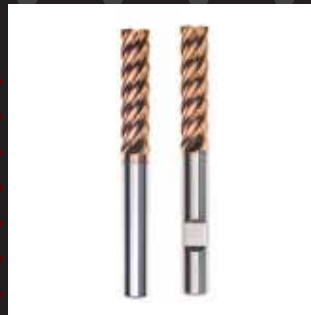
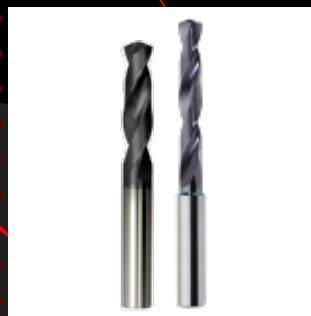


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6-Flute Multi-Application



Tool Features

- Helical entry parameters
- Aggressive ramping
- Variable helix for excellent chip evacuation
- Variable index for stable chatter free performance
- Wiper flat for smooth floor finishes
- Strong core for higher metal removal rates in tough materials
- AlTiN coated for extreme lubricity and heat protection



Plain Shank



Weldon Shank

6-Flute, Variable Index & Helix, Square & Corner Radius

Cutter ø	Decimal Equiv	FL	OAL	Radius	Shk ø	Plain Shank Part #	Weldon Shank Part #
1/4	.2500	3/8	2	-	1/4	REX6200	—
1/4	.2500	3/8	2	.010	1/4	REX6201	—
1/4	.2500	3/8	2	.015	1/4	REX6202	—
1/4	.2500	3/8	2	.030	1/4	REX6203	—
1/4	.2500	3/8	2	.060	1/4	REX6204	—
1/4	.2500	1/2	2-1/2	-	1/4	REX6205	—
1/4	.2500	1/2	2-1/2	.010	1/4	REX6206	—
1/4	.2500	1/2	2-1/2	.015	1/4	REX6207	—
1/4	.2500	1/2	2-1/2	.030	1/4	REX6208	—
1/4	.2500	3/4	2-1/2	-	1/4	REX6209	—
1/4	.2500	3/4	2-1/2	.010	1/4	REX6210	—
1/4	.2500	3/4	2-1/2	.015	1/4	REX6211	—
1/4	.2500	3/4	2-1/2	.030	1/4	REX6212	—
1/4	.2500	3/4	2-1/2	.060	1/4	REX6213	—
1/4	.2500	1	3	-	1/4	REX6214	—
1/4	.2500	1	3	.010	1/4	REX6215	—
1/4	.2500	1	3	.015	1/4	REX6216	—
1/4	.2500	1	3	.030	1/4	REX6217	—
5/16	.3125	7/16	2	-	5/16	REX6218	—
5/16	.3125	13/16	2-1/2	-	5/16	REX6219	—
5/16	.3125	13/16	2-1/2	.015	5/16	REX6220	—
5/16	.3125	1-1/4	3	-	5/16	REX6221	—
3/8	.3750	1/2	2	-	3/8	REX6222	—
3/8	.3750	1/2	2	-	3/8	—	REX6223
3/8	.3750	1/2	2	.010	3/8	REX6224	—
3/8	.3750	1/2	2	.015	3/8	REX6225	—
3/8	.3750	1/2	2	.030	3/8	REX6226	—
3/8	.3750	1/2	2	.030	3/8	—	REX6227
3/8	.3750	1	2-1/2	-	3/8	REX6228	—



Speeds & Feeds page 9.

Tolerances	Diameter	Shank	Radius
Fractional	+0.000, -0.002	h6	+0.0015, -0.0015



Plain Shank



Weldon Shank

6-Flute, Variable Index & Helix, Square & Corner Radius

Cutter ø	Decimal Equiv	FL	OAL	Radius	Shk ø	Plain Shank Part #	Weldon Shank Part #
3/8	.3750	1	2-1/2	-	3/8	—	REX6229
3/8	.3750	1	2-1/2	.010	3/8	REX6230	—
3/8	.3750	1	2-1/2	.010	3/8	—	REX6231
3/8	.3750	1	2-1/2	.015	3/8	REX6232	—
3/8	.3750	1	2-1/2	.015	3/8	—	REX6233
3/8	.3750	1	2-1/2	.030	3/8	REX6234	—
3/8	.3750	1	2-1/2	.030	3/8	—	REX6235
3/8	.3750	1	2-1/2	.060	3/8	REX6236	—
3/8	.3750	1-1/4	3	-	3/8	REX6237	—
3/8	.3750	1-1/4	3	-	3/8	—	REX6238
3/8	.3750	1-1/4	3	.010	3/8	REX6239	—
3/8	.3750	1-1/4	3	.015	3/8	REX6240	—
3/8	.3750	1-1/4	3	.030	3/8	REX6241	—
3/8	.3750	1-1/4	3	.030	3/8	—	REX6242
3/8	.3750	1-1/4	3	.060	3/8	REX6243	—
3/8	.3750	1-1/2	3-1/2	-	3/8	REX6244	—
1/2	.5000	5/8	2-1/2	-	1/2	REX6245	—
1/2	.5000	5/8	2-1/2	-	1/2	—	REX6246
1/2	.5000	5/8	2-1/2	.010	1/2	REX6247	—
1/2	.5000	5/8	2-1/2	.015	1/2	REX6248	—
1/2	.5000	5/8	2-1/2	.030	1/2	REX6249	—
1/2	.5000	5/8	2-1/2	.060	1/2	REX6250	—
1/2	.5000	1	3	-	1/2	REX6251	—
1/2	.5000	1	3	-	1/2	—	REX6252
1/2	.5000	1	3	.010	1/2	REX6253	—
1/2	.5000	1	3	.010	1/2	—	REX6254
1/2	.5000	1	3	.015	1/2	REX6255	—
1/2	.5000	1	3	.015	1/2	—	REX6256
1/2	.5000	1	3	.030	1/2	REX6257	—
1/2	.5000	1	3	.030	1/2	—	REX6258
1/2	.5000	1	3	.060	1/2	REX6259	—
1/2	.5000	1-1/4	3	-	1/2	REX6260	—
1/2	.5000	1-1/4	3	.010	1/2	REX6262	—
1/2	.5000	1-1/4	3	.010	1/2	—	REX6263
1/2	.5000	1-1/4	3	.015	1/2	REX6264	—



Tolerances	Diameter	Shank	Radius
Fractional	+0.000, -0.002	h6	+0.0015, -0.0015



Speeds & Feeds page 9.

