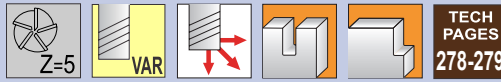


Series V5

.2362" - .3125"
(6.000mm - 7.938mm)

**NEW
ITEMS**



TOLERANCES	
d1	+0.000" - .002" (+0.000mm - .050mm)
d2	h6
r	+0.001" - .001" (+0.025 - .025mm)

Recommended for Titanium, Inconel, and Stainless Steel

Variable Helix End Mill

AlCrN Coating

Solid submicron grain carbide end mill - center cutting

Effective for trochoidal milling

Staggered flutes to control harmonics

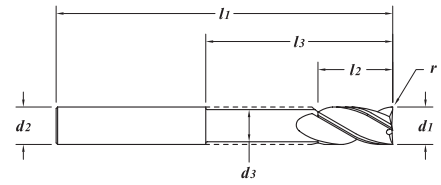
Variable flute design helps with chip evacuation in slots and pockets

PCT (Polish Carbide Treatment) enhances tool life

12mm and larger tools offered with weldon flat

.375" and larger diameters can be modified within 48 hours

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



MATERIAL HARDNESS (Rc)

EDP#	d1 †		d2	l1	l2	r	l3	d3	1-11	12-24	25-49	50-100		
	(plain)	(weldon)											Decimal	Metric
50000	-		.2362	6.000	6.0	50	13	-	-	-	20.99	20.08	19.16	18.25
50001	-		.2362	6.000	6.0	50	13	0.5	-	-	24.27	23.21	22.16	21.10
50002	-		.2362	6.000	6.0	65	19	-	-	-	23.66	22.63	21.60	20.57
50003	-		.2362	6.000	6.0	65	19	0.5	-	-	26.90	25.73	24.56	23.39
50004	-		.2362	6.000	6.0	65	13	-	20	5.4	31.56	30.18	28.81	27.44
50005	-		.2362	6.000	6.0	65	13	0.5	20	5.4	34.80	33.29	31.77	30.26
50006	-		.2362	6.000	6.0	65	13	1.0	20	5.4	34.80	33.29	31.77	30.26
50007	-		.2500	6.350	1/4"	2"	3/8"	-	-	-	20.14	19.26	18.39	17.51
NEW 51000	-		.2500	6.350	1/4"	2"	3/8"	.010"	-	-	23.36	22.34	21.33	20.31
50008	-		.2500	6.350	1/4"	2"	3/8"	.015"	-	-	23.36	22.34	21.33	20.31
NEW 51001	-		.2500	6.350	1/4"	2"	3/8"	.020"	-	-	23.36	22.34	21.33	20.31
50009	-		.2500	6.350	1/4"	2"	3/8"	.030"	-	-	23.36	22.34	21.33	20.31
NEW 51002	-		.2500	6.350	1/4"	2"	1/2"	-	-	-	20.14	19.26	18.39	17.51
35 NEW 51003	-		.2500	6.350	1/4"	2"	1/2"	.010"	-	-	23.36	22.34	21.33	20.31
NEW 51004	-		.2500	6.350	1/4"	2"	1/2"	.015"	-	-	23.36	22.34	21.33	20.31
50011	-		.2500	6.350	1/4"	2-1/2"	3/4"	-	-	-	22.84	21.85	20.85	19.86
NEW 51005	-		.2500	6.350	1/4"	2-1/2"	3/4"	.010"	-	-	25.86	24.74	23.61	22.49
50012	-		.2500	6.350	1/4"	2-1/2"	3/4"	.015"	-	-	25.86	24.74	23.61	22.49
50013	-		.2500	6.350	1/4"	2-1/2"	3/4"	.020"	-	-	25.86	24.74	23.61	22.49
50014	-		.2500	6.350	1/4"	2-1/2"	3/4"	.030"	-	-	25.86	24.74	23.61	22.49
50015	-		.2500	6.350	1/4"	3"	1"	-	-	-	34.88	33.36	31.85	30.33
NEW 51006	-		.2500	6.350	1/4"	3"	1"	.010"	-	-	38.33	36.66	35.00	33.33
NEW 51007	-		.2500	6.350	1/4"	3"	1"	.015"	-	-	38.33	36.66	35.00	33.33
50016	-		.2500	6.350	1/4"	3"	1"	.030"	-	-	38.33	36.66	35.00	33.33
50017	-		.2500	6.350	1/4"	4"	1/2"	.015"	1-1/4"	.235"	50.13	47.95	45.77	43.59
NEW 51008	-		.2500	6.350	1/4"	4"	1/2"	.015"	2-1/8"	.235"	50.13	47.95	45.77	43.59
50023	-		.2756	7.000	8.0	65	22	0.2	-	-	41.63	39.82	38.01	36.20
50018	-		.3125	7.938	5/16"	2-1/2"	13/16"	-	-	-	32.57	31.15	29.74	28.32
50019	-		.3125	7.938	5/16"	2-1/2"	13/16"	.015"	-	-	35.06	33.54	32.01	30.49
50021	-		.3125	7.938	5/16"	2-1/2"	13/16"	.020"	-	-	35.06	33.54	32.01	30.49
50022	-		.3125	7.938	5/16"	2-1/2"	13/16"	.030"	-	-	35.06	33.54	32.01	30.49

