

**NEW
SERIES**

**SMALL DIAMETER
HIGH PERFORMANCE
DRILLS**



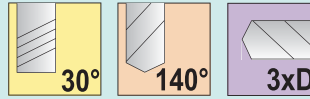
091M
supplement to
Catalog 09

GARR TOOL[®]

1550H - 2 Flute

0.792mm - 1.450mm
(.0312" - .0571")

**NEW
SERIES**



TOLERANCES

d_1	+ .0000" - .0004" (+.000 - .010mm)
d_2	[h6] + .0000" - .0003" (+.000 - .008mm)

Balinit® HELICA Coated

High performance solid submicron grain carbide drill on 3mm or 1/8" diameter shank

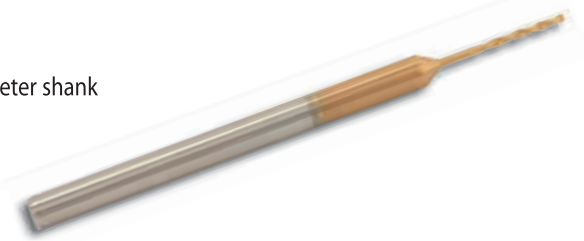
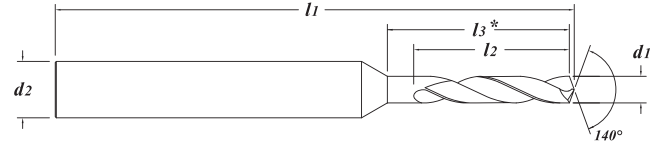
30° helix for better chip evacuation

Recommended to run in high nickel, high temperature alloys, cobalt-based alloys, stainless steels and tool steels

Balinit® HELICA is a multi-layer AlCr-based coating designed exclusively for high performance drilling

Live tooling recommended on lathe processes

* l_3 reach = $l_2 + .075"$ [2mm]



EDP#	d_1 Diameter		d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	1-11	12-24	25-49	50-100
	Decimal	Metric							
00100	.0312"	1/32"	.792	1/8"	2"	5/32"	33.76	32.29	30.82
00102	.0315"		.800	3.0	50	4.0	33.20	31.76	30.31
00104	.0319"		.810	3.0	50	4.0	33.20	31.76	30.31
00106	.0320"	#67	.812	1/8"	2"	11/64"	33.76	32.29	30.82
00108	.0323"		.820	3.0	50	4.5	33.20	31.76	30.31
00110	.0327"		.830	3.0	50	4.5	33.20	31.76	30.31
00112	.0330"	#66	.838	1/8"	2"	11/64"	33.76	32.29	30.82
00114	.0331"		.840	3.0	50	4.5	33.20	31.76	30.31
00116	.0335"		.850	3.0	50	4.5	33.20	31.76	30.31
00118	.0339"		.860	3.0	50	4.5	33.20	31.76	30.31
00120	.0343"		.870	3.0	50	4.5	33.20	31.76	30.31
00122	.0346"		.880	3.0	50	4.5	33.20	31.76	30.31
00124	.0350"	#65	.890	3.0	50	4.5	33.20	31.76	30.31
00126	.0354"		.900	3.0	50	4.5	33.20	31.76	30.31
00128	.0358"		.910	3.0	50	5.0	33.20	31.76	30.31
00130	.0360"	#64	.914	1/8"	2"	3/16"	33.76	32.29	30.82
00132	.0362"		.920	3.0	50	5.0	33.20	31.76	30.31
00134	.0366"		.930	3.0	50	5.0	33.20	31.76	30.31
00136	.0370"	#63	.940	3.0	50	5.0	33.20	31.76	30.31
00138	.0374"		.950	3.0	50	5.0	33.20	31.76	30.31
00140	.0378"		.960	3.0	50	5.0	33.20	31.76	30.31
00142	.0380"	#62	.965	1/8"	2"	3/16"	33.76	32.29	30.82
00144	.0382"		.970	3.0	50	5.0	33.20	31.76	30.31
00146	.0386"		.980	3.0	50	5.0	33.20	31.76	30.31
00148	.0390"	#61	.990	3.0	50	5.0	33.20	31.76	30.31
00150	.0394"		1.000	3.0	50	5.0	33.20	31.76	30.31
00152	.0400"	#60	1.016	1/8"	2"	13/64"	33.44	31.99	30.53
00154	.0410"	#59	1.041	1/8"	2"	13/64"	33.44	31.99	30.53
00156	.0413"		1.050	3.0	50	5.5	32.88	31.45	30.02
00158	.0420"	#58	1.066	1/8"	2"	7/32"	33.44	31.99	30.53
00160	.0430"	#57	1.092	1/8"	2"	7/32"	33.44	31.99	30.53
00162	.0433"		1.100	3.0	50	5.5	32.88	31.45	30.02
00164	.0453"		1.150	3.0	50	6.0	32.88	31.45	30.02
00166	.0465"	#56	1.181	1/8"	2"	15/64"	33.44	31.99	30.53
00168	.0469"	3/64"	1.191	1/8"	2"	15/64"	33.44	31.99	30.53
00170	.0472"		1.200	3.0	50	6.0	32.88	31.45	30.02
00172	.0492"		1.250	3.0	50	6.5	32.88	31.45	30.02
00174	.0512"		1.300	3.0	50	6.5	32.56	31.14	29.73
00176	.0520"	#55	1.320	1/8"	2"	17/64"	33.12	31.68	30.24
00178	.0531"		1.350	3.0	50	6.5	32.56	31.14	29.73
00180	.0550"	#54	1.397	1/8"	2"	9/32"	33.12	31.68	30.24
00182	.0551"		1.400	3.0	50	7.0	32.56	31.14	29.73
00184	.0571"		1.450	3.0	50	7.0	32.56	31.14	29.73

1550H - 2 Flute (continued)

1.500mm - 3.175mm
(.0591" - .1250")

