HOG MILLS

NEW ALUMINUM ROUGHERS AND EXPANDED VHM LINE

GARR TOOL®

SUPPLEMENT 14.3

Series ARC

NEW SERIES

.1575" - .3750"
(4.000mm - 9.525mm)

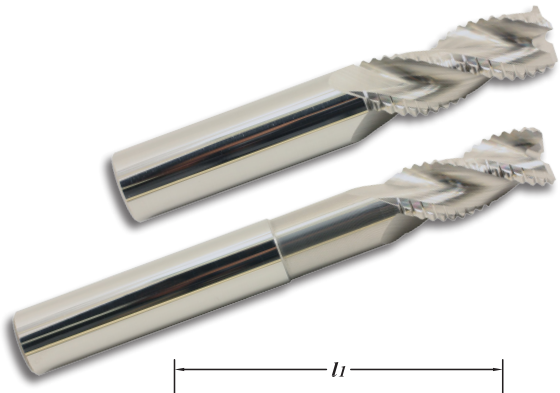
TOLERANCES	
d_1	+.000" –.002" (+.000 –.050mm)
d_2	h6
d_3	+.000" –.005" (+.000 –.127mm)

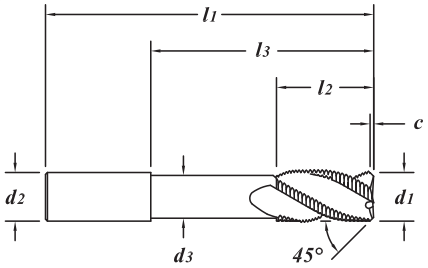
Recommended for aluminum and non-ferrous materials

3-Flute (Aluminum Rough Cut)

Bright finish - Uncoated

Solid submicron grain carbide end mill - center cutting
Wave knuckle design to break up chips
Each flute has individual helix angle to break up harmonics
Reduces tool pressure requiring less machine power
Designed for roughing Aluminum Alloys





