VORTEX TOOLS

SOLID CARBIDE END MILLS

CUTTING DATA

Variable Helix • 4 Flute

4 FLUTE

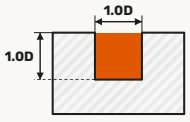
VARIABLE HELIX End Mill

SLOTTING & SIDE CUTTING

ISO **P** **M** **K** N **S** H

MATERIAL	ALLOY STEEL / CAST IRON				STAINLESS STEEL 300 SERIES				STAINLESS STEEL 400 SERIES				TITANIUM				INCONEL			
HARDNESS	~ HB230				HRc30 ~ HRc45				–				–				–			
STRENGTH	~ 1000 N/mm²				1000 ~ 1500 N/mm²				–				–				–			
Ø D MM	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	13475	275	125	0.005	10185	195	95	0.005	14260	205	135	0.004	10185	205	95	0.005	2715	55	25	0.005
4	10105	330	125	0.008	7600	250	95	0.008	14260	255	180	0.004	7600	255	95	0.008	2005	55	25	0.007
5	8085	370	125	0.011	6110	310	95	0.013	8655	310	135	0.009	6110	310	95	0.013	1630	80	25	0.012
6	6735	435	125	0.016	5095	360	95	0.018	7130	360	135	0.013	5095	360	95	0.018	1355	95	25	0.018
8	5050	555	125	0.027	3820	435	95	0.028	5345	465	135	0.022	3280	465	80	0.035	1015	125	25	0.031
10	4455	690	140	0.039	3055	590	95	0.048	4275	585	135	0.034	3055	585	95	0.048	815	155	25	0.048
12	3710	695	140	0.047	2545	565	95	0.056	3565	565	135	0.040	2545	565	95	0.056	675	150	25	0.056
14	3180	620	140	0.049	2180	520	95	0.060	3055	520	135	0.043	2180	520	95	0.060	580	140	25	0.060
16	2785	590	140	0.053	1910	480	95	0.063	2670	480	135	0.045	1910	480	95	0.063	505	130	25	0.064
18	2475	585	140	0.059	1695	475	95	0.070	2375	475	135	0.050	1695	475	95	0.070	450	125	25	0.069
20	2225	580	140	0.065	1525	470	95	0.077	2140	470	135	0.055	1525	470	95	0.077	405	125	25	0.077
25	1780	450	140	0.063	1215	380	95	0.078	1710	380	135	0.056	1215	380	95	0.078	320	110	25	0.086

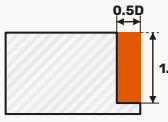
ALLOY STEEL • CAST IRON • STAINLESS 300 & 400 • TITANIUM



SLOTTING

a_p 1.0 × D

a_e 1.0 × D

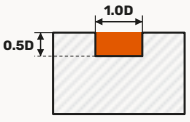


SIDE CUTTING

a_p 1.5 × D*

a_e 0.5 × D

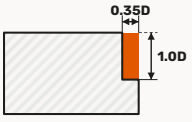
INCONEL



SLOTTING

a_p 0.5 × D

a_e 1.0 × D



SIDE CUTTING

a_p 1.0 × D

a_e 0.35 × D

* For short length series over 8mm dia. axial cutting depth should be **1.2 x D**

RPM	**Feed**	**Vc**	**Fz**	**a_p / a_e**
Revolutions per minute	mm per minute	Surface speed (metres per minute)	Feed per tooth	Axial / radial depth of cut, as a multiple of tool Ø D

T 01732 887334 E sales@protool-ltd.co.uk W protool-ltd.co.uk

Recommended starting values. Adjust to suit machine rigidity, workholding, tool overhang and coolant.