

# SERIES HIGHLIGHT

Series VRX

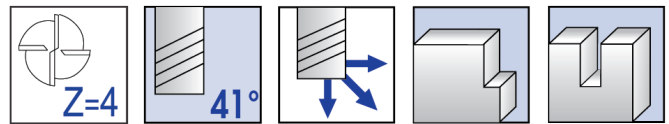
HIGH PERFORMANCE  
END MILLS

S M P K

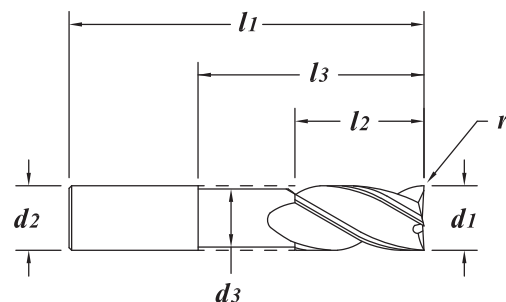
## High Performance End Mills AlTiN Coated

### Target Materials:

- Inconel
- pH Materials
- Titanium
- Tool steels over 40Rc



CALCULATE IDEAL PARAMETERS  
FOR THE VRX IN YOUR APPLICATION  
WITH THE GARR  
TECHNICAL ADVISOR

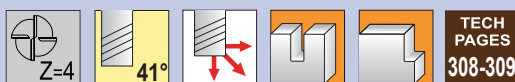


VRX

View the VRX →



.0591" - .1181"  
(1.500mm - 3.000mm)



TOLERANCES	
$d_1$	+0.000" -0.002" (+.000mm -0.050mm)
$d_2$	h6
$r$	+0.001" -0.001" (+.025 -0.25mm)
ball radius	+0.000" -0.001" (+.000 -0.25mm)

Recommended for inconel, pH materials, titanium and tool steels >40Rc

**Square End, Corner Radius, Ball End**

AlTiN Coating

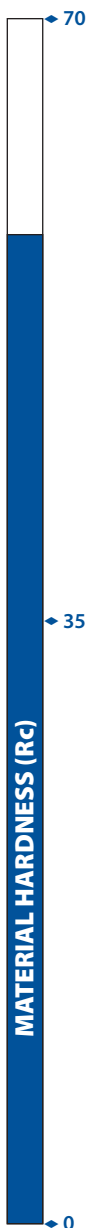
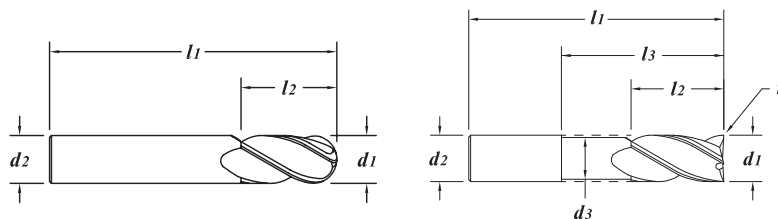
Solid submicron grain carbide end mill - center cutting

Excellent for High Efficiency Milling

Reduces vibration for more aggressive machining resulting in less cycle times and greater productivity

Staggered flute geometry

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



EDP#	$d_1$ †		$d_2$	$l_1$	$l_2$	$r$	$l_3$	$d_3$	LIST PRICE	
	(plain)	(weldon)								Diameter
61084	-		.0591	1.500	3.0	38	3.0	-	-	14.29
61086	-		.0591	1.500	3.0	38	3.0	0.20	-	16.21
61088	-		.0591	1.500	3.0	38	3.0	BALL	-	16.21
61090	-		.0591	1.500	3.0	38	6.0	-	-	14.29
61092	-		.0591	1.500	3.0	38	6.0	0.20	-	16.21
61094	-		.0591	1.500	3.0	38	6.0	BALL	-	16.21
61096	-		.0625	1/16"	1.588	1/8"	1-1/2"	1/8"	-	13.47
61098	-		.0625	1/16"	1.588	1/8"	1-1/2"	1/8"	.010"	15.27
61100	-		.0625	1/16"	1.588	1/8"	1-1/2"	1/8"	BALL	15.27
61102	-		.0625	1/16"	1.588	1/8"	1-1/2"	1/4"	-	13.47
61104	-		.0625	1/16"	1.588	1/8"	1-1/2"	1/4"	.010"	15.27
61106	-		.0625	1/16"	1.588	1/8"	1-1/2"	1/4"	BALL	15.27
61108	-		.0787	2.000	3.0	38	4.0	-	-	13.47
61110	-		.0787	2.000	3.0	38	4.0	0.20	-	15.27
61112	-		.0787	2.000	3.0	38	4.0	BALL	-	15.27
61114	-		.0787	2.000	3.0	38	8.0	-	-	13.47
61116	-		.0787	2.000	3.0	38	8.0	0.20	-	15.27
61118	-		.0787	2.000	3.0	38	8.0	BALL	-	15.27
61120	-		.0938	3/32"	2.383	1/8"	1-1/2"	3/16"	-	12.86
61122	-		.0938	3/32"	2.383	1/8"	1-1/2"	3/16"	.010"	14.72
61124	-		.0938	3/32"	2.383	1/8"	1-1/2"	3/16"	BALL	14.72
61126	-		.0938	3/32"	2.383	1/8"	1-1/2"	3/8"	-	12.86
61128	-		.0938	3/32"	2.383	1/8"	1-1/2"	3/8"	.010"	14.72
61130	-		.0938	3/32"	2.383	1/8"	1-1/2"	3/8"	BALL	14.72
61877	-		.1181	3.000	3.0	38	8	-	-	12.09
27420	-		.1181	3.000	3.0	50	8	0.20	-	13.59
61132	-		.1181	3.000	3.0	50	8	0.30	-	13.59
27425	-		.1181	3.000	3.0	50	8	0.50	-	13.59
61134	-		.1181	3.000	3.0	50	8	BALL	-	13.59
61887	-		.1181	3.000	3.0	38	12	-	-	12.09
27430	-		.1181	3.000	3.0	50	12	0.20	-	13.59
61136	-		.1181	3.000	3.0	50	12	0.30	-	13.59
27435	-		.1181	3.000	3.0	50	12	0.50	-	13.59
61138	-		.1181	3.000	3.0	50	12	BALL	-	13.59

