

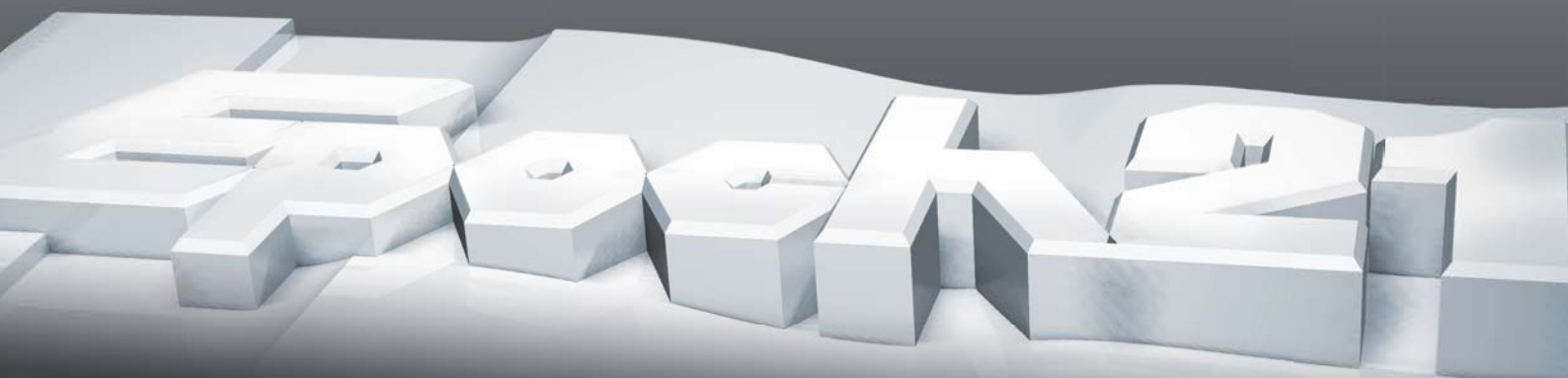
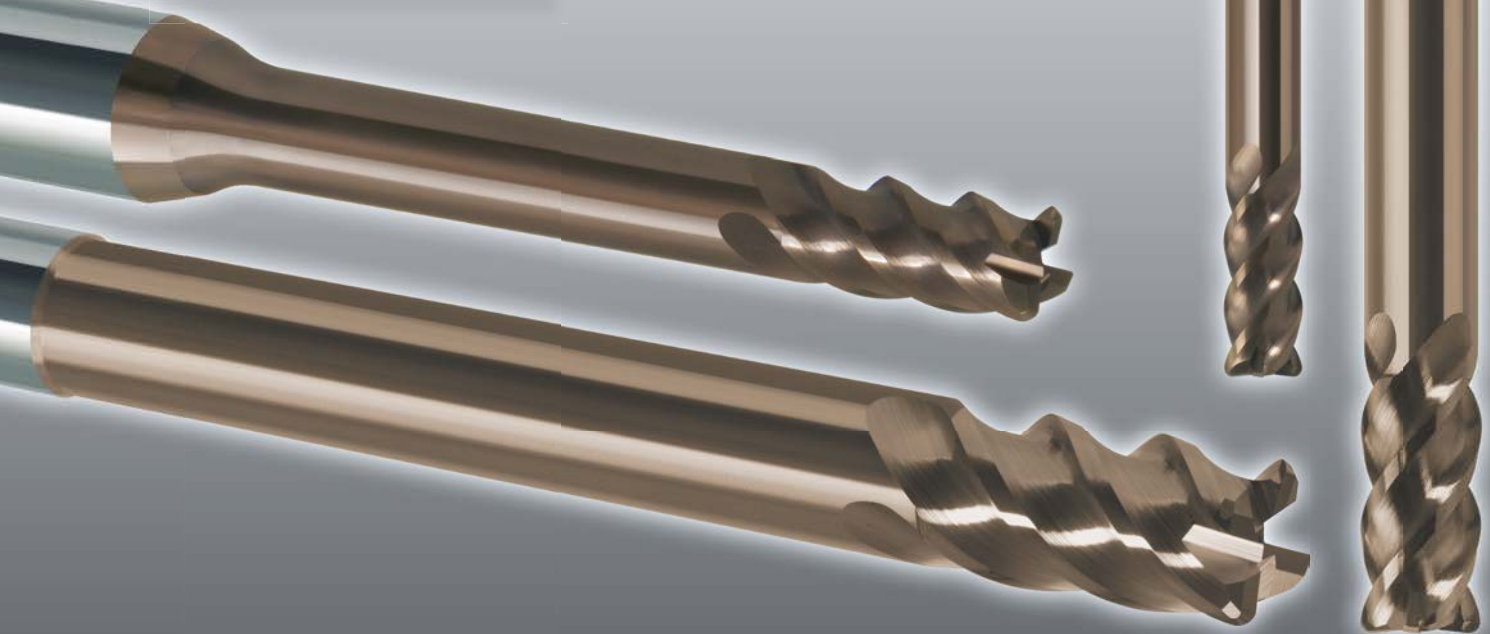
EPPLN-CR-TH *Epoch TH Power Mill*

Long Neck 5D & 8D Corner Radius

Epoch TH Series for High Hardened Steels

D3mm ~ D10mm

- For high efficient Machining at large cutting depths
- For Materials $\leq 70\text{HRC}$
- CR: **0.2 | 0.5 | 1.0**
- l_n 5~8xD



www.moldino.eu

EPPLN-CR-TH | Epoch TH Power Mill Long Neck Corner Radius

FEATURES

An innovation in end mill design. Can be used efficiently on existing machinery, but to even better effect on equipment using High Speed Machining techniques.

