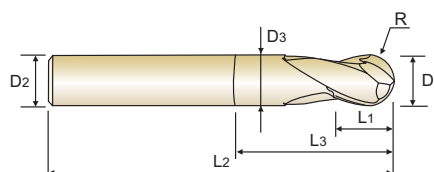


CARBIDE, 2 FLUTE STUB LENGTH BALL NOSE with EXTENDED NECK

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.



R0.05-R3 R3.5-R12.5

Unit : mm

EDP No.	Radius of Ball Nose R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter 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 earased during short term using, the color layer might not be uniform moreover.

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

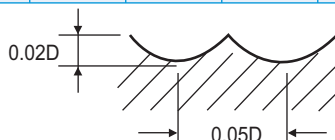
Size	Radius Tolerance (mm)	Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
up to R3	±0.005	0~-0.012	h6
over R3	±0.010	0~-0.015	

◎ : 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							
	○	○	○	◎	◎						

CARBIDE, 3 FLUTE BALL NOSE
VOLLHARTMETALL, 3 SCHNEIDEN STIRNRADIUS
G8A28, G8A38, G8A53 SERIES

MATERIAL	HARDENED STEELS HEAT RESISTANT STEELS		HARDENED STEELS									
	HRc 30 ~ HRc 40		HRc 40 ~ HRc 50		HRc 50 ~ HRc 55		HRc 55 ~ HRc 60		HRc 60 ~ HRc 65		HRc 65 ~ HRc 70	
HARDNESS DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R0.1 × 0.2	50000	1200	50000	1050	45000	960	40000	770	35000	674	31500	570
R0.15 × 0.3	50000	1500	50000	1350	45000	1200	40000	965	35000	840	31500	700
R0.2 × 0.4	50000	1900	50000	1700	45000	1500	40000	1200	35000	1050	31500	890
R0.25 × 0.5	50000	2400	50000	2100	45000	1900	40000	1500	35000	1300	31500	1100
R0.3 × 0.6	50000	2900	50000	2500	45000	2200	40000	1800	35000	1600	31500	1400
R0.4 × 0.8	50000	3900	50000	3300	45000	3000	40000	2400	35000	2100	31500	1800
R0.5 × 1.0	50000	4800	50000	4200	45000	3800	40000	3000	35000	2600	31500	2300
R0.6 × 1.2	50000	5100	48000	4300	43000	3850	38000	3000	34000	2700	30600	2300
R0.75 × 1.5	50000	5400	48000	4500	43000	4000	37000	3100	33000	2700	29700	2300
R1.0 × 2.0	49700	5700	47800	4800	40000	4000	35000	3150	32000	2800	28500	2300
R1.5 × 3.0	33100	6000	31800	5300	26500	4000	23500	3150	21000	2800	19000	2300
R2.0 × 4.0	24900	6000	23900	5300	20000	4000	17500	3150	16000	2800	14500	2300
R2.5 × 5.0	18600	5800	17800	4900	15000	3750	13500	3050	11500	2550	10500	2100
R3.0 × 6.0	13900	4850	13400	4100	11000	3100	10000	2500	8800	2150	8000	1750
R4.0 × 8.0	11100	4200	10700	3500	9000	2700	8000	2150	7000	1850	6500	1550
R5.0 × 10.0	9300	3700	8900	3100	7500	2400	6600	1900	5800	1650	5300	1380
R6.0 × 12.0	6950	2950	6680	2500	5600	1900	5000	1550	4400	1250	4000	1050
R8.0 × 16.0	5570	2650	5350	2200	4500	1700	4000	1350	3500	1000	3200	850
R10.0 × 20.0	4450	2350	4300	1950	3600	1500	3200	1200	2800	800	2550	660



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