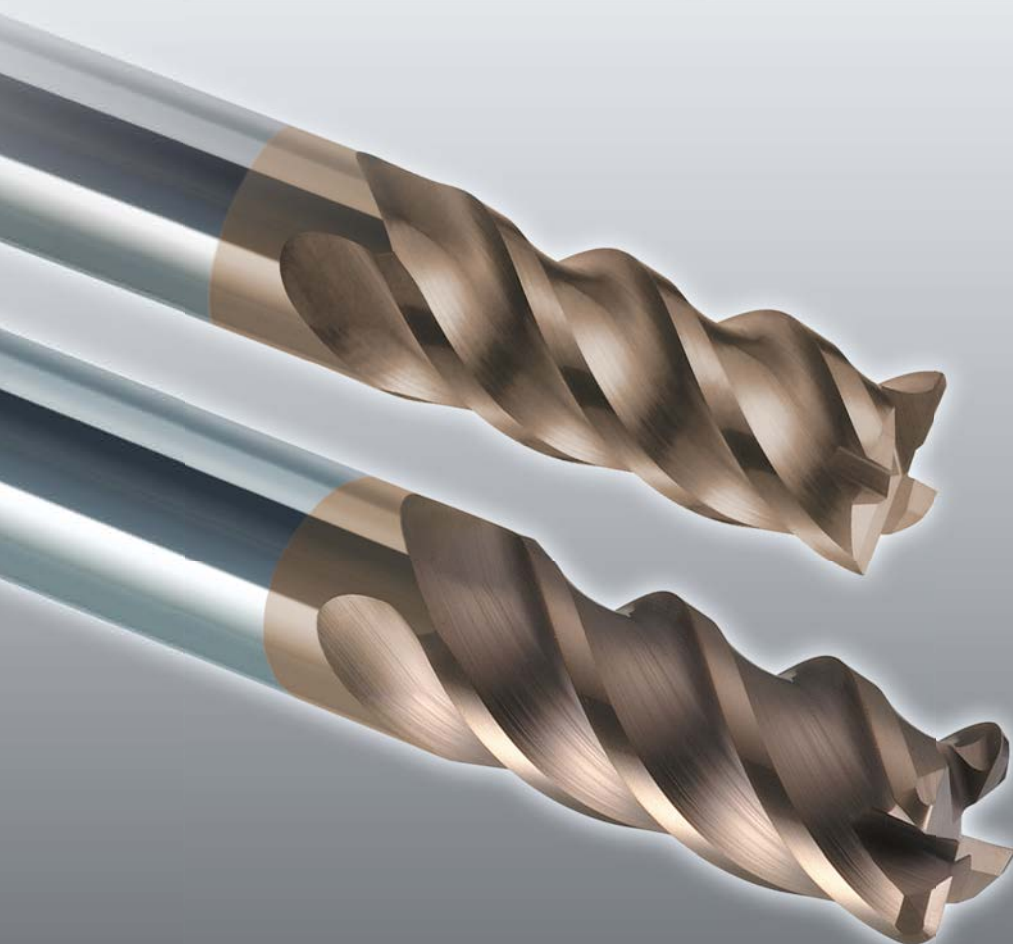


EPP-TH Epoch TH Power Mill

Micro Grain Solid Carbide End Mill

Epoch TH Series for High Hardened Steels



D3mm ~ D12mm

- ***For Materials <69HRC***
- ***Corner Radius Types:***
CR 0.2 | 0.3 | 0.5 | 1.0 | 2.0



www.moldino.eu

EPP-TH | Epoch TH Power Mill

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 actuais, 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.

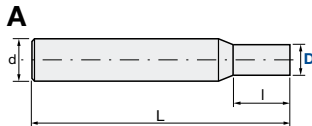
Epoch Power Mill é uma fresa multi funções, utilizada para reduzir os tempos de operação em máquinas CNC's e máquinas convencionais.

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.