EDP#	<i>d1</i> [†] Diameter	<i>d2</i> Shank Diameter	<i>l1</i> Overall Length	<i>l2</i> Flute Length	<i>r</i> Corner Radius	<i>l3</i> Reach Length	<i>d3</i> Neck Diameter	1-11	12-24	25-49	50-100			
												(plain)	(weldon)	Decimal
50024	-	.3150	8.000	8.0	65	22	0.2	-	-	36.37	34.79	33.21	31.63	
50025	-	.3150	8.000	8.0	65	22	0.5	-	-	36.37	34.79	33.21	31.63	
50026	-	.3150	8.000	8.0	75	19	-	26	7.2	56.48	54.02	51.57	49.11	
50027	-	.3150	8.000	8.0	75	19	0.5	26	7.2	61.11	58.45	55.80	53.14	
50028	-	.3150	8.000	8.0	75	19	1.0	26	7.2	61.11	58.45	55.80	53.14	
50029	-	.3750	3/8"	9.525	3/8"	2"	1/2"	-	-	32.89	31.46	30.03	28.60	
50031	-	.3750	3/8"	9.525	3/8"	2"	1/2"	.015"	-	37.65	36.01	34.38	32.74	
50032	-	.3750	3/8"	9.525	3/8"	2"	1/2"	.020"	-	37.65	36.01	34.38	32.74	
50033	-	.3750	3/8"	9.525	3/8"	2"	1/2"	.030"	-	37.65	36.01	34.38	32.74	
50034	-	.3750	3/8"	9.525	3/8"	2-1/2"	1"	-	-	38.43	36.76	35.09	33.42	
50035	-	.3750	3/8"	9.525	3/8"	2-1/2"	1"	.015"	-	40.94	39.16	37.38	35.60	
50036	-	.3750	3/8"	9.525	3/8"	2-1/2"	1"	.020"	-	40.94	39.16	37.38	35.60	
50037	-	.3750	3/8"	9.525	3/8"	2-1/2"	1"	.030"	-	40.94	39.16	37.38	35.60	
50038	-	.3750	3/8"	9.525	3/8"	2-1/2"	1"	.060"	-	40.94	39.16	37.38	35.60	
NEW 51009	-	.3750	3/8"	9.525	3/8"	3"	1-1/4"	.015"	-	53.88	51.54	49.19	46.85	
NEW 51010	-	.3750	3/8"	9.525	3/8"	4"	1-1/2"	.015"	-	60.64	58.00	55.37	52.73	
50039	-	.3750	3/8"	9.525	3/8"	4"	2"	-	-	55.45	53.04	50.63	48.22	
50041	-	.3750	3/8"	9.525	3/8"	4"	2"	.030"	-	60.64	58.00	55.37	52.73	
NEW 51011	-	.3750	3/8"	9.525	3/8"	4"	1/2"	.015"	1-1/8"	.355"	72.36	69.21	66.07	62.92
50042	-	.3750	3/8"	9.525	3/8"	4"	7/8"	.015"	1-7/8"	.355"	72.36	69.21	66.07	62.92
NEW 51012	-	.3750	3/8"	9.525	3/8"	6"	1/2"	.015"	2-1/8"	.355"	95.67	91.51	87.35	83.19
NEW 51013	-	.3750	3/8"	9.525	3/8"	6"	1/2"	.015"	3-1/8"	.355"	95.67	91.51	87.35	83.19
NEW 51014	-	.3750	3/8"	9.525	3/8"	6"	1/2"	.015"	4-1/8"	.355"	95.67	91.51	87.35	83.19
50043	-	.3937	10.000	10.0	70	22	-	-	-	46.09	44.09	42.08	40.08	
NEW 51015	-	.3937	10.000	10.0	70	22	0.30	-	-	49.44	47.29	45.14	42.99	
50044	-	.3937	10.000	10.0	70	22	0.50	-	-	49.44	47.29	45.14	42.99	
