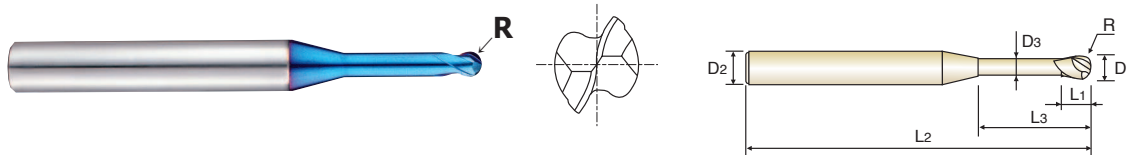




CARBIDE, 2 FLUTE BALL NOSE for RIB PROCESSING
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS für SCHMALE RIPPEN

- ▶ Designed to machine high hardened materials.
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- ▶ Excellent workpiece finish.
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- ▶ 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 (±0.005)	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A46805	RO.05	0.1	4	0.1	0.3	45	0.085
G8A46806	RO.05	0.1	4	0.1	0.5	45	0.085
G8A46002	RO.1	0.2	4	0.2	0.5	45	0.17
G8A46977	RO.1	0.2	4	0.2	1	45	0.17
G8A46958	RO.1	0.2	4	0.2	1.5	45	0.17
G8A46003	RO.15	0.3	4	0.3	1	45	0.27
G8A46959	RO.15	0.3	4	0.3	2	45	0.27
G8A46986	RO.15	0.3	4	0.3	3	45	0.27
G8A46004	RO.2	0.4	4	0.4	1	45	0.37
G8A46960	RO.2	0.4	4	0.4	2	45	0.37
G8A46961	RO.2	0.4	4	0.4	3	45	0.37
G8A46981	RO.2	0.4	4	0.4	4	45	0.37
G8A46987	RO.2	0.4	4	0.4	5	45	0.37
G8A46005	RO.25	0.5	4	0.4	2	45	0.45
G8A46804	RO.25	0.5	4	0.4	2.5	45	0.45
G8A46962	RO.25	0.5	4	0.4	4	45	0.45
G8A46963	RO.25	0.5	4	0.4	6	45	0.45
G8A46964	RO.25	0.5	4	0.4	8	45	0.45
G8A46957	RO.3	0.6	4	0.5	2	45	0.55
G8A46988	RO.3	0.6	4	0.5	3	45	0.55
G8A46915	RO.3	0.6	4	0.5	4	45	0.55
G8A46989	RO.3	0.6	4	0.5	5	45	0.55
G8A46916	RO.3	0.6	4	0.5	6	45	0.55
G8A46917	RO.3	0.6	4	0.5	8	45	0.55
G8A46990	RO.3	0.6	4	0.5	10	45	0.55
G8A46918	RO.4	0.8	4	0.6	2	45	0.75
G8A46919	RO.4	0.8	4	0.6	4	45	0.75
G8A46008	RO.4	0.8	4	0.6	6	45	0.75
G8A46901	RO.4	0.8	4	0.6	8	45	0.75

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.

◎ : 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**

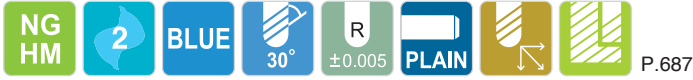
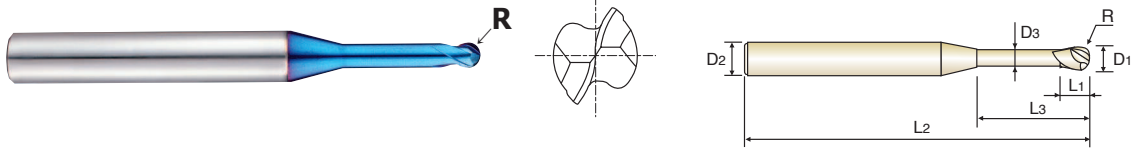
G8A46 SERIES

PLAIN SHANK
GLATTER ZYLINDERSCHAFT

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

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- ▶ Geeignet für hochpräzises Fräsen.
- ▶ Höhere Verschleißfestigkeit.