HIGH PERFORMANCE
DRILLS

EDP#	<i>d1</i> Diameter		<i>d2</i> Shank Diameter	<i>l1</i> Overall Length	<i>l2</i> Flute Length	1-11	12-24	25-49	50-100
	Decimal	Metric							
00186	.0591"	1.500	3.0	50	7.5	32.56	31.14	29.73	28.31
00188	.0595"	#53 1.511	1/8"	2"	19/64"	33.12	31.68	30.24	28.80
00190	.0610"	1.550	3.0	50	7.5	32.23	30.83	29.43	28.03
00192	.0625"	1/16" 1.587	1/8"	2"	5/16"	32.80	31.37	29.95	28.52
00194	.0630"	1.600	3.0	50	7.5	32.23	30.83	29.43	28.03
00196	.0635"	#52 1.613	1/8"	2"	5/16"	32.80	31.37	29.95	28.52
00198	.0650"	1.650	3.0	50	8.5	32.23	30.83	29.43	28.03
00200	.0669"	1.700	3.0	50	8.5	32.23	30.83	29.43	28.03
00202	.0670"	#51 1.702	1/8"	2"	11/32"	32.80	31.37	29.95	28.52
00204	.0689"	1.750	3.0	50	9.0	32.23	30.83	29.43	28.03
00206	.0700"	#50 1.778	1/8"	2"	23/64"	32.48	31.07	29.66	28.24
00208	.0709"	1.800	3.0	50	9.0	31.91	30.52	29.14	27.75
00210	.0728"	1.850	3.0	50	9.5	31.91	30.52	29.14	27.75
00212	.0730"	#49 1.854	1/8"	2"	3/8"	32.48	31.07	29.66	28.24
00214	.0748"	1.900	3.0	50	9.5	31.91	30.52	29.14	27.75
00216	.0760"	#48 1.930	1/8"	2"	3/8"	32.48	31.07	29.66	28.24
00218	.0768"	1.950	3.0	50	10.0	31.91	30.52	29.14	27.75
00220	.0781"	5/64" 1.983	1/8"	2"	13/32"	32.48	31.07	29.66	28.24
00222	.0785"	#47 1.994	1/8"	2"	13/32"	32.48	31.07	29.66	28.24
00224	.0787"	2.000	3.0	50	10.0	31.91	30.52	29.14	27.75
00226	.0807"	2.050	3.0	50	10.5	31.59	30.22	28.84	27.47
00228	.0810"	#46 2.057	1/8"	2"	27/64"	32.15	30.75	29.35	27.96
00230	.0820"	#45 2.083	1/8"	2"	27/64"	32.15	30.75	29.35	27.96
00232	.0827"	2.100	3.0	50	10.5	31.59	30.22	28.84	27.47
00234	.0846"	2.150	3.0	50	11.0	31.59	30.22	28.84	27.47
00236	.0860"	#44 2.184	1/8"	2"	7/16"	32.15	30.75	29.35	27.96
00238	.0866"	2.200	3.0	50	11.0	31.59	30.22	28.84	27.47
00240	.0886"	2.250	3.0	50	11.5	31.59	30.22	28.84	27.47
00242	.0890"	#43 2.260	1/8"	2"	29/64"	32.15	30.75	29.35	27.96
00244	.0906"	2.300	3.0	50	11.5	31.27	29.91	28.55	27.19
00246	.0925"	2.350	3.0	50	12.0	31.27	29.91	28.55	27.19
00248	.0935"	#42 2.375	1/8"	2"	31/64"	31.83	30.45	29.06	27.68
00250	.0938"	3/32" 2.382	1/8"	2"	31/64"	31.83	30.45	29.06	27.68
00252	.0945"	2.400	3.0	50	12.0	31.27	29.91	28.55	27.19
00254	.0960"	#41 2.438	1/8"	2"	31/64"	31.83	30.45	29.06	27.68
00256	.0965"	2.450	3.0	50	12.5	31.27	29.91	28.55	27.19
00258	.0980"	#40 2.489	1/8"	2"	1/2"	31.83	30.45	29.06	27.68
00260	.0984"	2.500	3.0	50	12.5	31.27	29.91	28.55	27.19
00262	.0995"	#39 2.527	1/8"	2"	1/2"	31.83	30.45	29.06	27.68
00264	.1004"	2.550	3.0	50	13.0	30.98	29.63	28.29	26.94
00266	.1015"	#38 2.578	1/8"	2"	17/32"	31.54	30.17	28.80	27.43
00268	.1024"	2.600	3.0	50	13.0	30.98	29.63	28.29	26.94
00270	.1040"	#37 2.641	1/8"	2"	17/32"	31.54	30.17	28.80	27.43
00272	.1043"	2.650	3.0	50	13.5	30.98	29.63	28.29	26.94
00274	.1063"	2.700	3.0	50	13.5	30.98	29.63	28.29	26.94
00276	.1065"	#36 2.705	1/8"	2"	17/32"	31.54	30.17	28.80	27.43
00278	.1083"	2.750	3.0	50	14.0	30.98	29.63	28.29	26.94
00280	.1094"	7/64" 2.778	1/8"	2"	9/16"	31.54	30.17	28.80	27.43
00282	.1100"	#35 2.794	1/8"	2"	9/16"	31.54	30.17	28.80	27.43
00284	.1102"	2.800	3.0	50	14.0	30.98	29.63	28.29	26.94
00286	.1110"	#34 2.819	1/8"	2"	9/16"	31.54	30.17	28.80	27.43
00288	.1122"	2.850	3.0	50	14.5	30.98	29.63	28.29	26.94
00290	.1130"	#33 2.870	1/8"	2"	19/32"	31.54	30.17	28.80	27.43
00292	.1142"	2.900	3.0	50	14.5	30.98	29.63	28.29	26.94
00294	.1160"	#32 2.946	1/8"	2"	19/32"	31.54	30.17	28.80	27.43
00296	.1161"	2.950	3.0	50	15.0	30.98	29.63	28.29	26.94
00298	.1181"	3.000	3.0	50	15.0	29.10	27.83	26.57	25.30
00300	.1200"	#31 3.048	1/8"	2"	5/8"	31.54	30.17	28.80	27.43
00302	.1250"	1/8" 3.175	1/8"	2"	5/8"	29.66	28.37	27.08	25.79

1250H - 2 Flute

0.792mm - 1.450mm
(.0312" - .0571")