EDP#	<i>d1</i> †	<i>d2</i>	<i>l1</i>	<i>l2</i>	<i>r</i>	<i>l3</i>	<i>d3</i>	LIST PRICE		
								Decimal	Metric	Shank Diameter
61917	-	.1250	1/8"	3.175	1/8"	1-1/2"	1/4"	-	-	12.09
27440	-	.1250	1/8"	3.175	1/8"	1-1/2"	1/4"	.010"	-	13.59
61140	-	.1250	1/8"	3.175	1/8"	1-1/2"	1/4"	.015"	-	13.59
61073	-	.1250	1/8"	3.175	1/8"	1-1/2"	1/4"	.030"	-	13.59
61142	-	.1250	1/8"	3.175	1/8"	1-1/2"	1/4"	BALL	-	13.59
61144	-	.1250	1/8"	3.175	1/8"	1-1/2"	3/8"	-	-	12.09
61146	-	.1250	1/8"	3.175	1/8"	1-1/2"	3/8"	.010"	-	13.59
61148	-	.1250	1/8"	3.175	1/8"	1-1/2"	3/8"	.015"	-	13.59
61074	-	.1250	1/8"	3.175	1/8"	1-1/2"	3/8"	.030"	-	13.59
61149	-	.1250	1/8"	3.175	1/8"	1-1/2"	3/8"	BALL	-	13.59
61927	-	.1250	1/8"	3.175	1/8"	1-1/2"	1/2"	-	-	12.09
27450	-	.1250	1/8"	3.175	1/8"	1-1/2"	1/2"	.010"	-	13.59
61150	-	.1250	1/8"	3.175	1/8"	1-1/2"	1/2"	.015"	-	13.59
27455	-	.1250	1/8"	3.175	1/8"	1-1/2"	1/2"	.020"	-	13.59
61075	-	.1250	1/8"	3.175	1/8"	1-1/2"	1/2"	.030"	-	13.59
61152	-	.1250	1/8"	3.175	1/8"	1-1/2"	1/2"	BALL	-	13.59
<b>NEW</b> 61929	-	.1250	1/8"	3.175	1/8"	2-1/2"	3/4"	-	-	22.82
61154	-	.1562	5/32"	3.967	3/16"	2"	5/16"	-	-	15.92
27460	-	.1562	5/32"	3.967	3/16"	2"	5/16"	.010"	-	18.74
61156	-	.1562	5/32"	3.967	3/16"	2"	5/16"	.015"	-	18.74
61076	-	.1562	5/32"	3.967	3/16"	2"	5/16"	.030"	-	18.74
61077	-	.1562	5/32"	3.967	3/16"	2"	5/16"	BALL	-	18.74
61158	-	.1562	5/32"	3.967	3/16"	2"	1/2"	-	-	15.92
27470	-	.1562	5/32"	3.967	3/16"	2"	1/2"	.010"	-	18.74
61160	-	.1562	5/32"	3.967	3/16"	2"	1/2"	.015"	-	18.74
61078	-	.1562	5/32"	3.967	3/16"	2"	1/2"	.030"	-	18.74
61079	-	.1562	5/32"	3.967	3/16"	2"	1/2"	BALL	-	18.74
<b>NEW</b> 61083	-	.1562	5/32"	3.967	3/16"	2-1/2"	3/4"	-	-	19.10
<b>NEW</b> 61085	-	.1562	5/32"	3.967	3/16"	2-1/2"	3/4"	.010"	-	22.46
<b>NEW</b> 61087	-	.1562	5/32"	3.967	3/16"	2-1/2"	3/4"	.015"	-	22.46
61162	-	.1575		4.000	6.0	50	8	-	-	22.68
27480	-	.1575		4.000	6.0	50	8	0.30	-	23.03
61164	-	.1575		4.000	6.0	50	8	0.50	-	23.03
28470	-	.1575		4.000	6.0	50	8	BALL	-	23.03
61977	-	.1575		4.000	6.0	50	12	-	-	22.68
27490	-	.1575		4.000	6.0	50	12	0.30	-	23.03
27495	-	.1575		4.000	6.0	50	12	0.50	-	23.03
28480	-	.1575		4.000	6.0	50	12	BALL	-	23.03
61166	-	.1575		4.000	6.0	65	19	-	-	25.16
61168	-	.1575		4.000	6.0	65	19	0.30	-	25.53
62007	-	.1875	3/16"	4.763	3/16"	2"	5/16"	-	-	15.24
27500	-	.1875	3/16"	4.763	3/16"	2"	5/16"	.010"	-	17.07
61170	-	.1875	3/16"	4.763	3/16"	2"	5/16"	.015"	-	17.07
61172	-	.1875	3/16"	4.763	3/16"	2"	5/16"	.020"	-	17.07
28490	-	.1875	3/16"	4.763	3/16"	2"	5/16"	BALL	-	17.07
61174	-	.1875	3/16"	4.763	3/16"	2"	7/16"	-	-	15.24
61176	-	.1875	3/16"	4.763	3/16"	2"	7/16"	.010"	-	17.07
61178	-	.1875	3/16"	4.763	3/16"	2"	7/16"	.015"	-	17.07
62017	-	.1875	3/16"	4.763	3/16"	2"	9/16"	-	-	15.24
27520	-	.1875	3/16"	4.763	3/16"	2"	9/16"	.010"	-	17.07
61180	-	.1875	3/16"	4.763	3/16"	2"	9/16"	.015"	-	17.07
27521	-	.1875	3/16"	4.763	3/16"	2"	9/16"	.020"	-	17.07
61182	-	.1875	3/16"	4.763	3/16"	2"	9/16"	.030"	-	17.07
28500	-	.1875	3/16"	4.763	3/16"	2"	9/16"	BALL	-	17.07
61184	-	.1875	3/16"	4.763	3/16"	3"	1"	.010"	-	29.21
61186	-	.1875	3/16"	4.763	3/16"	3"	1-1/4"	.010"	-	29.21
63100	-	.1875	3/16"	4.763	3/16"	4"	5/16"	.010"	-	31.80

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35

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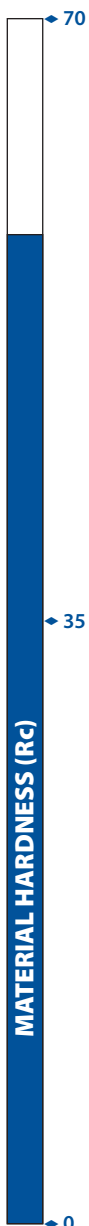
MATERIAL HARDNESS (Rc)

continued →

Series VRX (continued)

.1969" - .2500"  
(5.000mm - 6.350mm)

