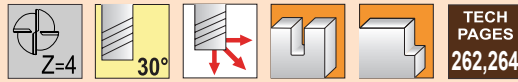


Series 630RA

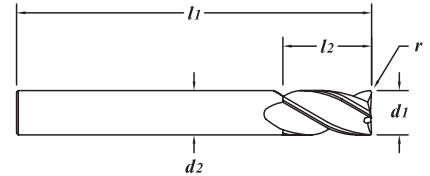
.1250" - .3125"
(3.175mm - 7.938mm)



TOLERANCES	
d_1	+0.000" - .002" (+0.000 - .050mm)
d_2	h6
r	+0.001" - .001" (+0.025 - .025mm)

Extra Length - Corner Radius TiAlN Coating

- Solid submicron grain carbide end mill - center cutting
- Extended reach
- For stronger corners and part radius
- Dry or semi-dry machining
- Can be modified with a neck within 48 hours
- Extremely versatile
- Uncoated - page 225
- Standard length - page 202



MATERIAL HARDNESS (Rc)

70

35

0

EDP#	d_1 † Diameter		d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	r Corner Radius	1-11	12-24	25-49	50-100	
	Decimal	Metric									
20107	.1250	1/8"	3.175	1/8"	3"	1"	.010"	25.13	24.04	22.94	21.85
20117	.1250	1/8"	3.175	1/8"	3"	1"	.015"	25.13	24.04	22.94	21.85
20127	.1250	1/8"	3.175	1/8"	3"	1"	.020"	25.13	24.04	22.94	21.85
20137	.1250	1/8"	3.175	1/8"	3"	1"	.030"	25.13	24.04	22.94	21.85
20147	.1250	1/8"	3.175	1/8"	3"	1"	.045"	25.13	24.04	22.94	21.85
20157	.1875	3/16"	4.763	3/16"	3"	1"	.010"	28.22	26.99	25.77	24.54
20167	.1875	3/16"	4.763	3/16"	3"	1"	.015"	28.22	26.99	25.77	24.54
20177	.1875	3/16"	4.763	3/16"	3"	1"	.020"	28.22	26.99	25.77	24.54
20187	.1875	3/16"	4.763	3/16"	3"	1"	.030"	28.22	26.99	25.77	24.54
20197	.1875	3/16"	4.763	3/16"	3"	1"	.045"	28.22	26.99	25.77	24.54
20207	.1875	3/16"	4.763	3/16"	3"	1"	.060"	28.22	26.99	25.77	24.54
20217	.1875	3/16"	4.763	3/16"	4"	1"	.010"	30.72	29.38	28.05	26.71
20227	.1875	3/16"	4.763	3/16"	4"	1"	.015"	30.72	29.38	28.05	26.71
20237	.1875	3/16"	4.763	3/16"	4"	1"	.020"	30.72	29.38	28.05	26.71
20247	.1875	3/16"	4.763	3/16"	4"	1"	.030"	30.72	29.38	28.05	26.71
20257	.1875	3/16"	4.763	3/16"	4"	1"	.045"	30.72	29.38	28.05	26.71
20267	.1875	3/16"	4.763	3/16"	4"	1"	.060"	30.72	29.38	28.05	26.71
20277	.2500	1/4"	6.350	1/4"	3"	1"	.010"	33.33	31.88	30.43	28.98
20287	.2500	1/4"	6.350	1/4"	3"	1"	.020"	33.33	31.88	30.43	28.98
20297	.2500	1/4"	6.350	1/4"	3"	1"	.030"	33.33	31.88	30.43	28.98
20307	.2500	1/4"	6.350	1/4"	3"	1"	.045"	33.33	31.88	30.43	28.98
20317	.2500	1/4"	6.350	1/4"	3"	1"	.060"	33.33	31.88	30.43	28.98
20327	.2500	1/4"	6.350	1/4"	4"	1"	.010"	35.68	34.13	32.58	31.03
20337	.2500	1/4"	6.350	1/4"	4"	1"	.020"	35.68	34.13	32.58	31.03
20347	.2500	1/4"	6.350	1/4"	4"	1"	.030"	35.68	34.13	32.58	31.03
20357	.2500	1/4"	6.350	1/4"	4"	1"	.045"	35.68	34.13	32.58	31.03
20367	.2500	1/4"	6.350	1/4"	4"	1"	.060"	35.68	34.13	32.58	31.03
20377	.2500	1/4"	6.350	1/4"	6"	1-1/2"	.010"	47.02	44.98	42.93	40.89
20387	.2500	1/4"	6.350	1/4"	6"	1-1/2"	.020"	47.02	44.98	42.93	40.89
20397	.2500	1/4"	6.350	1/4"	6"	1-1/2"	.030"	47.02	44.98	42.93	40.89
20407	.2500	1/4"	6.350	1/4"	6"	1-1/2"	.045"	47.02	44.98	42.93	40.89
20417	.2500	1/4"	6.350	1/4"	6"	1-1/2"	.060"	47.02	44.98	42.93	40.89
20427	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.010"	48.60	46.49	44.37	42.26
20437	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.020"	48.60	46.49	44.37	42.26
20447	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.030"	48.60	46.49	44.37	42.26
20457	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.045"	48.60	46.49	44.37	42.26
20467	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.060"	48.60	46.49	44.37	42.26
20477	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.090"	48.60	46.49	44.37	42.26
20487	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.125"	48.60	46.49	44.37	42.26