**NEW
SERIES**



TOLERANCES

d_1	+.0000" - .0004" (+.000 - .010mm)
d_2	[h6] +.0000" - .0003" (+.000 - .008mm)

Balinit® HELICA Coated

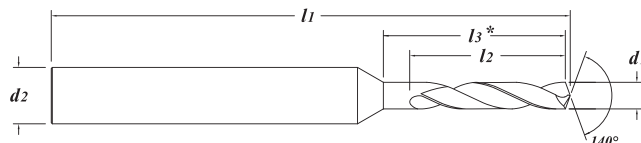
High performance solid submicron grain carbide drill on 3mm or 1/8" diameter shank
30° helix for better chip evacuation

Recommended to run in high nickel, high temperature alloys,
cobalt-based alloys, stainless steels and tool steels

Balinit® HELICA is a multi-layer AlCr-based coating designed
exclusively for high performance drilling

Live tooling recommended on lathe processes

* l_3 reach = $l_2 + .075"$ [2mm]



EDP#	d_1 Diameter		d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	1-11	12-24	25-49	50-100
	Decimal	Metric							
00304	.0312"	1/32"	.792	1/8"	2"	15/64"	34.97	33.45	31.93
00306	.0315"		.800	3.0	50	6.0	34.49	32.99	31.49
00308	.0319"		.810	3.0	50	6.0	34.49	32.99	31.49
00310	.0320"	#67	.812	1/8"	2"	15/64"	34.97	33.45	31.93
00312	.0323"		.820	3.0	50	6.0	34.49	32.99	31.49
00314	.0327"		.830	3.0	50	6.0	34.49	32.99	31.49
00316	.0330"	#66	.838	1/8"	2"	15/64"	34.97	33.45	31.93
00318	.0331"		.840	3.0	50	6.0	34.49	32.99	31.49
00320	.0335"		.850	3.0	50	6.0	34.49	32.99	31.49
00322	.0339"		.860	3.0	50	6.5	34.49	32.99	31.49
00324	.0343"		.870	3.0	50	6.5	34.49	32.99	31.49
00326	.0346"		.880	3.0	50	6.5	34.49	32.99	31.49
00328	.0350"	#65	.890	3.0	50	6.5	34.49	32.99	31.49
00330	.0354"		.900	3.0	50	6.5	34.49	32.99	31.49
00332	.0358"		.910	3.0	50	6.5	34.49	32.99	31.49
00334	.0360"	#64	.914	1/8"	2"	1/4"	34.97	33.45	31.93
00336	.0362"		.920	3.0	50	6.5	34.49	32.99	31.49
00338	.0366"		.930	3.0	50	6.5	34.49	32.99	31.49
00340	.0370"	#63	.940	3.0	50	7.0	34.49	32.99	31.49
00342	.0374"		.950	3.0	50	7.0	34.49	32.99	31.49
00344	.0378"		.960	3.0	50	7.0	34.49	32.99	31.49
00346	.0380"	#62	.965	1/8"	2"	17/64"	34.97	33.45	31.93
00348	.0382"		.970	3.0	50	7.0	34.49	32.99	31.49
00350	.0386"		.980	3.0	50	7.0	34.49	32.99	31.49
00352	.0390"	#61	.990	3.0	50	7.0	34.49	32.99	31.49
00354	.0394"		1.000	3.0	50	7.0	34.49	32.99	31.49
00356	.0400"	#60	1.016	1/8"	2"	9/32"	34.65	33.14	31.64
00358	.0410"	#59	1.041	1/8"	2"	9/32"	34.65	33.14	31.64
00360	.0413"		1.050	3.0	50	7.5	34.20	32.71	31.23
00362	.0420"	#58	1.066	1/8"	2"	5/16"	34.65	33.14	31.64
00364	.0430"	#57	1.092	1/8"	2"	5/16"	34.65	33.14	31.64
00366	.0433"		1.100	3.0	50	8.0	34.20	32.71	31.23
00368	.0453"		1.150	3.0	50	8.0	34.20	32.71	31.23
00370	.0465"	#56	1.181	1/8"	2"	11/32"	34.65	33.14	31.64
00372	.0469"	3/64"	1.191	1/8"	2"	11/32"	34.65	33.14	31.64
00374	.0472"		1.200	3.0	50	9.0	34.20	32.71	31.23
00376	.0492"		1.250	3.0	50	9.0	34.20	32.71	31.23
00378	.0512"		1.300	3.0	50	9.0	33.84	32.37	30.90
00380	.0520"	#55	1.320	1/8"	2"	3/8"	34.33	32.84	31.34
00382	.0531"		1.350	3.0	50	9.5	33.84	32.37	30.90
00384	.0550"	#54	1.397	1/8"	2"	3/8"	34.33	32.84	31.34
00386	.0551"		1.400	3.0	50	10.0	33.84	32.37	30.90
00388	.0571"		1.450	3.0	50	10.5	33.84	32.37	30.90

1250H - 2 Flute (continued)

1.500mm - 3.175mm
(.0591" - .1250")