EPP-TH | Epoch TH Power Mill

Q max High Efficient	▽ Roughing	▽▽ Semi-Finishing	▽▽▽ Finishing	HRC 69	No. of Teeth 4
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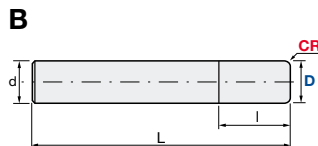
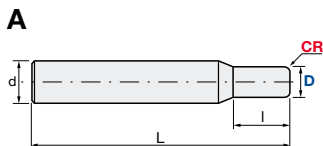
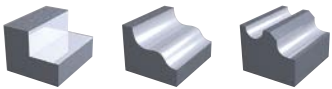
Carbide Micro Grain	TH45+ Nano-PVD Coating	Rake Angle neutral
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Helix Angle	D Tol. [mm]	d Tol.
43°	D3~D6: 0/-0.015 D8~D12: 0/-0.02	h6

ID Code	Item Code	Z	D	l	L	d	Type
EP001	EPP-4030-TH	4	3	8	60	6	A
EP002	EPP-4040-TH		4	11			
EP266	EPP-4050-TH		5	13			
EP564	EPP-4060-TH		6	13			
EP581	EPP-4080-TH		8	19	75	8	B
EP656	EPP-4100-TH		10	22	80	10	
EP657	EPP-4120-TH		12	26	100	12	

Q max High Efficient	▽ Roughing	▽▽ Semi-Finishing	▽▽▽ Finishing	HRC 69	No. of Teeth 4
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Carbide Micro Grain	TH45+ Nano-PVD Coating	Rake Angle neutral
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Helix Angle	D Tol. [mm]	d Tol.
43°	D3~D6: 0/-0.015 D8~D12: 0/-0.02	h6













ID Code	Item Code	Z	D	CR	I	L	d	Type	
EP658	EPP-4030-02-TH	4	3	0.2	8	60	6	A	
EP659	EPP-4030-05-TH			0.5					
EP660	EPP-4040-02-TH		4	0.2	11				
EP661	EPP-4040-05-TH			0.5					
EP662	EPP-4050-02-TH		5	0.2	13				
EP663	EPP-4050-05-TH			0.5					
EP664	EPP-4060-03-TH		6	0.3					
EP665	EPP-4060-05-TH			0.5					
EP666	EPP-4060-10-TH			1.0					
EP667	EPP-4080-03-TH		8	0.3	19	75	8		
EP668	EPP-4080-05-TH			0.5					
EP669	EPP-4080-10-TH			1.0					
EP670	EPP-4100-05-TH		10	0.5	22	80		10	B
EP671	EPP-4100-10-TH			1.0					
EP672	EPP-4100-20-TH			2.0					
EP673	EPP-4120-05-TH	12	0.5	26	100	12			
EP674	EPP-4120-10-TH		1.0						
EP675	EPP-4120-20-TH		2.0						

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

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EPP-TH | Epoch TH Power Mill | Recommended Cutting Conditions