EDP#	$d1$ † Diameter		$d2$ Shank Diameter	$l1$ Overall Length	$l2$ Flute Length	r Corner Radius	1-11	12-24	25-49	50-100	
	Decimal	Metric									
20497	.3750	3/8"	9.525	3/8"	4"	1"	.010"	52.73	50.44	48.14	45.85
20507	.3750	3/8"	9.525	3/8"	4"	1"	.020"	52.73	50.44	48.14	45.85
20517	.3750	3/8"	9.525	3/8"	4"	1"	.030"	52.73	50.44	48.14	45.85
20527	.3750	3/8"	9.525	3/8"	4"	1"	.045"	52.73	50.44	48.14	45.85
20537	.3750	3/8"	9.525	3/8"	4"	1"	.060"	52.73	50.44	48.14	45.85
20547	.3750	3/8"	9.525	3/8"	4"	1"	.090"	52.73	50.44	48.14	45.85
20557	.3750	3/8"	9.525	3/8"	4"	1"	.125"	52.73	50.44	48.14	45.85
20567	.3750	3/8"	9.525	3/8"	4"	2"	.010"	52.73	50.44	48.14	45.85
20577	.3750	3/8"	9.525	3/8"	4"	2"	.020"	52.73	50.44	48.14	45.85
20587	.3750	3/8"	9.525	3/8"	4"	2"	.030"	52.73	50.44	48.14	45.85
20597	.3750	3/8"	9.525	3/8"	4"	2"	.045"	52.73	50.44	48.14	45.85
20607	.3750	3/8"	9.525	3/8"	4"	2"	.060"	52.73	50.44	48.14	45.85
20617	.3750	3/8"	9.525	3/8"	4"	2"	.090"	52.73	50.44	48.14	45.85
20627	.3750	3/8"	9.525	3/8"	4"	2"	.125"	52.73	50.44	48.14	45.85
20637	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.010"	73.00	69.83	66.65	63.48
20647	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.020"	73.00	69.83	66.65	63.48
20657	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.030"	73.00	69.83	66.65	63.48
20667	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.045"	73.00	69.83	66.65	63.48
20677	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.060"	73.00	69.83	66.65	63.48
20687	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.090"	73.00	69.83	66.65	63.48
20697	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.125"	73.00	69.83	66.65	63.48
21157	.4375	7/16"	11.113	7/16"	4"	1"	.010"	70.51	67.44	64.38	61.31
21167	.4375	7/16"	11.113	7/16"	4"	1"	.015"	70.51	67.44	64.38	61.31
21177	.4375	7/16"	11.113	7/16"	4"	1"	.020"	70.51	67.44	64.38	61.31
21187	.4375	7/16"	11.113	7/16"	4"	1"	.030"	70.51	67.44	64.38	61.31
21227	.4375	7/16"	11.113	7/16"	4"	1"	.125"	70.51	67.44	64.38	61.31
20707	.5000	1/2"	12.700	1/2"	4"	1"	.015"	71.77	68.65	65.53	62.41
20717	.5000	1/2"	12.700	1/2"	4"	1"	.020"	71.77	68.65	65.53	62.41
20727	.5000	1/2"	12.700	1/2"	4"	1"	.030"	71.77	68.65	65.53	62.41
20737	.5000	1/2"	12.700	1/2"	4"	1"	.045"	71.77	68.65	65.53	62.41
20747	.5000	1/2"	12.700	1/2"	4"	1"	.060"	71.77	68.65	65.53	62.41
20757	.5000	1/2"	12.700	1/2"	4"	1"	.090"	71.77	68.65	65.53	62.41
20767	.5000	1/2"	12.700	1/2"	4"	1"	.125"	71.77	68.65	65.53	62.41
20777	.5000	1/2"	12.700	1/2"	4"	2"	.015"	71.77	68.65	65.53	62.41
20787	.5000	1/2"	12.700	1/2"	4"	2"	.020"	71.77	68.65	65.53	62.41
20797	.5000	1/2"	12.700	1/2"	4"	2"	.030"	71.77	68.65	65.53	62.41
20807	.5000	1/2"	12.700	1/2"	4"	2"	.045"	71.77	68.65	65.53	62.41
20817	.5000	1/2"	12.700	1/2"	4"	2"	.060"	71.77	68.65	65.53	62.41
20827	.5000	1/2"	12.700	1/2"	4"	2"	.090"	71.77	68.65	65.53	62.41
20837	.5000	1/2"	12.700	1/2"	4"	2"	.125"	71.77	68.65	65.53	62.41
20847	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.015"	101.50	97.09	92.67	88.26
20857	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.020"	101.50	97.09	92.67	88.26
20867	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.030"	101.50	97.09	92.67	88.26
20877	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.045"	101.50	97.09	92.67	88.26
20887	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.060"	101.50	97.09	92.67	88.26
20897	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.090"	101.50	97.09	92.67	88.26
20907	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.125"	101.50	97.09	92.67	88.26
20917	.6250	5/8"	15.875	5/8"	6"	2"	.010"	144.68	138.39	132.10	125.81
20927	.6250	5/8"	15.875	5/8"	6"	2"	.015"	144.68	138.39	132.10	125.81
20937	.6250	5/8"	15.875	5/8"	6"	2"	.020"	144.68	138.39	132.10	125.81
20947	.6250	5/8"	15.875	5/8"	6"	2"	.030"	144.68	138.39	132.10	125.81
20957	.6250	5/8"	15.875	5/8"	6"	2"	.045"	144.68	138.39	132.10	125.81
20967	.6250	5/8"	15.875	5/8"	6"	2"	.060"	144.68	138.39	132.10	125.81
20977	.6250	5/8"	15.875	5/8"	6"	2"	.090"	144.68	138.39	132.10	125.81
20987	.6250	5/8"	15.875	5/8"	6"	2"	.125"	144.68	138.39	132.10	125.81