MATERIAL HARDNESS (Rc)
70
35
0

EDP#	d_1 † Diameter Decimal	Diameter	Metric	d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	c Chamfer Length	l_3 Reach Length	d_3 Neck Diameter	1-11	12-24	25-49	50-100
46219	.1575		4.000	6.0	50	8	0.3	-	-	31.29	29.93	28.57	27.21
46222	.1575		4.000	6.0	50	12	0.3	-	-	31.29	29.93	28.57	27.21
46225	.1575		4.000	6.0	65	10	0.3	30	3.2	35.81	34.25	32.70	31.14
46228	.1575		4.000	6.0	75	15	0.3	40	3.2	47.14	45.09	43.04	40.99
46231	.1875	3/16″	4.763	3/16″	2″	5/16″	.015″	-	-	26.55	25.40	24.24	23.09
46234	.1875	3/16″	4.763	3/16″	2″	9/16″	.015″	-	-	26.55	25.40	24.24	23.09
46237	.1875	3/16″	4.763	3/16″	3″	1″	.015″	-	-	37.15	35.53	33.92	32.30
46240	.1875	3/16″	4.763	3/16″	3″	1/2″	.015″	1-1/2″	.160″	40.42	38.66	36.91	35.15
46243	.2362		6.000	6.0	50	12	0.5	-	-	31.05	29.70	28.35	27.00
46246	.2362		6.000	6.0	65	19	0.5	-	-	33.63	32.17	30.71	29.24
46249	.2362		6.000	6.0	100	20	0.5	60	5.2	47.69	45.62	43.54	41.47
46252	.2500	1/4"	6.350	1/4"	2"	3/8"	.020"	-	-	29.68	28.39	27.10	25.81
46255	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	.020"	-	-	33.22	31.78	30.33	28.89
46258	.2500	1/4"	6.350	1/4"	4"	1-1/2"	.020"	-	-	42.88	41.02	39.15	37.29
46261	.2500	1/4"	6.350	1/4"	4"	1"	.020"	2″	.220″	46.16	44.15	42.15	40.14
46264	.3125	5/16"	7.938	5/16"	2"	7/16"	.020"	-	-	35.42	33.88	32.34	30.80
46267	.3125	5/16"	7.938	5/16"	2-1/2"	13/16"	.020"	-	-	36.77	35.17	33.57	31.97
46270	.3125	5/16"	7.938	5/16"	4"	1-1/2"	.020"	-	-	52.67	50.38	48.09	45.80
46273	.3125	5/16"	7.938	5/16"	4"	1"	.020"	2″	.285″	55.95	53.52	51.08	48.65
46276	.3150		8.000	8.0	50	12	0.5	-	-	36.27	34.69	33.12	31.54
46279	.3150		8.000	8.0	65	22	0.5	-	-	37.69	36.05	34.41	32.77
46282	.3150		8.000	8.0	100	40	0.5	-	-	54.52	52.15	49.78	47.41
46285	.3150		8.000	8.0	100	20	0.5	60	7.2	57.80	55.29	52.77	50.26
46288	.3150		8.000	8.0	150	40	0.5	100	7.2	76.71	73.37	70.04	66.70
46291	.3750	3/8"	9.525	3/8"	2"	1/2"	.025"	-	-	41.33	39.53	37.74	35.94
46294	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.025"	-	-	45.92	43.92	41.93	39.93
46297	.3750	3/8"	9.525	3/8"	3"	1-1/4"	.025"	-	-	53.67	51.34	49.00	46.67
46300	.3750	3/8"	9.525	3/8"	4"	1-5/8"	.025"	-	-	57.70	55.19	52.68	50.17
46303	.3750	3/8"	9.525	3/8"	4"	1"	.025"	2″	.345″	60.97	58.32	55.67	53.02
46306	.3750	3/8"	9.525	3/8"	6"	1-1/2"	.025"	4″	.345″	78.30	74.90	71.49	68.09