EDP#		$d1$ †		$d2$	$l1$	$l2$	$r$	$l3$	$d3$	LIST PRICE
(plain)	(weldon)	Decimal	Diameter	Shank Diameter	Overall Length	Flute Length	Corner Radius	Reach Length	Neck Diameter	
61188	-	.1969		5.000	6.0	50	10	-	-	22.21
27522	-	.1969		5.000	6.0	50	10	0.30	-	22.57
61190	-	.1969		5.000	6.0	50	10	0.50	-	22.57
28510	-	.1969		5.000	6.0	50	10	BALL	-	22.57
62057	-	.1969		5.000	6.0	65	15	-	-	24.26
27524	-	.1969		5.000	6.0	65	15	0.30	-	25.00
27526	-	.1969		5.000	6.0	65	15	0.50	-	25.00
27528	-	.1969		5.000	6.0	65	15	1.00	-	25.00
28520	-	.1969		5.000	6.0	65	15	BALL	-	25.00
63110	-	.1969		5.000	6.0	100	10	0.30	-	47.92
61192	-	.1969		5.000	6.0	100	10	0.30	55	56.11
61194	-	.2188	7/32"	5.558	1/4"	2"	3/8"	-	-	18.73
61196	-	.2188	7/32"	5.558	1/4"	2"	3/8"	.010"	-	21.71
27525	-	.2188	7/32"	5.558	1/4"	2"	3/8"	.015"	-	21.71
61198	-	.2188	7/32"	5.558	1/4"	2"	3/8"	BALL	-	21.71
61200	-	.2188	7/32"	5.558	1/4"	2-1/2"	3/4"	-	-	21.26
61202	-	.2188	7/32"	5.558	1/4"	2-1/2"	3/4"	.010"	-	24.08
27530	-	.2188	7/32"	5.558	1/4"	2-1/2"	3/4"	.015"	-	24.08
61204	-	.2188	7/32"	5.558	1/4"	2-1/2"	3/4"	.020"	-	24.08
61206	-	.2188	7/32"	5.558	1/4"	2-1/2"	3/4"	BALL	-	24.08
61208	-	.2188	7/32"	5.558	1/4"	3"	1-1/4"	.015"	-	35.69
63120	-	.2188	7/32"	5.558	1/4"	4"	3/8"	.015"	-	46.27
61210	-	.2188	7/32"	5.558	1/4"	4"	3/8"	.015"	2-1/4"	54.47
62077	-	.2362		6.000	6.0	50	12	-	-	18.89
27535	-	.2362		6.000	6.0	50	12	0.30	-	21.84
61212	-	.2362		6.000	6.0	50	12	0.50	-	21.84
61214	-	.2362		6.000	6.0	50	12	0.75	-	21.84
28530	-	.2362		6.000	6.0	50	12	BALL	-	21.84
62087	-	.2362		6.000	6.0	65	19	-	-	21.29
61216	-	.2362		6.000	6.0	65	19	0.20	-	24.21
27540	-	.2362		6.000	6.0	65	19	0.30	-	24.21
27545	-	.2362		6.000	6.0	65	19	0.50	-	24.21
61218	-	.2362		6.000	6.0	65	19	0.75	-	24.21
27547	-	.2362		6.000	6.0	65	19	1.00	-	24.21
27548	-	.2362		6.000	6.0	65	19	1.50	-	24.21
28540	-	.2362		6.000	6.0	65	19	BALL	-	24.21
61220	-	.2362		6.000	6.0	75	26	0.30	-	36.01
61222	-	.2362		6.000	6.0	75	26	0.50	-	36.01
61224	-	.2362		6.000	6.0	75	38	0.30	-	36.01
61226	-	.2362		6.000	6.0	75	38	0.50	-	36.01
63130	-	.2362		6.000	6.0	100	12	0.30	32	46.72
62137	-	.2500	1/4"	6.350	1/4"	2"	3/8"	-	-	18.13
61228	-	.2500	1/4"	6.350	1/4"	2"	3/8"	.010"	-	20.21
27560	-	.2500	1/4"	6.350	1/4"	2"	3/8"	.015"	-	21.02
61230	-	.2500	1/4"	6.350	1/4"	2"	3/8"	.020"	-	21.02
28570	-	.2500	1/4"	6.350	1/4"	2"	3/8"	BALL	-	21.02
61232	-	.2500	1/4"	6.350	1/4"	2"	1/2"	-	-	18.13
61234	-	.2500	1/4"	6.350	1/4"	2"	1/2"	.015"	-	21.02
62147	-	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	-	-	20.56
27570	-	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	.010"	-	23.28
27580	-	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	.015"	-	23.28
61236	-	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	.020"	-	23.28
27581	-	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	.030"	-	23.28
61238	-	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	.040"	-	23.28



EDP#		$d_1$ †		$d_2$	$l_1$	$l_2$	$r$	$l_3$	$d_3$	LIST PRICE	
		Decimal	Metric								Shank Diameter
(plain)	(weldon)		Diameter								
27583	-	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	.060"	-	-	23.28
28580	-	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	BALL	-	-	23.28
61240	-	.2500	1/4"	6.350	1/4"	3"	1"	.015"	-	-	34.50
61241	-	.2500	1/4"	6.350	1/4"	3"	1-1/8"	.030"	-	-	34.50
61242	-	.2500	1/4"	6.350	1/4"	3"	1-1/2"	.015"	-	-	34.50
61244	-	.2500	1/4"	6.350	1/4"	4"	3/8"	.015"	3/4"	.240"	45.12
63140	-	.2500	1/4"	6.350	1/4"	4"	3/8"	.015"	1-1/4"	.240"	45.12
61246	-	.2500	1/4"	6.350	1/4"	4"	3/8"	.015"	2-1/8"	.240"	45.12
27585	-	.2756		7.000	8.0	50	12	0.30	-	-	34.08
27590	-	.2756		7.000	8.0	65	22	0.30	-	-	37.46
61248	-	.2812	9/32"	7.142	5/16"	2"	7/16"	-	-	-	28.67
27595	-	.2812	9/32"	7.142	5/16"	2"	7/16"	.015"	-	-	32.85
61250	-	.2812	9/32"	7.142	5/16"	2-1/2"	13/16"	-	-	-	33.55
61252	-	.2812	9/32"	7.142	5/16"	2-1/2"	13/16"	.010"	-	-	36.11
27597	-	.2812	9/32"	7.142	5/16"	2-1/2"	13/16"	.015"	-	-	36.11
61254	-	.2812	9/32"	7.142	5/16"	2-1/2"	13/16"	.020"	-	-	36.11
63150	-	.2812	9/32"	7.142	5/16"	4"	7/16"	.015"	-	-	62.39
62207	-	.3125	5/16"	7.938	5/16"	2"	7/16"	-	-	-	25.05
61256	-	.3125	5/16"	7.938	5/16"	2"	7/16"	.010"	-	-	28.71
61258	-	.3125	5/16"	7.938	5/16"	2"	7/16"	.015"	-	-	28.71
27600	-	.3125	5/16"	7.938	5/16"	2"	7/16"	.020"	-	-	28.71
61260	-	.3125	5/16"	7.938	5/16"	2"	7/16"	.030"	-	-	28.71
28610	-	.3125	5/16"	7.938	5/16"	2"	7/16"	BALL	-	-	28.71
62217	-	.3125	5/16"	7.938	5/16"	2-1/2"	13/16"	-	-	-	29.31
27610	-	.3125	5/16"	7.938	5/16"	2-1/2"	13/16"	.010"	-	-	31.56
61262	-	.3125	5/16"	7.938	5/16"	2-1/2"	13/16"	.015"	-	-	31.56
27620	-	.3125	5/16"	7.938	5/16"	2-1/2"	13/16"	.020"	-	-	31.56
27622	-	.3125	5/16"	7.938	5/16"	2-1/2"	13/16"	.030"	-	-	31.56
61264	-	.3125	5/16"	7.938	5/16"	2-1/2"	13/16"	.040"	-	-	31.56
27624	-	.3125	5/16"	7.938	5/16"	2-1/2"	13/16"	.060"	-	-	31.56
28620	-	.3125	5/16"	7.938	5/16"	2-1/2"	13/16"	BALL	-	-	31.56
61266	-	.3125	5/16"	7.938	5/16"	3"	1-1/4"	.015"	-	-	43.99
63160	-	.3125	5/16"	7.938	5/16"	4"	7/16"	.020"	1-7/8"	.300"	60.84
62257	-	.3150		8.000	8.0	50	12	-	-	-	26.08
61268	-	.3150		8.000	8.0	50	12	0.30	-	-	29.77
27630	-	.3150		8.000	8.0	50	12	0.50	-	-	29.77
61270	-	.3150		8.000	8.0	50	12	0.75	-	-	29.77
28630	-	.3150		8.000	8.0	50	12	BALL	-	-	29.77
62267	-	.3150		8.000	8.0	65	22	-	-	-	30.38
27635	-	.3150		8.000	8.0	65	22	0.30	-	-	32.74
27640	-	.3150		8.000	8.0	65	22	0.50	-	-	32.74
61272	-	.3150		8.000	8.0	65	22	0.75	-	-	32.74
27642	-	.3150		8.000	8.0	65	22	1.00	-	-	32.74
27643	-	.3150		8.000	8.0	65	22	1.50	-	-	32.74
61274	-	.3150		8.000	8.0	65	22	2.00	-	-	32.74
28640	-	.3150		8.000	8.0	65	22	BALL	-	-	32.74
61276	-	.3150		8.000	8.0	75	38	0.50	-	-	45.87
61278	-	.3150		8.000	8.0	100	50	0.50	-	-	52.40
63170	-	.3150		8.000	8.0	100	12	0.50	47	7.60	62.94
61280	-	.3438	11/32"	8.733	3/8"	2"	1/2"	-	-	-	33.50
27645	-	.3438	11/32"	8.733	3/8"	2"	1/2"	.020"	-	-	38.34
61282	-	.3438	11/32"	8.733	3/8"	2-1/2"	7/8"	-	-	-	39.13
27650	-	.3438	11/32"	8.733	3/8"	2-1/2"	7/8"	.020"	-	-	41.68
61284	-	.3438	11/32"	8.733	3/8"	3"	1-1/4"	.015"	-	-	54.86

