Leading Through Innovation

HSS

GENERAL HSS
END MILLS
HSS SCHAFTFRÄSER

- General Purpose / Coating Available
- Allgemeine Anwendung / Beschichtung verfügbar

SELECTION GUIDE

YG MILLING TOOLS

HSS GENERAL HSS END MILLS

General Purpose, Non-coated, Any Coating Available

Please visit globalyg1.com/mat for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P 738

SERIES	E9410	E9720	E3570	E3574
FLUTE	2	Muti Flute	2	4
HELIX ANGLE	≈ 30°	30°	≈ 30°	≈ 30°
CUTTING EDGE SHAPE	SQUARE	SQUARE	SQUARE	SQUARE
SIZE MIN	D3.0	D6.0	D2.5	D2.0
SIZE MAX	D25.0	D30.0	D18.0	D18.0
PAGE	678	679	680	681
	SHORT LENGTH	SHORT LENGTH ROUGHING	SHORT LENGTH	SHORT LENGTH
	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated
	HSS-PM	HSS-PM	HSS-PM	HSS-PM

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment		HB	HRc	E9410	E9720	E3570	E3574
P	1	Non-alloy steel	About 0.15% C	Annealed	125		◎	◎	◎	◎
	2		About 0.45% C	Annealed	190	13	◎	◎	◎	◎
	3		About 0.45% C	Quenched & Tempered	250	25	◎	◎	◎	◎
	4		About 0.75% C	Annealed	270	28	◎	◎	◎	◎
	5		About 0.75% C	Quenched & Tempered	300	32	○	○	○	○
	6	Low alloy steel		Annealed	180	10	◎	◎	◎	◎
	7			Quenched & Tempered	275	29	◎	◎	◎	◎
	8			Quenched & Tempered	300	32	○	○	○	○
	9			Quenched & Tempered	350	38	○	○	○	○
	10	High alloyed steel, and tool steel		Annealed	200	15	◎	◎	◎	◎
	11			Quenched & Tempered	325	35	○	○	○	○
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15				
	13		Martensitic	Quenched & Tempered	240	23				
	14		Austenitic		180	10				
K	15	Grey cast iron	Pearlitic / ferritic		180	10				
	16		Pearlitic (Martensitic)		260	26				
	17	Nodular cast iron	Ferritic		160	3				
	18		Pearlitic		250	25				
	19	Malleable cast iron	Ferritic		130					
	20		Pearlitic		230	21				
N	21	Aluminum-wrought alloy	Not Curable		60		○	○	○	○
	22		Curable	Hardened	100		○	○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		○	○	○	○
	24		≤ 12% Si, Curable	Hardened	90		○	○	○	○
	25		> 12% Si, Not Curable		130		○	○	○	○
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110					
	27		CuZn, CuSnZn (Brass)		90					
	28		CuSn, lead-free copper and electrolytic copper		100					
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
	30		Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15				
	32			Cured	280	30				
	33		Ni or Co Based	Annealed	250	25				
	34			Cured	350	38				
	35			Cast	320	34				
	36	Titanium Alloys	Pure Titanium		400 Rm					
	37		Alpha + Beta Alloys	Hardened	1050 Rm					
H	38	Hardened steel		Hardened	550	55				
	39			Hardened	630	60				
	40	Chilled Cast Iron		Cast	400	42				
	41	Hardened Cast Iron		Hardened	550	55				

SERIES	E3462	E2535	E2492	E2512	E2410	E2429	EL623	EL612	E2570	E2571	E2510
FLUTE	3	2	2	3	4&6	4&6	1	1	2	2	2
HELIX ANGLE	60°	≈ 30°	≈ 30°	30°	30°	30°	≈ 30°	≈ 30°	≈ 30°	≈ 30°	30°
CUTTING EDGE SHAPE	SQUARE	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE	BALL NOSE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE
SIZE MIN	D7.0	R1.0	R1.0	R1.0	R3.0	R5.0	D3.0	D3.0	D1.0	D1.5	D2.5
SIZE MAX	D20.0	R16.0	R15.0	R3.0	R12.5	R12.5	D10.0	D10.0	D40.0	D40.0	D40.0
PAGE	682	683	684	685	686	687	688	689	690	693	695
	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH THROW AWAY	SHORT LENGTH	LONG LENGTH	-	-	SHORT LENGTH	LONG LENGTH	EXTRA LONG LENGTH
	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated	Uncoated	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN
	HSS-PM	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS-E	HSS-E	HSS Co8	HSS Co8	HSS Co8

ISO	VDI 3323	E3462	E2535	E2492	E2512	E2410	E2429	EL623	EL612	E2570	E2571	E2510
P	1	◎	◎	◎	◎	◎	◎	○	○	◎	◎	◎
	2	◎	◎	◎	◎	◎	◎	○	○	◎	◎	◎
	3	◎	◎	◎	◎	◎	◎	○		◎	◎	◎
	4	◎	◎	◎	◎	◎	◎	○		◎	◎	◎
	5	○	○	○	○	○	○	○		○	○	○
	6	◎	◎	◎	◎	◎	◎	○	○	◎	◎	◎
	7	◎	◎	◎	◎	◎	◎	○		◎	◎	◎
	8	○	○	○	○	○	○	○		○	○	○
	9	○	○	○	○	○	○			○	○	○
	10	◎	◎	◎	◎	◎	◎	○	○	◎	◎	◎
	11	○	○	○	○	○	○			○	○	○
M	12											
	13											
	14											
K	15											
	16											
	17											
	18											
	19											
	20											
N	21	○	○	○	○	○	○	○	◎	○	○	○
	22	○	○	○	○	○	○	○	◎	○	○	○
	23	○	○	○	○	○	○	○	◎	○	○	○
	24	○	○	○	○	○	○	○	◎	○	○	○
	25	○	○	○	○	○	○	○	○	○	○	○
	26											
	27											
	28											
	29											
	30											
S	31											
	32											
	33											
	34											
	35											
	36											
	37											
H	38											
	39											
	40											
	41											

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i-Xmill END MILLS
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
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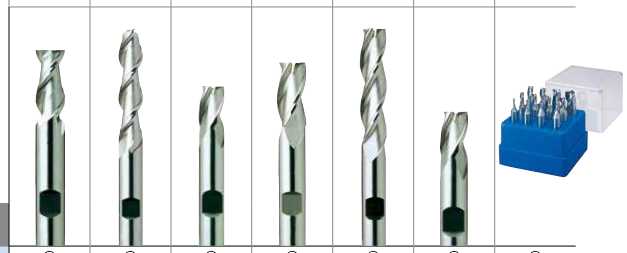
SERIES	E2464	E2509	E2572	E2573	E2516	E2553	E2SET553
FLUTE	2	2	3	3	3	3	3
HELIX ANGLE	42°	42°	≈ 30°	≈ 30°	30°	30°	30°
	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE
SIZE MIN	D1.0	D2.0	D1.5	D1.0	D2.0	D1.0	D2.0
SIZE MAX	D32.0	D20.0	D32.0	D40.0	D40.0	D20.0	D10.0
PAGE	696	698	699	700	702	704	705
	SHORT LENGTH	LONG LENGTH	STUB LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH THROW AWAY	THROW AWAY SET
	Uncoated	Uncoated	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated
	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8



ISO	VDI 3323	Material Description	HB	HRc	E2464	E2509	E2572	E2573	E2516	E2553	E2SET553
P	1	Non-alloy steel	125		○	○	◎	◎	◎	◎	◎
	2		190	13	○	○	◎	◎	◎	◎	◎
	3		250	25			◎	◎	◎	◎	◎
	4		270	28			◎	◎	◎	◎	◎
	5		300	32			◎	◎	◎	◎	◎
	6	Low alloy steel	180	10	○	○	◎	◎	◎	◎	◎
	7		275	29			◎	◎	◎	◎	◎
	8		300	32			◎	◎	◎	◎	◎
	9		350	38			○	○	○	○	○
	10	High alloyed steel, and tool steel	200	15	○	○	◎	◎	◎	◎	◎
	11		325	35			○	○	○	○	○
M	12	Stainless steel	200	15							
	13		240	23							
	14		180	10							
K	15	Grey cast iron	180	10							
	16		260	26							
	17	Nodular cast iron	160	3							
	18		250	25							
	19	Malleable cast iron	130								
	20		230	21							
N	21	Aluminum-wrought alloy	60		◎	◎	○	○	○	○	○
	22		100		◎	◎	○	○	○	○	○
	23	Aluminum-cast, alloyed	75		◎	◎	○	○	○	○	○
	24		90		◎	◎	○	○	○	○	○
	25		130		○	○	○	○	○	○	○
	26	Copper and Copper Alloys (Bronze / Brass)	110								
	27		90								
	28		100								
	29	Non Metallic Materials									
	30										
S	31	Heat Resistant Super Alloys	200	15							
	32		280	30							
	33		250	25							
	34		350	38							
	35		320	34							
	36	Titanium Alloys	400 Rm								
	37		1050 Rm								
H	38	Hardened steel	550	55							
	39		630	60							
	40	Chilled Cast Iron	400	42							
	41	Hardened Cast Iron	550	55							

SERIES	E2554	E2551	E2552	E2574 E2575	E2595 E2596	E2576 E2577	E2597 E2598	E2776	E2461 E2462 E2463	E2761	E2606
FLUTE	3	3	3	4&6	4&6	4&6	4&6	Multi Flute	Multi Flute	Multi Flute	3&4
HELIX ANGLE	30°	30°	30°	≈ 30°	≈ 30°	30°	45°	30°	50°	30°	30°
	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE	SQUARE ROUGHING	BALL NOSE ROUGHING
SIZE MIN	D1.5	D1.0	D1.5	D2.0/D21.0	D2.0/D22.0	D2.0/D22.0	D2.0/D22.0	D14.0	D2.0/D6.0/D22.0	D6.0	R3.0
SIZE MAX	D10.0	D10.0	D10.0	D20.0 /D40.0	D25.0/D40.0	D20.0/D40.0	D20.0/D40.0	D50.0	D5.0/D23.0/D30.0	D25.0	R16.0
PAGE	706	707	708	709	710, 711	712	713, 714	715	716	717	718
	LONG LENGTH THROW AWAY	SHORT LENGTH THROW AWAY	LONG LENGTH THROW AWAY	SHORT LENGTH	SHORT LENGTH CENTER CUTTING	LONG LENGTH	LONG LENGTH CENTER CUTTING	SHORT LENGTH	SHORT LENGTH	SHORT LENGTH	SHORT LENGTH
	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN
	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8

ISO	VDI 3323	Material Description	HB	HRc	E2554	E2551	E2552	E2574 E2575	E2595 E2596	E2576 E2577	E2597 E2598	E2776	E2461 E2462 E2463	E2761	E2606
P	1	Non-alloy steel	125		◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	2		190	13	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	3		250	25	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	4		270	28	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	5		300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	6	Low alloy steel	180	10	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	7		275	29	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	8		300	32	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	9		350	38	○	○	○	○	○	○	○	○	○	○	○
	10	High alloyed steel, and tool steel	200	15	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
	11		325	35	○	○	○	○	○	○	○	○	○	○	○
M	12	Stainless steel	200	15											
	13		240	23											
	14		180	10											
K	15	Grey cast iron	180	10											
	16		260	26											
	17	Nodular cast iron	160	3											
	18		250	25											
	19	Malleable cast iron	130												
	20		230	21											
N	21	Aluminum-wrought alloy	60		○	○	○	○	○	○	○	○		○	○
	22		100		○	○	○	○	○	○	○	○		○	○
	23	Aluminum-cast, alloyed	75		○	○	○	○	○	○	○	○		○	○
	24		90		○	○	○	○	○	○	○	○		○	○
	25		130		○	○	○	○	○	○	○	○		○	○
	26	Copper and Copper Alloys (Bronze / Brass)	110												
	27		90												
	28		100												
	29	Non Metallic Materials													
	30														
S	31	Heat Resistant Super Alloys	200	15											
	32		280	30											
	33		250	25											
	34		350	38											
	35		320	34											
	36	Titanium Alloys	400 Rm												
	37		1050 Rm												
H	38	Hardened steel	550	55											
	39		630	60											
	40	Chilled Cast Iron	400	42											
	41	Hardened Cast Iron	550	55											

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SERIES	E2524	E2753	E2762	E2757	E2764	E2765	E2755
FLUTE	3&4	Multi Flute	Multi Flute	3&4	3	3	3
HELIX ANGLE	30°	30°	30°	30°	30°	30°	37°
	SQUARE ROUGHING	SQUARE ROUGHING	SQUARE ROUGHING	BALL NOSE ROUGHING	SQUARE ROUGHING	SQUARE ROUGHING	SQUARE ROUGHING
SIZE MIN	D6.0	D6.0	D6.0	R4.0	D10.0	D10.0	D6.0
SIZE MAX	D20.0	D40.0	D40.0	R12.5	D40.0	D40.0	D30.0
PAGE	719	720	721	722	723	724	725
	STUB LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH
	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated
	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8

ISO	VDI 3323	Material Description	HB	HRc	E2524	E2753	E2762	E2757	E2764	E2765	E2755
P	1	Non-alloy steel	125		◎	◎	◎	◎	◎	◎	◎
	2		190	13	◎	◎	◎	◎	◎	◎	◎
	3		250	25	◎	◎	◎	◎	◎	◎	○
	4		270	28	◎	◎	◎	◎	◎	◎	○
	5		300	32	◎	◎	◎	◎	◎	◎	○
	6	Low alloy steel	180	10	◎	◎	◎	◎	◎	◎	◎
	7		275	29	◎	◎	◎	◎	◎	◎	○
	8		300	32	◎	◎	◎	◎	◎	◎	○
	9		350	38	○	○	○	○	○	○	
	10	High alloyed steel, and tool steel	200	15	◎	◎	◎	◎	◎	◎	◎
	11		325	35	○	○	○	○	○	○	
M	12	Stainless steel	200	15							
	13		240	23							
	14		180	10							
K	15	Grey cast iron	180	10							
	16		260	26							
	17	Nodular cast iron	160	3							
	18		250	25							
	19	Malleable cast iron	130								
	20		230	21							
N	21	Aluminum-wrought alloy	60		○	○	○	○	○	○	◎
	22		100		○	○	○	○	○	○	◎
	23	Aluminum-cast, alloyed	75		○	○	○	○	○	○	◎
	24		90		○	○	○	○	○	○	◎
	25		130		○	○	○	○	○	○	○
	26	Copper and Copper Alloys (Bronze / Brass)	110								
	27		90								
	28		100								
	29	Non Metallic Materials									
	30										
S	31	Heat Resistant Super Alloys	200	15							
	32		280	30							
	33		250	25							
	34		350	38							
	35		320	34							
	36	Titanium Alloys	400 Rm								
	37		1050 Rm								
H	38	Hardened steel	550	55							
	39		630	60							
	40	Chilled Cast Iron	400	42							
	41	Hardened Cast Iron	550	55							

E2756	E2751	E2752	E2778	E2777	E2779	E2766	E2767	E2754	E2768
3	Multi Flute	Multi Flute	Multi Flute	Multi Flute	Multi Flute	3	3	Multi Flute	Multi Flute
37°	30°	30°	30°	30°	30°	30°	30°	30°	30°
SQUARE ROUGHING	SQUARE ROUGHING	SQUARE ROUGHING	SQUARE ROUGHING	SQUARE ROUGHING	SQUARE ROUGHING&FINISHING	SQUARE ROUGHING&FINISHING	SQUARE ROUGHING&FINISHING	SQUARE ROUGHING&FINISHING	SQUARE ROUGHING&FINISHING
D10.0	D6.0	D6.0	D20.0	D14.0	D20.0	D6.0	D6.0	D6.0	D6.0
D30.0	D50.0	D40.0	D50.0	D45.0	D45.0	D40.0	D40.0	D40.0	D45.0
726	727	729	731	732	733	734	735	736	737
SHORT LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	SHORT LENGTH	SHORT LENGTH	SHORT LENGTH	LONG LENGTH	SHORT LENGTH	LONG LENGTH
Uncoated	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN	Uncoated / TiAlN
HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8	HSS Co8

E2756	E2751	E2752	E2778	E2777	E2779	E2766	E2767	E2754	E2768
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
○	◎	◎	◎	◎	○	◎	◎	◎	◎
○	◎	◎	◎	◎	○	◎	◎	◎	◎
○	◎	◎	◎	◎	○	◎	◎	◎	◎
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CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E9410** SERIES
FLAT SHANK **EP410** SERIES

HSS-PM, 2 FLUTE SHORT LENGTH

- HSS-PM, 2 SCHNEIDEN KURZ
- Fraise HSS-PM, 2 dents, courte
- HSS-PM, 2 TAGLIENTI, SERIE CORTA

HSS PM | DIN 327 | 2 | ≈30° | DIN 1835B P.738

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter e8	Shank Diameter h6	Length of Cut	Overall Length
▲ E9410030	▲ EP410030	3.0	6	5	49
-	▲ EP410040	4.0	6	7	51
-	▲ EP410050	5.0	6	8	52
-	▲ EP410060	6.0	6	8	52
-	▲ EP410080	8.0	10	11	61
▲ E9410100	▲ EP410100	10.0	10	13	63
▲ E9410120	-	12.0	12	16	73
-	▲ EP410140	14.0	12	16	73
▲ E9410160	▲ EP410160	16.0	16	19	79
▲ E9410180	-	18.0	16	19	79
▲ E9410250	-	25.0	25	26	102

▲ : Only available till stock runs out
▶Other shank design on your request.
▶TiN and TiCN Coatings are available on your request.

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
e8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73	-50 -89
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

◎ : 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	◎	◎	◎	◎	○	◎	◎	○	○	◎	○									

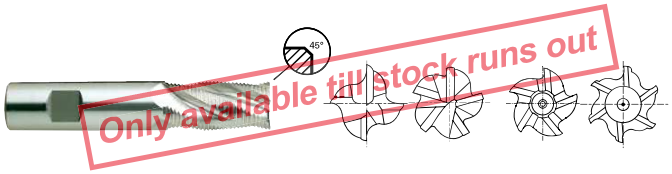
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E9720** SERIES
FLAT SHANK **EP720** SERIES

HSS-PM, MULTI FLUTE SHORT LENGTH ROUGHING - FINE

- HSS-PM, MULTI SCHNEIDEN KURZ SCHRUPPFRÄSER - FEIN
- Fraise HSS-PM, multi-dents ébauche, pas fin, courte
- HSS-PM, MULTITAGLIENTE, SERIE CORTA, PER SGROSSAATURA, BOMBATO FINE



HSS PM | DIN 844 | 4-6 | 30° | DIN 1835B | ~Ø20 | Ø22~ | C x 45° P.739

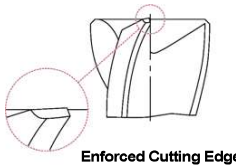
Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No. of Flute	Chamfer
▲ E9720060	▲ EP720060	6.0	6	13	57	4	0.18
▲ E9720090	-	9.0	10	19	69	5	0.18
▲ E9720100	▲ EP720100	10.0	10	22	72	5	0.18
▲ E9720110	▲ EP720110	11.0	12	22	79	5	0.18
▲ E9720120	▲ EP720120	12.0	12	26	83	5	0.18
▲ E9720130	▲ EP720130	13.0	12	26	83	5	0.18
▲ E9720140	▲ EP720140	14.0	12	26	83	5	0.25
-	▲ EP720150	15.0	12	26	83	5	0.25
▲ E9720160	▲ EP720160	16.0	16	32	92	5	0.25
-	▲ EP720180	18.0	16	32	92	5	0.25
▲ E9720200	-	20.0	20	38	104	5	0.25
▲ E9720220	▲ EP720220	22.0	20	38	104	5	0.30
-	▲ EP720250	25.0	25	45	121	6	0.36
▲ E9720300	▲ EP720300	30.0	25	45	121	6	0.33

▲ : Only available till stock runs out
▶Other shank design on your request.
▶TiN and TiCN Coatings are available on your request.

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
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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E3570** SERIES
FLAT SHANK **ER570** SERIES

HSS-PM, 2 FLUTE SHORT LENGTH

- HSS-PM, 2 SCHNEIDEN KURZ
- Fraise HSS-PM, 2 dents, courte
- HSS-PM, 2 TAGLIENTI, SERIE CORTA

HSS PM | DIN 327 | 2 | ≈30° | DIN 1835B P.740

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter e8	Shank Diameter h6	Length of Cut	Overall Length
▲ E3570025	-	2.5	6	5	49
-	▲ ER570030	3.0	6	5	49
▲ E3570040	-	4.0	6	7	51
▲ E3570050	▲ ER570050	5.0	6	8	52
▲ E3570060	▲ ER570060	6.0	6	8	52
▲ E3570070	-	7.0	10	10	60
▲ E3570080	▲ ER570080	8.0	10	11	61
▲ E3570090	-	9.0	10	11	61
▲ E3570100	-	10.0	10	13	63
▲ E3570110	-	11.0	12	13	70
▲ E3570120	▲ ER570120	12.0	12	16	73
▲ E3570130	-	13.0	12	16	73
▲ E3570140	-	14.0	12	16	73
▲ E3570150	-	15.0	12	16	73
▲ E3570160	▲ ER570160	16.0	16	19	79
-	▲ ER570170	17.0	16	19	79
-	▲ ER570180	18.0	16	19	79

▲ : Only available till stock runs out
▶Other shank design on your request.
▶TiN and TiCN Coatings are available on your request.

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
e8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73	-50 -89
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E3574** SERIES

HSS-PM, 4 FLUTE SHORT LENGTH

- HSS-PM, 4 SCHNEIDEN KURZ
- Fraise HSS-PM, 4 dents, courte
- HSS-PM, 4 TAGLIENTI, SERIE CORTA

HSS PM | DIN 844 | 4 | ≈30° | DIN 1835B P.741

Unit : mm

EDP No. UNCOATED	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
▲ E3574020	2.0	6	7	51
▲ E3574030	3.0	6	8	52
▲ E3574040	4.0	6	11	55
▲ E3574050	5.0	6	13	57
▲ E3574060	6.0	6	13	57
▲ E3574090	9.0	10	19	69
▲ E3574100	10.0	10	22	72
▲ E3574120	12.0	12	26	83
▲ E3574140	14.0	12	26	83
▲ E3574180	18.0	16	32	92

▲ : Only available till stock runs out
▶Other shank design on your request.
▶TiN and TiCN Coatings are available on your request.

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
+ 0.04 - 0	h6

◎ : 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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E3462** SERIES

HSS-PM, 3 FLUTE 60° HELIX SHORT LENGTH

HSS-PM, 3 SCHNEIDEN 60° RECHTSSPIRALE KURZ
Fraise HSS-PM, 3 dents, hélice 60°, courte
HSS-PM, 3 TAGLIENTI, ELICA 60°, SERIE CORTA

1 Tooth over center cut type

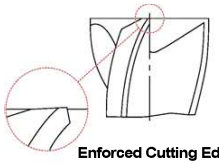
HSS PM | DIN 844 | 3 | 60° | DIN 1835B P.741

Unit : mm

EDP No. UNCOATED	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
▲ E3462070	7.0	10	16	66
▲ E3462080	8.0	10	19	69
▲ E3462090	9.0	10	19	69
▲ E3462100	10.0	10	22	72
▲ E3462120	12.0	12	26	83
▲ E3462140	14.0	12	26	83
▲ E3462150	15.0	12	26	83
▲ E3462160	16.0	16	32	92
▲ E3462180	18.0	16	32	92
▲ E3462200	20.0	20	38	104

▲ : Only available till stock runs out
▶Other shank design on your request.
▶TiN and TiCN Coatings are available on your request.

Mill Dia. Tolerance(mm)		Shank Dia. Tolerance
up to Ø6.5	+ 0.048 - 0	h6
Ø7.0 ~ Ø10.0	+ 0.058 - 0	
Ø10.5 ~ Ø18.0	+ 0.070 - 0	
over Ø18.0	+ 0.084 - 0	



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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2535** SERIES
FLAT SHANK **EQ535** SERIES

HSSCo8, 2 FLUTE SHORT LENGTH BALL NOSE

HSSCo8, 2 SCHNEIDEN KURZ STIRNRADIUS
Fraise HSSCo8, 2 dents, hémisphérique, courte
2 TAGLIENTI, SEMISFERICA, SERIE CORTA - HSSCo8

HSS Co8 | DIN 327 | 2 | ≈30° | R ±0.02 | DIN 1835B P.742~743

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Radius of Ball Nose R (±0.02)	Mill Diameter	Shank Diameter h6	Length of Cut	Overall Length
E2535020	EQ535020	R1.0	2.0	6	4	48
E2535025	EQ535025	R1.25	2.5	6	5	49
E2535030	EQ535030	R1.5	3.0	6	5	49
E2535035	EQ535035	R1.75	3.5	6	6	50
E2535040	EQ535040	R2.0	4.0	6	7	51
E2535045	EQ535045	R2.25	4.5	6	7	51
E2535050	EQ535050	R2.5	5.0	6	8	52
E2535055	EQ535055	R2.75	5.5	6	8	52
E2535060	EQ535060	R3.0	6.0	6	8	52
E2535070	EQ535070	R3.5	7.0	10	10	60
E2535080	EQ535080	R4.0	8.0	10	11	61
E2535090	EQ535090	R4.5	9.0	10	11	61
E2535100	EQ535100	R5.0	10.0	10	13	63
E2535110	EQ535110	R5.5	11.0	12	13	70
E2535120	EQ535120	R6.0	12.0	12	16	73
E2535130	EQ535130	R6.5	13.0	12	16	73
E2535140	EQ535140	R7.0	14.0	12	16	73
E2535150	EQ535150	R7.5	15.0	12	16	73
E2535160	EQ535160	R8.0	16.0	16	19	79
E2535170	EQ535170	R8.5	17.0	16	19	79
E2535180	EQ535180	R9.0	18.0	16	19	79
E2535190	EQ535190	R9.5	19.0	16	19	79
E2535923	EQ535923	R10.0	20.0	16	22	82
E2535200	EQ535200	R10.0	20.0	20	22	88
E2535220	EQ535220	R11.0	22.0	20	22	88
E2535922	EQ535922	R11.0	22.0	25	22	98
E2535240	EQ535240	R12.0	24.0	25	26	102
E2535250	EQ535250	R12.5	25.0	25	26	102
E2535260	EQ535260	R13.0	26.0	25	26	102
E2535280	EQ535280	R14.0	28.0	25	26	102
E2535300	EQ535300	R15.0	30.0	25	26	102
E2535320	EQ535320	R16.0	32.0	32	32	112

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

▶Other shank design on your request.
▶TiN and TiCN Coatings are available on your request.

◎ : 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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2492** SERIES
FLAT SHANK **EQ492** SERIES

HSSCo8, 2 FLUTE LONG LENGTH BALL NOSE

HSSCo8, 2 SCHNEIDEN LANG STIRNRADIUS
Fraise HSSCo8, 2 dents, hémisphérique, longue
2 TAGLIENTI, SEMISFERICA, SERIE LUNGA - HSSCo8

HSS Co8 | DIN 1889 | 2 | 30° | R ±0.02 | DIN 1835B

P.742~743

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Radius of Ball Nose R (±0.02)	Mill Diameter	Shank Diameter h6	Length of Cut	Overall Length
E2492020	EQ492020	R1.0	2.0	6	7	54
E2492030	EQ492030	R1.5	3.0	6	8	56
E2492040	EQ492040	R2.0	4.0	6	11	63
E2492050	EQ492050	R2.5	5.0	6	13	68
E2492060	EQ492060	R3.0	6.0	6	13	68
E2492070	EQ492070	R3.5	7.0	10	16	80
E2492080	EQ492080	R4.0	8.0	10	19	88
E2492090	EQ492090	R4.5	9.0	10	19	88
E2492100	EQ492100	R5.0	10.0	10	22	95
E2492110	EQ492110	R5.5	11.0	12	22	102
E2492120	EQ492120	R6.0	12.0	12	26	110
E2492130	EQ492130	R6.5	13.0	12	26	110
E2492140	EQ492140	R7.0	14.0	12	26	110
E2492150	EQ492150	R7.5	15.0	12	26	110
E2492160	EQ492160	R8.0	16.0	16	32	123
E2492170	EQ492170	R8.5	17.0	16	32	123
E2492180	EQ492180	R9.0	18.0	16	32	123
E2492190	EQ492190	R9.5	19.0	16	32	123
E2492200	EQ492200	R10.0	20.0	20	38	141
E2492220	EQ492220	R11.0	22.0	20	38	141
E2492240	EQ492240	R12.0	24.0	25	45	166
E2492250	EQ492250	R12.5	25.0	25	45	166
E2492260	EQ492260	R13.0	26.0	25	45	166
E2492280	EQ492280	R14.0	28.0	25	45	166
E2492300	EQ492300	R15.0	30.0	25	45	166

▶Other shank design on your reguest.
▶TiN and TiCN Coatings are available on your request.

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

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2512** SERIES
FLAT SHANK **EQ512** SERIES

HSSCo8, 3 FLUTE SHORT LENGTH BALL NOSE THROW AWAY

HSSCo8, 3 SCHNEIDEN KURZ STIRNRADIUS EINWEGFRÄSER
Fraise HSSCo8, 3 dents, hémisphérique à jeter, courte
3 TAGLIENTI, SEMISFERICA, SERIE CORTA, NON RIAFFILABILE - HSSCo8

HSS Co8 | YG STD | 3 | 30° | R ±0.02 | FLAT

P.744~745

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Radius of Ball Nose R (±0.02)	Mill Diameter	Shank Diameter h6	Length of Cut	Overall Length
▲ E2512020	▲ EQ512020	R1.0	2.0	6	4	35
▲ E2512025	▲ EQ512025	R1.25	2.5	6	5	36
▲ E2512030	▲ EQ512030	R1.5	3.0	6	5	36
▲ E2512040	▲ EQ512040	R2.0	4.0	6	7	38
▲ E2512050	▲ EQ512050	R2.5	5.0	6	8	39
▲ E2512060	▲ EQ512060	R3.0	6.0	6	8	39

▲ : Only available till stock runs out
▶TiN and TiCN Coatings are available on your request.

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

◎ : 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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2410** SERIES
FLAT SHANK **EQ410** SERIES

HSSCo8, 4&6 FLUTE SHORT LENGTH BALL NOSE

HSSCo8, 4&6 SCHNEIDEN KURZ STIRNRADIUS
Fraise HSSCo8, 4&6 dents, hémisphérique, courte
4&6 TAGLIENTI, SEMISFERICA, SERIE CORTA - HSSCo8

HSS Co8 | DIN 1889 | 4&6 | 30° | R ±0.02 | DIN 1835B

P.744~745

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Radius of Ball Nose R (±0.02)	Mill Diameter	Shank Diameter h6	Length of Cut	Overall Length	No.of Flute
▲ E2410060	▲ EQ410060	R3.0	6.0	6	13	57	4
▲ E2410080	▲ EQ410080	R4.0	8.0	10	19	69	4
▲ E2410100	▲ EQ410100	R5.0	10.0	10	22	72	4
▲ E2410120	-	R6.0	12.0	12	26	83	4
▲ E2410160	▲ EQ410160	R8.0	16.0	16	32	92	4
▲ E2410200	-	R10.0	20.0	20	38	104	4
▲ E2410250	-	R12.5	25.0	25	45	121	6

▲ : Only available till stock runs out

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

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2429** SERIES
FLAT SHANK **EQ429** SERIES

HSSCo8, 4&6 FLUTE LONG LENGTH BALL NOSE

HSSCo8, 4&6 SCHNEIDEN LANG STIRNRADIUS
Fraise HSSCo8, 4&6 dents, hémisphérique, longue
4&6 TAGLIENTI, SEMISFERICA, SERIE LUNGA - HSSCo8

HSS Co8 | DIN 1889 | 4&6 | 30° | R ±0.02 | DIN 1835B

P.744~745

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Radius of Ball Nose R (±0.02)	Mill Diameter	Shank Diameter h6	Length of Cut	Overall Length	No.of Flute
▲ E2429100	-	R5.0	10.0	10	45	95	4
▲ E2429120	▲ EQ429120	R6.0	12.0	12	53	110	4
▲ E2429160	-	R8.0	16.0	16	63	123	4
▲ E2429200	-	R10.0	20.0	20	75	141	4
▲ E2429250	-	R12.5	25.0	25	90	166	6

▲ : Only available till stock runs out

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

◎ : 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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

PLAIN SHANK **EL623** SERIES

HSS-E, 1 FLUTE

HSS-E, 1 SCHNEIDEN
Fraise HSS-E, 1 dent
1 TAGLIENTE - HSS-E

HSS-E | YG STD | 1 | ≈30° | DIN 1835A P.745

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	js14	h6		
▲ EL623030	3.0	8	12	60
▲ EL623040	4.0	8	12	60
▲ EL623050	5.0	8	12	60
▲ EL623060	6.0	8	14	60
▲ EL623070	7.0	8	14	60
▲ EL623080	8.0	8	14	80
▲ EL623090	9.0	8	14	80
▲ EL623100	10.0	8	14	80

▲ : Only available till stock runs out

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
js14	±125	±150	±180	±215	±260	±310
h6	0 / -6	0 / -8	0 / -9	0 / -11	0 / -13	0 / -16

◎ : 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	○	○	○	○	○																

HSS END MILLS

PLAIN SHANK **EL612** SERIES

HSS-E, 1 FLUTE for ALUMINUM

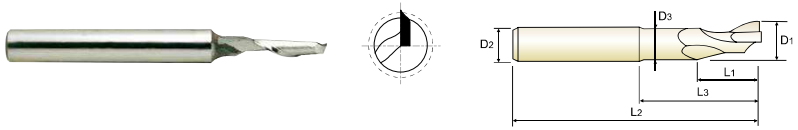
HSS-E, 1 SCHNEIDEN für ALUMINIUM
Fraise HSS-E, 1 dent pour aluminium
1 TAGLIENTE - HSS-E

for ALUMINUM
für ALUMINIUM

HSS-E | YG STD | 1 | ≈30° | DIN 1835A P.745

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	js14	h6		
EL612030	3.0	8	12	60
EL612040	4.0	8	12	60
EL612050	5.0	8	12	60
EL612060	6.0	8	14	60
EL612070	7.0	8	14	60
EL612080	8.0	8	14	80
EL612090	9.0	8	14	80
EL612100	10.0	8	14	80



Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
UNCOATED	D1(js14)	D2(h6)	L_1	L_3	L_2	L_2
EL612904	5.0	8	18	35	80	4.8
EL612909	5.0	8	40	-	100	-
EL612932	8.0	8	14	68	120	7.5

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
js14	±125	±150	±180	±215	±260	±310
h6	0 / -6	0 / -8	0 / -9	0 / -11	0 / -13	0 / -16

◎ : 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	◎	◎	◎	◎	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2570** SERIES
FLAT SHANK **EQ570** SERIES

HSSCo8, 2 FLUTE SHORT LENGTH

- HSSCo8, 2 SCHNEIDEN KURZ
- Fraise HSSCo8, 2 dents, courte
- 2 TAGLIENTI, SERIE CORTA - HSSCo8

HSS Co8 | DIN 327 | 2 | ≈30° | DIN 1835B

P.746~749

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter e8	Shank Diameter h6	Length of Cut	Overall Length
E2570010	EQ570010	1.0	6	2.5	47
E2570015	EQ570015	1.5	6	3	47
E2570020	EQ570020	2.0	6	4	48
E2570025	EQ570025	2.5	6	5	49
E2570028	EQ570028	2.8	6	5	49
E2570030	EQ570030	3.0	6	5	49
E2570035	EQ570035	3.5	6	6	50
E2570038	EQ570038	3.8	6	7	51
E2570040	EQ570040	4.0	6	7	51
E2570045	EQ570045	4.5	6	7	51
E2570048	EQ570048	4.8	6	8	52
E2570050	EQ570050	5.0	6	8	52
E2570055	EQ570055	5.5	6	8	52
E2570957	EQ570957	5.8	6	8	52
E2570060	EQ570060	6.0	6	8	52
E2570065	EQ570065	6.5	10	10	60
E2570967	EQ570967	6.8	10	10	60
E2570070	EQ570070	7.0	10	10	60
E2570075	EQ570075	7.5	10	10	60
E2570977	EQ570977	7.8	10	11	61
E2570080	EQ570080	8.0	10	11	61
E2570085	EQ570085	8.5	10	11	61
E2570087	EQ570087	8.7	10	11	61
E2570090	EQ570090	9.0	10	11	61

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
e8		-14	-20	-25	-32	-40	-50
		-28	-38	-47	-59	-73	-89
h6		0	0	0	0	0	0
		-6	-8	-9	-11	-13	-16

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

▶ NEXT PAGE

◎ : 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	○	○	○	○	○																

HSS END MILLS
FLAT SHANK E2570 SERIES
FLAT SHANK EQ570 SERIES
HSSCo8, 2 FLUTE SHORT LENGTH
HSSCo8, 2 SCHNEIDEN KURZ
Fraise HSSCo8, 2 dents, courte
2 TAGLIENTI, SERIE CORTA - HSSCo8

