



VARIABLE FACE PROFILE

HIGH SPEED COBALT END MILLS



Niagara Cutter

VARIABLE FACE PROFILE: HSCO, MULTI FLUTE

NIAGARA CUTTER

VFP435 / VFP635

- Optimal Chip Formation & Evacuation
- Polished Rake Face
- Weldon Flat Standard
- Up to .156" corner radius through modification

Ideal for Stainless Steel and Titanium



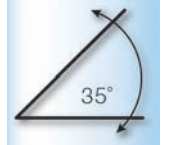
Price Code B

Flute Dia	Shank Dia	Length of Cut	Overall Length	No. of Flutes	Chamfer	List Name	Unc EDP
3/4	3/4	1-5/8	3-7/8	4	0.030	VFP435	68948
3/4	3/4	2-1/4	4-1/2	4	0.030	VFP435	68949
3/4	3/4	3	5-1/4	4	0.030	VFP435	68950
1	1	2	4-1/2	4	0.030	VFP435	68952
1	1	2	4-1/2	6	0.030	VFP635	68953
1	1	3	5-1/2	4	0.030	VFP435	68954
1	1	3	5-1/2	6	0.030	VFP635	68955
1	1	4	6-1/2	4	0.030	VFP435	68956
1	1	4	6-1/2	6	0.030	VFP635	68957
1-1/4	1-1/4	2	4-1/2	4	0.040	VFP435	68958
1-1/4	1-1/4	2	4-1/2	6	0.040	VFP635	68959
1-1/4	1-1/4	3	5-1/2	4	0.040	VFP435	68960
1-1/4	1-1/4	3	5-1/2	6	0.040	VFP635	68961
1-1/4	1-1/4	4	6-1/2	4	0.040	VFP435	68962
1-1/4	1-1/4	4	6-1/2	6	0.040	VFP635	68963
1-1/2	1-1/4	2	4-1/2	6	0.040	VFP635	68965
1-1/2	1-1/4	3	5-1/2	6	0.040	VFP635	68966
1-1/2	1-1/4	4	6-1/2	6	0.040	VFP635	68967
1-1/2	1-1/4	6	8-1/2	6	0.040	VFP635	68968
2	2	2	5-3/4	6	0.040	VFP635	68969
2	2	3	6-3/4	6	0.040	VFP635	68970
2	2	4	7-3/4	6	0.040	VFP635	68971
2	2	6	9-3/4	6	0.040	VFP635	68972

**M42
8%
COBALT**

Uncoated

**4 Flutes
6 Flutes**



**Center
Cutting**

VFP435 / VFP635 - Recommended Starting Point Speed & Feeds (Slotting)																	
Material	SFPM	3/4" Diameter 4 Flute			1" Diameter 6 Flute			1-1/4" Diameter 6 Flute			1-1/2" Diameter 6 Flute			2" Diameter 6 Flute		Axial Depth Max	
		RPM	CPT	IPM	RPM	CPT	IPM	RPM	CPT	IPM	RPM	CPT	IPM	RPM	CPT		IPM
Titanium 6Al4V																	
< 350 Bhn (38 Rc)	60	306	0.0032	3.9	229	0.0036	5.0	183	0.0042	4.6	153	0.0052	4.8	115	0.0058	4.0	1 x Dia
> 350 Bhn (38 Rc)	40	204	0.0025	2.0	153	0.0026	2.4	122	0.0033	2.4	102	0.0040	2.4	76	0.0044	2.0	0.75 x Dia
Stainless Steel																	
< 350 Bhn (38 Rc)	100	509	0.0032	6.5	382	0.0036	8.3	306	0.0045	8.3	255	0.0052	7.9	191	0.0058	6.6	1 x Dia
> 350 Bhn (38 Rc)	60	509	0.0027	5.5	229	0.0030	4.1	183	0.0035	3.9	153	0.0045	4.1	115	0.0050	3.4	0.75 x Dia

