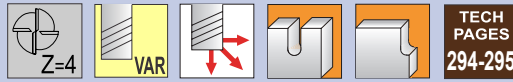


TOLERANCES	
d_1	+0.000" - .002" (+.000mm - .050mm)
d_2	h6
ball radius	+0.000" - .001" (+.000 - .025mm)

HIGH EFFICIENCY MILLING

NEW ITEMS

Series V4B



.2362" - .3937"
(6.000mm - 10.000mm)

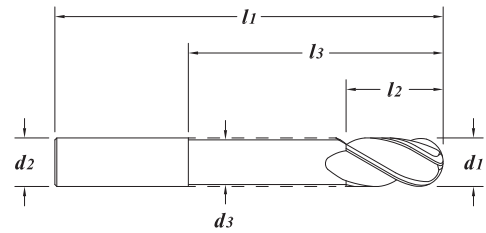
Recommended for titanium, inconel, and stainless steel

Variable Helix End Mill - Ball 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 Square End - page 139
- V4 Corner Radius - page 141

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



EDP#	d_1 †		d_2	l_1	l_2	l_3	d_3	1-11	12-24	25-49	50-100			
	(plain)	(weldon)										Decimal Diameter	Metric	Shank Diameter
50252	-		.2362	6.000	6.0	65	12	-	-	27.03	25.85	24.68	23.50	
50253	-		.2362	6.000	6.0	65	19	-	-	27.03	25.85	24.68	23.50	
50560	-		.2500	1/4"	6.350	1/4"	2"	3/8"	-	23.46	22.44	21.42	20.40	
50254	-		.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	-	25.99	24.86	23.73	22.60	
NEW 50677	-		.2500	1/4"	6.350	1/4"	3"	1-1/8"	-	38.49	36.82	35.14	33.47	
NEW 50681	-		.2500	1/4"	6.350	1/4"	4"	1-1/2"	-	41.22	39.43	37.64	35.84	
NEW 50682	-		.2500	1/4"	6.350	1/4"	4"	1-3/4"	-	41.22	39.43	37.64	35.84	
NEW 50683	-		.2500	1/4"	6.350	1/4"	4"	2"	-	41.22	39.43	37.64	35.84	
NEW 50678	-		.2500	1/4"	6.350	1/4"	3"	3/8"	1-1/8"	.237"	47.63	45.56	43.49	41.42
50474	-		.2500	1/4"	6.350	1/4"	4"	3/8"	1-1/8"	.237"	50.36	48.17	45.98	43.79
NEW 50679	-		.2500	1/4"	6.350	1/4"	4"	3/8"	1-1/2"	.237"	50.36	48.17	45.98	43.79
NEW 50680	-		.2500	1/4"	6.350	1/4"	4"	3/8"	2"	.237"	50.36	48.17	45.98	43.79
NEW 50684	-		.2500	1/4"	6.350	1/4"	6"	3/8"	4"	.230"	63.40	60.64	57.89	55.13
50561	-		.3125	5/16"	7.937	5/16"	2"	7/16"	-	32.04	30.65	29.25	27.86	
50255	-		.3125	5/16"	7.937	5/16"	2-1/2"	13/16"	-	35.20	33.67	32.14	30.61	
NEW 50685	-		.3125	5/16"	7.937	5/16"	3"	1-1/4"	-	49.09	46.96	44.82	42.69	
NEW 50686	-		.3125	5/16"	7.937	5/16"	3"	7/16"	1-1/2"	.295"	59.79	57.19	54.59	51.99
50256	-		.3150	8.000	8.0	65	22	-	-	36.52	34.94	33.35	31.76	
NEW 50687	-		.3150	8.000	8.0	75	32	-	-	51.19	48.96	46.74	44.51	
NEW 50688	-		.3150	8.000	8.0	100	12	50	7.50	69.16	66.15	63.15	60.14	
50562	-		.3750	3/8"	9.525	3/8"	2"	1/2"	-	37.82	36.18	34.53	32.89	
50257	-		.3750	3/8"	9.525	3/8"	2-1/2"	1"	-	41.11	39.33	37.54	35.75	
NEW 50689	-		.3750	3/8"	9.525	3/8"	3"	1-1/4"	-	54.12	51.77	49.41	47.06	
NEW 50690	-		.3750	3/8"	9.525	3/8"	4"	1-1/2"	-	60.89	58.24	55.60	52.95	
50476	-		.3750	3/8"	9.525	3/8"	4"	1/2"	1-1/8"	.356"	72.67	69.51	66.35	63.19
50258	-		.3937	10.000	10.0	70	22	-	-	49.65	47.49	45.33	43.17	
NEW 50691	-		.3937	10.000	10.0	70	30	-	-	49.65	47.49	45.33	43.17	
NEW 50692	-		.3937	10.000	10.0	100	14	50	9.40	87.80	83.98	80.16	76.35	