70

35

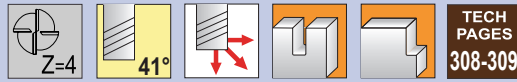
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MATERIAL HARDNESS (Rc)

continued →

Series VRX (continued)

.3438" - .3937"  
(8.733mm - 10.000mm)



TOLERANCES

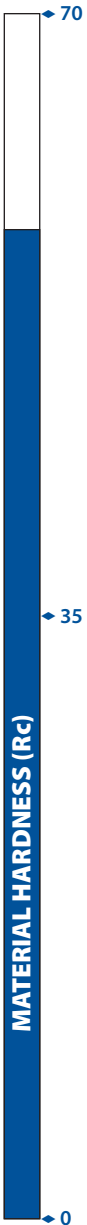
d1	+0.00" - .002" (+.000mm - .050mm)
d2	h6
r	+0.001" - .001" (+.025 - .025mm)
ball radius	+0.000" - .001" (+.000 - .025mm)

Recommended for inconel, pH materials, titanium and tool steels >40Rc



AlTiN Coating

Solid submicron grain carbide end mill - center cutting  
Excellent for High Efficiency Milling  
Reduces vibration for more aggressive machining resulting in less cycle times and greater productivity  
Staggered flute geometry



EDP#	(plain) (weldon)	d1 † Diameter		d2 Shank Diameter	l1 Overall Length	l2 Flute Length	r Corner Radius	l3 Reach Length	d3 Neck Diameter	LIST PRICE	
		Decimal	Metric								
63180	-	.3438	11/32"	8.733	3/8"	4"	1/2"	.020"	-	-	66.81
27655	-	.3543		9.000	10.0	50	14	0.50	-	-	46.28
62287	-	.3543		9.000	10.0	65	22	-	-	-	46.91
27657	-	.3543		9.000	10.0	65	22	0.50	-	-	50.31
62317	-	.3750	3/8"	9.525	3/8"	2"	1/2"	-	-	-	29.59
27658	-	.3750	3/8"	9.525	3/8"	2"	1/2"	.010"	-	-	33.89
61286	-	.3750	3/8"	9.525	3/8"	2"	1/2"	.015"	-	-	33.89
27660	-	.3750	3/8"	9.525	3/8"	2"	1/2"	.020"	-	-	33.89
27662	-	.3750	3/8"	9.525	3/8"	2"	1/2"	.030"	-	-	33.89
61288	-	.3750	3/8"	9.525	3/8"	2"	1/2"	.060"	-	-	33.89
28670	-	.3750	3/8"	9.525	3/8"	2"	1/2"	BALL	-	-	33.89
<b>NEW</b> 28676	-	.3750	3/8"	9.525	3/8"	2"	5/8"	.045"	-	-	33.89
62327	-	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	-	-	-	34.59
27670	-	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.010"	-	-	36.85
61290	-	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.015"	-	-	36.85
27680	-	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.020"	-	-	36.85
27682	-	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.030"	-	-	36.85
61292	-	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.040"	-	-	36.85
61294	-	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.050"	-	-	36.85
27684	-	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.060"	-	-	36.85
61296	-	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.094"	-	-	36.85
28680	-	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	BALL	-	-	36.85
61298	-	.3750	3/8"	9.525	3/8"	3"	1-1/4"	.015"	-	-	48.49
61299	-	.3750	3/8"	9.525	3/8"	3"	1-1/4"	.030"	-	-	48.49
61300	-	.3750	3/8"	9.525	3/8"	4"	1-1/2"	.015"	-	-	54.58
61302	-	.3750	3/8"	9.525	3/8"	4"	1-1/2"	BALL	-	-	54.58
61304	-	.3750	3/8"	9.525	3/8"	4"	2"	.015"	-	-	54.58
61306	-	.3750	3/8"	9.525	3/8"	4"	1/2"	.015"	1-1/8"	.360"	65.13
63190	-	.3750	3/8"	9.525	3/8"	4"	1/2"	.020"	1-7/8"	.360"	65.13
61308	-	.3750	3/8"	9.525	3/8"	4"	1/2"	.015"	2-1/8"	.360"	65.13
61310	-	.3750	3/8"	9.525	3/8"	6"	1/2"	.015"	3-1/8"	.360"	86.11
61312	-	.3937		10.000	10.0	50	16	-	-	-	38.14
27690	-	.3937		10.000	10.0	50	16	0.50	-	-	40.91
61314	-	.3937		10.000	10.0	50	16	1.00	-	-	40.91
28690	-	.3937		10.000	10.0	50	16	BALL	-	-	40.91
62397	-	.3937		10.000	10.0	70	22	-	-	-	41.47
27698	-	.3937		10.000	10.0	70	22	0.30	-	-	44.49
27700	-	.3937		10.000	10.0	70	22	0.50	-	-	44.49
61316	-	.3937		10.000	10.0	70	22	0.75	-	-	44.49
27702	-	.3937		10.000	10.0	70	22	1.00	-	-	44.49
28700	-	.3937		10.000	10.0	70	22	BALL	-	-	44.49
61318	-	.3937		10.000	10.0	70	32	0.50	-	-	44.49
61320	-	.3937		10.000	10.0	100	38	0.50	-	-	69.10
61322	-	.3937		10.000	10.0	100	50	0.50	-	-	69.10
63200	-	.3937		10.000	10.0	100	14	0.50	47	9.50	79.65