HSS Co8 | DIN 327 | 2 | ≈30° | DIN 1835B

P.746~749

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter e8	Shank Diameter h6	Length of Cut	Overall Length
E2570095	EQ570095	9.5	10	11	61
E2570097	EQ570097	9.7	10	13	63
E2570100	EQ570100	10.0	10	13	63
E2570105	EQ570105	10.5	12	13	70
E2570107	EQ570107	10.7	12	13	70
E2570110	EQ570110	11.0	12	13	70
E2570115	EQ570115	11.5	12	13	70
E2570117	EQ570117	11.7	12	16	73
E2570120	EQ570120	12.0	12	16	73
E2570125	EQ570125	12.5	12	16	73
E2570127	EQ570127	12.7	12	16	73
E2570130	EQ570130	13.0	12	16	73
E2570135	EQ570135	13.5	12	16	73
E2570137	EQ570137	13.7	12	16	73
E2570140	EQ570140	14.0	12	16	73
E2570147	EQ570147	14.7	12	16	73
E2570150	EQ570150	15.0	12	16	73
E2570157	EQ570157	15.7	16	19	79
E2570160	EQ570160	16.0	16	19	79
E2570167	EQ570167	16.7	16	19	79
E2570170	EQ570170	17.0	16	19	79
E2570177	EQ570177	17.7	16	19	79
E2570180	EQ570180	18.0	16	19	79
E2570190	EQ570190	19.0	16	19	79

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
e8		-14	-20	-25	-32	-40	-50
		-28	-38	-47	-59	-73	-89
h6		0	0	0	0	0	0
		-6	-8	-9	-11	-13	-16

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.
▶ NEXT PAGE

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2570** SERIES
FLAT SHANK **EQ570** SERIES

HSSCo8, 2 FLUTE SHORT LENGTH

HSSCo8, 2 SCHNEIDEN KURZ
Fraise HSSCo8, 2 dents, courte
2 TAGLIENTI, SERIE CORTA - HSSCo8

HSS Co8 | DIN 327 | 2 | 30° | DIN 1835B P.746~749

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter e8	Shank Diameter h6	Length of Cut	Overall Length
E2570197	EQ570197	19.7	20	22	88
E2570920	EQ570920	20.0	16	22	82
E2570200	EQ570200	20.0	20	22	88
E2570210	EQ570210	21.0	20	22	88
E2570220	EQ570220	22.0	20	22	88
E2570922	EQ570922	22.0	25	22	98
E2570240	EQ570240	24.0	25	26	102
E2570250	EQ570250	25.0	25	26	102
E2570260	EQ570260	26.0	25	26	102
E2570270	EQ570270	27.0	25	26	102
E2570280	EQ570280	28.0	25	26	102
E2570290	EQ570290	29.0	25	26	102
E2570300	EQ570300	30.0	25	26	102
E2570320	EQ570320	32.0	32	32	112
E2570340	EQ570340	34.0	32	32	112
E2570350	EQ570350	35.0	32	32	112
E2570360	EQ570360	36.0	32	32	112
E2570380	EQ570380	38.0	32	38	118
E2570938	EQ570938	38.0	40	38	130
E2570400	EQ570400	40.0	32	38	118
E2570903	EQ570903	40.0	40	38	130

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

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
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2571** SERIES
FLAT SHANK **EQ571** SERIES

HSSCo8, 2 FLUTE LONG LENGTH

HSSCo8, 2 SCHNEIDEN LANG
Fraise HSSCo8, 2 dents, longue
2 TAGLIENTI, SERIE LUNGA - HSSCo8

HSS Co8 | DIN 844 | 2 | 30° | DIN 1835B P.746~749

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter e8	Shank Diameter h6	Length of Cut	Overall Length
E2571015	EQ571015	1.5	6	7	51
E2571020	EQ571020	2.0	6	7	51
E2571025	EQ571025	2.5	6	8	52
E2571030	EQ571030	3.0	6	8	52
E2571035	EQ571035	3.5	6	10	54
E2571040	EQ571040	4.0	6	11	55
E2571045	EQ571045	4.5	6	11	55
E2571050	EQ571050	5.0	6	13	57
E2571055	EQ571055	5.5	6	13	57
E2571060	EQ571060	6.0	6	13	57
E2571065	EQ571065	6.5	10	16	66
E2571070	EQ571070	7.0	10	16	66
E2571075	EQ571075	7.5	10	16	66
E2571080	EQ571080	8.0	10	19	69
E2571085	EQ571085	8.5	10	19	69
E2571090	EQ571090	9.0	10	19	69
E2571095	EQ571095	9.5	10	19	69
E2571100	EQ571100	10.0	10	22	72
E2571110	EQ571110	11.0	12	22	79
E2571120	EQ571120	12.0	12	26	83
E2571130	EQ571130	13.0	12	26	83
E2571140	EQ571140	14.0	12	26	83
E2571150	EQ571150	15.0	12	26	83
E2571160	EQ571160	16.0	16	32	92

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
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.
▶ NEXT PAGE

◎ : 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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2571** SERIES
FLAT SHANK **EQ571** SERIES

HSSCo8, 2 FLUTE LONG LENGTH

HSSCo8, 2 SCHNEIDEN LANG
Fraise HSSCo8, 2 dents, longue
2 TAGLIENTI, SERIE LUNGA - HSSCo8

HSS Co8 | DIN 844 | 2 | 30° | DIN 1835B

P.746~749

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	e8	h6		
E2571180	EQ571180	18.0	16	32	92
E2571200	EQ571200	20.0	20	38	104
E2571220	EQ571220	22.0	20	38	104
E2571240	EQ571240	24.0	25	45	121
E2571250	EQ571250	25.0	25	45	121
E2571260	EQ571260	26.0	25	45	121
E2571270	EQ571270	27.0	25	45	121
E2571280	EQ571280	28.0	25	45	121
E2571300	EQ571300	30.0	25	45	121
E2571320	EQ571320	32.0	32	53	133
E2571400	EQ571400	40.0	40	63	155

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

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
e8		-14	-20	-25	-32	-40	-50
		-28	-38	-47	-59	-73	-89
h6		0	0	0	0	0	0
		-6	-8	-9	-11	-13	-16

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2510** SERIES
FLAT SHANK **EQ510** SERIES

HSSCo8, 2 FLUTE EXTRA LONG LENGTH

HSSCo8, 2 SCHNEIDEN EXTRA LANG
Fraise HSSCo8, 2 dents, extra-longue
2 TAGLIENTI, SERIE EXTRA LUNGA - HSSCo8

HSS Co8 | DIN 844 | 2 | 30° | DIN 1835B

P.746~749

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	e8	h6		
E2510025	EQ510025	2.5	6	8	56
E2510030	EQ510030	3.0	6	8	56
E2510035	EQ510035	3.5	6	10	59
E2510040	EQ510040	4.0	6	11	63
E2510045	EQ510045	4.5	6	11	63
E2510050	EQ510050	5.0	6	13	68
E2510055	EQ510055	5.5	6	13	68
E2510060	EQ510060	6.0	6	13	68
E2510065	EQ510065	6.5	10	16	80
E2510070	EQ510070	7.0	10	16	80
E2510080	EQ510080	8.0	10	19	88
E2510085	EQ510085	8.5	10	19	88
E2510090	EQ510090	9.0	10	19	88
E2510100	EQ510100	10.0	10	22	95
E2510120	EQ510120	12.0	12	26	110
E2510140	EQ510140	14.0	12	26	110
E2510160	EQ510160	16.0	16	32	123
E2510180	EQ510180	18.0	16	32	123
E2510200	EQ510200	20.0	20	38	141
E2510220	EQ510220	22.0	20	38	141
E2510240	EQ510240	24.0	25	45	166
E2510250	EQ510250	25.0	25	45	166
E2510260	EQ510260	26.0	25	45	166
E2510280	EQ510280	28.0	25	45	166
E2510300	EQ510300	30.0	25	45	166
E2510320	EQ510320	32.0	32	53	186
E2510360	EQ510360	36.0	32	53	186
E2510400	EQ510400	40.0	32	63	207
E2510940	EQ510940	40.0	40	63	217

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
e8		-14	-20	-25	-32	-40	-50
		-28	-38	-47	-59	-73	-89
h6		0	0	0	0	0	0
		-6	-8	-9	-11	-13	-16

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2464** SERIES

HSSCo8, 2 FLUTE 42° HELIX SHORT LENGTH for ALUMINUM

HSSCo8, 2 SCHNEIDEN 42° RECHTSSPIRALE KURZ für ALUMINIUM
Fraise HSSCo8, 2 dents, hélice 42°, pour aluminium, courte
2 TAGLIENTI, ELICA 42°, SERIE CORTA - HSSCo8

for ALUMINUM
für ALUMINIUM

HSS Co8 | DIN 844 | 2 | 42° | DIN 1835B

P.748~749

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	e8	h6		
E2464010	1.0	6	3	49
E2464015	1.5	6	5	49
E2464020	2.0	6	7	51
E2464025	2.5	6	8	52
E2464030	3.0	6	8	52
E2464035	3.5	6	10	54
E2464040	4.0	6	11	55
E2464045	4.5	6	11	55
E2464050	5.0	6	13	57
E2464055	5.5	6	13	57
E2464060	6.0	6	13	57
E2464065	6.5	10	16	66
E2464070	7.0	10	16	66
E2464075	7.5	10	16	66
E2464080	8.0	10	19	69
E2464085	8.5	10	19	69
E2464090	9.0	10	19	69
E2464100	10.0	10	22	72
E2464110	11.0	12	22	79
E2464120	12.0	12	26	83
E2464130	13.0	12	26	83
E2464140	14.0	12	26	83
E2464150	15.0	12	26	83
E2464160	16.0	16	32	92

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

▶ NEXT PAGE

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
e8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73	-50 -89
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

◎ : 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	◎	◎	◎	◎	○																

HSS END MILLS
FLAT SHANK E2464 SERIES
HSSCo8, 2 FLUTE 42° HELIX SHORT LENGTH for ALUMINUM
HSSCo8, 2 SCHNEIDEN 42° RECHTSSPIRALE KURZ für ALUMINIUM
Fraise HSSCo8, 2 dents, hélice 42°, pour aluminium, courte
2 TAGLIENTI, ELICA 42°, SERIE CORTA - HSSCo8
for ALUMINUM
für ALUMINIUM

HSS Co8 | DIN 844 | 2 | 42° | DIN 1835B

P.748~749

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	e8	h6		
E2464200	20.0	20	38	104
E2464210	21.0	20	38	104
E2464220	22.0	20	38	104
E2464230	23.0	20	38	104
E2464240	24.0	25	45	121
E2464250	25.0	25	45	121
E2464260	26.0	25	45	121
E2464280	28.0	25	45	121
E2464300	30.0	25	45	121
E2464320	32.0	32	53	133

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

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
e8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73	-50 -89
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

◎ : 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	◎	◎	◎	◎	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2509** SERIES

HSSCo8, 2 FLUTE 42° HELIX LONG LENGTH for ALUMINUM

HSSCo8, 2 SCHNEIDEN 42° RECHTSSPIRALE KURZ für ALUMINIUM
Fraise HSSCo8, 2 dents, hélice 42°, pour aluminium, longue
2 TAGLIENTI, ELICA 42°, SERIE LUNGA - HSSCo8

for ALUMINUM
für ALUMINIUM

HSS Co8 | DIN 844 | 2 | 42° | DIN 1835B

P.748~749

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED		e8	h6		
E2509020		2.0	6	10	54
E2509030		3.0	6	12	56
E2509040		4.0	6	19	63
E2509050		5.0	6	24	68
E2509060		6.0	6	24	68
E2509070		7.0	10	30	80
E2509080		8.0	10	38	88
E2509090		9.0	10	38	88
E2509100		10.0	10	45	95
E2509110		11.0	12	45	102
E2509120		12.0	12	53	110
E2509130		13.0	12	53	110
E2509140		14.0	12	53	110
E2509150		15.0	12	53	110
E2509160		16.0	16	63	123
E2509180		18.0	16	63	123
E2509200		20.0	20	75	141

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

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
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

◎ : 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	○	○				○				○										

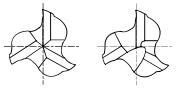
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	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	◎	◎	◎	◎	○																

HSS END MILLS

FLAT SHANK **E2572** SERIES
FLAT SHANK **EQ572** SERIES

HSSCo8, 3 FLUTE STUB LENGTH

HSSCo8, 3 SCHNEIDEN EXTRA KURZ
Fraise HSSCo8, 3 dents, extra-courte
3 TAGLIENTI. SERIE EXTRA CORTA - HSSCo8



Under Ø3mm Ø3mm or above

HSS Co8 | DIN 327 | 3 | ≈30° | DIN 1835B

P.750~757

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	e8	h6		
E2572015	EQ572015	1.5	6	3	47
E2572020	EQ572020	2.0	6	4	48
E2572025	EQ572025	2.5	6	5	49
E2572030	EQ572030	3.0	6	5	49
E2572035	EQ572035	3.5	6	6	50
E2572040	EQ572040	4.0	6	7	51
E2572045	EQ572045	4.5	6	7	51
E2572050	EQ572050	5.0	6	8	52
E2572055	EQ572055	5.5	6	8	52
E2572060	EQ572060	6.0	6	8	52
E2572065	EQ572065	6.5	10	10	60
E2572070	EQ572070	7.0	10	10	60
E2572075	EQ572075	7.5	10	10	60
E2572080	EQ572080	8.0	10	11	61
E2572085	EQ572085	8.5	10	11	61
E2572100	EQ572100	10.0	10	13	63
E2572120	EQ572120	12.0	12	16	73
E2572140	EQ572140	14.0	12	16	73
E2572150	EQ572150	15.0	12	16	73
E2572160	EQ572160	16.0	16	19	79
E2572180	EQ572180	18.0	16	19	79
E2572200	EQ572200	20.0	20	22	88
E2572220	EQ572220	22.0	20	22	88
E2572240	EQ572240	24.0	25	26	102
E2572250	EQ572250	25.0	25	26	102
E2572260	EQ572260	26.0	25	26	102
E2572280	EQ572280	28.0	25	26	102
E2572300	EQ572300	30.0	25	26	102
E2572320	EQ572320	32.0	32	32	112

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
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

◎ : 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	○	○	○	○	○																

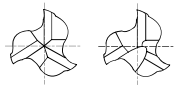
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
JET-POWER END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS
CRX S END MILLS
K-2 END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

HSS END MILLS

FLAT SHANK **E2573** SERIES
FLAT SHANK **EQ573** SERIES

HSSCo8, 3 FLUTE SHORT LENGTH

- HSSCo8, 3 SCHNEIDEN KURZ
- Fraise HSSCo8, 3 dents, courte
- 3 TAGLIENTI, SERIE CORTA - HSSCo8



Under Ø3mm Ø3mm or above

HSS Co8 | DIN 844 | 3 | ≈30° | DIN 1835B

P.750~757

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	e8	h6		
E2573010	EQ573010	1.0	6	3	47
E2573015	EQ573015	1.5	6	7	51
E2573020	EQ573020	2.0	6	7	51
E2573025	EQ573025	2.5	6	8	52
E2573030	EQ573030	3.0	6	8	52
E2573035	EQ573035	3.5	6	10	54
E2573040	EQ573040	4.0	6	11	55
E2573045	EQ573045	4.5	6	11	55
E2573050	EQ573050	5.0	6	13	57
E2573055	EQ573055	5.5	6	13	57
E2573060	EQ573060	6.0	6	13	57
E2573065	EQ573065	6.5	10	16	66
E2573070	EQ573070	7.0	10	16	66
E2573075	EQ573075	7.5	10	16	66
E2573080	EQ573080	8.0	10	19	69
E2573085	EQ573085	8.5	10	19	69
E2573090	EQ573090	9.0	10	19	69
E2573095	EQ573095	9.5	10	19	69
E2573100	EQ573100	10.0	10	22	72
E2573120	EQ573120	12.0	12	26	83
E2573140	EQ573140	14.0	12	26	83
E2573150	EQ573150	15.0	12	26	83
E2573160	EQ573160	16.0	16	32	92
E2573180	EQ573180	18.0	16	32	92

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
e8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73	-50 -89
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

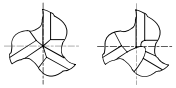
▶ NEXT PAGE

◎ : 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	○	○	○	○	○																

HSS END MILLS
FLAT SHANK E2573 SERIES
FLAT SHANK EQ573 SERIES
HSSCo8, 3 FLUTE SHORT LENGTH
HSSCo8, 3 SCHNEIDEN KURZ
Fraise HSSCo8, 3 dents, courte
3 TAGLIENTI, SERIE CORTA - HSSCo8



Under Ø3mm Ø3mm or above

HSS Co8 | DIN 844 | 3 | ≈30° | DIN 1835B

P.750~757

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UNCOATED	TiAlN	e8	h6		
E2573200	EQ573200	20.0	20	38	104
E2573220	EQ573220	22.0	20	38	104
E2573240	EQ573240	24.0	25	45	121
E2573250	EQ573250	25.0	25	45	121
E2573260	EQ573260	26.0	25	45	121
E2573280	EQ573280	28.0	25	45	121
E2573300	EQ573300	30.0	25	45	121
E2573320	EQ573320	32.0	32	53	133
E2573400	EQ573400	40.0	40	63	155

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

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
e8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73	-50 -89
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

◎ : 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	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

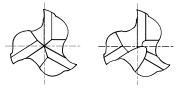
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2516** SERIES
FLAT SHANK **EQ516** SERIES

HSSCo8, 3 FLUTE LONG LENGTH

HSSCo8, 3 SCHNEIDEN LANG
Fraise HSSCo8, 3 dents, longue
3 TAGLIENTI, SERIE LUNGA - HSSCo8



Up to Ø2.5mm Over Ø2.5mm

HSS Co8 | DIN 844 | 3 | 30° | DIN 1835B | P.750~757

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter e8	Shank Diameter h6	Length of Cut	Overall Length
E2516020	EQ516020	2.0	6	10	54
E2516025	EQ516025	2.5	6	12	56
E2516030	EQ516030	3.0	6	12	56
E2516035	EQ516035	3.5	6	15	59
E2516040	EQ516040	4.0	6	19	63
E2516045	EQ516045	4.5	6	19	63
E2516050	EQ516050	5.0	6	24	68
E2516055	EQ516055	5.5	6	24	68
E2516060	EQ516060	6.0	6	24	68
E2516070	EQ516070	7.0	10	30	80
E2516075	EQ516075	7.5	10	30	80
E2516080	EQ516080	8.0	10	38	88
E2516090	EQ516090	9.0	10	38	88
E2516100	EQ516100	10.0	10	45	95
E2516110	EQ516110	11.0	12	45	102
E2516120	EQ516120	12.0	12	53	110
E2516130	EQ516130	13.0	12	53	110
E2516140	EQ516140	14.0	12	53	110
E2516150	EQ516150	15.0	12	53	110
E2516160	EQ516160	16.0	16	63	123
E2516170	EQ516170	17.0	16	63	123
E2516180	EQ516180	18.0	16	63	123
E2516190	EQ516190	19.0	16	63	123
E2516901	EQ516901	20.0	16	75	135

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
e8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73	-50 -89
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

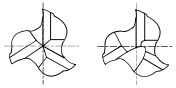
▶ NEXT PAGE

◎ : 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	○	○	○	○	○																

HSS END MILLS
FLAT SHANK E2516 SERIES
FLAT SHANK EQ516 SERIES
HSSCo8, 3 FLUTE LONG LENGTH
HSSCo8, 3 SCHNEIDEN LANG
Fraise HSSCo8, 3 dents, longue
3 TAGLIENTI, SERIE LUNGA - HSSCo8



Up to Ø2.5mm Over Ø2.5mm

HSS Co8 | DIN 844 | 3 | 30° | FLAT | P.750~757

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter e8	Shank Diameter h6	Length of Cut	Overall Length
E2516200	EQ516200	20.0	20	75	141
E2516220	EQ516220	22.0	20	75	141
E2516240	EQ516240	24.0	25	90	166
E2516250	EQ516250	25.0	25	90	166
E2516260	EQ516260	26.0	25	90	166
E2516280	EQ516280	28.0	25	90	166
E2516300	EQ516300	30.0	25	90	166
E2516320	EQ516320	32.0	32	106	186
E2516350	EQ516350	35.0	32	106	186
E2516360	EQ516360	36.0	32	106	186
E2516400	EQ516400	40.0	40	125	217

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

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
e8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73	-50 -89
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

◎ : 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	○	○	○	○	○																

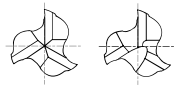
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
JET-POWER END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS
CRX S END MILLS
K-2 END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

HSS END MILLS

FLAT SHANK **E2553** SERIES
FLAT SHANK **EQ553** SERIES

HSSCo8, 3 FLUTE SHORT LENGTH THROW AWAY

HSSCo8, 3 SCHNEIDEN KURZ EINWEGFRÄSER
Fraise HSSCo8, 3 dents à jeter, courte
3 TAGLIENTI, SERIE CORTA NON RIAFFILABILE - HSSCo8



Up to Ø10mm Over Ø10mm

HSS Co8 | YG STD | 3 | 30° | FLAT

P.750~757

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter e8	Shank Diameter h6	Length of Cut	Overall Length
E2553010	EQ553010	1.0	6	2	34
E2553013	EQ553013	1.3	6	3	34
E2553015	EQ553015	1.5	6	3	34
E2553018	EQ553018	1.8	6	3	34
E2553020	EQ553020	2.0	6	4	35
E2553023	EQ553023	2.3	6	4	35
E2553025	EQ553025	2.5	6	5	36
E2553028	EQ553028	2.8	6	5	36
E2553030	EQ553030	3.0	6	5	36
E2553033	EQ553033	3.3	6	6	37
E2553035	EQ553035	3.5	6	6	37
E2553038	EQ553038	3.8	6	7	38
E2553040	EQ553040	4.0	6	7	38
E2553043	EQ553043	4.3	6	7	38
E2553045	EQ553045	4.5	6	7	38
E2553048	EQ553048	4.8	6	8	39
E2553050	EQ553050	5.0	6	8	39
E2553053	EQ553053	5.3	6	8	39
E2553055	EQ553055	5.5	6	8	39
E2553957	EQ553957	5.8	6	8	39
E2553060	EQ553060	6.0	6	8	39
E2553065	EQ553065	6.5	8	10	42
E2553070	EQ553070	7.0	8	10	42
E2553075	EQ553075	7.5	8	10	42

▶ TiN and TiCN Coatings are available on your request.

▶ NEXT PAGE

Tolerances according to DIN 7160 & 7161

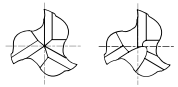
Tolerance range in μm / Nominal-Diameter in mm	from 1 to 3	over 3 to 6	over 6 to 10	over 10 to 18	over 18 to 30	over 30 to 50
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

◎ : 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	○	○	○	○	○																

HSS END MILLS
FLAT SHANK E2553 SERIES
FLAT SHANK EQ553 SERIES
HSSCo8, 3 FLUTE SHORT LENGTH THROW AWAY
HSSCo8, 3 SCHNEIDEN KURZ EINWEGFRÄSER
Fraise HSSCo8, 3 dents à jeter, courte
3 TAGLIENTI, SERIE CORTA NON RIAFFILABILE - HSSCo8



Up to Ø10mm Over Ø10mm

HSS Co8 | YG STD | 3 | 30° | FLAT

P.750~757

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter e8	Shank Diameter h6	Length of Cut	Overall Length
E2553080	EQ553080	8.0	8	11	43
E2553085	EQ553085	8.5	10	11	48
E2553090	EQ553090	9.0	10	11	48
E2553095	EQ553095	9.5	10	11	48
E2553100	EQ553100	10.0	10	13	50
E2553120	EQ553120	12.0	12	16	58
E2553160	EQ553160	16.0	16	19	64
E2553200	EQ553200	20.0	20	22	78

▶ TiN and TiCN Coatings are available on your request.

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
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

SET ORDERING No.: E2SET553

* 12PCS. SET
  SHORT LENGTH
  - 2PCS. OF EACH SIZE
    2, 3, 4, 5, 6mm (C3FSC)
  - 1PC. OF EACH SIZE
    8, 10mm (C3FSC)

◎ : 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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2554** SERIES
FLAT SHANK **EQ554** SERIES

HSSCo8, 3 FLUTE LONG LENGTH THROW AWAY

HSSCo8, 3 SCHNEIDEN LANG EINWEGFRÄSER
Fraise HSSCo8, 3 dents à jeter, longue
3 TAGLIENTI, SERIE LUNGA, NON RIAFFILABILE - HSSCo8

HSS Co8 | YG STD | 3 | 30° | FLAT

P.750~757

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter e8	Shank Diameter h6	Length of Cut	Overall Length
E2554015	EQ554015	1.5	6	4	35
E2554020	EQ554020	2.0	6	7	38
E2554025	EQ554025	2.5	6	8	39
E2554030	EQ554030	3.0	6	8	39
E2554035	EQ554035	3.5	6	10	41
E2554040	EQ554040	4.0	6	11	42
E2554045	EQ554045	4.5	6	11	42
E2554050	EQ554050	5.0	6	13	44
E2554055	EQ554055	5.5	6	13	44
E2554060	EQ554060	6.0	6	13	44
E2554065	EQ554065	6.5	8	16	48
E2554070	EQ554070	7.0	8	16	48
E2554075	EQ554075	7.5	8	16	48
E2554080	EQ554080	8.0	8	19	51
E2554085	EQ554085	8.5	10	19	56
E2554090	EQ554090	9.0	10	19	56
E2554095	EQ554095	9.5	10	19	56
E2554100	EQ554100	10.0	10	22	59

▶ TiN and TiCN Coatings are available on your request.

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
	e8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73	-50 -89
	h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2551** SERIES
FLAT SHANK **EQ551** SERIES

HSSCo8, 3 FLUTE SHORT LENGTH THROW AWAY

HSSCo8, 3 SCHNEIDEN KURZ EINWEGFRÄSER
Fraise HSSCo8, 3 dent à jeter, courte
3 TAGLIENTI, SERIE CORTA NON RIAFFILABILE - HSSCo8

HSS Co8 | YG STD | 3 | 30° | FLAT

P.750~757

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter e8	Shank Diameter	Length of Cut	Overall Length
▲ E2551010	-	1.0	6	2	24.5
▲ E2551015	-	1.5	6	2.5	24.5
▲ E2551020	▲ EQ551020	2.0	6	3	25.5
▲ E2551025	-	2.5	6	4	26
▲ E2551028	-	2.8	6	4.5	28
▲ E2551030	▲ EQ551030	3.0	6	4.5	28
▲ E2551035	▲ EQ551035	3.5	6	5.5	30
▲ E2551040	▲ EQ551040	4.0	6	6.5	32.5
▲ E2551045	-	4.5	6	7	34.5
▲ E2551048	-	4.8	6	7.5	36
▲ E2551050	-	5.0	6	7.5	36
▲ E2551055	-	5.5	6	8.5	36
▲ E2551957	-	5.8	6	9.5	36
▲ E2551060	-	6.0	6	9.5	36
▲ E2551075	▲ EQ551075	7.5	10	11	47.5
▲ E2551080	-	8.0	10	11	47.5
▲ E2551095	-	9.5	10	13	51.5
▲ E2551100	-	10.0	10	13	51.5

▲ : Only available till stock runs out
▶ TiN and TiCN Coatings are available on your request.

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
	e8	-14 -28	-20 -38	-25 -47	-32 -59	-40 -73	-50 -89
	h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

Shank Dia.	Tolerance
up to Ø6	-0.018 -0.025
over Ø6	h6

◎ : 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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2552** SERIES
FLAT SHANK **EQ552** SERIES

HSSCo8, 3 FLUTE LONG LENGTH THROW AWAY

HSSCo8, 3 SCHNEIDEN LANG EINWEGFRÄSER
Fraise HSSCo8, 3 dents à jeter, longue
3 TAGLIENTI, SERIE CORTA NON RIAFFILABILE - HSSCo8

HSS Co8 | YG STD | 3 | 30° | FLAT

P.750~757

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter e8	Shank Diameter	Length of Cut	Overall Length
▲ E2552015	▲ EQ552015	1.5	6	4	28
▲ E2552020	-	2.0	6	4.5	29
▲ E2552025	-	2.5	6	6.5	32
▲ E2552030	-	3.0	6	7.5	34
▲ E2552035	▲ EQ552035	3.5	6	8.5	36.5
▲ E2552040	▲ EQ552040	4.0	6	9.5	39
▲ E2552045	▲ EQ552045	4.5	6	11	42
▲ E2552050	▲ EQ552050	5.0	6	12.5	44.5
▲ E2552055	▲ EQ552055	5.5	6	14.5	46
▲ E2552060	▲ EQ552060	6.0	6	16	44.5
▲ E2552080	▲ EQ552080	8.0	10	19	55.5
▲ E2552090	▲ EQ552090	9.0	10	22.5	61
▲ E2552100	▲ EQ552100	10.0	10	22.5	61

▲ : Only available till stock runs out
▶ TiN and TiCN Coatings are available on your request.

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
e8	-14 / -28	-20 / -38	-25 / -47	-32 / -59	-40 / -73	-50 / -89
h6	0 / -6	0 / -8	0 / -9	0 / -11	0 / -13	0 / -16

Shank Dia. Tolerance	
up to Ø6	-0.018 / -0.025
over Ø6	h6

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2574, EQ574** SERIES
FLAT SHANK **E2575, EQ575** SERIES

HSSCo8, 4&6 FLUTE SHORT LENGTH

HSSCo8, 4&6 SCHNEIDEN KURZ
Fraise HSSCo8, 4&6 dents, courte
HSSCo8, 4&6 TAGLIENTI, SERIE CORTA

HSS Co8 | DIN 844 | 4&6 | ≈30° | DIN 1835B

P.758~761

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No.of Flute
E2574020	EQ574020	2.0	6	7	51	4
E2574025	EQ574025	2.5	6	8	52	4
E2574030	EQ574030	3.0	6	8	52	4
E2574035	EQ574035	3.5	6	10	54	4
E2574040	EQ574040	4.0	6	11	55	4
E2574050	EQ574050	5.0	6	13	57	4
E2574060	EQ574060	6.0	6	13	57	4
E2574070	EQ574070	7.0	10	16	66	4
E2574080	EQ574080	8.0	10	19	69	4
E2574090	EQ574090	9.0	10	19	69	4
E2574100	EQ574100	10.0	10	22	72	4
E2574110	EQ574110	11.0	12	22	79	4
E2574120	EQ574120	12.0	12	26	83	4
E2574130	EQ574130	13.0	12	26	83	4
E2574140	EQ574140	14.0	12	26	83	4
E2574150	EQ574150	15.0	12	26	83	4
E2574160	EQ574160	16.0	16	32	92	4
E2574170	EQ574170	17.0	16	32	92	4
E2574180	EQ574180	18.0	16	32	92	4
E2574190	EQ574190	19.0	16	32	92	4
E2574200	EQ574200	20.0	20	38	104	4
▲ E2575210	-	21.0	20	38	104	6
▲ E2575220	-	22.0	20	38	104	6
▲ E2575230	-	23.0	20	38	104	6
▲ E2575240	-	24.0	25	45	121	6
▲ E2575250	▲ EQ575250	25.0	25	45	121	6
▲ E2575260	-	26.0	25	45	121	6
▲ E2575300	▲ EQ575300	30.0	25	45	121	6
▲ E2575320	-	32.0	32	53	133	6
▲ E2575400	-	40.0	32	63	143	6

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
0 ~ + 0.04	h6

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

◎ : 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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2595** SERIES
FLAT SHANK **EQ595** SERIES

HSSCo8, 4 FLUTE SHORT LENGTH - CENTER CUTTING

HSSCo8, 4&6 SCHNEIDEN KURZ
Fraise HSSCo8, 4&6 dents, coupe au centre, courte
4 - 6 TAGLIENTI, SERIE CORTA, TAGLIENTE AL CENTRO - HSSCo8

HSS Co8 | DIN 844 | 4 | 30° | DIN 1835B P.772~775

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
E2595020	EQ595020	2.0	6	7	51
E2595030	EQ595030	3.0	6	8	52
E2595040	EQ595040	4.0	6	11	55
E2595050	EQ595050	5.0	6	13	57
E2595060	EQ595060	6.0	6	13	57
E2595070	EQ595070	7.0	10	16	66
E2595080	EQ595080	8.0	10	19	69
E2595090	EQ595090	9.0	10	19	69
E2595100	EQ595100	10.0	10	22	72
E2595110	EQ595110	11.0	12	22	79
E2595120	EQ595120	12.0	12	26	83
E2595130	EQ595130	13.0	12	26	83
E2595140	EQ595140	14.0	12	26	83
E2595150	EQ595150	15.0	12	26	83
E2595160	EQ595160	16.0	16	32	92
E2595170	EQ595170	17.0	16	32	92
E2595180	EQ595180	18.0	16	32	92
E2595190	EQ595190	19.0	16	32	92
E2595920	EQ595920	20.0	16	38	98
E2595200	EQ595200	20.0	20	38	104
E2595220	EQ595220	22.0	20	38	104
E2595250	EQ595250	25.0	25	45	121

▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
0 ~ + 0.04	h6

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2596** SERIES
FLAT SHANK **EQ596** SERIES

HSSCo8, 6 FLUTE SHORT LENGTH - CENTER CUTTING

HSSCo8, 4&6 SCHNEIDEN KURZ
Fraise HSSCo8, 4&6 dents, coupe au centre, courte
4 - 6 TAGLIENTI, SERIE CORTA, TAGLIENTE AL CENTRO - HSSCo8

HSS Co8 | DIN 844 | 6 | 30° | DIN 1835B P.772~775

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
▲ E2596220	▲ EQ596220	22.0	20	38	104
▲ E2596240	▲ EQ596240	24.0	25	45	121
▲ E2596250	▲ EQ596250	25.0	25	45	121
▲ E2596260	▲ EQ596260	26.0	25	45	121
▲ E2596280	▲ EQ596280	28.0	25	45	121
▲ E2596300	▲ EQ596300	30.0	25	45	121
▲ E2596320	▲ EQ596320	32.0	32	53	133
▲ E2596340	▲ EQ596340	34.0	32	53	133
▲ E2596350	▲ EQ596350	35.0	32	53	133
-	▲ EQ596360	36.0	32	53	133
▲ E2596380	-	38.0	32	63	143
▲ E2596901	▲ EQ596901	40.0	32	63	143
▲ E2596400	▲ EQ596400	40.0	40	63	155

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
0 ~ + 0.04	h6

◎ : 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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2576, EQ576** SERIES
FLAT SHANK **E2577, EQ577** SERIES

HSSCo8, 4&6 FLUTE LONG LENGTH

- HSSCo8, 4&6 SCHNEIDEN LANG
- Fraise HSSCo8, 4&6 dents, longue
- HSSCo8, 4&6 TAGLIENTI, SERIE LUNGA

Under Ø3mm : Center cut type

HSS Co8 | DIN 844 | 4&6 | ≈30° | DIN 1835B P.758~761

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No.of Flute
-	▲ EQ576020	2.0	6	10	54	4
▲ E2576030	-	3.0	6	12	56	4
▲ E2576040	-	4.0	6	19	63	4
▲ E2576045	-	4.5	6	19	63	4
▲ E2576050	▲ EQ576050	5.0	6	24	68	4
▲ E2576060	-	6.0	6	24	68	4
▲ E2576070	-	7.0	10	30	80	4
▲ E2576080	-	8.0	10	38	88	4
▲ E2576090	-	9.0	10	38	88	4
▲ E2576100	▲ EQ576100	10.0	10	45	95	4
▲ E2576110	-	11.0	12	45	102	4
▲ E2576120	-	12.0	12	53	110	4
▲ E2576130	-	13.0	12	53	110	4
▲ E2576140	-	14.0	12	53	110	4
▲ E2576160	-	16.0	16	63	123	4
▲ E2576180	▲ EQ576180	18.0	16	63	123	4
▲ E2576902	-	20.0	16	75	135	4
▲ E2576200	-	20.0	20	75	141	4
▲ E2577220	-	22.0	20	75	141	6
▲ E2577240	-	24.0	25	90	166	6
▲ E2577250	▲ EQ577250	25.0	25	90	166	6
▲ E2577320	-	32.0	32	106	186	6
▲ E2577400	▲ EQ577400	40.0	40	125	217	6

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

Mill Dia. Tolerance(mm)		Shank Dia. Tolerance
up to Ø6	0 ~ + 0.04	h6
over Ø6	0 ~ + 0.05	

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2597** SERIES
FLAT SHANK **EQ597** SERIES

HSSCo8, 4 FLUTE LONG LENGTH - CENTER CUTTING

- HSSCo8, 4&6 SCHNEIDEN LANG
- Fraise HSSCo8, 4&6 dents, coupe au centre, longue
- 4&6 TAGLIENTI, SERIE LUNGA, TAGLIENTE AL CENTRO - HSSCo8

HSS Co8 | DIN 844 | 4 | ≈30° | DIN 1835B P.758~761

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
E2597020	EQ597020	2.0	6	10	54
E2597025	EQ597025	2.5	6	12	56
E2597030	EQ597030	3.0	6	12	56
E2597035	EQ597035	3.5	6	15	59
E2597040	EQ597040	4.0	6	19	63
E2597045	EQ597045	4.5	6	19	63
E2597050	EQ597050	5.0	6	24	68
E2597055	EQ597055	5.5	6	24	68
E2597060	EQ597060	6.0	6	24	68
E2597070	EQ597070	7.0	10	30	80
E2597080	EQ597080	8.0	10	38	88
E2597090	EQ597090	9.0	10	38	88
E2597100	EQ597100	10.0	10	45	95
E2597110	EQ597110	11.0	12	45	102
E2597120	EQ597120	12.0	12	53	110
E2597130	EQ597130	13.0	12	53	110
E2597140	EQ597140	14.0	12	53	110
E2597150	EQ597150	15.0	12	53	110
E2597160	EQ597160	16.0	16	63	123
E2597170	EQ597170	17.0	16	63	123
E2597180	EQ597180	18.0	16	63	123
E2597190	EQ597190	19.0	16	63	123
E2597200	EQ597200	20.0	20	75	141

▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

Mill Dia. Tolerance(mm)		Shank Dia. Tolerance
up to Ø6	0 ~ + 0.04	h6
over Ø6	0 ~ + 0.05	

◎ : 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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2598** SERIES
FLAT SHANK **EQ598** SERIES

HSSCo8, 6 FLUTE LONG LENGTH - CENTER CUTTING

HSSCo8, 4&6 SCHNEIDEN LANG
Fraise HSSCo8, 4&6 dents, coupe au centre, longue
4&6 TAGLIENTI, SERIE LUNGA, TAGLIENTE AL CENTRO - HSSCo8

HSS Co8 | DIN 844 | 6 | ≈30° | DIN 1835B

P.758~761

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
E2598220	EQ598220	22.0	20	75	141
E2598240	EQ598240	24.0	25	90	166
E2598250	EQ598250	25.0	25	90	166
E2598260	EQ598260	26.0	25	90	166
E2598280	EQ598280	28.0	25	90	166
E2598300	EQ598300	30.0	25	90	166
E2598320	EQ598320	32.0	32	106	186
E2598360	EQ598360	36.0	32	106	186
E2598400	EQ598400	40.0	40	125	217

▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0 ~ + 0.05	h6

◎ : 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	○	○	○	○	○																

HSS END MILLS

MORSE TAPER SHANK **E2776** SERIES
MORSE TAPER SHANK **EQ776** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH

HSSCo8, MULTI SCHNEIDEN KURZ
Fraise HSSCo8, multi-dents, courte
MULTI TAGLIENTE, SERIE CORTA - HSSCo8

HSS Co8 | DIN 845 | 4-8 | 30° | DIN 228A

P.758~761

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter	Length of Cut	Overall Length	Morse Taper No.	No.of Flute
▲ E2776140	-	14.0	26	111	2	4
▲ E2776160	-	16.0	32	117	2	4
▲ E2776180	▲ EQ776180	18.0	32	117	2	4
▲ E2776200	▲ EQ776200	20.0	38	123	2	4
▲ E2776220	▲ EQ776220	22.0	38	123	2	6
▲ E2776240	-	24.0	45	147	3	6
▲ E2776250	-	25.0	45	147	3	6
▲ E2776260	-	26.0	45	147	3	6
▲ E2776280	▲ EQ776280	28.0	45	147	3	6
▲ E2776300	-	30.0	45	147	3	6
▲ E2776320	-	32.0	53	178	4	6
▲ E2776350	-	35.0	53	178	4	6
▲ E2776360	-	36.0	53	178	4	6
▲ E2776380	-	38.0	63	188	4	6
▲ E2776400	-	40.0	63	188	4	6
-	▲ EQ776420	42.0	63	188	4	6
▲ E2776440	▲ EQ776440	44.0	63	188	4	6
▲ E2776450	▲ EQ776450	45.0	63	188	4	8
▲ E2776500	-	50.0	75	233	5	8

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

Mill Dia. Tolerance(mm)
± 0.120

◎ : 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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2461, E2462, E2463** SERIES
FLAT SHANK **EQ461, EQ462** SERIES

HSSCo8, MULTI FLUTE 50° HELIX SHORT LENGTH

HSSCo8, MULTI SCHNEIDEN 50° RECHTSSPIRALE KURZ
Fraise HSSCo8, multi-dents, hélice 50°, courte
MULTI TAGLIENTE, ELICA 50°, SERIE CORTA - HSSCo8

HSS Co8 | DIN 844 | 2-4 | 50° | DIN 1835B

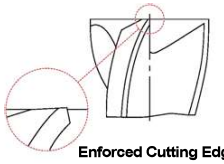
P.762~763

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No.of Flute
▲ E2461020	-	2.0	6	7	51	2
▲ E2461030	▲ EQ461030	3.0	6	8	52	2
▲ E2461040	-	4.0	6	11	55	2
▲ E2461050	-	5.0	6	13	57	2
▲ E2462060	-	6.0	6	13	57	3
▲ E2462070	-	7.0	10	16	66	3
▲ E2462080	▲ EQ462080	8.0	10	19	69	3
▲ E2462090	-	9.0	10	19	69	3
▲ E2462100	-	10.0	10	22	72	3
▲ E2462110	▲ EQ462110	11.0	12	22	79	3
▲ E2462120	▲ EQ462120	12.0	12	26	83	3
▲ E2462130	-	13.0	12	26	83	3
▲ E2462140	▲ EQ462140	14.0	12	26	83	3
▲ E2462150	▲ EQ462150	15.0	12	26	83	3
▲ E2462160	-	16.0	16	32	92	3
▲ E2462180	-	18.0	16	32	92	3
▲ E2462200	-	20.0	20	38	104	3
▲ E2462230	-	23.0	20	38	104	3
▲ E2463220	-	22.0	25	45	121	4
▲ E2463250	-	25.0	25	45	121	4
▲ E2463300	-	30.0	25	45	121	4

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

Mill Dia. Tolerance(mm)		Shank Dia. Tolerance
up to Ø3.0	0 ~ + 0.04	
Ø4.0 ~ Ø6.0	0 ~ + 0.048	
Ø7.0 ~ Ø10.0	0 ~ + 0.058	h6
Ø10.5 ~ Ø18.0	0 ~ + 0.07	
over Ø18.0	0 ~ + 0.084	


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	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

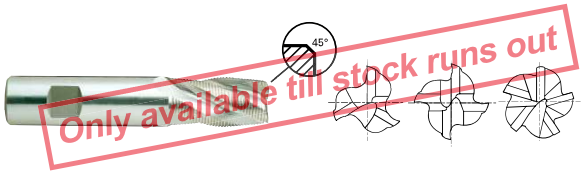
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	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																					

HSS END MILLS

FLAT SHANK **E2761** SERIES
FLAT SHANK **EQ761** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING - EXTRA FINE

HSSCo8, MULTI SCHNEIDEN KURZ SCHRUPPFRÄSER - EXTRA FEIN
Fraise HSSCo8, multi-dents ébauche, pas extra-fin, courte
MULTI TAGLIENTE, PER SGROSSATURA, SERIE CORTA, BOMBATO FINE - HSSCo8



HSS Co8 | DIN 844 | HR | 3-5 | 30° | DIN 1835B | C x 45°

P.764~767

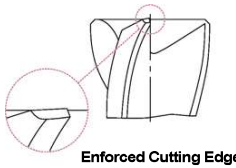
Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No. of Flute	Chamfer
▲ E2761060	▲ EQ761060	6.0	6	13	57	3	0.30
▲ E2761070	▲ EQ761070	7.0	10	16	66	3	0.30
▲ E2761080	▲ EQ761080	8.0	10	19	69	3	0.30
▲ E2761090	-	9.0	10	19	69	3	0.30
▲ E2761100	▲ EQ761100	10.0	10	22	72	4	0.30
▲ E2761120	▲ EQ761120	12.0	12	26	83	4	0.34
▲ E2761140	-	14.0	12	26	83	4	0.34
▲ E2761160	▲ EQ761160	16.0	16	32	92	4	0.34
▲ E2761180	▲ EQ761180	18.0	16	32	92	4	0.44
▲ E2761200	▲ EQ761200	20.0	20	38	104	4	0.44
▲ E2761220	▲ EQ761220	22.0	20	38	104	5	0.44
▲ E2761250	-	25.0	25	45	121	5	0.44

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

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
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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2606** SERIES
FLAT SHANK **EQ606** SERIES

HSSCo8, 3&4 FLUTE SHORT LENGTH ROUGHING BALL NOSE - FINE

HSSCo8, 3&4 SCHNEIDEN KURZ SCHRUPPFRÄSER STIRNRADIUS - FEIN
Fraise HSSCo8, 3&4 dents, ébauche, hémisphérique, pas fin, courte
3&4 TAGLIENTI, SEMISFERICA, PER SGROSSATURA, SERIE CORTA, B. F. - HSSCo8

HSS Co8 | DIN 1889 | HR | 3&4 | 30° | R ±0.02 | DIN 1835B

P.768~769

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Radius of Ball Nose R (±0.02)	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No.of Flute
▲ E2606060	▲ EQ606060	R3.0	**6.0**	6	13	57	3
▲ E2606080	▲ EQ606080	R4.0	**8.0**	10	19	69	3
▲ E2606100	-	R5.0	**10.0**	10	22	72	3
▲ E2606120	-	R6.0	**12.0**	12	26	83	4
▲ E2606160	▲ EQ606160	R8.0	**16.0**	16	32	92	4
▲ E2606200	-	R10.0	**20.0**	20	38	104	4
▲ E2606250	▲ EQ606250	R12.5	**25.0**	25	45	121	4
▲ E2606320	▲ EQ606320	R16.0	**32.0**	32	53	133	4

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

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

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2524** SERIES
FLAT SHANK **EQ524** SERIES

HSSCo8, 3&4 FLUTE STUB LENGTH ROUGHING - FINE

HSSCo8, 3&4 SCHNEIDEN EXTRA KURZ SCHRUPPFRÄSER - FEIN
Fraise HSSCo8, 3&4 dents, ébauche, pas fin, extra-courte
3&4 TAGLIENTI, PER SGROSSATURA, EXTRA CORTA, BOMBATO FINE - HSSCo8

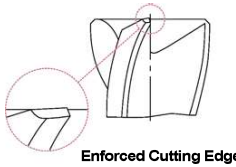
HSS Co8 | DIN 327 | HR | 3&4 | 30° | DIN 1835B | C x 45°

P.770~771

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter k12	Shank Diameter h6	Length of Cut	Overall Length	No. of Flute	Chamfer
▲ E2524060	▲ EQ524060	**6.0**	6	8	52	3	0.18
▲ E2524080	-	**8.0**	10	11	61	4	0.18
▲ E2524100	-	**10.0**	10	13	63	4	0.18
▲ E2524120	▲ EQ524120	**12.0**	12	16	73	4	0.18
▲ E2524140	-	**14.0**	12	16	73	4	0.25
▲ E2524160	-	**16.0**	16	19	79	4	0.25
▲ E2524180	▲ EQ524180	**18.0**	16	19	79	4	0.25
▲ E2524200	-	**20.0**	20	22	88	4	0.25

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.



Enforced Cutting Edge

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
k12	+ 100 / 0	+ 120 / 0	+ 150 / 0	+ 180 / 0	+ 210 / 0	+ 250 / 0
h6	0 / -6	0 / -8	0 / -9	0 / -11	0 / -13	0 / -16

◎ : 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	○	○	○	○	○																

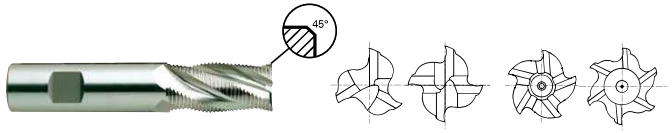
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
JET-POWER END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS
CRX S END MILLS
K-2 END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

HSS END MILLS

FLAT SHANK **E2753** SERIES
FLAT SHANK **EQ753** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING - FINE

HSSCo8, MULTI SCHNEIDEN KURZ SCHRUPPFRÄSER - FEIN
Fraise HSSCo8, multi-dents ébauche, pas fin, courte
MULTI TAGLIENTE, PER SGROSSATURA, SERIE CORTA, BOMBATO FINE - HSSCo8



HSS Co8 | DIN 844 | HR | 3-6 | 30° | DIN 1835B | ~Ø20 | Ø25~ | C x 45° P.764~767

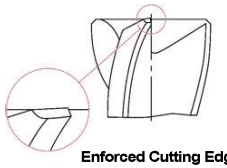
Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No. of Flute	Chamfer
E2753060	EQ753060	6.0	6	13	57	3	0.18
E2753070	EQ753070	7.0	10	16	66	3	0.18
E2753080	EQ753080	8.0	10	19	69	3	0.18
E2753090	EQ753090	9.0	10	19	69	3	0.18
E2753100	EQ753100	10.0	10	22	72	4	0.18
E2753110	EQ753110	11.0	12	22	79	4	0.18
E2753120	EQ753120	12.0	12	26	83	4	0.18
E2753130	EQ753130	13.0	12	26	83	4	0.18
E2753140	EQ753140	14.0	12	26	83	4	0.25
E2753150	EQ753150	15.0	12	26	83	4	0.25
E2753160	EQ753160	16.0	16	32	92	4	0.25
E2753180	EQ753180	18.0	16	32	92	4	0.25
E2753200	EQ753200	20.0	20	38	104	4	0.25
E2753250	EQ753250	25.0	25	45	121	5	0.36
E2753280	EQ753280	28.0	25	45	121	6	0.36
E2753300	EQ753300	30.0	25	45	121	6	0.36
E2753320	EQ753320	32.0	32	53	133	6	0.51
E2753350	EQ753350	35.0	32	53	133	6	0.51
E2753400	EQ753400	40.0	32	63	155	6	0.56

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

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
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	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

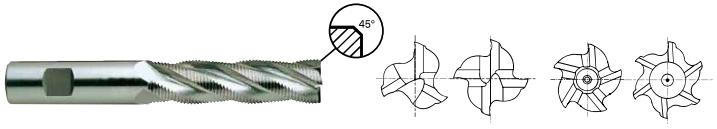
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2762** SERIES
FLAT SHANK **EQ762** SERIES

HSSCo8, MULTI FLUTE LONG LENGTH ROUGHING - FINE

HSSCo8, MULTI SCHNEIDEN LANG SCHRUPPFRÄSER - FEIN
Fraise HSSCo8, multi-dents ébauche, pas fin, longue
MULTI TAGLIENTE, PER SGROSSATURA, SERIE LUNGA, BOMBATO FINE - HSSCo8



HSS Co8 | DIN 844 | HR | 3-6 | 30° | DIN 1835B | ~Ø20 | Ø22~ | C x 45° P.764~767

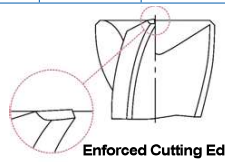
Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No. of Flute	Chamfer
E2762060	EQ762060	6.0	6	24	68	3	0.18
E2762070	EQ762070	7.0	10	30	80	3	0.18
E2762080	EQ762080	8.0	10	38	88	3	0.18
E2762090	EQ762090	9.0	10	38	88	3	0.18
E2762100	EQ762100	10.0	10	45	95	4	0.18
E2762110	EQ762110	11.0	12	45	102	4	0.18
E2762120	EQ762120	12.0	12	53	110	4	0.18
E2762130	EQ762130	13.0	12	53	110	4	0.18
E2762140	EQ762140	14.0	12	53	110	4	0.25
E2762150	EQ762150	15.0	12	53	110	4	0.25
E2762160	EQ762160	16.0	16	63	123	4	0.25
E2762170	EQ762170	17.0	16	63	123	4	0.25
E2762180	EQ762180	18.0	16	63	123	4	0.25
E2762190	EQ762190	19.0	16	63	123	4	0.25
E2762200	EQ762200	20.0	20	75	141	4	0.25
E2762220	EQ762220	22.0	20	75	141	5	0.36
E2762240	EQ762240	24.0	25	90	166	5	0.36
E2762250	EQ762250	25.0	25	90	166	5	0.36
E2762260	EQ762260	26.0	25	90	166	6	0.36
E2762280	EQ762280	28.0	25	90	166	6	0.36
E2762300	EQ762300	30.0	25	90	166	6	0.36
E2762320	EQ762320	32.0	32	106	186	6	0.51
E2762350	EQ762350	35.0	32	106	186	6	0.51
E2762360	EQ762360	36.0	32	106	186	6	0.56
E2762380	EQ762380	38.0	32	125	217	6	0.56
E2762400	EQ762400	40.0	32	125	217	6	0.56
E2762940	EQ762940	40.0	40	125	217	6	0.56

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

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
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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2757** SERIES
FLAT SHANK **EQ757** SERIES

HSSCo8, 3&4 FLUTE SHORT LENGTH ROUGHING BALL NOSE - COARSE

HSSCo8, 3&4 SCHNEIDEN KURZ SCHRUPPFRÄSER STIRNRADIUS - GROB
Fraise HSSCo8, 3&4 dents, ébauche, hémisphérique, pas grossier, courte
3&4 TAGLIENTI, SEMISFERICA, PER SGROSSATURA, SERIE CORTA, B. F. - HSSCo8

HSS Co8 | DIN 1889 | NR | 3&4 | 30° | R ±0.02 | DIN 1835B

P.768~769

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Radius of Ball Nose R (±0.02)	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No.of Flute
▲ E2757080	▲ EQ757080	R4.0	**8.0**	10	19	69	3
▲ E2757100	-	R5.0	**10.0**	10	22	72	3
▲ E2757120	-	R6.0	**12.0**	12	26	83	4
▲ E2757160	▲ EQ757160	R8.0	**16.0**	16	32	92	4
▲ E2757200	-	R10.0	**20.0**	20	38	104	4
	▲ EQ757250	R12.5	**25.0**	25	45	121	4

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

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

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2764** SERIES
FLAT SHANK **EQ764** SERIES

HSSCo8, 3 FLUTE SHORT LENGTH ROUGHING - COARSE

HSSCo8, 3 SCHNEIDEN KURZ SCHRUPPFRÄSER - GROB
Fraise HSSCo8, 3 dents, ébauche, pas grossier, courte
3 TAGLIENTI, PER SGROSSATURA, SERIE CORTA, BOMBATO GROSSO - HSSCo8

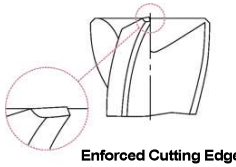
HSS Co8 | DIN 844 | NR | 3 | 30° | DIN 1835B | C x 45°

P.764~767

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	Chamfer
▲ E2764100	▲ EQ764100	**10.0**	10	22	72	0.34
▲ E2764120	▲ EQ764120	**12.0**	12	26	83	0.50
▲ E2764140	▲ EQ764140	**14.0**	12	26	83	0.55
▲ E2764160	▲ EQ764160	**16.0**	16	32	92	0.55
▲ E2764180	▲ EQ764180	**18.0**	16	32	92	0.55
▲ E2764200	▲ EQ764200	**20.0**	20	38	104	0.55
▲ E2764220	-	**22.0**	20	38	104	0.55
▲ E2764250	▲ EQ764250	**25.0**	25	45	121	0.55
-	▲ EQ764300	**30.0**	25	45	121	0.70
▲ E2764320	▲ EQ764320	**32.0**	32	53	133	0.70
▲ E2764360	▲ EQ764360	**36.0**	32	53	133	0.70
▲ E2764400	▲ EQ764400	**40.0**	32	63	155	0.88

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.



Enforced Cutting Edge

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

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2765** SERIES
FLAT SHANK **EQ765** SERIES

HSSCo8, 3 FLUTE LONG LENGTH ROUGHING - COARSE

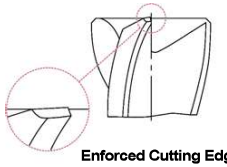
HSSCo8, 3 SCHNEIDEN LANG SCHRUPPFRÄSER - GROB
Fraise HSSCo8, 3 dents, ébauche, pas grossier, longue
3 TAGLIENTI, PER SGROSSATURA, SERIE LUNGA, BOMBATO GROSSO - HSSCo8

HSS Co8 | DIN 844 | NR | 3 | 30° | DIN 1835B | C x 45° P.764~767

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	Chamfer
▲ E2765100	▲ EQ765100	10.0	10	45	95	0.34
▲ E2765120	▲ EQ765120	12.0	12	53	110	0.50
▲ E2765140	-	14.0	12	53	110	0.55
▲ E2765160	▲ EQ765160	16.0	16	63	123	0.55
▲ E2765180	▲ EQ765180	18.0	16	63	123	0.55
▲ E2765200	▲ EQ765200	20.0	20	75	141	0.55
-	▲ EQ765250	25.0	25	90	166	0.55
▲ E2765280	-	28.0	25	90	166	0.70
▲ E2765300	▲ EQ765300	30.0	25	90	166	0.70
-	▲ EQ765360	36.0	32	106	186	0.70
▲ E2765400	-	40.0	32	125	217	0.88

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.


Enforced Cutting Edge

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

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2755** SERIES

HSSCo8, 3 FLUTE 37° HELIX SHORT LENGTH ROUGHING for ALUMINUM

HSSCo8, 3 SCHNEIDEN 37° RECHTSSPIRALE KURZ SCHRUPPFRÄSER für ALUMINIUM
Fraise HSSCo8, 3 dents, ébauche pour aluminium, hélice 37°, courte
3 TAGLIENTI, ELICA 37°, PER SGROSSATURA, SERIE CORTA - HSSCo8

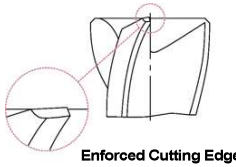
for ALUMINUM
für ALUMINIUM

HSS Co8 | DIN 844 | WR | 3 | 37° | DIN 1835B | C x 45° P.776~777

Unit : mm

EDP No. UNCOATED	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	Chamfer
E2755060	6.0	6	13	57	0.51
E2755080	8.0	10	19	69	0.51
E2755100	10.0	10	22	72	0.60
E2755120	12.0	12	26	83	0.74
E2755140	14.0	12	26	83	0.94
E2755160	16.0	16	32	92	0.94
E2755180	18.0	16	32	92	0.94
E2755200	20.0	20	38	104	0.94
E2755220	22.0	20	38	104	0.94
E2755250	25.0	25	45	121	0.94
E2755300	30.0	25	45	121	1.23

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.


Enforced Cutting Edge

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

◎ : 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	◎	◎	◎	◎	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2756** SERIES

HSSCo8, 3 FLUTE 37° HELIX LONG LENGTH ROUGHING for ALUMINUM

HSSCo8, 3 SCHNEIDEN 37° RECHTSSPIRALE LANG SCHRUPPFRÄSER für ALUMINIUM
Fraise HSSCo8, 3 dents, ébauche pour aluminium, hélice 37°, longue
3 TAGLIENTI, ELICA 37°, PER SGROSSATURA, SERIE LUNGA, B.G. - HSSCo8

for ALUMINUM
für ALUMINIUM

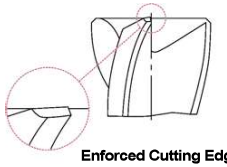
HSS Co8 | DIN 844 | WR | 3 | 37° | DIN 1835B | C x 45°

P.776~777

Unit : mm

EDP No. UNCOATED	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	Chamfer
▲ E2756100	10.0	10	45	95	0.60
▲ E2756120	12.0	12	53	110	0.74
▲ E2756140	14.0	12	53	110	0.76
▲ E2756160	16.0	16	63	123	0.94
▲ E2756180	18.0	16	63	123	0.76
▲ E2756200	20.0	20	75	141	0.94
▲ E2756220	22.0	20	75	141	0.94
▲ E2756250	25.0	25	90	166	0.94
▲ E2756300	30.0	25	90	166	1.23

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.



Enforced Cutting Edge

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

◎ : 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	◎	◎	○	○	○	◎	○	○		◎										

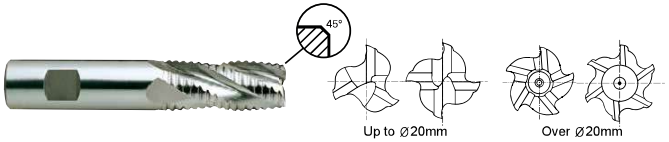
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	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	◎	◎	◎	◎	○																

HSS END MILLS

FLAT SHANK **E2751** SERIES
FLAT SHANK **EQ751** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING - COARSE

HSSCo8, MULTI SCHNEIDEN KURZ SCHRUPPFRÄSER - GROB
Fraise HSSCo8, multi-dents ébauche, pas grossier, courte
MULTI TAGLIENTE, PER SGROSSATURA, SERIE CORTA, BOMBATO GROSSO - HSSCo8



HSS Co8 | DIN 844 | NR | 3-6 | 30° | DIN 1835B | ~Ø20 | Ø22~ | C x 45°

P.764~767

Unit : mm

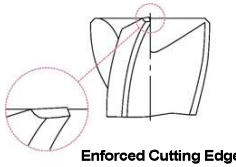
EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No. of Flute	Chamfer
E2751060	EQ751060	6.0	6	13	57	3	0.25
E2751070	EQ751070	7.0	10	16	66	3	0.25
E2751080	EQ751080	8.0	10	19	69	3	0.25
E2751090	EQ751090	9.0	10	19	69	3	0.34
E2751095	EQ751095	9.5	10	19	69	3	0.34
E2751100	EQ751100	10.0	10	22	72	4	0.34
E2751110	EQ751110	11.0	12	22	79	4	0.50
E2751120	EQ751120	12.0	12	26	83	4	0.50
E2751125	EQ751125	12.5	12	26	83	4	0.50
E2751130	EQ751130	13.0	12	26	83	4	0.50
E2751140	EQ751140	14.0	12	26	83	4	0.55
E2751145	EQ751145	14.5	12	26	83	4	0.55
E2751150	EQ751150	15.0	12	26	83	4	0.55
E2751160	EQ751160	16.0	16	32	92	4	0.55
E2751170	EQ751170	17.0	16	32	92	4	0.55
E2751180	EQ751180	18.0	16	32	92	4	0.55
E2751190	EQ751190	19.0	16	32	92	4	0.55
E2751200	EQ751200	20.0	20	38	104	4	0.55
E2751901	EQ751901	20.0	16	38	98	4	0.55
E2751220	EQ751220	22.0	20	38	104	5	0.55

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

▶ NEXT PAGE

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
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	○	○	○	○	○																

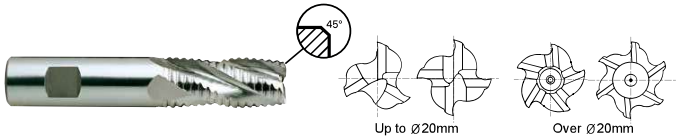
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
JET-POWER END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS
CRX S END MILLS
K-2 END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

HSS END MILLS

FLAT SHANK **E2751** SERIES
FLAT SHANK **EQ751** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING - COARSE

HSSCo8, MULTI SCHNEIDEN KURZ SCHRUPPFRÄSER - GROB
Fraise HSSCo8, multi-dents ébauche, pas grossier, courte
MULTI TAGLIENTE, PER SGROSSATURA, SERIE CORTA, BOMBATO GROSSO - HSSCo8



HSS Co8 | DIN 844 | NR | 3-6 | 30° | DIN 1835B | ~Ø20 | Ø22~ | C x 45°

P.764~767

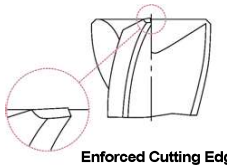
Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No. of Flute	Chamfer
E2751240	EQ751240	24.0	25	45	121	5	0.55
E2751250	EQ751250	25.0	25	45	121	5	0.55
E2751260	EQ751260	26.0	25	45	121	6	0.55
E2751280	EQ751280	28.0	25	45	121	6	0.70
E2751300	EQ751300	30.0	25	45	121	6	0.70
E2751320	EQ751320	32.0	32	53	133	6	0.70
E2751340	EQ751340	34.0	32	53	133	6	0.70
E2751350	EQ751350	35.0	32	53	133	6	0.70
E2751360	EQ751360	36.0	32	53	133	6	0.70
E2751380	EQ751380	38.0	32	63	155	6	0.70
E2751938	EQ751938	38.0	40	63	155	6	0.70
E2751400	EQ751400	40.0	32	63	155	6	0.88
E2751940	EQ751940	40.0	40	63	155	6	0.88
E2751450	EQ751450	45.0	32	63	143	6	0.88
E2751500	EQ751500	50.0	50	75	177	6	0.88

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

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
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	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

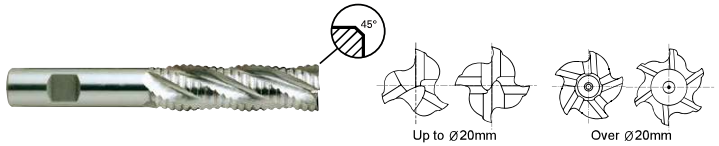
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2752** SERIES
FLAT SHANK **EQ752** SERIES

HSSCo8, MULTI FLUTE LONG LENGTH ROUGHING - COARSE

HSSCo8, MULTI SCHNEIDEN LANG SCHRUPPFRÄSER - GROB
Fraise HSSCo8, multi-dents ébauche, pas grossier, longue
MULTI TAGLIENTE, PER SGROSSATURA, SERIE LUNGA, BOMBATO GROSSO - HSSCo8



HSS Co8 | DIN 844 | NR | 3-6 | 30° | DIN 1835B | ~Ø20 | Ø22~ | C x 45°

P.764~767

Unit : mm

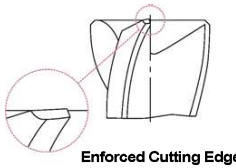
EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No. of Flute	Chamfer
E2752060	EQ752060	6.0	6	24	68	3	0.25
E2752070	EQ752070	7.0	10	30	80	3	0.25
E2752080	EQ752080	8.0	10	38	88	3	0.25
E2752090	EQ752090	9.0	10	38	88	3	0.34
E2752100	EQ752100	10.0	10	45	95	4	0.34
E2752110	EQ752110	11.0	12	45	102	4	0.50
E2752120	EQ752120	12.0	12	53	110	4	0.50
E2752130	EQ752130	13.0	12	53	110	4	0.50
E2752140	EQ752140	14.0	12	53	110	4	0.55
E2752150	EQ752150	15.0	12	53	110	4	0.55
E2752160	EQ752160	16.0	16	63	123	4	0.55
E2752170	EQ752170	17.0	16	63	123	4	0.55
E2752180	EQ752180	18.0	16	63	123	4	0.55
E2752190	EQ752190	19.0	16	63	123	4	0.55
E2752200	EQ752200	20.0	20	75	141	4	0.55
E2752901	EQ752901	20.0	16	75	135	4	0.55
E2752220	EQ752220	22.0	20	75	141	5	0.55
E2752902	EQ752902	22.0	25	75	151	5	0.55

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

▶ NEXT PAGE

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
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	○	○	○	○	○																

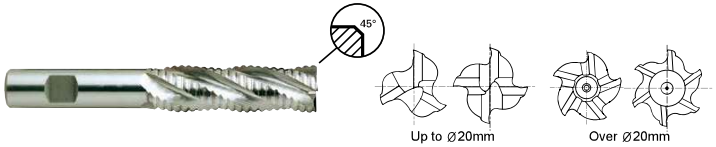
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
JET-POWER END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS
CRX S END MILLS
K-2 END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

HSS END MILLS

FLAT SHANK **E2752** SERIES
FLAT SHANK **EQ752** SERIES

HSSCo8, MULTI FLUTE LONG LENGTH ROUGHING - COARSE

HSSCo8, MULTI SCHNEIDEN LANG SCHRUPPFRÄSER - GROB
Fraise HSSCo8, multi-dents ébauche, pas grossier, longue
MULTI TAGLIENTE, PER SGROSSATURA, SERIE LUNGA, BOMBATO GROSSO - HSSCo8



HSS Co8 | DIN 844 | NR | 3-6 | 30° | DIN 1835B | ~Ø20 | Ø22~ | C x 45° P.764~767

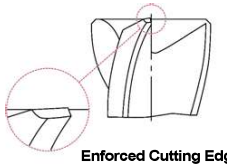
Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter js12	Shank Diameter h6	Length of Cut	Overall Length	No. of Flute	Chamfer
E2752240	EQ752240	24.0	25	90	166	5	0.55
E2752250	EQ752250	25.0	25	90	166	5	0.55
E2752260	EQ752260	26.0	25	90	166	6	0.55
E2752280	EQ752280	28.0	25	90	166	6	0.70
E2752300	EQ752300	30.0	25	90	166	6	0.70
E2752320	EQ752320	32.0	32	106	186	6	0.70
E2752350	EQ752350	35.0	32	106	186	6	0.70
E2752360	EQ752360	36.0	32	106	186	6	0.70
E2752380	EQ752380	38.0	32	125	217	6	0.70
E2752938	EQ752938	38.0	40	125	217	6	0.70
E2752400	EQ752400	40.0	32	125	217	6	0.88
E2752940	EQ752940	40.0	40	125	217	6	0.88

▶ Other shank design on your request.
▶ TiN and TiCN Coatings are available on your request.