Even at large depths of cut, table feeds of more than twice that of other end milling cutters can be used. **Epoch Power Mill** is a multi function cutter, which is used to reduce cycle times of operations on CNC and conventional machines.

Epoch Power Mill have a wide application area, offering long tool life on a variety of materials, from mild steel to heat resisting steels and other difficult to machine materials.

The **Epoch Power Mill** corner radius cutters are suitable for 3D profile features, as well as producing stress free corners. The high helix angle reduces the possibility of chatter. Flute shape ensures smooth ejection of chips, preventing re-cutting and edge damage. Cutter cross section is designed to have maximum rigidity.

BESONDERHEITEN

Die Innovation im Fräserdesign. Eine neue Fräsergeometrie erlaubt den Einsatz sowohl auf konventionellen Maschinen als auch in der HSC-Technologie.

Auch bei Einsatz mit hohen Auskraglängen können die Tischvorschübe gegenüber herkömmlichen Wettbewerbsfräsern verdoppelt werden.

Epoch Power Mill ist ein Werkzeug, das die Bearbeitungszeiten auf CNC- und konventionellen Maschinen stark reduziert.

Epoch Power Mill Fräser bieten viele Einsatzmöglichkeiten, die darüber hinaus längste Standzeiten in unterschiedlichen Werkstoffen, wie z.B. weichen, hitzebeständigen und schwer zu zerspanenden Stählen ermöglichen.

Epoch Power Mill mit Eckenradius sind sehr gut in der 3D-Bearbeitung einzusetzen, darüber hinaus schützen die Eckradien die empfindlichen Schneidkanten vor Ausbrüchen. Der starke Drallwinkel verringert den Schnittdruck und somit Vibrationen bei hohen Vorschüben und hohen Auskraglängen. Die Geometrie der Spankammer ermöglicht eine weiche Spanabfuhr und verhindert jeglichen Spänestau oder das nochmalige Schneiden eines Spanes. Der vergrößerte Kerndurchmesser erhöht die Stabilität (Deflektion) des Fräasers.

CARATTERISTICHE

Una innovazione nel design delle frese frontali. Possono essere usate con buon rendimento sulle macchine tradizionali, ma permettono risultati ancora migliori nelle macchine ad alta velocità.

Anche a profondità di taglio elevate è possibile utilizzare velocità di avanzamento della tavola più che doppie rispetto alle altre frese a codolo tradizionali.

Epoch Power Mill è una fresa multifunzionale utilizzata per ridurre i tempi di ciclo della lavorazione su macchine a controllo numerico e su macchine convenzionali.

Le frese **Epoch Power Mill** hanno un'ampia gamma di applicazioni, permettendo una lunga durata dell'utensile su una ampia gamma di materiali che va dall'acciaio dolce agli acciai resistenti al calore ed altri materiali di difficile lavorazione.

La fresa **Epoch Power Mill** toriche sono adatte per la fresatura a profilo tridimensionale come pure per la produzione di angoli privi di tensioni. L'angolo dell'elica elevato riduce la possibilità di vibrazioni. La forma del canale di spogli assicura un'espulsione dolce dei trucioli, che evita il taglio multiplo e danni ai taglienti. La sezione trasversale della fresa è studiata per ottenere la massima rigidità.

CARACTERÍSTICAS

La última novedad en diseño de fresas. Capaz de rendir eficazmente en máquinas convencionales, pero todavía mas espectacular utilizando las técnicas del mecanizado a alta velocidad.

Incluso en las pasadas mas profundas pueden utilizarse avances de mesa de mas del doble de lo usual.

La **Epoch Power Mill** es una fresa multifunción que se utiliza para reducir los tiempos de trabajo en centros CNC y máquinas convencionales.

La **Epoch Power Mill** tiene un amplio campo de aplicación y una gran duración en diversos tipos de materiales, desde aceros convencionales hasta templados y otros materiales de difícil mecanización.

Las **Epoch Power Mill** con radio son utiles tanto para el mecanizado 3D como para realizar angulos de fondo reforzados. Su pronunciada hélice reduce la posibilidad de vibraciones. La forma del canal de desprendimiento expulsa suavemente la viruta evitando el remecanizado de la misma y el mellado del filo. La estructura de la sección transversal esta diseñada para obtener una máxima rigidez.

CARACTÉRISTIQUES

Une nouvelle innovation dans la géométrie des fraises. Peut être utilisée efficacement sur les machines existantes mais avec de biens meilleurs résultats sur des équipements utilisant les techniques d'usinage grande vitesse.

Même avec de grandes profondeurs de passe, des gammes d'avances supérieures au double de celles des autres fraises peuvent être utilisées.

La fraise **Epoch Power Mill** est une fraise multi-usages qui est utilisée pour réduire les temps de cycle sur machines CNC et conventionnelles. Elle offre une grande plage d'utilisation avec une longue durée de vie dans des matériaux variés, de l'acier doux aux aciers réfractaires ainsi que pour d'autres matériaux difficiles à usiner.