NEW 51016	-	.3937	10.000	10.0	70	22	0.75	-	-	49.44	47.29	45.14	42.99	
NEW 51017	-	.3937	10.000	10.0	70	22	1.00	-	-	49.44	47.29	45.14	42.99	
50045	-	.3937	10.000	10.0	75	22	-	32	9.0	63.88	61.11	58.33	55.55	
50046	-	.3937	10.000	10.0	75	22	0.50	32	9.0	68.91	65.91	62.92	59.92	
NEW 51018	-	.3937	10.000	10.0	75	22	0.75	32	9.0	68.91	65.91	62.92	59.92	
50047	-	.3937	10.000	10.0	75	22	1.00	32	9.0	68.91	65.91	62.92	59.92	
NEW 51019	-	.4724	12.000	12.0	65	19	-	-	-	56.10	53.66	51.22	48.78	
NEW 51020	-	.4724	12.000	12.0	65	19	0.50	-	-	65.25	62.41	59.58	56.74	
50484	50485	.4724	12.000	12.0	75	26	-	-	-	59.86	57.26	54.65	52.05	
NEW 51021	-	.4724	12.000	12.0	75	26	0.30	-	-	72.81	69.64	66.48	63.31	
50486	50487	.4724	12.000	12.0	75	26	0.50	-	-	72.81	69.64	66.48	63.31	
NEW 51022	-	.4724	12.000	12.0	75	26	0.75	-	-	72.81	69.64	66.48	63.31	
NEW 51023	-	.4724	12.000	12.0	75	26	1.00	-	-	72.81	69.64	66.48	63.31	
50048	50299	.4724	12.000	12.0	75	32	-	-	-	59.86	57.26	54.65	52.05	
NEW 51024	-	.4724	12.000	12.0	75	32	0.30	-	-	72.81	69.64	66.48	63.31	
50049	50300	.4724	12.000	12.0	75	32	0.50	-	-	72.81	69.64	66.48	63.31	
NEW 51025	-	.4724	12.000	12.0	75	32	0.75	-	-	72.81	69.64	66.48	63.31	
NEW 51026	-	.4724	12.000	12.0	75	32	1.00	-	-	72.81	69.64	66.48	63.31	
NEW 51027	-	.4724	12.000	12.0	100	38	-	-	-	80.01	76.53	73.05	69.57	
NEW 51028	-	.4724	12.000	12.0	100	38	0.50	-	-	84.73	81.05	77.36	73.68	
50423	-	.4724	12.000	12.0	100	42	-	-	-	80.01	76.53	73.05	69.57	
50425	-	.4724	12.000	12.0	100	42	0.30	-	-	84.73	81.05	77.36	73.68	
50427	-	.4724	12.000	12.0	100	42	0.50	-	-	84.73	81.05	77.36	73.68	
50429	-	.4724	12.000	12.0	100	42	1.00	-	-	84.73	81.05	77.36	73.68	
50431	-	.4724	12.000	12.0	100	42	2.00	-	-	84.73	81.05	77.36	73.68	
NEW 51029	-	.4724	12.000	12.0	100	52	-	-	-	80.01	76.53	73.05	69.57	
NEW 51030	-	.4724	12.000	12.0	100	52	0.50	-	-	84.73	81.05	77.36	73.68	
50051	50301	.4724	12.000	12.0	100	26	-	38	10.8	91.67	87.68	83.70	79.71	
50052	50302	.4724	12.000	12.0	100	26	0.50	38	10.8	96.39	92.20	88.01	83.82	
50053	50303	.4724	12.000	12.0	100	26	1.00	38	10.8	96.39	92.20	88.01	83.82	