† *Metric equivalents are for reference only*

EDP#	d_1 † Diameter Decimal	Diameter	Metric	d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	c Chamfer Length	l_3 Reach Length	d_3 Neck Diameter	1-11	12-24	25-49	50-100
46309	.3937		10.000	10.0	50	16	0.5	-	-	51.11	48.89	46.67	44.44
46312	.3937		10.000	10.0	70	22	0.5	-	-	53.89	51.55	49.20	46.86
46315	.3937		10.000	10.0	100	40	0.5	-	-	67.13	64.21	61.29	58.37
46318	.3937		10.000	10.0	100	20	0.5	60	9.2	70.40	67.34	64.28	61.22
46321	.3937		10.000	10.0	150	40	0.5	100	9.2	88.30	84.46	80.62	76.78
46324	.4724		12.000	12.0	65	19	0.8	-	-	58.75	56.20	53.64	51.09
46327	.4724		12.000	12.0	75	32	0.8	-	-	66.42	63.53	60.64	57.76
46330	.4724		12.000	12.0	100	50	0.8	-	-	77.87	74.48	71.10	67.71
46333	.4724		12.000	12.0	100	25	0.8	60	11.2	81.14	77.61	74.08	70.56
46336	.4724		12.000	12.0	150	40	0.8	100	11.2	109.91	105.13	100.35	95.57
46339	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	.030"	-	-	55.92	53.49	51.06	48.63
46342	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.030"	-	-	63.38	60.62	57.87	55.11
46345	.5000	1/2"	12.700	1/2"	4"	2"	.030"	-	-	74.11	70.89	67.67	64.44
46348	.5000	1/2"	12.700	1/2"	4"	1"	.030"	2″	.470″	77.38	74.02	70.65	67.29
46351	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.030"	4″	.470″	108.22	103.51	98.81	94.10
46354	.6250	5/8"	15.875	5/8"	3"	3/4"	.035"	-	-	99.21	94.90	90.58	86.27
46357	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.035"	-	-	102.12	97.68	93.24	88.80
46360	.6250	5/8"	15.875	5/8"	4"	1-5/8"	.035"	-	-	108.18	103.48	98.77	94.07
46363	.6250	5/8"	15.875	5/8"	4"	1"	.035"	2″	.595″	111.46	106.61	101.77	96.92
46366	.6250	5/8"	15.875	5/8"	6"	1-1/2"	.035"	3″	.595″	156.56	149.75	142.95	136.14
46369	.6250	5/8"	15.875	5/8"	6"	1-1/2"	.035"	4″	.595″	156.56	149.75	142.95	136.14
46372	.6299		16.000	16.0	75	19	1.0	-	-	104.41	99.87	95.33	90.79
46375	.6299		16.000	16.0	88	32	1.0	-	-	107.10	102.44	97.79	93.13
46378	.6299		16.000	16.0	100	50	1.0	-	-	114.66	109.67	104.69	99.70
46381	.6299		16.000	16.0	100	20	1.0	50	15.2	117.93	112.80	107.67	102.55
46384	.6299		16.000	16.0	150	40	1.0	100	15.2	158.24	151.36	144.48	137.60
46387	.7500	3/4"	19.050	3/4"	4"	1-5/8"	.040"	-	-	149.35	142.86	136.36	129.87
46390	.7500	3/4"	19.050	3/4"	5"	2-1/4"	.040"	-	-	209.29	200.19	191.09	181.99
46393	.7500	3/4"	19.050	3/4"	4"	7/8"	.040"	2″	.720″	152.63	145.99	139.36	132.72
46396	.7500	3/4"	19.050	3/4"	6"	1-1/2"	.040"	3″	.720″	251.98	241.02	230.07	219.11
46399	.7500	3/4"	19.050	3/4"	6"	1-1/2"	.040"	4″	.720″	251.98	241.02	230.07	219.11
46402	.7874		20.000	20.0	100	22	1.0	-	-	210.73	201.57	192.40	183.24
46405	.7874		20.000	20.0	100	40	1.0	-	-	210.73	201.57	192.40	183.24
46408	.7874		20.000	20.0	100	30	1.0	50	19.2	214.00	204.70	195.39	186.09
46411	.7874		20.000	20.0	150	40	1.0	100	19.2	261.38	250.02	238.65	227.29
46414	1.000	1"	25.400	1"	4"	1-1/2"	.040"	-	-	253.59	242.56	231.54	220.51
46417	1.000	1"	25.400	1"	5"	2″	.040"	-	-	313.80	300.16	286.51	272.87
46420	1.000	1"	25.400	1"	6"	2″	.040"	3-1/2″	.970″	421.65	403.32	384.98	366.65
46423	1.000	1"	25.400	1"	7"	2″	.040"	4-1/2″	.970″	554.48	530.37	506.26	482.16

Series VHM

.1575" - .3543"
(4.000mm - 9.000mm)

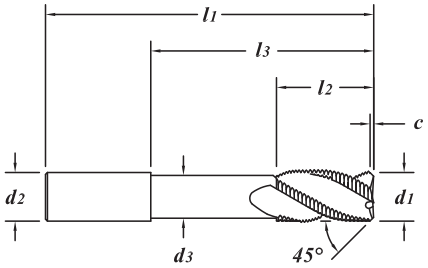
TOLERANCES	
d_1	+.000" –.002" (+.000 –.050mm)
d_2	h6
d_3	+.000" –.005" (+.000 –.127mm)

Recommended for stainless steel, inconel, pH materials, cold rolled steel, titanium, cast iron and tool steels under 40Rc

4-Flute

X.CEED Coated

Solid submicron grain carbide end mill - center cutting
State-of-the-art rougher using VRX technology
Reduces tool pressure for more aggressive machining
Recommended for pocket milling
Variable flute geometry



