TANK-POWER END MILLS

UNCOATED **E9A33** SERIES
X-COATING **GAA33** SERIES

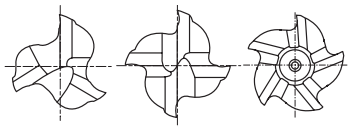
HSS-PM, MULTI FLUTE SHORT LENGTH ROUGHING - COARSE

HSS-PM, MULTI SCHNEIDEN KURZ SCHRUPFRÄSER - GROB
FRAISES HSS-PM, MULTI-DENTS RAVAGEUSE - PAS GROSSIERS, SÉRIE COURTE
MULTI TAGL., PER SGROS., SERIE CORTA, BOMBATO GROSSO - HSS PM

- Suitable for high-feed roughing milling.
- Designed to machine carbon steels, alloyed steels, stainless steels.
- YG-1's new developed TANK-POWER Coating suitable for high speed cutting.
- up to Ø20 : center cut, over Ø20 : non center cut

- Geeignet zum HSC - Schrupp - Fräsen.
- Geeignet zum Fräsen von Stahl, legiertem Stahl und rostfreier Stahl.
- Neuentwickelte Beschichtung für Hochgeschwindigkeitsfräsen.
- Bis D<=20mm : mit Zentrumschnitt, über D<=20mm : Ohne Zentrumschnitt.





HSS PM | DIN 844 | NR | 3-5 | 30° | DIN 1835B | ~Ø20 | Ø22~ | C x 45° | UNCOATED | X Coating

p.C698~C699

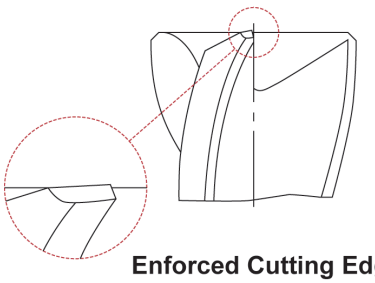
Recommended ToolHolder	Flat Shank	Plain Shank
	END MILL HOLDER	POWER MILLING CHUCK
	-	ER COLLET CHUCK SK SLIM CHUCK

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute	Chamfer
UNCOATED	X-COATING	js12	h6				
E9A33060	**GAA33060**	**6.0**	6	13	57	3	0.25
E9A33070	**GAA33070**	**7.0**	10	16	66	3	0.25
E9A33080	**GAA33080**	**8.0**	10	19	69	3	0.25
E9A33090	**GAA33090**	**9.0**	10	19	69	3	0.36
E9A33100	**GAA33100**	**10.0**	10	22	72	4	0.36
E9A33120	**GAA33120**	**12.0**	12	26	83	4	0.5
E9A33140	**GAA33140**	**14.0**	12	26	83	4	0.55
E9A33160	**GAA33160**	**16.0**	16	32	92	4	0.55
E9A33180	**GAA33180**	**18.0**	16	32	92	4	0.55
E9A33200	**GAA33200**	**20.0**	20	38	104	4	0.55
E9A33220	**GAA33220**	**22.0**	20	38	104	5	0.55
E9A33250	**GAA33250**	**25.0**	25	45	121	5	0.55

Tolerances according to DIN 7160 & 7161

Tolerance range in ㎛						
Nominal-Diameter in ㎜						
	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
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	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
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend						○	○	○													