

MiniWave

New Roughing Carbide End Mills for Machining Titanium and Stainless Steels

- *Optimized wave geometry with variable rake*
- *Vibration free smooth cutting action*
- *4 and 5 flute with a corner radius upon request*
- *Higher material removal rates*
- *The best choice for side milling applications*
- *Supreme TiALN coating*

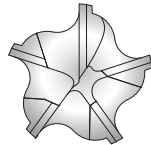
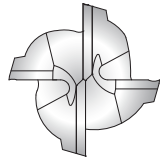


Roughing in Titanium and Stainless Steels

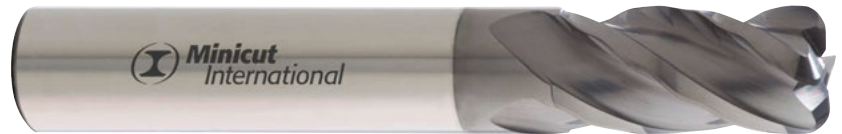
INCH SERIES

• *Designed for exceptional performance in titanium and stainless steels*

• *Performances exceptionnelles dans le titan, et les aciers inoxydables.*

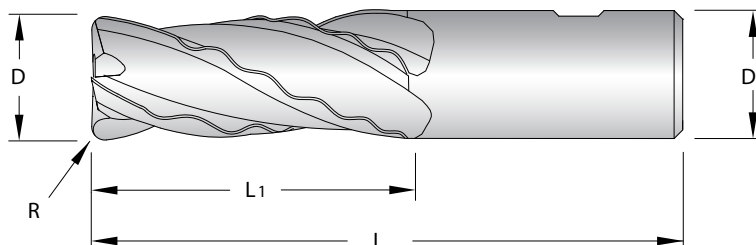


LIST 5100



EDP NUMBER		CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	NUMBER OF FLUTES	CORNER RADIUS
Plain Shank	Weldon Shank	D	D1	L1	L	n	R
5100-1610NF	5100-1610	1/2	1/2	1	3	4	0.030
5100-1615NF	5100-1615	1/2	1/2	1-1/2	4	4	0.030
5100-2012NF	5100-2012	5/8	5/8	1-1/4	3-1/2	4	0.030
5100-2016NF	5100-2016	5/8	5/8	1-5/8	4	4	0.030
5100-2415NF	5100-2415	3/4	3/4	1-1/2	4	4	0.030
5100-2422NF	5100-2422	3/4	3/4	2-1/4	5	4	0.030
5100-2430NF	5100-2430	3/4	3/4	3	6	4	0.030
5100-3215NF	5100-3215	1	1	1-1/2	4	5	0.030
5100-3222NF	5100-3222	1	1	2-1/4	5	5	0.030
5100-3230NF	5100-3230	1	1	3	6	5	0.030

Note: Other radius and dimensions available upon request.
Extended reach available upon request.

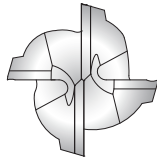


Roughing in Titanium and Stainless Steels

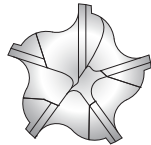
METRIC SERIES

• *Designed for exceptional performance in titanium and stainless steels*

• *Performances exceptionnelles dans le titan, et les aciers inoxydables.*

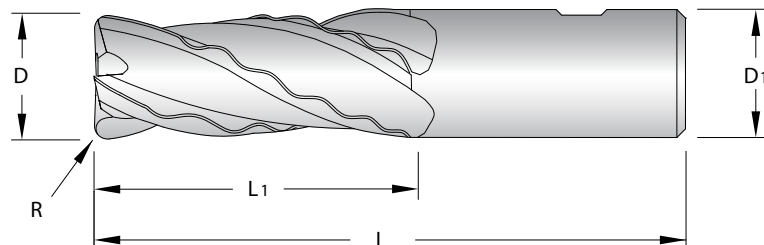


LIST 5100M



EDP NUMBER		CUTTING DIA.	SHANK DIA.	LENGTH OF CUT	OVERALL LENGTH	NUMBER OF FLUTES	CORNER RADIUS
Plain Shank	Weldon Shank	D	D1	L1	L	n	R
5100M-1226NF	5100M-1226	12	12	26	83	4	0.8
5100M-1232NF	5100M-1232	12	12	32	92	4	0.8
5100M-1632NF	5100M-1632	16	16	32	92	4	0.8
5100M-1642NF	5100M-1642	16	16	42	104	4	0.8
5100M-2038NF	5100M-2038	20	20	38	104	4	0.8
5100M-2057NF	5100M-2057	20	20	57	125	4	0.8
5100M-2075NF	5100M-2075	20	20	75	145	4	0.8
5100M-2538NF	5100M-2538	25	25	38	104	5	0.8
5100M-2557NF	5100M-2557	25	25	57	125	5	0.8
5100M-2575NF	5100M-2575	25	25	75	145	5	0.8

Note: Other radius and dimensions available upon request.
Extended reach available upon request.



