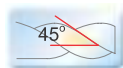
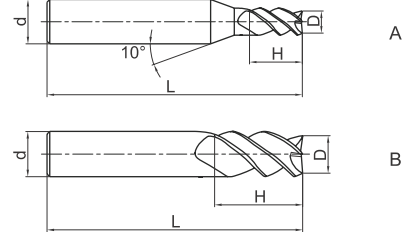


GM-3E

3-flute flattened end mills with straight shank
3-Schneiden Eckfräser mit Zylinderschaft



Type Typ	Dimension (mm) Abmessungen				Teeth Zähne Z	Geometry Ausführung	Grade Sorte KMG 303
	D	d	H	L			
GM-3E-D1.0S	1.0	4	3	50	3	A	○
GM-3E-D1.5S	1.5	4	4	50	3	A	○
GM-3E-D2.0S	2.0	4	6	50	3	A	○
GM-3E-D2.5S	2.5	4	8	50	3	A	○
GM-3E-D3.0S	3.0	4	8	50	3	A	○
GM-3E-D4.0S	4.0	4	11	50	3	B	○
GM-3E-D1.0	1.0	6	3	50	3	A	○
GM-3E-D1.5	1.5	6	4	50	3	A	○
GM-3E-D2.0	2.0	6	6	50	3	A	○
GM-3E-D2.5	2.5	6	8	50	3	A	○
GM-3E-D3.0	3.0	6	8	50	3	A	○
GM-3E-D3.5	3.5	6	10	50	3	A	○
GM-3E-D4.0	4.0	6	11	50	3	A	○
GM-3E-D4.5	4.5	6	11	50	3	A	○
GM-3E-D5.0	5.0	6	13	50	3	A	○
GM-3E-D5.5	5.5	6	16	50	3	A	○
GM-3E-D6.0	6.0	6	16	50	3	B	○
GM-3E-D7.0	7.0	8	20	60	3	A	○
GM-3E-D8.0	8.0	8	20	60	3	B	○
GM-3E-D9.0	9.0	10	22	75	3	A	○
GM-3E-D10.0	10.0	10	25	75	3	B	○
GM-3E-D11.0	11.0	12	26	75	3	A	○
GM-3E-D12.0	12.0	12	30	75	3	B	○
GM-3E-D14.0	14.0	14	32	75	3	B	○
GM-3E-D16.0	16.0	16	45	100	3	B	○
GM-3E-D18.0	18.0	18	45	100	3	B	○
GM-3E-D20.0	20.0	20	45	100	3	B	○

Material Overview · Material Übersicht

✓ = Very suitable · Sehr empfohlen
✓ = Suitable · Empfohlen

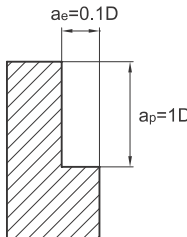
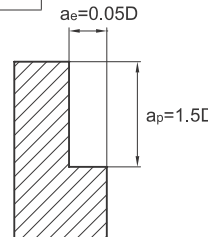
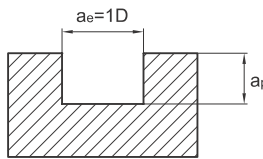
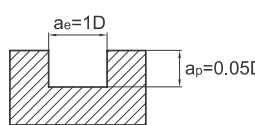
Workpiece material Werkstückstoff											
Carbon steel Kohlenstoff Stahl	Alloy steel Legierter Stahl	Quenched and tempered steel · Vergüteter Stahl		Hardened steel · Gehärteter Stahl		Stainless steel · Rostfreier Stahl	Cast iron, Nodular cast iron Grauguss GGG	Copper alloy Kupfer Leg	Aluminum alloy Alu Leg	Titanium alloy Titan Leg	Heat resist alloy wärmfeste Leg
		~40HRC	~50HRC	~55HRC	~68HRC						
✓	✓	✓	✓			✓	✓				