Unit : mm

EDP No.	Radius of Ball Nose R (±0.005)	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A46965	RO.4	0.8	4	0.6	10	45	0.75
G8A46920	RO.5	1.0	4	0.8	3	45	0.95
G8A46921	RO.5	1.0	4	0.8	4	45	0.95
G8A46923	RO.5	1.0	4	0.8	5	45	0.95
G8A46010	RO.5	1.0	4	0.8	6	45	0.95
G8A46924	RO.5	1.0	4	0.8	7	45	0.95
G8A46902	RO.5	1.0	4	0.8	8	45	0.95
G8A46925	RO.5	1.0	4	0.8	9	45	0.95
G8A46903	RO.5	1.0	4	0.8	10	45	0.95
G8A46904	RO.5	1.0	4	0.8	12	45	0.95
G8A46926	RO.5	1.0	4	0.8	14	50	0.95
G8A46927	RO.5	1.0	4	0.8	16	50	0.95
G8A46966	RO.5	1.0	4	0.8	20	55	0.95
G8A46982	RO.6	1.2	4	1.0	6	45	1.15
G8A46012	RO.6	1.2	4	1.0	8	45	1.15
G8A46983	RO.6	1.2	4	1.0	10	45	1.15
G8A46905	RO.6	1.2	4	1.0	12	45	1.15
G8A46930	RO.75	1.5	4	1.2	6	45	1.45
G8A46015	RO.75	1.5	4	1.2	8	45	1.45
G8A46931	RO.75	1.5	4	1.2	10	45	1.45
G8A46906	RO.75	1.5	4	1.2	12	45	1.45
G8A46992	RO.75	1.5	4	1.2	14	50	1.45
G8A46907	RO.75	1.5	4	1.2	16	50	1.45
G8A46932	RO.75	1.5	4	1.2	20	55	1.45
G8A46939	R1.0	2.0	4	1.6	4	45	1.95
G8A46940	R1.0	2.0	4	1.6	6	45	1.95
G8A46020	R1.0	2.0	4	1.6	8	45	1.95
G8A46941	R1.0	2.0	4	1.6	10	45	1.95
G8A46942	R1.0	2.0	4	1.6	12	50	1.95

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.

◎ : Excellent ○ : Good

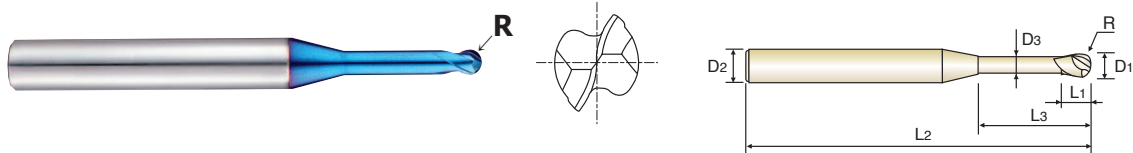
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRC30~40	HRC40~45	HRC45~55	HRC55~70									
		○	○	◎	◎									

**YG X5070
END MILLS**

G8A46 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

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VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS für SCHMALE RIPPEN

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Unit : mm

EDP No.	Radius of Ball Nose R (±0.005)	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A46943	R1.0	2.0	4	1.6	14	50	1.95
G8A46909	R1.0	2.0	4	1.6	16	50	1.95
G8A46993	R1.0	2.0	4	1.6	18	55	1.95
G8A46910	R1.0	2.0	4	1.6	20	55	1.95
G8A46944	R1.0	2.0	4	1.6	22	60	1.95
G8A46945	R1.0	2.0	4	1.6	25	60	1.95
G8A46967	R1.0	2.0	4	1.6	30	70	1.95
G8A46948	R1.5	3.0	6	2.4	12	50	2.85
G8A46984	R1.5	3.0	6	2.4	14	55	2.85
G8A46030	R1.5	3.0	6	2.4	16	55	2.85
G8A46985	R1.5	3.0	6	2.4	18	60	2.85
G8A46911	R1.5	3.0	6	2.4	20	60	2.85
G8A46968	R1.5	3.0	6	2.4	25	65	2.85
G8A46969	R1.5	3.0	6	2.4	30	70	2.85
G8A46970	R1.5	3.0	6	2.4	35	80	2.85
G8A46950	R2.0	4.0	6	3.2	12	60	3.85
G8A46040	R2.0	4.0	6	3.2	16	60	3.85
G8A46912	R2.0	4.0	6	3.2	20	65	3.85
G8A46913	R2.0	4.0	6	3.2	25	70	3.85
G8A46971	R2.0	4.0	6	3.2	30	70	3.85
G8A46972	R2.0	4.0	6	3.2	35	80	3.85
G8A46973	R2.0	4.0	6	3.2	40	90	3.85
G8A46974	R2.0	4.0	6	3.2	45	90	3.85
G8A46975	R2.0	4.0	6	3.2	50	100	3.85

