



UNCOATED

E9941 SERIES

TiAlN based COATED

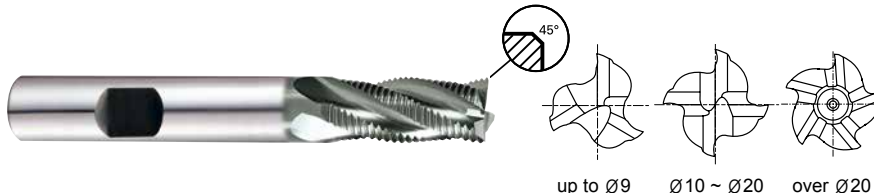
GA941 SERIES

HSS-PM, MULTI FLUTE SHORT LENGTH ROUGHING - FINE

- HSS-PM, MULTI SCHNEIDEN KURZ SCHRUPPFRÄSER - FEIN
- FRAISES HSS-PM, MULTI-DENTS RAVAGEUSE - PAS FINS, SÉRIE COURTE
- MULTI TAGL., PER SGROSSATURA, SERIE CORTA, BOMBATO FINE - HSS PM

- ▶ Suitable for high-feed roughing milling.
- ▶ Designed to machine carbon steels, alloyed steels, stainless steels.
- ▶ Providing excellent finished surfaces in many cases.
- ▶ YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
- ▶ up to $\varnothing 20$: center cut, over $\varnothing 20$: non center cut

- ▶ Geeignet zum HSC - Schrupp - Fräsen.
- ▶ Geeignet zum Fräsen von Stahl, legiertem Stahl und rostfreier Stahl.
- ▶ Liefert in vielen Fällen exzellente bearbeitete Oberflächen.
- ▶ Neuentwickelte Beschichtung für Hochgeschwindigkeitsfräsen.
- ▶ Bis D=20mm : Mit Zentrumschneide, über D=20mm : Ohne Zentrumschneide.



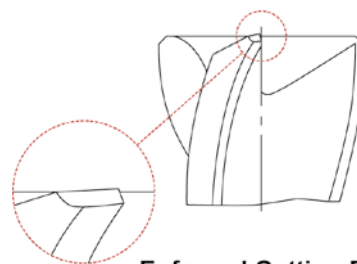
HSS PM
DIN 844
HR
3-5
30°
DIN 1835B
~Ø20
Ø22~
C x 45°
P.664~665

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	Chamfer
UNCOATED	X-COATING	js12	h6				
E9941060	GA941060	6.0	6	13	57	3	0.18
E9941070	GA941070	7.0	10	16	66	3	0.18
E9941080	GA941080	8.0	10	19	69	3	0.18
E9941090	GA941090	9.0	10	19	69	3	0.18
E9941100	GA941100	10.0	10	22	72	4	0.18
E9941120	GA941120	12.0	12	26	83	4	0.18
E9941140	GA941140	14.0	12	26	83	4	0.25
E9941160	GA941160	16.0	16	32	92	4	0.25
E9941180	GA941180	18.0	16	32	92	4	0.25
E9941200	GA941200	20.0	20	38	104	4	0.25
E9941220	GA941220	22.0	20	38	104	5	0.36
E9941250	GA941250	25.0	25	45	121	5	0.36

Unit : mm

Tolerances according to DIN 7160 & 7161

		Tolerance range in μm					
		Nominal-Diameter in mm					
		from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
js12		± 50	± 60	± 75	± 90	± 105	± 125
h6		0 -6	0 -8	0 -9	0 -11	0 -13	0 -16



Enforced Cutting Edge

◎ : Excellent ○ : Good

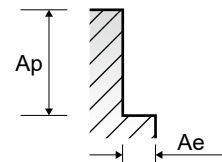
ISO	P										M				K									
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HRc	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	10	26	3	25	19	21	3	25	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	130	230	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
ISO	N									S							H							
Material Description	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys			Hardened steel		Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	400	550	550
Recommend						○	○	○																

