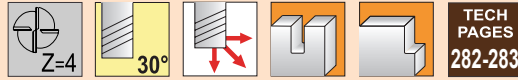
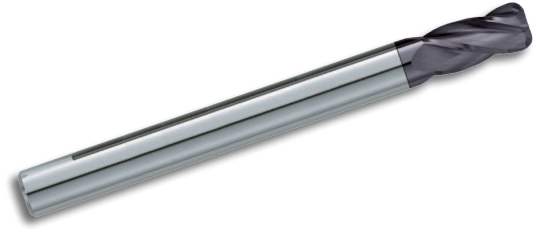


Series 630RA

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

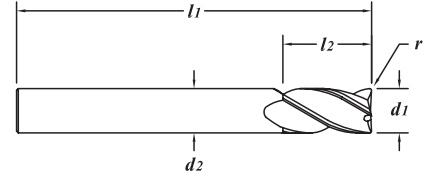


TOLERANCES	
d_1	+0.000" - .002" (+0.000 - .050mm)
d_2	h6
r	+0.001" - .001" (+0.025 - .025mm)



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 241
- Stub length - page 212
- Standard length - page 225



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"	27.44	26.25	25.05	23.86
20117	.1250	1/8"	3.175	1/8"	3"	1"	.015"	27.44	26.25	25.05	23.86
20127	.1250	1/8"	3.175	1/8"	3"	1"	.020"	27.44	26.25	25.05	23.86
20137	.1250	1/8"	3.175	1/8"	3"	1"	.030"	27.44	26.25	25.05	23.86
20147	.1250	1/8"	3.175	1/8"	3"	1"	.045"	27.44	26.25	25.05	23.86
20157	.1875	3/16"	4.763	3/16"	3"	1"	.010"	30.82	29.48	28.14	26.80
20167	.1875	3/16"	4.763	3/16"	3"	1"	.015"	30.82	29.48	28.14	26.80
20177	.1875	3/16"	4.763	3/16"	3"	1"	.020"	30.82	29.48	28.14	26.80
20187	.1875	3/16"	4.763	3/16"	3"	1"	.030"	30.82	29.48	28.14	26.80
20197	.1875	3/16"	4.763	3/16"	3"	1"	.045"	30.82	29.48	28.14	26.80
20207	.1875	3/16"	4.763	3/16"	3"	1"	.060"	30.82	29.48	28.14	26.80
20217	.1875	3/16"	4.763	3/16"	4"	1"	.010"	33.55	32.09	30.63	29.17
20227	.1875	3/16"	4.763	3/16"	4"	1"	.015"	33.55	32.09	30.63	29.17
20237	.1875	3/16"	4.763	3/16"	4"	1"	.020"	33.55	32.09	30.63	29.17
20247	.1875	3/16"	4.763	3/16"	4"	1"	.030"	33.55	32.09	30.63	29.17
20257	.1875	3/16"	4.763	3/16"	4"	1"	.045"	33.55	32.09	30.63	29.17
20267	.1875	3/16"	4.763	3/16"	4"	1"	.060"	33.55	32.09	30.63	29.17
20277	.2500	1/4"	6.350	1/4"	3"	1"	.010"	36.40	34.82	33.23	31.65
20287	.2500	1/4"	6.350	1/4"	3"	1"	.020"	36.40	34.82	33.23	31.65
20297	.2500	1/4"	6.350	1/4"	3"	1"	.030"	36.40	34.82	33.23	31.65
20307	.2500	1/4"	6.350	1/4"	3"	1"	.045"	36.40	34.82	33.23	31.65
20317	.2500	1/4"	6.350	1/4"	3"	1"	.060"	36.40	34.82	33.23	31.65
20327	.2500	1/4"	6.350	1/4"	4"	1"	.010"	38.96	37.27	35.57	33.88
20337	.2500	1/4"	6.350	1/4"	4"	1"	.020"	38.96	37.27	35.57	33.88
20347	.2500	1/4"	6.350	1/4"	4"	1"	.030"	38.96	37.27	35.57	33.88
20357	.2500	1/4"	6.350	1/4"	4"	1"	.045"	38.96	37.27	35.57	33.88
20367	.2500	1/4"	6.350	1/4"	4"	1"	.060"	38.96	37.27	35.57	33.88
20377	.2500	1/4"	6.350	1/4"	6"	1-1/2"	.010"	51.35	49.12	46.88	44.65
20387	.2500	1/4"	6.350	1/4"	6"	1-1/2"	.020"	51.35	49.12	46.88	44.65
20397	.2500	1/4"	6.350	1/4"	6"	1-1/2"	.030"	51.35	49.12	46.88	44.65
20407	.2500	1/4"	6.350	1/4"	6"	1-1/2"	.045"	51.35	49.12	46.88	44.65
20417	.2500	1/4"	6.350	1/4"	6"	1-1/2"	.060"	51.35	49.12	46.88	44.65
20427	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.010"	53.06	50.75	48.45	46.14
20437	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.020"	53.06	50.75	48.45	46.14
20447	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.030"	53.06	50.75	48.45	46.14
20457	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.045"	53.06	50.75	48.45	46.14
20467	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.060"	53.06	50.75	48.45	46.14
20477	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.090"	53.06	50.75	48.45	46.14
20487	.3125	5/16"	7.938	5/16"	4"	1-5/8"	.125"	53.06	50.75	48.45	46.14