EPP-CR-TH				D3				D4				D5			
				EPP-CR-TH				EPP-CR-TH				EPP-CR-TH			
Side milling		Slotting		EPP-TH				EPP-TH				EPP-TH			
EPP-TH				  				  				  			
Side milling		Slotting		Side milling (a _p x a _e) high (a _p) high (a _e)		Slotting		2D/3D HSC		Side milling (a _p x a _e) high (a _p) high (a _e)		Slotting		2D/3D HSC	
I	Construction Steel Carbon Steels Alloy Steels (~200HB)	V _c	m/min	195	105	96	330	195	105	96	330	195	105	96	330
		n	min ⁻¹	20700	11100	10200	35000	15500	8400	7600	26300	12400	6700	6100	21000
		f _z	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
		V _f	mm/min	2900	1110	1020	14000	3100	1180	1060	14200	3220	1340	1220	14280
		a _p	mm	4.5	3	3	0.2 - 0.5	6	4	4	0.2 - 0.5	7.5	5	5	0.2 - 0.5
		a _e	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)	V _c	m/min	155	90	84	260	155	90	84	260	155	90	84	260
		n	min ⁻¹	16400	9500	8900	27600	12300	7200	6700	20700	9900	5700	5300	16600
		f _z	mm/tooth	0.030	0.020	0.020	0.090	0.040	0.030	0.030	0.120	0.055	0.040	0.040	0.150
		V _f	mm/min	1970	760	710	9940	1970	860	800	9940	2180	910	850	9960
		a _p	mm	4.5	3	3	0.2 - 0.5	6	4	4	0.2 - 0.5	7.5	5	5	0.2 - 0.5
		a _e	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)	V _c	m/min	117	52	48	200	117	52	48	200	117	52	48	200
		n	min ⁻¹	12400	5500	5100	21200	9300	4100	3800	15900	7400	3300	3100	12700
		f _z	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
		V _f	mm/min	1040	330	310	5090	1040	410	380	5720	1040	410	380	5080
		a _p	mm	4.5	1.5	1.5	0.1 - 0.3	6	2	2	0.1 - 0.3	7.5	2.5	2.5	0.1 - 0.3
		a _e	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)	V _c	m/min	90	35	40	170	90	35	40	170	90	35	40	170
		n	min ⁻¹	9500	3700	4200	18000	7200	2800	3200	13500	5700	2200	2500	10800
		f _z	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
		V _f	mm/min	570	190	220	3100	580	200	230	3460	570	220	250	3070
		a _p	mm	4.5	0.6	0.6	0.1 - 0.3	6	0.8	0.8	0.1 - 0.3	7.5	1	1	0.1 - 0.3
		a _e	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)	V _c	m/min	60		20	110	60		20	110	60		20	110
		n	min ⁻¹	6400		2100	11700	4800		1600	8800	3800		1300	7000
		f _z	mm/tooth	0.011		0.009	0.030	0.014		0.013	0.045	0.018		0.018	0.050
		V _f	mm/min	270		80	1400	270		80	1580	270		90	1400
		a _p	mm	4.5		0.6	0.05 - 0.3	6		0.8	0.05 - 0.3	7.5		1	0.05 - 0.3
		a _e	mm	0.12		3	0.05 - 0.3	0.16		4	0.05 - 0.3	0.2		5	0.05 - 0.3
VI	Stainless Steels (20~40HRC)	V _c	m/min	130	60	55	200	130	60	55	200	130	60	55	200
		n	min ⁻¹	13800	6400	5800	21200	10300	4800	4400	15900	8300	3800	3500	12700
		f _z	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
		V _f	mm/min	1660	260	230	7210	1650	290	260	8140	1830	270	250	7210
		a _p	mm	4.5	1.5	1.5	0.2 - 0.5	6	2	2	0.2 - 0.5	7.5	2.5	2.5	0.2 - 0.5
		a _e	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)	V _c	m/min	60	40	36	120	60	40	36	120	60	40	36	120
		n	min ⁻¹	6400	4200	3800	12700	4800	3200	2900	9500	3800	2500	2300	7600
		f _z	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
		V _f	mm/min	380	170	150	2180	380	190	170	2430	380	180	170	2160
		a _p	mm	4.5	0.9	0.9	0.05 - 0.3	6	1.2	1.2	0.05 - 0.3	7.5	1.5	1.5	0.05 - 0.3
		a _e	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)	V _c	m/min	195	78	72	300	195	78	72	300	195	78	72	300
		n	min ⁻¹	20700	8300	7600	31800	15500	6200	5700	23900	12400	5000	4600	19100
		f _z	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
		V _f	mm/min	2900	1160	1060	12720	3100	1240	1140	14340	3220	1300	1200	12610
		a _p	mm	4.5	1.5	1.5	0.2 - 0.5	6	2	2	0.2 - 0.5	7.5	2.5	2.5	0.2 - 0.5
		a _e	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	V _c	m/min	260	195	180	350	260	195	180	350	260	195	180	350
		n	min ⁻¹	27600	20700	19100	37100	20700	15500	14300	27900	16600	12400	11500	22300
		f _z	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
		V _f	mm/min	3860	2070	1910	14840	4140	2170	2000	16740	4320	2480	2300	14720
		a _p	mm	4.5	3	3	0.2 - 0.5	6	4	4	0.2 - 0.5	7.5	5	5	0.2 - 0.5
		a _e	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