6-Flute Multi-Application



Plain Shank



Weldon Shank

6-Flute, Variable Index & Helix, Square & Corner Radius

Cutter ø	Decimal Equiv	FL	OAL	Radius	Shk ø	Plain Shank Part #	Weldon Shank Part #
1/2	.5000	1-1/4	3	.015	1/2	—	REX6265
1/2	.5000	1-1/4	3	.030	1/2	REX6266	—
1/2	.5000	1-1/4	3	.030	1/2	—	REX6267
1/2	.5000	1-1/4	3	.060	1/2	REX6268	—
1/2	.5000	1-1/4	3	.060	1/2	—	REX6269
1/2	.5000	1-1/2	3-1/2	-	1/2	REX6270	—
1/2	.5000	1-1/2	3-1/2	.030	1/2	REX6271	—
1/2	.5000	1-3/4	4	-	1/2	REX6272	—
1/2	.5000	1-3/4	4	.030	1/2	REX6273	—
1/2	.5000	2	4	-	1/2	REX6274	—
1/2	.5000	2	4	.030	1/2	REX6275	—
1/2	.5000	2	4	.060	1/2	REX6276	—
5/8	.6250	1-5/8	3-1/2	-	5/8	REX6277	—
5/8	.6250	1-5/8	3-1/2	-	5/8	—	REX6278
5/8	.6250	1-5/8	3-1/2	.030	5/8	REX6279	—
5/8	.6250	1-5/8	3-1/2	.030	5/8	—	REX6280
3/4	.7500	1-5/8	4	-	3/4	REX6281	—
3/4	.7500	1-5/8	4	-	3/4	—	REX6282
3/4	.7500	1-5/8	4	.030	3/4	REX6283	—
3/4	.7500	1-5/8	4	.030	3/4	—	REX6284
3/4	.7500	1-5/8	4	.060	3/4	REX6285	—
3/4	.7500	2-1/4	5	-	3/4	REX6286	—
3/4	.7500	2-1/4	5	.015	3/4	REX6287	—



Speeds & Feeds page 9.

Tolerances	Diameter	Shank	Radius
Fractional	+0.000, -0.002	h6	+0.0015, -0.0015



Tool Features

- Helical entry parameters
- Aggressive ramping
- Variable helix for excellent chip evacuation
- Variable index for stable chatter free performance
- Wiper flat for smooth floor finishes
- Strong core for higher metal removal rates in tough materials
- AlTiN coated for extreme lubricity and heat protection
- Chip control system to eliminate chip packing



Plain Shank



Weldon Shank

6-Flute, Variable Index & Helix, Chip Control, Square & Corner Radius

Cutter ø	Decimal Equiv	FL	OAL	Radius	Shk ø	Plain Shank Part #	Weldon Shank Part #
1/4	.2500	3/8	2	.015	1/4	REX6500	—
1/4	.2500	1/2	2-1/2	.015	1/4	REX6501	—
1/4	.2500	3/4	2-1/2	.015	1/4	REX6502	—
1/4	.2500	1	3	.015	1/4	REX6503	—
3/8	.3750	1/2	2	.015	3/8	REX6504	—
3/8	.3750	1/2	2	.030	3/8	REX6505	—
3/8	.3750	1	2-1/2	.015	3/8	REX6506	—
3/8	.3750	1	2-1/2	.015	3/8	—	REX6507
3/8	.3750	1	2-1/2	.030	3/8	REX6508	—
3/8	.3750	1	2-1/2	.030	3/8	—	REX6509
3/8	.3750	1-1/4	3	.015	3/8	REX6510	—
3/8	.3750	1-1/4	3	.015	3/8	—	REX6511
3/8	.3750	1-1/4	3	.030	3/8	REX6512	—
3/8	.3750	1-1/4	3	.030	3/8	—	REX6513
1/2	.5000	5/8	2-1/2	.015	1/2	REX6514	—
1/2	.5000	5/8	2-1/2	.030	1/2	REX6515	—
1/2	.5000	1	3	.015	1/2	REX6516	—
1/2	.5000	1	3	.015	1/2	—	REX6517
1/2	.5000	1	3	.030	1/2	REX6518	—
1/2	.5000	1	3	.030	1/2	—	REX6519
1/2	.5000	1	3	.060	1/2	—	REX6520
1/2	.5000	1-1/4	3	.015	1/2	REX6521	—
1/2	.5000	1-1/4	3	.015	1/2	—	REX6522
1/2	.5000	1-1/4	3	.030	1/2	REX6523	—
1/2	.5000	1-1/4	3	.030	1/2	—	REX6524
1/2	.5000	1-1/4	3	.060	1/2	REX6525	—
1/2	.5000	1-1/4	3	.060	1/2	—	REX6526
1/2	.5000	1-1/2	3-1/2	.030	1/2	REX6527	—
1/2	.5000	1-3/4	4	.030	1/2	REX6528	—



Tolerances	Diameter	Shank	Radius
Fractional	+0.000, -0.002	h6	+0.0015, -0.0015



Speeds & Feeds page 9.

6-Flute Multi-Application



Plain Shank



Weldon Shank

6-Flute, Variable Index & Helix, Chip Control, Square & Corner Radius

Cutter ø	Decimal Equiv	FL	OAL	Radius	Shk ø	Plain Shank Part #	Weldon Shank Part #
1/2	.5000	2	4	.030	1/2	REX6529	—
5/8	.6250	1-5/8	3-1/2	.030	5/8	REX6530	—
5/8	.6250	1-5/8	3-1/2	.030	5/8	—	REX6531
5/8	.6250	1-5/8	3-1/2	.060	5/8	REX6532	—
5/8	.6250	1-5/8	3-1/2	.060	5/8	—	REX6533
3/4	.7500	1-5/8	4	.030	3/4	REX6534	—
3/4	.7500	1-5/8	4	.030	3/4	—	REX6535
3/4	.7500	1-5/8	4	.060	3/4	REX6536	—
3/4	.7500	1-5/8	4	.060	3/4	—	REX6537



Speeds & Feeds page 9.

Tolerances	Diameter	Shank	Radius
Fractional	+0.000, -0.002	h6	+0.0015, -0.0015



6-Flute, XHP Multi-Application Endmills - Square and Corner Radius, **Chip Control**, Variable Index & Helix



- RedLine XHP Variable 6-Flute tools offer optimum metal removal rates. By controlling the vibration and chatter through a unique dampening geometry, and through the application of our advanced heat resistant coating over a fine micro-grain carbide substrate, our tools can handle faster speeds and feeds with excellent tool life in even the most difficult to machine materials like Stainless and Titanium.
- These tools can be optimized by using High Efficiency Machining technology.
- Used to ramp, plunge, slot, rough and finish profiles.

