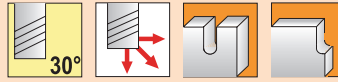


720MA (740MA metric) - 2 Flute
723MA (743MA metric) - 3 Flute
730MA (750MA metric) - 4 Flute
 .1181" - .3150"
 (3.000mm - 8.000mm)

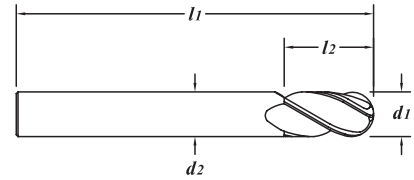
Technical information:
 page 228, 230



TOLERANCES	
d_1	+0.00" - .002" (+0.00 - .050mm)
d_2	3mm - 6mm +.0000" - .0003" (-.0000 - .0075mm)
	1/4" - 1" -.0001" - .0004" (-.0025 - .0100mm)
Ball radius	+0.00" - .001" (+0.00 - .025mm)

Extra Length - Ball End - TiALN Coated

- Solid submicron grain carbide end mill - center cutting
- Extended reach
- Dry or semi-dry machining
- Up to 40% faster than uncoated
- Can be modified with a neck within 48 hours
- Extremely versatile
- Uncoated - page 197
- TiCN Coated - page 199



2 Flute EDP#	3 Flute EDP#	4 Flute EDP#	d_1 † Diameter		d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	1-11	12-24	25-49	50-100	
			Decimal	Metric								
97017	98017	99017	.1181	3.000	3.0	50	16	16.10	15.40	14.70	14.00	
97027	98027	99027	.1181	3.000	3.0	75	20	25.74	24.62	23.50	22.38	
97037	98037	99037	.1181	3.000	3.0	75	25	25.74	24.62	23.50	22.38	
43017	55517	44017	.1250	1/8"	3.175	1/8"	2"	5/8"	16.78	16.05	15.32	14.59
43027	55527	44027	.1250	1/8"	3.175	1/8"	3"	3/4"	25.13	24.04	22.94	21.85
43037	55537	44037	.1250	1/8"	3.175	1/8"	3"	1"	25.13	24.04	22.94	21.85
97047	98047	99047	.1575	4.000	4.0	50	16	17.19	16.45	15.70	14.95	
97057	98057	99057	.1575	4.000	4.0	75	20	27.61	26.41	25.21	24.01	
97067	98067	99067	.1575	4.000	4.0	75	25	27.61	26.41	25.21	24.01	
43047	55547	44047	.1875	3/16"	4.763	3/16"	3"	1"	28.22	26.99	25.77	24.54
43057	55557	44057	.1875	3/16"	4.763	3/16"	3"	1-1/8"	28.22	26.99	25.77	24.54
43067	55567	44067	.1875	3/16"	4.763	3/16"	4"	1"	30.72	29.38	28.05	26.71
97077	98077	99077	.1969	5.000	5.0	50	16	20.88	19.98	19.07	18.16	
97087	98087	99087	.1969	5.000	5.0	75	20	30.75	29.41	28.08	26.74	
97097	98097	99097	.1969	5.000	5.0	75	25	30.75	29.41	28.08	26.74	
97107	98107	99107	.2362	6.000	6.0	75	25	34.80	33.29	31.77	30.26	
97117	98117	99117	.2362	6.000	6.0	100	25	37.23	35.61	33.99	32.37	
97127	98127	99127	.2362	6.000	6.0	100	32	37.23	35.61	33.99	32.37	
97137	98137	99137	.2362	6.000	6.0	150	38	49.05	46.92	44.78	42.65	
43077	55577	44077	.2500	1/4"	6.350	1/4"	3"	1"	33.33	31.88	30.43	28.98
43087	55587	44087	.2500	1/4"	6.350	1/4"	4"	1"	35.68	34.13	32.58	31.03
43097	55597	44097	.2500	1/4"	6.350	1/4"	4"	1-1/2"	35.68	34.13	32.58	31.03
43107	55607	44107	.2500	1/4"	6.350	1/4"	6"	1-1/2"	47.02	44.98	42.93	40.89
43117	55617	44117	.3125	5/16"	7.938	5/16"	3"	1"	42.50	40.66	38.81	36.96
43127	55627	44127	.3125	5/16"	7.938	5/16"	4"	1"	48.60	46.49	44.37	42.26
43137	55637	44137	.3125	5/16"	7.938	5/16"	4"	1-5/8"	48.60	46.49	44.37	42.26
43147	55647	44147	.3125	5/16"	7.938	5/16"	6"	1-1/2"	70.97	67.88	64.80	61.71
97147	98147	99147	.3150	8.000	8.0	75	25	44.31	42.38	40.46	38.53	
97157	98157	99157	.3150	8.000	8.0	100	25	50.62	48.42	46.22	44.02	
97167	98167	99167	.3150	8.000	8.0	100	41	50.62	48.42	46.22	44.02	
97177	98177	99177	.3150	8.000	8.0	150	50	72.48	69.33	66.18	63.03	

720MA (740MA metric) - 2 Flute (continued)
723MA (743MA metric) - 3 Flute (continued)
730MA (750MA metric) - 4 Flute (continued)