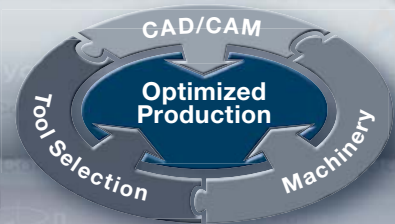
D6				D8				D10				D12			
EPP-CR-TH				EPP-CR-TH				EPP-CR-TH				EPP-CR-TH			
EPP-TH				EPP-TH				EPP-TH				EPP-TH			
															
Side milling ($a_p \times a_e$)		Slotting	2D/3D HSC	Side milling ($a_p \times a_e$)		Slotting	2D/3D HSC	Side milling ($a_p \times a_e$)		Slotting	2D/3D HSC	Side milling ($a_p \times a_e$)		Slotting	2D/3D HSC
high (a_p)	high (a_e)			high (a_p)	high (a_e)			high (a_p)	high (a_e)			high (a_p)	high (a_e)		
195	105	96	330	195	105	96	330	195	105	96	330	195	105	96	330
10300	5600	5100	17500	7800	4200	3800	13100	6200	3300	3100	10500	5200	2800	2500	8800
0.080	0.060	0.060	0.240	0.105	0.080	0.080	0.320	0.120	0.100	0.100	0.390	0.130	0.110	0.110	0.400
3300	1340	1220	16800	3280	1340	1220	16770	2980	1320	1240	16380	2700	1230	1100	14080
9	6	6	0.2 - 0.5	12	8	8	0.2 - 0.5	15	10	10	0.2 - 0.5	18	12	12	0.2 - 0.5
0.6	3	6	0.2 - 0.5	0.8	4	8	0.2 - 0.5	1	5	10	0.2 - 0.5	1.2	6	12	0.2 - 0.5
155	90	84	260	155	90	84	260	155	90	84	260	155	90	84	260
8200	4800	4500	13800	6200	3600	3300	10300	4900	2900	2700	8300	4100	2400	2200	6900
0.070	0.050	0.050	0.210	0.095	0.065	0.065	0.280	0.115	0.085	0.085	0.350	0.120	0.090	0.090	0.360
2300	960	900	11590	2360	940	860	11540	2250	990	920	11620	1970	860	790	9940
9	6	6	0.2 - 0.5	12	8	8	0.2 - 0.5	15	10	10	0.2 - 0.5	18	12	12	0.2 - 0.5
0.6	3	6	0.2 - 0.5	0.8	4	8	0.2 - 0.5	1	5	10	0.2 - 0.5	1.2	6	12	0.2 - 0.5
117	52	48	200	117	52	48	200	117	52	48	200	117	52	48	200
6200	2800	2500	10600	4700	2100	1900	8000	3700	1700	1500	6400	3100	1400	1300	5300
0.045	0.038	0.038	0.120	0.055	0.050	0.050	0.150	0.065	0.063	0.063	0.180	0.075	0.070	0.070	0.210
1120	430	380	5090	1030	420	380	4800	960	430	380	4610	930	390	360	4450
9	3	3	0.1 - 0.3	12	4	4	0.1 - 0.3	15	5	5	0.1 - 0.3	18	6	6	0.1 - 0.3
0.6	3	6	0.1 - 0.3	0.8	4	8	0.1 - 0.3	1	5	10	0.1 - 0.3	1.2	6	12	0.1 - 0.3
90	35	40	170	90	35	40	170	90	35	40	170	90	35	40	170
4800	1900	2100	9000	3600	1400	1600	6800	2900	1100	1300	5400	2400	900	1100	4500
0.030	0.030	0.030	0.085	0.040	0.040	0.040	0.106	0.050	0.050	0.050	0.128	0.060	0.055	0.055	0.150
580	230	250	3060	580	220	260	2880	580	220	260	2760	580	200	240	2700
9	1.2	1.2	0.1 - 0.3	12	1.6	1.6	0.1 - 0.3	15	2	2	0.1 - 0.3	18	2.4	2.4	0.1 - 0.3
0.3	3	6	0.1 - 0.3	0.4	4	8	0.1 - 0.3	0.5	5	10	0.1 - 0.3	0.6	6	12	0.1 - 0.3