GA941 , GAA35 , GAA33 , GAA34 SERIES MULTI FLUTE ROUGHING - SIDE CUTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø)									
						6.0	8.0	10.0	12.0	22.0	25.0	18.0	20.0	22.0	25.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	55	60	60	60	60	60	60	60	60	60
					fz	0.027	0.04	0.055	0.065	0.074	0.086	0.099	0.111	0.096	0.105
					RPM	2918	2387	1910	1592	1364	1194	1061	955	868	764
	2		Vc	40	50	45	45	45	50	50	50	45	45		
			fz	0.027	0.04	0.053	0.069	0.079	0.087	0.093	0.109	0.102	0.105		
			RPM	2122	1989	1432	1194	1023	995	884	796	651	573		
	3-4		Vc	30	35	35	35	35	35	35	35	30	35		
			fz	0.024	0.038	0.046	0.064	0.076	0.087	0.094	0.108	0.098	0.105		
			RPM	1592	1393	1114	928	796	619	557	434	446			
	5		Vc	25	25	30	30	30	30	30	30	30	30		
fz		0.027	0.04	0.045	0.061	0.071	0.082	0.092	0.102	0.09	0.1				
RPM		1326	995	955	796	682	597	531	477	434	382				
6	Vc	40	50	45	45	45	50	50	50	45	45				
	fz	0.027	0.04	0.053	0.069	0.079	0.087	0.093	0.109	0.102	0.105				
	RPM	2122	1989	1432	1194	1023	995	884	796	651	573				
7	Vc	30	35	35	35	35	35	35	35	30	35				
	fz	0.024	0.038	0.046	0.064	0.076	0.087	0.094	0.108	0.098	0.105				
	RPM	1592	1393	1114	928	796	619	557	434	446					
8-9	Vc	25	25	30	30	30	30	30	30	30	30				
	fz	0.027	0.04	0.045	0.061	0.071	0.082	0.092	0.102	0.09	0.1				
	RPM	1326	995	955	796	682	597	531	477	434	382				
10	Vc	40	50	45	45	45	50	50	50	45	45				
	fz	0.027	0.04	0.053	0.069	0.079	0.087	0.093	0.109	0.102	0.105				
	RPM	2122	1989	1432	1194	1023	995	884	796	651	573				
11.1	Vc	25	25	30	30	30	30	30	30	30	30				
	fz	0.027	0.04	0.045	0.061	0.071	0.082	0.092	0.102	0.09	0.1				
	RPM	1326	995	955	796	682	597	531	477	434	382				
M	14.1	Stainless steel	0.5D	1.5D	Vc	25	30	30	30	30	30	30	30	30	
					fz	0.025	0.039	0.045	0.064	0.074	0.085	0.093	0.107	0.095	0.103
					RPM	1326	1194	955	796	682	597	531	477	434	382
K	15-20	Grey cast iron Nodular cast iron Malleable cast iron	0.5D	1.5D	Vc	40	50	45	45	45	50	50	50	45	45
					fz	0.027	0.04	0.053	0.069	0.079	0.087	0.093	0.109	0.102	0.105
					RPM	2122	1989	1432	1194	1023	995	884	796	651	573
FEED						172	239	304	329	323	346	329	347	332	301

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



SELECTION GUIDE



SERIES	E9940 GA940	E9A32 GAA32	E9936 GA936	E9A29 GAA29
FLUTE	2	2	2	2
HELIX ANGLE	30°	30°	30°	30°
CUTTING EDGE SHAPE	BALL NOSE	BALL NOSE	SQUARE	SQUARE
SIZE MIN	R0.5	R1.0	D1.0	D1.0
SIZE MAX	R12.5	R12.5	D25.0	D25.0
PAGE	640	641	642	643

CBN
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i-SMART
MODULAR
END MILLS

X5070
END MILLS

4G MILL
END MILLS

X-POWER
PRO
END MILLS

TitaNox-
POWER
END MILLS

JET-POWER
END MILLS

V7 PLUS
END MILLS

ALU-POWER
HPC
END MILLS

ALU-
POWER
END MILLS

D-POWER
GRAPHITE
END MILLS

D-POWER
CFRP
END MILLS

ROUTERS

CRX S
END MILLS

K-2
END MILLS

ONLY ONE
COATED PM60
END MILLS

TANK-
POWER
END MILLS

GENERAL
HSS
END MILLS

MILLING
CUTTERS

TECHNICAL
DATA

HSS-PM
TANK-POWER
END MILLS

High Toughness, for Stainless Steels, Carbon steels, Alloy Steels
For General Application, Rough & Finish



Please visit
globalyg1.com/mat
for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P 654

	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH
	TiAlN based	TiAlN based	TiAlN based	TiAlN based
P	◎	◎	◎	◎
M	◎	◎	◎	◎
K	◎	◎	◎	◎
N	○	○	○	○
S	○	○	○	○
H	○	○	○	○

E9942 GA942	E9A30 GAA30	E9938 GA938	E9A31 GAA31	E9941 GA941	E9A35 GAA35	E9A26 GAA26	E9A33 GAA33	E9A34 GAA34	E9E43 GAE43
3	3	4	4	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute
30°	30°	30°	30°	30°	30°	45°	30°	30°	30°
SQUARE	SQUARE	SQUARE	SQUARE	ROUGHING	ROUGHING	ROUGHING	ROUGHING	ROUGHING	ROUGHING
D1.0	D1.0	D1.0	D2.0	D6.0	D6.0	D4.0	D6.0	D6.0	D10.0
D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0	D25.0
644	645	646	647	648	649	650	651	652	653
STUB LENGTH	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	WITH NECK
TiAlN based	TiAlN based	TiAlN based	TiAlN based	X-Coating	X-Coating	X-Coating	X-Coating	X-Coating	X-Coating



⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	1
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⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	4
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	5
⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	6 P
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CBN
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