Les fraises **Epoch Power Mill** à angle rayonné sont appropriées pour l'usinage en 3D sans angles vifs. L'important angle d'hélice diminue les risques de vibrations. La forme de denture garantit une évacuation régulière des copeaux en évitant le réusinage et la détérioration des arêtes de coupe. La section de l'âme de l'outil est appropriée pour obtenir un maximum de rigidité.

CARACTERÍSTICAS

Inovação no desenho de fresas. Pode ser utilizada de modo eficiente nas máquinas atuais, mas consegue-se ainda melhor resultado em equipamento de Maquinação de Alta Velocidade.

Mesmo em cortes profundos, podem ser utilizados avanços mais rápidos, em mais do dobro, do que com outras fresas.

Epoch Power Mill é uma fresa multi funções, utilizada para reduzir os tempos de operação em máquinas CNC's e máquinas convencionais.

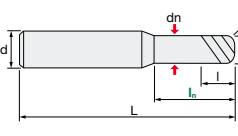
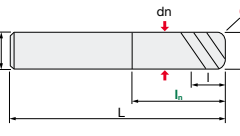

Epoch Power Mill tem uma área ampla de aplicação, proporcionando maior tempo de vida numa variedade de materiais, desde aço macio a aço resistente ao calor e outros materiais de difícil maquinação.

As navalhas de raio de corte da **Epoch Power Mill** são apropriadas para funções de 3D, bem como para maquinar cantos sem criar atrito no raio. O alto ângulo de hélice reduz a possibilidade de vibração. A forma da navalha assegura uma fácil remoção de aparas, evitando a necessidade de nova passagem e a danificação de arestas. O corte transversal da navalha está desenhado para ter a máxima rigidez.

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Q max High Efficient	▽ Roughing	▽▽ Semi-Finishing	▽▽▽ Finishing	HRC 70	No. of Teeth 4	TH45+ Nano-PVD Coating	Carbide Micro Grain
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A	B		Helix Angle	R Tol. [mm]	D Tol. [mm]	d Tol.
			43°	+/- 0.01	D3-D6: 0/-0.015 D8-D10: 0/-0.02	h5














ID Code	Item Code	Z	D	CR	l _n	l	dn	L	d	Type	
EP769	EPPLN-4030-15-02-TH	4	3	0.2	15	7.0	2.85	60	6	A	
EP770	EPPLN-4030-15-05-TH			0.5	25			70			
EP771	EPPLN-4030-25-02-TH			0.2							
EP772	EPPLN-4030-25-05-TH			0.5							
EP773	EPPLN-4040-20-02-TH		4	0.2		20	9.0				3.8
EP774	EPPLN-4040-20-05-TH			0.5	30						
EP775	EPPLN-4040-30-02-TH			0.2							
EP776	EPPLN-4040-30-05-TH			0.5							
EP777	EPPLN-4050-25-02-TH		5	0.2		25	11.0	4.75			75
EP778	EPPLN-4050-25-05-TH			0.5	40	90					
EP779	EPPLN-4050-40-02-TH			0.2							
EP780	EPPLN-4050-40-05-TH			0.5							
EP781	EPPLN-4060-30-05-TH		6	0.5			30	13.0		5.7	80
EP782	EPPLN-4060-30-10-TH			1.0	50	100					
EP783	EPPLN-4060-50-05-TH			0.5							
EP784	EPPLN-4060-50-10-TH			1.0							
EP785	EPPLN-4080-40-05-TH		8	0.5			40	17.0	7.6	90	
EP786	EPPLN-4080-40-10-TH			1.0	65	115					
EP787	EPPLN-4080-65-05-TH			0.5							
EP788	EPPLN-4080-65-10-TH			1.0							
EP789	EPPLN-4100-50-05-TH		10	0.5			50	21.0	9.5	100	
EP790	EPPLN-4100-50-10-TH			1.0	80	130					
EP791	EPPLN-4100-80-05-TH			0.5							
EP792	EPPLN-4100-80-10-TH			1.0							

Cutting Conditions | Schnittwerte | Condizioni di taglio | Condiciones de Corte | Conditions de coupe | Valores de corte:










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EPPLN-CR-TH | Recommended Cutting Conditions