60		20	110	60		20	110	60		20	110	60		20	110
3200		1100	5800	2400		800	4400	1900		600	3500	1600		500	2900
0.021		0.021	0.062	0.028		0.028	0.075	0.035		0.035	0.090	0.042		0.039	0.100
270		90	1440	270		90	1320	270		80	1260	270		80	1160
9		1.2	0.05 - 0.3	12		1.6	0.05 - 0.3	15		2	0.05 - 0.3	18		2.4	0.05 - 0.3
0.24		6	0.05 - 0.3	0.32		8	0.05 - 0.3	0.4		10	0.05 - 0.3	0.48		12	0.05 - 0.3
130	60	55	200	130	60	55	200	130	60	55	200	130	60	55	200
6900	3200	2900	10600	5200	2400	2200	8000	4100	1900	1800	6400	3400	1600	1500	5300
0.070	0.025	0.025	0.170	0.095	0.033	0.033	0.213	0.120	0.042	0.042	0.255	0.130	0.050	0.050	0.300
1930	320	290	7210	1980	320	290	6820	1970	320	300	6530	1770	320	300	6360
9	3	3	0.2 - 0.5	12	4	4	0.2 - 0.5	15	5	5	0.2 - 0.5	18	6	6	0.2 - 0.5
0.3	3	6	0.2 - 0.5	0.4	4	8	0.2 - 0.5	0.5	5	10	0.2 - 0.5	0.6	6	12	0.2 - 0.5
60	40	36	120	60	40	36	120	60	40	36	120	60	40	36	120
3200	2100	1900	6400	2400	1600	1400	4800	1900	1300	1100	3800	1600	1100	1000	3200
0.030	0.023	0.023	0.085	0.040	0.032	0.032	0.107	0.050	0.040	0.040	0.128	0.060	0.048	0.048	0.150
380	190	170	2180	380	200	180	2050	380	210	180	1950	380	210	190	1920
9	1.8	1.8	0.05 - 0.3	12	2.4	2.4	0.05 - 0.3	15	3	3	0.05 - 0.3	18	3.6	3.6	0.05 - 0.3
0.3	3	6	0.05 - 0.3	0.4	4	8	0.05 - 0.3	0.5	5	10	0.05 - 0.3	0.6	6	12	0.05 - 0.3
195	78	72	300	195	78	72	300	195	78	72	300	195	78	72	300
10300	4100	3800	15900	7800	3100	2900	11900	6200	2500	2300	9500	5200	2100	1900	8000
0.080	0.080	0.080	0.200	0.105	0.105	0.105	0.250	0.120	0.135	0.135	0.300	0.130	0.140	0.140	0.345
3300	1310	1220	12720	3280	1300	1220	11900	2980	1350	1240	11400	2700	1180	1060	11040
9	3	3	0.2 - 0.5	12	4	4	0.2 - 0.5	15	5	5	0.2 - 0.5	18	6	6	0.2 - 0.5
0.6	3	6	0.2 - 0.5	0.8	4	8	0.2 - 0.5	1	5	10	0.2 - 0.5	1.2	6	12	0.2 - 0.5
260	195	180	350	260	195	180	350	260	195	180	350	260	195	180	350
13800	10300	9500	18600	10300	7800	7200	13900	8300	6200	5700	11100	6900	5200	4800	9300
0.080	0.060	0.060	0.200	0.105	0.080	0.080	0.250	0.120	0.100	0.100	0.300	0.130	0.110	0.110	0.345
4420	2470	2280	14880	4330	2500	2300	13900	3980	2480	2280	13320	3590	2290	2110	12830
9	6	6	0.2 - 0.5	12	8	8	0.2 - 0.5	15	10	10	0.2 - 0.5	18	12	12	0.2 - 0.5
0.6	3	6	0.2 - 0.5	0.8	4	8	0.2 - 0.5	1	5	10	0.2 - 0.5	1.2	6	12	0.2 - 0.5

