

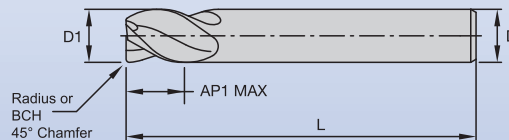
Special Pricing Expires 12-30-11

HANITA VariMill™

The Tool of Choice for All Ferrous Applications

VariMill carbide end mills are the proven leader in the field of high-performance, chatter-free machining and the most universal and consistent performer for use in a wide range of workpiece materials and types of operations. Utilizing an innovative and patented design with unequal flute spacing, VariMill carbide end mills provide users with the most versatile technology available, capable of outperforming most other high-performance tools.

- Stainless Steels
- High-Temperature Alloys
- Steels and Alloyed Steels
- Low Carbon Steels <35 HRC
- Cast Iron
- Titanium



VariMill™ High Performance Solid Carbide End Mills

TF4V... Cylindrical Shank	D ¹	D	length of cut Ap ¹ Max	length L	Radius	BCH	SPECIAL
TF4V0503001	1/8	1/8	1/2	2	--	.010	\$15 ⁻²¹
TF4V0503001A	1/8	1/8	1/2	2	.015	--	\$16 ⁻⁷³
TF4V0503001S	1/8	1/8	1/2	2	--	--	\$15 ⁻²¹
TF4V4505000	3/16	3/16	5/16	1-1/2	--	.010	\$16 ⁻²²
TF4V0505000	3/16	3/16	5/8	2-1/4	--	.010	\$17 ⁻²⁴
TF4V0505000A	3/16	3/16	5/8	2-1/4	.015	--	\$18 ⁻⁷⁶
TF4V0505000S	3/16	3/16	5/8	2-1/4	--	--	\$17 ⁻²⁴
TF4V4507002	1/4	1/4	3/8	2	--	.016	\$18 ⁻⁷⁶
TF4V0507002	1/4	1/4	3/4	2-1/2	--	.016	\$21 ⁻⁸²
TF4V0507002A	1/4	1/4	3/4	2-1/2	.015	--	\$23 ⁻⁸³
TF4V0507002S	1/4	1/4	3/4	2-1/2	--	--	\$21 ⁻⁸⁰
TF4V4508003	5/16	5/16	1/2	2	--	.016	\$26 ⁻⁸⁸
TF4V0508003	5/16	5/16	3/4	2-1/2	--	.016	\$28 ⁻⁹⁰
TF4V0508003A	5/16	5/16	3/4	2-1/2	.015	--	\$31 ⁻⁹⁴
TF4V0508003B	5/16	5/16	3/4	2-1/2	.030	--	\$31 ⁻⁴³
TF4V0508003S	5/16	5/16	3/4	2-1/2	--	--	\$28 ⁻⁹⁰
TF4V4510004	3/8	3/8	1/2	2	--	.020	\$32 ⁻⁴⁵
TF4V0510004	3/8	3/8	7/8	2-1/2	--	.020	\$34 ⁻⁴⁷
TF4V0510004A	3/8	3/8	7/8	2-1/2	.015	--	\$38 ⁻⁰³
TF4V0510004B	3/8	3/8	7/8	2-1/2	.030	--	\$38 ⁻⁰³
TF4V0510004S	3/8	3/8	7/8	2-1/2	--	--	\$34 ⁻⁴⁷
TF4V1510004B	3/8	3/8	1-1/2	4	.030	--	\$47 ⁻⁶⁶
TF4V1510004S	3/8	3/8	1-1/2	4	--	--	\$43 ⁻¹⁰
TF4V451101A	7/16	7/16	5/8	2-1/2	--	.020	\$42 ⁻⁰⁸
TF4V051101A	7/16	7/16	7/8	2-1/2	--	.020	\$44 ⁻⁶²
TF4V051101AS	7/16	1/16	7/8	2-1/2	.020	--	\$44 ⁻⁶²

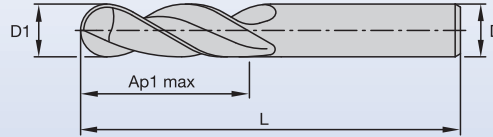
VariMill™ High Performance Solid Carbide End Mills

TF4V... Weldon Flat	D ¹	D	length of cut Ap ¹ Max	length L	Radius	BCH	SPECIAL
TF4V4513005	1/2	1/2	5/8	2-1/2	--	.020	\$50 ⁻⁷⁰
TF4V0513005	1/2	1/2	1	3	--	.020	\$54 ⁻⁷⁵
TF4V0513005S	1/2	1/2	1	3	--	--	\$54 ⁻⁷⁵
TF4V0513015	1/2	1/2	1-1/4	3	--	.020	\$54 ⁻⁷⁵
TF4V0513015B	1/2	1/2	1-1/4	3	.030	--	\$59 ⁻⁸³
TF4V0513015S	1/2	1/2	1-1/4	3	--	--	\$54 ⁻⁷⁵
TF4V1513005B	1/2	1/2	2	4	.030	--	\$71 ⁻⁹⁹
TF4V1513005S	1/2	1/2	2	4	--	--	\$65 ⁻⁴¹
TF4V4516006	5/8	5/8	3/4	3	--	.020	\$97 ⁻⁸⁵
TF4V0516006	5/8	5/8	1-1/4	3-1/2	--	.020	\$103 ⁻⁹³
TF4V0516006B	5/8	5/8	1-1/4	3-1/2	.030	--	\$115 ⁻⁰⁹
TF4V0516006S	5/8	5/8	1-1/4	3-1/2	--	--	\$103 ⁻⁹³
TF4V4519007	3/4	3/4	7/8	3-1/2	--	.020	\$138 ⁻⁷⁶
TF4V4519007S	3/4	3/4	7/8	3-1/2	--	--	\$138 ⁻⁷⁶
TF4V0519007	3/4	3/4	1-1/2	4	--	.020	\$147 ⁻⁴⁹
TF4V0519007B	3/4	3/4	1-1/2	4	.030	--	\$162 ⁻⁵³
TF4V0519007S	3/4	3/4	1-1/2	4	--	--	\$147 ⁻⁴⁹
TF4V1519007	3/4	3/4	2-1/4	5	--	.020	\$169 ⁻⁸⁰
TF4V1519007B	3/4	3/4	2-1/4	5	.030	--	\$173 ⁻⁶⁸
TF4V1519007S	3/4	3/4	2-1/4	5	--	--	\$169 ⁻⁸⁰
TF4V0525008	1	1	1-1/2	4	--	.020	\$203 ⁻³¹
TF4V0525008B	1	1	1-1/2	4	.030	--	\$238 ⁻¹⁸
TF4V0525008S	1	1	1-1/2	4	--	--	\$203 ⁻³¹
TF4V0532009	1-1/4	1-1/4	2-1/4	5	--	.020	\$330 ⁻⁸⁸
TF4V0532009B	1-1/4	1-1/4	2-1/4	5	.030	--	\$353 ⁻⁶⁸
TF4V0532009S	1-1/4	1-1/4	2-1/4	5	--	--	\$330 ⁻⁸⁸