HIGH PERFORMANCE END MILLS

MATERIAL HARDNESS (Rc)

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continued →

Series V4B (continued)

.4724" - 1.000"
(12.000mm - 25.400mm)

EDP#	<i>d1</i> † Diameter	<i>d1</i> †		<i>d2</i> Shank Diameter	<i>l1</i> Overall Length	<i>l2</i> Flute Length	<i>l3</i> Reach Length	<i>d3</i> Neck Diameter	1-11	12-24	25-49	50-100	
		(plain)	(weldon)										Decimal
50470	-	.4724	12.000	12.0	75	26	-	-	73.13	69.95	66.77	63.59	
50259	50291	.4724	12.000	12.0	75	32	-	-	73.13	69.95	66.77	63.59	
NEW 50693	-	.4724	12.000	12.0	88	36	-	-	82.17	78.60	75.02	71.45	
50576	-	.4724	12.000	12.0	100	42	-	-	85.10	81.40	77.70	74.00	
NEW 50694	-	.4724	12.000	12.0	100	48	-	-	85.10	81.40	77.70	74.00	
NEW 50695	-	.4724	12.000	12.0	100	14	50	11.40	96.85	92.64	88.43	84.22	
50563	-	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	-	62.84	60.10	57.37	54.64	
50472	50473	.5000	1/2"	12.700	1/2"	3"	1"	-	70.14	67.09	64.04	60.99	
50260	50292	.5000	1/2"	12.700	1/2"	3"	1-1/4"	-	70.14	67.09	64.04	60.99	
NEW 50696	-	.5000	1/2"	12.700	1/2"	3-1/2"	1-1/2"	-	79.95	76.47	73.00	69.52	
50592	50593	.5000	1/2"	12.700	1/2"	4"	1-5/8"	-	82.90	79.30	75.69	72.09	
50261	50293	.5000	1/2"	12.700	1/2"	4"	2-1/8"	-	82.90	79.30	75.69	72.09	
NEW 50699	-	.5000	1/2"	12.700	1/2"	6"	3"	-	117.23	112.13	107.04	101.94	
50478	-	.5000	1/2"	12.700	1/2"	4"	5/8"	2-1/4"	.475"	94.63	90.52	86.40	82.29
NEW 50697	-	.5000	1/2"	12.700	1/2"	6"	5/8"	3-1/8"	.475"	128.98	123.38	117.77	112.16
50598	-	.5000	1/2"	12.700	1/2"	6"	5/8"	4-1/8"	.475"	128.98	123.38	117.77	112.16
NEW 50698	-	.5000	1/2"	12.700	1/2"	6"	1"	4-1/2"	.475"	128.98	123.38	117.77	112.16
50262	50294	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	-	111.67	106.81	101.96	97.10	
NEW 50700	-	.6250	5/8"	15.875	5/8"	4"	1-1/2"	-	121.39	116.11	110.83	105.56	
NEW 50701	-	.6250	5/8"	15.875	5/8"	4"	1-3/4"	-	121.39	116.11	110.83	105.56	
50263	50295	.6299	16.000	16.0	88	32	-	-	116.54	111.47	106.41	101.34	
NEW 50702	-	.6299	16.000	16.0	100	48	-	-	123.91	118.52	113.13	107.75	
50264	50296	.7500	3/4"	19.050	3/4"	4"	1-1/2"	-	160.14	153.18	146.21	139.25	
NEW 50703	-	.7500	3/4"	19.050	3/4"	5"	2-1/2"	-	222.13	212.47	202.81	193.16	
50265	50297	.7874	20.000	20.0	100	38	-	-	226.65	216.80	206.94	197.09	
NEW 50704	-	.7874	20.000	20.0	100	48	-	-	226.65	216.80	206.94	197.09	
NEW 50705	-	.7874	20.000	20.0	150	60	-	-	278.63	266.52	254.40	242.29	
50266	50298	1.000	1"	25.400	1"	4"	1-1/2"	-	273.40	261.51	249.63	237.74	
NEW 50706	-	1.000	1"	25.400	1"	4-1/2"	2"	-	304.90	291.64	278.39	265.13	
NEW 50707	-	1.000	1"	25.400	1"	5"	2-1/2"	-	336.40	321.77	307.15	292.52	

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MATERIAL HARDNESS (Rc)

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