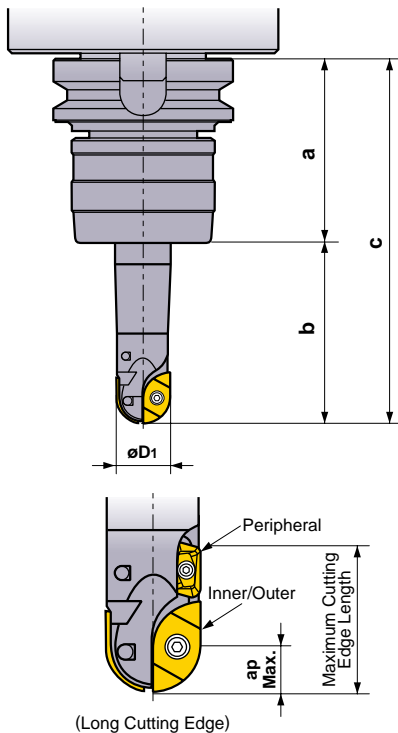


RECOMMENDED CUTTING CONDITIONS



Tool Overhang

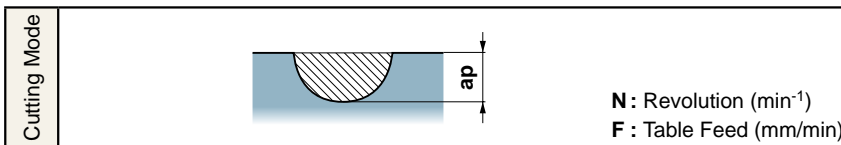
The recommended cutting conditions are chosen based on deflection, vibration and surface finish when using a BT50 arbor under the conditions below - "a", a length from a gauge line to the arbor end face and "b", neck length (tool overhang from the arbor).

Cutting Edge Diameter: ϕD_1	Type	a	b	c
16	Standard	105	50	155
	Long Neck		70	175
	Extra Long		—	—
20	Standard		70	175
	Long Neck		100	205
	Extra Long		150	255
25	Standard	80	185	
	Long Neck	120	225	
	Extra Long	200	305	
30	Standard	100	205	
	Long Neck	150	255	
	Extra Long	250	355	

Recommended Depth of Cut for Long Cutting Edge Type

The maximum cutting edge length of the long cutting edge type with a peripheral insert is 1.4-1.5D₁. The peripheral insert's main purpose is to remove the small un-machined portions of the pre-machined surface above the main cutting edge. Recommended depth of cut: **Maximum ap** is 0.5D₁ or below.

SLOT MILLING



Work Material	Hardness	Cutting Speed (m/min)	Insert Grade, Type	Holder Type	$\phi 16$			$\phi 20$			$\phi 25$			$\phi 30$		
					N	F	ap	N	F	ap	N	F	ap	N	F	ap
P Carbon Steel Alloy Steel	180-280HB	160 (120-200)	VP15TF Low Resistance Type	Standard	3183	382	6	2546	306	8	2037	489	12.5	1698	407	15
				Long Neck	3183	382	4	2546	306	4	2037	489	6	1698	407	7.5
				Extra Long	—	—	—	2546	306	2	2037	489	4	1698	407	3
	280-350HB	140 (120-160)	VP15TF Low Resistance Type	Standard	2785	334	6	2228	267	8	1783	428	12.5	1485	357	15
				Long Neck	2785	334	4	2228	267	4	1783	428	6	1485	357	7.5
				Extra Long	—	—	—	2228	267	2	1783	428	4	1485	357	3
Pre-Hardened Steel	35-45HRC	120 (100-160)	VP15TF Low Resistance Type	Standard	2387	286	6	1910	229	8	1528	367	12.5	1273	306	15
				Long Neck	2387	286	4	1910	229	4	1528	367	6	1273	306	7.5
				Extra Long	—	—	—	1910	229	2	1528	367	4	1273	306	3
Alloy Tool Steel	≤ 350 HB	140 (120-160)	VP15TF Low Resistance Type	Standard	2785	334	6	2228	267	8	1783	535	10	1485	594	12
				Long Neck	2785	334	4	2228	267	4	1783	535	5	1485	594	4.5
				Extra Long	—	—	—	2228	267	2	1783	535	2.5	1485	594	1.5
M Stainless Steel	≤ 270 HB	200 (100-250)	VP15TF Low Resistance Type	Standard	3979	477	4	3183	382	5	2546	764	6	2122	849	7.5
				Long Neck	3979	477	3	3183	382	3	2546	611	4	2122	637	4.5
				Extra Long	—	—	—	3183	382	1.5	2546	509	1.5	2122	509	1.5
K Cast Iron	≤ 350 MPa	200 (150-300)	VP15TF Low Resistance Type	Standard	3979	796	6	3183	637	8	2546	1019	12.5	2122	849	15
				Long Neck	3979	796	4	3183	637	4	2546	1019	7.5	2122	849	4.5
				Extra Long	—	—	—	3183	637	2	2546	1019	4	2122	849	3
	≤ 500 MPa	180 (150-240)	VP15TF Low Resistance Type	Standard	3581	716	6	2865	573	8	2292	917	12.5	1910	764	15
				Long Neck	3581	716	4	2865	573	4	2292	917	7.5	1910	764	4.5
				Extra Long	—	—	—	2865	573	2	2292	917	4	1910	764	1.5
≤ 800 MPa	160 (150-250)	VP15TF Low Resistance Type	Standard	3183	637	6	2546	509	8	2037	815	12.5	1698	679	15	
			Long Neck	3183	637	4	2546	509	4	2037	815	7.5	1698	679	4.5	
			Extra Long	—	—	—	2546	509	2	2037	815	4	1698	679	1.5	
H Hardened Steel	45-50HRC	100 (60-120)	VP15TF Strong Cutting Edge Type	Standard	1989	239	4	1591	191	4	1273	255	6	1061	212	7.5
				Long Neck	1989	239	2	1591	191	2	1273	255	4	1061	212	3
				Extra Long	—	—	—	1591	191	1	1273	255	2.5	1061	212	1.5
	50-60HRC	60 (40-100)	VP15TF Strong Cutting Edge Type	Standard	1194	143	4	955	115	4	764	153	6	637	127	7.5
				Long Neck	1194	143	2	955	115	2	764	153	4	637	127	3
				Extra Long	—	—	—	955	115	1	764	153	2.5	637	127	1.5