KMG303



Recommended cutting data · Empfohlene Schnittdaten

GM-3E | GM-3EL

Workpiece material Werkstück-material	Cast iron, Nodular cast iron Grauguss GGG		Carbon steel, Alloy steel Kohlenstoffstahl Leg. Stahl ~750N/mm ²		Carbon steel, Alloy steel Kohlenstoffstahl Leg. Stahl ~30HRC		Pre-hardened steel, Quenched and tempered steel Vergüteter Stahl ~40HRC		Stainless steel Rostfreier Stahl		Pre-hardened steel, Quenched and tempered steel Vergüteter Stahl ~50HRC								
Diameter Ø Durchmesser (mm)	Rotating Drehzahl (min ⁻¹)	Feed Vorschub (mm/min)	Rotating Drehzahl (min ⁻¹)	Feed Vorschub (mm/min)	Rotating Drehzahl (min ⁻¹)	Feed Vorschub (mm/min)	Rotating Drehzahl (min ⁻¹)	Feed Vorschub (mm/min)	Rotating Drehzahl (min ⁻¹)	Feed Vorschub (mm/min)	Rotating Drehzahl (min ⁻¹)	Feed Vorschub (mm/min)							
1	20000	215	20000	215	20000	175	20000	175	20000	65	20000	130							
2	15000	345	15000	345	15000	310	15000	305	11150	90	13000	195							
3	14000	590	14000	590	13000	546	10600	455	7500	130	8500	360							
4	10800	600	10800	605	10000	560	8000	460	5500	145	6500	365							
5	8200	630	8200	630	7600	585	6400	480	4500	145	5000	380							
6	7000	650	7000	650	6400	600	5300	500	3700	150	4200	390							
8	5200	645	5200	645	4800	590	4000	495	2800	150	3200	400							
10	4200	630	4200	630	3800	585	3200	480	2200	150	2500	380							
12	3500	630	3500	630	3200	585	2650	480	1850	150	2100	380							
14	3000	590	3000	590	2700	545	2300	455	1600	145	1800	360							
16	2600	590	2600	590	2400	545	2000	455	1400	130	1600	360							
18	2300	580	2300	580	2100	530	1800	450	1250	130	1400	350							
20	2050	580	2050	580	1900	530	1600	450	1100	130	1250	350							
Max. cutting depth max Schnitttiefe																			
	 <table><tr><th>Milling slot</th><th>Nutenfräsen</th></tr><tr><th>Ø</th><th>Ap</th></tr><tr><td>Ø1≤D<Ø3</td><td>0.15D</td></tr><tr><td>Ø3≤D</td><td>0.3D</td></tr></table>									Milling slot	Nutenfräsen	Ø	Ap	Ø1≤D<Ø3	0.15D	Ø3≤D	0.3D		
Milling slot	Nutenfräsen																		
Ø	Ap																		
Ø1≤D<Ø3	0.15D																		
Ø3≤D	0.3D																		

- The above table shows the standard value of side milling. When slot milling, of rotating speed 50%~70% and feed rate like mentioned above 40%~60%.
- Please select high precise machine and tool holder.
- Please use air blow or cutting liquid with high mist retardant property.
- Down milling is recommended in side milling.
- Vibration and unusual noise may be generated if the machine rigidity and workpiece fixture stability is low, please reduce the rotating speed and feed rate like mentioned above.
- Make overhang as short as possible if no interference.

- Die obige Tabelle zeigt Standard Werte für das Eckfräsen. Bei Nutenfräsen, Schnittgeschwindigkeit auf 50-70% und den Vorschub auf 40-60% reduzieren.
- Bitte präzise Maschinen und Werkzeughalter verwenden.
- Bitte Luftkühlung oder Schneidflüssigkeit benutzen.
- Empfohlene Fräsmethode: Gleichlaufräsen.
- Bei Vibrationen oder unüblichen Geräuschen reduzieren Sie die Schnittdaten (wie oben empfohlen) entsprechend.
- Werkzeugauskragung so kurz wie möglich wählen.