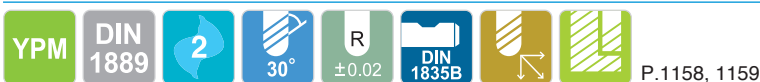


## PREMIUM HSS-PM, 2 FLUTE LONG LENGTH BALL NOSE PREMIUM HSS-PM, 2 SCHNEIDEN STIRNRADIUS LANG

- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Designed for milling of radius bottom slots, fillets and special contours.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
- ▶ Geeignet zum Fräsen von Stahl, legiertem Stahl und rostfreier Stahl.
- ▶ Entworfen zum Fräsen von Nuten mit Radien, Rippen und speziellen Konturen.
- ▶ Neuentwickelte Beschichtung für Hochgeschwindigkeitsfräsen.



Unit : mm

EDP No.		Radius of Ball Nose R (±0.02)	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TANK-POWER COATED					
E9A32020	GAA32020	R1.0	2.0	6	7	54
E9A32030	GAA32030	R1.5	3.0	6	8	56
E9A32040	GAA32040	R2.0	4.0	6	11	63
E9A32050	GAA32050	R2.5	5.0	6	13	68
E9A32060	GAA32060	R3.0	6.0	6	13	68
E9A32070	GAA32070	R3.5	7.0	10	16	80
E9A32080	GAA32080	R4.0	8.0	10	19	88
E9A32090	GAA32090	R4.5	9.0	10	19	88
E9A32100	GAA32100	R5.0	10.0	10	22	95
E9A32120	GAA32120	R6.0	12.0	12	26	110
E9A32140	GAA32140	R7.0	14.0	12	26	110
E9A32160	GAA32160	R8.0	16.0	16	32	123
E9A32180	GAA32180	R9.0	18.0	16	32	123
E9A32200	GAA32200	R10.0	20.0	20	38	141
E9A32220	GAA32220	R11.0	22.0	20	38	141
E9A32250	GAA32250	R12.5	25.0	25	45	166

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : Excellent ○ : Good

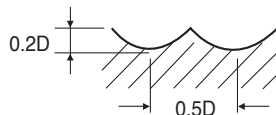
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
◎	◎	○				○		◎		◎				

PREMIUM HSS-PM, 2 FLUTE BALL NOSE - PROFILING  
PREMIUM HSS-PM, 2 SCHNEIDEN STIRNRADIUS - PROFILFRÄSEN

**GA940, GAA32** SERIES

MATERIAL	STRUCTURAL STEELS CARBON STEELS				STRUCTURAL STEELS CARBON STEELS CAST IRONS				CARBON STEELS ALLOY STEELS TOOL STEELS			
	~ 500N/mm <sup>2</sup>				500 ~ 800N/mm <sup>2</sup>				800 ~ 1000N/mm <sup>2</sup>			
HARDNESS	~ HRC20				~ HRC20				HRC20 ~ HRC30			
STRENGTH	~ 500N/mm <sup>2</sup>				500 ~ 800N/mm <sup>2</sup>				800 ~ 1000N/mm <sup>2</sup>			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
R1.5 × 3.0	7300	340	70	0.023	5800	230	55	0.020	3900	125	35	0.016
R2.0 × 4.0	6000	430	75	0.036	4620	290	60	0.031	3000	160	40	0.027
R3.0 × 6.0	4400	480	85	0.055	3500	320	65	0.046	2300	180	45	0.039
R4.0 × 8.0	3350	530	85	0.079	2600	350	65	0.067	1800	200	45	0.056
R5.0 × 10.0	2750	600	85	0.109	2100	400	65	0.095	1400	230	45	0.082
R6.0 × 12.0	2300	530	85	0.115	1800	350	70	0.097	1200	200	45	0.083
R8.0 × 16.0	1700	480	85	0.141	1300	320	65	0.123	890	180	45	0.101
R10.0 × 20.0	1350	420	85	0.156	1000	280	65	0.140	680	150	45	0.110
R12.5 × 25.0	950	310	75	0.163	740	210	60	0.142	470	115	35	0.122