HANITA VariMill™ The Tool of Choice for All Ferrous Applications



- Unequal flute spacing
- Centre cutting



VariMill™ High Performance Solid Carbide Ball Nose End Mills

TF4V00... Cylindrical Shank	D1	D	length of cut Ap1 Max	length L	SPECIAL
TF4V0003001	1/8	1/8	1/2	2	\$17.24
TF4V0005000	3/16	3/16	5/8	2-1/4	\$19.26
TF4V0007002	1/4	1/4	3/4	2-1/2	\$26.88
TF4V0008003	5/16	5/16	3/4	2-1/2	\$32.45
TF4V0010004	3/8	3/8	7/8	2-1/2	\$40.05
TF4V001101A	7/16	7/16	7/8	2-1/2	\$51.71

VariMill™ High Performance Solid Carbide Ball Nose End Mills

TF4V00... Weldon Flat	D1	D	length of cut Ap1 Max	length L	SPECIAL
TF4V0013005	1/2	1/2	1	3	\$63.88
TF4V0013015	1/2	1/2	1-1/4	3	\$63.88
TF4V0016006	5/8	5/8	1-1/4	3-1/2	\$121.18
TF4V0019007	3/4	3/4	1-1/2	4	\$169.80
TF4V0025008	1	1	1-1/2	4	\$231.58
TF4V0032009	1-1/4	1-1/4	2-1/4	5	\$375.51

Recommended Cutting Parameters

Group					TiAlN Cutting Speed Vc	Recommended Feed per Tooth (Fz = inch/th) for Side Milling (A) For Slotting (B), reduce Fz by 20%									
	A		B			D1 - Diameter									
	ap	ae	ap	SFM		Frac.	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
P1	1.25 x D	0.5 x D	1 x D	490 - 660	Fz	.0009	.0014	.0018	.0023	.0027	.0031	.0035	.0039	.0043	.0050
P2	1.25 x D	0.5 x D	1 x D	460 - 620	Fz	.0009	.0014	.0018	.0023	.0027	.0031	.0035	.0039	.0043	.0050
P3	1.25 x D	0.5 x D	1 x D	390 - 520	Fz	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0038	.0046
P4	1.25 x D	0.5 x D	0.75 x D	300 - 490	Fz	.0007	.0010	.0014	.0018	.0020	.0023	.0026	.0030	.0033	.0039
P5	1.25 x D	0.5 x D	1 x D	200 - 330	Fz	.0006	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0030	.0036
P6	1.25 x D	0.5 x D	0.75 x D	160 - 250	Fz	.0005	.0008	.0010	.0013	.0015	.0017	.0019	.0022	.0024	.0028
M1	1.25 x D	0.5 x D	1 x D	260 - 330	Fz	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0038	.0046
M2	1.25 x D	0.5 x D	1 x D	200 - 260	Fz	.0006	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0030	.0036
M3	1.25 x D	0.5 x D	1 x D	200 - 260	Fz	.0005	.0008	.0010	.0013	.0015	.0017	.0019	.0022	.0024	.0028
K1	1.25 x D	0.5 x D	1 x D	390 - 520	Fz	.0009	.0014	.0018	.0023	.0027	.0031	.0035	.0039	.0043	.0050
K2	1.25 x D	0.5 x D	1 x D	360 - 460	Fz	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0038	.0046
K3	1.25 x D	0.5 x D	1 x D	330 - 430	Fz	.0006	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0030	.0036
S1	1.0 x D	0.3 x D	0.3 x D	160 - 300	Fz	.0007	.0011	.0015	.0020	.0023	.0026	.0029	.0034	.0038	.0046
S2	1.0 x D	0.3 x D	0.3 x D	70 - 130	Fz	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0018	.0020	.0025
S3	1.25 x D	0.5 x D	1 x D	160 - 260	Fz	.0006	.0009	.0012	.0016	.0018	.0021	.0023	.0027	.0030	.0036
S4	1.25 x D	0.5 x D	1 x D	150 - 210	Fz	.0005	.0008	.0011	.0014	.0017	.0019	.0022	.0025	.0028	.0033
H1	1.25 x D	0.5 x D	0.75 x D	260 - 460	Fz	.0007	.0010	.0014	.0018	.0020	.0023	.0026	.0030	.0033	.0039



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