MATERIAL HARDNESS (Rc)
70
35
0

	EDP#	d_1 † Decimal	d_1 † Diameter	Metric	d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	c Chamfer Length	l_3 Reach Length	d_3 Neck Diameter	1-11	12-24	25-49	50-100
NEW	49450	.1575		4.000	6.0	50	8	0.3	-	-	34.63	33.12	31.62	30.11
NEW	49455	.1575		4.000	6.0	50	12	0.3	-	-	34.63	33.12	31.62	30.11
NEW	49460	.1575		4.000	6.0	65	10	0.3	30	3.4	40.26	38.51	36.76	35.01
NEW	49465	.1575		4.000	6.0	75	15	0.3	40	3.4	51.60	49.36	47.11	44.87
NEW	49470	.1875	3/16"	4.763	3/16"	2"	5/16"	.015"	-	-	28.87	27.61	26.36	25.10
NEW	49475	.1875	3/16"	4.763	3/16"	2"	9/16"	.015"	-	-	28.87	27.61	26.36	25.10
NEW	49480	.1875	3/16"	4.763	3/16"	3"	1"	.015"	-	-	40.48	38.72	36.96	35.20
NEW	49485	.1875	3/16"	4.763	3/16"	3"	1/2"	.015"	1-1/2"	.165"	43.76	41.86	39.95	38.05
	49490	.2362		6.000	6.0	50	12	0.5	-	-	34.39	32.89	31.40	29.90
	49500	.2362		6.000	6.0	65	19	0.5	-	-	38.08	36.42	34.77	33.11
NEW	49505	.2362		6.000	6.0	100	15	0.5	40	5.4	52.87	50.57	48.27	45.97
NEW	49510	.2362		6.000	6.0	100	20	0.5	60	5.4	52.87	50.57	48.27	45.97
	49520	.2500	1/4"	6.350	1/4"	2"	3/8"	.020"	-	-	33.03	31.59	30.16	28.72
	49540	.2500	1/4"	6.350	1/4"	2-1/2"	3/4"	.020"	-	-	37.67	36.04	34.40	32.76
NEW	49543	.2500	1/4"	6.350	1/4"	4"	1-1/2"	.020"	-	-	48.06	45.97	43.88	41.79
NEW	49547	.2500	1/4"	6.350	1/4"	4"	1"	.020"	2"	.225"	51.34	49.11	46.88	44.64
	49550	.2756		7.000	8.0	50	12	0.5	-	-	46.78	44.75	42.71	40.68
	49555	.2756		7.000	8.0	65	22	0.5	-	-	50.58	48.38	46.18	43.98
	49570	.2812	9/32"	7.142	5/16"	2"	7/16"	.020"	-	-	45.94	43.95	41.95	39.95
	49575	.2812	9/32"	7.142	5/16"	2-1/2"	13/16"	.020"	-	-	49.48	47.33	45.18	43.03
	49580	.3125	5/16"	7.938	5/16"	2"	7/16"	.020"	-	-	40.14	38.39	36.65	34.90
	49600	.3125	5/16"	7.938	5/16"	2-1/2"	13/16"	.020"	-	-	43.26	41.38	39.50	37.62
NEW	49603	.3125	5/16"	7.938	5/16"	4"	1-1/2"	.020"	-	-	61.00	58.35	55.70	53.04
NEW	49605	.3125	5/16"	7.938	5/16"	4"	1"	.020"	2"	.285"	64.27	61.48	58.68	55.89
	49610	.3150		8.000	8.0	50	12	0.5	-	-	40.99	39.20	37.42	35.64
	49620	.3150		8.000	8.0	65	22	0.5	-	-	44.17	42.25	40.33	38.41
NEW	49622	.3150		8.000	8.0	100	40	0.5	-	-	62.85	60.12	57.38	54.65
NEW	49623	.3150		8.000	8.0	100	20	0.5	60	7.4	66.13	63.25	60.38	57.50
NEW	49624	.3150		8.000	8.0	150	40	0.5	100	7.4	87.99	84.16	80.34	76.51
	49625	.3438	11/32"	8.733	3/8"	2"	1/2"	.025"	-	-	52.11	49.84	47.58	45.31
	49630	.3438	11/32"	8.733	3/8"	2-1/2"	7/8"	.025"	-	-	59.28	56.71	54.13	51.55
	49635	.3543		9.000	10.0	50	14	0.5	-	-	63.91	61.13	58.35	55.57
	49637	.3543		9.000	10.0	65	22	0.5	-	-	69.46	66.44	63.42	60.40

