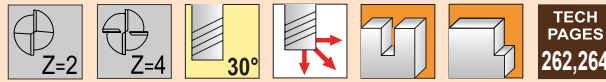


**TOLERANCES**

$d1$	+0.000" -0.002" (+0.000 -0.050mm)
$d2$	h6

**Series 160MA, 170MA, 860MA, 870MA**



END MILLS

**Stub Length - Square End**

TiAlN Coating

Solid submicron grain carbide end mill - center cutting

Shorter flute length for rigidity

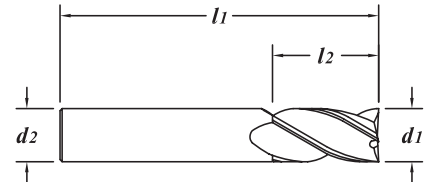
Dry or semi-dry machining

Extremely versatile

Uncoated - page 185

Standard Length - page 198

Extended length - page 223



(160MA/860MA) 2 Flute EDP#	(170MA/870MA) 4 Flute EDP#	$d1$ † Diameter		$d2$ Shank Diameter	$l1$ Overall Length	$l2$ Flute Length	1-11	12-24	25-49	50-100	
		Decimal	Metric								
01017	02017	.0312	1/32"	0.792	1/8"	1-1/2"	1/16"	12.72	12.17	11.61	11.06
01517	02517	.0394		1.000	3.0	38	2	13.25	12.67	12.10	11.52
01027	02027	.0469	3/64"	1.191	1/8"	1-1/2"	3/32"	12.72	12.17	11.61	11.06
01527	02527	.0591		1.500	3.0	38	3	13.25	12.67	12.10	11.52
01037	02037	.0625	1/16"	1.588	1/8"	1-1/2"	1/8"	10.60	10.14	9.68	9.22
01537	02537	.0787		2.000	3.0	38	4	11.03	10.55	10.07	9.59
01047	02047	.0938	3/32"	2.383	1/8"	1-1/2"	3/16"	10.17	9.72	9.28	8.84
01547	02547	.0984		2.500	3.0	38	5	10.56	10.10	9.64	9.18
01557	02557	.1181		3.000	3.0	38	6	10.35	9.90	9.45	9.00
01057	02057	.1250	1/8"	3.175	1/8"	1-1/2"	1/4"	9.95	9.52	9.08	8.65
01567	02567	.1378		3.500	4.0	50	7	13.51	12.93	12.34	11.75
01067	02067	.1562	5/32"	3.967	3/16"	2"	5/16"	12.97	12.41	11.84	11.28
01577	02577	.1575		4.000	4.0	50	8	12.94	12.38	11.81	11.25
01587	02587	.1772		4.500	5.0	50	9.5	17.72	16.95	16.18	15.41
01077	02077	.1875	3/16"	4.763	3/16"	2"	3/8"	12.42	11.88	11.34	10.80
01597	02597	.1969		5.000	5.0	50	10	16.77	16.04	15.31	14.58
01087	02087	.2188	7/32"	5.558	1/4"	2"	7/16"	17.04	16.30	15.56	14.82
01607	02607	.2362		6.000	6.0	50	12	17.54	16.78	16.01	15.25
01097	02097	.2500	1/4"	6.350	1/4"	2"	1/2"	16.85	16.12	15.38	14.65
01617	02617	.2756		7.000	7.0	50	12	23.30	22.29	21.27	20.26
01107	02107	.3125	5/16"	7.938	5/16"	2"	1/2"	23.28	22.26	21.25	20.24
01627	02627	.3150		8.000	8.0	50	12	24.21	23.16	22.10	21.05
01637	02637	.3543		9.000	9.0	50	14	28.59	27.35	26.10	24.86
01117	02117	.3750	3/8"	9.525	3/8"	2"	5/8"	27.45	26.26	25.06	23.87
01647	02647	.3937		10.000	10.0	50	16	31.75	30.37	28.99	27.61
01657	02657	.4331		11.000	11.0	65	19	38.49	36.82	35.14	33.47
01127	02127	.4375	7/16"	11.113	7/16"	2-1/2"	5/8"	35.81	34.25	32.70	31.14
01667	02667	.4724		12.000	12.0	65	19	46.78	44.75	42.71	40.68
01137	02137	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	44.88	42.93	40.98	39.03
01147	02147	.6250	5/8"	15.875	5/8"	3"	3/4"	79.28	75.83	72.39	68.94
01677	02677	.6299		16.000	16.0	75	19	82.89	79.29	75.68	72.08
01157	02157	.7500	3/4"	19.050	3/4"	3"	1"	111.61	106.76	101.90	97.05
-	02687	.7874		20.000	20.0	75	25	154.00	147.30	140.61	133.91
-	02167	1.000	1"	25.400	1"	3"	1"	190.31	182.04	173.76	165.49

70

35

MATERIAL HARDNESS (Rc)

0