70

35

0

MATERIAL HARDNESS (Rc)

continued →

Series 630RA (continued)

.7500" - 1.000"
(19.050mm - 25.400mm)

EDP#	$d1$ †		$d2$ Shank Diameter	$l1$ Overall Length	$l2$ Flute Length	r Corner Radius	1-11	12-24	25-49	50-100	
	Decimal	Diameter									Metric
20997	.7500	3/4"	19.050	3/4"	6"	3"	.015"	228.46	218.53	208.59	198.66
21007	.7500	3/4"	19.050	3/4"	6"	3"	.020"	228.46	218.53	208.59	198.66
21017	.7500	3/4"	19.050	3/4"	6"	3"	.030"	228.46	218.53	208.59	198.66
21027	.7500	3/4"	19.050	3/4"	6"	3"	.045"	228.46	218.53	208.59	198.66
21037	.7500	3/4"	19.050	3/4"	6"	3"	.060"	228.46	218.53	208.59	198.66
21047	.7500	3/4"	19.050	3/4"	6"	3"	.090"	228.46	218.53	208.59	198.66
21057	.7500	3/4"	19.050	3/4"	6"	3"	.125"	228.46	218.53	208.59	198.66
21147	.7500	3/4"	19.050	3/4"	6"	3"	.250"	228.46	218.53	208.59	198.66
21067	1.000	1"	25.400	1"	6"	3"	.015"	379.86	363.34	346.83	330.31
21077	1.000	1"	25.400	1"	6"	3"	.020"	379.86	363.34	346.83	330.31
21087	1.000	1"	25.400	1"	6"	3"	.030"	379.86	363.34	346.83	330.31
21097	1.000	1"	25.400	1"	6"	3"	.045"	379.86	363.34	346.83	330.31
21107	1.000	1"	25.400	1"	6"	3"	.060"	379.86	363.34	346.83	330.31
21117	1.000	1"	25.400	1"	6"	3"	.090"	379.86	363.34	346.83	330.31
21127	1.000	1"	25.400	1"	6"	3"	.125"	379.86	363.34	346.83	330.31
21137	1.000	1"	25.400	1"	6"	3"	.250"	379.86	363.34	346.83	330.31

MATERIAL HARDNESS (Rc)

70

35

0