Speeds and Feeds are based upon: ADOC = 1 x Diameter

VFP435 / VFP635 - Recommended Starting Point Speed & Feeds (Profiling)																		
Material	SFPM	3/4" Diameter 4 Flute			1" Diameter 6 Flute			1-1/4" Diameter 6 Flute			1-1/2" Diameter 6 Flute			2" Diameter 6 Flute		Axial Depth Max	Radial Depth Max	
		RPM	CPT	IPM	RPM	CPT	IPM	RPM	CPT	IPM	RPM	CPT	IPM	RPM	CPT			IPM
Titanium 6Al4V																		
< 350 Bhn (38 Rc)	60	306	0.0038	4.7	229	0.0043	5.9	183	0.0050	5.5	153	0.0062	5.7	115	0.0070	4.8	1.5 x Dia	0.4 x Dia
> 350 Bhn (38 Rc)	40	204	0.0030	2.4	153	0.0032	2.9	122	0.0040	2.9	102	0.0048	2.9	76	0.0053	2.4	1 x Dia	0.25 x Dia
Stainless Steel																		
< 350 Bhn (38 Rc)	100	509	0.0038	7.8	382	0.0043	9.9	306	0.0054	9.9	255	0.0062	9.5	191	0.0070	8.0	1.5 x Dia	0.5 x Dia
> 350 Bhn (38 Rc)	60	306	0.0032	4.0	229	0.0036	5.0	183	0.0042	4.6	153	0.0054	5.0	115	0.0060	4.1	1 x Dia	0.25 x Dia

Speeds and Feeds are based upon: ADOC = 1.5 x Diameter, RDOC = 0.25 x Diameter

VARIABLE FACE PROFILE: HSCO, MULTI FLUTE

NIAGARA CUTTER

NEW VFP435SB / VFP635SB

- Optimal Chip Formation & Evacuation
- Polished Rake Face
- Weldon Flat Standard
- Up to .250" corner radius through modification

Ideal for Stainless Steel and Titanium



Price Code B

Flute Dia	Shank Dia	Length of Cut	Overall Length	Chamfer	No. of Flutes	List Name	Unc EDP
1-1/4	1-1/4	2	4-1/2	0.030	4	VFP435SB	69387
1-1/4	1-1/4	2	4-1/2	0.030	6	VFP635SB	69388
1-1/4	1-1/4	3	5-1/2	0.030	4	VFP435SB	69389
1-1/4	1-1/4	3	5-1/2	0.030	6	VFP635SB	69390
1-1/4	1-1/4	4	6-1/2	0.030	4	VFP435SB	69391
1-1/4	1-1/4	4	6-1/2	0.030	6	VFP635SB	69392
1-1/4	1-1/4	6	8-1/2	0.030	6	VFP635SB	69393
2	2	2	5-3/4	0.040	6	VFP635SB	69394
2	2	3	6-3/4	0.040	6	VFP635SB	69395
2	2	4	7-3/4	0.040	6	VFP635SB	69396
2	2	6	9-3/4	0.040	6	VFP635SB	69397
2	2	8	11-3/4	0.040	6	VFP635SB	69398

**M42
8%
COBALT**

Uncoated

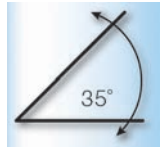
**4 Flutes
6 Flutes**

VFP2435 / VFP2635

For Less Rigid Setups

- Optimal Chip Formation & Evacuation
- Polished Rake Face
- Weldon Flat Standard

Ideal for Stainless Steel and Titanium



**Center
Cutting**

Price Code B

Flute Dia	Shank Dia	Length of Cut	Overall Length	Chamfer	No. of Flutes	List Name	Unc EDP
3/4	3/4	1-5/8	3-7/8	0.030	4	VFP2435	68974
3/4	3/4	2-1/4	4-1/2	0.030	4	VFP2435	68975
3/4	3/4	3	5-1/4	0.030	4	VFP2435	68976
1	1	2	4-1/2	0.030	4	VFP2435	68978
1	1	2	4-1/2	0.030	6	VFP2635	68979
1	1	3	5-1/2	0.030	4	VFP2435	68980
1	1	3	5-1/2	0.030	6	VFP2635	68981
1	1	4	6-1/2	0.030	6	VFP2635	68983
1-1/4	1-1/4	2	4-1/2	0.040	6	VFP2635	68985
1-1/4	1-1/4	3	5-1/2	0.040	6	VFP2635	68987
1-1/4	1-1/4	4	6-1/2	0.040	6	VFP2635	68989
2	2	3	6-3/4	0.040	6	VFP2635	68996

P-1310-5000 GT13-110
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