HIGH PERFORMANCE
DRILLS

EDP#	<i>d1</i> Diameter		<i>d2</i> Shank Diameter	<i>l1</i> Overall Length	<i>l2</i> Flute Length	1-11	12-24	25-49	50-100
	Decimal	Metric							
00390	.0591"	1.500	3.0	50	10.5	33.84	32.37	30.90	29.43
00392	.0595"	#53 1.511	1/8"	2"	7/16"	34.33	32.84	31.34	29.85
00394	.0610"	1.550	3.0	50	11.0	33.52	32.06	30.61	29.15
00396	.0625"	1/16" 1.587	1/8"	2"	7/16"	34.01	32.53	31.05	29.57
00398	.0630"	1.600	3.0	50	11.0	33.52	32.06	30.61	29.15
00400	.0635"	#52 1.613	1/8"	2"	15/32"	34.01	32.53	31.05	29.57
00402	.0650"	1.650	3.0	50	11.5	33.52	32.06	30.61	29.15
00404	.0669"	1.700	3.0	50	11.5	33.52	32.06	30.61	29.15
00406	.0670"	#51 1.702	1/8"	2"	15/32"	34.01	32.53	31.05	29.57
00408	.0689"	1.750	3.0	50	12.0	33.52	32.06	30.61	29.15
00410	.0700"	#50 1.778	1/8"	2"	1/2"	33.68	32.22	30.75	29.29
00412	.0709"	1.800	3.0	50	13.0	33.20	31.76	30.31	28.87
00414	.0728"	1.850	3.0	50	13.0	33.20	31.76	30.31	28.87
00416	.0730"	#49 1.854	1/8"	2"	1/2"	33.68	32.22	30.75	29.29
00418	.0748"	1.900	3.0	50	13.5	33.20	31.76	30.31	28.87
00420	.0760"	#48 1.930	1/8"	2"	17/32"	33.68	32.22	30.75	29.29
00422	.0768"	1.950	3.0	50	14.0	33.20	31.76	30.31	28.87
00424	.0781"	5/64" 1.983	1/8"	2"	9/16"	33.68	32.22	30.75	29.29
00426	.0785"	#47 1.994	1/8"	2"	9/16"	33.68	32.22	30.75	29.29
00428	.0787"	2.000	3.0	50	14.0	33.20	31.76	30.31	28.87
00430	.0807"	2.050	3.0	50	14.0	32.88	31.45	30.02	28.59
00432	.0810"	#46 2.057	1/8"	2"	9/16"	33.38	31.93	30.48	29.03
00434	.0820"	#45 2.083	1/8"	2"	9/16"	33.38	31.93	30.48	29.03
00436	.0827"	2.100	3.0	50	14.5	32.88	31.45	30.02	28.59
00438	.0846"	2.150	3.0	50	14.5	32.88	31.45	30.02	28.59
00440	.0860"	#44 2.184	1/8"	2"	19/32"	33.38	31.93	30.48	29.03
00442	.0866"	2.200	3.0	50	15.5	32.88	31.45	30.02	28.59
00444	.0886"	2.250	3.0	50	15.5	32.88	31.45	30.02	28.59
00446	.0890"	#43 2.260	1/8"	2"	5/8"	33.38	31.93	30.48	29.03
00448	.0906"	2.300	3.0	50	16.0	32.56	31.14	29.73	28.31
00450	.0925"	2.350	3.0	50	16.0	32.56	31.14	29.73	28.31
00452	.0935"	#42 2.375	1/8"	2"	21/32"	33.04	31.60	30.17	28.73
00454	.0938"	3/32" 2.382	1/8"	2"	21/32"	33.04	31.60	30.17	28.73
00456	.0945"	2.400	3.0	50	17.0	32.56	31.14	29.73	28.31
00458	.0960"	#41 2.438	1/8"	2"	43/64"	33.04	31.60	30.17	28.73
00460	.0965"	2.450	3.0	50	17.0	32.56	31.14	29.73	28.31
00462	.0980"	#40 2.489	1/8"	2"	11/16"	33.04	31.60	30.17	28.73
00464	.0984"	2.500	3.0	50	17.5	32.56	31.14	29.73	28.31
00466	.0995"	#39 2.527	1/8"	2"	11/16"	33.04	31.60	30.17	28.73
00468	.1004"	2.550	3.0	50	17.5	32.27	30.87	29.46	28.06
00470	.1015"	#38 2.578	1/8"	2"	45/64"	32.75	31.33	29.90	28.48
00472	.1024"	2.600	3.0	50	18.0	32.27	30.87	29.46	28.06
00474	.1040"	#37 2.641	1/8"	2"	23/32"	32.75	31.33	29.90	28.48
00476	.1043"	2.650	3.0	50	18.5	32.27	30.87	29.46	28.06
00478	.1063"	2.700	3.0	50	19.0	32.27	30.87	29.46	28.06
00480	.1065"	#36 2.705	1/8"	2"	3/4"	32.75	31.33	29.90	28.48
00482	.1083"	2.750	3.0	50	19.5	32.27	30.87	29.46	28.06
00484	.1094"	7/64" 2.778	1/8"	2"	49/64"	32.75	31.33	29.90	28.48
00486	.1100"	#35 2.794	1/8"	2"	49/64"	32.75	31.33	29.90	28.48
00488	.1102"	2.800	3.0	50	19.5	32.27	30.87	29.46	28.06
00490	.1110"	#34 2.819	1/8"	2"	25/32"	32.75	31.33	29.90	28.48
00492	.1122"	2.850	3.0	50	20.0	32.27	30.87	29.46	28.06
00494	.1130"	#33 2.870	1/8"	2"	51/64"	32.75	31.33	29.90	28.48
00496	.1142"	2.900	3.0	50	20.0	32.27	30.87	29.46	28.06
00498	.1160"	#32 2.946	1/8"	2"	13/16"	32.75	31.33	29.90	28.48
00500	.1161"	2.950	3.0	50	21.0	32.27	30.87	29.46	28.06
00502	.1181"	3.000	3.0	50	21.0	30.38	29.06	27.74	26.42
00504	.1200"	#31 3.048	1/8"	2"	7/8"	32.75	31.33	29.90	28.48
00506	.1250"	1/8" 3.175	1/8"	2"	7/8"	30.87	29.53	28.19	26.84

1850H - 2 Flute

0.792mm - 1.450mm
(.0312" - .0571")

**NEW
SERIES**



TOLERANCES

d_1	+.0000" - .0004" (+.000 - .010mm)
d_2	[h6] +.0000" - .0003" (+.000 - .008mm)

Balinit® HELICA Coated

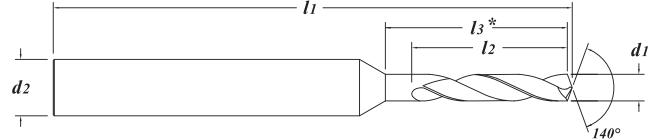
High performance solid submicron grain carbide drill on 3mm or 1/8" diameter shank
30° helix for better chip evacuation

Recommended to run in high nickel, high temperature alloys,
cobalt-based alloys, stainless steels and tool steels

Balinit® HELICA is a multi-layer AlCr-based coating designed
exclusively for high performance drilling

Live tooling recommended on lathe processes

* l_3 reach = $l_2 + .075"$ [2mm]