XHP Variable Index 6-Flute Endmills Speeds & Feeds

Material	Grades	Cut	Axial	Radial		Feed by Endmill Diameter (IPT)								
					SFM AITSN	1/8 (.1250)	3/16 (.1875)	1/4 (.2500)	5/16 (.3125)	3/8 (.3750)	7/16 (.4375)	1/2 (.5000)	5/8 (.6250)	3/4 (.7500)
P - Steels														
Tool & Die Steels	A2, D2, O1, S7, P20, H13	Peripheral - Rough	1.25 x D	.4 x D	315	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036
		Peripheral - Finish	3 x D	.012 x D	315	.0007	.0010	.0013	.0016	.0020	.0023	.0026	.0033	.0039
		Peripheral - HEM	3 x D	.07 x D	347	.0011	.0016	.0022	.0027	.0032	.0038	.0043	.0054	.0065
		Slotting - Traditional	.625 x D	1 x D	248	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026
		Rough Facing	.35 x D	.65 x D	347	.0006	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0033
		Finish Facing	.02 x D	.65 x D	331	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036
		Helical Entry	2 x D	12 deg.	270	.0003	.0005	.0007	.0008	.0010	.0012	.0013	.0017	.0020
		Straight Line Ramp	.63 x D	16 deg.	285	.0003	.0005	.0006	.0007	.0009	.0010	.0012	.0015	.0018
		Zig Zag Pocket	.625 x D	.55 x D	248	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026
Low Carbon	1018, 1020, 12L14, 5120, 8620	Peripheral - Rough	2 x D	.55 x D	361	.0008	.0012	.0016	.0020	.0024	.0028	.0032	.0040	.0048
		Peripheral - Finish	3 x D	.015 x D	380	.0009	.0013	.0018	.0022	.0026	.0031	.0035	.0044	.0053
		Peripheral - HEM	3 x D	.09 x D	418	.0015	.0023	.0031	.0039	.0046	.0054	.0062	.0077	.0093
		Slotting - Traditional	1 x D	1 x D	309	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036
		Rough Facing	.375 x D	.7 x D	397	.0007	.0011	.0015	.0018	.0022	.0025	.0029	.0036	.0044
		Finish Facing	.02 x D	.7 x D	399	.0009	.0013	.0017	.0021	.0026	.0030	.0034	.0043	.0051
		Helical Entry	3 x D	25 deg.	371	.0005	.0007	.0009	.0012	.0014	.0016	.0018	.0023	.0028
		Straight Line Ramp	1 x D	20 deg.	380	.0004	.0006	.0008	.0009	.0011	.0013	.0015	.0019	.0023
		Zig Zag Pocket	1 x D	.625 x D	309	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036
Medium Carbon	1045, 4140, 4340, 5140	Peripheral - Rough	2 x D	.55 x D	356	.0008	.0011	.0015	.0019	.0023	.0027	.0030	.0038	.0046
		Peripheral - Finish	3 x D	.015 x D	356	.0008	.0012	.0016	.0020	.0024	.0028	.0032	.0040	.0048
		Peripheral - HEM	3 x D	.09 x D	380	.0014	.0021	.0028	.0034	.0041	.0048	.0055	.0069	.0083
		Slotting - Traditional	1 x D	1 x D	285	.0006	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0033
		Rough Facing	.375 x D	.7 x D	392	.0007	.0010	.0014	.0017	.0021	.0024	.0027	.0034	.0041
		Finish Facing	.02 x D	.7 x D	374	.0008	.0012	.0016	.0020	.0023	.0027	.0031	.0039	.0047
		Helical Entry	3 x D	25 deg.	356	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0025
		Straight Line Ramp	1 x D	20 deg.	380	.0004	.0005	.0007	.0009	.0010	.0012	.0014	.0017	.0021
		Zig Zag Pocket	1 x D	.625 x D	285	.0006	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0033
M - Stainless Steels														
Austenitic	303, 304, 316, Invar, Kovar	Peripheral - Rough	2 x D	.25 x D	356	.0007	.0011	.0015	.0019	.0022	.0026	.0030	.0037	.0045
		Peripheral - Finish	3 x D	.012 x D	315	.0007	.0011	.0014	.0017	.0021	.0024	.0028	.0035	.0042
		Peripheral - HEM	3 x D	.2 x D	356	.0010	.0014	.0019	.0024	.0028	.0033	.0038	.0047	.0057
		Slotting - Traditional	.75 x D	1 x D	248	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Rough Facing	.35 x D	.65 x D	361	.0007	.0011	.0014	.0018	.0021	.0025	.0028	.0035	.0043
		Finish Facing	.02 x D	.65 x D	331	.0006	.0009	.0012	.0014	.0017	.0020	.0023	.0029	.0035
		Helical Entry	3 x D	7 deg.	292	.0002	.0004	.0005	.0006	.0007	.0008	.0010	.0012	.0014
		Straight Line Ramp	.63 x D	4 deg.	248	.0004	.0006	.0008	.0010	.0011	.0013	.0015	.0019	.0023
		Zig Zag Pocket	.75 x D	.55 x D	248	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
Martensitic & Ferritic	410, 416, 440	Peripheral - Rough	2.25 x D	.25 x D	329	.0007	.0011	.0014	.0018	.0022	.0025	.0029	.0036	.0043
		Peripheral - Finish	3 x D	.012 x D	338	.0008	.0012	.0015	.0019	.0023	.0027	.0031	.0038	.0046
		Peripheral - HEM	3 x D	.2 x D	360	.0010	.0015	.0019	.0024	.0029	.0034	.0039	.0048	.0058
		Slotting - Traditional	.75 x D	1 x D	248	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Rough Facing	.35 x D	.65 x D	361	.0007	.0010	.0013	.0016	.0019	.0023	.0026	.0032	.0039
		Finish Facing	.02 x D	.65 x D	345	.0006	.0010	.0013	.0016	.0019	.0022	.0025	.0032	.0038
		Helical Entry	3 x D	7 deg.	297	.0002	.0004	.0005	.0006	.0007	.0008	.0009	.0012	.0014
		Straight Line Ramp	.63 x D	4 deg.	248	.0004	.0006	.0008	.0010	.0011	.0013	.0015	.0019	.0023
		Zig Zag Pocket	.75 x D	.55 x D	248	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024

D = tool diameter. Reduce feed rates by 20% when using long length tools. Starting parameters shown.

NOTE: Speeds and Feeds listed are estimated and will vary by application.

XHP Variable Index 6-Flute Endmills Speeds & Feeds (Cont'd)