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MATERIAL HARDNESS (Rc)

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continued →

Series V5 (continued)

.5000"
(12.700mm)

EDP#		$d1$ † Diameter		$d2$ Shank Diameter	$l1$ Overall Length	$l2$ Flute Length	r Corner Radius	$l3$ Reach Length	$d3$ Neck Diameter	1-11	12-24	25-49	50-100		
(plain)	(weldon)	Decimal	Metric												
50054	50304	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	-	-	-	53.80	51.46	49.12	46.78	
50106	50305	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	.010"	-	-	62.57	59.85	57.13	54.41	
50055	50306	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	.020"	-	-	62.57	59.85	57.13	54.41	
50107	50307	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	.030"	-	-	62.57	59.85	57.13	54.41	
50056	50308	.5000	1/2"	12.700	1/2"	3"	1"	-	-	-	57.48	54.98	52.48	49.98	
50108	50309	.5000	1/2"	12.700	1/2"	3"	1"	.010"	-	-	69.84	66.80	63.77	60.73	
50057	50310	.5000	1/2"	12.700	1/2"	3"	1"	.020"	-	-	69.84	66.80	63.77	60.73	
50109	50311	.5000	1/2"	12.700	1/2"	3"	1"	.030"	-	-	69.84	66.80	63.77	60.73	
50058	50312	.5000	1/2"	12.700	1/2"	3"	1-1/4"	-	-	-	57.48	54.98	52.48	49.98	
50111	50313	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.010"	-	-	69.84	66.80	63.77	60.73	
50059	50314	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.015"	-	-	69.84	66.80	63.77	60.73	
50061	50315	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.020"	-	-	69.84	66.80	63.77	60.73	
50062	50316	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.030"	-	-	69.84	66.80	63.77	60.73	
50063	50317	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.045"	-	-	69.84	66.80	63.77	60.73	
50064	50318	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.060"	-	-	69.84	66.80	63.77	60.73	
50065	50319	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.090"	-	-	69.84	66.80	63.77	60.73	
50433	50435	.5000	1/2"	12.700	1/2"	4"	1-1/2"	.010"	-	-	82.54	78.95	75.36	71.77	
NEW	51031	-	.5000	1/2"	12.700	1/2"	4"	1-1/2"	.015"	-	82.54	78.95	75.36	71.77	
NEW	51032	-	.5000	1/2"	12.700	1/2"	4"	1-1/2"	.030"	-	82.54	78.95	75.36	71.77	
50436	50437	.5000	1/2"	12.700	1/2"	4"	1-5/8"	-	-	-	77.77	74.39	71.01	67.63	
50438	50439	.5000	1/2"	12.700	1/2"	4"	1-5/8"	.010"	-	-	82.54	78.95	75.36	71.77	
50440	50441	.5000	1/2"	12.700	1/2"	4"	1-5/8"	.020"	-	-	82.54	78.95	75.36	71.77	
50442	50443	.5000	1/2"	12.700	1/2"	4"	1-5/8"	.030"	-	-	82.54	78.95	75.36	71.77	
50444	50445	.5000	1/2"	12.700	1/2"	4"	1-5/8"	.040"	-	-	82.54	78.95	75.36	71.77	
50446	50447	.5000	1/2"	12.700	1/2"	4"	1-5/8"	.060"	-	-	82.54	78.95	75.36	71.77	
50067	50321	.5000	1/2"	12.700	1/2"	4"	2-1/8"	-	-	-	77.77	74.39	71.01	67.63	
NEW	51033	-	.5000	1/2"	12.700	1/2"	4"	2-1/8"	.015"	-	82.54	78.95	75.36	71.77	
50068	50322	.5000	1/2"	12.700	1/2"	4"	2-1/8"	.030"	-	-	82.54	78.95	75.36	71.77	
NEW	51034	-	.5000	1/2"	12.700	1/2"	6"	1"	.030"	-	116.73	111.65	106.58	101.50	
NEW	51035	-	.5000	1/2"	12.700	1/2"	6"	3-1/8"	-	-	111.53	106.68	101.83	96.98	
NEW	51036	-	.5000	1/2"	12.700	1/2"	6"	3-1/8"	.030"	-	116.73	111.65	106.58	101.50	
NEW	51037	-	.5000	1/2"	12.700	1/2"	4"	5/8"	.015"	1-1/2"	.475"	94.22	90.12	86.03	81.93
NEW	51038	-	.5000	1/2"	12.700	1/2"	4"	5/8"	.015"	2-1/4"	.475"	94.22	90.12	86.03	81.93
50066	50320	.5000	1/2"	12.700	1/2"	4"	1-1/4"	.030"	2-1/4"	.475"	94.22	90.12	86.03	81.93	
NEW	51039	-	.5000	1/2"	12.700	1/2"	6"	5/8"	.015"	3-3/8"	.475"	128.44	122.86	117.27	111.69
NEW	51040	-	.5000	1/2"	12.700	1/2"	6"	5/8"	.015"	4-1/8"	.475"	128.44	122.86	117.27	111.69

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MATERIAL HARDNESS (Rc)