EDP#	d_1 Diameter			d_2 Shank Diameter	l_1 Overall Length	l_2 Flute Length	1-11	12-24	25-49	50-100
	Decimal	1/32"	Metric							
00510	.0312"	1/32"	.792	1/8"	2"	7/16"	38.67	36.99	35.31	33.63
00512	.0315"		.800	3.0	50	12.0	38.13	36.47	34.81	33.16
00514	.0319"		.810	3.0	50	12.0	38.13	36.47	34.81	33.16
00516	.0320"	#67	.812	1/8"	2"	7/16"	38.67	36.99	35.31	33.63
00518	.0323"		.820	3.0	50	12.0	38.13	36.47	34.81	33.16
00520	.0327"		.830	3.0	50	12.0	38.13	36.47	34.81	33.16
00522	.0330"	#66	.838	1/8"	2"	7/16"	38.67	36.99	35.31	33.63
00524	.0331"		.840	3.0	50	12.0	38.13	36.47	34.81	33.16
00526	.0335"		.850	3.0	50	12.0	38.13	36.47	34.81	33.16
00528	.0339"		.860	3.0	50	13.0	38.13	36.47	34.81	33.16
00530	.0343"		.870	3.0	50	13.0	38.13	36.47	34.81	33.16
00532	.0346"		.880	3.0	50	13.0	38.13	36.47	34.81	33.16
00534	.0350"	#65	.890	3.0	50	13.0	38.13	36.47	34.81	33.16
00536	.0354"		.900	3.0	50	13.0	38.13	36.47	34.81	33.16
00538	.0358"		.910	3.0	50	13.0	38.13	36.47	34.81	33.16
00540	.0360"	#64	.914	1/8"	2"	1/2"	38.67	36.99	35.31	33.63
00542	.0362"		.920	3.0	50	13.0	38.13	36.47	34.81	33.16
00544	.0366"		.930	3.0	50	13.0	38.13	36.47	34.81	33.16
00546	.0370"	#63	.940	3.0	50	14.0	38.13	36.47	34.81	33.16
00548	.0374"		.950	3.0	50	14.0	38.13	36.47	34.81	33.16
00550	.0378"		.960	3.0	50	14.0	38.13	36.47	34.81	33.16
00552	.0380"	#62	.965	1/8"	2"	9/16"	38.67	36.99	35.31	33.63
00554	.0382"		.970	3.0	50	14.0	38.13	36.47	34.81	33.16
00556	.0386"		.980	3.0	50	14.0	38.13	36.47	34.81	33.16
00558	.0390"	#61	.990	3.0	50	14.0	38.13	36.47	34.81	33.16
00560	.0394"		1.000	3.0	50	14.0	38.13	36.47	34.81	33.16
00562	.0400"	#60	1.016	1/8"	2"	9/16"	38.31	36.64	34.98	33.31
00564	.0410"	#59	1.041	1/8"	2"	9/16"	38.31	36.64	34.98	33.31
00566	.0413"		1.050	3.0	50	15.0	37.82	36.18	34.53	32.89
00568	.0420"	#58	1.066	1/8"	2"	9/16"	38.31	36.64	34.98	33.31
00570	.0430"	#57	1.092	1/8"	2"	9/16"	38.31	36.64	34.98	33.31
00572	.0433"		1.100	3.0	50	16.0	37.82	36.18	34.53	32.89
00574	.0453"		1.150	3.0	50	16.0	37.82	36.18	34.53	32.89
00576	.0465"	#56	1.181	1/8"	2"	5/8"	38.31	36.64	34.98	33.31
00578	.0469"	3/64"	1.191	1/8"	2"	5/8"	38.31	36.64	34.98	33.31
00580	.0472"		1.200	3.0	50	18.0	37.82	36.18	34.53	32.89
00582	.0492"		1.250	3.0	50	18.0	37.82	36.18	34.53	32.89
00584	.0512"		1.300	3.0	50	18.0	37.41	35.78	34.16	32.53
00586	.0520"	#55	1.320	1/8"	2"	3/4"	37.95	36.30	34.65	33.00
00588	.0531"		1.350	3.0	50	19.0	37.41	35.78	34.16	32.53
00590	.0550"	#54	1.397	1/8"	2"	3/4"	37.95	36.30	34.65	33.00
00592	.0551"		1.400	3.0	65	20.0	39.13	37.43	35.73	34.03
00594	.0571"		1.450	3.0	65	21.0	39.13	37.43	35.73	34.03

1850H - 2 Flute (continued)

1.500mm - 3.175mm
(.0591" - .1250")