5D & 8D				D3				D4				D5			
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Side milling	Slotting	2D/3D HSC		Side milling (ap x ae)	Slotting	2D/3D HSC		Side milling (ap x ae)	Slotting	2D/3D HSC		Side milling (ap x ae)	Slotting	2D/3D HSC	
				>ap <ae	<ap >ae			>ap <ae	<ap >ae			>ap <ae	<ap >ae		
I	Construction Steel Carbon Steels Alloy Steels (~200HB)	Vc	(m/min)	156	84	77	264	156	84	77	264	156	84	77	264
		n	(min ⁻¹)	16600	8900	8100	28000	12400	6700	6100	21000	9900	5300	4900	16800
		fz	(mm/tooth)	0.035	0.025	0.025	0.100	0.050	0.035	0.035	0.135	0.065	0.050	0.050	0.170
		Vf	(mm/min)	2320	890	810	11200	2480	940	850	11340	2570	1060	980	11420
		ap	(mm)	3.6	2.4	2.4	0.2-0.5	4.8	3.2	3.2	0.2-0.5	6	4	4	0.2-0.5
		ae	(mm)	0.3	1.5	3	0.2-0.5	0.4	2	4	0.2-0.5	0.5	2.5	5	0.2-0.5
II	Alloy Steels Case Hardened Steels Heat Treatable Steels (200~300HB)	Vc	(m/min)	124	72	67	208	124	72	67	208	124	72	67	208
		n	(min ⁻¹)	13200	7600	7100	22100	9900	5700	5300	16600	7900	4600	4300	13200
		fz	(mm/tooth)	0.030	0.020	0.020	0.090	0.040	0.030	0.030	0.120	0.550	0.040	0.040	0.150
		Vf	(mm/min)	1580	610	570	7960	1580	680	640	7970	17380	740	690	7920
		ap	(mm)	3.6	2.4	2.4	0.2-0.5	4.8	3.2	3.2	0.2-0.5	6	4	4	0.2-0.5
		ae	(mm)	0.3	1.5	3	0.2-0.5	0.4	2	4	0.2-0.5	0.5	2.5	5	0.2-0.5
III	Alloy Steels (30~45HRC)	Vc	(m/min)	94	42	38	160	94	42	38	160	94	42	38	160
		n	(min ⁻¹)	9900	4400	4100	17000	7400	3300	3100	12700	6000	2600	2400	10200
		fz	(mm/tooth)	0.021	0.015	0.015	0.060	0.028	0.025	0.025	0.090	0.035	0.031	0.031	0.100
		Vf	(mm/min)	830	260	250	4080	830	330	310	4570	840	320	300	4080
		ap	(mm)	3.6	1.2	1.2	0.1-0.3	4.8	1.6	1.6	0.1-0.3	6	2	2	0.1-0.3
		ae	(mm)	0.3	1.5	3	0.1-0.3	0.4	2	4	0.1-0.3	0.5	2.5	5	0.1-0.3
IV	Tool Steels (hot&cold) Hardened Steels (45~55HRC)	Vc	(m/min)	72	28	32	136	72	28	32	136	72	28	32	136
		n	(min ⁻¹)	7600	3000	3400	14400	5700	2200	2500	10800	4600	1800	2000	8700
		fz	(mm/tooth)	0.015	0.013	0.013	0.043	0.020	0.018	0.018	0.064	0.025	0.025	0.025	0.071
		Vf	(mm/min)	460	160	180	2480	460	160	180	2760	460	180	200	2470
		ap	(mm)	3.6	0.48	0.48	0.1-0.3	4.8	0.64	0.64	0.1-0.3	6	0.8	0.8	0.1-0.3
		ae	(mm)	0.15	1.5	3	0.1-0.3	0.2	2	4	0.1-0.3	0.25	2.5	5	0.1-0.3
V	Hardened Steels (55~70HRC)	Vc	(m/min)	48			88	48			88	48			88
		n	(min ⁻¹)	5100			9300	3800			7000	3100			5600
		fz	(mm/tooth)	0.011			0.030	0.014			0.045	0.018			0.050
		Vf	(mm/min)	210			1120	210			1260	220			1120
		ap	(mm)	3.6			0.05-0.3	4.8			0.05-0.3	6			0.05-0.3
		ae	(mm)	0.12			0.05-0.3	0.16			0.05-0.3	0.2			0.05-0.3
VI	Stainless Steels (20~40HRC)	Vc	(m/min)	104	48	44	160	104	48	44	160	104	48	44	160
		n	(min ⁻¹)	11000	5100	4700	17000	8300	3800	3500	12700	6600	3100	2800	10200
		fz	(mm/tooth)	0.030	0.010	0.010	0.085	0.040	0.015	0.015	0.128	0.055	0.018	0.018	0.142
		Vf	(mm/min)	1320	200	190	5780	1330	230	210	6500	1450	220	200	5790
		ap	(mm)	3.6	1.2	1.2	0.2-0.5	4.8	1.6	1.6	0.2-0.5	6	2	2	0.2-0.5
		ae	(mm)	0.15	1.5	3	0.2-0.5	0.2	2	4	0.2-0.5	0.25	2.5	5	0.2-0.5
VII	Heat Resisting Steels Titanium, Inconel Nickel & Cobalt Alloys (25~60HRC)	Vc	(m/min)	48	32	29	96	48	32	29	96	48	32	29	96
		n	(min ⁻¹)	5100	3400	3100	10200	3800	2500	2300	7600	3100	2000	1800	6100
		fz	(mm/tooth)	0.015	0.010	0.010	0.043	0.020	0.015	0.015	0.064	0.025	0.018	0.018	0.071
		Vf	(mm/min)	310	140	120	1750	300	150	140	1950	310	140	130	1730
		ap	(mm)	3.6	0.72	0.72	0.05-0.3	4.8	0.96	0.96	0.05-0.3	6	1.2	1.2	0.05-0.3
		ae	(mm)	0.15	1.5	3	0.05-0.3	0.2	2	4	0.05-0.3	0.25	2.5	5	0.05-0.3
VIII	Cast Irons: EN-JL(GG) Ductile Cast Iron: EN-JS(GGG) (EN-JL ~ 120HB) (EN-JS ~ 240HB)	Vc	(m/min)	156	62	58	240	156	62	58	240	156	62	58	240
		n	(min ⁻¹)	16600	6600	6100	25500	12400	5000	4600	19100	9900	4000	3700	15300
		fz	(mm/tooth)	0.035	0.035	0.035	0.100	0.050	0.050	0.050	0.150	0.065	0.065	0.065	0.165
		Vf	(mm/min)	2320	920	850	10200	2480	1000	920	11460	2570	1040	960	10100
		ap	(mm)	3.6	1.2	1.2	0.2-0.5	4.8	1.6	1.6	0.2-0.5	6	2	2	0.2-0.5
		ae	(mm)	0.3	1.5	3	0.2-0.5	0.4	2	4	0.2-0.5	0.5	2.5	5	0.2-0.5
IX	Aluminium Copper Alloys	Vc	(m/min)	208	156	144	280	208	156	144	280	208	156	144	280
		n	(min ⁻¹)	22100	16600	15300	29700	16600	12400	11500	22300	13200	9900	9200	17800
		fz	(mm/tooth)	0.035	0.025	0.025	0.100	0.050	0.035	0.035	0.150	0.065	0.050	0.050	0.165
		Vf	(mm/min)	3090	1660	1530	11880	3320	1740	1610	13380	3430	1980	1840	11750
		ap	(mm)	3.6	2.4	2.4	0.2-0.5	4.8	3.2	3.2	0.2-0.5	6	4	4	0.2-0.5
		ae	(mm)	0.3	1.5	3	0.2-0.5	0.4	2	4	0.2-0.5	0.5	2.5	5	0.2-0.5