TECHNICAL DATA

Recommended Feeds and Speeds

Vitesses et coupes recommandées

INCH SERIES 5100 Series - Profiling



Material	STAINLESS STEEL				Ti-6AL4V				Ti-10-2-3				Ti-5553			
Speed	280 SFM				240 SFM				180 SFM				120 SFM			
Diameter	RPM	Feed	Fz	MRR	RPM	Feed	Fz	MRR	RPM	Feed	Fz	MRR	RPM	Feed	Fz	MRR
1/2	2139	29.9	0.0035	2.8	1834	25.7	0.0035	2.4	1375	19.3	0.0035	1.8	917	10.3	0.0028	1.0
5/8	1711	27.4	0.0040	4.0	1467	23.5	0.0040	3.4	1100	17.6	0.0040	2.6	733	9.4	0.0032	1.4
3/4	1426	25.7	0.0045	5.4	1222	22.0	0.0045	4.6	917	16.5	0.0045	3.5	611	8.8	0.0036	1.9
1	1070	26.7	0.0050	10.0	917	22.9	0.0050	8.6	688	17.2	0.0050	6.4	458	9.2	0.0040	3.4

5100 Series - Slotting



Material	STAINLESS STEEL				Ti-6AL4V				Ti-10-2-3				Ti-5553			
Speed	230 SFM				190 SFM				140 SFM				90 SFM			
Diameter	RPM	Feed	Fz	MRR	RPM	Feed	Fz	MRR	RPM	Feed	Fz	MRR	RPM	Feed	Fz	MRR
1/2	1757	17.6	0.0025	2.6	1452	14.5	0.0025	2.2	1070	10.7	0.0025	1.6	688	5.5	0.0020	0.8
5/8	1406	15.7	0.0028	3.7	1161	13.0	0.0028	3.0	856	9.6	0.0028	2.2	550	4.9	0.0022	1.2
3/4	1171	15.0	0.0032	5.1	968	12.4	0.0032	4.2	713	9.1	0.0032	3.1	458	4.7	0.0026	1.6
1	879	15.4	0.0035	9.2	726	12.7	0.0035	7.6	535	9.4	0.0035	5.6	344	4.8	0.0028	2.9

RPM = Rev./Min
 Feed = Inch/Min
 Fz = Chip load per tooth, in
 MRR = Material removal rate, in³/min

METRIC SERIES 5100M Series - Profiling



Material	STAINLESS STEEL				Ti-6AL4V				Ti-10-2-3				Ti-5553			
Speed	85 m/min				73 m/min				55 m/min				37 m/min			
Diameter	RPM	Feed	Fz	MRR	RPM	Feed	Fz	MRR	RPM	Feed	Fz	MRR	RPM	Feed	Fz	MRR
12	2254	802.7	0.089	43	1936	689	0.089	37	1459	519	0.089	28	981	280	0.071	15
16	1691	690.0	0.102	66	1452	593	0.102	57	1094	446	0.102	43	736	240	0.082	23
20	1352	616.9	0.114	93	1162	530	0.114	79	875	399	0.114	60	589	215	0.091	32
25	1082	687.3	0.127	161	929	590	0.127	138	700	445	0.127	104	471	239	0.102	56

5100M Series - Slotting



Material	STAINLESS STEEL				Ti-6AL4V				Ti-10-2-3				Ti-5553			
Speed	65 m/min				55 m/min				42 m/min				28 m/min			
Diameter	RPM	Feed	Fz	MRR	RPM	Feed	Fz	MRR	RPM	Feed	Fz	MRR	RPM	Feed	Fz	MRR
12	1724	441	0.064	38	1459	373	0.064	32	1114	285	0.064	25	743	152	0.051	13
16	1293	367	0.071	56	1094	311	0.071	48	836	237	0.071	36	557	127	0.057	19
20	1035	335	0.081	80	875	284	0.081	68	668	217	0.081	52	446	116	0.065	28
25	828	368	0.089	138	700	312	0.089	117	535	238	0.089	89	357	127	0.071	47

RPM = Rev./Min
 Feed = mm/Min
 Fz = Chip load per tooth, mm
 MRR = Material removal rate, cm³/min



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