Material	Grades	Cut	Axial	Radial		Feed by Endmill Diameter (IPT)								
					SFM	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
					AITSN	(.1250)	(.1875)	(.2500)	(.3125)	(.3750)	(.4375)	(.5000)	(.6250)	(.7500)
P - Stainless Steels														
Precipitation Hardening Stainless Steel	17-4, 15-5, 13-8	Peripheral - Rough	2 x D	.28 x D	351	.0007	.0010	.0013	.0017	.0020	.0023	.0027	.0034	.0040
		Peripheral - Finish	3 x D	.015 x D	309	.0006	.0009	.0012	.0015	.0019	.0022	.0025	.0031	.0037
		Peripheral - HEM	3 x D	.2 x D	347	.0008	.0013	.0017	.0021	.0025	.0029	.0033	.0042	.0050
		Slotting - Traditional	.75 x D	1 x D	238	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Rough Facing	.375 x D	.7 x D	376	.0006	.0009	.0012	.0015	.0019	.0022	.0025	.0031	.0037
		Finish Facing	.02 x D	.7 x D	324	.0005	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0032
		Helical Entry	3 x D	7 deg.	285	.0003	.0004	.0005	.0006	.0007	.0009	.0010	.0012	.0015
		Straight Line Ramp	.63 x D	5 deg.	243	.0004	.0005	.0007	.0009	.0011	.0012	.0014	.0018	.0021
		Zig Zag Pocket	.75 x D	.625 x D	238	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
K - Cast Irons														
Ductile	A536, J434, 60-40-18	Peripheral - Rough	1.5 x D	.3 x D	315	.0006	.0010	.0013	.0016	.0019	.0022	.0025	.0032	.0038
		Peripheral - Finish	3 x D	.01 x D	315	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036
		Peripheral - HEM	3 x D	.07 x D	351	.0017	.0025	.0034	.0042	.0051	.0059	.0068	.0084	.0101
		Slotting - Traditional	.5 x D	1 x D	234	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026
		Rough Facing	.35 x D	.65 x D	347	.0006	.0009	.0011	.0014	.0017	.0020	.0023	.0028	.0034
		Finish Facing	.02 x D	.65 x D	331	.0005	.0008	.0010	.0013	.0015	.0018	.0020	.0026	.0031
		Helical Entry	3 x D	18 deg.	260	.0004	.0006	.0008	.0010	.0012	.0015	.0017	.0021	.0025
		Straight Line Ramp	.5 x D	13 deg.	234	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026
		Zig Zag Pocket	.5 x D	.55 x D	234	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026
Gray	ATSM-A48 Class 20, 25, 30, 35 & 40	Peripheral - Rough	1.5 x D	.3 x D	352	.0007	.0011	.0014	.0018	.0021	.0025	.0029	.0036	.0043
		Peripheral - Finish	3 x D	.015 x D	356	.0007	.0010	.0014	.0017	.0021	.0024	.0028	.0034	.0041
		Peripheral - HEM	3 x D	.08 x D	361	.0017	.0025	.0033	.0042	.0050	.0058	.0067	.0083	.0100
		Slotting - Traditional	.625 x D	1 x D	285	.0005	.0008	.0010	.0012	.0015	.0017	.0020	.0025	.0030
		Rough Facing	.375 x D	.7 x D	387	.0006	.0010	.0013	.0016	.0019	.0022	.0026	.0032	.0038
		Finish Facing	.020 x D	.7 x D	374	.0006	.0010	.0013	.0016	.0019	.0022	.0025	.0032	.0038
		Helical Entry	3 x D	18 deg.	309	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Straight Line Ramp	.630 x D	11 deg.	285	.0005	.0007	.0009	.0011	.0014	.0016	.0018	.0023	.0028
		Zig Zag Pocket	.625 x D	.625 x D	285	.0005	.0008	.0010	.0012	.0015	.0017	.0020	.0025	.0030
Malleable	A220, A602, J158	Peripheral - Rough	1.5 x D	.3 x D	315	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036
		Peripheral - Finish	3 x D	.01 x D	315	.0006	.0009	.0012	.0015	.0018	.0020	.0023	.0029	.0035
		Peripheral - HEM	3 x D	.07 x D	351	.0017	.0025	.0033	.0042	.0050	.0058	.0067	.0083	.0100
		Slotting - Traditional	.5 x D	1 x D	239	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Rough Facing	.35 x D	.65 x D	347	.0006	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0033
		Finish Facing	.02 x D	.65 x D	331	.0005	.0007	.0010	.0012	.0015	.0017	.0020	.0025	.0030
		Helical Entry	3 x D	18 deg.	256	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Straight Line Ramp	.5 x D	13 deg.	239	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Zig Zag Pocket	.5 x D	.55 x D	239	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
N- Non Ferrous														
Bronze, HighTin	Bronze, Manganese Bronze, Work Hardened Bronze, 201- 277 Bhn	Peripheral - Rough	1.5 x D	.3 x D	338	.0005	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0032
		Peripheral - Finish	3 x D	.012 x D	342	.0005	.0008	.0010	.0013	.0016	.0018	.0021	.0026	.0031
		Peripheral - HEM	2.25 x D	.1 x D	351	.0010	.0014	.0019	.0024	.0028	.0033	.0038	.0047	.0057
		Slotting - Traditional	.7 x D	1 x D	252	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Rough Facing	.35 x D	.65 x D	371	.0004	.0006	.0008	.0011	.0013	.0015	.0017	.0021	.0025
		Finish Facing	.02 x D	.7 x D	376	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026
		Helical Entry	2.5 x D	10 deg.	270	.0004	.0006	.0008	.0010	.0012	.0013	.0015	.0019	.0023
		Straight Line Ramp	.75 x D	18 deg.	269	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
		Zig Zag Pocket	.7 x D	.55 x D	252	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024
Aluminum Alloys	0-T6 2024, 6061, 7075	Peripheral - Rough	2.25 x D	.6 x D	500	.0018	.0026	.0035	.0044	.0053	.0061	.0070	.0088	.0105
		Peripheral - Finish	3 x D	.02 x D	750	.0006	.0009	.0013	.0016	.0019	.0022	.0025	.0031	.0038
		Peripheral - HEM	3 x D	.25 x D	700	.0018	.0026	.0035	.0044	.0053	.0061	.0070	.0088	.0105
		Slotting - Traditional	1 x D	1 x D	375	.0008	.0012	.0016	.0020	.0024	.0028	.0032	.0040	.0048
		Rough Facing	.375 x D	.7 x D	550	.0014	.0022	.0029	.0036	.0043	.0051	.0058	.0072	.0087
		Finish Facing	.02 x D	.7 x D	784	.0005	.0008	.0010	.0013	.0015	.0018	.0020	.0025	.0030
		Helical Entry	3 x D	10 deg.	500	.0006	.0010	.0013	.0016	.0019	.0022	.0025	.0032	.0038
		Straight Line Ramp	.5 x D	10 deg.	463	.0006	.0009	.0012	.0016	.0019	.0022	.0025	.0031	.0037
		Zig Zag Pocket	1 x D	.45 x D	375	.0008	.0012	.0016	.0020	.0024	.0028	.0032	.0040	.0048

D = tool diameter. Reduce feed rates by 20% when using long length tools. Starting parameters shown.

NOTE: Speeds and Feeds listed are estimated and will vary by application.

XHP Variable Index 6-Flute Endmills Speeds & Feeds (Cont'd)