EPPLN-CR-TH | Recommended Cutting Conditions

D6				D8				D10							
EPPLN-CR-TH				EPPLN-CR-TH				EPPLN-CR-TH							
															
Side milling (a _p x a _e)		Slotting	2D/3D HSC	Side milling (a _p x a _e)		Slotting	2D/3D HSC	Side milling (a _p x a _e)		Slotting	2D/3D HSC				
>a _p <a _e	<a _p >a _e			>a _p <a _e	<a _p >a _e			>a _p <a _e	<a _p >a _e						
156	84	77	264	156	84	77	264	156	84	77	264	V _c	(m/min)	I	
8300	4500	4100	14000	6200	3300	3100	10500	5000	2700	2400	8400	n	(min ⁻¹)		
0.080	0.060	0.060	0.240	0.105	0.080	0.080	0.320	0.120	0.100	0.100	0.390	f _z	(mm/tooth)		
2660	1080	980	13440	2600	1060	990	13440	2400	1080	960	13100	V _f	(mm/min)		
7.2	4.8	4.8	0.2–0.5	9.6	6.4	6.4	0.2–0.5	12	8	8	0.2–0.5	a _p	(mm)	II	
0.6	3	6	0.2–0.5	0.8	4	8	0.2–0.5	1	5	10	0.2–0.5	a _e	(mm)		
124	72	67	208	124	72	67	208	124	72	67	208	V _c	(m/min)		
6600	3800	3600	11000	4900	2900	2700	8300	3900	2300	2100	6600	n	(min ⁻¹)		
0.070	0.050	0.050	0.210	0.095	0.065	0.065	0.280	0.115	0.085	0.085	0.350	f _z	(mm/tooth)	III	
1850	760	720	9240	1860	750	700	9300	1790	780	710	9240	V _f	(mm/min)		
7.2	4.8	4.8	0.2–0.5	9.6	6.4	6.4	0.2–0.5	12	8	8	0.2–0.5	a _p	(mm)		
0.6	3	6	0.2–0.5	0.8	4	8	0.2–0.5	1	5	10	0.2–0.5	a _e	(mm)		
94	42	38	160	94	42	38	160	94	42	38	160	V _c	(m/min)	IV	
5000	2200	2000	8500	3700	1700	1500	6400	3000	1300	1200	5100	n	(min ⁻¹)		
0.045	0.038	0.038	0.120	0.055	0.050	0.050	0.150	0.065	0.063	0.063	0.180	f _z	(mm/tooth)		
900	330	300	4080	810	340	300	3840	780	330	300	3670	V _f	(mm/min)		
7.2	2.4	2.4	0.1–0.3	9.6	3.2	3.2	0.1–0.3	12	4	4	0.1–0.3	a _p	(mm)	V	
0.6	3	6	0.1–0.3	0.8	4	8	0.1–0.3	1	5	10	0.1–0.3	a _e	(mm)		
72	28	32	136	72	28	32	136	72	28	32	136	V _c	(m/min)		
3800	1500	1700	7200	2900	1100	1300	5400	2300	900	1000	4300	n	(min ⁻¹)		
0.030	0.030	0.030	0.085	0.040	0.040	0.040	0.106	0.050	0.050	0.050	0.128	f _z	(mm/tooth)	VI	
460	180	200	2450	460	180	210	2290	460	180	200	2200	V _f	(mm/min)		
7.2	0.96	0.96	0.1–0.3	9.6	1.28	1.28	0.1–0.3	12	1.6	1.6	0.1–0.3	a _p	(mm)		
0.3	3	6	0.1–0.3	0.4	4	8	0.1–0.3	0.5	5	10	0.1–0.3	a _e	(mm)		
48			88	48			88	48			88	V _c	(m/min)	VII	
2500			4700	1900			3500	1500			2800	n	(min ⁻¹)		
0.021			0.062	0.028			0.075	0.035			0.090	f _z	(mm/tooth)		
210			1170	210			1050	210			1010	V _f	(mm/min)		
7.2			0.05–0.3	9.6			0.05–0.3	12			0.05–0.3	a _p	(mm)	VIII	
0.24			0.05–0.3	0.32			0.05–0.3	0.4			0.05–0.3	a _e	(mm)		
104	48	44	160	104	48	44	160	104	48	44	160	V _c	(m/min)		
5500	2500	2300	8500	4100	1900	1800	6400	3300	1500	1400	5100	n	(min ⁻¹)		
0.070	0.025	0.025	0.170	0.095	0.033	0.033	0.213	0.120	0.042	0.042	0.255	f _z	(mm/tooth)	IX	
1540	250	230	5780	1560	250	240	5450	1580	250	240	5200	V _f	(mm/min)		
7.2	2.4	2.4	0.2–0.5	9.6	3.2	3.2	0.2–0.5	12	4	4	0.2–0.5	a _p	(mm)		
0.3	3	6	0.2–0.5	0.4	4	8	0.2–0.5	0.5	5	10	0.2–0.5	a _e	(mm)		
48	32	29	96	48	32	29	96	48	32	29	96	V _c	(m/min)	X	
2500	1700	1500	5100	1900	1300	1100	3800	1500	1000	900	3100	n	(min ⁻¹)		
0.030	0.023	0.023	0.085	0.040	0.032	0.032	0.107	0.050	0.040	0.040	0.128	f _z	(mm/tooth)		
300	160	140	1730	300	170	140	1630	300	160	140	1590	V _f	(mm/min)		
7.2	1.44	1.44	0.05–0.3	9.6	1.92	1.92	0.05–0.3	12	2.4	2.4	0.05–0.3	a _p	(mm)	XI	
0.3	3	6	0.05–0.3	0.4	4	8	0.05–0.3	0.5	5	10	0.05–0.3	a _e	(mm)		
156	62	58	240	156	62	58	240	156	62	58	240	V _c	(m/min)		
8300	3300	3100	12700	6200	2500	2300	9500	5000	2000	1800	7600	n	(min ⁻¹)		
0.080	0.080	0.080	0.200	0.105	0.105	0.105	0.250	0.120	0.135	0.135	0.300	f _z	(mm/tooth)	XII	
2660	1060	990	10160	2600	1050	970	9500	2400	1080	970	9120	V _f	(mm/min)		
7.2	2.4	2.4	0.2–0.5	9.6	3.2	3.2	0.2–0.5	12	4	4	0.2–0.5	a _p	(mm)		
0.6	3	6	0.2–0.5	0.8	4	8	0.2–0.5	1	5	10	0.2–0.5	a _e	(mm)		
208	156	144	280	208	156	144	280	208	156	144	280	V _c	(m/min)	XIII	
11000	8300	7600	14900	8300	6200	5700	11100	6600	5000	4600	8900	n	(min ⁻¹)		
0.080	0.060	0.060	0.200	0.105	0.080	0.080	0.250	0.120	0.100	0.100	0.300	f _z	(mm/tooth)		
3520	1990	1820	11920	3490	1980	1820	11100	3170	2000	1840	10680	V _f	(mm/min)		
7.2	4.8	4.8	0.2–0.5	9.6	6.4	6.4	0.2–0.5	12	8	8	0.2–0.5	a _p	(mm)	XIV	
0.6	3	6	0.2–0.5	0.8	4	8	0.2–0.5	1	5	10	0.2–0.5	a _e	(mm)		

