Operation	Non-tilted cutter	Tilted cutter (10°)
Semi-finishing a_p – 2 mm (0.079 inch) The speed can be further increased by approx. 75% due to the shallow cut and short engagement time:	D_c = 10 mm (0.394 inch) D_{cap} = 8 mm (0.315 inch)	D_c = 10 mm (0.394 inch) D_{cap} = 8.9 mm (0.350 inch)
v_c – 300 m/min (984 ft/min)	v_c = 300 m/min (984 ft/min) n = 11,940 rpm	v_c = 300 m/min (984 ft/min) n = 10,700 rpm
Feed per tooth, f_z, is the same for the both non-tilted and the tilted cutter, but the effective no. of	h_{ex} = 0.08 mm (0.003 inch) f_z = 0.12 mm/tooth (0.005 in/z)	h_{ex} = 0.08 mm (0.003 inch)

edges, Z_c, differs near the center as described on the previous page.	$z_c = 2$ f_n = 0.24 mm/r (0.009 in/r) v_f = 2,860 mm/min (113 in/min)	f_z = 0.12 mm/tooth (0.005 in/z) $z_c = 4$ f_n = 0.48 mm/r (0.019 in/r) v_f =5,100 mm/min (201 in/min)
Super-finishing a_e – 0.1 mm The cutting speed can be increased by a factor of 3–5 due to the extremely short contact time:	A non-tilted cutter is not recommended for super-finishing	D_c = 10 mm (0.394 inch) D_{cap} = 4.4 mm (0.173 inch)

v_c – 5 * 170–850 m/min (557–2,789 ft/min)		v_c = 850 m/min (2,789 ft/min) n = 61,100 rpm
Note: In super-finishing, a two-tooth cutter z_n = 2, should be used to minimize the run-out. With this extremely small a_p, the f_z will be limited by the surface finish demands. Therefore, h_{ex} must be disregarded. A good rule of thumb in super-finishing is to use approx. the same f_z as the a_e.		h_{ex} = 0.02 mm (0.0008 inch) f_z = 0.12 mm/tooth (0.005 in/z) z_c = 2 f_n = 0.24 mm/r (0.009 in/r)
f_z – 0.12 mm/z (0.005 in/z)		v_f =14,600 mm/min (575 in/min)