Material	Grades	Cut	Axial	Radial		Feed by Endmill Diameter (IPT)									
						SFM	1/8	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4
						AITSN	(.1250)	(.1875)	(.2500)	(.3125)	(.3750)	(.4375)	(.5000)	(.6250)	(.7500)
N- Non Ferrous															
Composites, Plastics, Fiberglass	Fiberglass, Graphite, Graphite Epoxy	Peripheral - Rough	1.5 x D	.5 x D	428	.0007	.0011	.0014	.0018	.0021	.0025	.0029	.0036	.0043	
		Peripheral - Finish	3 x D	.015 x D	447	.0007	.0010	.0014	.0017	.0021	.0024	.0028	.0034	.0041	
		Peripheral - HEM	2.25 x D	.12 x D	475	.0012	.0018	.0024	.0030	.0036	.0042	.0048	.0059	.0071	
		Slotting - Traditional	1 x D	1 x D	380	.0007	.0010	.0013	.0017	.0020	.0023	.0027	.0033	.0040	
		Rough Facing	.375 x D	.7 x D	495	.0006	.0009	.0012	.0015	.0017	.0020	.0023	.0029	.0035	
		Finish Facing	.02 x D	.7 x D	491	.0006	.0009	.0012	.0015	.0018	.0020	.0023	.0029	.0035	
		Helical Entry	3 x D	20 deg.	400	.0007	.0010	.0013	.0017	.0020	.0023	.0027	.0033	.0040	
		Straight Line Ramp	1 x D	25 deg..	400	.0006	.0010	.0013	.0016	.0019	.0022	.0025	.0032	.0038	
		Zig Zag Pocket	1 x D	.625 x D	400	.0007	.0011	.0014	.0018	.0021	.0025	.0028	.0035	.0042	
Copper, Brass 111-170 Bhn		Peripheral - Rough	2 x D	.3 x D	361	.0006	.0009	.0012	.0015	.0018	.0021	.0024	.0030	.0036	
		Peripheral - Finish	3 x D	.015 x D	366	.0006	.0008	.0011	.0014	.0016	.0019	.0022	.0027	.0033	
		Peripheral - HEM	2.25 x D	.1 x D	380	.0011	.0016	.0021	.0027	.0032	.0037	.0043	.0053	.0064	
		Slotting - Traditional	.75 x D	1 x D	276	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026	
		Rough Facing	.375 x D	.7 x D	418	.0005	.0007	.0010	.0012	.0015	.0017	.0019	.0024	.0029	
		Finish Facing	.02 x D	.7 x D	402	.0005	.0007	.0009	.0012	.0014	.0016	.0019	.0023	.0028	
		Helical Entry	3 x D	12 deg.	304	.0004	.0006	.0009	.0011	.0013	.0015	.0017	.0021	.0026	
		Straight Line Ramp	1 x D	20 deg.	300	.0004	.0007	.0009	.0011	.0013	.0015	.0018	.0022	.0026	
		Zig Zag Pocket	.75 x D	.625 x D	290	.0005	.0007	.0009	.0011	.0014	.0016	.0018	.0023	.0027	
Magnesium Alloys 47-140 Bhn		Peripheral - Rough	1.5 x D	.3 x D	342	.0006	.0008	.0011	.0014	.0017	.0020	.0023	.0028	.0034	
		Peripheral - Finish	2.25 x D	.6 x D	500	.0018	.0026	.0035	.0044	.0053	.0061	.0070	.0088	.0105	
		Peripheral - HEM	3 x D	.02 x D	750	.0006	.0009	.0013	.0016	.0019	.0022	.0025	.0031	.0038	
		Peripheral - HEM	3 x D	.25 x D	665	.0017	.0025	.0033	.0042	.0050	.0058	.0067	.0083	.0100	
		Slotting - Traditional	1 x D	1 x D	375	.0008	.0012	.0016	.0020	.0024	.0028	.0032	.0040	.0048	
		Rough Facing	.375 x D	.7 x D	550	.0014	.0022	.0029	.0036	.0043	.0051	.0058	.0072	.0087	
		Finish Facing	.02 x D	.7 x D	784	.0005	.0008	.0010	.0013	.0015	.0018	.0020	.0025	.0030	
		Helical Entry	3 x D	10 deg.	500	.0006	.0010	.0013	.0016	.0019	.0022	.0025	.0032	.0038	
		Straight Line Ramp	.5 x D	10 deg.	488	.0006	.0009	.0012	.0016	.0019	.0022	.0025	.0031	.0037	
Zig Zag Pocket	1 x D	.45 x D	375	.0008	.0012	.0016	.0020	.0024	.0028	.0032	.0040	.0048			
S - High Temp Alloys															
Nickel Based Super Alloys	400-401, 404, K401, Rene, Rene 41 & 95 Hastelloy, Waspoly, Udimet 500 & 700	Peripheral - Rough	1 x D	.2 x D	81	.0004	.0005	.0007	.0009	.0011	.0013	.0014	.0018	.0022	
		Peripheral - Finish	3 x D	.01 x D	180	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024	
		Peripheral - HEM	2 x D	.075 x D	99	.0014	.0020	.0027	.0034	.0041	.0047	.0054	.0068	.0081	
		Slotting - Traditional	.25 x D	1 x D	54	.0003	.0005	.0006	.0008	.0009	.0011	.0012	.0015	.0018	
		Rough Facing	.28 x D	.65 x D	89	.0003	.0005	.0006	.0008	.0010	.0011	.0013	.0016	.0019	
		Finish Facing	.02 x D	.7 x D	188	.0003	.0005	.0007	.0009	.0010	.0012	.0014	.0017	.0021	
		Helical Entry	2.5 x D	10 deg.	108	.0005	.0007	.0009	.0011	.0013	.0016	.0018	.0022	.0027	
		Straight Line Ramp	.5 x D	3 deg.	52	.0003	.0005	.0006	.0008	.0009	.0011	.0012	.0015	.0018	
		Zig Zag Pocket	.25 x D	.55 x D	54	.0003	.0005	.0006	.0008	.0009	.0011	.0012	.0015	.0018	
Titanium Alloys	Commercially Pure, 6Al-4V, ASTM 1/2/3, 6Al-25N-4Zr-2Mo-Si, Ti-8Al-1Mo, Ti-8Al-4Mo, 32-36 HRc	Peripheral - Rough	1.5 x D	.25 x D	248	.0006	.0008	.0011	.0014	.0017	.0020	.0023	.0028	.0034	
		Peripheral - Finish	3 x D	.012 x D	270	.0006	.0008	.0011	.0014	.0017	.0020	.0023	.0028	.0034	
		Peripheral - HEM	3 x D	.2 x D	365	.0009	.0014	.0018	.0023	.0027	.0032	.0036	.0045	.0054	
		Slotting - Traditional	.75 x D	1 x D	225	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024	
		Rough Facing	.35 x D	.65 x D	272	.0005	.0008	.0010	.0013	.0015	.0018	.0020	.0025	.0030	
		Finish Facing	.02 x D	.65 x D	290	.0005	.0007	.0010	.0012	.0015	.0017	.0020	.0025	.0029	
		Helical Entry	3 x D	18 deg.	360	.0003	.0005	.0007	.0008	.0010	.0012	.0013	.0017	.0020	
		Straight Line Ramp	.75 x D	22 deg.	338	.0004	.0006	.0007	.0009	.0011	.0013	.0015	.0019	.0022	
		Zig Zag Pocket	.75 x D	.55 x D	225	.0004	.0006	.0008	.0010	.0012	.0014	.0016	.0020	.0024	

D = tool diameter. Reduce feed rates by 20% when using long length tools. Starting parameters shown.

NOTE: Speeds and Feeds listed are estimated and will vary by application.



XHP Endmill Tolerances

XHP Endmills Tolerances (Inch)			
Size	Shank (H6)	Diameter	Radius
.0000-.1181	+0/-.00024	+0.000, -0.002	+0.0015, -0.0015
.1182-.2362	+0/-.00031	+0.000, -0.002	+0.0015, -0.0015
.2363-.3937	+0/-.00035	+0.000, -0.002	+0.0015, -0.0015
.3938-.7087	+0/-.00043	+0.000, -0.002	+0.0015, -0.0015
.7088-1.1810	+0/-.00051	+0.000, -0.002	+0.0015, -0.0015
1.182-1.9680	+0/-.00063	+0.000, -0.002	+0.0015, -0.0015

RedLine Tools

Tool Coating Application Guide

Coatings play a crucial part in the performance of your cutting tools, however, tool geometry is just as important to be successful. Although we do not offer all of these coatings, this helpful guide shows most of the coatings in use today and what materials they are designed to be used with.