HIGH PERFORMANCE
DRILLS

EDP#	<i>d1</i> Diameter		Metric	<i>d2</i> Shank Diameter	<i>l1</i> Overall Length	<i>l2</i> Flute Length	1-11	12-24	25-49	50-100
	Decimal									
00596	.0591"		1.500	3.0	65	21.0	39.13	37.43	35.73	34.03
00598	.0595"	#53	1.511	1/8"	2-1/2"	13/16"	39.69	37.96	36.24	34.51
00600	.0610"		1.550	3.0	65	22.0	38.79	37.10	35.42	33.73
00602	.0625"	1/16"	1.587	1/8"	2-1/2"	13/16"	39.34	37.63	35.92	34.21
00604	.0630"		1.600	3.0	65	22.0	38.79	37.10	35.42	33.73
00606	.0635"	#52	1.613	1/8"	2-1/2"	7/8"	39.34	37.63	35.92	34.21
00608	.0650"		1.650	3.0	65	23.0	38.79	37.10	35.42	33.73
00610	.0669"		1.700	3.0	65	23.0	38.79	37.10	35.42	33.73
00612	.0670"	#51	1.702	1/8"	2-1/2"	7/8"	39.34	37.63	35.92	34.21
00614	.0689"		1.750	3.0	65	24.0	38.79	37.10	35.42	33.73
00616	.0700"	#50	1.778	1/8"	2-1/2"	1"	38.95	37.26	35.56	33.87
00618	.0709"		1.800	3.0	65	26.0	38.42	36.75	35.08	33.41
00620	.0728"		1.850	3.0	65	26.0	38.42	36.75	35.08	33.41
00622	.0730"	#49	1.854	1/8"	2-1/2"	1"	38.95	37.26	35.56	33.87
00624	.0748"		1.900	3.0	65	27.0	38.42	36.75	35.08	33.41
00626	.0760"	#48	1.930	1/8"	2-1/2"	1-1/8"	41.04	39.26	37.47	35.69
00628	.0768"		1.950	3.0	65	28.0	40.48	38.72	36.96	35.20
00630	.0781"	5/64"	1.983	1/8"	2-1/2"	1-1/8"	41.04	39.26	37.47	35.69
00632	.0785"	#47	1.994	1/8"	2-1/2"	1-1/8"	41.04	39.26	37.47	35.69
00634	.0787"		2.000	3.0	65	28.0	40.48	38.72	36.96	35.20
00636	.0807"		2.050	3.0	65	28.0	40.10	38.36	36.61	34.87
00638	.0810"	#46	2.057	1/8"	2-1/2"	1-1/8"	40.70	38.93	37.16	35.39
00640	.0820"	#45	2.083	1/8"	2-1/2"	1-1/8"	40.70	38.93	37.16	35.39
00642	.0827"		2.100	3.0	65	29.0	40.10	38.36	36.61	34.87
00644	.0846"		2.150	3.0	65	29.0	40.10	38.36	36.61	34.87
00646	.0860"	#44	2.184	1/8"	2-1/2"	1-3/16"	40.70	38.93	37.16	35.39
00648	.0866"		2.200	3.0	65	31.0	40.10	38.36	36.61	34.87
00650	.0886"		2.250	3.0	65	31.0	40.10	38.36	36.61	34.87
00652	.0890"	#43	2.260	1/8"	2-1/2"	1-1/4"	40.70	38.93	37.16	35.39
00654	.0906"		2.300	3.0	65	32.0	39.73	38.00	36.28	34.55
00656	.0925"		2.350	3.0	65	32.0	39.73	38.00	36.28	34.55
00658	.0935"	#42	2.375	1/8"	3"	1-5/16"	40.30	38.55	36.80	35.04
00660	.0938"	3/32"	2.382	1/8"	3"	1-5/16"	40.30	38.55	36.80	35.04
00662	.0945"		2.400	3.0	75	34.0	39.73	38.00	36.28	34.55
00664	.0960"	#41	2.438	1/8"	3"	1-11/32"	40.30	38.55	36.80	35.04
00666	.0965"		2.450	3.0	75	34.0	39.73	38.00	36.28	34.55
00668	.0980"	#40	2.489	1/8"	3"	1-3/8"	40.30	38.55	36.80	35.04
00670	.0984"		2.500	3.0	75	35.0	39.73	38.00	36.28	34.55
00672	.0995"	#39	2.527	1/8"	3"	1-3/8"	40.30	38.55	36.80	35.04
00674	.1004"		2.550	3.0	75	35.0	39.39	37.68	35.96	34.25
00676	.1015"	#38	2.578	1/8"	3"	1-13/32"	39.96	38.22	36.49	34.75
00678	.1024"		2.600	3.0	75	36.0	39.39	37.68	35.96	34.25
00680	.1040"	#37	2.641	1/8"	3"	1-7/16"	39.96	38.22	36.49	34.75
00682	.1043"		2.650	3.0	75	37.0	39.39	37.68	35.96	34.25
00684	.1063"		2.700	3.0	75	38.0	39.39	37.68	35.96	34.25
00686	.1065"	#36	2.705	1/8"	3"	1-1/2"	39.96	38.22	36.49	34.75
00688	.1083"		2.750	3.0	75	39.0	39.39	37.68	35.96	34.25
00690	.1094"	7/64"	2.778	1/8"	3"	1-9/16"	39.96	38.22	36.49	34.75
00692	.1100"	#35	2.794	1/8"	3"	1-9/16"	39.96	38.22	36.49	34.75
00694	.1102"		2.800	3.0	75	39.0	39.39	37.68	35.96	34.25
00696	.1110"	#34	2.819	1/8"	3"	1-5/8"	39.96	38.22	36.49	34.75
00698	.1122"		2.850	3.0	75	40.0	39.39	37.68	35.96	34.25
00700	.1130"	#33	2.870	1/8"	3"	1-5/8"	39.96	38.22	36.49	34.75
00702	.1142"		2.900	3.0	75	40.0	39.39	37.68	35.96	34.25
00704	.1160"	#32	2.946	1/8"	3"	1-5/8"	39.96	38.22	36.49	34.75
00706	.1161"		2.950	3.0	75	42.0	39.39	37.68	35.96	34.25
00708	.1181"		3.000	3.0	75	42.0	37.16	35.54	33.93	32.31
00710	.1200"	#31	3.048	1/8"	3"	1-3/4"	39.96	38.22	36.49	34.75
00712	.1250"	1/8"	3.175	1/8"	3"	1-3/4"	37.74	36.10	34.46	32.82