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	EDP#		$d1^{\dagger}$		$d2$	$l1$	$l2$	r	$l3$	$d3$	1-11	12-24	25-49	50-100	
	(plain)	(weldon)	Decimal	Diameter											Shank Diameter
	50069	50323	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	-	-	-	106.05	101.44	96.83	92.22
NEW	51041	-	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.020"	-	-	111.19	106.36	101.52	96.69
	50071	50324	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.030"	-	-	111.19	106.36	101.52	96.69
	50072	50325	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.060"	-	-	111.19	106.36	101.52	96.69
NEW	50401	50402	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.120"	-	-	111.19	106.36	101.52	96.69
NEW	51042	-	.6250	5/8"	15.875	5/8"	4"	1-5/8"	-	-	-	113.26	108.34	103.41	98.49
NEW	51043	-	.6250	5/8"	15.875	5/8"	4"	1-5/8"	.030"	-	-	120.87	115.61	110.36	105.10
NEW	51044	-	.6250	5/8"	15.875	5/8"	4"	2-1/8"	-	-	-	113.26	108.34	103.41	98.49
NEW	51045	-	.6250	5/8"	15.875	5/8"	4"	2-1/8"	.030"	-	-	120.87	115.61	110.36	105.10
NEW	51046	-	.6250	5/8"	15.875	5/8"	6"	2-1/2"	.030"	-	-	166.38	159.15	151.91	144.68
NEW	50403	50404	.6250	5/8"	15.875	5/8"	6"	3-1/8"	.030"	-	-	166.38	159.15	151.91	144.68
NEW	51047	-	.6250	5/8"	15.875	5/8"	6"	3-1/8"	.060"	-	-	166.38	159.15	151.91	144.68
NEW	51048	-	.6250	5/8"	15.875	5/8"	6"	3-1/2"	.030"	-	-	166.38	159.15	151.91	144.68
NEW	51049	-	.6250	5/8"	15.875	5/8"	4"	3/4"	.030"	1-5/8"	.590"	131.03	125.33	119.64	113.94
	50073	50326	.6250	5/8"	15.875	5/8"	4"	1-1/4"	.030"	2-1/4"	.590"	131.03	125.33	119.64	113.94
NEW	51050	-	.6250	5/8"	15.875	5/8"	6"	3/4"	.030"	2-3/8"	.590"	178.08	170.34	162.59	154.85
NEW	51051	-	.6250	5/8"	15.875	5/8"	6"	3/4"	.030"	3-3/8"	.590"	178.08	170.34	162.59	154.85
NEW	51052	-	.6250	5/8"	15.875	5/8"	6"	3/4"	.030"	4-1/8"	.590"	178.08	170.34	162.59	154.85
NEW	51053	-	.6299	5/8"	16.000	16.0	75	19	-	-	-	107.69	103.01	98.33	93.64
NEW	51054	-	.6299	5/8"	16.000	16.0	75	19	0.50	-	-	112.93	108.02	103.11	98.20
	50074	50327	.6299	5/8"	16.000	16.0	88	32	-	-	-	110.64	105.83	101.02	96.21
	50075	50328	.6299	5/8"	16.000	16.0	88	32	0.50	-	-	116.02	110.98	105.93	100.89
NEW	50420	-	.6299	5/8"	16.000	16.0	88	32	1.00	-	-	116.02	110.98	105.93	100.89
NEW	51055	-	.6299	5/8"	16.000	16.0	88	32	2.00	-	-	116.02	110.98	105.93	100.89
NEW	50422	-	.6299	5/8"	16.000	16.0	88	32	3.00	-	-	116.02	110.98	105.93	100.89
NEW	50424	-	.6299	5/8"	16.000	16.0	88	32	4.00	-	-	116.02	110.98	105.93	100.89
NEW	50430	-	.6299	5/8"	16.000	16.0	100	40	0.50	-	-	123.37	118.01	112.64	107.28
NEW	50432	-	.6299	5/8"	16.000	16.0	100	40	1.00	-	-	123.37	118.01	112.64	107.28
NEW	50434	-	.6299	5/8"	16.000	16.0	100	40	3.00	-	-	123.37	118.01	112.64	107.28
	50076	50329	.6299	5/8"	16.000	16.0	100	32	-	50	14.4	127.86	122.30	116.74	111.18
	50077	-	.6299	5/8"	16.000	16.0	100	32	0.50	50	14.4	133.55	127.74	121.94	116.13
	50426	-	.6299	5/8"	16.000	16.0	100	32	1.00	50	14.4	133.55	127.74	121.94	116.13
NEW	51056	-	.6299	5/8"	16.000	16.0	100	32	2.00	50	14.4	133.55	127.74	121.94	116.13
	50428	-	.6299	5/8"	16.000	16.0	100	32	3.00	50	14.4	133.55	127.74	121.94	116.13
	50078	-	.7087	5/8"	18.000	18.0	100	32	0.75	-	-	166.57	159.32	152.08	144.84

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MATERIAL HARDNESS (Rc)



continued →

Series V5 (continued)

.7500"
(19.050mm)

