

# RECOMMENDED CUTTING CONDITIONS

## ■ Side milling

Work material	P								M	S			
	Carbon steel, Cast iron, Alloy steel (–30HRC) AISI 1050, AISI No 35 B, AISI P20				Alloy steel, Tool steel, Pre-hardened steel AISI H13, AISI W1-10, AISI P21				Austenitic stainless steel, Titanium alloy AISI 304, AISI 306, Ti-6Al-4V				
Dia. DC (mm)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Depth of Cut ap (mm)	Width of Cut ae (mm)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Depth of Cut ap (mm)	Width of Cut ae (mm)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Depth of Cut ap (mm)	Width of Cut ae (mm)	
3	10000	600	3	0.6	7000	400	3	0.6	6000	300	3	0.6	
4	7500	600	4	0.6	5200	400	4	0.6	4500	300	4	0.6	
5	6000	600	5	0.6	4200	400	5	0.6	3600	300	5	0.6	
6	5000	600	6	0.6	3500	400	6	0.6	3000	300	6	0.6	
7	4500	560	7	0.6	3200	360	7	0.6	2700	280	7	0.6	
8	4000	520	8	0.6	2800	350	8	0.6	2400	260	8	0.6	
10	3200	450	10	0.6	2200	300	10	0.6	1900	230	10	0.6	

Depth of cut

Work material	H				N			
	Hardened steel (45–55HRC) AISI H13				Copper, Copper Alloy			
Dia. DC (mm)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Depth of Cut ap (mm)	Width of Cut ae (mm)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Depth of Cut ap (mm)	Width of Cut ae (mm)
3	5000	120	3	0.2	13000	780	3	0.6
4	4000	120	4	0.2	9500	760	4	0.6
5	3200	120	5	0.2	7600	760	5	0.6
6	2700	120	6	0.2	6400	770	6	0.6
7	2300	110	7	0.2	5500	680	7	0.6
8	2000	110	8	0.2	4800	620	8	0.6
10	1600	100	10	0.2	3800	530	10	0.6

Depth of cut

Note 1) When cutting austenitic stainless steels, the use of water-soluble cutting fluid is effective.

Note 2) If the depth of cut is shallow, the revolution and feed rate can be increased.

Note 3) When drilling, please set the feed rate at 1/3 or below the values above.

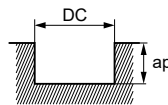
Note 4) If the rigidity of the machine or the work materials installation is very low, or chattering and noise are generated, reduce the revolution and feed rate proportionately.

# RECOMMENDED CUTTING CONDITIONS

## ■ Slotting

Work material	P						M	S	
	Carbon steel, Cast iron, Alloy steel (–30HRC) AISI 1050, AISI No 35 B, AISI P20			Alloy steel, Tool steel, Pre-hardened steel AISI H13, AISI W1-10, AISI P21			Austenitic stainless steel, Titanium alloy AISI 304, AISI 306, Ti-6Al-4V		
Dia. DC (mm)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Depth of Cut ap (mm)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Depth of Cut ap (mm)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Depth of Cut ap (mm)
<b>3</b>	10000	600	0.6	7000	400	0.6	6000	300	0.6
<b>4</b>	7500	600	0.6	5200	400	0.6	4500	300	0.6
<b>5</b>	6000	600	0.6	4200	400	0.6	3600	300	0.6
<b>6</b>	5000	600	0.6	3500	400	0.6	3000	300	0.6
<b>7</b>	4500	560	0.6	3200	360	0.6	2700	280	0.6
<b>8</b>	4000	520	0.6	2800	350	0.6	2400	260	0.6
<b>10</b>	3200	450	0.6	2200	300	0.6	1900	230	0.6

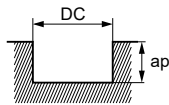
Depth of cut



DC:Dia.

Work material	H			N		
	Hardened steel (45–55HRC) AISI H13			Copper, Copper Alloy		
Dia. DC (mm)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Depth of Cut ap (mm)	Revolution (min <sup>-1</sup> )	Feed rate (mm/min)	Depth of Cut ap (mm)
<b>3</b>	5000	120	0.2	13000	780	0.6
<b>4</b>	4000	120	0.2	9500	760	0.6
<b>5</b>	3200	120	0.2	7600	760	0.6
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Depth of cut



DC:Dia.

Note 1) When cutting austenitic stainless steels, the use of water-soluble cutting fluid is effective.

Note 2) If the depth of cut is shallow, the revolution and feed rate can be increased.

Note 3) When drilling, please set the feed rate at 1/3 or below the values above.

Note 4) If the rigidity of the machine or the work materials installation is very low, or chattering and noise are generated, reduce the revolution and feed rate proportionately.