P - Steels		
Best Coatings:	AlCrN	Aluminum Chromium Nitride
	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
	AlTiSN	Aluminum Titanium Silicon Nitride
Alternatives:	TiCN	Titanium Carbo-Nitride
	TiN	Titanium Nitride
	CrC	Chromium Carbide
M - Stainless Steels		
Best Coatings:	AlCrN	Aluminum Chromium Nitride
	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
	AlTiSN	Aluminum Titanium Silicon Nitride
Alternatives:	TiCN	Titanium Carbo-Nitride
	CrC	Chromium Carbide
K - Cast Irons		
Best Coatings:	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
	AlTiSN	Aluminum Titanium Silicon Nitride
Alternatives:	AlCrN	Aluminum Chromium Nitride
	TiCN	Titanium Carbo-Nitride
	TiN	Titanium Nitride
N - Non Ferrous		
Best Coatings:	ZrN	Zirconium Nitride
	TiCN	Titanium Carbo-Nitride
	TiB2	Titanium Diboride
	DLC	Diamond Like Carbide
Alternatives:	AlTiSN	Aluminum Titanium Silicon Nitride
S - High Temp Alloys		
Best Coatings:	AlCrN	Aluminum Chromium Nitride
	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
	AlTiSN	Aluminum Titanium Silicon Nitride
Alternatives:	TiCN	Titanium Carbo-Nitride
	CrC	Chromium Carbide

XHP 3X Dia, Carbide Drills



AlTiN Coated

Tool Features

- Carbide, Solid and Coolant Fed XHP 3X Diameter Drills
- Great drill for job shop and production applications
- High performance at an economical price
- Recommended for steels, stainless, cast iron and special alloy's
- 140° point geometry eliminates the need for spotting
- h6 shank and h7 tool tolerances
- AlTiN Coated for lubricity and high heat control
- 45° Corner chamfer protects from material breakout on through hole applications and minimizes burrs

XHP, 3X Dia., Solid and Coolant Fed Carbide Drills, 140° Point, Single Margin, 30° Helix (1181-1929)

Drill Size	Decimal Equiv	Flute Length	Drill Depth	OAL	Shank Ø	Solid Part #	Coolant Fed Part #
3MM	.1181	.7874	.630	2.441	3MM (.1181)	RDX1000	RDX1000C
#31	.1200	.7874	.630	2.441	4MM (.1575)	RDX1001	RDX1001C
3.1MM	.1220	.7874	.630	2.441	4MM (.1575)	RDX1002	RDX1002C
1/8	.1250	.7874	.630	2.441	4MM (.1575)	RDX1003	RDX1003C
3.2MM	.1260	.7874	.630	2.441	4MM (.1575)	RDX1004	RDX1004C
#30	.1285	.7874	.630	2.441	4MM (.1575)	RDX1005	RDX1005C
3.3MM	.1299	.7874	.630	2.441	4MM (.1575)	RDX1006	RDX1006C
3.4MM	.1339	.7874	.630	2.441	4MM (.1575)	RDX1007	RDX1007C
#29	.1360	.7874	.630	2.441	4MM (.1575)	RDX1008	RDX1008C
3.5MM	.1378	.7874	.630	2.441	4MM (.1575)	RDX1009	RDX1009C
3.6MM	.1417	.7874	.630	2.441	4MM (.1575)	RDX1010	RDX1010C
3.7MM	.1457	.7874	.630	2.441	4MM (.1575)	RDX1011	RDX1011C
3.8MM	.1496	.9449	.756	2.598	4MM (.1575)	RDX1012	RDX1012C
3.9MM	.1535	.9449	.756	2.598	4MM (.1575)	RDX1013	RDX1013C
5/32	.1562	.9449	.756	2.598	4MM (.1575)	RDX1014	RDX1014C
4MM	.1575	.9449	.756	2.598	4MM (.1575)	RDX1015	RDX1015C
#21	.1590	.9449	.756	2.598	6MM (.2362)	RDX1016	RDX1016C
4.1MM	.1614	.9449	.756	2.598	6MM (.2362)	RDX1017	RDX1017C
4.2MM	.1654	.9449	.756	2.598	6MM (.2362)	RDX1018	RDX1018C
4.3MM	.1693	.9449	.756	2.598	6MM (.2362)	RDX1019	RDX1019C
4.4MM	.1732	.9449	.756	2.598	6MM (.2362)	RDX1020	RDX1020C
4.5MM	.1772	.9449	.756	2.598	6MM (.2362)	RDX1021	RDX1021C
4.6MM	.1811	.9449	.756	2.598	6MM (.2362)	RDX1022	RDX1022C
4.7MM	.1850	.9449	.756	2.598	6MM (.2362)	RDX1023	RDX1023C
3/16	.1875	1.102	.882	2.598	6MM (.2362)	RDX1024	RDX1024C
4.8MM	.1890	1.102	.882	2.598	6MM (.2362)	RDX1025	RDX1025C
4.9MM	.1929	1.102	.882	2.598	6MM (.2362)	RDX1026	RDX1026C



Speeds & Feeds: Solid carbide page 24. Coolant fed page 25.



AlTiN Coated

XHP, 3X Dia., Solid and Coolant Fed Carbide Drills, 140° Point, Single Margin, 30° Helix (1968-.3110)