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
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	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

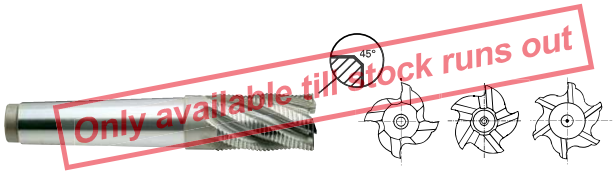
ISO	N										S							H		
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	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	○	○	○	○	○																

HSS END MILLS

MORSE TAPER SHANK **E2778** SERIES
MORSE TAPER SHANK **EQ778** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING - FINE

HSSCo8, MULTI SCHNEIDEN KURZ SCHRUPPFRÄSER - FEIN
Fraise HSSCo8, multi-dents ébauche, pas fin, courte
MULTI TAGLIENTE, SERIE CORTA, PER SGROSSATURA, BOMBATO FINE - HSSCo8



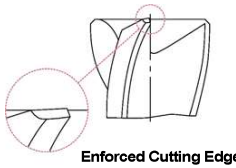
HSS Co8 | DIN 845 | HR | 4-6 | 30° | DIN 228A | C x 45° P.764~767

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter	Length of Cut	Overall Length	Morse Taper No.	No. of Flute	Chamfer
▲ E2778200	-	20.0	38	123	2	4	0.25
▲ E2778220	-	22.0	38	123	2	5	0.30
-	▲ EQ778320	32.0	53	178	4	6	0.51
▲ E2778500	-	50.0	75	233	5	6	0.56

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

Mill Dia. Tolerance(mm)
± 0.120



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	○	○	○	○	○																

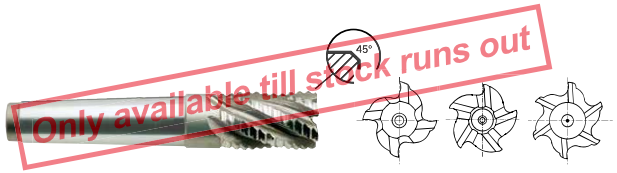
CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
i-SMART MODULAR END MILLS
X5070 END MILLS
4G MILL END MILLS
X-POWER PRO END MILLS
TitaNox-POWER END MILLS
JET-POWER END MILLS
V7 PLUS END MILLS
ALU-POWER HPC END MILLS
ALU-POWER END MILLS
D-POWER GRAPHITE END MILLS
D-POWER CFRP END MILLS
ROUTERS
CRX S END MILLS
K-2 END MILLS
ONLY ONE COATED PM60 END MILLS
TANK-POWER END MILLS
GENERAL HSS END MILLS
MILLING CUTTERS
TECHNICAL DATA

HSS END MILLS

MORSE TAPER SHANK **E2777** SERIES
MORSE TAPER SHANK **EQ777** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING - COARSE

HSSCo8, MULTI SCHNEIDEN KURZ SCHRUPPFRÄSER - GROB
Fraise HSSCo8, multi-dents ébauche, pas grossier, courte
MULTI TAGLIENTE, SERIE CORTA, PER SGROSSATURA, B.G. - HSSCo8



HSS Co8 | DIN 845 | NR | 4-6 | 30° | DIN 228A | C x 45°

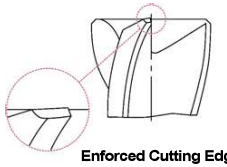
P.764~767

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter	Length of Cut	Overall Length	Morse Taper No.	No. of Flute	Chamfer
-	▲ EQ777140	14.0	26	111	2	4	0.56
▲ E2777160	-	16.0	32	117	2	4	0.56
▲ E2777180	▲ EQ777180	18.0	32	117	2	4	0.56
▲ E2777200	-	20.0	38	123	2	4	0.56
▲ E2777220	-	22.0	38	123	2	5	0.56
▲ E2777240	-	24.0	45	147	3	5	0.56
▲ E2777250	-	25.0	45	147	3	5	0.56
▲ E2777280	-	28.0	45	147	3	6	0.70
▲ E2777300	-	30.0	45	147	3	6	0.70
▲ E2777320	▲ EQ777320	32.0	53	178	4	6	0.70
▲ E2777350	-	35.0	53	178	4	6	0.70
▲ E2777360	-	36.0	53	178	4	6	0.70
▲ E2777400	-	40.0	63	188	4	6	0.88
▲ E2777450	-	45.0	63	188	4	6	0.88

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

Mill Dia. Tolerance(mm)
± 0.120



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
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○									

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
Recommended	○	○	○	○	○																

HSS END MILLS

MORSE TAPER SHANK **E2779** SERIES
MORSE TAPER SHANK **EQ779** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING & FINISHING

HSSCo8, MULTI SCHNEIDEN KURZ SCHRUPPSCHLICHTFRÄSER
Fraise HSSCo8, multi-dents ébauche et finition, courte
MULTI TAGLIENTE, SERIE CORTA, PER SEMIFINITURA - HSSCo8

HSS Co8 | DIN 845 | NF | 4-6 | 30° | DIN 228A

P.778~779

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter	Length of Cut	Overall Length	Morse Taper No.	No.of Flute	Chamfer
▲ E2779200	▲ EQ779200	20.0	38	123	2	2	4
▲ E2779220	-	22.0	38	123	2	2	5
▲ E2779250	▲ EQ779250	25.0	45	147	3	3	5
▲ E2779260	-	26.0	45	147	3	3	5
▲ E2779280	▲ EQ779280	28.0	45	147	3	3	6
▲ E2779300	▲ EQ779300	30.0	45	147	3	3	6
▲ E2779320	▲ EQ779320	32.0	53	178	4	4	6
-	▲ EQ779350	35.0	53	178	4	4	6
▲ E2779450	-	45.0	63	188	4	4	6

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

Mill Dia. Tolerance(mm)
± 0.120

◎ : 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	◎	◎	◎	◎	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2766** SERIES
FLAT SHANK **EQ766** SERIES

HSSCo8, 3 FLUTE SHORT LENGTH ROUGHING & FINISHING

- HSSCo8, 3 SCHNEIDEN KURZ SCHRUPPSCHLICHTFRÄSER
- Fraise HSSCo8, 3 dents ébauche et finition, courte
- HSSCo8, 3 TAGLIENTI, SERIE CORTA, PER SGROSSATURA & FINITURA

HSS Co8 | DIN 844 | NF | 3 | 30° | DIN 1835B

P.780~783

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter k10	Shank Diameter h6	Length of Cut	Overall Length
▲ E2766060	▲ EQ766060	6.0	6	13	57
▲ E2766080	▲ EQ766080	8.0	10	19	69
▲ E2766100	▲ EQ766100	10.0	10	22	72
▲ E2766120	▲ EQ766120	12.0	12	26	83
▲ E2766130	▲ EQ766130	13.0	12	26	83
▲ E2766140	▲ EQ766140	14.0	12	26	83
▲ E2766160	▲ EQ766160	16.0	16	32	92
▲ E2766180	▲ EQ766180	18.0	16	32	92
▲ E2766200	▲ EQ766200	20.0	20	38	104
▲ E2766220	▲ EQ766220	22.0	20	38	104
▲ E2766250	▲ EQ766250	25.0	25	45	121
▲ E2766280	▲ EQ766280	28.0	25	45	121
▲ E2766300	-	30.0	25	45	121
▲ E2766320	-	32.0	32	53	133
▲ E2766360	▲ EQ766360	36.0	32	53	133
▲ E2766400	▲ EQ766400	40.0	32	63	155

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

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
k10	+40 / 0	+48 / 0	+58 / 0	+70 / 0	+84 / 0	+100 / 0
h6	0 / -6	0 / -8	0 / -9	0 / -11	0 / -13	0 / -16

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2767** SERIES
FLAT SHANK **EQ767** SERIES

HSSCo8, 3 FLUTE LONG LENGTH ROUGHING & FINISHING

- HSSCo8, 3 SCHNEIDEN LANG SCHRUPPSCHLICHTFRÄSER
- Fraise HSSCo8, 3 dents, ébauche et finition, longue
- HSSCo8, 3 TAGLIENTI, SERIE CORTA, PER SGROSSATURA & FINITURA

HSS Co8 | DIN 844 | NF | 3 | 30° | DIN 1835B

P.780~783

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter k10	Shank Diameter h6	Length of Cut	Overall Length
▲ E2767060	▲ EQ767060	6.0	6	24	68
▲ E2767080	▲ EQ767080	8.0	10	38	88
▲ E2767100	▲ EQ767100	10.0	10	45	95
-	▲ EQ767120	12.0	12	53	110
▲ E2767140	▲ EQ767140	14.0	12	53	110
-	▲ EQ767160	16.0	16	63	123
▲ E2767180	▲ EQ767180	18.0	16	63	123
▲ E2767200	▲ EQ767200	20.0	20	75	141
-	▲ EQ767220	22.0	20	75	141
-	▲ EQ767250	25.0	25	90	166
▲ E2767280	-	28.0	25	90	166
▲ E2767300	▲ EQ767300	30.0	25	90	166
▲ E2767360	▲ EQ767360	36.0	32	106	186
-	▲ EQ767400	40.0	32	125	217

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

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
k10	+40 / 0	+48 / 0	+58 / 0	+70 / 0	+84 / 0	+100 / 0
h6	0 / -6	0 / -8	0 / -9	0 / -11	0 / -13	0 / -16

◎ : 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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

FLAT SHANK **E2754** SERIES
FLAT SHANK **EQ754** SERIES

HSSCo8, MULTI FLUTE SHORT LENGTH ROUGHING & FINISHING

HSSCo8, MULTI SCHNEIDEN KURZ SCHRUPPSCHLICHTFRÄSER
Fraise HSSCo8, multi-dents, ébauche et finition, courte
MULTI TAGLIENTE, SERIE CORTA PER SEMIFINITURA - HSSCo8

HSS Co8 | DIN 844 | NF | 3-6 | 30° | DIN 1835B | ~Ø20 | Ø22~ P.784~787

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter k10	Shank Diameter h6	Length of Cut	Overall Length	No.of Flute
▲ E2754060	▲ EQ754060	6.0	6	13	57	3
▲ E2754070	▲ EQ754070	7.0	10	16	66	3
▲ E2754080	▲ EQ754080	8.0	10	19	69	4
▲ E2754090	▲ EQ754090	9.0	10	19	69	4
▲ E2754100	▲ EQ754100	10.0	10	22	72	4
▲ E2754110	▲ EQ754110	11.0	12	22	79	4
▲ E2754120	▲ EQ754120	12.0	12	26	83	4
▲ E2754130	▲ EQ754130	13.0	12	26	83	4
▲ E2754140	-	14.0	12	26	83	4
▲ E2754150	▲ EQ754150	15.0	12	26	83	4
▲ E2754160	▲ EQ754160	16.0	16	32	92	4
▲ E2754180	▲ EQ754180	18.0	16	32	92	4
▲ E2754200	▲ EQ754200	20.0	20	38	104	4
▲ E2754220	▲ EQ754220	22.0	20	38	104	5
▲ E2754250	▲ EQ754250	25.0	25	45	121	5
▲ E2754280	▲ EQ754280	28.0	25	45	121	5
-	▲ EQ754300	30.0	25	45	121	5
▲ E2754320	▲ EQ754320	32.0	32	53	133	5
▲ E2754360	-	36.0	32	53	133	6
▲ E2754400	-	40.0	32	63	155	6

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

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
k10	+40 / 0	+48 / 0	+58 / 0	+70 / 0	+84 / 0	+100 / 0
h6	0 / - 6	0 / - 8	0 / - 9	0 / - 11	0 / - 13	0 / - 16

◎ : 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	○	○	○	○	○																

HSS END MILLS

FLAT SHANK **E2768** SERIES
FLAT SHANK **EQ768** SERIES

HSSCo8, MULTI FLUTE LONG LENGTH ROUGHING & FINISHING

HSSCo8, MULTI SCHNEIDEN LANG SCHRUPPSCHLICHTFRÄSER
Fraise HSSCo8, multi-dents, ébauche et finition, longue
MULTI TAGLIENTE, SERIE LUNGA PER SEMIFINITURA - HSSCo8

HSS Co8 | DIN 844 | NF | 3-6 | 30° | DIN 1835B | ~Ø20 | Ø22~ P.784~787

Unit : mm

EDP No. UNCOATED	EDP No. TiAlN	Mill Diameter k10	Shank Diameter h6	Length of Cut	Overall Length	No.of Flute
▲ E2768060	▲ EQ768060	6.0	6	24	68	3
▲ E2768080	▲ EQ768080	8.0	10	38	88	4
▲ E2768100	▲ EQ768100	10.0	10	45	95	4
▲ E2768120	▲ EQ768120	12.0	12	53	110	4
▲ E2768140	▲ EQ768140	14.0	12	53	110	4
▲ E2768160	▲ EQ768160	16.0	16	63	123	4
▲ E2768180	▲ EQ768180	18.0	16	63	123	4
▲ E2768200	▲ EQ768200	20.0	20	75	141	4
▲ E2768220	▲ EQ768220	22.0	20	75	141	5
▲ E2768250	▲ EQ768250	25.0	25	90	166	5
▲ E2768300	▲ EQ768300	30.0	25	90	166	5
-	▲ EQ768320	32.0	32	106	186	5
▲ E2768450	▲ EQ768450	45.0	40	125	217	6

▲ : Only available till stock runs out
▶ Other shank design on your reguest.
▶ TiN and TiCN Coatings are available on your request.

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
k10	+40 / 0	+48 / 0	+58 / 0	+70 / 0	+84 / 0	+100 / 0
h6	0 / - 6	0 / - 8	0 / - 9	0 / - 11	0 / - 13	0 / - 16

◎ : 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	○	○	○	○	○																

CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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

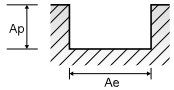
HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E9410 SERIES — 2 FLUTE - SLOTTING

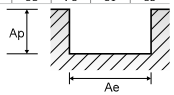
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1-2	Non-alloy steel	1.0D	0.5D	Vc	35	40	35	35	40	35	35	40	40	35	35	35	40	40
					fz	0.003	0.007	0.013	0.019	0.025	0.039	0.05	0.063	0.061	0.079	0.092	0.098	0.098	0.1
					RPM	5570	4244	2785	2228	2122	1393	1114	1061	909	696	619	557	579	509
					FEED	33	59	72	85	106	109	111	134	111	110	114	109	113	102
	3-4		1.0D	0.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.004	0.008	0.013	0.019	0.025	0.039	0.05	0.063	0.071	0.076	0.085	0.085	0.094	0.094
					RPM	4775	3183	2387	1910	1592	1194	955	796	682	597	531	477	434	382
					FEED	38	51	62	73	80	93	95	100	97	91	90	81	82	72
	5		1.0D	0.5D	Vc	20	20	20	15	20	20	20	20	20	15	15	20	20	20
					fz	0.004	0.006	0.013	0.02	0.025	0.039	0.049	0.06	0.067	0.079	0.092	0.098	0.098	0.098
					RPM	3183	2122	1592	955	1061	796	637	531	455	398	265	318	289	255
					FEED	25	25	41	38	53	62	62	64	61	63	49	62	57	50
	6	Low alloy steel	1.0D	0.5D	Vc	35	40	35	35	40	35	35	40	40	35	35	35	40	40
					fz	0.003	0.007	0.013	0.019	0.025	0.039	0.05	0.063	0.061	0.079	0.092	0.098	0.098	0.1
					RPM	5570	4244	2785	2228	2122	1393	1114	1061	909	696	619	557	579	509
					FEED	33	59	72	85	106	109	111	134	111	110	114	109	113	102
	7		1.0D	0.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.004	0.008	0.013	0.019	0.025	0.039	0.05	0.063	0.071	0.076	0.085	0.085	0.094	0.094
					RPM	4775	3183	2387	1910	1592	1194	955	796	682	597	531	477	434	382
					FEED	38	51	62	73	80	93	95	100	97	91	90	81	82	72
	8-9		1.0D	0.5D	Vc	20	20	20	15	20	20	20	20	20	15	15	20	20	20
					fz	0.004	0.006	0.013	0.02	0.025	0.039	0.049	0.06	0.067	0.079	0.092	0.098	0.098	0.098
					RPM	3183	2122	1592	955	1061	796	637	531	455	398	265	318	289	255
					FEED	25	25	41	38	53	62	62	64	61	63	49	62	57	50
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	35	40	35	35	40	35	35	40	40	35	35	35	40	40
					fz	0.003	0.007	0.013	0.019	0.025	0.039	0.05	0.063	0.061	0.079	0.092	0.098	0.098	0.1
					RPM	5570	4244	2785	2228	2122	1393	1114	1061	909	696	619	557	579	509
					FEED	33	59	72	85	106	109	111	134	111	110	114	109	113	102
	11.1		1.0D	0.5D	Vc	20	20	20	15	20	20	20	20	20	20	15	20	20	20
					fz	0.004	0.006	0.013	0.02	0.025	0.039	0.049	0.06	0.067	0.079	0.092	0.098	0.098	0.098
					RPM	3183	2122	1592	955	1061	796	637	531	455	398	265	318	289	255
					FEED	25	25	41	38	53	62	62	64	61	63	49	62	57	50



EP410 SERIES — 2 FLUTE TiAlN COATED - SLOTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1-2	Non-alloy steel	1.0D	0.5D	Vc	50	55	50	50	55	50	50	55	55	50	50	50	55	55
					fz	0.003	0.007	0.013	0.019	0.025	0.04	0.05	0.063	0.062	0.078	0.092	0.099	0.099	0.1
					RPM	7958	5836	3979	3183	2918	1989	1592	1459	1251	995	884	796	796	700
					FEED	48	82	103	121	146	159	159	184	155	155	163	158	158	140
	3		1.0D	0.5D	Vc	45	40	40	45	40	40	45	40	45	40	40	45	40	45
					fz	0.004	0.008	0.012	0.019	0.025	0.039	0.054	0.068	0.075	0.075	0.086	0.086	0.1	0.095
					RPM	7162	4244	3183	2865	2122	1592	1432	1061	1023	796	707	716	579	573
					FEED	57	68	76	109	106	124	155	144	153	119	122	123	116	109
	4		1.0D	0.5D	Vc	45	40	40	45	40	40	45	40	45	40	40	45	40	45
					fz	0.004	0.008	0.012	0.019	0.025	0.039	0.054	0.068	0.075	0.075	0.086	0.086	0.086	0.095
					RPM	7162	4244	3183	2865	2122	1592	1432	1061	1023	796	707	716	579	573
					FEED	57	68	76	109	106	124	155	144	153	119	122	123	100	109
	5		1.0D	0.5D	Vc	25	25	25	25	25	25	25	25	25	25	20	25	25	25
					fz	0.004	0.006	0.013	0.019	0.025	0.038	0.047	0.061	0.071	0.075	0.096	0.096	0.096	0.102
					RPM	3979	2653	1989	1592	1326	995	796	663	568	497	354	398	362	318
					FEED	32	32	52	60	66	76	75	81	81	75	68	76	69	65
	6	Low alloy steel	1.0D	0.5D	Vc	50	55	50	50	55	50	50	55	55	50	50	50	55	55
					fz	0.003	0.007	0.013	0.019	0.025	0.04	0.05	0.063	0.062	0.078	0.092	0.099	0.099	0.1
					RPM	7958	5836	3979	3183	2918	1989	1592	1459	1251	995	884	796	796	700
					FEED	48	82	103	121	146	159	159	184	155	155	163	158	158	140
	7		1.0D	0.5D	Vc	45	40	40	45	40	40	45	40	45	40	40	45	40	45
					fz	0.004	0.008	0.012	0.019	0.025	0.039	0.054	0.068	0.075	0.075	0.086	0.086	0.1	0.095
					RPM	7162	4244	3183	2865	2122	1592	1432	1061	1023	796	707	716	579	573
					FEED	57	68	76	109	106	124	155	144	153	119	122	123	116	109
	8-9		1.0D	0.5D	Vc	25	25	25	25	25	25	25	25	25	25	20	25	25	25
					fz	0.004	0.006	0.013	0.019	0.025	0.038	0.047	0.061	0.071	0.075	0.096	0.096	0.096	0.102
					RPM	3979	2653	1989	1592	1326	995	796	663	568	497	354	398	362	318
					FEED	32	32	52	60	66	76	75	81	81	75	68	76	69	65
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	50	55	50	50	55	50	50	55	55	50	50	50	55	55
					fz	0.003	0.007	0.013	0.019	0.025	0.04	0.05	0.063	0.062	0.078	0.092	0.099	0.099	0.1
					RPM	7958	5836	3979	3183	2918	1989	1592	1459	1251	995	884	796	796	700
					FEED	48	82	103	121	146	159	159	184	155	155	163	158	158	140
	11.1		1.0D	0.5D	Vc	25	25	25	25	25	25	25	25	25	25	20	25	25	25
					fz	0.004	0.006	0.013	0.019	0.025	0.038	0.047	0.061	0.071	0.075	0.096	0.096	0.096	0.102
					RPM	3979	2653	1989	1592	1326	995	796	663	568	497	354	398	362	318
					FEED	32	32	52	60	66	76	75	81	81	75	68	76	69	65

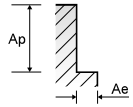


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E9720 SERIES — MULTI FLUTE ROUGHING - SIDE CUTTING

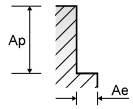
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0
P	1-2	Non-alloy steel	0.5D	1.5D	Vc	45	45	45	40	45	45	45	45	40	45	45	40
					fz	0.011	0.018	0.027	0.042	0.046	0.051	0.058	0.066	0.093	0.083	0.087	0.096
					RPM	2387	1790	1432	1061	1023	895	796	716	579	573	512	424
					FEED	105	129	193	223	235	228	231	236	269	285	267	244
	3-4		0.5D	1.5D	Vc	40	35	35	40	40	35	35	35	40	40	40	40
					fz	0.009	0.017	0.027	0.036	0.04	0.051	0.06	0.064	0.075	0.07	0.074	0.083
					RPM	2122	1393	1114	1061	909	696	619	557	579	509	455	424
					FEED	76	95	150	191	182	178	186	178	217	214	202	211
	5		0.5D	1.5D	Vc	20	20	20	20	20	20	15	20	20	20	20	20
					fz	0.009	0.016	0.027	0.034	0.038	0.043	0.057	0.057	0.07	0.076	0.088	0.088
					RPM	1061	796	637	531	455	398	265	318	289	255	227	212
					FEED	38	51	86	90	86	85	76	91	101	116	120	112
	6	Low alloy steel	0.5D	1.5D	Vc	45	45	45	40	45	45	45	45	40	45	45	40
					fz	0.011	0.018	0.027	0.042	0.046	0.051	0.058	0.066	0.093	0.083	0.087	0.096
					RPM	2387	1790	1432	1061	1023	895	796	716	579	573	512	424
					FEED	105	129	193	223	235	228	231	236	269	285	267	244
	7		0.5D	1.5D	Vc	40	35	35	40	40	35	35	35	40	40	40	40
					fz	0.009	0.017	0.027	0.036	0.04	0.051	0.06	0.064	0.075	0.07	0.074	0.083
					RPM	2122	1393	1114	1061	909	696	619	557	579	509	455	424
					FEED	76	95	150	191	182	178	186	178	217	214	202	211
	8-9		0.5D	1.5D	Vc	20	20	20	20	20	20	15	20	20	20	20	20
					fz	0.009	0.016	0.027	0.034	0.038	0.043	0.057	0.057	0.07	0.076	0.088	0.088
					RPM	1061	796	637	531	455	398	265	318	289	255	227	212
					FEED	38	51	86	90	86	85	76	91	101	116	120	112
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	45	45	45	40	45	45	45	45	40	45	45	40
					fz	0.011	0.018	0.027	0.042	0.046	0.051	0.058	0.066	0.093	0.083	0.087	0.096
					RPM	2387	1790	1432	1061	1023	895	796	716	579	573	512	424
					FEED	105	129	193	223	235	228	231	236	269	285	267	244
	11.1		0.5D	1.5D	Vc	20	20	20	20	20	20	15	20	20	20	20	20
					fz	0.009	0.016	0.027	0.034	0.038	0.043	0.057	0.057	0.07	0.076	0.088	0.088
					RPM	1061	796	637	531	455	398	265	318	289	255	227	212
					FEED	38	51	86	90	86	85	76	91	101	116	120	112



EP720 SERIES — MULTI FLUTE ROUGHING TiAlN COATED - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0
P	1-2	Non-alloy steel	0.5D	1.5D	Vc	60	65	60	60	60	65	65	60	60	60	60	60
					fz	0.011	0.018	0.027	0.042	0.046	0.051	0.057	0.065	0.093	0.083	0.087	0.097
					RPM	3183	2586	1910	1592	1364	1293	1149	955	868	764	682	637
					FEED	140	186	258	334	314	330	328	310	404	380	356	371
	3-4		0.5D	1.5D	Vc	55	50	50	55	55	50	50	50	55	55	55	55
					fz	0.009	0.017	0.027	0.036	0.04	0.051	0.06	0.064	0.076	0.07	0.074	0.083
					RPM	2918	1989	1592	1459	1251	995	884	796	796	700	625	584
					FEED	105	135	215	263	250	254	265	255	302	294	278	291
	5		0.5D	1.5D	Vc	25	25	25	25	30	25	25	25	30	25	25	25
					fz	0.009	0.015	0.027	0.034	0.038	0.049	0.057	0.057	0.069	0.076	0.086	0.086
					RPM	1326	995	796	663	682	497	442	398	434	318	284	265
					FEED	48	60	107	113	130	122	126	113	150	145	147	137
	6	Low alloy steel	0.5D	1.5D	Vc	60	65	60	60	60	65	65	60	60	60	60	60
					fz	0.011	0.018	0.027	0.042	0.046	0.051	0.057	0.065	0.093	0.083	0.087	0.097
					RPM	3183	2586	1910	1592	1364	1293	1149	955	868	764	682	637
					FEED	140	186	258	334	314	330	328	310	404	380	356	371
	7		0.5D	1.5D	Vc	55	50	50	55	55	50	50	50	55	55	55	55
					fz	0.009	0.017	0.027	0.036	0.04	0.051	0.06	0.064	0.076	0.07	0.074	0.083
					RPM	2918	1989	1592	1459	1251	995	884	796	796	700	625	584
					FEED	105	135	215	263	250	254	265	255	302	294	278	291
	8-9		0.5D	1.5D	Vc	25	25	25	25	30	25	25	25	30	25	25	25
					fz	0.009	0.015	0.027	0.034	0.038	0.049	0.057	0.057	0.069	0.076	0.086	0.086
					RPM	1326	995	796	663	682	497	442	398	434	318	284	265
					FEED	48	60	107	113	130	122	126	113	150	145	147	137
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	60	65	60	60	60	65	65	60	60	60	60	60
					fz	0.011	0.018	0.027	0.042	0.046	0.051	0.057	0.065	0.093	0.083	0.087	0.097
					RPM	3183	2586	1910	1592	1364	1293	1149	955	868	764	682	637
					FEED	140	186	258	334	314	330	328	310	404	380	356	371
	11.1		0.5D	1.5D	Vc	25	25	25	25	30	25	25	25	30	25	25	25
					fz	0.009	0.015	0.027	0.034	0.038	0.049	0.057	0.057	0.069	0.076	0.086	0.086
					RPM	1326	995	796	663	682	497	442	398	434	318	284	265
					FEED	48	60	107	113	130	122	126	113	150	145	147	137



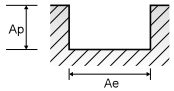
HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E3570 SERIES — 2 FLUTE - SLOTTING

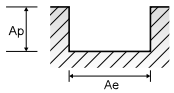
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1-2	Non-alloy steel	1.0D	0.5D	Vc	30	35	30	30	35	30	30	35	35	30	30	30	35	35
					fz	0.004	0.007	0.012	0.019	0.025	0.042	0.05	0.061	0.063	0.083	0.091	0.1	0.1	0.1
					RPM	4775	3714	2387	1910	1857	1194	955	928	796	597	531	477	506	446
					FEED	38	52	57	73	93	100	95	113	100	99	97	95	101	89
	3-4		1.0D	0.5D	Vc	30	25	25	30	25	25	30	25	25	25	25	30	30	25
					fz	0.004	0.008	0.013	0.018	0.025	0.038	0.05	0.064	0.075	0.075	0.083	0.083	0.094	0.093
					RPM	4775	2653	1989	1910	1326	995	955	663	568	497	442	477	434	318
					FEED	38	42	52	69	66	76	95	85	85	75	73	79	82	59
	5		1.0D	0.5D	Vc	15	15	15	15	15	15	15	15	20	15	15	15	15	15
					fz	0.003	0.006	0.015	0.02	0.025	0.042	0.05	0.061	0.069	0.083	0.089	0.1	0.1	0.1
					RPM	2387	1592	1194	955	796	597	477	398	455	298	265	239	217	191
					FEED	14	19	36	38	40	50	48	49	63	50	47	48	43	38
	6	Low alloy steel	1.0D	0.5D	Vc	30	35	30	30	35	30	30	35	35	30	30	30	35	35
					fz	0.004	0.007	0.012	0.019	0.025	0.042	0.05	0.061	0.063	0.083	0.091	0.1	0.1	0.1
					RPM	4775	3714	2387	1910	1857	1194	955	928	796	597	531	477	506	446
					FEED	38	52	57	73	93	100	95	113	100	99	97	95	101	89
	7		1.0D	0.5D	Vc	30	25	25	30	25	25	30	25	25	25	25	30	30	25
					fz	0.004	0.008	0.013	0.018	0.025	0.038	0.05	0.064	0.075	0.075	0.083	0.083	0.094	0.093
					RPM	4775	2653	1989	1910	1326	995	955	663	568	497	442	477	434	318
					FEED	38	42	52	69	66	76	95	85	85	75	73	79	82	59
	8-9		1.0D	0.5D	Vc	15	15	15	15	15	15	15	15	20	15	15	15	15	15
					fz	0.003	0.006	0.015	0.02	0.025	0.042	0.05	0.061	0.069	0.083	0.089	0.1	0.1	0.1
					RPM	2387	1592	1194	955	796	597	477	398	455	298	265	239	217	191
					FEED	14	19	36	38	40	50	48	49	63	50	47	48	43	38
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	30	35	30	30	35	30	30	35	35	30	30	30	35	35
					fz	0.004	0.007	0.012	0.019	0.025	0.042	0.05	0.061	0.063	0.083	0.091	0.1	0.1	0.1
					RPM	4775	3714	2387	1910	1857	1194	955	928	796	597	531	477	506	446
					FEED	38	52	57	73	93	100	95	113	100	99	97	95	101	89
	11.1		1.0D	0.5D	Vc	15	15	15	15	15	15	15	15	20	15	15	15	15	15
					fz	0.003	0.006	0.015	0.02	0.025	0.042	0.05	0.061	0.069	0.083	0.089	0.1	0.1	0.1
					RPM	2387	1592	1194	955	796	597	477	398	455	298	265	239	217	191
					FEED	14	19	36	38	40	50	48	49	63	50	47	48	43	38



ER570 SERIES — 2 FLUTE TiAlN COATED - SLOTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1-2	Non-alloy steel	1.0D	0.5D	Vc	45	45	45	45	45	45	45	45	50	45	40	45	50	50
					fz	0.004	0.007	0.012	0.019	0.025	0.041	0.05	0.062	0.064	0.082	0.093	0.1	0.1	0.099
					RPM	7162	4775	3581	2865	2387	1790	1432	1194	1137	895	707	716	723	637
					FEED	57	67	86	109	119	147	143	148	146	147	132	143	145	126
	3-4		1.0D	0.5D	Vc	40	35	35	40	35	35	40	35	35	35	35	40	40	40
					fz	0.004	0.008	0.013	0.018	0.025	0.038	0.05	0.064	0.074	0.075	0.083	0.083	0.094	0.092
					RPM	6366	3714	2785	2546	1857	1393	1273	928	796	696	619	637	579	509
					FEED	51	59	72	92	93	106	127	119	118	104	103	106	109	94
	5		1.0D	0.5D	Vc	20	25	20	20	25	20	20	25	25	20	20	20	25	20
					fz	0.003	0.006	0.015	0.02	0.024	0.041	0.05	0.063	0.068	0.088	0.09	0.1	0.1	0.098
					RPM	3183	2653	1592	1273	1326	796	637	663	568	398	354	318	362	255
					FEED	19	32	48	51	64	65	64	84	77	70	64	64	72	50
	6	Low alloy steel	1.0D	0.5D	Vc	45	45	45	45	45	45	45	45	50	45	40	45	50	50
					fz	0.004	0.007	0.012	0.019	0.025	0.041	0.05	0.062	0.064	0.082	0.093	0.1	0.1	0.099
					RPM	7162	4775	3581	2865	2387	1790	1432	1194	1137	895	707	716	723	637
					FEED	57	67	86	109	119	147	143	148	146	147	132	143	145	126
	7		1.0D	0.5D	Vc	40	35	35	40	35	35	40	35	35	35	35	40	40	40
					fz	0.004	0.008	0.013	0.018	0.025	0.038	0.05	0.064	0.074	0.075	0.083	0.083	0.094	0.092
					RPM	6366	3714	2785	2546	1857	1393	1273	928	796	696	619	637	579	509
					FEED	51	59	72	92	93	106	127	119	118	104	103	106	109	94
	8-9		1.0D	0.5D	Vc	20	25	20	20	25	20	20	25	25	20	20	20	25	20
					fz	0.003	0.006	0.015	0.02	0.024	0.041	0.05	0.063	0.068	0.088	0.09	0.1	0.1	0.098
					RPM	3183	2653	1592	1273	1326	796	637	663	568	398	354	318	362	255
					FEED	19	32	48	51	64	65	64	84	77	70	64	64	72	50
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	45	45	45	45	45	45	45	45	50	45	40	45	50	50
					fz	0.004	0.007	0.012	0.019	0.025	0.041	0.05	0.062	0.064	0.082	0.093	0.1	0.1	0.099
					RPM	7162	4775	3581	2865	2387	1790	1432	1194	1137	895	707	716	723	637
					FEED	57	67	86	109	119	147	143	148	146	147	132	143	145	126
	11.1		1.0D	0.5D	Vc	20	25	20	20	25	20	20	25	25	20	20	20	25	20
					fz	0.003	0.006	0.015	0.02	0.024	0.041	0.05	0.063	0.068	0.088	0.09	0.1	0.1	0.098
					RPM	3183	2653	1592	1273	1326	796	637	663	568	398	354	318	362	255
					FEED	19	32	48	51	64	65	64	84	77	70	64	64	72	50

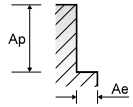


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E3574 SERIES — 4 FLUTE - SIDE CUTTING

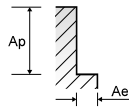
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0
P	1-2	Non-alloy steel	0.1D	1.5D	Vc	30	35	30	30	35	30	30	35	35	30	30	30	35	35
					fz	0.003	0.006	0.011	0.018	0.022	0.038	0.045	0.056	0.056	0.075	0.082	0.09	0.06	0.059
					RPM	4775	3714	2387	1910	1857	1194	955	928	796	597	531	477	506	446
					FEED	57	89	105	138	163	181	172	208	178	179	174	172	182	158
	3-4		0.1D	1.5D	Vc	30	25	25	30	25	25	30	25	25	25	25	30	30	25
					fz	0.003	0.006	0.009	0.014	0.019	0.029	0.036	0.046	0.054	0.058	0.064	0.064	0.048	0.048
					RPM	4775	2653	1989	1910	1326	995	955	663	568	497	442	477	434	318
					FEED	57	64	72	107	101	115	138	122	123	115	113	122	125	92
	5		0.1D	1.5D	Vc	15	15	15	15	15	15	15	15	20	15	15	15	15	15
					fz	0.002	0.005	0.01	0.014	0.018	0.029	0.035	0.044	0.05	0.058	0.063	0.07	0.047	0.046
					RPM	2387	1592	1194	955	796	597	477	398	455	298	265	239	217	191
					FEED	19	32	48	53	57	69	67	70	91	69	67	67	61	53
	6	Low alloy steel	0.1D	1.5D	Vc	30	35	30	30	35	30	30	35	35	30	30	30	35	35
					fz	0.003	0.006	0.011	0.018	0.022	0.038	0.045	0.056	0.056	0.075	0.082	0.09	0.06	0.059
					RPM	4775	3714	2387	1910	1857	1194	955	928	796	597	531	477	506	446
					FEED	57	89	105	138	163	181	172	208	178	179	174	172	182	158
	7		0.1D	1.5D	Vc	30	25	25	30	25	25	30	25	25	25	25	30	30	25
					fz	0.003	0.006	0.009	0.014	0.019	0.029	0.036	0.046	0.054	0.058	0.064	0.064	0.048	0.048
					RPM	4775	2653	1989	1910	1326	995	955	663	568	497	442	477	434	318
					FEED	57	64	72	107	101	115	138	122	123	115	113	122	125	92
	8-9		0.1D	1.5D	Vc	15	15	15	15	15	15	15	15	20	15	15	15	15	15
					fz	0.002	0.005	0.01	0.014	0.018	0.029	0.035	0.044	0.05	0.058	0.063	0.07	0.047	0.046
					RPM	2387	1592	1194	955	796	597	477	398	455	298	265	239	217	191
					FEED	19	32	48	53	57	69	67	70	91	69	67	67	61	53
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	30	35	30	30	35	30	30	35	35	30	30	30	35	35
					fz	0.003	0.006	0.011	0.018	0.022	0.038	0.045	0.056	0.056	0.075	0.082	0.09	0.06	0.059
					RPM	4775	3714	2387	1910	1857	1194	955	928	796	597	531	477	506	446
					FEED	57	89	105	138	163	181	172	208	178	179	174	172	182	158
	11.1		0.1D	1.5D	Vc	15	15	15	15	15	15	15	15	20	15	15	15	15	15
					fz	0.002	0.005	0.01	0.014	0.018	0.029	0.035	0.044	0.05	0.058	0.063	0.07	0.047	0.046
					RPM	2387	1592	1194	955	796	597	477	398	455	298	265	239	217	191
					FEED	19	32	48	53	57	69	67	70	91	69	67	67	61	53



E3462 SERIES — 3 FLUTE - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1-2	Non-alloy steel	0.3D	1.5D	Vc	40	40	40	40	35	35	30	25
					fz	0.017	0.022	0.028	0.04	0.054	0.071	0.12	0.158
					RPM	2122	1592	1273	1061	796	696	531	398
					FEED	108	105	107	127	129	148	191	189
	3-4		0.3D	1.5D	Vc	30	35	30	30	30	25	25	20
					fz	0.014	0.021	0.027	0.033	0.041	0.071	0.117	0.162
					RPM	1592	1393	955	796	682	497	442	318
					FEED	67	88	77	79	84	106	155	155
	5		0.3D	1.5D	Vc	25	25	25	25	20	20	20	15
					fz	0.013	0.015	0.021	0.028	0.037	0.058	0.108	0.133
					RPM	1326	995	796	663	455	398	354	239
					FEED	52	45	50	56	50	69	115	95
	6	Low alloy steel	0.3D	1.5D	Vc	40	40	40	40	35	35	30	25
					fz	0.017	0.022	0.028	0.04	0.054	0.071	0.12	0.158
					RPM	2122	1592	1273	1061	796	696	531	398
					FEED	108	105	107	127	129	148	191	189
	7		0.3D	1.5D	Vc	30	35	30	30	30	25	25	20
					fz	0.014	0.021	0.027	0.033	0.041	0.071	0.117	0.162
					RPM	1592	1393	955	796	682	497	442	318
					FEED	67	88	77	79	84	106	155	155
	8-9		0.3D	1.5D	Vc	25	25	25	25	20	20	20	15
					fz	0.013	0.015	0.021	0.028	0.037	0.058	0.108	0.133
					RPM	1326	995	796	663	455	398	354	239
					FEED	52	45	50	56	50	69	115	95
	10	High alloyed steel, and tool steel	0.3D	1.5D	Vc	40	40	40	40	35	35	30	25
					fz	0.017	0.022	0.028	0.04	0.054	0.071	0.12	0.158
					RPM	2122	1592	1273	1061	796	696	531	398
					FEED	108	105	107	127	129	148	191	189
	11.1		0.3D	1.5D	Vc	25	25	25	25	20	20	20	15
					fz	0.013	0.015	0.021	0.028	0.037	0.058	0.108	0.133
					RPM	1326	995	796	663	455	398	354	239
					FEED	52	45	50	56	50	69	115	95



HSS END MILLS

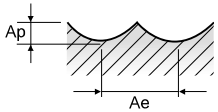
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2535, E2492 SERIES — 2 FLUTE BALL NOSE

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1	Non-alloy steel	0.7D	0.3D	Vc	40	40	40	40	40	40	40	40	40
					fz	0.011	0.018	0.031	0.05	0.069	0.085	0.094	0.117	0.13
					RPM	4244	3183	2122	1592	1273	1061	796	637	509
					FEED	93	115	132	159	176	180	150	149	132
	2		0.7D	0.3D	Vc	30	30	30	30	30	30	30	30	30
					fz	0.01	0.017	0.026	0.044	0.06	0.066	0.083	0.085	0.088
					RPM	3183	2387	1592	1194	955	796	597	477	382
					FEED	64	81	83	105	115	105	99	81	67
	3-4		0.7D	0.3D	Vc	20	20	20	20	20	15	20	20	15
					fz	0.008	0.013	0.023	0.036	0.054	0.061	0.079	0.083	0.091
					RPM	2122	1592	1061	796	637	398	398	318	191
					FEED	34	41	49	57	69	49	63	53	35
	5		0.7D	0.3D	Vc	15	15	15	15	15	10	15	15	15
					fz	0.007	0.013	0.018	0.03	0.044	0.055	0.07	0.088	0.094
					RPM	1592	1194	796	597	477	265	298	239	191
					FEED	22	31	29	36	42	29	42	42	36
	6	Low alloy steel	0.7D	0.3D	Vc	30	30	30	30	30	30	30	30	30
					fz	0.01	0.017	0.026	0.044	0.06	0.066	0.083	0.085	0.088
					RPM	3183	2387	1592	1194	955	796	597	477	382
					FEED	64	81	83	105	115	105	99	81	67
	7		0.7D	0.3D	Vc	20	20	20	20	20	15	20	20	15
					fz	0.008	0.013	0.023	0.036	0.054	0.061	0.079	0.083	0.091
					RPM	2122	1592	1061	796	637	398	398	318	191
					FEED	34	41	49	57	69	49	63	53	35
	8-9		0.7D	0.3D	Vc	15	15	15	15	15	10	15	15	15
					fz	0.007	0.013	0.018	0.03	0.044	0.055	0.07	0.088	0.094
					RPM	1592	1194	796	597	477	265	298	239	191
					FEED	22	31	29	36	42	29	42	42	36
	10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	30	30	30	30	30	30	30	30	30
					fz	0.01	0.017	0.026	0.044	0.06	0.066	0.083	0.085	0.088
					RPM	3183	2387	1592	1194	955	796	597	477	382
					FEED	64	81	83	105	115	105	99	81	67
	11.1		0.7D	0.3D	Vc	15	15	15	15	15	10	15	15	15
					fz	0.007	0.013	0.018	0.03	0.044	0.055	0.07	0.088	0.094
					RPM	1592	1194	796	597	477	265	298	239	191
					FEED	22	31	29	36	42	29	42	42	36
N	21-22	Aluminum-wrought alloy	0.7D	0.3D	Vc	105	100	105	100	100	95	100	100	100
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.088	0.096
					RPM	11141	7958	5570	3979	3183	2520	1989	1592	1273
					FEED	223	255	279	350	357	343	298	280	244
	23-24	Aluminum-cast, alloyed	0.7D	0.3D	Vc	68	65	68	65	65	62	65	65	65
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.088	0.096
					RPM	7215	5173	3608	2586	2069	1645	1293	1035	828
					FEED	144	166	180	228	232	224	194	182	159