EDP#		$d_1$ †			$d_2$	$l_1$	$l_2$	$r$	$l_3$	$d_3$	LIST PRICE
(plain)	(weldon)	Decimal	Diameter	Metric	Shank Diameter	Overall Length	Flute Length	Corner Radius	Reach Length	Neck Diameter	
27705	-	.4375	7/16"	11.113	7/16"	2-1/2"	5/8"	.020"	-	-	44.56
28705	-	.4375	7/16"	11.113	7/16"	2-1/2"	5/8"	BALL	-	-	44.56
62437	-	.4375	7/16"	11.113	7/16"	2-3/4"	7/8"	-	-	-	41.58
27708	-	.4375	7/16"	11.113	7/16"	2-3/4"	7/8"	.010"	-	-	44.56
27710	-	.4375	7/16"	11.113	7/16"	2-3/4"	7/8"	.020"	-	-	44.56
28710	-	.4375	7/16"	11.113	7/16"	2-3/4"	7/8"	BALL	-	-	44.56
63210	-	.4375	7/16"	11.113	7/16"	6"	1"	.020"	-	-	96.06
62475	-	.4724		12.000	12.0	65	19	-	-	-	50.49
27712	-	.4724		12.000	12.0	65	19	0.30	-	-	58.73
27715	-	.4724		12.000	12.0	65	19	0.50	-	-	58.73
28715	-	.4724		12.000	12.0	65	19	BALL	-	-	58.73
61324	-	.4724		12.000	12.0	75	26	-	-	-	53.87
61326	-	.4724		12.000	12.0	75	26	0.50	-	-	65.52
62485	-	.4724		12.000	12.0	75	32	-	-	-	53.87
27718	-	.4724		12.000	12.0	75	32	0.30	-	-	65.52
27720	-	.4724		12.000	12.0	75	32	0.50	-	-	65.52
61328	-	.4724		12.000	12.0	75	32	0.75	-	-	65.52
27722	-	.4724		12.000	12.0	75	32	1.00	-	-	65.52
27730	-	.4724		12.000	12.0	75	32	1.50	-	-	65.52
27735	-	.4724		12.000	12.0	75	32	2.00	-	-	65.52
61330	-	.4724		12.000	12.0	75	32	3.00	-	-	65.52
28720	-	.4724		12.000	12.0	75	32	BALL	-	-	65.52
61332	-	.4724		12.000	12.0	100	38	-	-	-	73.47
61334	-	.4724		12.000	12.0	100	38	0.50	-	-	77.62
61336	-	.4724		12.000	12.0	100	42	-	-	-	73.47
61338	-	.4724		12.000	12.0	100	42	0.50	-	-	77.62
61340	-	.4724		12.000	12.0	100	52	-	-	-	73.47
61342	-	.4724		12.000	12.0	100	52	0.50	-	-	77.62
63220	-	.4724		12.000	12.0	150	19	0.50	57	11.50	115.59
62525	62527	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	-	-	-	48.42
27739	27738	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	.010"	-	-	56.32
61344	-	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	.015"	-	-	56.32
27741	27740	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	.020"	-	-	56.32
27743	27742	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	.030"	-	-	56.32
61346	-	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	.060"	-	-	56.32
28751	28750	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	BALL	-	-	56.32
61348	-	.5000	1/2"	12.700	1/2"	3"	1"	-	-	-	51.73
61350	-	.5000	1/2"	12.700	1/2"	3"	1"	.015"	-	-	62.86
61352	-	.5000	1/2"	12.700	1/2"	3"	1"	.030"	-	-	62.86
61354	-	.5000	1/2"	12.700	1/2"	3"	1"	.060"	-	-	62.86
61356	-	.5000	1/2"	12.700	1/2"	3"	1"	.125"	-	-	62.86
61358	-	.5000	1/2"	12.700	1/2"	3"	1"	BALL	-	-	62.86
62535	62537	.5000	1/2"	12.700	1/2"	3"	1-1/4"	-	-	-	51.73
27751	27750	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.010"	-	-	62.86
61360	-	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.015"	-	-	62.86
27761	27760	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.020"	-	-	62.86
27763	27762	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.030"	-	-	62.86
61362	-	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.040"	-	-	62.86
61364	-	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.050"	-	-	62.86
27767	27764	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.060"	-	-	62.86
61366	-	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.078"	-	-	62.86
63398	63399	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.090"	-	-	62.86

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MATERIAL HARDNESS (Rc)

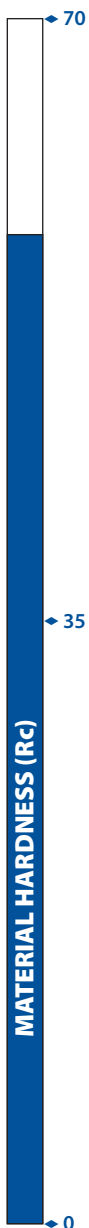
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continued →

Series VRX (continued)

.5000" - .6250"  
(12.700mm - 15.875mm)