† *Metric equivalents are for reference only*

	EDP#	*d1* † Diameter Decimal	Diameter	Metric	*d2* Shank Diameter	*l1* Overall Length	*l2* Flute Length	*c* Chamfer Length	*l3* Reach Length	*d3* Neck Diameter	1-11	12-24	25-49	50-100
	49640	.3750	3/8"	9.525	3/8"	2"	1/2"	.025"	-	-	46.05	44.04	42.04	40.04
	49660	.3750	3/8"	9.525	3/8"	2-1/2"	7/8"	.025"	-	-	52.41	50.13	47.85	45.57
NEW	49662	.3750	3/8"	9.525	3/8"	3"	1-1/4"	.025"	-	-	60.16	57.54	54.93	52.31
NEW	49664	.3750	3/8"	9.525	3/8"	4"	1-5/8"	.025"	-	-	66.03	63.16	60.29	57.42
NEW	49667	.3750	3/8"	9.525	3/8"	4"	1"	.025"	2″	.355″	69.31	66.30	63.28	60.27
	49670	.3937		10.000	10.0	50	16	0.5	-	-	56.48	54.02	51.57	49.11
	49680	.3937		10.000	10.0	70	22	0.5	-	-	61.36	58.70	56.03	53.36
NEW	49682	.3937		10.000	10.0	100	40	0.5	-	-	76.76	73.42	70.08	66.75
NEW	49684	.3937		10.000	10.0	100	20	0.5	40	9.4	80.04	76.56	73.08	69.60
NEW	49686	.3937		10.000	10.0	100	30	0.5	60	9.4	80.04	76.56	73.08	69.60
	49690	.4375	7/16"	11.113	7/16"	2-1/2"	5/8"	.025"	-	-	61.66	58.98	56.30	53.62
	49700	.4375	7/16"	11.113	7/16"	2-3/4"	1"	.025"	-	-	61.66	58.98	56.30	53.62
	49710	.4724		12.000	12.0	65	19	0.8	-	-	66.22	63.34	60.46	57.58
	49720	.4724		12.000	12.0	75	32	0.8	-	-	73.89	70.68	67.46	64.25
NEW	49725	.4724		12.000	12.0	100	50	0.8	-	-	87.52	83.71	79.91	76.10
NEW	49730	.4724		12.000	12.0	100	25	0.8	60	11.4	90.79	86.84	82.89	78.95
NEW	49735	.4724		12.000	12.0	150	40	0.8	100	11.4	123.43	118.06	112.70	107.33
	* 49740	.5000	1/2"	12.700	1/2"	2-1/2"	5/8"	.030"	-	-	63.40	60.64	57.89	55.13
	* 49760	.5000	1/2"	12.700	1/2"	3"	1-1/4"	.030"	-	-	70.85	67.77	64.69	61.61
NEW	* 49761	.5000	1/2"	12.700	1/2"	4"	2"	.030"	-	-	83.75	80.11	76.47	72.83
NEW	* 49762	.5000	1/2"	12.700	1/2"	4"	1"	.030"	2″	.480″	87.03	83.25	79.46	75.68
NEW	* 49764	.5000	1/2"	12.700	1/2"	6"	1-1/2"	.030"	4″	.480″	121.73	116.44	111.14	105.85
	* 49765	.5512		14.000	14.0	75	19	0.8	-	-	104.81	100.25	95.70	91.14
	* 49770	.5512		14.000	14.0	88	32	0.8	-	-	107.73	103.05	98.36	93.68
	* 49780	.6250	5/8"	15.875	5/8"	3"	3/4"	.035"	-	-	109.97	105.19	100.41	95.63