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Function Buttons
Funktions-Schaltflächen

QuickFinder Help:
Details of tools etc.
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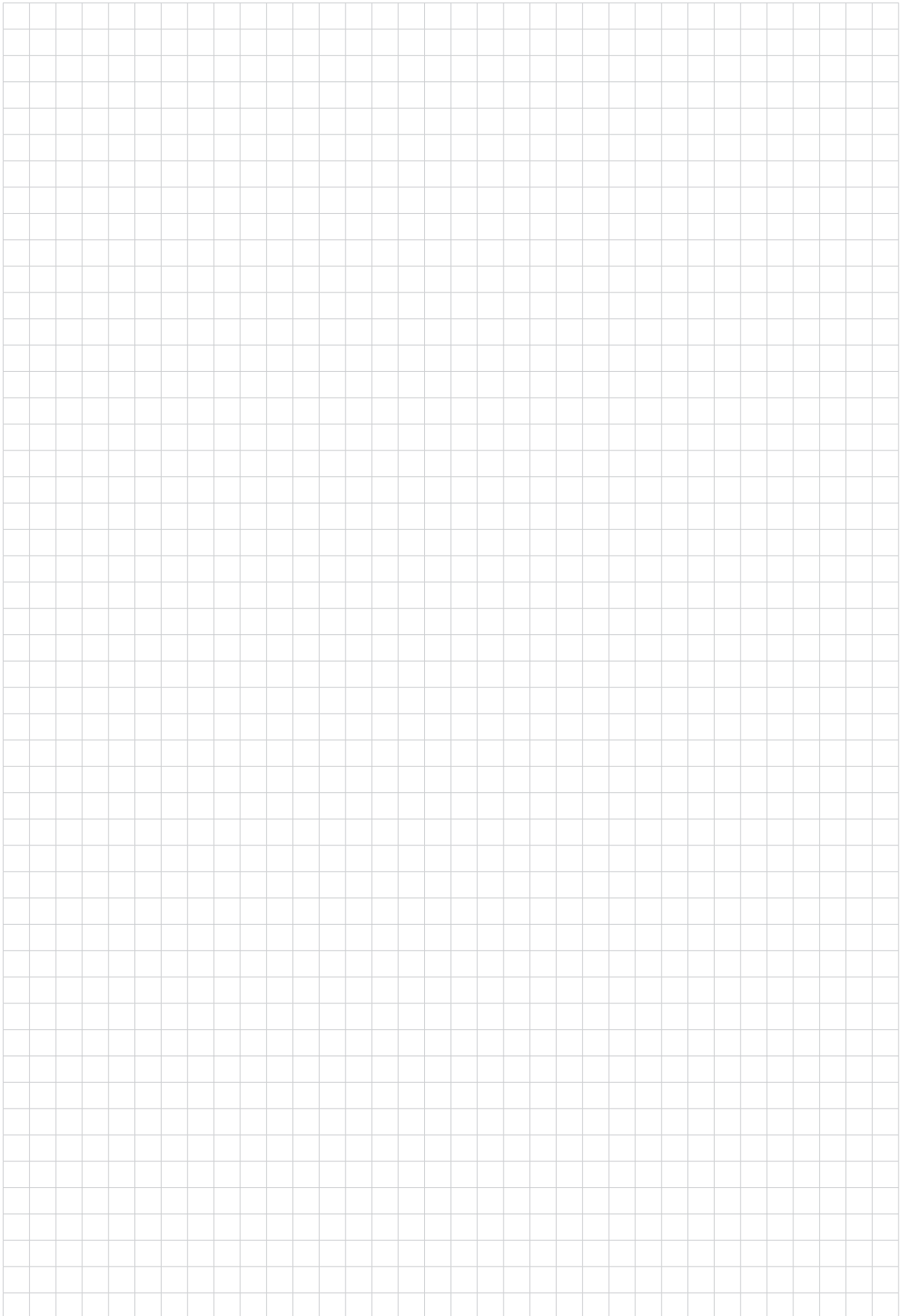
Filtering by contour shape
Gefiltert nach Bearbeitungs-Kontur

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	1	9	5.7	75	6					
EP380	ETMLN-4060-42-15	4	6	1.5	42	1	9	5.7	90	6					
EP381	ETMLN-4060-54-15	4	6	1.5	54	1	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-4030-20	4	8	2			16	100	8						
EP382	ETMLN-4080-40-20	4	8	2	40	1	12	7.6	85	8					
EP383	ETMLN-4080-68-20	4	8	2	68	1	12	7.6	100	8					
EP384	ETMLN-4080-72-20	4	8	2	72	1	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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