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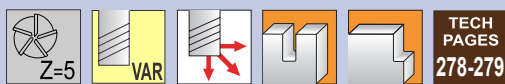
	EDP#		$d1^{\dagger}$		$d2$	$l1$	$l2$	r	$l3$	$d3$	1-11	12-24	25-49	50-100
	(plain)	(weldon)	Decimal	Diameter										
		50079	.7500	3/4"	3/4"	3"	7/8"	-	-	-	147.99	141.56	135.12	128.69
NEW		51103	.7500	3/4"	3/4"	3"	7/8"	.015"	-	-	156.07	149.28	142.50	135.71
		50081	.7500	3/4"	3/4"	3"	7/8"	.030"	-	-	156.07	149.28	142.50	135.71
NEW		51057	.7500	3/4"	3/4"	3"	7/8"	.060"	-	-	156.07	149.28	142.50	135.71
NEW		51105	.7500	3/4"	3/4"	3"	7/8"	.120"	-	-	156.07	149.28	142.50	135.71
NEW		51107	.7500	3/4"	3/4"	4"	1-1/4"	.015"	-	-	159.46	152.53	145.59	138.66
NEW		51058	.7500	3/4"	3/4"	4"	1-1/4"	.030"	-	-	159.46	152.53	145.59	138.66
NEW		51109	.7500	3/4"	3/4"	4"	1-1/4"	.060"	-	-	159.46	152.53	145.59	138.66
		50082	.7500	3/4"	3/4"	4"	1-1/2"	-	-	-	151.39	144.80	138.22	131.64
NEW		51111	.7500	3/4"	3/4"	4"	1-1/2"	.015"	-	-	159.46	152.53	145.59	138.66
		50083	.7500	3/4"	3/4"	4"	1-1/2"	.030"	-	-	159.46	152.53	145.59	138.66
		50084	.7500	3/4"	3/4"	4"	1-1/2"	.060"	-	-	159.46	152.53	145.59	138.66
NEW		51059	.7500	3/4"	3/4"	4"	1-1/2"	.078"	-	-	159.46	152.53	145.59	138.66
		50085	.7500	3/4"	3/4"	4"	1-1/2"	.120"	-	-	159.46	152.53	145.59	138.66
NEW		51113	.7500	3/4"	3/4"	4"	1-1/2"	.190"	-	-	159.46	152.53	145.59	138.66
NEW		51060	.7500	3/4"	3/4"	4"	1-5/8"	-	-	-	151.39	144.81	138.23	131.64
NEW		51115	.7500	3/4"	3/4"	4"	1-5/8"	.015"	-	-	159.46	152.53	145.59	138.66
NEW		51061	.7500	3/4"	3/4"	4"	1-5/8"	.030"	-	-	159.46	152.53	145.59	138.66
NEW		51119	.7500	3/4"	3/4"	4"	1-5/8"	.060"	-	-	159.46	152.53	145.59	138.66
NEW		51062	.7500	3/4"	3/4"	4"	1-3/4"	-	-	-	151.39	144.81	138.23	131.64
NEW		51121	.7500	3/4"	3/4"	4"	1-3/4"	.015"	-	-	159.46	152.53	145.59	138.66
NEW		51063	.7500	3/4"	3/4"	4"	1-3/4"	.030"	-	-	159.46	152.53	145.59	138.66
NEW		51123	.7500	3/4"	3/4"	4"	1-3/4"	.060"	-	-	159.46	152.53	145.59	138.66
		50086	.7500	3/4"	3/4"	5"	2-1/8"	-	-	-	203.19	194.36	185.52	176.69
NEW		51125	.7500	3/4"	3/4"	5"	2-1/8"	.015"	-	-	221.18	211.56	201.95	192.33
		50087	.7500	3/4"	3/4"	5"	2-1/8"	.030"	-	-	221.18	211.56	201.95	192.33
NEW		51064	.7500	3/4"	3/4"	5"	2-1/8"	.060"	-	-	221.18	211.56	201.95	192.33
NEW		51065	.7500	3/4"	3/4"	5"	2-1/8"	.120"	-	-	221.18	211.56	201.95	192.33
NEW		51127	.7500	3/4"	3/4"	5"	2-1/4"	.015"	-	-	221.18	211.56	201.95	192.33
NEW		51066	.7500	3/4"	3/4"	5"	2-1/4"	.030"	-	-	221.18	211.56	201.95	192.33
NEW		51129	.7500	3/4"	3/4"	5"	2-1/4"	.060"	-	-	221.18	211.56	201.95	192.33
NEW		51131	.7500	3/4"	3/4"	5"	2-1/2"	.015"	-	-	221.18	211.56	201.95	192.33
NEW		51067	.7500	3/4"	3/4"	5"	2-1/2"	.030"	-	-	221.18	211.56	201.95	192.33
NEW		51133	.7500	3/4"	3/4"	5"	2-1/2"	.060"	-	-	221.18	211.56	201.95	192.33
NEW		51135	.7500	3/4"	3/4"	5"	2-3/4"	.015"	-	-	221.18	211.56	201.95	192.33
NEW		51068	.7500	3/4"	3/4"	5"	2-3/4"	.030"	-	-	221.18	211.56	201.95	192.33
NEW		51137	.7500	3/4"	3/4"	5"	2-3/4"	.060"	-	-	221.18	211.56	201.95	192.33
		50089	.7500	3/4"	3/4"	6"	3-1/4"	-	-	-	237.79	227.45	217.11	206.77
NEW		51139	.7500	3/4"	3/4"	6"	3-1/4"	.015"	-	-	262.73	251.31	239.88	228.46
		50091	.7500	3/4"	3/4"	6"	3-1/4"	.030"	-	-	262.73	251.31	239.88	228.46
NEW		51141	.7500	3/4"	3/4"	6"	3-1/4"	.060"	-	-	262.73	251.31	239.88	228.46
NEW		51143	.7500	3/4"	3/4"	7"	4-1/4"	.015"	-	-	331.35	316.94	302.54	288.13
NEW		51145	.7500	3/4"	3/4"	7"	4-1/4"	.030"	-	-	331.35	316.94	302.54	288.13
NEW		51147	.7500	3/4"	3/4"	7"	4-1/4"	.060"	-	-	331.35	316.94	302.54	288.13
NEW		51069	.7500	3/4"	3/4"	4"	1"	.030"	2"	.705"	171.17	163.73	156.29	148.84
NEW		51070	.7500	3/4"	3/4"	5"	1"	.030"	2-1/2"	.705"	232.90	222.77	212.65	202.52
		50088	.7500	3/4"	3/4"	5-1/2"	1-1/2"	.030"	3-1/4"	.705"	274.49	262.56	250.62	238.69
NEW		51071	.7500	3/4"	3/4"	6"	1"	.030"	4-1/8"	.705"	274.49	262.56	250.62	238.69

