

# NEW LAUNCH

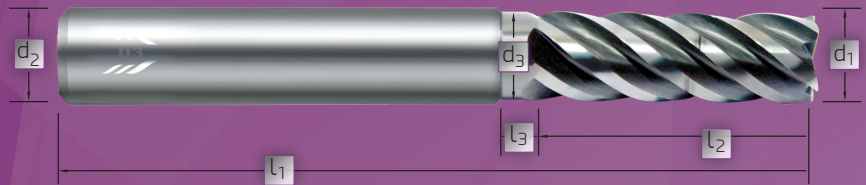
THE FUTURE IS NOW!



Introducing the Future of Machining - Premium 5 Flute Endmill with Chipbreaker for New Generation Milling.



Material Group



### Conventional Milling :

- Normally 1xd Axial Reach during Slotting
- High heat development on the Tool & Component
- Difficult chip evacuation
- High radial forces

### NTC Mill :

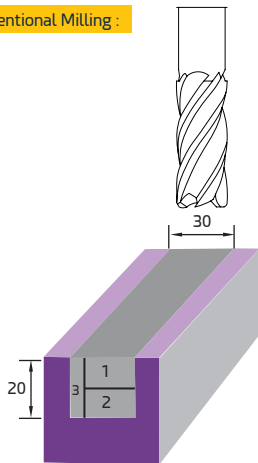
- Upto 5xd Milling with increased slot width
- Reduced tool contact
- Less heat development on the Tool & Component
- Highly reduced machining time
- Increased Tool Life

	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	l <sub>2</sub>	l <sub>1</sub>	l <sub>3</sub>	a <sub>p</sub>	z	HA Alcrona
	mm	mm	mm	mm	mm	mm	mm		Item Code
3xd	6.00	6	5.80	18	62	7.0	25	5	NTCA 0310P 0600
	8.00	8	7.80	24	68	6.0	30	5	NTCA 0310P 0800
	10.00	10	9.80	30	80	5.0	35	5	NTCA 0310P 1000
	12.00	12	11.80	36	93	9.0	45	5	NTCA 0310P 1200
	16.00	16	15.80	48	108	7.0	55	5	NTCA 0310P 1600
5xd	6.00	6	5.8	30	78	7.0	30	5	NTCA 0510P 0600
	8.00	8	7.8	40	90	6.0	40	5	NTCA 0510P 0800
	10.00	10	9.8	50	100	5.0	50	5	NTCA 0510P 1000
	12.00	12	11.8	60	120	9.0	60	5	NTCA 0510P 1200
	16.00	16	15.8	80	149	7.0	80	5	NTCA 0510P 1600

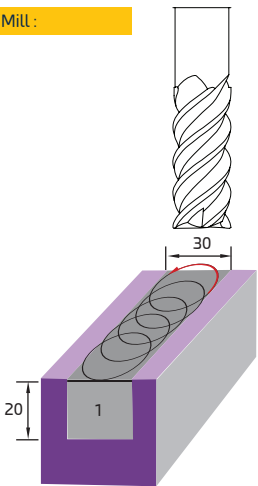
Application Parameters

Benefits:

Conventional Milling :



N-TC Mill :



Even a relatively small slot, such as one about 30 mm wide, traditionally might have required three or four passes. Trochoidal milling can save time by removing the material in one continuous pass.

Formula

$$h_m = f_z \times \sqrt{\frac{ae}{d_1}} \text{ [mm]}$$

- $h_m$  Average chip thickness [mm]
- $f_z$  Feed per tooth [mm]
- $a_e$  Width of cut [mm]
- $d_1$  Cutting diameter [mm]

3xd	Material Group	Strength	ap	ae		Ø6	Ø8	Ø10	Ø12	Ø16
P	<500N/mm2	3xd	0.24xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	380	380	380	380	380	
				$v_f$ (mm/min)	3025	3025	3025	3025	3025	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
P	<750N/mm2	3xd	0.24xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	340	340	340	340	340	
				$v_f$ (mm/min)	2707	2707	2707	2707	2707	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
P	<900N/mm2	3xd	0.24xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	300	300	300	300	300	
				$v_f$ (mm/min)	2389	2389	2389	2389	2389	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
P	<1100N/mm2	3xd	0.2xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	230	230	230	230	230	
				$v_f$ (mm/min)	1831	1831	1831	1831	1831	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
P	<1400N/mm2	3xd	0.2xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	150	150	150	150	150	
				$v_f$ (mm/min)	1194	1194	1194	1194	1194	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
H	33 HRC	3xd	0.16xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	60	60	60	60	60	
				$v_f$ (mm/min)	478	478	478	478	478	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
H	45 HRC	3xd	0.16xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	40	40	40	40	40	
				$v_f$ (mm/min)	318	318	318	318	318	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
H	<1600N/mm2	3xd	0.16xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	25	25	25	25	25	
				$v_f$ (mm/min)	199	199	199	199	199	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
M	<900N/mm2	3xd	0.2xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	220	220	220	220	220	
				$v_f$ (mm/min)	1752	1752	1752	1752	1752	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
M	>900N/mm2	3xd	0.2xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	150	150	150	150	150	
				$v_f$ (mm/min)	1194	1194	1194	1194	1194	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
5xd	Material Group	Strength	ap	ae		Ø6	Ø8	Ø10	Ø12	Ø16
P	<500N/mm2	5xd	0.20xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	266	266	266	266	266	
				$v_f$ (mm/min)	2118	2118	2118	2118	2118	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
P	<750N/mm2	5xd	0.20xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	238	238	238	238	238	
				$v_f$ (mm/min)	1895	1895	1895	1895	1895	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
P	<900N/mm2	5xd	0.20xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	210	210	210	210	210	
				$v_f$ (mm/min)	1672	1672	1672	1672	1672	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
P	<1100N/mm2	5xd	0.17xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	161	161	161	161	161	
				$v_f$ (mm/min)	1282	1282	1282	1282	1282	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
P	<1400N/mm2	5xd	0.17xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	105	105	105	105	105	
				$v_f$ (mm/min)	836	836	836	836	836	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
H	33 HRC	5xd	0.13xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	42	42	42	42	42	
				$v_f$ (mm/min)	334	334	334	334	334	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
H	45 HRC	5xd	0.13xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	28	28	28	28	28	
				$v_f$ (mm/min)	223	223	223	223	223	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
H	<1600N/mm2	5xd	0.13xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	18	18	18	18	18	
				$v_f$ (mm/min)	139	139	139	139	139	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
M	<900N/mm2	5xd	0.17xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	154	154	154	154	154	
				$v_f$ (mm/min)	1226	1226	1226	1226	1226	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	
M	>900N/mm2	3xd	0.17xd	$f_z$ (mm)	0.030	0.040	0.050	0.060	0.080	
				$v_c$ (m/min)	105	105	105	105	105	
				$v_f$ (mm/min)	836	836	836	836	836	
				$h_m$ (mm)	0.045	0.060	0.075	0.090	0.120	