MATERIAL	PREHARDENED STEELS ALLOY STEELS TOOL STEELS				STAINLESS STEELS			
	HRC30 ~ HRC40							
STRENGTH	1000 ~ 1300N/mm <sup>2</sup>							
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
R1.5 × 3.0	2000	55	20	0.014	2200	60	20	0.014
R2.0 × 4.0	1600	75	20	0.023	1760	80	20	0.023
R3.0 × 6.0	1200	85	25	0.035	1320	95	25	0.036
R4.0 × 8.0	890	85	20	0.048	980	95	25	0.048
R5.0 × 10.0	680	102	20	0.075	750	110	25	0.073
R6.0 × 12.0	580	85	20	0.073	640	95	25	0.074
R8.0 × 16.0	440	80	20	0.091	490	90	25	0.092
R10.0 × 20.0	360	70	25	0.097	400	80	25	0.100
R12.5 × 25.0	250	52	20	0.104	275	55	20	0.100



※ The FEED, in long & long reach types, should be reduced by around 50%

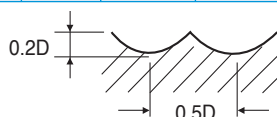
RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t

**PREMIUM HSS-PM, 2 FLUTE BALL NOSE - PROFILING**  
**PREMIUM HSS-PM, 2 SCHNEIDEN STIRNRADIUS - PROFILFRÄSEN**

**E9940, E9A32 SERIES**

MATERIAL	STRUCTURAL STEELS CARBON STEELS				STRUCTURAL STEELS CARBON STEELS CAST IRONS				CARBON STEELS ALLOY STEELS TOOL STEELS			
HARDNESS					~ HRc20				HRc20 ~ HRc30			
STRENGTH	~ 500N/mm <sup>2</sup>				500 ~ 800N/mm <sup>2</sup>				800 ~ 1000N/mm <sup>2</sup>			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
R1.5 × 3.0	5000	210	45	0.021	3900	140	35	0.018	2600	80	25	0.015
R2.0 × 4.0	4000	260	50	0.033	3100	180	40	0.029	2100	100	25	0.024
R3.0 × 6.0	3000	300	55	0.050	2300	200	45	0.043	1600	110	30	0.034
R4.0 × 8.0	2300	330	60	0.072	1800	220	45	0.061	1200	125	30	0.052
R5.0 × 10.0	1800	370	55	0.103	1400	250	45	0.089	1000	140	30	0.070
R6.0 × 12.0	1500	330	55	0.110	1200	220	45	0.092	820	125	30	0.076
R8.0 × 16.0	1100	300	55	0.136	900	200	45	0.111	600	110	30	0.092
R10.0 × 20.0	930	260	60	0.140	710	170	45	0.120	480	95	30	0.099
R12.5 × 25.0	640	190	50	0.148	500	130	40	0.130	340	70	25	0.103

MATERIAL	PREHARDENED STEELS ALLOY STEELS TOOL STEELS				STAINLESS STEELS			
HARDNESS	HRc30 ~ HRc40							
STRENGTH	1000 ~ 1300N/mm <sup>2</sup>							
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
R1.5 × 3.0	1300	35	10	0.013	1430	40	15	0.014
R2.0 × 4.0	1000	45	15	0.023	1100	55	15	0.025
R3.0 × 6.0	820	55	15	0.034	900	65	15	0.036
R4.0 × 8.0	600	55	15	0.046	660	65	15	0.049
R5.0 × 10.0	480	65	15	0.068	530	80	15	0.075
R6.0 × 12.0	400	55	15	0.069	440	65	15	0.074
R8.0 × 16.0	300	50	15	0.083	330	60	15	0.091
R10.0 × 20.0	240	45	15	0.094	265	55	15	0.104
R12.5 × 25.0	175	30	15	0.086	195	35	15	0.090



※ The FEED, in long & long reach types, should be reduced by around 50%

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