EDP#		$d1$ †		$d2$	$l1$	$l2$	$r$	$l3$	$d3$	LIST PRICE	
(plain)	(weldon)	Decimal	Diameter	Shank Diameter	Overall Length	Flute Length	Corner Radius	Reach Length	Neck Diameter		
61368	-	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.094"	-	62.86	
61370	-	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.100"	-	62.86	
27769	27768	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.120"	-	62.86	
61372	-	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.125"	-	62.86	
28761	28760	.5000	1/2"	12.700	1/2"	3"	1-1/4"	BALL	-	62.86	
28771	28770	.5000	1/2"	12.700	1/2"	4"	5/8"	BALL	-	74.28	
61374	-	.5000	1/2"	12.700	1/2"	4"	1-1/2"	-	-	70.00	
63401	63400	.5000	1/2"	12.700	1/2"	4"	1-1/2"	.010"	-	74.28	
61376	-	.5000	1/2"	12.700	1/2"	4"	1-1/2"	.015"	-	74.28	
63411	63410	.5000	1/2"	12.700	1/2"	4"	1-1/2"	.030"	-	74.28	
63421	63420	.5000	1/2"	12.700	1/2"	4"	1-1/2"	.060"	-	74.28	
63424	-	.5000	1/2"	12.700	1/2"	4"	1-1/2"	.125"	-	74.28	
61378	-	.5000	1/2"	12.700	1/2"	4"	1-1/2"	BALL	-	74.28	
61380	-	.5000	1/2"	12.700	1/2"	4"	1-5/8"	.015"	-	74.28	
61382	-	.5000	1/2"	12.700	1/2"	4"	1-3/4"	.015"	-	74.28	
62565	62567	.5000	1/2"	12.700	1/2"	4"	2"	-	-	70.00	
63431	63430	.5000	1/2"	12.700	1/2"	4"	2"	.010"	-	74.28	
61384	-	.5000	1/2"	12.700	1/2"	4"	2"	.015"	-	74.28	
63441	63440	.5000	1/2"	12.700	1/2"	4"	2"	.030"	-	74.28	
63451	63450	.5000	1/2"	12.700	1/2"	4"	2"	.060"	-	74.28	
61386	-	.5000	1/2"	12.700	1/2"	4"	2-1/8"	.015"	-	74.28	
63241	63240	.5000	1/2"	12.700	1/2"	6"	2"	.020"	-	105.05	
61388	-	.5000	1/2"	12.700	1/2"	6"	2-1/2"	.015"	-	105.05	
61390	-	.5000	1/2"	12.700	1/2"	6"	2-1/2"	.030"	-	105.05	
61392	-	.5000	1/2"	12.700	1/2"	6"	3-1/4"	.030"	-	105.05	
61394	-	.5000	1/2"	12.700	1/2"	4"	5/8"	.015"	1-1/2"	.480"	84.79
61396	-	.5000	1/2"	12.700	1/2"	4"	5/8"	.015"	2-1/4"	.480"	84.79
63231	63230	.5000	1/2"	12.700	1/2"	4"	5/8"	.020"	2-1/4"	.480"	84.79
61398	-	.5000	1/2"	12.700	1/2"	6"	5/8"	.015"	3-3/8"	.480"	115.56
61400	-	.5000	1/2"	12.700	1/2"	6"	5/8"	.015"	4-1/8"	.480"	115.56
27766	27765	.5512		14.000	14.0	75	19	0.50	-	92.75	
28781	28780	.5512		14.000	14.0	75	19	BALL	-	92.75	
27771	27770	.5512		14.000	14.0	88	32	0.50	-	95.32	
28786	28785	.5512		14.000	14.0	88	32	BALL	-	95.32	
63261	63260	.5512		14.000	14.0	150	50	0.50	-	137.59	
63251	-	.5512		14.000	14.0	150	19	0.50	57	13.50	147.73
62625	62627	.5625	9/16"	14.288	9/16"	3-1/2"	1-1/4"	-	-	-	86.02
61402	-	.6250	5/8"	15.875	5/8"	3"	3/4"	-	-	-	92.74
63461	63460	.6250	5/8"	15.875	5/8"	3"	3/4"	.010"	-	-	97.37
61404	-	.6250	5/8"	15.875	5/8"	3"	3/4"	.015"	-	-	97.37
27781	27780	.6250	5/8"	15.875	5/8"	3"	3/4"	.025"	-	-	97.37
61406	-	.6250	5/8"	15.875	5/8"	3"	3/4"	.060"	-	-	97.37
28796	28795	.6250	5/8"	15.875	5/8"	3"	3/4"	BALL	-	-	97.37
62655	62657	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	-	-	-	95.45
27791	27790	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.010"	-	-	100.07
61408	-	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.015"	-	-	100.07
61410	-	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.020"	-	-	100.07
27801	27800	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.025"	-	-	100.07
61412	-	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.030"	-	-	100.07
61414	-	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.040"	-	-	100.07
27803	27802	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.060"	-	-	100.07
61416	-	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.078"	-	-	100.07
61418	-	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.094"	-	-	100.07
27805	27804	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.120"	-	-	100.07
61420	-	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.125"	-	-	100.07
28801	28800	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	BALL	-	-	100.07



EDP#		$d1$ †			$d2$	$l1$	$l2$	$r$	$l3$	$d3$	LIST PRICE
(plain)	(weldon)	Decimal	Diameter	Metric	Shank Diameter	Overall Length	Flute Length	Corner Radius	Reach Length	Neck Diameter	
61422	-	.6250	5/8"	15.875	5/8"	4"	1-1/2"	-	-	-	101.94
63501	63500	.6250	5/8"	15.875	5/8"	4"	1-1/2"	.015"	-	-	108.78
61424	-	.6250	5/8"	15.875	5/8"	4"	1-1/2"	.015"	-	-	108.78
63511	63510	.6250	5/8"	15.875	5/8"	4"	1-1/2"	.030"	-	-	108.78
63521	63520	.6250	5/8"	15.875	5/8"	4"	1-1/2"	.060"	-	-	108.78
61426	-	.6250	5/8"	15.875	5/8"	4"	1-5/8"	-	-	-	101.94
61428	-	.6250	5/8"	15.875	5/8"	4"	1-5/8"	.015"	-	-	108.78
61430	-	.6250	5/8"	15.875	5/8"	4"	1-5/8"	.030"	-	-	108.78
61432	-	.6250	5/8"	15.875	5/8"	4"	1-5/8"	.060"	-	-	108.78
62675	62677	.6250	5/8"	15.875	5/8"	4"	1-3/4"	-	-	-	101.94
63531	63530	.6250	5/8"	15.875	5/8"	4"	1-3/4"	.010"	-	-	108.78
63541	63540	.6250	5/8"	15.875	5/8"	4"	1-3/4"	.030"	-	-	108.78
63551	63550	.6250	5/8"	15.875	5/8"	4"	1-3/4"	.060"	-	-	108.78
63281	63280	.6250	5/8"	15.875	5/8"	6"	2"	.025"	-	-	149.74
63283	-	.6250	5/8"	15.875	5/8"	6"	2"	.090"	-	-	149.74
63285	-	.6250	5/8"	15.875	5/8"	6"	2"	.125"	-	-	149.74
28806	28805	.6250	5/8"	15.875	5/8"	6"	2"	BALL	-	-	149.74
61434	-	.6250	5/8"	15.875	5/8"	6"	2-1/2"	.030"	-	-	149.74
61436	-	.6250	5/8"	15.875	5/8"	6"	3-1/4"	.030"	-	-	149.74
61438	-	.6250	5/8"	15.875	5/8"	4"	3/4"	.030"	1-5/8"	.600"	119.30
61440	-	.6250	5/8"	15.875	5/8"	6"	3/4"	.030"	2-3/8"	.600"	160.27
63271	63270	.6250	5/8"	15.875	5/8"	6"	3/4"	.025"	3-1/4"	.600"	160.27
61442	-	.6250	5/8"	15.875	5/8"	6"	3/4"	.030"	4-1/8"	.600"	160.27
61444	-	.6299		16.000	16.0	75	19	-	-	-	96.92
27809	-	.6299		16.000	16.0	75	19	0.30	-	-	101.64
27811	27810	.6299		16.000	16.0	75	19	0.50	-	-	101.64
61446	-	.6299		16.000	16.0	75	19	1.00	-	-	101.64
28811	28810	.6299		16.000	16.0	75	19	BALL	-	-	101.64
62715	62717	.6299		16.000	16.0	88	32	-	-	-	99.57
27819	27818	.6299		16.000	16.0	88	32	0.30	-	-	104.42
27821	27820	.6299		16.000	16.0	88	32	0.50	-	-	104.42
61448	-	.6299		16.000	16.0	88	32	0.75	-	-	104.42
27823	27822	.6299		16.000	16.0	88	32	1.00	-	-	104.42
61450	-	.6299		16.000	16.0	88	32	1.50	-	-	104.42
27825	27824	.6299		16.000	16.0	88	32	2.00	-	-	104.42
61452	-	.6299		16.000	16.0	88	32	3.00	-	-	104.42
28821	28820	.6299		16.000	16.0	88	32	BALL	-	-	104.42
63581	63580	.6299		16.000	16.0	100	38	0.30	-	-	111.04
61454	-	.6299		16.000	16.0	100	38	0.50	-	-	111.04
61456	-	.6299		16.000	16.0	100	42	0.50	-	-	111.04
63291	63290	.6299		16.000	16.0	150	19	0.50	82	15.25	160.27
27831	-	.7087		18.000	18.0	75	22	0.80	-	-	146.62
28831	-	.7087		18.000	18.0	75	22	BALL	-	-	146.62
27836	27835	.7087		18.000	18.0	100	38	0.80	-	-	149.92
28836	28835	.7087		18.000	18.0	100	38	BALL	-	-	149.92
63301	-	.7087		18.000	18.0	150	25	0.80	82	17.25	233.62
61458	-	.7500	3/4"	19.050	3/4"	3"	7/8"	-	-	-	133.33
27841	27840	.7500	3/4"	19.050	3/4"	3"	7/8"	.030"	-	-	140.46
61460	-	.7500	3/4"	19.050	3/4"	3"	7/8"	.060"	-	-	140.46
28841	28840	.7500	3/4"	19.050	3/4"	3"	7/8"	BALL	-	-	140.46
61462	-	.7500	3/4"	19.050	3/4"	4"	1-1/4"	-	-	-	136.25
61464	-	.7500	3/4"	19.050	3/4"	4"	1-1/4"	.030"	-	-	143.51
62775	62777	.7500	3/4"	19.050	3/4"	4"	1-1/2"	-	-	-	136.25
27851	27850	.7500	3/4"	19.050	3/4"	4"	1-1/2"	.015"	-	-	143.51
27861	27860	.7500	3/4"	19.050	3/4"	4"	1-1/2"	.030"	-	-	143.51
27865	27864	.7500	3/4"	19.050	3/4"	4"	1-1/2"	.060"	-	-	143.51
27867	27866	.7500	3/4"	19.050	3/4"	4"	1-1/2"	.120"	-	-	143.51
28861	28860	.7500	3/4"	19.050	3/4"	4"	1-1/2"	BALL	-	-	143.51