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



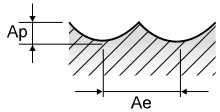
HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ535, EQ492 SERIES — 2 FLUTE BALL NOSE TiAlN COATED

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1	Non-alloy steel	0.7D	0.3D	Vc	60	55	60	55	55	55	55	55	55
					fz	0.011	0.018	0.031	0.05	0.069	0.086	0.095	0.115	0.129
					RPM	6366	4377	3183	2188	1751	1459	1094	875	700
					FEED	140	158	197	219	242	251	208	201	181
	2		0.7D	0.3D	Vc	45	40	45	45	45	40	45	45	45
					fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091
					RPM	4775	3183	2387	1790	1432	1061	895	716	573
					FEED	105	102	124	154	175	140	147	123	104
	3-4		0.7D	0.3D	Vc	25	25	25	25	25	25	25	25	25
					fz	0.007	0.013	0.023	0.035	0.053	0.058	0.075	0.088	0.092
					RPM	2653	1989	1326	995	796	663	497	398	318
					FEED	37	52	61	70	84	77	75	70	59
	5		0.7D	0.3D	Vc	20	20	20	20	15	15	20	20	15
					fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1
					RPM	2122	1592	1061	796	477	398	398	318	191
					FEED	34	41	38	46	43	45	57	53	38
	6	Low alloy steel	0.7D	0.3D	Vc	45	40	45	45	45	40	45	45	45
					fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091
					RPM	4775	3183	2387	1790	1432	1061	895	716	573
					FEED	105	102	124	154	175	140	147	123	104
	7		0.7D	0.3D	Vc	25	25	25	25	25	25	25	25	25
					fz	0.007	0.013	0.023	0.035	0.053	0.058	0.075	0.088	0.092
					RPM	2653	1989	1326	995	796	663	497	398	318
					FEED	37	52	61	70	84	77	75	70	59
	8-9		0.7D	0.3D	Vc	20	20	20	20	15	15	20	20	15
					fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1
					RPM	2122	1592	1061	796	477	398	398	318	191
					FEED	34	41	38	46	43	45	57	53	38
	10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	45	40	45	45	45	40	45	45	45
					fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091
					RPM	4775	3183	2387	1790	1432	1061	895	716	573
					FEED	105	102	124	154	175	140	147	123	104
	11.1		0.7D	0.3D	Vc	20	20	20	20	15	15	20	20	15
					fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.1
					RPM	2122	1592	1061	796	477	398	398	318	191
					FEED	34	41	38	46	43	45	57	53	38
N	21-22	Aluminum-wrought alloy	0.7D	0.3D	Vc	145	140	150	140	140	130	140	140	140
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097
					RPM	15385	11141	7958	5570	4456	3448	2785	2228	1783
					FEED	308	357	398	490	499	469	418	388	346
	23-24	Aluminum-cast, alloyed	0.7D	0.3D	Vc	94	91	98	91	91	85	91	91	91
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097
					RPM	9974	7242	5199	3621	2897	2255	1810	1448	1159
					FEED	199	232	260	319	324	307	272	252	225

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



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

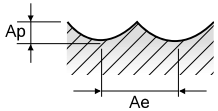
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2410, E2429, E2512 SERIES — MULTI FLUTE BALL NOSE

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	16.0	20.0	25.0
P	1	Non-alloy steel	0.7D	0.3D	Vc	40	40	40	40	40	40	40
					fz	0.03	0.05	0.069	0.087	0.096	0.117	0.133
					RPM	2122	1592	1273	1061	796	637	509
					FEED	255	318	351	369	306	298	406
	2		0.7D	0.3D	Vc	30	30	30	30	30	30	30
					fz	0.026	0.044	0.06	0.067	0.083	0.087	0.088
					RPM	1592	1194	955	796	597	477	382
					FEED	166	210	229	213	198	166	202
	3-4		0.7D	0.3D	Vc	20	20	20	15	20	20	15
					fz	0.023	0.036	0.054	0.059	0.076	0.083	0.091
					RPM	1061	796	637	398	398	318	191
					FEED	98	115	138	94	121	106	104
	5		0.7D	0.3D	Vc	15	15	15	15	15	15	15
					fz	0.019	0.03	0.042	0.052	0.067	0.083	0.094
					RPM	796	597	477	398	298	239	191
					FEED	60	72	80	83	80	79	108
	6	Low alloy steel	0.7D	0.3D	Vc	30	30	30	30	30	30	30
					fz	0.026	0.044	0.06	0.067	0.083	0.087	0.088
					RPM	1592	1194	955	796	597	477	382
					FEED	166	210	229	213	198	166	202
	7		0.7D	0.3D	Vc	20	20	20	15	20	20	15
					fz	0.023	0.036	0.054	0.059	0.076	0.083	0.091
					RPM	1061	796	637	398	398	318	191
					FEED	98	115	138	94	121	106	104
	8-9		0.7D	0.3D	Vc	15	15	15	15	15	15	15
					fz	0.019	0.03	0.042	0.052	0.067	0.083	0.094
					RPM	796	597	477	398	298	239	191
					FEED	60	72	80	83	80	79	108
	10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	30	30	30	30	30	30	30
					fz	0.026	0.044	0.06	0.067	0.083	0.087	0.088
					RPM	1592	1194	955	796	597	477	382
					FEED	166	210	229	213	198	166	202
	11.1		0.7D	0.3D	Vc	15	15	15	15	15	15	15
					fz	0.019	0.03	0.042	0.052	0.067	0.083	0.094
					RPM	796	597	477	398	298	239	191
					FEED	60	72	80	83	80	79	108
N	21-22	Aluminum-wrought alloy	0.7D	0.3D	Vc	105	100	100	95	100	100	100
					fz	0.025	0.044	0.056	0.068	0.075	0.088	0.097
					RPM	5570	3979	3183	2520	1989	1592	1273
					FEED	557	700	713	685	597	560	741
	23-24	Aluminum-cast, alloyed	0.7D	0.3D	Vc	68	65	65	62	65	65	65
					fz	0.025	0.044	0.056	0.068	0.075	0.088	0.097
					RPM	3608	2586	2069	1645	1293	1035	828
					FEED	361	455	463	447	388	364	482

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



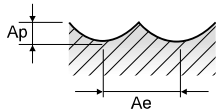
HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ410, EQ429, EQ512 SERIES — MULTI FLUTE BALL NOSE TiAlN COATED

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

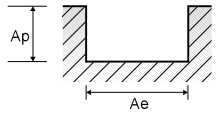
ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1	Non-alloy steel	0.7D	0.3D	Vc	58	57	57	53	55	53	55
					fz	0.03	0.05	0.07	0.087	0.097	0.116	0.133
					RPM	3077	2268	1814	1406	1094	844	700
					FEED	369	454	508	489	425	391	559
	2		0.7D	0.3D	Vc	45	43	44	41	43	44	43
					fz	0.026	0.044	0.06	0.068	0.082	0.086	0.088
					RPM	2387	1711	1401	1088	855	700	547
					FEED	248	301	336	296	281	241	289
	3-4		0.7D	0.3D	Vc	26	25	25	25	25	25	24
					fz	0.024	0.035	0.052	0.056	0.073	0.088	0.094
					RPM	1379	995	796	663	497	398	306
					FEED	132	139	166	149	145	140	172
	5		0.7D	0.3D	Vc	19	18	17	17	18	19	16
					fz	0.018	0.031	0.042	0.052	0.067	0.078	0.108
					RPM	1008	716	541	451	358	302	204
					FEED	73	89	91	94	96	94	132
	6	Low alloy steel	0.7D	0.3D	Vc	45	43	44	41	43	44	43
					fz	0.026	0.044	0.06	0.068	0.082	0.086	0.088
					RPM	2387	1711	1401	1088	855	700	547
					FEED	248	301	336	296	281	241	289
	7		0.7D	0.3D	Vc	26	25	25	25	25	25	24
					fz	0.024	0.035	0.052	0.056	0.073	0.088	0.094
					RPM	1379	995	796	663	497	398	306
					FEED	132	139	166	149	145	140	172
	8-9		0.7D	0.3D	Vc	19	18	17	17	18	19	16
					fz	0.018	0.031	0.042	0.052	0.067	0.078	0.108
					RPM	1008	716	541	451	358	302	204
					FEED	73	89	91	94	96	94	132
	10	High alloyed steel, and tool steel	0.7D	0.3D	Vc	45	43	44	41	43	44	43
					fz	0.026	0.044	0.06	0.068	0.082	0.086	0.088
					RPM	2387	1711	1401	1088	855	700	547
					FEED	248	301	336	296	281	241	289
	11.1		0.7D	0.3D	Vc	19	18	17	17	18	19	16
					fz	0.018	0.031	0.042	0.052	0.067	0.078	0.108
					RPM	1008	716	541	451	358	302	204
					FEED	73	89	91	94	96	94	132
N	21-22	Aluminum-wrought alloy	0.7D	0.3D	Vc	148	141	141	132	141	141	141
					fz	0.025	0.044	0.056	0.068	0.075	0.087	0.098
					RPM	7852	5610	4488	3501	2805	2244	1795
					FEED	785	987	1005	952	842	781	1056
	23-24	Aluminum-cast, alloyed	0.7D	0.3D	Vc	96	92	92	86	92	92	92
					fz	0.025	0.044	0.056	0.068	0.075	0.087	0.098
					RPM	5093	3661	2928	2281	1830	1464	1171
					FEED	509	644	656	620	549	510	689

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



EL612 EL623 SERIES — 1 FLUTE - SLOTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 3.0	4.0	5.0	6.0	7.0	8.0	10.0
N	21-22	Aluminum-wrought alloy	1.0D	0.5D (~Ø3:0.2D)	Vc	188	226	220	207	220	214	220
					fz	0.055	0.053	0.054	0.055	0.055	0.053	0.054
					RPM	19947	17985	14006	10982	10004	8515	7003
					FEED	1097	953	756	604	550	451	378
	23-24	Aluminum-cast, alloyed	1.0D	0.5D (~Ø3:0.2D)	Vc	122	147	143	135	143	139	143
					fz	0.055	0.053	0.054	0.055	0.055	0.053	0.054
					RPM	12945	11698	9104	7162	6503	5531	4552
					FEED	712	620	492	394	358	293	246



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2570, E2571, E2510 SERIES — 2 FLUTE - SLOTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	35	35	35	35	35	35	35	35
					fz	0.004	0.008	0.013	0.02	0.025	0.036	0.045	0.061
					RPM	5570	3714	2785	2228	1857	1393	1114	928
					FEED	45	59	72	89	93	100	100	113
	2		1.0D	0.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.003	0.007	0.013	0.019	0.025	0.041	0.05	0.063
					RPM	4775	3183	2387	1910	1592	1194	955	796
					FEED	29	45	62	73	80	98	95	100
	3-4		1.0D	0.5D	Vc	25	25	25	25	25	25	25	25
					fz	0.004	0.008	0.013	0.019	0.025	0.039	0.05	0.063
					RPM	3979	2653	1989	1592	1326	995	796	663
					FEED	32	42	52	60	66	78	80	84
	5		1.0D	0.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.003	0.006	0.014	0.019	0.025	0.04	0.05	0.063
					RPM	2387	1592	1194	955	796	597	477	398
					FEED	14	19	33	36	40	48	48	50
	6	Low alloy steel	1.0D	0.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.003	0.007	0.013	0.019	0.025	0.041	0.05	0.063
					RPM	4775	3183	2387	1910	1592	1194	955	796
					FEED	29	45	62	73	80	98	95	100
	7		1.0D	0.5D	Vc	25	25	25	25	25	25	25	25
					fz	0.004	0.008	0.013	0.019	0.025	0.039	0.05	0.063
					RPM	3979	2653	1989	1592	1326	995	796	663
					FEED	32	42	52	60	66	78	80	84
	8-9		1.0D	0.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.003	0.006	0.014	0.019	0.025	0.04	0.05	0.063
					RPM	2387	1592	1194	955	796	597	477	398
					FEED	14	19	33	36	40	48	48	50
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.003	0.007	0.013	0.019	0.025	0.041	0.05	0.063
					RPM	4775	3183	2387	1910	1592	1194	955	796
					FEED	29	45	62	73	80	98	95	100
	11.1		1.0D	0.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.003	0.006	0.014	0.019	0.025	0.04	0.05	0.063
					RPM	2387	1592	1194	955	796	597	477	398
					FEED	14	19	33	36	40	48	48	50
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	75	105	100	100	105	100	95	95
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.065	0.076
					RPM	11937	11141	7958	6366	5570	3979	3024	2520
					FEED	167	245	286	318	312	390	393	383
	23-24	Aluminum-cast, alloyed	1.0D	0.5D	Vc	49	68	65	65	68	65	62	62
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.065	0.076
					RPM	7799	7215	5173	4138	3608	2586	1974	1645
					FEED	109	159	186	207	202	253	257	250

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

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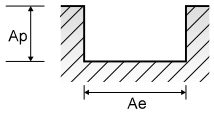
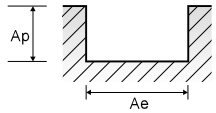


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2570, E2571, E2510 SERIES — 2 FLUTE - SLOTTING

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

VDI 3323	Parameter	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
1	Vc	35	35	35	35	35	35	35	35	35	35	35
	fz	0.069	0.079	0.079	0.089	0.1	0.1	0.1	0.1	0.1	0.097	0.107
	RPM	796	696	619	557	506	446	398	371	348	309	279
	FEED	110	110	98	99	101	89	80	74	70	60	60
2	Vc	30	30	30	30	30	30	30	30	30	30	30
	fz	0.064	0.08	0.09	0.1	0.1	0.1	0.1	0.097	0.098	0.1	0.114
	RPM	682	597	531	477	434	382	341	318	298	265	239
	FEED	87	95	95	95	87	76	68	62	58	53	54
3-4	Vc	25	25	25	25	25	25	25	25	20	25	25
	fz	0.071	0.078	0.088	0.088	0.1	0.097	0.098	0.1	0.102	0.1	0.111
	RPM	568	497	442	398	362	318	284	265	199	221	199
	FEED	81	78	78	70	72	62	56	53	41	44	44
5	Vc	15	15	15	15	15	15	15	15	15	15	15
	fz	0.071	0.08	0.09	0.102	0.102	0.097	0.094	0.094	0.107	0.104	0.114
	RPM	341	298	265	239	217	191	171	159	149	133	119
	FEED	48	48	48	49	44	37	32	30	32	28	27
6	Vc	30	30	30	30	30	30	30	30	30	30	30
	fz	0.064	0.08	0.09	0.1	0.1	0.1	0.1	0.097	0.098	0.1	0.114
	RPM	682	597	531	477	434	382	341	318	298	265	239
	FEED	87	95	95	95	87	76	68	62	58	53	54
7	Vc	25	25	25	25	25	25	25	25	20	25	25
	fz	0.071	0.078	0.088	0.088	0.1	0.097	0.098	0.1	0.102	0.1	0.111
	RPM	568	497	442	398	362	318	284	265	199	221	199
	FEED	81	78	78	70	72	62	56	53	41	44	44
8-9	Vc	15	15	15	15	15	15	15	15	15	15	15
	fz	0.071	0.08	0.09	0.102	0.102	0.097	0.094	0.094	0.107	0.104	0.114
	RPM	341	298	265	239	217	191	171	159	149	133	119
	FEED	48	48	48	49	44	37	32	30	32	28	27
10	Vc	30	30	30	30	30	30	30	30	30	30	30
	fz	0.064	0.08	0.09	0.1	0.1	0.1	0.1	0.097	0.098	0.1	0.114
	RPM	682	597	531	477	434	382	341	318	298	265	239
	FEED	87	95	95	95	87	76	68	62	58	53	54
11.1	Vc	15	15	15	15	15	15	15	15	15	15	15
	fz	0.071	0.08	0.09	0.102	0.102	0.097	0.094	0.094	0.107	0.104	0.114
	RPM	341	298	265	239	217	191	171	159	149	133	119
	FEED	48	48	48	49	44	37	32	30	32	28	27
21-22	Vc	95	100	100	100	95	95	95	105	100	100	100
	fz	0.08	0.088	0.097	0.1	0.107	0.117	0.123	0.123	0.12	0.122	0.125
	RPM	2160	1989	1768	1592	1375	1210	1080	1114	995	884	796
	FEED	346	350	343	318	294	283	266	274	239	216	199
23-24	Vc	62	65	65	65	62	62	62	68	65	65	65
	fz	0.08	0.088	0.097	0.1	0.107	0.117	0.123	0.123	0.12	0.122	0.125
	RPM	1410	1293	1149	1035	897	789	705	722	647	575	517
	FEED	226	228	223	207	192	185	173	177	155	140	129



HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ570, EQ571, EQ510 SERIES — 2 FLUTE TiALN COATED - SLOTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	50	45	50	50	45	50	50	45
					fz	0.004	0.008	0.013	0.02	0.025	0.036	0.045	0.062
					RPM	7958	4775	3979	3183	2387	1989	1592	1194
					FEED	64	76	103	127	119	143	143	148
	2		1.0D	0.5D	Vc	40	40	40	40	40	40	40	40
					fz	0.003	0.007	0.012	0.02	0.024	0.04	0.05	0.064
					RPM	6366	4244	3183	2546	2122	1592	1273	1061
					FEED	38	59	76	102	102	127	127	136
	3-4		1.0D	0.5D	Vc	35	35	30	35	30	30	35	35
					fz	0.004	0.008	0.013	0.019	0.025	0.04	0.05	0.061
					RPM	5570	3714	2387	2228	1592	1194	1114	928
					FEED	45	59	62	85	80	95	111	113
	5		1.0D	0.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.003	0.007	0.013	0.02	0.025	0.041	0.05	0.064
					RPM	3183	2122	1592	1273	1061	796	637	531
					FEED	19	30	41	51	53	65	64	68
	6	Low alloy steel	1.0D	0.5D	Vc	40	40	40	40	40	40	40	40
					fz	0.003	0.007	0.012	0.02	0.024	0.04	0.05	0.064
					RPM	6366	4244	3183	2546	2122	1592	1273	1061
					FEED	38	59	76	102	102	127	127	136
	7		1.0D	0.5D	Vc	35	35	30	35	30	30	35	35
					fz	0.004	0.008	0.013	0.019	0.025	0.04	0.05	0.061
					RPM	5570	3714	2387	2228	1592	1194	1114	928
					FEED	45	59	62	85	80	95	111	113
	8-9		1.0D	0.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.003	0.007	0.013	0.02	0.025	0.041	0.05	0.064
					RPM	3183	2122	1592	1273	1061	796	637	531
					FEED	19	30	41	51	53	65	64	68
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	40	40	40	40	40	40	40	40
					fz	0.003	0.007	0.012	0.02	0.024	0.04	0.05	0.064
					RPM	6366	4244	3183	2546	2122	1592	1273	1061
					FEED	38	59	76	102	102	127	127	136
	11.1		1.0D	0.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.003	0.007	0.013	0.02	0.025	0.041	0.05	0.064
					RPM	3183	2122	1592	1273	1061	796	637	531
					FEED	19	30	41	51	53	65	64	68
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	105	145	140	140	150	140	135	130
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.064	0.076
					RPM	16711	15385	11141	8913	7958	5570	4297	3448
					FEED	234	338	401	446	446	546	550	524
	23-24	Aluminum-cast, alloyed	1.0D	0.5D	Vc	68	94	91	91	98	91	88	85
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.064	0.076
					RPM	10823	9974	7242	5793	5199	3621	2801	2255
					FEED	152	219	261	290	291	355	359	343

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

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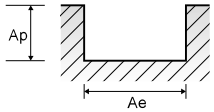

E2464, E2509 SERIES — 2 FLUTE - SLOTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 3.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	75	130	150	155	190	155	175	130	145
					fz	0.035	0.05	0.071	0.12	0.12	0.177	0.177	0.283	0.283
					RPM	7958	6897	5968	4934	5040	3524	3482	2299	2308
					FEED	557	690	848	1184	1210	1248	1232	1301	1306
	23-24	Aluminum-cast, alloyed	1.0D	0.5D	Vc	49	85	98	101	124	101	114	85	94
					fz	0.035	0.05	0.071	0.12	0.12	0.177	0.177	0.283	0.283
					RPM	5199	4509	3899	3215	3289	2296	2268	1503	1496
					FEED	364	451	554	772	789	813	803	851	847

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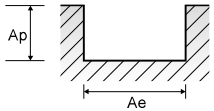
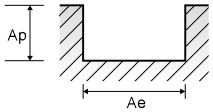


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ570, EQ571, EQ510 SERIES — 2 FLUTE TiALN COATED - SLOTTING

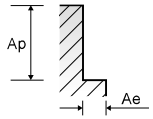
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

VDI 3323	Parameter	Diameter (Ø) 14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
1	Vc	50	50	50	50	50	50	50	45	50	50	50
	fz	0.07	0.078	0.078	0.088	0.1	0.096	0.1	0.1	0.1	0.094	0.106
	RPM	1137	995	884	796	723	637	568	477	497	442	398
	FEED	159	155	138	140	145	122	114	95	99	83	84
2	Vc	45	40	40	40	45	45	45	40	40	40	40
	fz	0.063	0.078	0.089	0.096	0.096	0.1	0.1	0.094	0.094	0.1	0.117
	RPM	1023	796	707	637	651	573	512	424	398	354	318
	FEED	129	124	126	122	125	115	102	80	75	71	74
3-4	Vc	35	35	30	35	35	35	35	35	30	35	30
	fz	0.069	0.077	0.091	0.091	0.1	0.094	0.094	0.1	0.108	0.092	0.11
	RPM	796	696	531	557	506	446	398	371	298	309	239
	FEED	110	107	97	101	101	84	75	74	64	57	53
5	Vc	20	20	20	20	20	20	20	20	20	15	20
	fz	0.07	0.081	0.093	0.108	0.108	0.1	0.1	0.1	0.1	0.117	0.117
	RPM	455	398	354	318	289	255	227	212	199	133	159
	FEED	64	64	66	69	63	51	45	42	40	31	37
6	Vc	45	40	40	40	45	45	45	40	40	40	40
	fz	0.063	0.078	0.089	0.096	0.096	0.1	0.1	0.094	0.094	0.1	0.117
	RPM	1023	796	707	637	651	573	512	424	398	354	318
	FEED	129	124	126	122	125	115	102	80	75	71	74
7	Vc	35	35	30	35	35	35	35	35	30	35	30
	fz	0.069	0.077	0.091	0.091	0.1	0.094	0.094	0.1	0.108	0.092	0.11
	RPM	796	696	531	557	506	446	398	371	298	309	239
	FEED	110	107	97	101	101	84	75	74	64	57	53
8-9	Vc	20	20	20	20	20	20	20	20	20	15	20
	fz	0.07	0.081	0.093	0.108	0.108	0.1	0.1	0.1	0.1	0.117	0.117
	RPM	455	398	354	318	289	255	227	212	199	133	159
	FEED	64	64	66	69	63	51	45	42	40	31	37
10	Vc	45	40	40	40	45	45	45	40	40	40	40
	fz	0.063	0.078	0.089	0.096	0.096	0.1	0.1	0.094	0.094	0.1	0.117
	RPM	1023	796	707	637	651	573	512	424	398	354	318
	FEED	129	124	126	122	125	115	102	80	75	71	74
11.1	Vc	20	20	20	20	20	20	20	20	20	15	20
	fz	0.07	0.081	0.093	0.108	0.108	0.1	0.1	0.1	0.1	0.117	0.117
	RPM	455	398	354	318	289	255	227	212	199	133	159
	FEED	64	64	66	69	63	51	45	42	40	31	37
21-22	Vc	135	140	140	140	135	135	135	145	140	140	140
	fz	0.079	0.088	0.098	0.1	0.108	0.115	0.123	0.123	0.12	0.124	0.127
	RPM	3069	2785	2476	2228	1953	1719	1535	1538	1393	1238	1114
	FEED	485	490	485	446	422	395	378	378	334	307	283
23-24	Vc	88	91	91	91	88	88	88	94	91	91	91
	fz	0.079	0.088	0.098	0.1	0.108	0.115	0.123	0.123	0.12	0.124	0.127
	RPM	2001	1810	1609	1448	1273	1120	1000	997	905	805	724
	FEED	316	319	315	290	275	258	246	245	217	200	184



E2464, E2509 SERIES — 2 FLUTE - SITE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 3.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21-22	Aluminum-wrought alloy	Ø3~Ø10=0.25D Ø12~Ø20=0.5D	1.0D	Vc	75	130	150	155	190	155	175	130	145
					fz	0.046	0.064	0.092	0.15	0.15	0.229	0.229	0.37	0.37
					RPM	7958	6897	5968	4934	5040	3524	3482	2299	2308
					FEED	732	883	1098	1480	1512	1614	1595	1701	1708
	23-24	Aluminum-cast, alloyed	Ø3~Ø10=0.25D Ø12~Ø20=0.5D	1.0D	Vc	49	85	98	101	124	101	114	85	94
					fz	0.046	0.064	0.092	0.15	0.15	0.229	0.229	0.37	0.37
					RPM	5199	4509	3899	3215	3289	2296	2268	1503	1496
					FEED	478	577	717	964	987	1052	1039	1112	1107



HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2572, E2573, E2516, E2553, E2554, E2551, E2552 SERIES

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

3 FLUTE - SLOTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	35	35	35	35	35	35	35	35
					fz	0.002	0.005	0.007	0.012	0.015	0.021	0.027	0.037
					RPM	5570	3714	2785	2228	1857	1393	1114	928
					FEED	33	56	58	80	84	88	90	103
	2		1.0D	0.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.002	0.004	0.007	0.01	0.014	0.021	0.026	0.033
					RPM	4775	3183	2387	1910	1592	1194	955	796
					FEED	29	38	50	57	67	75	74	79
	3-4		1.0D	0.5D	Vc	25	25	25	25	25	25	25	25
					fz	0.002	0.003	0.006	0.008	0.011	0.019	0.023	0.029
					RPM	3979	2653	1989	1592	1326	995	796	663
					FEED	24	24	36	38	44	57	55	58
	5		1.0D	0.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.002	0.003	0.006	0.007	0.01	0.018	0.022	0.029
					RPM	2387	1592	1194	955	796	597	477	398
					FEED	14	14	21	20	24	32	32	35
	6	Low alloy steel	1.0D	0.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.002	0.004	0.007	0.01	0.014	0.021	0.026	0.033
					RPM	4775	3183	2387	1910	1592	1194	955	796
					FEED	29	38	50	57	67	75	74	79
	7		1.0D	0.5D	Vc	25	25	25	25	25	25	25	25
					fz	0.002	0.003	0.006	0.008	0.011	0.019	0.023	0.029
					RPM	3979	2653	1989	1592	1326	995	796	663
					FEED	24	24	36	38	44	57	55	58
	8-9		1.0D	0.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.002	0.003	0.006	0.007	0.01	0.018	0.022	0.029
					RPM	2387	1592	1194	955	796	597	477	398
					FEED	14	14	21	20	24	32	32	35
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.002	0.004	0.007	0.01	0.014	0.021	0.026	0.033
					RPM	4775	3183	2387	1910	1592	1194	955	796
					FEED	29	38	50	57	67	75	74	79
	11.1		1.0D	0.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.002	0.003	0.006	0.007	0.01	0.018	0.022	0.029
					RPM	2387	1592	1194	955	796	597	477	398
					FEED	14	14	21	20	24	32	32	35
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	75	105	100	100	105	100	95	95
					fz	0.003	0.005	0.008	0.011	0.013	0.022	0.029	0.035
					RPM	11937	11141	7958	6366	5570	3979	3024	2520
					FEED	107	167	191	210	217	263	263	265
	23-24	Aluminum-cast, alloyed	1.0D	0.5D	Vc	49	68	65	65	68	65	62	62
					fz	0.003	0.005	0.008	0.011	0.013	0.022	0.029	0.035
					RPM	7799	7215	5173	4138	3608	2586	1974	1645
					FEED	70	108	124	137	141	171	172	173

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

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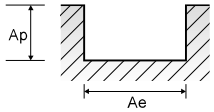
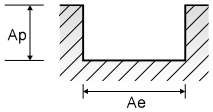


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER
E2572, E2573, E2516, E2553, E2554, E2551, E2552 SERIES
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.
3 FLUTE - SLOTTING

VDI 3323	Parameter	Diameter (Ø) 14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	35.0	36.0	40.0
1	Vc	35	35	35	35	35	35	35	35	35	35	35	35
	fz	0.042	0.048	0.048	0.054	0.06	0.059	0.058	0.057	0.057	0.057	0.059	0.065
	RPM	796	696	619	557	506	446	398	371	348	318	309	279
	FEED	100	100	89	90	91	79	69	64	60	54	55	54
2	Vc	30	30	30	30	30	30	30	30	30	30	30	30
	fz	0.033	0.042	0.047	0.052	0.052	0.054	0.052	0.054	0.054	0.051	0.053	0.061
	RPM	682	597	531	477	434	382	341	318	298	273	265	239
	FEED	68	75	75	74	68	62	53	52	48	42	42	44
3-4	Vc	25	25	25	25	25	25	25	25	20	25	25	25
	fz	0.033	0.037	0.042	0.042	0.048	0.043	0.042	0.04	0.045	0.04	0.042	0.046
	RPM	568	497	442	398	362	318	284	265	199	227	221	199
	FEED	56	55	56	50	52	41	36	32	27	27	28	27
5	Vc	15	15	15	15	15	15	15	15	15	15	15	15
	fz	0.033	0.036	0.04	0.045	0.045	0.037	0.042	0.042	0.048	0.038	0.042	0.045
	RPM	341	298	265	239	217	191	171	159	149	136	133	119
	FEED	34	32	32	32	29	21	21	20	21	16	17	16
6	Vc	30	30	30	30	30	30	30	30	30	30	30	30
	fz	0.033	0.042	0.047	0.052	0.052	0.054	0.052	0.054	0.054	0.051	0.053	0.061
	RPM	682	597	531	477	434	382	341	318	298	273	265	239
	FEED	68	75	75	74	68	62	53	52	48	42	42	44
7	Vc	25	25	25	25	25	25	25	25	20	25	25	25
	fz	0.033	0.037	0.042	0.042	0.048	0.043	0.042	0.04	0.045	0.04	0.042	0.046
	RPM	568	497	442	398	362	318	284	265	199	227	221	199
	FEED	56	55	56	50	52	41	36	32	27	27	28	27
8-9	Vc	15	15	15	15	15	15	15	15	15	15	15	15
	fz	0.033	0.036	0.04	0.045	0.045	0.037	0.042	0.042	0.048	0.038	0.042	0.045
	RPM	341	298	265	239	217	191	171	159	149	136	133	119
	FEED	34	32	32	32	29	21	21	20	21	16	17	16
10	Vc	30	30	30	30	30	30	30	30	30	30	30	30
	fz	0.033	0.042	0.047	0.052	0.052	0.054	0.052	0.054	0.054	0.051	0.053	0.061
	RPM	682	597	531	477	434	382	341	318	298	273	265	239
	FEED	68	75	75	74	68	62	53	52	48	42	42	44
11.1	Vc	15	15	15	15	15	15	15	15	15	15	15	15
	fz	0.033	0.036	0.04	0.045	0.045	0.037	0.042	0.042	0.048	0.038	0.042	0.045
	RPM	341	298	265	239	217	191	171	159	149	136	133	119
	FEED	34	32	32	32	29	21	21	20	21	16	17	16
21-22	Vc	95	100	100	100	95	95	95	105	100	105	100	100
	fz	0.036	0.04	0.044	0.046	0.048	0.053	0.055	0.055	0.053	0.053	0.056	0.054
	RPM	2160	1989	1768	1592	1375	1210	1080	1114	995	955	884	796
	FEED	233	239	233	220	198	192	178	184	158	152	149	129
23-24	Vc	62	65	65	65	62	62	62	68	65	68	65	65
	fz	0.036	0.04	0.044	0.046	0.048	0.053	0.055	0.055	0.053	0.053	0.056	0.054
	RPM	1410	1293	1149	1035	897	789	705	722	647	618	575	517
	FEED	152	155	152	143	129	126	116	119	103	98	97	84



HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2572, E2573, E2516, E2553, E2554, E2551, E2552 SERIES

3 FLUTE - SIDE CUTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	35	35	35	35	35	35	35	35
					fz	0.004	0.008	0.013	0.02	0.025	0.036	0.045	0.061
					RPM	5570	3714	2785	2228	1857	1393	1114	928
					FEED	67	89	109	134	139	150	150	170
	2		0.1D	1.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.044	0.056
					RPM	4775	3183	2387	1910	1592	1194	955	796
					FEED	43	57	79	103	110	129	126	134
	3-4		0.1D	1.5D	Vc	25	25	25	25	25	25	25	25
					fz	0.003	0.006	0.009	0.014	0.018	0.03	0.038	0.048
					RPM	3979	2653	1989	1592	1326	995	796	663
					FEED	36	48	54	67	72	90	91	95
	5		0.1D	1.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.002	0.004	0.009	0.013	0.019	0.03	0.037	0.046
					RPM	2387	1592	1194	955	796	597	477	398
					FEED	14	19	32	37	45	54	53	55
	6	Low alloy steel	0.1D	1.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.044	0.056
					RPM	4775	3183	2387	1910	1592	1194	955	796
					FEED	43	57	79	103	110	129	126	134
	7		0.1D	1.5D	Vc	25	25	25	25	25	25	25	25
					fz	0.003	0.006	0.009	0.014	0.018	0.03	0.038	0.048
					RPM	3979	2653	1989	1592	1326	995	796	663
					FEED	36	48	54	67	72	90	91	95
	8-9		0.1D	1.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.002	0.004	0.009	0.013	0.019	0.03	0.037	0.046
					RPM	2387	1592	1194	955	796	597	477	398
					FEED	14	19	32	37	45	54	53	55
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.044	0.056
					RPM	4775	3183	2387	1910	1592	1194	955	796
					FEED	43	57	79	103	110	129	126	134
	11.1		0.1D	1.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.002	0.004	0.009	0.013	0.019	0.03	0.037	0.046
					RPM	2387	1592	1194	955	796	597	477	398
					FEED	14	19	32	37	45	54	53	55
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	75	105	100	100	105	100	95	95
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.048	0.057
					RPM	11937	11141	7958	6366	5570	3979	3024	2520
					FEED	179	267	334	363	351	442	435	431
	23-24	Aluminum-cast, alloyed	0.1D	1.5D	Vc	49	68	65	65	68	65	62	62
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.048	0.057
					RPM	7799	7215	5173	4138	3608	2586	1974	1645
					FEED	117	173	217	236	227	287	284	281

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

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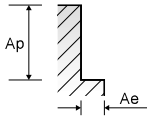
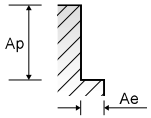


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER
E2572, E2573, E2516, E2553, E2554, E2551, E2552 SERIES
3 FLUTE - SIDE CUTTING
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

