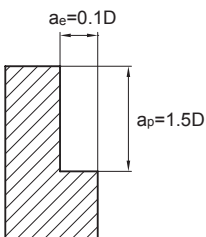
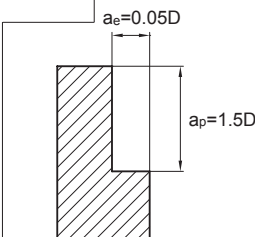
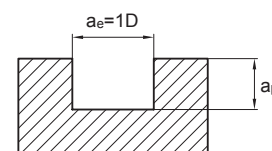
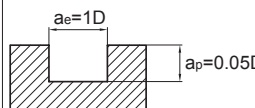


### GM-4E★GM-4EL★GM-4EBL/X

Workpiece material	Cast iron, Nodular cast iron		Carbon steel, Alloy steel ~750N/mm <sup>2</sup>		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 <sup>-1</sup> )	Feed speed (mm/min)	Rotating speed (min <sup>-1</sup> )	Feed speed (mm/min)	Rotating speed (min <sup>-1</sup> )	Feed speed (mm/min)	Rotating speed (min <sup>-1</sup> )	Feed speed (mm/min)	Rotating speed (min <sup>-1</sup> )	Feed speed (mm/min)	Rotating speed (min <sup>-1</sup> )
1	20000	250	20000	250	20000	200	20000	200	20000	90	20000	150
2	15000	400	15000	400	15000	360	15000	350	11150	100	13000	225
3	14000	680	14000	680	13000	630	10600	525	7500	120	8500	410
4	10800	700	10800	700	10000	640	8000	535	5500	125	6500	420
5	8200	730	8200	730	7600	670	6400	560	4500	125	5000	440
6	7000	750	7000	750	6400	690	5300	575	3700	135	4200	450
8	5200	740	5200	740	4800	680	4000	565	2800	135	3200	460
10	4200	730	4200	730	3800	670	3200	560	2200	135	2500	435
12	3500	730	3500	730	3200	670	2650	560	1850	135	2100	435
14	3000	680	3000	680	2700	630	2300	525	1600	125	1800	410
16	2600	680	2600	680	2400	630	2000	525	1400	120	1600	410
18	2300	670	2300	670	2100	620	1800	515	1250	105	1400	405
20	2050	670	2050	670	1900	620	1600	515	1100	105	1250	405

Maximum cutting depth										
	Diagram	Table	Diagram	Table						
		<table border="1"> <thead> <tr> <th>Diameter range</th> <th>Cutting depth <math>a_p</math></th> </tr> </thead> <tbody> <tr> <td><math>\varnothing 1 \leq D &lt; \varnothing 3</math></td> <td>0.15D</td> </tr> <tr> <td><math>\varnothing 3 \leq D</math></td> <td>0.3D</td> </tr> </tbody> </table>	Diameter range	Cutting depth $a_p$	$\varnothing 1 \leq D < \varnothing 3$	0.15D	$\varnothing 3 \leq D$	0.3D		
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- 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 <sup>2</sup>		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 <sup>-1</sup> )	Feed speed (mm/min)	Rotating speed (min <sup>-1</sup> )	Feed speed (mm/min)	Rotating speed (min <sup>-1</sup> )	Feed speed (mm/min)	Rotating speed (min <sup>-1</sup> )	Feed speed (mm/min)	Rotating speed (min <sup>-1</sup> )	Feed speed (mm/min)	Rotating speed (min <sup>-1</sup> )
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
20	2050	600	2050	600	1900	560	1600	460	1100	95	1250	365

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Indexable milling tools

Solid carbide end mills

Cutting parameters for GM series end mills