


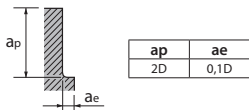
# CUTTING CONDITIONS

Milling | Endmills | Cutting conditions

## AE-VMFE

(Applies to square / radius type)

### Side milling

	Mild Steel • Carbon Steel • Cast Iron		Alloy Steel • Tool Steel		Prehardened Steel • Hardened Steel		Stainless Steel		Precipitation Stainless Steel		Titanium Alloy		Ni-Based Alloy	
	SS400 • S55C • FC250 ~750N/mm²		SCM • SKS • SKD ~30HRC		PX5 • NAK80 30~45HRC		SUS304 • SUS420 ≤200HB		SUS630		Ti-6Al-4V		Inconel 718	
Cutting Speed	120 (100-140) (m/min)		120 (100-140) (m/min)		120 (100-140) (m/min)		120 (100-140) (m/min)		115 (100-130) (m/min)		105 (90-120) (m/min)		70 (60-80) (m/min)	
Ø	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)	S (min <sup>-1</sup> )	F (mm/min)
6	6.370	2.550	6.370	2.290	6.370	2.040	6.370	1.910	6.100	1.590	5.570	1.340	3.720	740
8	4.780	1.910	4.780	1.720	4.780	1.530	4.780	1.430	4.580	1.190	4.180	1.000	2.790	560
10	3.820	1.530	3.820	1.380	3.820	1.220	3.820	1.150	3.660	950	3.340	800	2.230	490
12	3.180	1.270	3.180	1.140	3.180	1.020	3.180	950	3.050	790	2.790	670	1.860	410
14	2.730	1.090	2.730	980	2.730	870	2.730	820	2.620	680	2.390	570	1.590	480
18	2.120	850	2.120	760	2.120	680	2.120	640	2.030	530	1.860	450	1.240	370
22	1.740	700	1.740	630	1.740	560	1.740	520	1.660	430	1.520	360	1.010	300
Depth of cut	<div></div>													

1. The above milling condition is a guideline for the overhang length is 5×D.

2. Use a rigid and precise machine and holder.

3. Adjustment may be necessary depending on the rigidity of the workpiece fixture and machine.

4. Please use a suitable fluid with high smoke retardant properties.


5. During dry (no fluid) milling, please use air blow to remove disposable chips from the milling area and to eliminate chip packing.

6. Please use water-soluble coolant when machining stainless steel, precipitation stainless steel, titanium alloy, Ni-based alloy.

7. Reduce speed and feed as well as depth of cut when high precision is required.

8. Adjust the speed and feed accordingly when the overhang length is longer than specified.

### Cutting Condition Guide for Changes in Overhang Length

	Mild Steel • Carbon Steel • Cast Iron • Alloy Steel • Tool Steel (~750N/mm <sup>2</sup> ~30HRC)				Prehardened Steel • Hardened Steel • Stainless Steel 30~45HRC				Titanium Alloy • Ni-Based Alloy Ti-6Al-4V - Inconel 718			
Cutting Speed	Cutting Speed (m/min)	Feed (mm/min)	Depth of cut		Cutting Speed (m/min)	Feed (mm/min)	Depth of cut		Cutting Speed (m/min)	Feed (mm/min)	Depth of cut	
L/D			ap	ae			ap	ae			ap	ae
6	80%	80%	1,7D	0,08D	80%	80%	1,7D	0,08D	80%	80%	1,7D	0,08D
7	65%	65%	1,6D	0,05D	65%	65%	1,6D	0,05D	65%	65%	1,6D	0,05D
8	50%	50%	1,5D	0,03D	40%	40%	1,5D	0,03D	30%	30%	1,5D	0,03D