

TOLERANCES	
d1	+0.000" - .002" (+.000mm - .050mm)
d2	h6

# HIGH EFFICIENCY MILLING

**NEW ITEMS**

Series V4S



.2362" - .4724"  
(6.000mm - 12.000mm)

Recommended for titanium, inconel, and stainless steel

## Variable Helix End Mill - Square End

### AlCrN Coating

Solid submicron grain carbide end mill - center cutting

Engineered for High Efficiency Milling

Helix geometry varies over length of flutes

Variable flute design helps with chip evacuation in slots and pockets

Variable rake aids in chip formation

PCT (Polish Carbide Treatment) enhances tool life

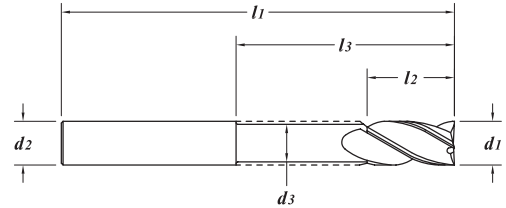
Minimizes burr on part

Can be modified with a flat within 48 hours

V4 Corner Radius - page 141

V4 Ball End - page 149

*The combination of an extended flute length with a weldon flat may cause the flute washout to reach inside some end mill holders*



HIGH PERFORMANCE  
END MILLS

EDP#	(plain)	(weldon)	d1 †		d2	l1	l2	l3	d3	1-11	12-24	25-49	50-100
			Decimal	Diameter									
50236	-	-	.2362	6.000	6.0	65	12	-	-	23.77	22.74	21.70	20.67
50237	-	-	.2362	6.000	6.0	65	19	-	-	23.77	22.74	21.70	20.67
50540	-	-	.2500	6.350	1/4"	2"	3/8"	-	-	20.33	19.45	18.56	17.68
50645	-	-	.2500	6.350	1/4"	2"	1/2"	-	-	20.33	19.45	18.56	17.68
50238	-	-	.2500	6.350	1/4"	2-1/2"	3/4"	-	-	22.94	21.95	20.95	19.95
NEW 50653	-	-	.2500	6.350	1/4"	3"	1-1/8"	-	-	34.91	33.39	31.87	30.36
NEW 50654	-	-	.2500	6.350	1/4"	4"	1-1/2"	-	-	37.56	35.93	34.29	32.66
NEW 50655	-	-	.2500	6.350	1/4"	4"	1-3/4"	-	-	37.56	35.93	34.29	32.66
NEW 50656	-	-	.2500	6.350	1/4"	4"	2"	-	-	37.56	35.93	34.29	32.66
NEW 50651	-	-	.2500	6.350	1/4"	3"	3/8"	1-1/8"	.237"	44.01	42.10	40.18	38.27
50600	-	-	.2500	6.350	1/4"	4"	3/8"	1-1/8"	.237"	46.85	44.81	42.78	40.74
NEW 50652	-	-	.2500	6.350	1/4"	4"	3/8"	2"	.237"	46.85	44.81	42.78	40.74
50541	-	-	.3125	7.937	5/16"	2"	7/16"	-	-	28.08	26.86	25.64	24.42
50239	-	-	.3125	7.937	5/16"	2-1/2"	13/16"	-	-	32.71	31.28	29.86	28.44
NEW 50657	-	-	.3125	7.937	5/16"	3"	1-1/4"	-	-	44.64	42.70	40.76	38.82
NEW 50658	-	-	.3125	7.937	5/16"	3"	7/16"	1-1/2"	.295"	55.34	52.93	50.53	48.12
50602	-	-	.3150	8.000	8.0	50	12	-	-	29.11	27.84	26.58	25.31
50240	-	-	.3150	8.000	8.0	65	22	-	-	33.89	32.42	30.94	29.47
NEW 50659	-	-	.3150	8.000	8.0	75	32	-	-	46.49	44.47	42.45	40.43
NEW 50660	-	-	.3150	8.000	8.0	100	12	50	7.50	64.00	61.22	58.43	55.65
50542	-	-	.3750	9.525	3/8"	2"	1/2"	-	-	33.13	31.69	30.25	28.81
50241	-	-	.3750	9.525	3/8"	2-1/2"	1"	-	-	38.61	36.93	35.25	33.57
NEW 50661	-	-	.3750	9.525	3/8"	3"	1-1/4"	-	-	49.24	47.10	44.96	42.82
NEW 50662	-	-	.3750	9.525	3/8"	4"	1-1/2"	-	-	55.64	53.22	50.80	48.38
50604	-	-	.3750	9.525	3/8"	4"	1/2"	1-1/8"	.355"	67.56	64.62	61.68	58.75
50606	-	-	.3937	10.000	10.0	50	14	-	-	42.55	40.70	38.85	37.00
50242	-	-	.3937	10.000	10.0	70	22	-	-	46.28	44.26	42.25	40.24
50608	-	-	.3937	10.000	10.0	70	26	-	-	46.28	44.26	42.25	40.24
NEW 50663	-	-	.3937	10.000	10.0	70	30	-	-	46.28	44.26	42.25	40.24
50450	50449	-	.4724	12.000	12.0	75	26	-	-	60.13	57.52	54.90	52.29
50243	50283	-	.4724	12.000	12.0	75	32	-	-	60.13	57.52	54.90	52.29
NEW 50664	-	-	.4724	12.000	12.0	88	36	-	-	77.40	74.03	70.67	67.30
50564	-	-	.4724	12.000	12.0	100	42	-	-	80.36	76.87	73.37	69.88
NEW 50665	-	-	.4724	12.000	12.0	100	48	-	-	80.36	76.87	73.37	69.88