Drill Size	Decimal Equiv	Flute Length	Drill Depth	OAL	Shank ø	Solid Part #	Coolant Fed Part #
5MM	.1968	1.102	.882	2.598	6MM (.2362)	RDX1027	RDX1027C
5.1MM	.2008	1.102	.882	2.598	6MM (.2362)	RDX1028	RDX1028C
13/64	.2031	1.102	.882	2.598	6MM (.2362)	RDX1029	RDX1029C
5.2MM	.2047	1.102	.882	2.598	6MM (.2362)	RDX1030	RDX1030C
5.3MM	.2087	1.102	.882	2.598	6MM (.2362)	RDX1031	RDX1031C
5.4MM	.2126	1.102	.882	2.598	6MM (.2362)	RDX1032	RDX1032C
5.5MM	.2165	1.102	.882	2.598	6MM (.2362)	RDX1033	RDX1033C
7/32	.2187	1.102	.882	2.598	6MM (.2362)	RDX1034	RDX1034C
5.6MM	.2205	1.102	.882	2.598	6MM (.2362)	RDX1035	RDX1035C
5.7MM	.2244	1.102	.882	2.598	6MM (.2362)	RDX1036	RDX1036C
5.8MM	.2283	1.102	.882	2.598	6MM (.2362)	RDX1037	RDX1037C
5.9MM	.2323	1.102	.882	2.598	6MM (.2362)	RDX1038	RDX1038C
6MM	.2362	1.102	.882	2.598	6MM (.2362)	RDX1039	RDX1039C
6.1MM	.2402	1.339	1.071	3.110	8MM (.3150)	RDX1040	RDX1040C
6.2MM	.2441	1.339	1.071	3.110	8MM (.3150)	RDX1041	RDX1041C
6.3MM	.2480	1.339	1.071	3.110	8MM (.3150)	RDX1042	RDX1042C
1/4	.2500	1.339	1.071	3.110	8MM (.3150)	RDX1043	RDX1043C
6.4MM	.2520	1.339	1.071	3.110	8MM (.3150)	RDX1044	RDX1044C
6.5MM	.2559	1.339	1.071	3.110	8MM (.3150)	RDX1045	RDX1045C
F	.2570	1.339	1.071	3.110	8MM (.3150)	RDX1046	RDX1046C
6.6MM	.2598	1.339	1.071	3.110	8MM (.3150)	RDX1047	RDX1047C
6.7MM	.2638	1.339	1.071	3.110	8MM (.3150)	RDX1048	RDX1048C
6.8MM	.2677	1.339	1.071	3.110	8MM (.3150)	RDX1049	RDX1049C
6.9MM	.2717	1.339	1.071	3.110	8MM (.3150)	RDX1050	RDX1050C
7MM	.2756	1.339	1.071	3.110	8MM (.3150)	RDX1051	RDX1051C
7.1MM	.2795	1.614	1.291	3.110	8MM (.3150)	RDX1052	RDX1052C
9/32	.2812	1.614	1.291	3.110	8MM (.3150)	RDX1053	RDX1053C
7.2MM	.2835	1.614	1.291	3.110	8MM (.3150)	RDX1054	RDX1054C
7.3MM	.2874	1.614	1.291	3.110	8MM (.3150)	RDX1055	RDX1055C
7.4MM	.2913	1.614	1.291	3.110	8MM (.3150)	RDX1056	RDX1056C
7.5MM	.2953	1.614	1.291	3.110	8MM (.3150)	RDX1057	RDX1057C
7.6MM	.2992	1.614	1.291	3.110	8MM (.3150)	RDX1058	RDX1058C
7.7MM	.3031	1.614	1.291	3.110	8MM (.3150)	RDX1059	RDX1059C
7.8MM	.3071	1.614	1.291	3.110	8MM (.3150)	RDX1060	RDX1060C
7.9MM	.3110	1.614	1.291	3.110	8MM (.3150)	RDX1061	RDX1061C



XHP 3X Dia, Carbide Drills



AlTiN Coated

XHP, 3X Dia., Solid and Coolant Fed Carbide Drills, 140° Point, Single Margin, 30° Helix (3125-4375)

Drill Size	Decimal Equiv	Flute Length	Drill Depth	OAL	Shank ø	Solid Part #	Coolant Fed Part #
5/16	.3125	1.614	1.291	3.110	8MM (.3150)	RDX1062	RDX1062C
8MM	.3150	1.614	1.291	3.110	8MM (.3150)	RDX1063	RDX1063C
8.1MM	.3189	1.850	1.480	3.504	10MM (.3937)	RDX1064	RDX1064C
8.2MM	.3228	1.850	1.480	3.504	10MM (.3937)	RDX1065	RDX1065C
8.3MM	.3268	1.850	1.480	3.504	10MM (.3937)	RDX1066	RDX1066C
8.4MM	.3307	1.850	1.480	3.504	10MM (.3937)	RDX1067	RDX1067C
8.5MM	.3346	1.850	1.480	3.504	10MM (.3937)	RDX1068	RDX1068C
8.6MM	.3386	1.850	1.480	3.504	10MM (.3937)	RDX1069	RDX1069C
8.7MM	.3425	1.850	1.480	3.504	10MM (.3937)	RDX1070	RDX1070C
8.8MM	.3465	1.850	1.480	3.504	10MM (.3937)	RDX1071	RDX1071C
8.9MM	.3504	1.850	1.480	3.504	10MM (.3937)	RDX1072	RDX1072C
9MM	.3543	1.850	1.480	3.504	10MM (.3937)	RDX1073	RDX1073C
9.1MM	.3583	1.850	1.480	3.504	10MM (.3937)	RDX1074	RDX1074C
9.2MM	.3622	1.850	1.480	3.504	10MM (.3937)	RDX1075	RDX1075C
9.3MM	.3661	1.850	1.480	3.504	10MM (.3937)	RDX1076	RDX1076C
9.4MM	.3701	1.850	1.480	3.504	10MM (.3937)	RDX1077	RDX1077C
9.5MM	.3740	1.850	1.480	3.504	10MM (.3937)	RDX1078	RDX1078C
3/8	.3750	1.850	1.480	3.504	10MM (.3937)	RDX1079	RDX1079C
9.6MM	.3780	1.850	1.480	3.504	10MM (.3937)	RDX1080	RDX1080C
9.7MM	.3819	1.850	1.480	3.504	10MM (.3937)	RDX1081	RDX1081C
9.8MM	.3858	1.850	1.480	3.504	10MM (.3937)	RDX1082	RDX1082C
9.9MM	.3898	1.850	1.480	3.504	10MM (.3937)	RDX1083	RDX1083C
10MM	.3937	1.850	1.480	3.504	10MM (.3937)	RDX1084	RDX1084C
10.1MM	.3976	2.165	1.732	4.016	12MM (.4724)	RDX1085	RDX1085C
10.2MM	.4016	2.165	1.732	4.016	12MM (.4724)	RDX1086	RDX1086C
10.3MM	.4055	2.165	1.732	4.016	12MM (.4724)	RDX1087	RDX1087C
10.4MM	.4094	2.165	1.732	4.016	12MM (.4724)	RDX1088	RDX1088C
10.5MM	.4134	2.165	1.732	4.016	12MM (.4724)	RDX1089	RDX1089C
10.6MM	.4173	2.165	1.732	4.016	12MM (.4724)	RDX1090	RDX1090C
10.7MM	.4213	2.165	1.732	4.016	12MM (.4724)	RDX1091	RDX1091C
10.8MM	.4252	2.165	1.732	4.016	12MM (.4724)	RDX1092	RDX1092C
10.9MM	.4291	2.165	1.732	4.016	12MM (.4724)	RDX1093	RDX1093C
11MM	.4331	2.165	1.732	4.016	12MM (.4724)	RDX1094	RDX1094C
11.1MM	.4370	2.165	1.732	4.016	12MM (.4724)	RDX1095	RDX1095C
7/16	.4375	2.165	1.732	4.016	12MM (.4724)	RDX1096	RDX1096C



Speeds & Feeds: Solid carbide page 24. Coolant fed page 25.