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

◎ : 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									
		○	○	◎	◎									



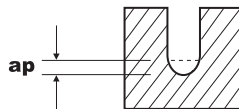
**RECOMMENDED CUTTING CONDITIONS
EMPHOHLENE SCHNEIDKONDITIONEN**

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

G8A46, G8A54 SERIES

MATERIAL HARDNESS DIAMETER	ALLOY STEELS HEAT RESISTANT STEELS					HARDENED STEELS				
	HRc 30 ~ HRc 45					HRc 45 ~ HRc 55				
	RPM	FEED	ap(mm)	Vc	fz	RPM	FEED	ap(mm)	Vc	fz
R0.1 × 0.2	50000	300~350	0.006~0.016	31	0.012~0.014	50000	265~310	0.005~0.013	31	0.011~0.012
R0.15 × 0.3	48000~50000	480~520	0.010~0.017	45~47	0.020~0.021	48000~50000	440~460	0.008~0.014	45~47	0.018~0.018
R0.2 × 0.4	48000~50000	720~790	0.013~0.032	60~63	0.030~0.032	48000~50000	450~550	0.011~0.026	60~63	0.019~0.022
R0.25 × 0.5	34100~49500	600~870	0.007~0.028	54~78	0.035~0.035	31900~35200	490~540	0.005~0.023	50~55	0.031~0.031
R0.3 × 0.6	28600~40700	590~850	0.007~0.034	54~77	0.041~0.042	26400~29700	480~540	0.006~0.028	50~56	0.036~0.036
R0.4 × 0.8	22000~30800	640~890	0.016~0.064	55~77	0.058~0.058	19800~22000	490~550	0.013~0.052	50~55	0.049~0.05
R0.5 × 1.0	17600~24200	600~850	0.008~0.080	55~76	0.068~0.070	15400~17600	470~540	0.007~0.065	48~55	0.061~0.061
R0.6 × 1.2	14300~18700	590~780	0.024~0.032	54~70	0.083~0.083	12000~14000	480~540	0.020~0.026	45~53	0.080~0.077
R0.75 × 1.5	11000~14300	580~760	0.031~0.048	52~67	0.105~0.106	10000~11500	480~540	0.025~0.039	47~54	0.096~0.094
R1.0 × 2.0	8500~11000	590~800	0.024~0.160	53~69	0.139~0.145	7900~8800	470~530	0.020~0.130	50~55	0.119~0.12
R1.5 × 3.0	5700~8200	730~1000	0.064~0.240	54~77	0.256~0.244	5300~5800	590~650	0.052~0.195	50~55	0.223~0.224
R2.0 × 4.0	4300~6200	680~990	0.080~0.320	54~78	0.316~0.319	3950~4400	550~620	0.065~0.260	50~55	0.299~0.282

MATERIAL HARDNESS DIAMETER	HARDENED STEELS					COPPER				
	HRc 55 ~ HRc 65									
	RPM	FEED	ap(mm)	Vc	fz	RPM	FEED	ap(mm)	Vc	fz
R0.1 × 0.2	50000	225~265	0.005~0.012	31~31	0.009~0.011	50000	455~530	0.010~0.022	31~31	0.018~0.021
R0.15 × 0.3	46000~50000	390~420	0.007~0.013	43~47	0.017~0.017	48000~50000	690~790	0.002~0.023	45~47	0.029~0.032
R0.2 × 0.4	46000~50000	400~460	0.010~0.024	58~63	0.017~0.018	48000~50000	1000~1150	0.019~0.048	60~63	0.042~0.046
R0.25 × 0.5	31900~35200	440~480	0.005~0.021	50~55	0.028~0.027	49000~50000	1100~1400	0.010~0.042	77~79	0.045~0.056
R0.3 × 0.6	26400~29700	400~480	0.006~0.025	50~56	0.030~0.032	42000~50000	1100~1700	0.011~0.050	79~94	0.052~0.068
R0.4 × 0.8	19800~22000	440~500	0.012~0.048	50~55	0.044~0.045	31000~50000	1100~2250	0.024~0.096	78~126	0.071~0.090
R0.5 × 1.0	15400~17600	440~500	0.006~0.060	48~55	0.057~0.057	24000~49500	1100~2200	0.012~0.120	75~156	0.092~0.089
R0.6 × 1.2	12000~14000	420~480	0.018~0.024	45~53	0.070~0.069	28500~38500	1480~1950	0.036~0.048	107~145	0.104~0.101
R0.75 × 1.5	10000~11500	420~480	0.023~0.036	47~54	0.084~0.083	17000~28500	1100~1950	0.046~0.072	80~134	0.129~0.137
R1.0 × 2.0	7900~8800	440~480	0.018~0.120	50~55	0.111~0.109	12600~24000	1100~2150	0.036~0.240	79~151	0.175~0.179
R1.5 × 3.0	5300~5800	550~620	0.048~0.120	50~55	0.208~0.214	11900~17000	1850~2700	0.096~0.360	112~160	0.311~0.318
R2.0 × 4.0	3850~4400	530~570	0.060~0.240	48~55	0.275~0.259	6600~12500	1260~2500	0.120~0.480	83~157	0.382~0.400



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