VDI 3323	Parameter	Diameter (Ø) 14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	35.0	36.0	40.0
1	Vc	35	35	35	35	35	35	35	35	35	35	35	35
	fz	0.069	0.079	0.079	0.089	0.1	0.1	0.1	0.1	0.1	0.099	0.097	0.107
	RPM	796	696	619	557	506	446	398	371	348	318	309	279
	FEED	165	165	147	149	152	134	119	111	104	95	90	89
2	Vc	30	30	30	30	30	30	30	30	30	30	30	30
	fz	0.057	0.071	0.08	0.089	0.089	0.092	0.09	0.086	0.089	0.083	0.087	0.098
	RPM	682	597	531	477	434	382	341	318	298	273	265	239
	FEED	117	127	127	127	116	105	92	82	80	68	69	70
3-4	Vc	25	25	25	25	25	25	25	25	20	25	25	25
	fz	0.054	0.059	0.067	0.067	0.076	0.07	0.071	0.073	0.076	0.071	0.075	0.083
	RPM	568	497	442	398	362	318	284	265	199	227	221	199
	FEED	92	88	89	80	82	67	61	58	45	48	50	50
5	Vc	15	15	15	15	15	15	15	15	15	15	15	15
	fz	0.052	0.06	0.067	0.076	0.076	0.065	0.063	0.063	0.071	0.064	0.069	0.076
	RPM	341	298	265	239	217	191	171	159	149	136	133	119
	FEED	53	54	53	54	49	37	32	30	32	26	27	27
6	Vc	30	30	30	30	30	30	30	30	30	30	30	30
	fz	0.057	0.071	0.08	0.089	0.089	0.092	0.09	0.086	0.089	0.083	0.087	0.098
	RPM	682	597	531	477	434	382	341	318	298	273	265	239
	FEED	117	127	127	127	116	105	92	82	80	68	69	70
7	Vc	25	25	25	25	25	25	25	25	20	25	25	25
	fz	0.054	0.059	0.067	0.067	0.076	0.07	0.071	0.073	0.076	0.071	0.075	0.083
	RPM	568	497	442	398	362	318	284	265	199	227	221	199
	FEED	92	88	89	80	82	67	61	58	45	48	50	50
8-9	Vc	15	15	15	15	15	15	15	15	15	15	15	15
	fz	0.052	0.06	0.067	0.076	0.076	0.065	0.063	0.063	0.071	0.064	0.069	0.076
	RPM	341	298	265	239	217	191	171	159	149	136	133	119
	FEED	53	54	53	54	49	37	32	30	32	26	27	27
10	Vc	30	30	30	30	30	30	30	30	30	30	30	30
	fz	0.057	0.071	0.08	0.089	0.089	0.092	0.09	0.086	0.089	0.083	0.087	0.098
	RPM	682	597	531	477	434	382	341	318	298	273	265	239
	FEED	117	127	127	127	116	105	92	82	80	68	69	70
11.1	Vc	15	15	15	15	15	15	15	15	15	15	15	15
	fz	0.052	0.06	0.067	0.076	0.076	0.065	0.063	0.063	0.071	0.064	0.069	0.076
	RPM	341	298	265	239	217	191	171	159	149	136	133	119
	FEED	53	54	53	54	49	37	32	30	32	26	27	27
21-22	Vc	95	100	100	100	95	95	95	105	100	105	100	100
	fz	0.061	0.067	0.074	0.075	0.081	0.089	0.091	0.091	0.09	0.091	0.093	0.092
	RPM	2160	1989	1768	1592	1375	1210	1080	1114	995	955	884	796
	FEED	395	400	393	358	334	323	295	304	269	261	247	220
23-24	Vc	62	65	65	65	62	62	62	68	65	68	65	65
	fz	0.061	0.067	0.074	0.075	0.081	0.089	0.091	0.091	0.09	0.091	0.093	0.092
	RPM	1410	1293	1149	1035	897	789	705	722	647	618	575	517
	FEED	258	260	255	233	218	211	192	197	175	169	160	143



HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ572, EQ573, EQ516, EQ553, EQ554, EQ551, EQ552 SERIES

3 FLUTE TiAlN COATED - SLOTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	1	Non-alloy steel	1.0D	0.5D	Vc	50	45	50	50	45	50	45	50
					fz	0.002	0.005	0.007	0.012	0.015	0.021	0.028	0.036
					RPM	7958	4775	3979	3183	2387	1989	1432	1326
					FEED	48	72	84	115	107	125	120	143
	2		1.0D	0.5D	Vc	40	40	40	40	40	40	40	40
					fz	0.002	0.004	0.006	0.01	0.014	0.022	0.028	0.033
					RPM	6366	4244	3183	2546	2122	1592	1273	1061
					FEED	38	51	57	76	89	105	107	105
	3-4		1.0D	0.5D	Vc	35	35	30	35	30	35	35	35
					fz	0.002	0.003	0.005	0.008	0.011	0.018	0.023	0.028
					RPM	5570	3714	2387	2228	1592	1393	1114	928
					FEED	33	33	36	53	53	75	77	78
	5		1.0D	0.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.002	0.003	0.007	0.008	0.011	0.017	0.021	0.03
					RPM	3183	2122	1592	1273	1061	796	637	531
					FEED	19	19	33	31	35	41	40	48
	6	Low alloy steel	1.0D	0.5D	Vc	40	40	40	40	40	40	40	40
					fz	0.002	0.004	0.006	0.01	0.014	0.022	0.028	0.033
					RPM	6366	4244	3183	2546	2122	1592	1273	1061
					FEED	38	51	57	76	89	105	107	105
	7		1.0D	0.5D	Vc	35	35	30	35	30	35	35	35
					fz	0.002	0.003	0.005	0.008	0.011	0.018	0.023	0.028
					RPM	5570	3714	2387	2228	1592	1393	1114	928
					FEED	33	33	36	53	53	75	77	78
	8-9		1.0D	0.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.002	0.003	0.007	0.008	0.011	0.017	0.021	0.03
					RPM	3183	2122	1592	1273	1061	796	637	531
					FEED	19	19	33	31	35	41	40	48
	10	High alloyed steel, and tool steel	1.0D	0.5D	Vc	40	40	40	40	40	40	40	40
					fz	0.002	0.004	0.006	0.01	0.014	0.022	0.028	0.033
					RPM	6366	4244	3183	2546	2122	1592	1273	1061
					FEED	38	51	57	76	89	105	107	105
	11.1		1.0D	0.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.002	0.003	0.007	0.008	0.011	0.017	0.021	0.03
					RPM	3183	2122	1592	1273	1061	796	637	531
					FEED	19	19	33	31	35	41	40	48
N	21-22	Aluminum-wrought alloy	1.0D	0.5D	Vc	105	145	140	140	145	140	135	130
					fz	0.003	0.005	0.008	0.011	0.012	0.021	0.029	0.034
					RPM	16711	15385	11141	8913	7692	5570	4297	3448
					FEED	150	231	267	294	277	351	374	352
	23-24	Aluminum-cast, alloyed	1.0D	0.5D	Vc	68	94	91	91	94	91	88	85
					fz	0.003	0.005	0.008	0.011	0.012	0.021	0.029	0.034
					RPM	10823	9974	7242	5793	4987	3621	2801	2255
					FEED	97	150	174	191	180	228	244	230

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

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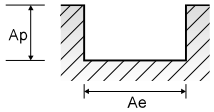


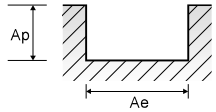
HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ572, EQ573, EQ516, EQ553, EQ554, EQ551, EQ552 SERIES

3 FLUTE TiAlN COATED - SLOTTING

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

VDI 3323	Parameter	Diameter (Ø) 14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	35.0	36.0	40.0
1	Vc	50	50	50	50	50	50	50	45	50	50	50	50
	fz	0.042	0.048	0.047	0.053	0.06	0.058	0.06	0.058	0.058	0.059	0.058	0.064
	RPM	1137	995	884	796	723	637	568	477	497	455	442	398
	FEED	143	143	125	127	130	111	102	83	87	80	77	76
2	Vc	45	40	40	40	45	45	45	40	40	40	40	40
	fz	0.034	0.043	0.048	0.053	0.053	0.054	0.051	0.054	0.056	0.056	0.052	0.059
	RPM	1023	796	707	637	651	573	512	424	398	364	354	318
	FEED	104	103	102	101	104	93	78	69	67	61	55	56
3-4	Vc	35	30	30	35	35	35	35	35	30	30	30	30
	fz	0.032	0.037	0.042	0.042	0.048	0.043	0.043	0.038	0.043	0.04	0.042	0.047
	RPM	796	597	531	557	506	446	398	371	298	273	265	239
	FEED	76	66	67	70	73	57	51	42	38	33	33	34
5	Vc	20	20	20	20	20	20	20	20	20	20	20	20
	fz	0.034	0.034	0.038	0.043	0.043	0.04	0.045	0.045	0.05	0.046	0.039	0.044
	RPM	455	398	354	318	289	255	227	212	199	182	177	159
	FEED	46	41	40	41	37	31	31	29	30	25	21	21
6	Vc	45	40	40	40	45	45	45	40	40	40	40	40
	fz	0.034	0.043	0.048	0.053	0.053	0.054	0.051	0.054	0.056	0.056	0.052	0.059
	RPM	1023	796	707	637	651	573	512	424	398	364	354	318
	FEED	104	103	102	101	104	93	78	69	67	61	55	56
7	Vc	35	30	30	35	35	35	35	35	30	30	30	30
	fz	0.032	0.037	0.042	0.042	0.048	0.043	0.043	0.038	0.043	0.04	0.042	0.047
	RPM	796	597	531	557	506	446	398	371	298	273	265	239
	FEED	76	66	67	70	73	57	51	42	38	33	33	34
8-9	Vc	20	20	20	20	20	20	20	20	20	20	20	20
	fz	0.034	0.034	0.038	0.043	0.043	0.04	0.045	0.045	0.05	0.046	0.039	0.044
	RPM	455	398	354	318	289	255	227	212	199	182	177	159
	FEED	46	41	40	41	37	31	31	29	30	25	21	21
10	Vc	45	40	40	40	45	45	45	40	40	40	40	40
	fz	0.034	0.043	0.048	0.053	0.053	0.054	0.051	0.054	0.056	0.056	0.052	0.059
	RPM	1023	796	707	637	651	573	512	424	398	364	354	318
	FEED	104	103	102	101	104	93	78	69	67	61	55	56
11.1	Vc	20	20	20	20	20	20	20	20	20	20	20	20
	fz	0.034	0.034	0.038	0.043	0.043	0.04	0.045	0.045	0.05	0.046	0.039	0.044
	RPM	455	398	354	318	289	255	227	212	199	182	177	159
	FEED	46	41	40	41	37	31	31	29	30	25	21	21
21-22	Vc	135	140	140	140	135	135	130	140	140	145	140	140
	fz	0.037	0.04	0.045	0.047	0.048	0.053	0.056	0.056	0.054	0.055	0.056	0.055
	RPM	3069	2785	2476	2228	1953	1719	1478	1485	1393	1319	1238	1114
	FEED	341	334	334	314	281	273	248	250	226	218	208	184
23-24	Vc	88	91	91	91	88	88	85	91	91	94	91	91
	fz	0.037	0.04	0.045	0.047	0.048	0.053	0.056	0.056	0.054	0.055	0.056	0.055
	RPM	2001	1810	1609	1448	1273	1120	966	966	905	855	805	724
	FEED	222	217	217	204	183	178	162	162	147	141	135	119



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ572, EQ573, EQ516, EQ553, EQ554, EQ551, EQ552 SERIES

3 FLUTE TiAlN COATED - SIDE CUTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	50	45	50	50	45	50	45	50
					fz	0.004	0.007	0.012	0.02	0.025	0.035	0.047	0.059
					RPM	7958	4775	3979	3183	2387	1989	1432	1326
					FEED	95	100	143	191	179	209	202	235
	2		0.1D	1.5D	Vc	40	40	40	40	40	40	40	40
					fz	0.003	0.006	0.011	0.017	0.023	0.038	0.044	0.058
					RPM	6366	4244	3183	2546	2122	1592	1273	1061
					FEED	57	76	105	130	146	181	168	185
	3-4		0.1D	1.5D	Vc	35	35	30	35	30	35	35	35
					fz	0.003	0.006	0.009	0.014	0.018	0.028	0.038	0.047
					RPM	5570	3714	2387	2228	1592	1393	1114	928
					FEED	50	67	64	94	86	117	127	131
	5		0.1D	1.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.002	0.005	0.009	0.013	0.018	0.03	0.037	0.045
					RPM	3183	2122	1592	1273	1061	796	637	531
					FEED	19	32	43	50	57	72	71	72
	6	Low alloy steel	0.1D	1.5D	Vc	40	40	40	40	40	40	40	40
					fz	0.003	0.006	0.011	0.017	0.023	0.038	0.044	0.058
					RPM	6366	4244	3183	2546	2122	1592	1273	1061
					FEED	57	76	105	130	146	181	168	185
	7		0.1D	1.5D	Vc	35	35	30	35	30	35	35	35
					fz	0.003	0.006	0.009	0.014	0.018	0.028	0.038	0.047
					RPM	5570	3714	2387	2228	1592	1393	1114	928
					FEED	50	67	64	94	86	117	127	131
	8-9		0.1D	1.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.002	0.005	0.009	0.013	0.018	0.03	0.037	0.045
					RPM	3183	2122	1592	1273	1061	796	637	531
					FEED	19	32	43	50	57	72	71	72
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	40	40	40	40	40	40	40	40
					fz	0.003	0.006	0.011	0.017	0.023	0.038	0.044	0.058
					RPM	6366	4244	3183	2546	2122	1592	1273	1061
					FEED	57	76	105	130	146	181	168	185
	11.1		0.1D	1.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.002	0.005	0.009	0.013	0.018	0.03	0.037	0.045
					RPM	3183	2122	1592	1273	1061	796	637	531
					FEED	19	32	43	50	57	72	71	72
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	105	145	140	140	145	140	135	130
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.049	0.057
					RPM	16711	15385	11141	8913	7692	5570	4297	3448
					FEED	251	369	468	508	485	618	632	590
	23-24	Aluminum-cast, alloyed	0.1D	1.5D	Vc	68	94	91	91	94	91	88	85
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.049	0.057
					RPM	10823	9974	7242	5793	4987	3621	2801	2255
					FEED	162	239	304	330	314	402	412	386

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

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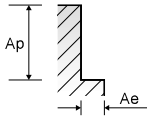


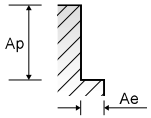
HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ572, EQ573, EQ516, EQ553, EQ554, EQ551, EQ552 SERIES

3 FLUTE TiAlN COATED - SIDE CUTTING

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

VDI 3323	Parameter	Diameter (Ø) 14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	35.0	36.0	40.0
1	Vc	50	50	50	50	50	50	50	45	50	50	50	50
	fz	0.07	0.078	0.08	0.09	0.1	0.101	0.101	0.099	0.099	0.096	0.097	0.107
	RPM	1137	995	884	796	723	637	568	477	497	455	442	398
	FEED	239	233	212	215	217	193	172	142	148	131	129	128
2	Vc	45	40	40	40	45	45	45	40	40	40	40	40
	fz	0.058	0.073	0.081	0.09	0.09	0.092	0.088	0.085	0.09	0.088	0.086	0.097
	RPM	1023	796	707	637	651	573	512	424	398	364	354	318
	FEED	178	174	172	172	176	158	135	108	107	96	91	93
3-4	Vc	35	30	30	35	35	35	35	35	30	30	30	30
	fz	0.053	0.058	0.065	0.065	0.075	0.07	0.073	0.071	0.075	0.075	0.077	0.087
	RPM	796	597	531	557	506	446	398	371	298	273	265	239
	FEED	127	104	103	109	114	94	87	79	67	61	61	62
5	Vc	20	20	20	20	20	20	20	20	20	20	20	20
	fz	0.051	0.06	0.067	0.075	0.075	0.067	0.061	0.061	0.067	0.065	0.069	0.078
	RPM	455	398	354	318	289	255	227	212	199	182	177	159
	FEED	70	72	71	72	65	51	42	39	40	35	37	37
6	Vc	45	40	40	40	45	45	45	40	40	40	40	40
	fz	0.058	0.073	0.081	0.09	0.09	0.092	0.088	0.085	0.09	0.088	0.086	0.097
	RPM	1023	796	707	637	651	573	512	424	398	364	354	318
	FEED	178	174	172	172	176	158	135	108	107	96	91	93
7	Vc	35	30	30	35	35	35	35	35	30	30	30	30
	fz	0.053	0.058	0.065	0.065	0.075	0.07	0.073	0.071	0.075	0.075	0.077	0.087
	RPM	796	597	531	557	506	446	398	371	298	273	265	239
	FEED	127	104	103	109	114	94	87	79	67	61	61	62
8-9	Vc	20	20	20	20	20	20	20	20	20	20	20	20
	fz	0.051	0.06	0.067	0.075	0.075	0.067	0.061	0.061	0.067	0.065	0.069	0.078
	RPM	455	398	354	318	289	255	227	212	199	182	177	159
	FEED	70	72	71	72	65	51	42	39	40	35	37	37
10	Vc	45	40	40	40	45	45	45	40	40	40	40	40
	fz	0.058	0.073	0.081	0.09	0.09	0.092	0.088	0.085	0.09	0.088	0.086	0.097
	RPM	1023	796	707	637	651	573	512	424	398	364	354	318
	FEED	178	174	172	172	176	158	135	108	107	96	91	93
11.1	Vc	20	20	20	20	20	20	20	20	20	20	20	20
	fz	0.051	0.06	0.067	0.075	0.075	0.067	0.061	0.061	0.067	0.065	0.069	0.078
	RPM	455	398	354	318	289	255	227	212	199	182	177	159
	FEED	70	72	71	72	65	51	42	39	40	35	37	37
21-22	Vc	135	140	140	140	135	135	130	140	140	145	140	140
	fz	0.06	0.067	0.075	0.076	0.082	0.088	0.093	0.093	0.09	0.092	0.093	0.094
	RPM	3069	2785	2476	2228	1953	1719	1478	1485	1393	1319	1238	1114
	FEED	552	560	557	508	481	454	412	414	376	364	345	314
23-24	Vc	88	91	91	91	88	88	85	91	91	94	91	91
	fz	0.06	0.067	0.075	0.076	0.082	0.088	0.093	0.093	0.09	0.092	0.093	0.094
	RPM	2001	1810	1609	1448	1273	1120	966	966	905	855	805	724
	FEED	360	364	362	330	313	296	270	269	244	236	224	204



HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2574, E2575, E2576, E2577, E2597, E2598, E2776 SERIES

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

MULTI FLUTE - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	35	35	35	35	35	35	35
					fz	0.004	0.008	0.013	0.02	0.025	0.036	0.045
					RPM	5570	3714	2785	2228	1857	1393	1114
					FEED	89	119	145	178	186	201	201
	2		0.1D	1.5D	Vc	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044
					RPM	4775	3183	2387	1910	1592	1194	955
					FEED	57	76	105	130	146	172	168
	3-4		0.1D	1.5D	Vc	25	25	25	25	25	25	25
					fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038
					RPM	3979	2653	1989	1592	1326	995	796
					FEED	48	64	72	89	101	115	121
	5		0.1D	1.5D	Vc	15	15	15	15	15	15	15
					fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036
					RPM	2387	1592	1194	955	796	597	477
					FEED	19	32	48	53	60	69	69
	6	Low alloy steel	0.1D	1.5D	Vc	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044
					RPM	4775	3183	2387	1910	1592	1194	955
					FEED	57	76	105	130	146	172	168
	7		0.1D	1.5D	Vc	25	25	25	25	25	25	25
					fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038
					RPM	3979	2653	1989	1592	1326	995	796
					FEED	48	64	72	89	101	115	121
	8-9		0.1D	1.5D	Vc	15	15	15	15	15	15	15
					fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036
					RPM	2387	1592	1194	955	796	597	477
					FEED	19	32	48	53	60	69	69
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044
					RPM	4775	3183	2387	1910	1592	1194	955
					FEED	57	76	105	130	146	172	168
	11.1		0.1D	1.5D	Vc	15	15	15	15	15	15	15
					fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036
					RPM	2387	1592	1194	955	796	597	477
					FEED	19	32	48	53	60	69	69
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	75	105	100	100	105	100	95
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048
					RPM	11937	11141	7958	6366	5570	3979	3024
					FEED	239	401	446	484	468	573	581
	23-24	Aluminum-cast, alloyed	0.1D	1.5D	Vc	49	68	65	65	68	65	62
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048
					RPM	7799	7215	5173	4138	3608	2586	1974
					FEED	156	260	290	314	303	372	379

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

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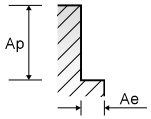
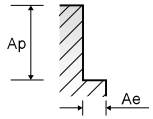


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER
E2574, E2575, E2576, E2577, E2597, E2598, E2776 SERIES
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.
MULTI FLUTE - SIDE CUTTING

VDI 3323	Parameter	Diameter (Ø) 12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
1	Vc	35	35	35	35	35	35	35	35	35	35	35	35
	fz	0.061	0.069	0.079	0.079	0.089	0.067	0.067	0.067	0.067	0.067	0.065	0.071
	RPM	928	796	696	619	557	506	446	398	371	348	309	279
	FEED	227	220	220	196	198	204	179	160	149	140	121	119
2	Vc	30	30	30	30	30	30	30	30	30	30	30	30
	fz	0.056	0.057	0.071	0.08	0.089	0.059	0.06	0.06	0.059	0.06	0.06	0.068
	RPM	796	682	597	531	477	434	382	341	318	298	265	239
	FEED	178	156	170	170	170	154	138	123	113	107	95	97
3-4	Vc	25	25	25	25	25	25	25	25	25	20	25	25
	fz	0.048	0.054	0.058	0.066	0.066	0.05	0.048	0.048	0.05	0.049	0.05	0.056
	RPM	663	568	497	442	398	362	318	284	265	199	221	199
	FEED	127	123	115	117	105	109	92	82	80	58	66	67
5	Vc	15	15	15	15	15	15	15	15	15	15	15	15
	fz	0.047	0.054	0.058	0.065	0.074	0.049	0.046	0.047	0.047	0.054	0.049	0.053
	RPM	398	341	298	265	239	217	191	171	159	149	133	119
	FEED	75	74	69	69	71	64	53	48	45	48	39	38
6	Vc	30	30	30	30	30	30	30	30	30	30	30	30
	fz	0.056	0.057	0.071	0.08	0.089	0.059	0.06	0.06	0.059	0.06	0.06	0.068
	RPM	796	682	597	531	477	434	382	341	318	298	265	239
	FEED	178	156	170	170	170	154	138	123	113	107	95	97
7	Vc	25	25	25	25	25	25	25	25	25	20	25	25
	fz	0.048	0.054	0.058	0.066	0.066	0.05	0.048	0.048	0.05	0.049	0.05	0.056
	RPM	663	568	497	442	398	362	318	284	265	199	221	199
	FEED	127	123	115	117	105	109	92	82	80	58	66	67
8-9	Vc	15	15	15	15	15	15	15	15	15	15	15	15
	fz	0.047	0.054	0.058	0.065	0.074	0.049	0.046	0.047	0.047	0.054	0.049	0.053
	RPM	398	341	298	265	239	217	191	171	159	149	133	119
	FEED	75	74	69	69	71	64	53	48	45	48	39	38
10	Vc	30	30	30	30	30	30	30	30	30	30	30	30
	fz	0.056	0.057	0.071	0.08	0.089	0.059	0.06	0.06	0.059	0.06	0.06	0.068
	RPM	796	682	597	531	477	434	382	341	318	298	265	239
	FEED	178	156	170	170	170	154	138	123	113	107	95	97
11.1	Vc	15	15	15	15	15	15	15	15	15	15	15	15
	fz	0.047	0.054	0.058	0.065	0.074	0.049	0.046	0.047	0.047	0.054	0.049	0.053
	RPM	398	341	298	265	239	217	191	171	159	149	133	119
	FEED	75	74	69	69	71	64	53	48	45	48	39	38
21-22	Vc	95	95	100	100	100	95	95	95	105	100	100	100
	fz	0.057	0.06	0.066	0.074	0.075	0.054	0.058	0.061	0.061	0.06	0.061	0.063
	RPM	2520	2160	1989	1768	1592	1375	1210	1080	1114	995	884	796
	FEED	575	518	525	523	477	445	421	395	408	358	324	301
23-24	Vc	62	62	65	65	65	62	62	62	68	65	65	65
	fz	0.057	0.06	0.066	0.074	0.075	0.054	0.058	0.061	0.061	0.06	0.061	0.063
	RPM	1645	1410	1293	1149	1035	897	789	705	722	647	575	517
	FEED	375	338	341	340	310	291	275	258	264	233	210	196



HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ574, EQ575, EQ576, EQ577, EQ597, EQ598, EQ776 SERIES

MULTI FLUTE TiAlN COATED - SIDE CUTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	50	45	50	50	45	50	50	45
					fz	0.004	0.008	0.013	0.02	0.025	0.036	0.045	0.062
					RPM	7958	4775	3979	3183	2387	1989	1592	1194
					FEED	127	153	207	255	239	286	286	296
	2		0.1D	1.5D	Vc	40	40	40	40	40	40	40	40
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045	0.057
					RPM	6366	4244	3183	2546	2122	1592	1273	1061
					FEED	76	102	140	183	195	229	229	242
	3-4		0.1D	1.5D	Vc	35	35	30	35	30	30	35	35
					fz	0.003	0.006	0.009	0.014	0.018	0.029	0.039	0.047
					RPM	5570	3714	2387	2228	1592	1194	1114	928
					FEED	67	89	86	125	115	138	174	175
	5		0.1D	1.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.002	0.004	0.01	0.014	0.019	0.028	0.035	0.048
					RPM	3183	2122	1592	1273	1061	796	637	531
					FEED	25	34	64	71	81	89	89	102
	6	Low alloy steel	0.1D	1.5D	Vc	40	40	40	40	40	40	40	40
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045	0.057
					RPM	6366	4244	3183	2546	2122	1592	1273	1061
					FEED	76	102	140	183	195	229	229	242
	7		0.1D	1.5D	Vc	35	35	30	35	30	30	35	35
					fz	0.003	0.006	0.009	0.014	0.018	0.029	0.039	0.047
					RPM	5570	3714	2387	2228	1592	1194	1114	928
					FEED	67	89	86	125	115	138	174	175
	8-9		0.1D	1.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.002	0.004	0.01	0.014	0.019	0.028	0.035	0.048
					RPM	3183	2122	1592	1273	1061	796	637	531
					FEED	25	34	64	71	81	89	89	102
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	40	40	40	40	40	40	40	40
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045	0.057
					RPM	6366	4244	3183	2546	2122	1592	1273	1061
					FEED	76	102	140	183	195	229	229	242
	11.1		0.1D	1.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.002	0.004	0.01	0.014	0.019	0.028	0.035	0.048
					RPM	3183	2122	1592	1273	1061	796	637	531
					FEED	25	34	64	71	81	89	89	102
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	105	145	140	140	150	140	135	130
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057
					RPM	16711	15385	11141	8913	7958	5570	4297	3448
					FEED	334	554	624	677	668	802	825	786
	23-24	Aluminum-cast, alloyed	0.1D	1.5D	Vc	68	94	91	91	98	91	88	85
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057
					RPM	10823	9974	7242	5793	5199	3621	2801	2255
					FEED	216	359	406	440	437	521	538	514

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

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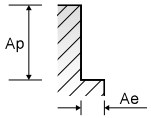


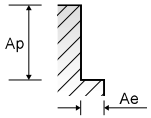
HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ574, EQ575, EQ576, EQ577, EQ597, EQ598, EQ776 SERIES

MULTI FLUTE TiAlN COATED - SIDE CUTTING

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

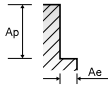
VDI 3323	Parameter	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
1	Vc	50	50	50	50	50	50	50	45	50	50	50
	fz	0.07	0.078	0.078	0.088	0.067	0.064	0.068	0.065	0.065	0.063	0.071
	RPM	1137	995	884	796	723	637	568	477	497	442	398
	FEED	318	310	276	280	291	244	232	186	194	167	170
2	Vc	45	40	40	40	45	45	45	40	40	40	40
	fz	0.056	0.07	0.08	0.087	0.058	0.062	0.058	0.057	0.058	0.06	0.069
	RPM	1023	796	707	637	651	573	512	424	398	354	318
	FEED	229	223	226	222	227	213	178	145	138	127	132
3-4	Vc	35	35	30	35	35	35	35	35	30	35	30
	fz	0.053	0.056	0.066	0.066	0.048	0.046	0.046	0.05	0.05	0.047	0.057
	RPM	796	696	531	557	506	446	398	371	298	309	239
	FEED	169	156	140	147	146	123	110	111	90	87	82
5	Vc	20	20	20	20	20	20	20	20	20	15	20
	fz	0.053	0.056	0.064	0.075	0.05	0.047	0.054	0.054	0.054	0.056	0.056
	RPM	455	398	354	318	289	255	227	212	199	133	159
	FEED	96	89	91	95	87	72	74	69	64	45	53
6	Vc	45	40	40	40	45	45	45	40	40	40	40
	fz	0.056	0.07	0.08	0.087	0.058	0.062	0.058	0.057	0.058	0.06	0.069
	RPM	1023	796	707	637	651	573	512	424	398	354	318
	FEED	229	223	226	222	227	213	178	145	138	127	132
7	Vc	35	35	30	35	35	35	35	35	30	35	30
	fz	0.053	0.056	0.066	0.066	0.048	0.046	0.046	0.05	0.05	0.047	0.057
	RPM	796	696	531	557	506	446	398	371	298	309	239
	FEED	169	156	140	147	146	123	110	111	90	87	82
8-9	Vc	20	20	20	20	20	20	20	20	20	15	20
	fz	0.053	0.056	0.064	0.075	0.05	0.047	0.054	0.054	0.054	0.056	0.056
	RPM	455	398	354	318	289	255	227	212	199	133	159
	FEED	96	89	91	95	87	72	74	69	64	45	53
10	Vc	45	40	40	40	45	45	45	40	40	40	40
	fz	0.056	0.07	0.08	0.087	0.058	0.062	0.058	0.057	0.058	0.06	0.069
	RPM	1023	796	707	637	651	573	512	424	398	354	318
	FEED	229	223	226	222	227	213	178	145	138	127	132
11.1	Vc	20	20	20	20	20	20	20	20	20	15	20
	fz	0.053	0.056	0.064	0.075	0.05	0.047	0.054	0.054	0.054	0.056	0.056
	RPM	455	398	354	318	289	255	227	212	199	133	159
	FEED	96	89	91	95	87	72	74	69	64	45	53
21-22	Vc	135	140	140	140	135	135	135	145	140	140	140
	fz	0.06	0.066	0.074	0.074	0.054	0.058	0.06	0.06	0.06	0.061	0.064
	RPM	3069	2785	2476	2228	1953	1719	1535	1538	1393	1238	1114
	FEED	737	735	733	660	633	598	552	554	501	453	428
23-24	Vc	88	91	91	91	88	88	88	94	91	91	91
	fz	0.06	0.066	0.074	0.074	0.054	0.058	0.06	0.06	0.06	0.061	0.064
	RPM	2001	1810	1609	1448	1273	1120	1000	997	905	805	724
	FEED	480	478	476	429	413	390	360	359	326	294	278



HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2461, E2462, E2463 SERIES — MULTI FLUTE - SIDE CUTTING



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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0
P	1-2	Non-alloy steel	0.3D	1.5D	Vc	30	35	30	30	35	30
					fz	0.004	0.007	0.012	0.019	0.016	0.026
					RPM	4775	3714	2387	1910	1857	1194
					FEED	38	52	57	73	89	93
	3-4		0.3D	1.5D	Vc	30	30	25	30	25	25
					fz	0.003	0.006	0.01	0.015	0.014	0.022
					RPM	4775	3183	1989	1910	1326	995
					FEED	29	38	40	57	56	66
	5		0.3D	1.5D	Vc	15	15	15	15	15	15
					fz	0.002	0.006	0.01	0.015	0.013	0.022
					RPM	2387	1592	1194	955	796	597
					FEED	10	19	24	29	31	39
	6	Low alloy steel	0.3D	1.5D	Vc	30	35	30	30	35	30
					fz	0.004	0.007	0.012	0.019	0.016	0.026
					RPM	4775	3714	2387	1910	1857	1194
					FEED	38	52	57	73	89	93
	7		0.3D	1.5D	Vc	30	30	25	30	25	25
					fz	0.003	0.006	0.01	0.015	0.014	0.022
					RPM	4775	3183	1989	1910	1326	995
					FEED	29	38	40	57	56	66
	8-9		0.3D	1.5D	Vc	15	15	15	15	15	15
					fz	0.002	0.006	0.01	0.015	0.013	0.022
					RPM	2387	1592	1194	955	796	597
					FEED	10	19	24	29	31	39
	10	High alloyed steel, and tool steel	0.3D	1.5D	Vc	30	35	30	30	35	30
					fz	0.004	0.007	0.012	0.019	0.016	0.026
					RPM	4775	3714	2387	1910	1857	1194
					FEED	38	52	57	73	89	93
	11.1		0.3D	1.5D	Vc	15	15	15	15	15	15
					fz	0.002	0.006	0.01	0.015	0.013	0.022
					RPM	2387	1592	1194	955	796	597
					FEED	10	19	24	29	31	39

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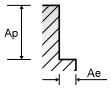
EQ461, EQ462, EQ463 SERIES — MULTI FLUTE TiAlN COATED - SIDE CUTTING



ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0
P	1-2	Non-alloy steel	0.3D	1.5D	Vc	45	45	45	45	50	40
					fz	0.004	0.007	0.012	0.019	0.016	0.027
					RPM	7162	4775	3581	2865	2653	1592
					FEED	57	67	86	109	127	129
	3-4		0.3D	1.5D	Vc	40	35	35	40	35	35
					fz	0.003	0.006	0.01	0.015	0.014	0.021
					RPM	6366	3714	2785	2546	1857	1393
					FEED	38	45	56	76	78	88
	5		0.3D	1.5D	Vc	20	25	20	20	25	20
					fz	0.002	0.006	0.01	0.014	0.013	0.022
					RPM	3183	2653	1592	1273	1326	796
					FEED	13	32	32	36	52	53
	6	Low alloy steel	0.3D	1.5D	Vc	45	45	45	45	50	40
					fz	0.004	0.007	0.012	0.019	0.016	0.027
					RPM	7162	4775	3581	2865	2653	1592
					FEED	57	67	86	109	127	129
	7		0.3D	1.5D	Vc	40	35	35	40	35	35
					fz	0.003	0.006	0.01	0.015	0.014	0.021
					RPM	6366	3714	2785	2546	1857	1393
					FEED	38	45	56	76	78	88
	8-9		0.3D	1.5D	Vc	20	25	20	20	25	20
					fz	0.002	0.006	0.01	0.014	0.013	0.022
					RPM	3183	2653	1592	1273	1326	796
					FEED	13	32	32	36	52	53
	10	High alloyed steel, and tool steel	0.3D	1.5D	Vc	45	45	45	45	50	40
					fz	0.004	0.007	0.012	0.019	0.016	0.027
					RPM	7162	4775	3581	2865	2653	1592
					FEED	57	67	86	109	127	129
	11.1		0.3D	1.5D	Vc	20	25	20	20	25	20
					fz	0.002	0.006	0.01	0.014	0.013	0.022
					RPM	3183	2653	1592	1273	1326	796
					FEED	13	32	32	36	52	53

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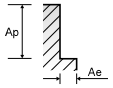
HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

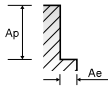
E2461, E2462, E2463 SERIES — MULTI FLUTE - SIDE CUTTING



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

VDI 3323	Parameter	Diameter (Ø) 10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0
1-2	Vc	30	35	35	30	30	30	35	35	35	35
	fz	0.032	0.041	0.04	0.053	0.058	0.063	0.048	0.047	0.047	0.046
	RPM	955	928	796	597	531	477	506	446	398	371
	FEED	92	114	95	95	92	90	97	84	75	68
3-4	Vc	30	25	25	25	25	30	30	25	25	25
	fz	0.026	0.033	0.039	0.043	0.048	0.048	0.041	0.039	0.042	0.04
	RPM	955	663	568	497	442	477	434	318	284	265
	FEED	74	66	67	64	64	69	71	50	48	42
5	Vc	15	15	20	15	15	15	15	15	15	15
	fz	0.027	0.033	0.038	0.044	0.048	0.053	0.04	0.038	0.035	0.035
	RPM	477	398	455	298	265	239	217	191	171	159
	FEED	39	39	52	39	38	38	35	29	24	22
6	Vc	30	35	35	30	30	30	35	35	35	35
	fz	0.032	0.041	0.04	0.053	0.058	0.063	0.048	0.047	0.047	0.046
	RPM	955	928	796	597	531	477	506	446	398	371
	FEED	92	114	95	95	92	90	97	84	75	68
7	Vc	30	25	25	25	25	30	30	25	25	25
	fz	0.026	0.033	0.039	0.043	0.048	0.048	0.041	0.039	0.042	0.04
	RPM	955	663	568	497	442	477	434	318	284	265
	FEED	74	66	67	64	64	69	71	50	48	42
8-9	Vc	15	15	20	15	15	15	15	15	15	15
	fz	0.027	0.033	0.038	0.044	0.048	0.053	0.04	0.038	0.035	0.035
	RPM	477	398	455	298	265	239	217	191	171	159
	FEED	39	39	52	39	38	38	35	29	24	22
10	Vc	30	35	35	30	30	30	35	35	35	35
	fz	0.032	0.041	0.04	0.053	0.058	0.063	0.048	0.047	0.047	0.046
	RPM	955	928	796	597	531	477	506	446	398	371
	FEED	92	114	95	95	92	90	97	84	75	68
11.1	Vc	15	15	20	15	15	15	15	15	15	15
	fz	0.027	0.033	0.038	0.044	0.048	0.053	0.04	0.038	0.035	0.035
	RPM	477	398	455	298	265	239	217	191	171	159
	FEED	39	39	52	39	38	38	35	29	24	22

