190	0.155	4400	1250	165	0.142	4000	1050	150	0.131
R8.0 × 16.0	4000	1350	200	0.169	3500	1000	175	0.143	3200	850	160	0.133
R10.0 × 20.0	3200	1200	200	0.188	2800	800	175	0.143	2550	660	160	0.129



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

HSS

CBN
END MILLS

i-Xmill
END MILLS

i-HS mill
END MILLS

X5070
END MILLS

4G MILL
END MILLS

X-SPEED
ROUGHER
END MILLS

X-POWER
END MILLS

JET-POWER
END MILLS

TN MILL
END MILLS

V7 Mill
END MILLS

ALU-POWER
END MILLS

CRX S
END MILLS

D-POWER
GRAPHITE
END MILLS

D-POWER
CFRP
END MILLS

ROUTERS

K-2 CARBIDE
END MILLS

GENERAL
CARBIDE
END MILLS

TANK-POWER
END MILLS

GENERAL
HSS
END MILLS

MILLING
CUTTERS

TECHNICAL
DATA