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MATERIAL HARDNESS (Rc)

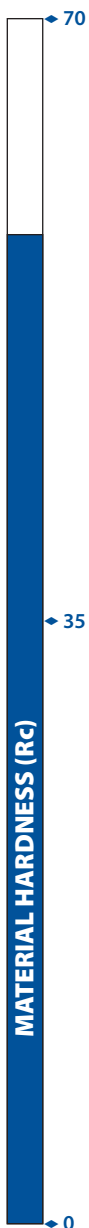
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continued →

Series VRX (continued)

.7500" - .8661"  
(19.050mm - 22.000mm)

EDP#		$d_1$ †		$d_2$	$l_1$	$l_2$	$r$	$l_3$	$d_3$	LIST PRICE	
(plain)	(weldon)	Decimal	Diameter	Metric	Shank Diameter	Overall Length	Flute Length	Corner Radius	Reach Length		Neck Diameter
61466	-	.7500	3/4"	19.050	3/4"	4"	1-5/8"	-	-	-	136.25
61468	-	.7500	3/4"	19.050	3/4"	4"	1-5/8"	.015"	-	-	143.51
61470	-	.7500	3/4"	19.050	3/4"	4"	1-5/8"	.030"	-	-	143.51
61472	-	.7500	3/4"	19.050	3/4"	4"	1-5/8"	.060"	-	-	143.51
61474	-	.7500	3/4"	19.050	3/4"	4"	1-5/8"	BALL	-	-	143.51
62785	62787	.7500	3/4"	19.050	3/4"	4"	1-3/4"	-	-	-	136.25
63601	63600	.7500	3/4"	19.050	3/4"	4"	1-3/4"	.015"	-	-	143.51
27869	27868	.7500	3/4"	19.050	3/4"	4"	1-3/4"	.030"	-	-	143.51
63611	63610	.7500	3/4"	19.050	3/4"	4"	1-3/4"	.060"	-	-	143.51
61476	-	.7500	3/4"	19.050	3/4"	4"	1-3/4"	.094"	-	-	143.51
63621	63620	.7500	3/4"	19.050	3/4"	4"	1-3/4"	.120"	-	-	143.51
61478	-	.7500	3/4"	19.050	3/4"	4"	1-3/4"	.190"	-	-	143.51
61480	-	.7500	3/4"	19.050	3/4"	4"	1-3/4"	BALL	-	-	143.51
62795	62797	.7500	3/4"	19.050	3/4"	5"	2"	-	-	-	182.87
63631	63630	.7500	3/4"	19.050	3/4"	5"	2"	.015"	-	-	199.06
63311	63310	.7500	3/4"	19.050	3/4"	5"	2"	.030"	-	-	199.06
63641	63640	.7500	3/4"	19.050	3/4"	5"	2"	.060"	-	-	199.06
61482	-	.7500	3/4"	19.050	3/4"	5"	2"	.094"	-	-	199.06
61484	-	.7500	3/4"	19.050	3/4"	5"	2"	.125"	-	-	199.06
28866	28865	.7500	3/4"	19.050	3/4"	5"	2"	BALL	-	-	199.06
61486	-	.7500	3/4"	19.050	3/4"	5"	2-1/2"	-	-	-	182.87
61488	-	.7500	3/4"	19.050	3/4"	5"	2-1/2"	.030"	-	-	199.06
62805	62807	.7500	3/4"	19.050	3/4"	6"	3"	-	-	-	214.01
63651	63650	.7500	3/4"	19.050	3/4"	6"	3"	.015"	-	-	236.45
63661	63660	.7500	3/4"	19.050	3/4"	6"	3"	.030"	-	-	236.45
63671	63670	.7500	3/4"	19.050	3/4"	6"	3"	.060"	-	-	236.45
61490	-	.7500	3/4"	19.050	3/4"	6"	3-1/4"	-	-	-	214.01
61492	-	.7500	3/4"	19.050	3/4"	6"	3-1/4"	.030"	-	-	236.45
61494	-	.7500	3/4"	19.050	3/4"	7"	4-1/4"	-	-	-	268.78
61496	-	.7500	3/4"	19.050	3/4"	7"	4-1/4"	.030"	-	-	298.22
63321	63320	.7500	3/4"	19.050	3/4"	6"	1"	.030"	3-1/4"	.730"	247.06
63323	-	.7500	3/4"	19.050	3/4"	6"	1"	.060"	3-1/4"	.730"	247.06
63325	-	.7500	3/4"	19.050	3/4"	6"	1"	.090"	3-1/4"	.730"	247.06
63327	-	.7500	3/4"	19.050	3/4"	6"	1"	.125"	3-1/4"	.730"	247.06
63329	-	.7500	3/4"	19.050	3/4"	6"	1"	.190"	3-1/4"	.730"	247.06
61498	-	.7874		20.000	20.0	75	22	-	-	-	180.01
61500	-	.7874		20.000	20.0	75	22	0.50	-	-	198.63
27871	27870	.7874		20.000	20.0	75	22	1.00	-	-	198.63
28871	28870	.7874		20.000	20.0	75	22	BALL	-	-	198.63
62825	62827	.7874		20.000	20.0	100	38	-	-	-	184.08
27879	27878	.7874		20.000	20.0	100	38	0.50	-	-	203.11
61502	-	.7874		20.000	20.0	100	38	0.75	-	-	203.11
27881	27880	.7874		20.000	20.0	100	38	1.00	-	-	203.11
27891	27890	.7874		20.000	20.0	100	38	1.50	-	-	203.11
61504	-	.7874		20.000	20.0	100	38	3.00	-	-	203.11
28881	28880	.7874		20.000	20.0	100	38	BALL	-	-	203.11
61506	-	.7874		20.000	20.0	100	42	0.50	-	-	203.11
61508	-	.7874		20.000	20.0	125	52	0.50	-	-	225.17
63331	63330	.7874		20.000	20.0	150	25	1.00	82	19.30	260.19
27911	-	.8661		22.000	22.0	100	38	1.00	-	-	223.11