EQ461, EQ462, EQ463 SERIES — MULTI FLUTE TiAlN COATED - SIDE CUTTING



VDI 3323	Parameter	Diameter (Ø) 10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0
1-2	Vc	45	50	50	40	45	45	50	50	50	45
	fz	0.032	0.041	0.04	0.054	0.058	0.064	0.048	0.048	0.047	0.046
	RPM	1432	1326	1137	796	796	716	723	637	568	477
	FEED	138	163	136	129	138	138	139	122	107	88
3-4	Vc	40	35	35	35	35	40	40	40	35	35
	fz	0.026	0.034	0.04	0.043	0.048	0.048	0.04	0.038	0.042	0.042
	RPM	1273	928	796	696	619	637	579	509	398	371
	FEED	99	95	95	90	89	92	93	77	67	62
5	Vc	20	25	25	20	20	20	25	20	20	25
	fz	0.026	0.034	0.039	0.044	0.047	0.052	0.039	0.036	0.035	0.035
	RPM	637	663	568	398	354	318	362	255	227	265
	FEED	50	68	67	53	50	50	56	37	32	37
6	Vc	45	50	50	40	45	45	50	50	50	45
	fz	0.032	0.041	0.04	0.054	0.058	0.064	0.048	0.048	0.047	0.046
	RPM	1432	1326	1137	796	796	716	723	637	568	477
	FEED	138	163	136	129	138	138	139	122	107	88
7	Vc	40	35	35	35	35	40	40	40	35	35
	fz	0.026	0.034	0.04	0.043	0.048	0.048	0.04	0.038	0.042	0.042
	RPM	1273	928	796	696	619	637	579	509	398	371
	FEED	99	95	95	90	89	92	93	77	67	62
8-9	Vc	20	25	25	20	20	20	25	20	20	25
	fz	0.026	0.034	0.039	0.044	0.047	0.052	0.039	0.036	0.035	0.035
	RPM	637	663	568	398	354	318	362	255	227	265
	FEED	50	68	67	53	50	50	56	37	32	37
10	Vc	45	50	50	40	45	45	50	50	50	45
	fz	0.032	0.041	0.04	0.054	0.058	0.064	0.048	0.048	0.047	0.046
	RPM	1432	1326	1137	796	796	716	723	637	568	477
	FEED	138	163	136	129	138	138	139	122	107	88
11.1	Vc	20	25	25	20	20	20	25	20	20	25
	fz	0.026	0.034	0.039	0.044	0.047	0.052	0.039	0.036	0.035	0.035
	RPM	637	663	568	398	354	318	362	255	227	265
	FEED	50	68	67	53	50	50	56	37	32	37

HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2761, E2753, E2762, E2751, E2764, E2752, E2765, E2778, E2777 SERIES

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

MULTI FLUTE ROUGHING - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 6.0	8.0	10.0	12.0	14.0	16.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	35	35	35	35	35	35
					fz	0.015	0.025	0.034	0.05	0.056	0.064
					RPM	1857	1393	1114	928	796	696
					FEED	84	104	152	186	178	178
	2		0.5D	1.5D	Vc	30	30	30	30	30	30
					fz	0.013	0.023	0.033	0.044	0.05	0.063
					RPM	1592	1194	955	796	682	597
					FEED	62	82	126	140	136	150
	3-4		0.5D	1.5D	Vc	25	25	25	25	25	25
					fz	0.015	0.024	0.034	0.044	0.049	0.061
					RPM	1326	995	796	663	568	497
					FEED	60	72	108	117	111	121
	5		0.5D	1.5D	Vc	15	15	15	15	15	15
					fz	0.013	0.021	0.033	0.044	0.05	0.063
					RPM	796	597	477	398	341	298
					FEED	31	38	63	70	68	75
	6	Low alloy steel	0.5D	1.5D	Vc	30	30	30	30	30	30
					fz	0.013	0.023	0.033	0.044	0.05	0.063
					RPM	1592	1194	955	796	682	597
					FEED	62	82	126	140	136	150
	7		0.5D	1.5D	Vc	25	25	25	25	25	25
					fz	0.015	0.024	0.034	0.044	0.049	0.061
					RPM	1326	995	796	663	568	497
					FEED	60	72	108	117	111	121
	8-9		0.5D	1.5D	Vc	15	15	15	15	15	15
					fz	0.013	0.021	0.033	0.044	0.05	0.063
					RPM	796	597	477	398	341	298
					FEED	31	38	63	70	68	75
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	30	30	30	30	30	30
					fz	0.013	0.023	0.033	0.044	0.05	0.063
					RPM	1592	1194	955	796	682	597
					FEED	62	82	126	140	136	150
	11.1		0.5D	1.5D	Vc	15	15	15	15	15	15
					fz	0.013	0.021	0.033	0.044	0.05	0.063
					RPM	796	597	477	398	341	298
					FEED	31	38	63	70	68	75
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	85	80	80	75	80	80
					fz	0.015	0.025	0.035	0.05	0.058	0.07
					RPM	4509	3183	2546	1989	1819	1592
					FEED	203	239	357	398	422	446
	23-24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	55	52	52	49	52	52
					fz	0.015	0.025	0.035	0.05	0.058	0.07
					RPM	2918	2069	1655	1300	1182	1035
					FEED	131	155	232	260	274	290

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

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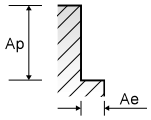
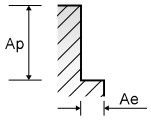


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER
E2761, E2753, E2762, E2751, E2764, E2752, E2765, E2778, E2777 SERIES
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.
MULTI FLUTE ROUGHING - SIDE CUTTING

VDI 3323	Parameter	Diameter (Ø) 18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	50.0
1	Vc	35	35	35	35	35	35	35	35	35	35
	fz	0.071	0.08	0.088	0.098	0.088	0.1	0.1	0.113	0.119	0.152
	RPM	619	557	506	446	398	371	348	309	279	223
	FEED	176	178	223	218	210	223	209	210	199	203
2	Vc	30	30	30	30	30	30	30	30	30	30
	fz	0.07	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157
	RPM	531	477	434	382	341	318	298	265	239	191
	FEED	149	149	165	162	156	164	170	170	163	180
3-4	Vc	25	25	25	25	25	25	20	25	25	25
	fz	0.069	0.069	0.08	0.09	0.077	0.087	0.098	0.108	0.111	0.146
	RPM	442	398	362	318	284	265	199	221	199	159
	FEED	122	110	145	143	131	138	117	143	132	139
5	Vc	15	15	15	15	15	15	15	15	15	15
	fz	0.07	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148
	RPM	265	239	217	191	171	159	149	133	119	95
	FEED	74	76	84	90	91	85	90	94	87	85
6	Vc	30	30	30	30	30	30	30	30	30	30
	fz	0.07	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157
	RPM	531	477	434	382	341	318	298	265	239	191
	FEED	149	149	165	162	156	164	170	170	163	180
7	Vc	25	25	25	25	25	25	20	25	25	25
	fz	0.069	0.069	0.08	0.09	0.077	0.087	0.098	0.108	0.111	0.146
	RPM	442	398	362	318	284	265	199	221	199	159
	FEED	122	110	145	143	131	138	117	143	132	139
8-9	Vc	15	15	15	15	15	15	15	15	15	15
	fz	0.07	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148
	RPM	265	239	217	191	171	159	149	133	119	95
	FEED	74	76	84	90	91	85	90	94	87	85
10	Vc	30	30	30	30	30	30	30	30	30	30
	fz	0.07	0.078	0.076	0.085	0.076	0.086	0.095	0.107	0.114	0.157
	RPM	531	477	434	382	341	318	298	265	239	191
	FEED	149	149	165	162	156	164	170	170	163	180
11.1	Vc	15	15	15	15	15	15	15	15	15	15
	fz	0.07	0.08	0.077	0.094	0.089	0.089	0.101	0.118	0.121	0.148
	RPM	265	239	217	191	171	159	149	133	119	95
	FEED	74	76	84	90	91	85	90	94	87	85
21 - 22	Vc	80	75	75	80	80	85	80	80	80	80
	fz	0.084	0.104	0.085	0.09	0.094	0.098	0.104	0.112	0.119	0.123
	RPM	1415	1194	1085	1019	909	902	796	707	637	509
	FEED	475	497	461	458	513	530	497	475	455	376
23 - 24	Vc	52	49	49	52	52	55	52	52	52	52
	fz	0.084	0.104	0.085	0.09	0.094	0.098	0.104	0.112	0.119	0.123
	RPM	920	780	709	662	591	584	517	460	414	331
	FEED	309	324	301	298	333	343	323	309	295	244



HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ761, EQ753, EQ762, EQ751 EQ764, EQ752 EQ765, EQ778, EQ777 SERIES

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

MULTI FLUTE ROUGHING TiAlN COATED - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 6.0	8.0	10.0	12.0	14.0	16.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	45	50	50	45	50	50
					fz	0.015	0.025	0.034	0.05	0.057	0.063
					RPM	2387	1989	1592	1194	1137	995
					FEED	107	149	216	239	259	251
	2		0.5D	1.5D	Vc	40	40	40	40	45	40
					fz	0.013	0.023	0.034	0.044	0.049	0.061
					RPM	2122	1592	1273	1061	1023	796
					FEED	83	110	173	187	201	194
	3-4		0.5D	1.5D	Vc	30	30	35	35	35	35
					fz	0.015	0.024	0.035	0.043	0.048	0.06
					RPM	1592	1194	1114	928	796	696
					FEED	72	86	156	160	153	167
	5		0.5D	1.5D	Vc	20	20	20	20	20	20
					fz	0.012	0.021	0.033	0.045	0.05	0.063
					RPM	1061	796	637	531	455	398
					FEED	38	50	84	95	91	100
	6	Low alloy steel	0.5D	1.5D	Vc	40	40	40	40	45	40
					fz	0.013	0.023	0.034	0.044	0.049	0.061
					RPM	2122	1592	1273	1061	1023	796
					FEED	83	110	173	187	201	194
	7		0.5D	1.5D	Vc	30	30	35	35	35	35
					fz	0.015	0.024	0.035	0.043	0.048	0.06
					RPM	1592	1194	1114	928	796	696
					FEED	72	86	156	160	153	167
	8-9		0.5D	1.5D	Vc	20	20	20	20	20	20
					fz	0.012	0.021	0.033	0.045	0.05	0.063
					RPM	1061	796	637	531	455	398
					FEED	38	50	84	95	91	100
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	40	40	40	40	45	40
					fz	0.013	0.023	0.034	0.044	0.049	0.061
					RPM	2122	1592	1273	1061	1023	796
					FEED	83	110	173	187	201	194
	11.1		0.5D	1.5D	Vc	20	20	20	20	20	20
					fz	0.012	0.021	0.033	0.045	0.05	0.063
					RPM	1061	796	637	531	455	398
					FEED	38	50	84	95	91	100
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	120	110	110	105	110	115
					fz	0.015	0.025	0.035	0.05	0.059	0.07
					RPM	6366	4377	3501	2785	2501	2288
					FEED	286	328	490	557	590	641
	23-24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	78	72	72	68	72	75
					fz	0.015	0.025	0.035	0.05	0.059	0.07
					RPM	4138	2865	2292	1804	1637	1492
					FEED	186	215	321	361	386	418

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

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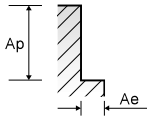


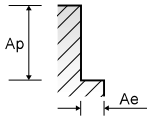
HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ761, EQ753, EQ762, EQ751 EQ764, EQ752 EQ765, EQ778, EQ777 SERIES

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

MULTI FLUTE ROUGHING TiAlN COATED - SIDE CUTTING

VDI 3323	Parameter	Diameter (Ø) 18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	50.0
1	Vc	50	50	50	50	50	45	50	50	50	45
	fz	0.069	0.078	0.089	0.095	0.089	0.098	0.098	0.109	0.117	0.156
	RPM	884	796	723	637	568	477	497	442	398	286
	FEED	244	248	322	302	304	281	292	289	279	268
2	Vc	40	40	45	45	45	40	40	40	40	40
	fz	0.07	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16
	RPM	707	637	651	573	512	424	398	354	318	255
	FEED	198	191	241	249	230	211	224	227	223	244
3-4	Vc	30	35	35	35	35	35	30	35	30	35
	fz	0.07	0.07	0.078	0.087	0.075	0.086	0.1	0.1	0.113	0.148
	RPM	531	557	506	446	398	371	298	309	239	223
	FEED	149	156	197	194	179	192	179	186	162	198
5	Vc	20	20	20	20	20	20	20	20	15	20
	fz	0.071	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153
	RPM	354	318	289	255	227	212	199	177	119	127
	FEED	100	106	116	122	124	116	119	125	101	117
6	Vc	40	40	45	45	45	40	40	40	40	40
	fz	0.07	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16
	RPM	707	637	651	573	512	424	398	354	318	255
	FEED	198	191	241	249	230	211	224	227	223	244
7	Vc	30	35	35	35	35	35	30	35	30	35
	fz	0.07	0.07	0.078	0.087	0.075	0.086	0.1	0.1	0.113	0.148
	RPM	531	557	506	446	398	371	298	309	239	223
	FEED	149	156	197	194	179	192	179	186	162	198
8-9	Vc	20	20	20	20	20	20	20	20	15	20
	fz	0.071	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153
	RPM	354	318	289	255	227	212	199	177	119	127
	FEED	100	106	116	122	124	116	119	125	101	117
10	Vc	40	40	45	45	45	40	40	40	40	40
	fz	0.07	0.075	0.074	0.087	0.075	0.083	0.094	0.107	0.117	0.16
	RPM	707	637	651	573	512	424	398	354	318	255
	FEED	198	191	241	249	230	211	224	227	223	244
11.1	Vc	20	20	20	20	20	20	20	20	15	20
	fz	0.071	0.083	0.08	0.096	0.091	0.091	0.1	0.118	0.141	0.153
	RPM	354	318	289	255	227	212	199	177	119	127
	FEED	100	106	116	122	124	116	119	125	101	117
21-22	Vc	110	105	105	110	110	120	110	115	115	110
	fz	0.085	0.103	0.085	0.09	0.095	0.099	0.106	0.11	0.117	0.124
	RPM	1945	1671	1519	1401	1251	1273	1094	1017	915	700
	FEED	661	689	646	630	713	756	696	671	642	521
23-24	Vc	72	68	68	72	72	78	72	75	75	72
	fz	0.085	0.103	0.085	0.09	0.095	0.099	0.106	0.11	0.117	0.124
	RPM	1273	1082	984	917	819	828	716	663	597	458
	FEED	433	446	418	413	467	492	456	438	419	341



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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

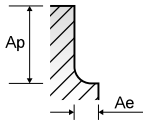
HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2606, E2757 SERIES — MULTI FLUTE BALL NOSE ROUGHING - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 8.0	10.0	12.0	16.0	20.0	25.0	32.0	40.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	35	35	35	35	35	35	35	35
					fz	0.025	0.045	0.05	0.064	0.08	0.122	0.15	0.179
					RPM	1393	1114	928	696	557	446	348	279
					FEED	104	150	186	178	178	217	209	199
	2		0.5D	1.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.023	0.044	0.044	0.063	0.078	0.106	0.143	0.17
					RPM	1194	955	796	597	477	382	298	239
					FEED	82	126	140	150	149	162	171	162
	3-4		0.5D	1.5D	Vc	25	25	25	25	25	25	20	25
					fz	0.024	0.046	0.044	0.061	0.069	0.113	0.148	0.167
					RPM	995	796	663	497	398	318	199	199
					FEED	72	110	117	121	110	144	118	133
	5		0.5D	1.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.021	0.044	0.044	0.063	0.08	0.118	0.152	0.182
					RPM	597	477	398	298	239	191	149	119
					FEED	38	63	70	75	76	90	91	87
	6	Low alloy steel	0.5D	1.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.023	0.044	0.044	0.063	0.078	0.106	0.143	0.17
					RPM	1194	955	796	597	477	382	298	239
					FEED	82	126	140	150	149	162	171	162
	7		0.5D	1.5D	Vc	25	25	25	25	25	25	20	25
					fz	0.024	0.046	0.044	0.061	0.069	0.113	0.148	0.167
					RPM	995	796	663	497	398	318	199	199
					FEED	72	110	117	121	110	144	118	133
	8-9		0.5D	1.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.021	0.044	0.044	0.063	0.08	0.118	0.152	0.182
					RPM	597	477	398	298	239	191	149	119
					FEED	38	63	70	75	76	90	91	87
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.023	0.044	0.044	0.063	0.078	0.106	0.143	0.17
					RPM	1194	955	796	597	477	382	298	239
					FEED	82	126	140	150	149	162	171	162
	11.1		0.5D	1.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.021	0.044	0.044	0.063	0.08	0.118	0.152	0.182
					RPM	597	477	398	298	239	191	149	119
					FEED	38	63	70	75	76	90	91	87
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	80	80	75	80	75	80	80	80
					fz	0.025	0.033	0.05	0.07	0.104	0.113	0.156	0.179
					RPM	3183	2546	1989	1592	1194	1019	796	637
					FEED	239	252	398	446	497	460	497	456
	23-24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	52	52	49	52	49	52	52	52
					fz	0.025	0.033	0.05	0.07	0.104	0.113	0.156	0.179
					RPM	2069	1655	1300	1035	780	662	517	414
					FEED	155	164	260	290	324	299	323	296

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

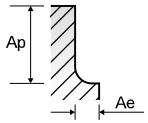


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ606, EQ757 SERIES — MULTI FLUTE BALL NOSE ROUGHING TiAlN COATED - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 8.0	10.0	12.0	16.0	20.0	25.0	32.0	40.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	50	50	50	50	50	50	50	50
					fz	0.026	0.045	0.05	0.064	0.079	0.123	0.151	0.179
					RPM	1989	1592	1326	995	796	637	497	398
					FEED	155	215	265	255	251	313	300	285
	2		0.5D	1.5D	Vc	40	40	40	40	40	45	40	40
					fz	0.023	0.045	0.044	0.062	0.077	0.107	0.144	0.169
					RPM	1592	1273	1061	796	637	573	398	318
					FEED	110	172	187	197	196	245	229	215
	3-4		0.5D	1.5D	Vc	30	35	35	30	35	35	30	30
					fz	0.024	0.046	0.044	0.062	0.069	0.111	0.145	0.17
					RPM	1194	1114	928	597	557	446	298	239
					FEED	86	154	163	148	154	198	173	162
	5		0.5D	1.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.021	0.045	0.045	0.064	0.081	0.12	0.15	0.172
					RPM	796	637	531	398	318	255	199	159
					FEED	50	86	95	102	103	122	119	109
	6	Low alloy steel	0.5D	1.5D	Vc	40	40	40	40	40	45	40	40
					fz	0.023	0.045	0.044	0.062	0.077	0.107	0.144	0.169
					RPM	1592	1273	1061	796	637	573	398	318
					FEED	110	172	187	197	196	245	229	215
	7		0.5D	1.5D	Vc	30	35	35	30	35	35	30	30
					fz	0.024	0.046	0.044	0.062	0.069	0.111	0.145	0.17
					RPM	1194	1114	928	597	557	446	298	239
					FEED	86	154	163	148	154	198	173	162
	8-9		0.5D	1.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.021	0.045	0.045	0.064	0.081	0.12	0.15	0.172
					RPM	796	637	531	398	318	255	199	159
					FEED	50	86	95	102	103	122	119	109
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	40	40	40	40	40	45	40	40
					fz	0.023	0.045	0.044	0.062	0.077	0.107	0.144	0.169
					RPM	1592	1273	1061	796	637	573	398	318
					FEED	110	172	187	197	196	245	229	215
	11.1		0.5D	1.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.021	0.045	0.045	0.064	0.081	0.12	0.15	0.172
					RPM	796	637	531	398	318	255	199	159
					FEED	50	86	95	102	103	122	119	109
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	110	110	105	115	105	110	115	110
					fz	0.025	0.033	0.05	0.07	0.104	0.113	0.156	0.179
					RPM	4377	3501	2785	2288	1671	1401	1144	875
					FEED	328	347	557	641	695	633	714	627
	23-24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	72	72	68	75	68	72	75	72
					fz	0.025	0.033	0.05	0.07	0.104	0.113	0.156	0.179
					RPM	2865	2292	1804	1492	1082	917	746	573
					FEED	215	227	361	418	450	414	466	410

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



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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

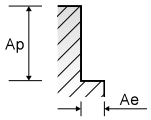
HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2524 SERIES MULTI FLUTE ROUGHING - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	35	35	35	35	35	35	35	35
					fz	0.015	0.019	0.034	0.05	0.056	0.064	0.071	0.08
					RPM	1857	1393	1114	928	796	696	619	557
					FEED	84	106	152	186	178	178	176	178
	2		0.5D	1.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.013	0.017	0.033	0.044	0.05	0.063	0.07	0.078
					RPM	1592	1194	955	796	682	597	531	477
					FEED	62	81	126	140	136	150	149	149
	3-4		0.5D	1.5D	Vc	25	25	25	25	25	25	25	25
					fz	0.015	0.018	0.034	0.044	0.049	0.061	0.069	0.069
					RPM	1326	995	796	663	568	497	442	398
					FEED	60	72	108	117	111	121	122	110
	5		0.5D	1.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.013	0.016	0.033	0.044	0.05	0.063	0.07	0.08
					RPM	796	597	477	398	341	298	265	239
					FEED	31	38	63	70	68	75	74	76
	6	Low alloy steel	0.5D	1.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.013	0.017	0.033	0.044	0.05	0.063	0.07	0.078
					RPM	1592	1194	955	796	682	597	531	477
					FEED	62	81	126	140	136	150	149	149
	7		0.5D	1.5D	Vc	25	25	25	25	25	25	25	25
					fz	0.015	0.018	0.034	0.044	0.049	0.061	0.069	0.069
					RPM	1326	995	796	663	568	497	442	398
					FEED	60	72	108	117	111	121	122	110
	8-9		0.5D	1.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.013	0.016	0.033	0.044	0.05	0.063	0.07	0.08
					RPM	796	597	477	398	341	298	265	239
					FEED	31	38	63	70	68	75	74	76
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	30	30	30	30	30	30	30	30
					fz	0.013	0.017	0.033	0.044	0.05	0.063	0.07	0.078
					RPM	1592	1194	955	796	682	597	531	477
					FEED	62	81	126	140	136	150	149	149
	11.1		0.5D	1.5D	Vc	15	15	15	15	15	15	15	15
					fz	0.013	0.016	0.033	0.044	0.05	0.063	0.07	0.08
					RPM	796	597	477	398	341	298	265	239
					FEED	31	38	63	70	68	75	74	76
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	85	80	80	75	80	80	80	75
					fz	0.015	0.019	0.035	0.05	0.058	0.07	0.084	0.104
					RPM	4509	3183	2546	1989	1819	1592	1415	1194
					FEED	62	81	126	140	136	150	149	149
	23-24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	55	52	52	49	52	52	52	49
					fz	0.015	0.019	0.035	0.05	0.058	0.07	0.084	0.104
					RPM	2918	2069	1655	1300	1182	1035	920	780
					FEED	62	81	126	140	136	150	149	149

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

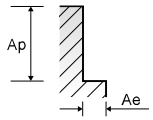


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ524 SERIES MULTI FLUTE ROUGHING TiAlN COATED - SIDE CUTTING

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	45	50	50	45	50	50	50	50
					fz	0.015	0.019	0.034	0.05	0.057	0.063	0.069	0.078
					RPM	2387	1989	1592	1194	1137	995	884	796
					FEED	107	151	216	239	259	251	244	248
	2		0.5D	1.5D	Vc	40	40	40	40	45	40	40	40
					fz	0.013	0.017	0.034	0.044	0.049	0.061	0.07	0.075
					RPM	2122	1592	1273	1061	1023	796	707	637
					FEED	83	108	173	187	201	194	198	191
	3-4		0.5D	1.5D	Vc	30	30	35	35	35	35	30	35
					fz	0.015	0.018	0.035	0.043	0.048	0.06	0.07	0.07
					RPM	1592	1194	1114	928	796	696	531	557
					FEED	72	86	156	160	153	167	149	156
	5		0.5D	1.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.012	0.016	0.033	0.045	0.05	0.063	0.071	0.083
					RPM	1061	796	637	531	455	398	354	318
					FEED	38	51	84	95	91	100	100	106
	6	Low alloy steel	0.5D	1.5D	Vc	40	40	40	40	45	40	40	40
					fz	0.013	0.017	0.034	0.044	0.049	0.061	0.07	0.075
					RPM	2122	1592	1273	1061	1023	796	707	637
					FEED	83	108	173	187	201	194	198	191
	7		0.5D	1.5D	Vc	30	30	35	35	35	35	30	35
					fz	0.015	0.018	0.035	0.043	0.048	0.06	0.07	0.07
					RPM	1592	1194	1114	928	796	696	531	557
					FEED	72	86	156	160	153	167	149	156
	8-9		0.5D	1.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.012	0.016	0.033	0.045	0.05	0.063	0.071	0.083
					RPM	1061	796	637	531	455	398	354	318
					FEED	38	51	84	95	91	100	100	106
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	40	40	40	40	45	40	40	40
					fz	0.013	0.017	0.034	0.044	0.049	0.061	0.07	0.075
					RPM	2122	1592	1273	1061	1023	796	707	637
					FEED	83	108	173	187	201	194	198	191
	11.1		0.5D	1.5D	Vc	20	20	20	20	20	20	20	20
					fz	0.012	0.016	0.033	0.045	0.05	0.063	0.071	0.083
					RPM	1061	796	637	531	455	398	354	318
					FEED	38	51	84	95	91	100	100	106
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	120	110	110	105	110	115	110	105
					fz	0.015	0.018	0.035	0.05	0.059	0.07	0.085	0.103
					RPM	6366	4377	3501	2785	2501	2288	1945	1671
					FEED	286	315	490	557	590	641	661	689
	23-24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	78	72	72	68	72	75	72	68
					fz	0.015	0.018	0.035	0.05	0.059	0.07	0.085	0.103
					RPM	4138	2865	2292	1804	1637	1492	1273	1082
					FEED	186	206	321	361	386	418	433	446

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



HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2595, E2596 SERIES — MULTI FLUTE - SIDE CUTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	35	35	35	35	35	35	35
					fz	0.004	0.008	0.013	0.02	0.025	0.036	0.045
					RPM	5570	3714	2785	2228	1857	1393	1114
					FEED	89	119	145	178	186	201	201
	2		0.1D	1.5D	Vc	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044
					RPM	4775	3183	2387	1910	1592	1194	955
					FEED	57	76	105	130	146	172	168
	3-4		0.1D	1.5D	Vc	25	25	25	25	25	25	25
					fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038
					RPM	3979	2653	1989	1592	1326	995	796
					FEED	48	64	72	89	101	115	121
	5		0.1D	1.5D	Vc	15	15	15	15	15	15	15
					fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036
					RPM	2387	1592	1194	955	796	597	477
					FEED	19	32	48	53	60	69	69
	6	Low alloy steel	0.1D	1.5D	Vc	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044
					RPM	4775	3183	2387	1910	1592	1194	955
					FEED	57	76	105	130	146	172	168
	7		0.1D	1.5D	Vc	25	25	25	25	25	25	25
					fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038
					RPM	3979	2653	1989	1592	1326	995	796
					FEED	48	64	72	89	101	115	121
	8-9		0.1D	1.5D	Vc	15	15	15	15	15	15	15
					fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036
					RPM	2387	1592	1194	955	796	597	477
					FEED	19	32	48	53	60	69	69
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044
					RPM	4775	3183	2387	1910	1592	1194	955
					FEED	57	76	105	130	146	172	168
	11.1		0.1D	1.5D	Vc	15	15	15	15	15	15	15
					fz	0.002	0.005	0.01	0.014	0.019	0.029	0.036
					RPM	2387	1592	1194	955	796	597	477
					FEED	19	32	48	53	60	69	69
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	75	105	100	100	105	100	95
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048
					RPM	11937	11141	7958	6366	5570	3979	3024
					FEED	239	401	446	484	468	573	581
	23-24	Aluminum-cast, alloyed	0.1D	1.5D	Vc	49	68	65	65	68	65	62
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048
					RPM	7799	7215	5173	4138	3608	2586	1974
					FEED	156	260	290	314	303	372	379

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

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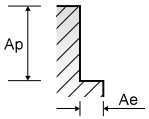
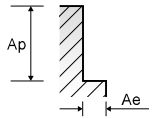


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2595, E2596 SERIES — MULTI FLUTE - SIDE CUTTING

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

VDI 3323	Parameter	Diameter (Ø) 12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
1	Vc	35	35	35	35	35	35	35	35	35	35	35	35
	fz	0.061	0.069	0.079	0.079	0.089	0.1	0.1	0.067	0.067	0.067	0.065	0.071
	RPM	928	796	696	619	557	506	446	398	371	348	309	279
	FEED	227	220	220	196	198	203	178	160	149	140	121	119
2	Vc	30	30	30	30	30	30	30	30	30	30	30	30
	fz	0.056	0.057	0.071	0.08	0.089	0.089	0.091	0.06	0.059	0.06	0.06	0.068
	RPM	796	682	597	531	477	434	382	341	318	298	265	239
	FEED	178	156	170	170	170	155	139	123	113	107	95	97
3-4	Vc	25	25	25	25	25	25	25	25	25	20	25	25
	fz	0.048	0.054	0.058	0.066	0.066	0.075	0.073	0.048	0.05	0.049	0.05	0.056
	RPM	663	568	497	442	398	362	318	284	265	199	221	199
	FEED	127	123	115	117	105	109	93	82	80	58	66	67
5	Vc	15	15	15	15	15	15	15	15	15	15	15	15
	fz	0.047	0.054	0.058	0.065	0.074	0.074	0.069	0.047	0.047	0.054	0.049	0.053
	RPM	398	341	298	265	239	217	191	171	159	149	133	119
	FEED	75	74	69	69	71	64	53	48	45	48	39	38
6	Vc	30	30	30	30	30	30	30	30	30	30	30	30
	fz	0.056	0.057	0.071	0.08	0.089	0.089	0.091	0.06	0.059	0.06	0.06	0.068
	RPM	796	682	597	531	477	434	382	341	318	298	265	239
	FEED	178	156	170	170	170	155	139	123	113	107	95	97
7	Vc	25	25	25	25	25	25	25	25	25	20	25	25
	fz	0.048	0.054	0.058	0.066	0.066	0.075	0.073	0.048	0.05	0.049	0.05	0.056
	RPM	663	568	497	442	398	362	318	284	265	199	221	199
	FEED	127	123	115	117	105	109	93	82	80	58	66	67
8-9	Vc	15	15	15	15	15	15	15	15	15	15	15	15
	fz	0.047	0.054	0.058	0.065	0.074	0.074	0.069	0.047	0.047	0.054	0.049	0.053
	RPM	398	341	298	265	239	217	191	171	159	149	133	119
	FEED	75	74	69	69	71	64	53	48	45	48	39	38
10	Vc	30	30	30	30	30	30	30	30	30	30	30	30
	fz	0.056	0.057	0.071	0.08	0.089	0.089	0.091	0.06	0.059	0.06	0.06	0.068
	RPM	796	682	597	531	477	434	382	341	318	298	265	239
	FEED	178	156	170	170	170	155	139	123	113	107	95	97
11.1	Vc	15	15	15	15	15	15	15	15	15	15	15	15
	fz	0.047	0.054	0.058	0.065	0.074	0.074	0.069	0.047	0.047	0.054	0.049	0.053
	RPM	398	341	298	265	239	217	191	171	159	149	133	119
	FEED	75	74	69	69	71	64	53	48	45	48	39	38
21 - 22	Vc	95	95	100	100	100	95	95	95	105	100	100	100
	fz	0.057	0.06	0.066	0.074	0.075	0.08	0.088	0.061	0.061	0.06	0.061	0.06
	RPM	2520	2160	1989	1768	1592	1375	1210	1080	1114	995	884	796
	FEED	575	518	525	523	477	440	426	395	408	358	324	286
23 - 24	Vc	62	62	65	65	65	62	62	62	68	65	65	65
	fz	0.057	0.06	0.066	0.074	0.075	0.08	0.088	0.061	0.061	0.06	0.061	0.06
	RPM	1645	1410	1293	1149	1035	897	789	705	722	647	575	517
	FEED	375	338	341	340	310	287	278	258	264	233	210	186



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ595, EQ596 SERIES — MULTI FLUTE TiAlN COATED - SIDE CUTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0
P	1	Non-alloy steel	0.1D	1.5D	Vc	50	45	50	50	45	50	50
					fz	0.004	0.008	0.013	0.02	0.025	0.036	0.045
					RPM	7958	4775	3979	3183	2387	1989	1592
					FEED	127	153	207	255	239	286	286
	2		0.1D	1.5D	Vc	40	40	40	40	40	40	40
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045
					RPM	6366	4244	3183	2546	2122	1592	1273
					FEED	76	102	140	183	195	229	229
	3-4		0.1D	1.5D	Vc	35	35	30	35	30	30	35
					fz	0.003	0.006	0.009	0.014	0.018	0.029	0.039
					RPM	5570	3714	2387	2228	1592	1194	1114
					FEED	67	89	86	125	115	138	174
	5		0.1D	1.5D	Vc	20	20	20	20	20	20	20
					fz	0.002	0.004	0.01	0.014	0.019	0.028	0.035
					RPM	3183	2122	1592	1273	1061	796	637
					FEED	25	34	64	71	81	89	89
	6	Low alloy steel	0.1D	1.5D	Vc	40	40	40	40	40	40	40
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045
					RPM	6366	4244	3183	2546	2122	1592	1273
					FEED	76	102	140	183	195	229	229
	7		0.1D	1.5D	Vc	35	35	30	35	30	30	35
					fz	0.003	0.006	0.009	0.014	0.018	0.029	0.039
					RPM	5570	3714	2387	2228	1592	1194	1114
					FEED	67	89	86	125	115	138	174
	8-9		0.1D	1.5D	Vc	20	20	20	20	20	20	20
					fz	0.002	0.004	0.01	0.014	0.019	0.028	0.035
					RPM	3183	2122	1592	1273	1061	796	637
					FEED	25	34	64	71	81	89	89
	10	High alloyed steel, and tool steel	0.1D	1.5D	Vc	40	40	40	40	40	40	40
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045
					RPM	6366	4244	3183	2546	2122	1592	1273
					FEED	76	102	140	183	195	229	229
	11.1		0.1D	1.5D	Vc	20	20	20	20	20	20	20
					fz	0.002	0.004	0.01	0.014	0.019	0.028	0.035
					RPM	3183	2122	1592	1273	1061	796	637
					FEED	25	34	64	71	81	89	89
N	21-22	Aluminum-wrought alloy	0.1D	1.5D	Vc	105	145	140	140	150	140	135
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048
					RPM	16711	15385	11141	8913	7958	5570	4297
					FEED	334	554	624	677	668	802	825
	23-24	Aluminum-cast, alloyed	0.1D	1.5D	Vc	68	94	91	91	98	91	88
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048
					RPM	10823	9974	7242	5793	5199	3621	2801
					FEED	216	359	406	440	437	521	538

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

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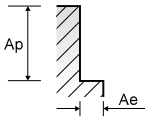
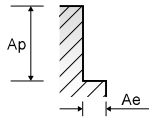


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ595, EQ596 SERIES — MULTI FLUTE TiAlN COATED - SIDE CUTTING

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

VDI 3323	Parameter	Diameter (Ø) 12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
1	Vc	45	50	50	50	50	50	50	50	45	50	50	50
	fz	0.062	0.07	0.078	0.078	0.088	0.1	0.096	0.068	0.065	0.065	0.063	0.071
	RPM	1194	1137	995	884	796	723	637	568	477	497	442	398
	FEED	296	318	310	276	280	289	244	232	186	194	167	170
2	Vc	40	45	40	40	40	45	45	45	40	40	40	40
	fz	0.057	0.056	0.07	0.08	0.087	0.087	0.093	0.058	0.057	0.058	0.06	0.069
	RPM	1061	1023	796	707	637	651	573	512	424	398	354	318
	FEED	242	229	223	226	222	227	213	178	145	138	127	132
3-4	Vc	35	35	35	30	35	35	35	35	35	30	35	30
	fz	0.047	0.053	0.056	0.066	0.066	0.073	0.069	0.046	0.05	0.05	0.047	0.057
	RPM	928	796	696	531	557	506	446	398	371	298	309	239
	FEED	175	169	156	140	147	148	123	110	111	90	87	82
5	Vc	20	20	20	20	20	20	20	20	20	20	15	20
	fz	0.048	0.053	0.056	0.064	0.075	0.075	0.07	0.054	0.054	0.054	0.056	0.056
	RPM	531	455	398	354	318	289	255	227	212	199	133	159
	FEED	102	96	89	91	95	87	71	74	69	64	45	53
6	Vc	40	45	40	40	40	45	45	45	40	40	40	40
	fz	0.057	0.056	0.07	0.08	0.087	0.087	0.093	0.058	0.057	0.058	0.06	0.069
	RPM	1061	1023	796	707	637	651	573	512	424	398	354	318
	FEED	242	229	223	226	222	227	213	178	145	138	127	132
7	Vc	35	35	35	30	35	35	35	35	35	30	35	30
	fz	0.047	0.053	0.056	0.066	0.066	0.073	0.069	0.046	0.05	0.05	0.047	0.057
	RPM	928	796	696	531	557	506	446	398	371	298	309	239
	FEED	175	169	156	140	147	148	123	110	111	90	87	82
8-9	Vc	20	20	20	20	20	20	20	20	20	20	15	20
	fz	0.048	0.053	0.056	0.064	0.075	0.075	0.07	0.054	0.054	0.054	0.056	0.056
	RPM	531	455	398	354	318	289	255	227	212	199	133	159
	FEED	102	96	89	91	95	87	71	74	69	64	45	53
10	Vc	40	45	40	40	40	45	45	45	40	40	40	40
	fz	0.057	0.056	0.07	0.08	0.087	0.087	0.093	0.058	0.057	0.058	0.06	0.069
	RPM	1061	1023	796	707	637	651	573	512	424	398	354	318
	FEED	242	229	223	226	222	227	213	178	145	138	127	132
11.1	Vc	20	20	20	20	20	20	20	20	20	20	15	20
	fz	0.048	0.053	0.056	0.064	0.075	0.075	0.07	0.054	0.054	0.054	0.056	0.056
	RPM	531	455	398	354	318	289	255	227	212	199	133	159
	FEED	102	96	89	91	95	87	71	74	69	64	45	53
21 - 22	Vc	130	135	140	140	140	135	135	135	145	140	140	140
	fz	0.057	0.06	0.066	0.074	0.074	0.081	0.087	0.06	0.06	0.06	0.061	0.064
	RPM	3448	3069	2785	2476	2228	1953	1719	1535	1538	1393	1238	1114
	FEED	786	737	735	733	660	633	598	552	554	501	453	428
23 - 24	Vc	85	88	91	91	91	88	88	88	94	91	91	91
	fz	0.057	0.06	0.066	0.074	0.074	0.081	0.087	0.06	0.06	0.06	0.061	0.064
	RPM	2255	2001	1810	1609	1448	1273	1120	1000	997	905	805	724
	FEED	514	480	478	476	429	413	390	360	359	326	294	278