BITTE BEACHTEN SIE:

Die Werte in diesen Tabellen sind nur unter den folgenden Bedingungen empfohlen:

- Die Verwendung eines Bearbeitungszentrums und Werkzeughalters höchster Präzision, Konzentrität und Stabilität.
- Alle Komponenten – einschließlich Maschine und Steuerung – sind auf dem neuesten Stand der Technik.
- Bitte reduzieren Sie im Falle der Deflektion bei großen Auskraglängen die Werte V_c , f_z , a_p um 10–20%.

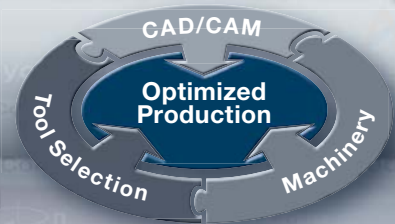


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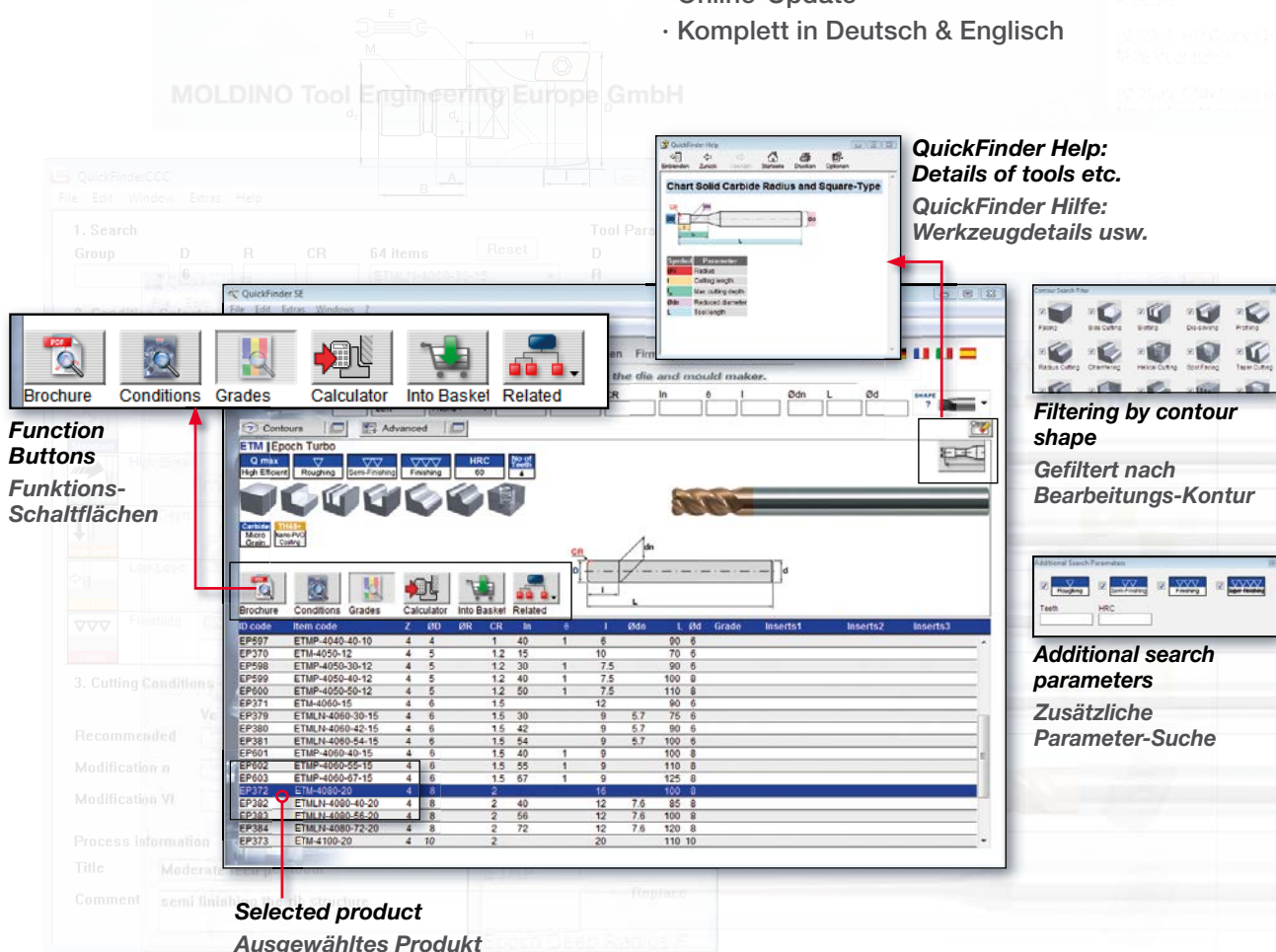
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Function Buttons
Funktions-Schaltflächen

QuickFinder Help:
Details of tools etc.
QuickFinder Hilfe:
Werkzeugdetails usw.

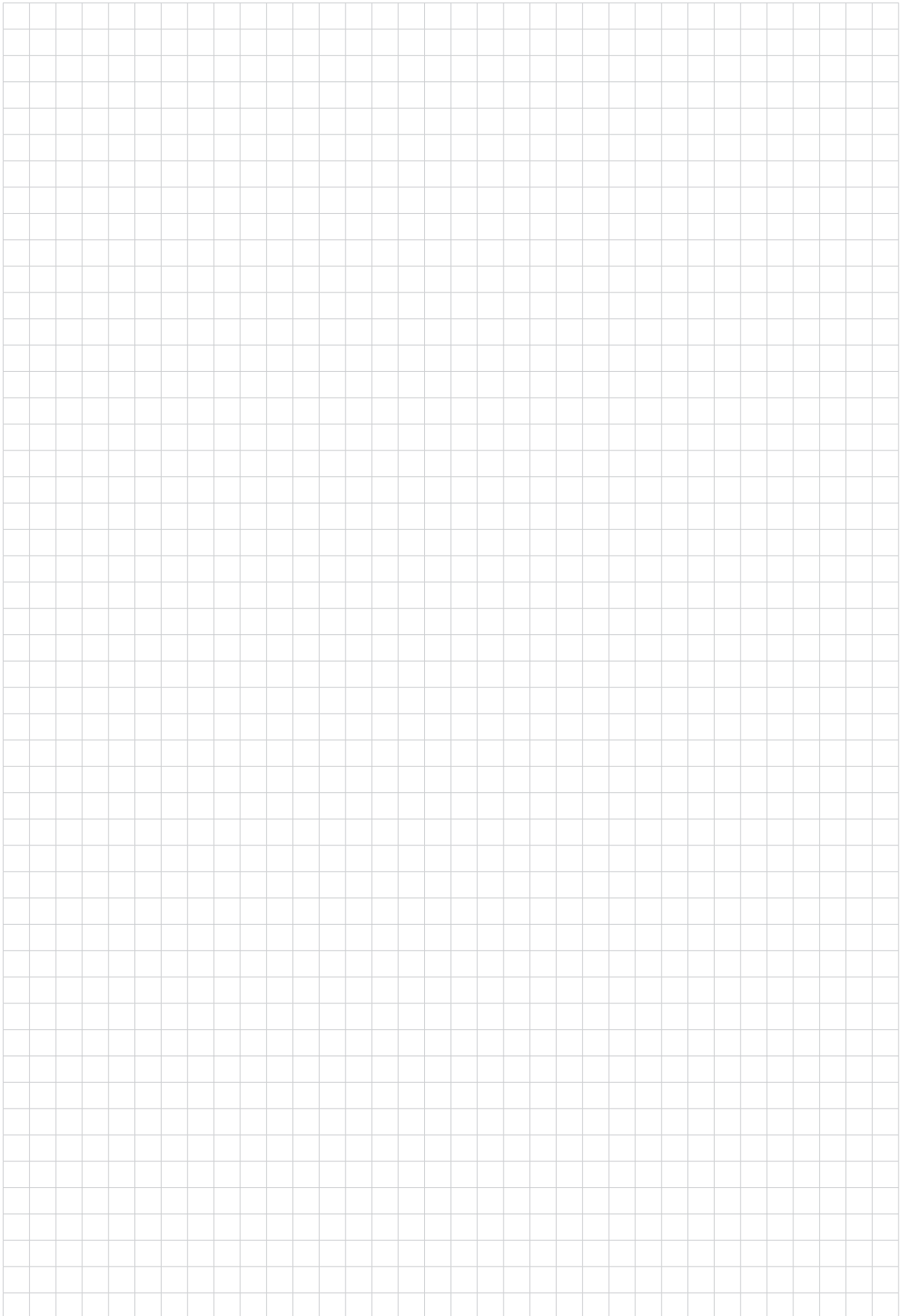
Filtering by contour shape
Gefiltert nach Bearbeitungs-Kontur

