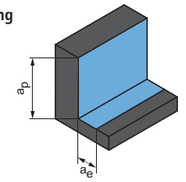
Cutting data recommendations for high-feed milling cutters

Feed and cutting speed

Roughing



Plunge angle
1.0 ° - 1.5 °

OptiMill-3D-HF | MHF101

MMG*			Workpiece material	Strength/hardness [N/mm²] [HRC]	Cooling			a_p [mm] in % of D	a_e [mm] in % of D	v_c [m/min]	f_z [mm] Diameter of milling cutter [mm]								
					MQL/Air	Dry	Coolant				2.00	3.00	4.00	5.00	6.00	8.00	10.00	12.00	16.00
P	P1	P1.1	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 700	✓	✓		3.8	60	**200 - 250**	0.100	0.150	0.200	0.225	0.287	0.400	0.550	0.625	0.625
		P1.2	Structural, free-cutting, case hardened and heat-treated steels, non-alloy	< 1200	✓	✓		3.8	60	**150 - 200**	0.100	0.150	0.200	0.225	0.287	0.400	0.550	0.625	0.625
	P2	P2.1	Nitrided, case hardened and heat-treated steels, alloy	< 900	✓	✓		3.8	60	**200 - 250**	0.100	0.150	0.200	0.225	0.287	0.400	0.550	0.625	0.625
		P2.2	Nitrided, case hardened and heat-treated steels, alloy	< 1400	✓	✓		3.8	65	**150 - 200**	0.100	0.150	0.200	0.225	0.287	0.400	0.550	0.625	0.625
	P3	P3.1	Tool, bearing, spring and high-speed steels**	< 800	✓	✓		3.8	60	**180 - 220**	0.100	0.150	0.200	0.225	0.287	0.325	0.325	0.475	0.475
		P3.2	Tool, bearing, spring and high-speed steels**	< 1000	✓	✓		3.8	65	**150 - 180**	0.100	0.150	0.200	0.225	0.287	0.325	0.325	0.475	0.475
		P3.3	Tool, bearing, spring and high-speed steels**	< 1500	✓	✓		3.8	65	**120 - 150**	0.100	0.150	0.200	0.225	0.287	0.325	0.325	0.475	0.475
	P4	P4.1	Stainless steels, ferritic and martensitic		✓		✓	3.8	60	**90 - 110**	0.100	0.150	0.200	0.225	0.287	0.325	0.325	0.475	0.475
	P5	P5.1	Cast steel		✓		✓	3.8	60	**90 - 110**	0.100	0.150	0.200	0.225	0.287	0.325	0.325	0.475	0.475
	P6	P6.1	Stainless cast steel, ferritic and martensitic		✓		✓	3.8	60	**70 - 90**	0.100	0.150	0.200	0.225	0.287	0.325	0.325	0.475	0.475
K	K1	K1.1	Cast iron with lamellar graphite (grey cast iron), GJL	< 300	✓	✓		3.8	70	**250 - 300**	0.100	0.150	0.200	0.225	0.287	0.400	0.550	0.625	0.625
	K2	K2.1	Cast iron with spheroidal graphite, GJS	< 500	✓	✓		3.8	70	**250 - 300**	0.100	0.150	0.200	0.225	0.287	0.400	0.550	0.625	0.625
		K2.2	Cast iron with spheroidal graphite, GJS	≤ 800	✓	✓		3.8	70	**150 - 200**	0.100	0.150	0.200	0.225	0.287	0.325	0.325	0.475	0.475
		K2.3	Cast iron with spheroidal graphite, GJS	> 800	✓	✓		3.8	70	**150 - 200**	0.100	0.150	0.200	0.225	0.287	0.325	0.325	0.475	0.475
	K3	K3.1	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	< 500	✓	✓		3.8	70	**150 - 200**	0.100	0.150	0.200	0.225	0.287	0.325	0.325	0.475	0.475
		K3.2	Cast iron with spheroidal graphite, GJV; malleable cast iron, GJM	> 500	✓	✓		3.8	70	**150 - 200**	0.100	0.150	0.200	0.225	0.287	0.325	0.325	0.475	0.475
H	H1	H1.1	Hardened steel / cast steel	< 44	✓	✓		3.5	70	**150 - 190**	0.100	0.150	0.200	0.225	0.287	0.400	0.550	0.625	0.625
		H1.2	Hardened steel / cast steel	< 55	✓	✓		3.2	65	**120 - 150**	0.100	0.150	0.200	0.225	0.287	0.325	0.325	0.475	0.475
	H2	H2.1	Hardened steel / cast steel	< 60	✓	✓		2.8	55	**100 - 120**	0.100	0.150	0.175	0.200	0.250	0.250	0.300	0.350	0.400

* MAPAL machining groups
** If the alloy parts Cr, Mo, Ni, V, W in total > 8%, then select the next highest MAPAL machining group.

The specified machining values are guide values.
The optimum data for the respective machining task should be determined during the test or machining.