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2755, E2756 SERIES — 3 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
P	1	Non-alloy steel	0.5D	1.5D	Vc	35	35	35	35
					fz	0.015	0.025	0.045	0.067
					RPM	1857	1393	1114	928
					FEED	84	104	150	187
	2		0.5D	1.5D	Vc	30	30	30	30
					fz	0.013	0.023	0.044	0.058
					RPM	1592	1194	955	796
					FEED	62	82	126	138
	3-4		0.5D	1.5D	Vc	25	25	25	25
					fz	0.015	0.024	0.046	0.058
					RPM	1326	995	796	663
					FEED	60	72	110	115
	5		0.5D	1.5D	Vc	15	15	15	15
					fz	0.013	0.021	0.044	0.058
					RPM	796	597	477	398
					FEED	31	38	63	69
	6	Low alloy steel	0.5D	1.5D	Vc	30	30	30	30
					fz	0.013	0.023	0.044	0.058
					RPM	1592	1194	955	796
					FEED	62	82	126	138
	7		0.5D	1.5D	Vc	25	25	25	25
					fz	0.015	0.024	0.046	0.058
					RPM	1326	995	796	663
					FEED	60	72	110	115
	8-9		0.5D	1.5D	Vc	15	15	15	15
					fz	0.013	0.021	0.044	0.058
					RPM	796	597	477	398
					FEED	31	38	63	69
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	30	30	30	30
					fz	0.013	0.023	0.044	0.058
					RPM	1592	1194	955	796
					FEED	62	82	126	138
	11.1		0.5D	1.5D	Vc	15	15	15	15
					fz	0.013	0.021	0.044	0.058
					RPM	796	597	477	398
					FEED	31	38	63	69
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	85	80	80	75
					fz	0.015	0.025	0.047	0.067
					RPM	4509	3183	2546	1989
					FEED	203	239	359	400
	23-24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	55	52	52	49
					fz	0.015	0.025	0.047	0.067
					RPM	2918	2069	1655	1300
					FEED	131	155	233	261

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

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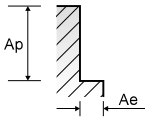
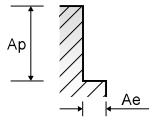


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2755, E2756 SERIES — 3 FLUTE ROUGHING - SIDE CUTTING

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

VDI 3323	Parameter	Diameter (Ø) 14.0	16.0	18.0	20.0	22.0	25.0	30.0
1	Vc	35	35	35	35	35	35	35
	fz	0.075	0.086	0.095	0.107	0.147	0.163	0.2
	RPM	796	696	619	557	506	446	371
	FEED	179	180	176	179	223	218	223
2	Vc	30	30	30	30	30	30	30
	fz	0.067	0.083	0.093	0.104	0.126	0.142	0.172
	RPM	682	597	531	477	434	382	318
	FEED	137	149	148	149	164	163	164
3-4	Vc	25	25	25	25	25	25	25
	fz	0.065	0.081	0.092	0.092	0.133	0.151	0.173
	RPM	568	497	442	398	362	318	265
	FEED	111	121	122	110	144	144	138
5	Vc	15	15	15	15	15	15	15
	fz	0.067	0.083	0.093	0.106	0.129	0.157	0.177
	RPM	341	298	265	239	217	191	159
	FEED	69	74	74	76	84	90	85
6	Vc	30	30	30	30	30	30	30
	fz	0.067	0.083	0.093	0.104	0.126	0.142	0.172
	RPM	682	597	531	477	434	382	318
	FEED	137	149	148	149	164	163	164
7	Vc	25	25	25	25	25	25	25
	fz	0.065	0.081	0.092	0.092	0.133	0.151	0.173
	RPM	568	497	442	398	362	318	265
	FEED	111	121	122	110	144	144	138
8-9	Vc	15	15	15	15	15	15	15
	fz	0.067	0.083	0.093	0.106	0.129	0.157	0.177
	RPM	341	298	265	239	217	191	159
	FEED	69	74	74	76	84	90	85
10	Vc	30	30	30	30	30	30	30
	fz	0.067	0.083	0.093	0.104	0.126	0.142	0.172
	RPM	682	597	531	477	434	382	318
	FEED	137	149	148	149	164	163	164
11.1	Vc	15	15	15	15	15	15	15
	fz	0.067	0.083	0.093	0.106	0.129	0.157	0.177
	RPM	341	298	265	239	217	191	159
	FEED	69	74	74	76	84	90	85
21-22	Vc	80	80	80	75	75	80	85
	fz	0.078	0.094	0.112	0.139	0.142	0.15	0.196
	RPM	1819	1592	1415	1194	1085	1019	902
	FEED	426	449	475	498	462	458	530
23-24	Vc	52	52	52	49	49	52	55
	fz	0.078	0.094	0.112	0.139	0.142	0.15	0.196
	RPM	1182	1035	920	780	709	662	584
	FEED	277	292	309	325	302	298	343



HSS END MILLS

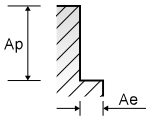
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2779 SERIES — MULTI FLUTE ROUGHING & FINISHING - SIDE CUTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	45.0	50.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	35	35	35	35	35	35	35	35	35	35	35	35
					fz	0.052	0.058	0.065	0.07	0.078	0.071	0.081	0.081	0.091	0.095	0.099	0.11
					RPM	696	619	557	506	446	398	371	348	309	279	248	223
					FEED	145	144	145	177	174	170	180	169	169	159	147	147
	2		0.5D	1.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.049	0.055	0.061	0.06	0.068	0.062	0.07	0.077	0.087	0.091	0.099	0.106
					RPM	597	531	477	434	382	341	318	298	265	239	212	191
					FEED	117	117	117	130	130	127	134	138	138	130	126	121
	3-4		0.5D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25
					fz	0.05	0.056	0.056	0.063	0.071	0.063	0.07	0.08	0.088	0.088	0.088	0.094
					RPM	497	442	398	362	318	284	265	249	221	199	177	159
					FEED	99	99	89	114	113	107	111	119	117	105	93	90
	5		0.5D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.049	0.055	0.063	0.064	0.078	0.073	0.073	0.083	0.097	0.098	0.099	0.1
					RPM	298	265	239	217	191	171	159	149	133	119	106	95
					FEED	58	58	60	69	74	75	70	74	77	70	63	57
	6	Low alloy steel	0.5D	1.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.049	0.055	0.061	0.06	0.068	0.062	0.07	0.077	0.087	0.091	0.099	0.106
					RPM	597	531	477	434	382	341	318	298	265	239	212	191
					FEED	117	117	117	130	130	127	134	138	138	130	126	121
	7		0.5D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25
					fz	0.05	0.056	0.056	0.063	0.071	0.063	0.07	0.08	0.088	0.088	0.088	0.094
					RPM	497	442	398	362	318	284	265	249	221	199	177	159
					FEED	99	99	89	114	113	107	111	119	117	105	93	90
	8-9		0.5D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.049	0.055	0.063	0.064	0.078	0.073	0.073	0.083	0.097	0.098	0.099	0.1
					RPM	298	265	239	217	191	171	159	149	133	119	106	95
					FEED	58	58	60	69	74	75	70	74	77	70	63	57
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.049	0.055	0.061	0.06	0.068	0.062	0.07	0.077	0.087	0.091	0.099	0.106
					RPM	597	531	477	434	382	341	318	298	265	239	212	191
					FEED	117	117	117	130	130	127	134	138	138	130	126	121
	11.1		0.5D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.049	0.055	0.063	0.064	0.078	0.073	0.073	0.083	0.097	0.098	0.099	0.1
					RPM	298	265	239	217	191	171	159	149	133	119	106	95
					FEED	58	58	60	69	74	75	70	74	77	70	63	57
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	80	80	80	80	80	80	85	80	80	80	80	80
					fz	0.056	0.068	0.083	0.069	0.072	0.076	0.078	0.083	0.09	0.095	0.1	0.11
					RPM	1592	1415	1273	1157	1019	909	902	796	707	637	566	509
					FEED	357	385	423	399	367	415	422	396	382	363	340	336
	23-24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	52	52	52	52	52	52	55	52	52	52	52	52
					fz	0.056	0.068	0.083	0.069	0.072	0.076	0.078	0.083	0.09	0.095	0.1	0.11
					RPM	1035	920	828	752	662	591	584	517	460	414	368	331
					FEED	232	250	275	260	238	270	273	258	248	236	221	218

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



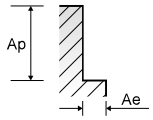
HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ779 SERIES — MULTI FLUTE ROUGHING & FINISHING TiAlN COATED - SIDE CUTTING

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

ISO	VDI 3323	Material Description	Ae	Ap	Parameter	Diameter (Ø) 16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0	45.0	50.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	50	50	50	50	50	50	50	50	50	50	50	50
					fz	0.051	0.057	0.064	0.07	0.075	0.073	0.08	0.08	0.089	0.094	0.099	0.104
					RPM	995	884	796	723	637	568	531	497	442	398	354	318
					FEED	203	202	204	253	239	249	255	239	236	224	210	199
	2		0.5D	1.5D	Vc	40	40	40	45	45	45	40	40	40	40	40	40
					fz	0.048	0.055	0.06	0.058	0.069	0.06	0.067	0.075	0.086	0.094	0.102	0.11
					RPM	796	707	637	651	573	512	424	398	354	318	283	255
					FEED	153	156	153	189	198	184	171	179	182	180	173	168
	3-4		0.5D	1.5D	Vc	35	30	35	35	35	35	35	30	30	30	30	30
					fz	0.048	0.057	0.057	0.062	0.069	0.06	0.069	0.081	0.086	0.09	0.094	0.099
					RPM	696	531	557	506	446	398	371	298	265	239	212	191
					FEED	134	121	127	157	154	143	154	145	137	129	120	113
	5		0.5D	1.5D	Vc	20	20	20	20	20	20	20	15	15	20	20	20
					fz	0.047	0.054	0.063	0.067	0.08	0.083	0.083	0.098	0.111	0.1	0.103	0.106
					RPM	398	354	318	289	255	227	212	149	133	159	141	127
					FEED	75	76	80	97	102	113	106	88	88	95	87	81
	6	Low alloy steel	0.5D	1.5D	Vc	40	40	40	45	45	45	40	40	40	40	40	40
					fz	0.048	0.055	0.06	0.058	0.069	0.06	0.067	0.075	0.086	0.094	0.102	0.11
					RPM	796	707	637	651	573	512	424	398	354	318	283	255
					FEED	153	156	153	189	198	184	171	179	182	180	173	168
	7		0.5D	1.5D	Vc	35	30	35	35	35	35	35	30	30	30	30	30
					fz	0.048	0.057	0.057	0.062	0.069	0.06	0.069	0.081	0.086	0.09	0.094	0.099
					RPM	696	531	557	506	446	398	371	298	265	239	212	191
					FEED	134	121	127	157	154	143	154	145	137	129	120	113
	8-9		0.5D	1.5D	Vc	20	20	20	20	20	20	20	15	15	20	20	20
					fz	0.047	0.054	0.063	0.067	0.08	0.083	0.083	0.098	0.111	0.1	0.103	0.106
					RPM	398	354	318	289	255	227	212	149	133	159	141	127
					FEED	75	76	80	97	102	113	106	88	88	95	87	81
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	40	40	40	45	45	45	40	40	40	40	40	40
					fz	0.048	0.055	0.06	0.058	0.069	0.06	0.067	0.075	0.086	0.094	0.102	0.11
					RPM	796	707	637	651	573	512	424	398	354	318	283	255
					FEED	153	156	153	189	198	184	171	179	182	180	173	168
	11.1		0.5D	1.5D	Vc	20	20	20	20	20	20	20	15	15	20	20	20
					fz	0.047	0.054	0.063	0.067	0.08	0.083	0.083	0.098	0.111	0.1	0.103	0.106
					RPM	398	354	318	289	255	227	212	149	133	159	141	127
					FEED	75	76	80	97	102	113	106	88	88	95	87	81
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	115	110	105	105	110	110	120	110	115	115	115	115
					fz	0.056	0.068	0.082	0.068	0.072	0.077	0.079	0.085	0.088	0.094	0.1	0.106
					RPM	2288	1945	1671	1519	1401	1251	1273	1094	1017	915	813	732
					FEED	512	529	548	517	504	578	604	558	537	516	488	466
	23-24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	75	72	68	68	72	72	78	72	75	75	75	75
					fz	0.056	0.068	0.082	0.068	0.072	0.077	0.079	0.085	0.088	0.094	0.1	0.106
					RPM	1492	1273	1082	984	917	819	828	716	663	597	531	477
					FEED	334	346	355	335	330	378	392	365	350	337	318	304

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



HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2766, E2767 SERIES — 3 FLUTE ROUGHING & FINISHING - 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	14.0	16.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	35	35	35	35	35	35
					fz	0.012	0.02	0.036	0.054	0.06	0.069
					RPM	1857	1393	1114	928	796	696
					FEED	67	84	120	150	143	144
	2		0.5D	1.5D	Vc	30	30	30	30	30	30
					fz	0.01	0.018	0.035	0.046	0.052	0.065
					RPM	1592	1194	955	796	682	597
					FEED	48	64	100	110	106	116
	3-4		0.5D	1.5D	Vc	25	25	25	25	25	25
					fz	0.013	0.019	0.038	0.048	0.054	0.067
					RPM	1326	995	796	663	568	497
					FEED	52	57	91	95	92	100
	5		0.5D	1.5D	Vc	15	15	15	15	15	15
					fz	0.01	0.018	0.037	0.046	0.052	0.065
					RPM	796	597	477	398	341	298
					FEED	24	32	53	55	53	58
	6	Low alloy steel	0.5D	1.5D	Vc	30	30	30	30	30	30
					fz	0.01	0.018	0.035	0.046	0.052	0.065
					RPM	1592	1194	955	796	682	597
					FEED	48	64	100	110	106	116
	7		0.5D	1.5D	Vc	25	25	25	25	25	25
					fz	0.013	0.019	0.038	0.048	0.054	0.067
					RPM	1326	995	796	663	568	497
					FEED	52	57	91	95	92	100
	8-9		0.5D	1.5D	Vc	15	15	15	15	15	15
					fz	0.01	0.018	0.037	0.046	0.052	0.065
					RPM	796	597	477	398	341	298
					FEED	24	32	53	55	53	58
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	30	30	30	30	30	30
					fz	0.01	0.018	0.035	0.046	0.052	0.065
					RPM	1592	1194	955	796	682	597
					FEED	48	64	100	110	106	116
	11.1		0.5D	1.5D	Vc	15	15	15	15	15	15
					fz	0.01	0.018	0.037	0.046	0.052	0.065
					RPM	796	597	477	398	341	298
					FEED	24	32	53	55	53	58
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	85	80	80	80	80	80
					fz	0.012	0.02	0.037	0.053	0.063	0.075
					RPM	4509	3183	2546	2122	1819	1592
					FEED	162	191	283	337	344	358
	23-24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	55	52	52	52	52	52
					fz	0.012	0.02	0.037	0.053	0.063	0.075
					RPM	2918	2069	1655	1379	1182	1035
					FEED	105	124	184	219	223	233

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

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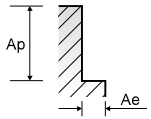
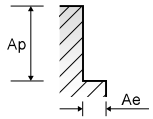


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2766, E2767 SERIES — 3 FLUTE ROUGHING & FINISHING - SIDE CUTTING

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

VDI 3323	Parameter	18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
1	Vc	35	35	35	35	35	35	35	35	35
	fz	0.077	0.086	0.117	0.13	0.142	0.162	0.162	0.183	0.19
	RPM	619	557	506	446	398	371	348	309	279
	FEED	143	144	178	174	170	180	169	170	159
2	Vc	30	30	30	30	30	30	30	30	30
	fz	0.073	0.081	0.1	0.113	0.124	0.14	0.155	0.173	0.182
	RPM	531	477	434	382	341	318	298	265	239
	FEED	116	116	130	129	127	134	139	138	130
3-4	Vc	25	25	25	25	25	25	25	25	25
	fz	0.075	0.075	0.105	0.118	0.125	0.14	0.159	0.175	0.176
	RPM	442	398	362	318	284	265	249	221	199
	FEED	99	90	114	113	107	111	119	116	105
5	Vc	15	15	15	15	15	15	15	15	15
	fz	0.073	0.083	0.106	0.13	0.146	0.146	0.167	0.194	0.197
	RPM	265	239	217	191	171	159	149	133	119
	FEED	58	59	69	74	75	70	75	77	71
6	Vc	30	30	30	30	30	30	30	30	30
	fz	0.073	0.081	0.1	0.113	0.124	0.14	0.155	0.173	0.182
	RPM	531	477	434	382	341	318	298	265	239
	FEED	116	116	130	129	127	134	139	138	130
7	Vc	25	25	25	25	25	25	25	25	25
	fz	0.075	0.075	0.105	0.118	0.125	0.14	0.159	0.175	0.176
	RPM	442	398	362	318	284	265	249	221	199
	FEED	99	90	114	113	107	111	119	116	105
8-9	Vc	15	15	15	15	15	15	15	15	15
	fz	0.073	0.083	0.106	0.13	0.146	0.146	0.167	0.194	0.197
	RPM	265	239	217	191	171	159	149	133	119
	FEED	58	59	69	74	75	70	75	77	71
10	Vc	30	30	30	30	30	30	30	30	30
	fz	0.073	0.081	0.1	0.113	0.124	0.14	0.155	0.173	0.182
	RPM	531	477	434	382	341	318	298	265	239
	FEED	116	116	130	129	127	134	139	138	130
11.1	Vc	15	15	15	15	15	15	15	15	15
	fz	0.073	0.083	0.106	0.13	0.146	0.146	0.167	0.194	0.197
	RPM	265	239	217	191	171	159	149	133	119
	FEED	58	59	69	74	75	70	75	77	71
21-22	Vc	80	80	80	80	80	85	80	80	80
	fz	0.09	0.111	0.115	0.12	0.152	0.156	0.167	0.181	0.19
	RPM	1415	1273	1157	1019	909	902	796	707	637
	FEED	382	424	399	367	415	422	399	384	363
23-24	Vc	52	52	52	52	52	55	52	52	52
	fz	0.09	0.111	0.115	0.12	0.152	0.156	0.167	0.181	0.19
	RPM	920	828	752	662	591	584	517	460	414
	FEED	248	276	260	238	270	273	259	250	236



HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ766, EQ767 SERIES — 3 FLUTE ROUGHING & FINISHING TiAlN COATED - 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	14.0	16.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	50	50	50	50	50	50
					fz	0.012	0.021	0.037	0.055	0.062	0.068
					RPM	2653	1989	1592	1326	1137	995
					FEED	95	125	177	219	211	203
	2		0.5D	1.5D	Vc	40	40	40	40	45	40
					fz	0.01	0.018	0.036	0.047	0.052	0.065
					RPM	2122	1592	1273	1061	1023	796
					FEED	64	86	138	150	160	155
	3-4		0.5D	1.5D	Vc	30	30	35	35	35	35
					fz	0.013	0.019	0.038	0.046	0.052	0.064
					RPM	1592	1194	1114	928	796	696
					FEED	62	68	127	128	124	134
	5		0.5D	1.5D	Vc	20	20	20	20	20	20
					fz	0.011	0.017	0.036	0.045	0.05	0.063
					RPM	1061	796	637	531	455	398
					FEED	35	41	69	72	68	75
	6	Low alloy steel	0.5D	1.5D	Vc	40	40	40	40	45	40
					fz	0.01	0.018	0.036	0.047	0.052	0.065
					RPM	2122	1592	1273	1061	1023	796
					FEED	64	86	138	150	160	155
	7		0.5D	1.5D	Vc	30	30	35	35	35	35
					fz	0.013	0.019	0.038	0.046	0.052	0.064
					RPM	1592	1194	1114	928	796	696
					FEED	62	68	127	128	124	134
	8-9		0.5D	1.5D	Vc	20	20	20	20	20	20
					fz	0.011	0.017	0.036	0.045	0.05	0.063
					RPM	1061	796	637	531	455	398
					FEED	35	41	69	72	68	75
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	40	40	40	40	45	40
					fz	0.01	0.018	0.036	0.047	0.052	0.065
					RPM	2122	1592	1273	1061	1023	796
					FEED	64	86	138	150	160	155
	11.1		0.5D	1.5D	Vc	20	20	20	20	20	20
					fz	0.011	0.017	0.036	0.045	0.05	0.063
					RPM	1061	796	637	531	455	398
					FEED	35	41	69	72	68	75
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	120	110	110	105	110	115
					fz	0.012	0.02	0.037	0.054	0.063	0.075
					RPM	6366	4377	3501	2785	2501	2288
					FEED	229	263	389	451	473	515
	23-24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	78	72	72	68	72	75
					fz	0.012	0.02	0.037	0.054	0.063	0.075
					RPM	4138	2865	2292	1804	1637	1492
					FEED	149	172	254	292	309	336

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

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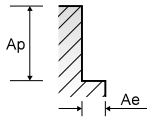
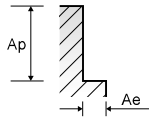


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ766, EQ767 SERIES — 3 FLUTE ROUGHING & FINISHING TiAlN COATED - SIDE CUTTING

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

VDI 3323	Parameter	Diameter (Ø) 18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
1	Vc	50	50	50	50	50	50	50	50	50
	fz	0.076	0.085	0.117	0.126	0.145	0.16	0.16	0.178	0.188
	RPM	884	796	723	637	568	531	497	442	398
	FEED	202	203	254	241	247	255	239	236	224
2	Vc	40	40	45	45	45	40	40	40	40
	fz	0.074	0.079	0.097	0.115	0.12	0.133	0.15	0.171	0.189
	RPM	707	637	651	573	512	424	398	354	318
	FEED	157	151	189	198	184	169	179	181	180
3-4	Vc	30	35	35	35	35	35	30	30	30
	fz	0.076	0.076	0.103	0.115	0.121	0.138	0.161	0.173	0.18
	RPM	531	557	506	446	398	371	298	265	239
	FEED	121	127	156	154	144	154	144	138	129
5	Vc	20	20	20	20	20	20	15	15	20
	fz	0.071	0.083	0.111	0.133	0.167	0.167	0.196	0.222	0.2
	RPM	354	318	289	255	227	212	149	133	159
	FEED	75	79	96	102	114	106	88	88	95
6	Vc	40	40	45	45	45	40	40	40	40
	fz	0.074	0.079	0.097	0.115	0.12	0.133	0.15	0.171	0.189
	RPM	707	637	651	573	512	424	398	354	318
	FEED	157	151	189	198	184	169	179	181	180
7	Vc	30	35	35	35	35	35	30	30	30
	fz	0.076	0.076	0.103	0.115	0.121	0.138	0.161	0.173	0.18
	RPM	531	557	506	446	398	371	298	265	239
	FEED	121	127	156	154	144	154	144	138	129
8-9	Vc	20	20	20	20	20	20	15	15	20
	fz	0.071	0.083	0.111	0.133	0.167	0.167	0.196	0.222	0.2
	RPM	354	318	289	255	227	212	149	133	159
	FEED	75	79	96	102	114	106	88	88	95
10	Vc	40	40	45	45	45	40	40	40	40
	fz	0.074	0.079	0.097	0.115	0.12	0.133	0.15	0.171	0.189
	RPM	707	637	651	573	512	424	398	354	318
	FEED	157	151	189	198	184	169	179	181	180
11.1	Vc	20	20	20	20	20	20	15	15	20
	fz	0.071	0.083	0.111	0.133	0.167	0.167	0.196	0.222	0.2
	RPM	354	318	289	255	227	212	149	133	159
	FEED	75	79	96	102	114	106	88	88	95
21-22	Vc	110	105	105	110	110	120	110	115	115
	fz	0.091	0.11	0.114	0.12	0.153	0.157	0.17	0.177	0.187
	RPM	1945	1671	1519	1401	1251	1273	1094	1017	915
	FEED	531	551	520	504	574	600	558	540	513
23-24	Vc	72	68	68	72	72	78	72	75	75
	fz	0.091	0.11	0.114	0.12	0.153	0.157	0.17	0.177	0.187
	RPM	1273	1082	984	917	819	828	716	663	597
	FEED	348	357	336	330	376	390	365	352	335



HSS END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2754, E2768 SERIES — MULTI FLUTE ROUGHING & FINISHING - 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	14.0	16.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	35	35	35	35	35	35
					fz	0.012	0.015	0.027	0.04	0.045	0.052
					RPM	1857	1393	1114	928	796	696
					FEED	67	84	120	149	143	145
	2		0.5D	1.5D	Vc	30	30	30	30	30	30
					fz	0.01	0.014	0.026	0.034	0.039	0.049
					RPM	1592	1194	955	796	682	597
					FEED	48	67	99	108	106	117
	3-4		0.5D	1.5D	Vc	25	25	25	25	25	25
					fz	0.013	0.014	0.028	0.036	0.04	0.05
					RPM	1326	995	796	663	568	497
					FEED	52	56	89	95	91	99
	5		0.5D	1.5D	Vc	15	15	15	15	15	15
					fz	0.01	0.013	0.028	0.034	0.039	0.049
					RPM	796	597	477	398	341	298
					FEED	24	31	53	54	53	58
	6	Low alloy steel	0.5D	1.5D	Vc	30	30	30	30	30	30
					fz	0.01	0.014	0.026	0.034	0.039	0.049
					RPM	1592	1194	955	796	682	597
					FEED	48	67	99	108	106	117
	7		0.5D	1.5D	Vc	25	25	25	25	25	25
					fz	0.013	0.014	0.028	0.036	0.04	0.05
					RPM	1326	995	796	663	568	497
					FEED	52	56	89	95	91	99
	8-9		0.5D	1.5D	Vc	15	15	15	15	15	15
					fz	0.01	0.013	0.028	0.034	0.039	0.049
					RPM	796	597	477	398	341	298
					FEED	24	31	53	54	53	58
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	30	30	30	30	30	30
					fz	0.01	0.014	0.026	0.034	0.039	0.049
					RPM	1592	1194	955	796	682	597
					FEED	48	67	99	108	106	117
	11.1		0.5D	1.5D	Vc	15	15	15	15	15	15
					fz	0.01	0.013	0.028	0.034	0.039	0.049
					RPM	796	597	477	398	341	298
					FEED	24	31	53	54	53	58
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	85	80	80	80	80	80
					fz	0.012	0.015	0.028	0.04	0.047	0.056
					RPM	4509	3183	2546	2122	1819	1592
					FEED	162	191	285	340	342	357
	23-24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	55	52	52	52	52	52
					fz	0.012	0.015	0.028	0.04	0.047	0.056
					RPM	2918	2069	1655	1379	1182	1035
					FEED	105	124	185	221	222	232

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

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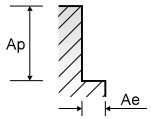
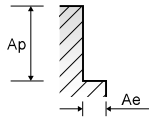


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

E2754, E2768 SERIES — MULTI FLUTE ROUGHING & FINISHING - SIDE CUTTING

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

VDI 3323	Parameter	Diameter (Ø) 18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
1	Vc	35	35	35	35	35	35	35	35	35
	fz	0.058	0.065	0.07	0.078	0.085	0.097	0.097	0.091	0.095
	RPM	619	557	506	446	398	371	348	309	279
	FEED	144	145	177	174	169	180	169	169	159
2	Vc	30	30	30	30	30	30	30	30	30
	fz	0.055	0.061	0.06	0.068	0.074	0.084	0.093	0.087	0.091
	RPM	531	477	434	382	341	318	298	265	239
	FEED	117	117	130	130	126	134	139	138	130
3-4	Vc	25	25	25	25	25	25	25	25	25
	fz	0.056	0.056	0.063	0.071	0.075	0.084	0.095	0.088	0.088
	RPM	442	398	362	318	284	265	249	221	199
	FEED	99	89	114	113	107	111	118	117	105
5	Vc	15	15	15	15	15	15	15	15	15
	fz	0.055	0.063	0.064	0.078	0.088	0.088	0.1	0.097	0.098
	RPM	265	239	217	191	171	159	149	133	119
	FEED	58	60	69	74	75	70	75	77	70
6	Vc	30	30	30	30	30	30	30	30	30
	fz	0.055	0.061	0.06	0.068	0.074	0.084	0.093	0.087	0.091
	RPM	531	477	434	382	341	318	298	265	239
	FEED	117	117	130	130	126	134	139	138	130
7	Vc	25	25	25	25	25	25	25	25	25
	fz	0.056	0.056	0.063	0.071	0.075	0.084	0.095	0.088	0.088
	RPM	442	398	362	318	284	265	249	221	199
	FEED	99	89	114	113	107	111	118	117	105
8-9	Vc	15	15	15	15	15	15	15	15	15
	fz	0.055	0.063	0.064	0.078	0.088	0.088	0.1	0.097	0.098
	RPM	265	239	217	191	171	159	149	133	119
	FEED	58	60	69	74	75	70	75	77	70
10	Vc	30	30	30	30	30	30	30	30	30
	fz	0.055	0.061	0.06	0.068	0.074	0.084	0.093	0.087	0.091
	RPM	531	477	434	382	341	318	298	265	239
	FEED	117	117	130	130	126	134	139	138	130
11.1	Vc	15	15	15	15	15	15	15	15	15
	fz	0.055	0.063	0.064	0.078	0.088	0.088	0.1	0.097	0.098
	RPM	265	239	217	191	171	159	149	133	119
	FEED	58	60	69	74	75	70	75	77	70
21-22	Vc	80	80	80	80	80	85	80	80	80
	fz	0.068	0.083	0.069	0.072	0.091	0.093	0.1	0.09	0.095
	RPM	1415	1273	1157	1019	909	902	796	707	637
	FEED	385	423	399	367	414	419	398	382	363
23-24	Vc	52	52	52	52	52	55	52	52	52
	fz	0.068	0.083	0.069	0.072	0.091	0.093	0.1	0.09	0.095
	RPM	920	828	752	662	591	584	517	460	414
	FEED	250	275	260	238	269	271	259	248	236



CARBIDE
HSS
CBN END MILLS
i-Xmill END MILLS
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 END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER

EQ754, EQ768 SERIES — MULTI FLUTE ROUGHING & FINISHING TiAlN COATED - 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	14.0	16.0
P	1	Non-alloy steel	0.5D	1.5D	Vc	50	50	50	50	50	50
					fz	0.012	0.015	0.027	0.041	0.047	0.051
					RPM	2653	1989	1592	1326	1137	995
					FEED	95	119	172	218	214	203
	2		0.5D	1.5D	Vc	40	40	40	40	45	40
					fz	0.01	0.014	0.027	0.035	0.039	0.048
					RPM	2122	1592	1273	1061	1023	796
					FEED	64	89	138	149	160	153
	3-4		0.5D	1.5D	Vc	30	30	35	35	35	35
					fz	0.013	0.014	0.028	0.035	0.039	0.048
					RPM	1592	1194	1114	928	796	696
					FEED	62	67	125	130	124	134
	5		0.5D	1.5D	Vc	20	20	20	20	20	20
					fz	0.011	0.013	0.027	0.034	0.038	0.047
					RPM	1061	796	637	531	455	398
					FEED	35	41	69	72	69	75
	6	Low alloy steel	0.5D	1.5D	Vc	40	40	40	40	45	40
					fz	0.01	0.014	0.027	0.035	0.039	0.048
					RPM	2122	1592	1273	1061	1023	796
					FEED	64	89	138	149	160	153
	7		0.5D	1.5D	Vc	30	30	35	35	35	35
					fz	0.013	0.014	0.028	0.035	0.039	0.048
					RPM	1592	1194	1114	928	796	696
					FEED	62	67	125	130	124	134
	8-9		0.5D	1.5D	Vc	20	20	20	20	20	20
					fz	0.011	0.013	0.027	0.034	0.038	0.047
					RPM	1061	796	637	531	455	398
					FEED	35	41	69	72	69	75
	10	High alloyed steel, and tool steel	0.5D	1.5D	Vc	40	40	40	40	45	40
					fz	0.01	0.014	0.027	0.035	0.039	0.048
					RPM	2122	1592	1273	1061	1023	796
					FEED	64	89	138	149	160	153
	11.1		0.5D	1.5D	Vc	20	20	20	20	20	20
					fz	0.011	0.013	0.027	0.034	0.038	0.047
					RPM	1061	796	637	531	455	398
					FEED	35	41	69	72	69	75
N	21-22	Aluminum-wrought alloy	0.5D	1.5D	Vc	120	110	110	105	110	115
					fz	0.012	0.015	0.028	0.04	0.048	0.056
					RPM	6366	4377	3501	2785	2501	2288
					FEED	229	263	392	446	480	512
	23-24	Aluminum-cast, alloyed	0.5D	1.5D	Vc	78	72	72	68	72	75
					fz	0.012	0.015	0.028	0.04	0.048	0.056
					RPM	4138	2865	2292	1804	1637	1492
					FEED	149	172	257	289	314	334

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

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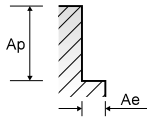
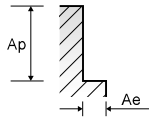


HSS END MILLS
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDPARAMETER
EQ754, EQ768 SERIES — MULTI FLUTE ROUGHING & FINISHING TiAlN COATED - SIDE CUTTING
Vc = m/min.
fz = mm/tooth
RPM = rev./min.
FEED = mm/min.

VDI 3323	Parameter	Diameter (Ø) 18.0	20.0	22.0	25.0	28.0	30.0	32.0	36.0	40.0
1	Vc	50	50	50	50	50	50	50	50	50
	fz	0.057	0.064	0.07	0.075	0.087	0.096	0.096	0.089	0.094
	RPM	884	796	723	637	568	531	497	442	398
	FEED	202	204	253	239	247	255	239	236	224
2	Vc	40	40	45	45	45	40	40	40	40
	fz	0.055	0.06	0.058	0.069	0.072	0.08	0.09	0.086	0.094
	RPM	707	637	651	573	512	424	398	354	318
	FEED	156	153	189	198	184	170	179	182	180
3-4	Vc	30	35	35	35	35	35	30	30	30
	fz	0.057	0.057	0.062	0.069	0.073	0.083	0.097	0.086	0.09
	RPM	531	557	506	446	398	371	298	265	239
	FEED	121	127	157	154	145	154	145	137	129
5	Vc	20	20	20	20	20	20	15	15	20
	fz	0.054	0.063	0.067	0.08	0.1	0.1	0.118	0.111	0.1
	RPM	354	318	289	255	227	212	149	133	159
	FEED	76	80	97	102	114	106	88	88	95
6	Vc	40	40	45	45	45	40	40	40	40
	fz	0.055	0.06	0.058	0.069	0.072	0.08	0.09	0.086	0.094
	RPM	707	637	651	573	512	424	398	354	318
	FEED	156	153	189	198	184	170	179	182	180
7	Vc	30	35	35	35	35	35	30	30	30
	fz	0.057	0.057	0.062	0.069	0.073	0.083	0.097	0.086	0.09
	RPM	531	557	506	446	398	371	298	265	239
	FEED	121	127	157	154	145	154	145	137	129
8-9	Vc	20	20	20	20	20	20	15	15	20
	fz	0.054	0.063	0.067	0.08	0.1	0.1	0.118	0.111	0.1
	RPM	354	318	289	255	227	212	149	133	159
	FEED	76	80	97	102	114	106	88	88	95
10	Vc	40	40	45	45	45	40	40	40	40
	fz	0.055	0.06	0.058	0.069	0.072	0.08	0.09	0.086	0.094
	RPM	707	637	651	573	512	424	398	354	318
	FEED	156	153	189	198	184	170	179	182	180
11.1	Vc	20	20	20	20	20	20	15	15	20
	fz	0.054	0.063	0.067	0.08	0.1	0.1	0.118	0.111	0.1
	RPM	354	318	289	255	227	212	149	133	159
	FEED	76	80	97	102	114	106	88	88	95
21-22	Vc	110	105	105	110	110	120	110	115	115
	fz	0.068	0.082	0.068	0.072	0.092	0.094	0.102	0.088	0.094
	RPM	1945	1671	1519	1401	1251	1273	1094	1017	915
	FEED	529	548	517	504	575	598	558	537	516
23-24	Vc	72	68	68	72	72	78	72	75	75
	fz	0.068	0.082	0.068	0.072	0.092	0.094	0.102	0.088	0.094
	RPM	1273	1082	984	917	819	828	716	663	597
	FEED	346	355	335	330	377	389	365	350	337