Additional search parameters
Zusätzliche Parameter-Suche

Selected product
Ausgewähltes Produkt

ID code	Item code	Z	ØD	ØH	CR	Ln	s	I	Ødn	L	Ød	Grade	Inserts1	Inserts2	Inserts3
EP697	ETMP-4040-40-10	4	4	1	40	1	6	10	90	8					
EP370	ETMP-4050-12	4	5	1.2	15	1	10	70	6						
EP598	ETMP-4050-30-12	4	5	1.2	30	1	7.5	90	6						
EP599	ETMP-4050-40-12	4	5	1.2	40	1	7.5	100	8						
EP600	ETMP-4050-50-12	4	5	1.2	50	1	7.5	110	8						
EP371	ETMP-4050-15	4	6	1.5			12	90	6						
EP379	ETMLN-4060-30-15	4	6	1.5	30	9	5.7	75	6						
EP380	ETMLN-4060-42-15	4	6	1.5	42	9	5.7	90	6						
EP381	ETMLN-4060-54-15	4	6	1.5	54	9	5.7	100	6						
EP601	ETMP-4060-40-15	4	6	1.5	40	1	9	100	8						
EP602	ETMP-4060-55-15	4	6	1.5	55	1	9	110	8						
EP603	ETMP-4060-67-15	4	6	1.5	67	1	9	125	8						
EP372	ETMP-4060-20	4	8	2			16	100	8						
EP382	ETMLN-4080-40-20	4	8	2	40	12	7.6	85	8						
EP383	ETMLN-4080-60-20	4	8	2	60	12	7.6	100	9						
EP384	ETMLN-4080-72-20	4	8	2	72	12	7.6	120	8						
EP373	ETMP-4100-20	4	10	2			20	110	10						

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Attentions on Safety

1. Cautions regarding handling

- (1) When removing the tool from its case (packaging), be careful that the tool does not pop out or is dropped. Be particularly careful regarding contact with the tool flutes.
- (2) When handling tools with sharp cutting flutes, be careful not to touch the cutting flutes directly with your bare hands.

2. Cautions regarding mounting

- (1) Before use, check the outside appearance of the tool for scratches, cracks, etc. and that it is firmly mounted in the collet chuck, etc.
- (2) When preparing for use, be sure that the inserts are firmly mounted in place and that they are firmly mounted on the arbor, etc.
- (3) If abnormal chattering, etc. occurs during use, stop the machine immediately and remove the cause of the chattering.

3. Cautions during use

- (1) Before use, confirm the dimensions and direction of rotation of the tool and milling work material.
- (2) The numerical values in the standard cutting conditions table should be used as criteria when starting new work. The cutting conditions should be adjusted as appropriate when the cutting depth is large, the rigidity of the machine being used is low, or according to the conditions of the work material.
- (3) Cutting tools are made of a hard material. During use, they may break and fly off. In addition, cutting chips may also fly off. Since there is a danger of injury to workers, fire, or eye damage from such flying pieces, a safety cover should be attached when work is performed and safety equipment such as safety goggles should be worn to create a safe environment for work.
- (4) There is a risk of fire or inflammation due to sparks, heat due to breakage, and cutting chips. Do not use where there is a risk of fire or explosion. Please caution of fire while using oil base coolant, fire prevention is necessary.
- (5) Do not use the tool for any purpose other than that for which it is intended.

4. Cautions regarding regrinding

- (1) If regrinding is not performed at the proper time, there is a risk of the tool breaking. Replace the tool with one in good condition, or perform regrinding.
- (2) Grinding dust will be created when regrinding a tool. When regrinding, be sure to attach a safety cover over the work area and wear safety clothes such as safety goggles, etc.
- (3) This product contains the specified chemical substance cobalt and its inorganic compounds. When performing regrinding or similar processing, be sure to handle the processing in accordance with the local laws and regulations regarding prevention of hazards due to specified chemical substances.

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