	* 49800	.6250	5/8"	15.875	5/8"	3-1/2"	1-1/4"	.035"	-	-	112.88	107.98	103.07	98.16
	* 49820	.6250	5/8"	15.875	5/8"	4"	1-5/8"	.035"	-	-	118.94	113.77	108.60	103.43
NEW	* 49824	.6250	5/8"	15.875	5/8"	4"	1"	.035"	2″	.605″	122.22	116.91	111.59	106.28
NEW	* 49826	.6250	5/8"	15.875	5/8"	6"	1-1/2"	.035"	3″	.605″	172.44	164.94	157.44	149.95
NEW	* 49828	.6250	5/8"	15.875	5/8"	6"	1-1/2"	.035"	4″	.605″	172.44	164.94	157.44	149.95
	* 49830	.6299		16.000	16.0	75	19	1.0	-	-	114.83	109.84	104.84	99.85
	* 49840	.6299		16.000	16.0	88	32	1.0	-	-	117.85	112.73	107.60	102.48
NEW	* 49842	.6299		16.000	16.0	100	50	1.0	-	-	125.41	119.96	114.50	109.05
NEW	* 49843	.6299		16.000	16.0	100	20	1.0	50	15.4	128.69	123.09	117.50	111.90
NEW	* 49844	.6299		16.000	16.0	150	40	1.0	100	15.4	174.12	166.55	158.98	151.41
	* 49845	.7087		18.000	18.0	75	22	1.0	-	-	165.68	158.48	151.27	144.07
	* 49850	.7087		18.000	18.0	100	38	1.0	-	-	169.42	162.05	154.69	147.32
	* 49860	.7500	3/4"	19.050	3/4"	3"	7/8"	.040"	-	-	158.80	151.90	144.99	138.09
	* 49880	.7500	3/4"	19.050	3/4"	4"	1-5/8"	.040"	-	-	162.08	155.03	147.99	140.94
NEW	* 49882	.7500	3/4"	19.050	3/4"	5"	2-1/4"	.040"	-	-	224.84	215.06	205.29	195.51
NEW	* 49886	.7500	3/4"	19.050	3/4"	6"	1-1/2"	.040"	3″	.730″	270.34	258.59	246.83	235.08
NEW	* 49887	.7500	3/4"	19.050	3/4"	6"	1-1/2"	.040"	4″	.730″	270.34	258.59	246.83	235.08
	* 49890	.7874		20.000	20.0	75	22	1.0	-	-	224.47	214.71	204.95	195.19
	* 49900	.7874		20.000	20.0	100	38	1.0	-	-	229.38	219.41	209.43	199.46
NEW	* 49902	.7874		20.000	20.0	100	30	1.0	50	19.4	232.66	222.54	212.43	202.31
NEW	* 49904	.7874		20.000	20.0	150	40	1.0	100	19.4	285.28	272.88	260.47	248.07
	* 49915	.9843		25.000	25.0	100	25	1.0	-	-	263.06	251.63	240.19	228.75
	* 49920	.9843		25.000	25.0	100	38	1.0	-	-	263.06	251.63	240.19	228.75
	* 49925	1.000	1"	25.400	1"	4"	1"	.040"	-	-	272.24	260.40	248.57	236.73
	* 49930	1.000	1"	25.400	1"	4"	1-1/2"	.040"	-	-	272.24	260.40	248.57	236.73
	* 49940	1.000	1"	25.400	1"	5"	2″	.040"	-	-	335.20	320.63	306.05	291.48

