

GM-3E★GM-3EL

Workpiece material	Cast iron, Nodular cast iron		Carbon steel, Alloy steel ~750N/mm ²		Carbon steel, Alloy steel ~30HRC		Pre-hardened steel, quenched and tempered steel ~40HRC		Stainless steel		Pre-hardened steel, quenched and tempered steel ~50HRC						
	Diameter (mm)	Rotating speed (min ⁻¹)	Feed speed (mm/min)	Rotating speed (min ⁻¹)	Feed speed (mm/min)	Rotating speed (min ⁻¹)	Feed speed (mm/min)	Rotating speed (min ⁻¹)	Feed speed (mm/min)	Rotating speed (min ⁻¹)	Feed speed (mm/min)	Rotating speed (min ⁻¹)	Feed speed (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					
Maximum cutting depth																	
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Indexable milling tools

Solid carbide end mills

Cutting parameters for GM series end mills

- The above table shows the standard value of side milling. When milling slot, 50%~70% of rotating speed and 40%~60% of feed speed stated above are recommended as standard.
- Please select high-precision machine and tool holder.
- Please use air blow or cutting liquid with high mist retardant property.
- Down milling is recommended in the case of side milling.
- When the machine rigidity and workpiece fixture stability is low, vibration and abnormal noise may be generated. Please reduce the rotating speed and feed speed stated above correspondingly.
- Make overhang of tool as short as possible in conditions of non-interference.

GM-4E-G★GM-4EL-G★GM-4EBL/X-G

Workpiece material	Cast iron, Nodular cast iron		Carbon steel, Alloy steel ~750N/mm ²		Carbon steel, Alloy steel ~30HRC		Pre-hardened steel, quenched and tempered steel ~40HRC		Stainless steel		Pre-hardened steel, quenched and tempered steel ~50HRC	
	Diameter (mm)	Rotating speed (min ⁻¹)	Feed speed (mm/min)	Rotating speed (min ⁻¹)	Feed speed (mm/min)	Rotating speed (min ⁻¹)	Feed speed (mm/min)	Rotating speed (min ⁻¹)	Feed speed (mm/min)	Rotating speed (min ⁻¹)	Feed speed (mm/min)	Rotating speed (min ⁻¹)
1	20000	225	20000	225	20000	180	20000	180	20000	80	20000	135
2	15000	360	15000	360	15000	325	15000	315	11150	90	13000	200
3	14000	610	14000	610	13000	570	10600	470	7500	110	8500	370
4	10800	630	10800	630	10000	575	8000	480	5500	115	6500	380
5	8200	660	8200	660	7600	600	6400	505	4500	115	5000	400
6	7000	675	7000	675	6400	620	5300	515	3700	120	4200	405
8	5200	665	5200	665	4800	610	4000	510	2800	120	3200	415
10	4200	660	4200	660	3800	600	3200	505	2200	120	2500	390
12	3500	660	3500	660	3200	600	2650	505	1850	120	2100	390
14	3000	610	3000	610	2700	570	2300	470	1600	115	1800	370
16	2600	610	2600	610	2400	570	2000	470	1400	110	1600	370
18	2300	600	2300	600	2100	560	1800	460	1250	95	1400	365
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