EDP#		$d_1$ †		$d_2$	$l_1$	$l_2$	$r$	$l_3$	$d_3$	LIST PRICE	
(plain)	(weldon)	Decimal	Diameter	Shank Diameter	Overall Length	Flute Length	Corner Radius	Reach Length	Neck Diameter		
61510	-	.9843	25.000	25.0	100	26	-	-	-	210.22	
62855	62857	.9843	25.000	25.0	100	38	-	-	-	210.22	
61514	-	.9843	25.000	25.0	100	38	0.50	-	-	232.78	
27941	27940	.9843	25.000	25.0	100	38	1.00	-	-	232.78	
27951	-	.9843	25.000	25.0	100	38	1.50	-	-	232.78	
61516	-	.9843	25.000	25.0	100	38	3.00	-	-	232.78	
28901	28900	.9843	25.000	25.0	100	38	BALL	-	-	232.78	
61518	-	.9843	25.000	25.0	100	42	-	-	-	210.22	
61520	-	.9843	25.000	25.0	100	42	0.50	-	-	232.78	
61522	-	.9843	25.000	25.0	125	50	0.50	-	-	290.62	
63351	63350	.9843	25.000	25.0	125	50	1.00	-	-	290.62	
63361	63360	.9843	25.000	25.0	150	32	1.00	82	24.40	389.72	
61524	-	1.000	1"	25.400	1"	4"	1"	-	-	203.55	
27959	27958	1.000	1"	25.400	1"	4"	1"	.015"	-	245.01	
27961	27960	1.000	1"	25.400	1"	4"	1"	.035"	-	245.01	
-	27962	1.000	1"	25.400	1"	4"	1"	.060"	-	245.01	
28911	28910	1.000	1"	25.400	1"	4"	1"	BALL	-	245.01	
62885	62887	1.000	1"	25.400	1"	4"	1-1/2"	-	-	203.55	
27967	27966	1.000	1"	25.400	1"	4"	1-1/2"	.015"	-	245.01	
61526	-	1.000	1"	25.400	1"	4"	1-1/2"	.025"	-	245.01	
27971	27970	1.000	1"	25.400	1"	4"	1-1/2"	.035"	-	245.01	
27981	27980	1.000	1"	25.400	1"	4"	1-1/2"	.060"	-	245.01	
27991	-	1.000	1"	25.400	1"	4"	1-1/2"	.090"	-	245.01	
61528	-	1.000	1"	25.400	1"	4"	1-1/2"	.125"	-	245.01	
61532	-	1.000	1"	25.400	1"	4"	1-1/2"	.250"	-	245.01	
28916	28915	1.000	1"	25.400	1"	4"	1-1/2"	BALL	-	245.01	
61534	-	1.000	1"	25.400	1"	4"	1-5/8"	.030"	-	245.01	
62895	62897	1.000	1"	25.400	1"	4"	1-3/4"	-	-	203.55	
28001	28000	1.000	1"	25.400	1"	4"	1-3/4"	.015"	-	245.01	
61536	-	1.000	1"	25.400	1"	4"	1-3/4"	.030"	-	245.01	
28011	28012	1.000	1"	25.400	1"	4"	1-3/4"	.060"	-	245.01	
28021	-	1.000	1"	25.400	1"	4"	1-3/4"	.090"	-	245.01	
61538	-	1.000	1"	25.400	1"	4"	1-3/4"	.125"	-	245.01	
61540	-	1.000	1"	25.400	1"	4"	1-3/4"	.190"	-	245.01	
61542	-	1.000	1"	25.400	1"	4"	1-3/4"	.250"	-	245.01	
62905	62907	1.000	1"	25.400	1"	5"	2"	-	-	272.47	
63369	63368	1.000	1"	25.400	1"	5"	2"	.015"	-	301.45	
63371	63370	1.000	1"	25.400	1"	5"	2"	.035"	-	301.45	
63373	63372	1.000	1"	25.400	1"	5"	2"	.060"	-	301.45	
63375	63374	1.000	1"	25.400	1"	5"	2"	.090"	-	301.45	
61544	-	1.000	1"	25.400	1"	5"	2"	.125"	-	301.45	
61546	-	1.000	1"	25.400	1"	5"	2"	.250"	-	301.45	
28931	28930	1.000	1"	25.400	1"	5"	2"	BALL	-	301.45	
61548	-	1.000	1"	25.400	1"	5"	2-1/2"	-	-	272.47	
61550	-	1.000	1"	25.400	1"	5"	2-1/2"	.030"	-	301.45	
62915	62917	1.000	1"	25.400	1"	6"	3"	-	-	354.90	
61552	-	1.000	1"	25.400	1"	6"	3-1/4"	.030"	-	393.16	
61554	-	1.000	1"	25.400	1"	7"	4-1/4"	.030"	-	479.77	
61556	-	1.000	1"	25.400	1"	7"	4-1/4"	.060"	-	479.77	
61558	-	1.000	1"	25.400	1"	6"	1-1/4"	.030"	2-5/8"	.980"	407.21
63381	63380	1.000	1"	25.400	1"	6"	1-1/4"	.035"	3-1/4"	.980"	407.21
61562	-	1.000	1"	25.400	1"	7"	1-1/4"	.030"	4-1/4"	.980"	493.81

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MATERIAL HARDNESS (Rc)

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