* - Tools with weldon flats

ARC Series 3-Flute Roughers
GARR TOOL Application Guide

Fractional

	Aluminum	Non-Ferrous (Copper, Brass, Bronze)	Titanium Alloys	Carbon Steels
	SFM = 700 - 1000	SFM = 300 - 500	SFM = 150 - 250	SFM = 200 - 300
Diameter	CPT (Fz)	CPT (Fz)	CPT (Fz)	CPT (Fz)
3/16"	.0010" - .0020"	.0008" - .0013"	.0005" - .0008"	.0008" - .0010"
1/4"	.0015" - .0025"	.0012" - .0018"	.0007" - .0010"	.0010" - .0015"
5/16"	.0020" - .0030"	.0015" - .0023"	.0008" - .0013"	.0012" - .0020"
3/8"	.0025" - .0035"	.0018" - .0028"	.0012" - .0018"	.0013" - .0022"
1/2"	.0030" - .0040"	.0020" - .0035"	.0015" - .0023"	.0015" - .0025"
5/8"	.0040" - .0050"	.0025" - .0045"	.0018" - .0028"	.0018" - .0030"
3/4"	.0050" - .0060"	.0030" - .0050"	.0020" - .0035"	.0022" - .0035"
1"	.0060" - .0070"	.0040" - .0060"	.0025" - .0045"	.0025" - .0040"

Metric

	Aluminum	Non-Ferrous (Copper, Brass, Bronze)	Titanium Alloys	Carbon Steels
	SMM = 200 - 350	SMM = 80 - 150	SMM = 40 - 80	SMM = 70 - 90
Diameter	CPT (Fz)	CPT (Fz)	CPT (Fz)	CPT (Fz)
4.0	.025 - .050	.020 - .035	.010 - .020	.020 - .025
6.0	.040 - .065	.025 - .050	.015 - .025	.025 - .040
8.0	.050 - .075	.035 - .055	.020 - .035	.025 - .050
10.0	.060 - .090	.045 - .075	.025 - .050	.025 - .060
12.0	.075 - .100	.050 - .090	.035 - .055	.035 - .060
16.0	.100 - .125	.060 - .115	.045 - .075	.050 - .075
20.0	.125 - .150	.075 - .125	.050 - .090	.050 - .090
25.0	.150 - .180	.100 - .150	.060 - .115	.060 - .100

ARC SERIES TOOLS ARE NOT DESIGNED FOR OVER 28Rc MATERIALS

CPT (Fz) = Chipload per flute

NOTE - ABOVE ARE STARTING PARAMETERS ONLY. HIGHER RESULTS MAY BE ACHIEVED WITH OPTIMUM CONDITIONS.