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MATERIAL HARDNESS (Rc)

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continued →

Series V4S (continued)

.5000" - 1.000"  
(12.700mm - 25.400mm)

EDP# (plain)	EDP# (weldon)	Decimal	$d1$ † Diameter		$d2$ Shank Diameter	$l1$ Overall Length	$l2$ Flute Length	$l3$ Reach Length	$d3$ Neck Diameter	1-11	12-24	25-49	50-100
			Metric										
50543	-	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	-	-	54.17	51.81	49.46	47.10
50452	50453	.5000	1/2"	12.700	1/2"	3"	1"	-	-	57.73	55.22	52.71	50.20
50244	50284	.5000	1/2"	12.700	1/2"	3"	1-1/4"	-	-	57.73	55.22	52.71	50.20
NEW 50666	-	.5000	1/2"	12.700	1/2"	3-1/2"	1-1/2"	-	-	75.14	71.87	68.61	65.34
50578	50579	.5000	1/2"	12.700	1/2"	4"	1-5/8"	-	-	78.11	74.71	71.32	67.92
50646	-	.5000	1/2"	12.700	1/2"	4"	1-3/4"	-	-	78.11	74.71	71.32	67.92
50647	-	.5000	1/2"	12.700	1/2"	4"	2"	-	-	78.11	74.71	71.32	67.92
50245	50285	.5000	1/2"	12.700	1/2"	4"	2-1/8"	-	-	78.11	74.71	71.32	67.92
NEW 50668	-	.5000	1/2"	12.700	1/2"	6"	3"	-	-	112.42	107.53	102.64	97.76
50610	-	.5000	1/2"	12.700	1/2"	4"	5/8"	2-1/4"	.475"	89.79	85.89	81.98	78.08
NEW 50667	-	.5000	1/2"	12.700	1/2"	6"	5/8"	3-1/8"	.475"	124.19	118.79	113.39	107.99
50235	-	.5000	1/2"	12.700	1/2"	6"	5/8"	4-1/8"	.475"	124.19	118.79	113.39	107.99
50545	50546	.6250	5/8"	15.875	5/8"	3"	3/4"	-	-	100.73	96.35	91.97	87.59
50246	50286	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	-	-	106.51	101.88	97.25	92.62
NEW 50669	-	.6250	5/8"	15.875	5/8"	4"	1-1/2"	-	-	113.75	108.80	103.86	98.91
50612	-	.6250	5/8"	15.875	5/8"	4"	1-5/8"	-	-	113.75	108.80	103.86	98.91
NEW 50670	-	.6250	5/8"	15.875	5/8"	4"	1-3/4"	-	-	113.75	108.80	103.86	98.91
50547	-	.6299		16.000	16.0	75	19	-	-	105.32	100.74	96.16	91.58
50247	50287	.6299		16.000	16.0	88	32	-	-	111.12	106.29	101.46	96.63
NEW 50671	-	.6299		16.000	16.0	100	48	-	-	118.14	113.00	107.87	102.73
50548	-	.7500	3/4"	19.050	3/4"	3"	7/8"	-	-	148.79	142.32	135.85	129.38
50549	50550	.7500	3/4"	19.050	3/4"	4"	1"	-	-	152.04	145.43	138.82	132.21
50248	50288	.7500	3/4"	19.050	3/4"	4"	1-1/2"	-	-	152.04	145.43	138.82	132.21
50551	50552	.7500	3/4"	19.050	3/4"	4"	1-3/4"	-	-	152.04	145.43	138.82	132.21
50553	50554	.7500	3/4"	19.050	3/4"	5"	2-1/8"	-	-	204.07	195.20	186.32	177.45
NEW 50672	-	.7500	3/4"	19.050	3/4"	5"	2-1/2"	-	-	204.07	195.20	186.32	177.45
50555	-	.7874		20.000	20.0	100	25	-	-	205.42	196.49	187.56	178.63
50249	50289	.7874		20.000	20.0	100	38	-	-	205.42	196.49	187.56	178.63
NEW 50673	-	.7874		20.000	20.0	100	48	-	-	205.42	196.49	187.56	178.63
NEW 50674	-	.7874		20.000	20.0	150	60	-	-	257.75	246.54	235.34	224.13
50250	50290	1.000	1"	25.400	1"	4"	1-1/2"	-	-	227.15	217.27	207.40	197.52
NEW 50675	-	1.000	1"	25.400	1"	4-1/2"	2"	-	-	267.14	255.53	243.92	232.30
NEW 50676	-	1.000	1"	25.400	1"	5"	2-1/2"	-	-	304.06	290.84	277.62	264.40

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MATERIAL HARDNESS (Rc)



V4-S series in 1018 material