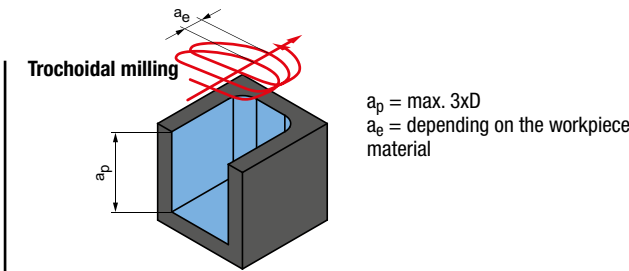


Cutting data recommendations for trochoidal milling cutters

Feed and cutting speed

OptiMill-Tro-H | M3079

MMG*		Workpiece material	Strength/ hardness [N/mm²] [HRC]	Cooling			v _c [m/min]	f _z [mm] in % of D	a _e [mm] in % of D	h _m max. [mm] in % of D	Machining example	
				MQL/Air	Dry	KSS						
H	H1	H1.1	Hardened steel/cast steel	< 44	✓	✓	100 - 160	0.48 - 0.67	6 - 10	0.38 - 0.50	90MnCrV8 ø = 12 mm v _c = 110 m/min f _z = 0.052 mm h _m = 0.04 mm	
		H1.2	Hardened steel/cast steel	< 55	✓	✓	80 - 140	0.45 - 0.65	4 - 8	0.28 - 0.36		
	H2	H2.1	Hardened steel/cast steel	< 60	✓	✓	60 - 120	0.4 - 0.52	3 - 6	0.27 - 0.34		
		H2.2	Hardened steel/cast steel	< 65	✓	✓	50 - 110	0.37 - 0.5	3 - 5	0.26 - 0.33		
		H2.3	Hardened steel/cast steel	< 68	✓	✓	50 - 100	0.3 - 0.48	2 - 5	0.25 - 0.32		
	H3	H3.1	Wear-resistant cast / chill casting, GJN		✓		60 - 120	0.35 - 0.55	3 - 6	0.28 - 0.34		



OptiMill-Tro-S | M3699

OptiMill-Tro-Titan | M3799

MMG*		Workpiece material	Strength/ hardness [N/mm²] [HRC]	Cooling			v _c [m/min]	f _z [mm] in % of D	a _e [mm] in % of D	h _m max. [mm] in % of D	Machining example	
				MQL/Air	Dry	KSS						
S	S1	S1.1	Titanium, titanium alloys	< 400		✓	110 - 170	0.65 - 1.3	6 - 12	0.52 - 0.6	TiAl6V4 ø = 12 mm v _c = 140 m/min f _z = 0.09 mm a _e = 1.2 mm a _p = 30 mm	
		S2.1	Titanium, titanium alloys	< 1,200		✓	90 - 150	0.6 - 1.2	5 - 10	0.46 - 0.56		
	S2	S2.2	Titanium, titanium alloys	> 1,200		✓	70 - 130	0.4 - 1.0	5 - 10	0.42 - 0.54		
		S3.1	Nickel, unalloyed and alloyed	< 900		✓	60 - 120	0.4 - 1.0	5 - 10	0.4 - 0.52		
	S3	S3.2	Nickel, unalloyed and alloyed	> 900		✓	50 - 100	0.3 - 0.9	5 - 10	0.4 - 0.52		
		S4.1	High-temperature super alloy, Ni-, Co-, and Fe-based			✓	35 - 90	0.3 - 0.8	4 - 8	0.38 - 0.46		
	S5	S5.1	Molybdenum and tungsten alloys			✓	35 - 90	0.3 - 0.8	4 - 8	0.38 - 0.46		

Note:
In the case of trochoidal milling, the specified cutting conditions change during the machining process. This also depends on the CAM software used and the machining position of the tool in the workpiece. The feed and cutting width or contact angle are constantly changing during machining in order to achieve, as far as is possible, the most constant average chip thickness depending on the contour.

* MILLER machining groups

pecified machining values are guide values.
Optimum data for the respective machining task should be determined during the test or machining.