† *Metric equivalents are for reference only*

VHM Series 4-Flute Roughers
GARR TOOL Application Guide

Fractional

Material	SFM (Vc)	CHIPLOAD PER FLUTE (CPT) - Recommendations (Fz)								
		1/8"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
Stainless Steel: 303	290-375	.0004" - .0008"	.0008" - .0010"	.0010" - .0015"	.0013" - .0020"	.0015" - .0020"	.0020" - .0030"	.0025" - .0035"	.0030" - .0040"	.0035" - .0045"
Stainless Steel: 304, 316, 400 Series, Kovar, Invar	250-300	.0003" - .0006"	.0006" - .0010"	.0008" - .0015"	.0010" - .0020"	.0012" - .0020"	.0015" - .0020"	.0020" - .0025"	.0025" - .0030"	.0025" - .0035"
Stainless Steel: 304L, 316L, 8620, 17/4, 15/5, 13/8, PH Mat'l	200-250	.0003" - .0006"	.0006" - .0008"	.0007" - .0010"	.0008" - .0010"	.0010" - .0015"	.0010" - .0020"	.0015" - .0025"	.0020" - .0030"	.0020" - .0030"
High Temperature Alloys: Inconel 625/718, A286	100-175	.0003" - .0006"	.0007" - .0010"	.0008" - .0010"	.0010" - .0015"	.0010" - .0015"	.0010" - .0015"	.0012" - .0020"	.0015" - .0025"	.0015" - .0025"
Titanium: 6AL4V, CP	150-200	.0004" - .0008"	.0008" - .0010"	.0010" - .0015"	.0010" - .0020"	.0015" - .0020"	.0020" - .0030"	.0025" - .0030"	.0030" - .0035"	.0030" - .0040"
Carbon Steels: 1000 Series	275-425	.0003" - .0006"	.0006" - .0008"	.0008" - .0012"	.0010" - .0015"	.0010" - .0020"	.0015" - .0025"	.0020" - .0025"	.0020" - .0030"	.0025" - .0035"
High Strength Tool Steel: 4130, 4140, A2, D2, P20, H13	250-400	.0003" - .0006"	.0006" - .0008"	.0007" - .0010"	.0008" - .0010"	.0010" - .0015"	.0010" - .0020"	.0015" - .0025"	.0020" - .0030"	.0020" - .0030"
Gray Cast Iron	400-500	.0005" - .0010"	.0010" - .0020"	.0010" - .0020"	.0015" - .0020"	.0015" - .0025"	.0020" - .0035"	.0025" - .0035"	.0030" - .0040"	.0040" - .0050"

Metric

Material	M/Min. (Vc)	CHIPLOAD PER FLUTE (CPT) - Metric Recommendations (Fz)								
		3.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
Stainless Steel: 303	90-115	.010 - .020	.020 - .025	.025 - .038	.033 - .050	.038 - .050	.050 - .076	.063 - .089	.076 - .102	.089 - .114
Stainless Steel: 304, 316, 400 Series, Kovar, Invar	75-90	.008 - .015	.015 - .025	.020 - .038	.025 - .050	.030 - .050	.038 - .050	.050 - .063	.063 - .076	.063 - .089
Stainless Steel: 304L, 316L, 17/4, 15/5, 13/8, PH Materials	60-75	.008 - .015	.015 - .020	.018 - .025	.020 - .025	.025 - .038	.025 - .050	.038 - .063	.050 - .076	.050 - .076
High Temperature Alloys: Inconel 625/718, A286	30-55	.008 - .015	.018 - .025	.020 - .025	.025 - .038	025 - .038	.025 - .038	.030 - .050	.038 - .063	.038 - .063
Titanium: 6AL4V, CP	45-60	.010 - .020	.020 - .025	.025 - .038	.025 - .050	.038 - .050	.050 - .076	.063 - .076	.076 - .089	.076 - .102
Carbon Steels: 1000 Series	85-130	.008 - .015	.015 - .020	.020 - .030	.025 - .038	.025 - .050	.038 - .063	.050 - .063	.050 - .076	.063 - .089
High Strength Tool Steel: 4130, 4140, A2, D2, P20, H13	75-125	.006 - .015	.015 - .020	.018 - .025	.020 - .025	.025 - .038	.025 - .050	.038 - .063	.050 - .076	.050 - .076
Gray Cast Iron	125-150	.013 - .025	.025 - .050	.025 - .050	.038 - .050	.038 - .063	.050 - .089	.063 - .089	.076 - .102	.102 - .127

NOTE - ABOVE ARE STARTING PARAMETERS ONLY. HIGHER RESULTS MAY BE ACHIEVED WITH OPTIMUM CONDITIONS.

GARR TOOL®
7800 N Alger Road
Alma, Michigan 48801
800-248-9003
989-463-6171
Fax 989-463-3609

Supplement 14.3
HOG MILLS

www.garrtool.com

Sold through select industrial distributors

Prices subject to change without notice