	EDP#		$d1^\dagger$ Diameter		$d2$ Shank Diameter	$l1$ Overall Length	$l2$ Flute Length	r Corner Radius	$l3$ Reach Length	$d3$ Neck Diameter	1-11	12-24	25-49	50-100	
	(plain)	(weldon)	Decimal	Metric											
			.7874	20.000	20.0	100	38	-	-	-	204.53	195.64	186.74	177.85	
NEW	51072	-	.7874	20.000	20.0	100	38	0.50	-	-	225.68	215.86	206.05	196.24	
	50093	50344	.7874	20.000	20.0	100	38	0.75	-	-	225.68	215.86	206.05	196.24	
NEW	51073	-	.7874	20.000	20.0	100	38	1.00	-	-	225.68	215.86	206.05	196.24	
NEW	51074	-	.7874	20.000	20.0	100	38	1.50	-	-	225.68	215.86	206.05	196.24	
NEW	51075	-	.7874	20.000	20.0	100	38	2.00	-	-	225.68	215.86	206.05	196.24	
NEW	51076	-	.7874	20.000	20.0	100	38	3.00	-	-	225.68	215.86	206.05	196.24	
NEW	51077	-	.9843	25.000	25.0	100	38	-	-	-	233.58	223.42	213.27	203.11	
NEW	51078	-	.9843	25.000	25.0	100	38	0.50	-	-	258.65	247.40	236.16	224.91	
NEW	51079	-	.9843	25.000	25.0	100	38	0.75	-	-	258.65	247.40	236.16	224.91	
NEW	51080	-	.9843	25.000	25.0	100	38	1.50	-	-	258.65	247.40	236.16	224.91	
NEW	51081	-	.9843	25.000	25.0	100	38	3.00	-	-	258.65	247.40	236.16	224.91	
	50094	-	1.000	1"	25.400	1"	4"	1-1/4"	-	-	226.16	216.33	206.49	196.66	
	50095	-	1.000	1"	25.400	1"	4"	1-1/4"	.030"	-	272.23	260.39	248.56	236.72	
	-	50347	1.000	1"	25.400	1"	4"	1-1/4"	.060"	-	272.23	260.39	248.56	236.72	
NEW	51082	-	1.000	1"	25.400	1"	4"	1-1/4"	.120"	-	272.23	260.39	248.56	236.72	
	-	50348	1.000	1"	25.400	1"	4"	1-1/2"	-	-	226.16	216.33	206.49	196.66	
	-	50349	1.000	1"	25.400	1"	4"	1-1/2"	.030"	-	272.23	260.39	248.56	236.72	
	-	50350	1.000	1"	25.400	1"	4"	1-1/2"	.060"	-	272.23	260.39	248.56	236.72	
NEW	51083	-	1.000	1"	25.400	1"	4"	1-1/2"	.120"	-	272.23	260.39	248.56	236.72	
	50097	-	1.000	1"	25.400	1"	4"	1-3/4"	-	-	226.16	216.33	206.49	196.66	
	50098	-	1.000	1"	25.400	1"	4"	1-3/4"	.030"	-	272.23	260.39	248.56	236.72	
	50099	-	1.000	1"	25.400	1"	4"	1-3/4"	.060"	-	272.23	260.39	248.56	236.72	
NEW	51084	-	1.000	1"	25.400	1"	4"	1-3/4"	.120"	-	272.23	260.39	248.56	236.72	
NEW	51085	-	1.000	1"	25.400	1"	4-1/2"	2"	.030"	-	303.58	290.38	277.18	263.98	
NEW	51086	-	1.000	1"	25.400	1"	4-1/2"	2"	.060"	-	303.58	290.38	277.18	263.98	
NEW	51087	-	1.000	1"	25.400	1"	4-1/2"	2"	.120"	-	303.58	290.38	277.18	263.98	
NEW	51088	-	1.000	1"	25.400	1"	4-1/2"	2"	.250"	-	303.58	290.38	277.18	263.98	
NEW	51089	-	1.000	1"	25.400	1"	5"	2-1/2"	.030"	-	334.94	320.38	305.81	291.25	
NEW	51090	-	1.000	1"	25.400	1"	5"	2-5/8"	.030"	-	334.94	320.38	305.81	291.25	
	50104	50354	1.000	1"	25.400	1"	6"	3-1/4"	-	-	394.35	377.20	360.06	342.91	
	50105	-	1.000	1"	25.400	1"	6"	3-1/4"	.030"	-	436.84	417.85	398.85	379.86	
NEW	51091	-	1.000	1"	25.400	1"	6"	3-3/8"	.060"	-	436.84	417.85	398.85	379.86	
NEW	51092	-	1.000	1"	25.400	1"	7"	4-1/4"	.030"	-	533.07	509.89	486.71	463.54	
NEW	51093	-	1.000	1"	25.400	1"	7"	4-1/4"	.060"	-	533.07	509.89	486.71	463.54	
NEW	51094	-	1.000	1"	25.400	1"	5"	1-1/4"	.030"	2-5/8"	.940"	346.67	331.60	316.52	301.45
	50101	-	1.000	1"	25.400	1"	5-1/2"	1-3/4"	.030"	3-1/4"	.940"	444.16	424.85	405.54	386.23
	50102	50352	1.000	1"	25.400	1"	5-1/2"	1-3/4"	.060"	3-1/4"	.940"	444.16	424.85	405.54	386.23
	50103	-	1.000	1"	25.400	1"	5-1/2"	1-3/4"	.120"	3-1/4"	.940"	444.16	424.85	405.54	386.23
NEW	51095	-	1.000	1"	25.400	1"	6"	1-1/4"	.030"	3-3/8"	.940"	448.56	429.06	409.55	390.05
NEW	51096	-	1.000	1"	25.400	1"	7"	1-1/4"	.030"	4-1/4"	.940"	545.01	521.31	497.62	473.92