.3750" - 1.000"
 (9.525mm - 25.400mm)

END MILLS

2 Flute EDP#	3 Flute EDP#	4 Flute EDP#	$d1$ † Diameter		$d2$ Shank Diameter	$l1$ Overall Length	$l2$ Flute Length	1-11	12-24	25-49	50-100	
			Decimal	Metric								
43157	55657	44157	.3750	3/8"	9.525	3/8"	3"	1"	46.85	44.81	42.78	40.74
43167	55667	44167	.3750	3/8"	9.525	3/8"	4"	1"	52.73	50.44	48.14	45.85
43177	55677	44177	.3750	3/8"	9.525	3/8"	4"	2"	52.73	50.44	48.14	45.85
43187	55687	44187	.3750	3/8"	9.525	3/8"	6"	1-1/2"	73.00	69.83	66.65	63.48
43197	55697	44197	.3750	3/8"	9.525	3/8"	6"	3"	73.00	69.83	66.65	63.48
97187	98187	99187	.3937		10.000	10.0	76	25	51.07	48.85	46.63	44.41
97197	98197	99197	.3937		10.000	10.0	100	25	66.76	63.86	60.95	58.05
97207	98207	99207	.3937		10.000	10.0	100	50	66.76	63.86	60.95	58.05
97217	98217	99217	.3937		10.000	10.0	150	38	87.22	83.42	79.63	75.84
97227	98227	99227	.3937		10.000	10.0	150	75	87.22	83.42	79.63	75.84
43207	55707	44207	.4375	7/16"	11.113	7/16"	4"	1"	70.51	67.44	64.38	61.31
43217	55717	44217	.4375	7/16"	11.113	7/16"	4"	2"	70.51	67.44	64.38	61.31
43227	55727	44227	.4375	7/16"	11.113	7/16"	6"	1-1/2"	92.81	88.77	84.74	80.70
43237	55737	44237	.4375	7/16"	11.113	7/16"	6"	3"	92.81	88.77	84.74	80.70
97237	98237	99237	.4724		12.000	12.0	100	25	74.99	71.73	68.47	65.21
97247	98247	99247	.4724		12.000	12.0	100	50	74.99	71.73	68.47	65.21
97257	98257	99257	.4724		12.000	12.0	150	50	101.50	97.09	92.67	88.26
97267	98267	99267	.4724		12.000	12.0	150	75	101.50	97.09	92.67	88.26
43247	55747	44247	.5000	1/2"	12.700	1/2"	4"	1"	71.77	68.65	65.53	62.41
43257	55757	44257	.5000	1/2"	12.700	1/2"	4"	2"	71.77	68.65	65.53	62.41
43267	55767	44267	.5000	1/2"	12.700	1/2"	6"	1-1/2"	101.50	97.09	92.67	88.26
43277	55777	44277	.5000	1/2"	12.700	1/2"	6"	3"	101.50	97.09	92.67	88.26
97277	98277	99277	.5512		14.000	14.0	100	25	100.69	96.32	91.94	87.56
97287	98287	99287	.5512		14.000	14.0	100	50	100.69	96.32	91.94	87.56
97297	98297	99297	.5512		14.000	14.0	150	50	138.25	132.24	126.23	120.22
97307	98307	99307	.5512		14.000	14.0	150	75	138.25	132.24	126.23	120.22
43287	55787	44287	.5625	9/16"	14.288	9/16"	6"	2"	138.25	132.24	126.23	120.22
43297	55797	44297	.5625	9/16"	14.288	9/16"	6"	3"	138.25	132.24	126.23	120.22
43307	55807	44307	.6250	5/8"	15.875	5/8"	6"	2"	144.68	138.39	132.10	125.81
43317	55817	44317	.6250	5/8"	15.875	5/8"	6"	3"	144.68	138.39	132.10	125.81
97317	98317	99317	.6299		16.000	16.0	150	50	144.68	138.39	132.10	125.81
97327	98327	99327	.6299		16.000	16.0	150	75	144.68	138.39	132.10	125.81
97337	98337	99337	.7087		18.000	18.0	150	50	215.50	206.13	196.76	187.39
97347	98347	99347	.7087		18.000	18.0	150	75	215.50	206.13	196.76	187.39
43327	55827	44327	.7500	3/4"	19.050	3/4"	6"	2"	228.46	218.53	208.59	198.66
43337	55837	44337	.7500	3/4"	19.050	3/4"	6"	3"	228.46	218.53	208.59	198.66
97357	98357	99357	.7874		20.000	20.0	150	50	241.24	230.75	220.26	209.77
97367	98367	99367	.7874		20.000	20.0	150	75	241.24	230.75	220.26	209.77
97377	98377	99377	.9843		25.000	25.0	150	50	366.33	350.41	334.48	318.55
97387	98387	99387	.9843		25.000	25.0	150	75	366.33	350.41	334.48	318.55
43347	55847	44347	1.000	1"	25.400	1"	6"	2"	379.86	363.34	346.83	330.31
43357	55857	44357	1.000	1"	25.400	1"	6"	3"	379.86	363.34	346.83	330.31