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"	57.58	55.08	52.57	50.07
20507	.3750	3/8"	9.525	3/8"	4"	1"	.020"	57.58	55.08	52.57	50.07
20517	.3750	3/8"	9.525	3/8"	4"	1"	.030"	57.58	55.08	52.57	50.07
20527	.3750	3/8"	9.525	3/8"	4"	1"	.045"	57.58	55.08	52.57	50.07
20537	.3750	3/8"	9.525	3/8"	4"	1"	.060"	57.58	55.08	52.57	50.07
20547	.3750	3/8"	9.525	3/8"	4"	1"	.090"	57.58	55.08	52.57	50.07
20557	.3750	3/8"	9.525	3/8"	4"	1"	.125"	57.58	55.08	52.57	50.07
20567	.3750	3/8"	9.525	3/8"	4"	2"	.010"	57.58	55.08	52.57	50.07
20577	.3750	3/8"	9.525	3/8"	4"	2"	.020"	57.58	55.08	52.57	50.07
20587	.3750	3/8"	9.525	3/8"	4"	2"	.030"	57.58	55.08	52.57	50.07
20597	.3750	3/8"	9.525	3/8"	4"	2"	.045"	57.58	55.08	52.57	50.07
20607	.3750	3/8"	9.525	3/8"	4"	2"	.060"	57.58	55.08	52.57	50.07
20617	.3750	3/8"	9.525	3/8"	4"	2"	.090"	57.58	55.08	52.57	50.07
20627	.3750	3/8"	9.525	3/8"	4"	2"	.125"	57.58	55.08	52.57	50.07
20637	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.010"	79.72	76.25	72.79	69.32
20647	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.020"	79.72	76.25	72.79	69.32
20657	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.030"	79.72	76.25	72.79	69.32
20667	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.045"	79.72	76.25	72.79	69.32
20677	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.060"	79.72	76.25	72.79	69.32
20687	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.090"	79.72	76.25	72.79	69.32
20697	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.125"	79.72	76.25	72.79	69.32
21157	.4375	7/16"	11.113	7/16"	4"	1"	.010"	77.00	73.66	70.31	66.96
21167	.4375	7/16"	11.113	7/16"	4"	1"	.015"	77.00	73.66	70.31	66.96
21177	.4375	7/16"	11.113	7/16"	4"	1"	.020"	77.00	73.66	70.31	66.96
21187	.4375	7/16"	11.113	7/16"	4"	1"	.030"	77.00	73.66	70.31	66.96
21227	.4375	7/16"	11.113	7/16"	4"	1"	.125"	77.00	73.66	70.31	66.96
20707	.5000	1/2"	12.700	1/2"	4"	1"	.015"	78.37	74.97	71.56	68.15
20717	.5000	1/2"	12.700	1/2"	4"	1"	.020"	78.37	74.97	71.56	68.15
20727	.5000	1/2"	12.700	1/2"	4"	1"	.030"	78.37	74.97	71.56	68.15
20737	.5000	1/2"	12.700	1/2"	4"	1"	.045"	78.37	74.97	71.56	68.15
20747	.5000	1/2"	12.700	1/2"	4"	1"	.060"	78.37	74.97	71.56	68.15
20757	.5000	1/2"	12.700	1/2"	4"	1"	.090"	78.37	74.97	71.56	68.15
20767	.5000	1/2"	12.700	1/2"	4"	1"	.125"	78.37	74.97	71.56	68.15
20777	.5000	1/2"	12.700	1/2"	4"	2"	.015"	78.37	74.97	71.56	68.15
20787	.5000	1/2"	12.700	1/2"	4"	2"	.020"	78.37	74.97	71.56	68.15
20797	.5000	1/2"	12.700	1/2"	4"	2"	.030"	78.37	74.97	71.56	68.15
20807	.5000	1/2"	12.700	1/2"	4"	2"	.045"	78.37	74.97	71.56	68.15
20817	.5000	1/2"	12.700	1/2"	4"	2"	.060"	78.37	74.97	71.56	68.15
20827	.5000	1/2"	12.700	1/2"	4"	2"	.090"	78.37	74.97	71.56	68.15
20837	.5000	1/2"	12.700	1/2"	4"	2"	.125"	78.37	74.97	71.56	68.15
20847	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.015"	110.84	106.02	101.20	96.38
20857	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.020"	110.84	106.02	101.20	96.38
20867	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.030"	110.84	106.02	101.20	96.38
20877	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.045"	110.84	106.02	101.20	96.38
20887	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.060"	110.84	106.02	101.20	96.38
20897	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.090"	110.84	106.02	101.20	96.38
20907	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.125"	110.84	106.02	101.20	96.38
20917	.6250	5/8"	15.875	5/8"	6"	2"	.010"	157.99	151.12	144.25	137.38
20927	.6250	5/8"	15.875	5/8"	6"	2"	.015"	157.99	151.12	144.25	137.38
20937	.6250	5/8"	15.875	5/8"	6"	2"	.020"	157.99	151.12	144.25	137.38
20947	.6250	5/8"	15.875	5/8"	6"	2"	.030"	157.99	151.12	144.25	137.38
20957	.6250	5/8"	15.875	5/8"	6"	2"	.045"	157.99	151.12	144.25	137.38
20967	.6250	5/8"	15.875	5/8"	6"	2"	.060"	157.99	151.12	144.25	137.38
20977	.6250	5/8"	15.875	5/8"	6"	2"	.090"	157.99	151.12	144.25	137.38
20987	.6250	5/8"	15.875	5/8"	6"	2"	.125"	157.99	151.12	144.25	137.38