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MATERIAL HARDNESS (Rc)



TOLERANCES	
$d1$	+0.000" -0.002" (+0.000mm -0.050mm)
$d2$	h6
r	+0.001" -0.001" (+0.025 -0.025mm)

Variable Helix End Mill

AlCrN Coating

Solid submicron grain carbide end mill - center cutting

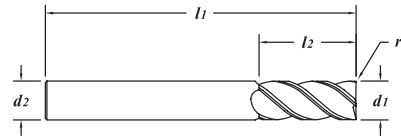
Chip splitter to help break long chips

Effective for trochoidal milling

Staggered flutes to control harmonics

Variable flute design helps with chip evacuation in slots and pockets

PCT (Polish Carbide Treatment) enhances tool life



EDP#		$d1$ †		$d2$	$l1$	$l2$	r					
(plain)	(weldon)	Decimal	Diameter	Metric	Shank Diameter	Overall Length	Flute Length	Corner Radius	1-11	12-24	25-49	50-100
50800	-	.4724		12.000	12.0	100	42	1.0	90.48	86.55	82.61	78.68
50805	-	.5000	1/2"		1/2"	3"	1"	.020"	75.59	72.30	69.02	65.73
50810	-	.5000	1/2"		1/2"	3"	1-1/4"	.020"	75.59	72.30	69.02	65.73
50815	-	.5000	1/2"		1/2"	3"	1-1/4"	.030"	75.59	72.30	69.02	65.73
50820	-	.5000	1/2"		1/2"	3"	1-1/4"	.090"	75.59	72.30	69.02	65.73
50825	-	.5000	1/2"		1/2"	4"	1-1/2"	.010"	88.29	84.45	80.61	76.77
50830	-	.5000	1/2"		1/2"	4"	1-5/8"	-	83.52	79.89	76.26	72.63
50835	-	.5000	1/2"		1/2"	4"	2-1/8"	-	83.52	79.89	76.26	72.63
50840	-	.6250	5/8"		5/8"	3-1/2"	1-1/4"	.030"	118.09	112.96	107.82	102.69
50845	-	.6250	5/8"		5/8"	4"	2-1/8"	.030"	127.77	122.21	116.66	111.10
50850	-	.7500	3/4"		3/4"	4"	1-1/2"	.120"	166.65	159.40	152.16	144.91
50855	-	.7500	3/4"		3/4"	5"	2-1/8"	.030"	228.37	218.44	208.51	198.58
50860	-	.7500	3/4"		3/4"	6"	3-1/4"	.030"	269.92	258.18	246.45	234.71