GARR TOOL High Performance Drilling Guide

Fractional

Type	Rc Hardness	Recommended SFM	CHIPLOAD PER FLUTE (Fz)		
		Series 1250H 1550H 1850H	1/32" - 0.99mm (.0312" - .0390")	1.00mm - 2.00mm (.0394" - .0787")	2.01mm - 1/8" (.0791" - .1250")
COBALT BASE ALLOYS					
Powdered Metal, Stellite, Hs-21, Haynes 25/188, X-40, L-605	< 35	100 - 150	.0002" - .0004"	.0004" - .0008"	.0006" - .0012"
	> 35	80 - 110	.0002" - .0004"	.0003" - .0006"	.0005" - .0010"
NICKEL BASE ALLOYS					
Invar, Kovar, Inconel-625/718, Waspalloy, Rene, Hastalloy, A286	< 35	125 - 150	.0003" - .0005"	.0004" - .0008"	.0006" - .0012"
	> 35	100 - 125	.0002" - .0004"	.0003" - .0006"	.0005" - .0010"
IRON BASE ALLOYS					
Incoloy 800-802, Multimet N-155, Timkin 16-25-6, Carpenter 22-b3	< 35	125 - 175	.0004" - .0008"	.0006" - .0012"	.0008" - .0015"
	> 35	80 - 100	.0003" - .0006"	.0004" - .0008"	.0006" - .0012"
MONEL					
Monel - 65% Nickel		75 - 125	.0002" - .0004"	.0003" - .0006"	.0005" - .0010"
TITANIUM ALLOYS					
Commercially Pure, 6Al-4V, Astm 1/2/3, 6Al-25N-4Zr-2Mo-Si		150 - 200	.0003" - .0006"	.0004" - .0008"	.0006" - .0012"
STAINLESS STEELS					
(Precipitation) 13/8, 15/5, 17-4, pH Types	< 35	125 - 175	.0003" - .0005"	.0004" - .0008"	.0006" - .0012"
	> 35	80 - 125	.0002" - .0004"	.0003" - .0006"	.0005" - .0010"
(Austenitic) Inox, 200 Series, 300 Series	< 35	100 - 175	.0003" - .0005"	.0004" - .0008"	.0006" - .0012"
	> 35	80 - 125	.0002" - .0004"	.0003" - .0006"	.0005" - .0010"
(Austenitic) 304L, 316L, Nitronic 50, Inox	< 35	80 - 100	.0003" - .0005"	.0004" - .0008"	.0006" - .0012"
	> 35	60 - 90	.0002" - .0004"	.0003" - .0006"	.0005" - .0010"
(Martensitic) 400 Series	< 35	100 - 150	.0003" - .0005"	.0004" - .0008"	.0006" - .0012"
	> 35	80 - 125	.0002" - .0004"	.0003" - .0006"	.0005" - .0010"
HIGH STRENGTH TOOL STEELS					
4140, 4340, 6150, 5210, A2, D2, P20, H11, H13, S2, O1	< 35	100 - 175	.0003" - .0006"	.0004" - .0008"	.0006" - .0012"
	35-48	80 - 130	.0002" - .0005"	.0003" - .0008"	.0006" - .0012"
	> 48	60 - 80	.0002" - .0004"	.0003" - .0006"	.0005" - .0010"
MEDIUM ALLOY TOOL STEELS					
200, 250, 300, 8620	< 35	125 - 175	.0004" - .0008"	.0006" - .0012"	.0008" - .0015"
	> 35	80 - 125	.0003" - .0005"	.0004" - .0008"	.0006" - .0012"
CARBON STEELS					
Platinum, A36, 12L14, 1000's, 1100's, 1300's	< 35	125 - 175	.0004" - .0008"	.0006" - .0012"	.0008" - .0015"
	> 35	80 - 125	.0003" - .0005"	.0004" - .0008"	.0006" - .0012"
CAST MATERIAL					
Steel		100 - 175	.0003" - .0006"	.0004" - .0008"	.0006" - .0012"
Ductile Iron		100 - 200	.0004" - .0008"	.0006" - .0012"	.0008" - .0015"
Gray Iron		80 - 175	.0004" - .0008"	.0006" - .0012"	.0008" - .0015"
Aluminum		100 - 250	.0004" - .0008"	.0006" - .0012"	.0008" - .0015"
ALUMINUM					
2014, 2024, 6061-(T1-T6), 7075, Extruded		125 - 300	.0004" - .0008"	.0006" - .0012"	.0008" - .0015"
MAGNESIUM					
		125 - 250	.0004" - .0008"	.0006" - .0012"	.0008" - .0015"
COPPER					
Copper Alloys		125 - 250	.0004" - .0008"	.0006" - .0012"	.0008" - .0015"
BRASS					
Short Chips Long Chips		125 - 250	.0004" - .0008"	.0006" - .0012"	.0008" - .0015"
		100 - 200	.0003" - .0005"	.0004" - .0008"	.0006" - .0012"
BRONZE					
Short Chips Long Chips		100 - 250	.0004" - .0008"	.0006" - .0012"	.0008" - .0015"
		80 - 175	.0003" - .0006"	.0004" - .0008"	.0006" - .0012"