70

35

MATERIAL HARDNESS (Rc)

0

continued →

Series 630RA (continued)

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

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									
20997	.7500	3/4"	19.050	3/4"	6"	3"	.015"	249.47	238.62	227.78	216.93
21007	.7500	3/4"	19.050	3/4"	6"	3"	.020"	249.47	238.62	227.78	216.93
21017	.7500	3/4"	19.050	3/4"	6"	3"	.030"	249.47	238.62	227.78	216.93
21027	.7500	3/4"	19.050	3/4"	6"	3"	.045"	249.47	238.62	227.78	216.93
21037	.7500	3/4"	19.050	3/4"	6"	3"	.060"	249.47	238.62	227.78	216.93
21047	.7500	3/4"	19.050	3/4"	6"	3"	.090"	249.47	238.62	227.78	216.93
21057	.7500	3/4"	19.050	3/4"	6"	3"	.125"	249.47	238.62	227.78	216.93
21147	.7500	3/4"	19.050	3/4"	6"	3"	.250"	249.47	238.62	227.78	216.93
21067	1.000	1"	25.400	1"	6"	3"	.015"	414.81	396.77	378.74	360.70
21077	1.000	1"	25.400	1"	6"	3"	.020"	414.81	396.77	378.74	360.70
21087	1.000	1"	25.400	1"	6"	3"	.030"	414.81	396.77	378.74	360.70
21097	1.000	1"	25.400	1"	6"	3"	.045"	414.81	396.77	378.74	360.70
21107	1.000	1"	25.400	1"	6"	3"	.060"	414.81	396.77	378.74	360.70
21117	1.000	1"	25.400	1"	6"	3"	.090"	414.81	396.77	378.74	360.70
21127	1.000	1"	25.400	1"	6"	3"	.125"	414.81	396.77	378.74	360.70
21137	1.000	1"	25.400	1"	6"	3"	.250"	414.81	396.77	378.74	360.70

70
35
0
MATERIAL HARDNESS (Rc)