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

GARR TOOL High Performance Drilling Guide

Metric

Type	Rc Hardness	Recommended M/Min.	CHIPLOAD PER FLUTE (Fz)		
		Series 1250H 1550H 1850H	1/32" - 0.99mm (.0312" - .0390")	1.00mm - 2.00mm (.0394" - .0787")	2.01mm - 1/8" (.0791" - .1250")
COBALT BASE ALLOYS					
Powdered Metal, Stellite, Hs-21, Haynes 25/188, X-40, L-605	< 35	30 - 45	.005mm - .010mm	.010mm - .020mm	.015mm - .030mm
	> 35	25 - 35	.005mm - .010mm	.008mm - .015mm	.013mm - .025mm
NICKEL BASE ALLOYS					
Invar, Kovar, Inconel-625/718, Waspalloy, Rene, Hastalloy, A286	< 35	40 - 45	.008mm - .013mm	.010mm - .020mm	.015mm - .030mm
	> 35	30 - 40	.005mm - .010mm	.008mm - .015mm	.013mm - .025mm
IRON BASE ALLOYS					
Incoloy 800-802, Multimet N-155, Timkin 16-25-6, Carpenter 22-b3	< 35	40 - 50	.010mm - .020mm	.015mm - .030mm	.020mm - .038mm
	> 35	25 - 30	.008mm - .015mm	.010mm - .020mm	.015mm - .030mm
MONEL					
Monel - 65% Nickel		20 - 40	.005mm - .010mm	.008mm - .015mm	.013mm - .025mm
TITANIUM ALLOYS					
Commercially Pure, 6Al-4V, Astm 1/2/3, 6Al-25N-4Zr-2Mo-Si		45 - 60	.008mm - .015mm	.010mm - .020mm	.015mm - .030mm
STAINLESS STEELS					
(Precipitation) 13/8, 15/5, 17-4, pH Types	< 35	40 - 50	.008mm - .013mm	.010mm - .020mm	.015mm - .030mm
	> 35	25 - 40	.005mm - .010mm	.008mm - .015mm	.013mm - .025mm
(Austenitic) Inox, 200 Series, 300 Series	< 35	30 - 50	.008mm - .013mm	.010mm - .020mm	.015mm - .030mm
	> 35	25 - 40	.005mm - .010mm	.008mm - .015mm	.013mm - .025mm
(Austenitic) 304L, 316L, Nitronic 50, Inox	< 35	25 - 30	.008mm - .013mm	.010mm - .020mm	.015mm - .030mm
	> 35	20 - 25	.005mm - .010mm	.008mm - .015mm	.013mm - .025mm
(Martensitic) 400 Series	< 35	30 - 45	.008mm - .013mm	.010mm - .020mm	.015mm - .030mm
	> 35	25 - 40	.005mm - .010mm	.008mm - .015mm	.013mm - .025mm
HIGH STRENGTH TOOL STEELS					
4140, 4340, 6150, 5210, A2, D2, P20, H11, H13, S2, O1	< 35	30 - 50	.008mm - .015mm	.010mm - .020mm	.015mm - .030mm
	35-48	25 - 40	.005mm - .013mm	.008mm - .020mm	.015mm - .030mm
	> 48	20 - 25	.005mm - .010mm	.008mm - .015mm	.013mm - .025mm
MEDIUM ALLOY TOOL STEELS					
200, 250, 300, 8620	< 35	40 - 50	.010mm - .020mm	.015mm - .030mm	.020mm - .038mm
	> 35	25 - 40	.008mm - .013mm	.010mm - .020mm	.015mm - .030mm
CARBON STEELS					
Platinum, A36, 12L14, 1000's, 1100's, 1300's	< 35	40 - 50	.010mm - .020mm	.015mm - .030mm	.020mm - .038mm
	> 35	25 - 40	.008mm - .013mm	.010mm - .020mm	.015mm - .030mm
CAST MATERIAL					
Steel		30 - 50	.008mm - .015mm	.010mm - .020mm	.015mm - .030mm
Ductile Iron		30 - 60	.010mm - .020mm	.015mm - .030mm	.020mm - .038mm
Gray Iron		25 - 50	.010mm - .020mm	.015mm - .030mm	.020mm - .038mm
Aluminum		30 - 75	.010mm - .020mm	.015mm - .030mm	.020mm - .038mm
ALUMINUM					
2014, 2024, 6061-(T1-T6), 7075, Extruded		40 - 90	.010mm - .020mm	.015mm - .030mm	.020mm - .038mm
MAGNESIUM					
		40 - 75	.010mm - .020mm	.015mm - .030mm	.020mm - .038mm
COPPER					
Copper Alloys		40 - 75	.010mm - .020mm	.015mm - .030mm	.020mm - .038mm
BRASS					
Short Chips Long Chips		40 - 75	.010mm - .020mm	.015mm - .030mm	.020mm - .038mm
		30 - 60	.008mm - .013mm	.010mm - .020mm	.015mm - .030mm
BRONZE					
Short Chips Long Chips		30 - 75	.010mm - .020mm	.015mm - .030mm	.020mm - .038mm
		25 - 50	.008mm - .015mm	.010mm - .020mm	.015mm - .030mm

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

NEWEST PRODUCT FLYERS



Our solid carbide reamers, made from premium submicron grain carbide, come standard with straight flutes, a 45° lead chamfer, and a neck behind the flutes for better reach into the part. We have included over 500 sizes in this new line.

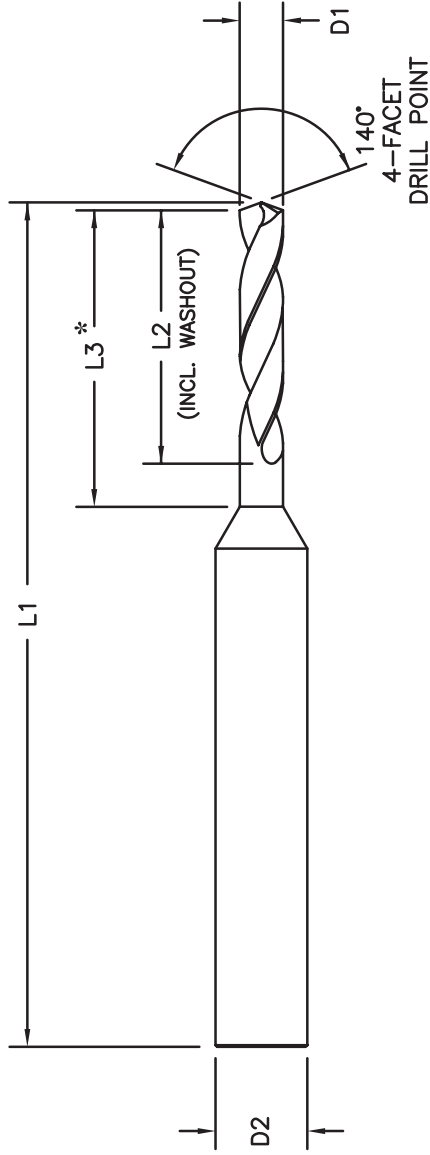


Our solid carbide drill mills, made from premium submicron grain carbide. Frequently ordered as an altered standard, these tools are now available as a standard either with TiALN Coating or not coated. The 90° included angle is center cutting to be used as an end mill. These do not have a drill point geometry.



Garr Tool has expanded capabilities, allowing us to produce carbide tooling for the most current materials. For machining composites, we have several options for tools which we can manufacture to your customer specifications within two weeks. Contact us for pricing.

**CONTACT US
IF YOU NEED COPIES
OF THESE FLYERS**



D1: _____ TOL: _____
D2: _____ TOL: _____
L1: _____
L2: _____

* L3: _____ (L2 + .075"[2mm] STD)

HELIX ANGLE (30° STD): _____

COATING: _____

MAT'L BEING CUT: _____

DIMENSIONS NOT SHOWN TO BE GARR TOOL STANDARDS
TOLERANCES ARE BEFORE ANY COATING IS APPLIED

GARR TOOL

ALMA, MICHIGAN

SCALE: _____ DRAWN BY: _____ APPR. BY: _____

DATE: _____ DATE: _____

TITLE: HIGH PERFORMANCE DRILL

CUSTOMER: _____

DWG NO.: _____

REVISIONS

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Prices subject to change without notice

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