AlTiN Coated

XHP, 3X Dia., Solid and Coolant Fed Carbide Drills, 140° Point, Single Margin, 30° Helix (4409-.5748)

Drill Size	Decimal Equiv	Flute Length	Drill Depth	OAL	Shank ø	Solid Part #	Coolant Fed Part #
11.2MM	.4409	2.165	1.732	4.016	12MM (.4724)	RDX1097	RDX1097C
11.3MM	.4449	2.165	1.732	4.016	12MM (.4724)	RDX1098	RDX1098C
11.4MM	.4488	2.165	1.732	4.016	12MM (.4724)	RDX1099	RDX1099C
11.5MM	.4527	2.165	1.732	4.016	12MM (.4724)	RDX1100	RDX1100C
11.6MM	.4567	2.165	1.732	4.016	12MM (.4724)	RDX1101	RDX1101C
11.7MM	.4606	2.165	1.732	4.016	12MM (.4724)	RDX1102	RDX1102C
11.8MM	.4646	2.165	1.732	4.016	12MM (.4724)	RDX1103	RDX1103C
11.9MM	.4685	2.165	1.732	4.016	12MM (.4724)	RDX1104	RDX1104C
12MM	.4724	2.165	1.732	4.016	12MM (.4724)	RDX1105	RDX1105C
12.1MM	.4764	2.362	1.890	4.213	14MM (.5512)	RDX1106	RDX1106C
12.2MM	.4803	2.362	1.890	4.213	14MM (.5512)	RDX1107	RDX1107C
12.3MM	.4842	2.362	1.890	4.213	14MM (.5512)	RDX1108	RDX1108C
12.4MM	.4882	2.362	1.890	4.213	14MM (.5512)	RDX1109	RDX1109C
12.5MM	.4921	2.362	1.890	4.213	14MM (.5512)	RDX1110	RDX1110C
12.6MM	.4961	2.362	1.890	4.213	14MM (.5512)	RDX1111	RDX1111C
1/2	.5000	2.362	1.890	4.213	14MM (.5512)	RDX1112	RDX1112C
12.8MM	.5039	2.362	1.890	4.213	14MM (.5512)	RDX1113	RDX1113C
12.9MM	.5079	2.362	1.890	4.213	14MM (.5512)	RDX1114	RDX1114C
13MM	.5118	2.362	1.890	4.213	14MM (.5512)	RDX1115	RDX1115C
13.1MM	.5157	2.362	1.890	4.213	14MM (.5512)	RDX1116	RDX1116C
13.2MM	.5197	2.362	1.890	4.213	14MM (.5512)	RDX1117	RDX1117C
13.3MM	.5236	2.362	1.890	4.213	14MM (.5512)	RDX1118	RDX1118C
13.4MM	.5276	2.362	1.890	4.213	14MM (.5512)	RDX1119	RDX1119C
13.5MM	.5315	2.362	1.890	4.213	14MM (.5512)	RDX1120	RDX1120C
13.6MM	.5354	2.362	1.890	4.213	14MM (.5512)	RDX1121	RDX1121C
13.7MM	.5394	2.362	1.890	4.213	14MM (.5512)	RDX1122	RDX1122C
13.8MM	.5433	2.362	1.890	4.213	14MM (.5512)	RDX1123	RDX1123C
13.9MM	.5472	2.362	1.890	4.213	14MM (.5512)	RDX1124	RDX1124C
14MM	.5512	2.362	1.890	4.213	14MM (.5512)	RDX1125	RDX1125C
14.1MM	.5551	2.559	2.047	4.528	16MM (.6299)	RDX1126	RDX1126C
14.2MM	.5591	2.559	2.047	4.528	16MM (.6299)	RDX1127	RDX1127C
14.3MM	.5630	2.559	2.047	4.528	16MM (.6299)	RDX1128	RDX1128C
14.4MM	.5669	2.559	2.047	4.528	16MM (.6299)	RDX1129	RDX1129C
14.5MM	.5709	2.559	2.047	4.528	16MM (.6299)	RDX1130	RDX1130C
14.6MM	.5748	2.559	2.047	4.528	16MM (.6299)	RDX1131	RDX1131C



XHP 3X Dia, Carbide Drills



AlTiN Coated

XHP, 3X Dia., Solid and Coolant Fed Carbide Drills, 140° Point, Single Margin, 30° Helix (5787-6299)

Drill Size	Decimal Equiv	Flute Length	Drill Depth	OAL	Shank Ø	Solid Part #	Coolant Fed Part #
14.7MM	.5787	2.559	2.047	4.528	16MM (.6299)	RDX1132	RDX1132C
14.8MM	.5827	2.559	2.047	4.528	16MM (.6299)	RDX1133	RDX1133C
14.9MM	.5866	2.559	2.047	4.528	16MM (.6299)	RDX1134	RDX1134C
15MM	.5905	2.559	2.047	4.528	16MM (.6299)	RDX1135	RDX1135C
15.1MM	.5945	2.559	2.047	4.528	16MM (.6299)	RDX1136	RDX1136C
15.2MM	.5984	2.559	2.047	4.528	16MM (.6299)	RDX1137	RDX1137C
15.3MM	.6024	2.559	2.047	4.528	16MM (.6299)	RDX1138	RDX1138C
15.4MM	.6063	2.559	2.047	4.528	16MM (.6299)	RDX1139	RDX1139C
15.5MM	.6102	2.559	2.047	4.528	16MM (.6299)	RDX1140	RDX1140C
15.6MM	.6142	2.559	2.047	4.528	16MM (.6299)	RDX1141	RDX1141C
15.7MM	.6181	2.559	2.047	4.528	16MM (.6299)	RDX1142	RDX1142C
15.8MM	.6220	2.559	2.047	4.528	16MM (.6299)	RDX1143	RDX1143C
5/8	.6250	2.559	2.047	4.528	16MM (.6299)	RDX1144	RDX1144C
15.9MM	.6260	2.559	2.047	4.528	16MM (.6299)	RDX1145	RDX1145C
16MM	.6299	2.559	2.047	4.528	16MM (.6299)	RDX1146	RDX1146C



Speeds & Feeds: Solid carbide page 24. Coolant fed page 25.



AlTiN Coated

Tool Features

- Carbide, Solid and Coolant Fed XHP 5X Diameter Drills
- Great drill for job shop and production applications
- High performance at an economical price
- Recommended for steels, stainless, cast iron and special alloy's
- 140° point geometry eliminates the need for spotting
- h6 shank and h7 tool tolerances
- AlTiN Coated for lubricity and high heat control
- 45° Corner chamfer protects from material breakout on through hole applications and minimizes burrs

XHP, 5X Dia., Solid and Coolant Fed Carbide Drills, 140° Point, Single Margin, 30° Helix (1181-1968)

Drill Size	Decimal Equiv	Flute Length	Drill Depth	OAL	Shank ø	Solid Part #	Coolant Fed Part #
3mm	.1181	1.1024	0.8819	2.598	3MM (.1181)	RDX2000	RDX2000C
#31	.1200	1.1024	0.8819	2.598	4MM (.1575)	RDX2001	RDX2001C
3.1mm	.1220	1.1024	0.8819	2.598	4MM (.1575)	RDX2002	RDX2002C
1/8	.1250	1.1024	0.8819	2.598	4MM (.1575)	RDX2003	RDX2003C
3.2mm	.1260	1.1024	0.8819	2.598	4MM (.1575)	RDX2004	RDX2004C
#30	.1285	1.1024	0.8819	2.598	4MM (.1575)	RDX2005	RDX2005C
3.3mm	.1299	1.1024	0.8819	2.598	4MM (.1575)	RDX2006	RDX2006C
3.4mm	.1339	1.1024	0.8819	2.598	4MM (.1575)	RDX2007	RDX2007C
#29	.1360	1.1024	0.8819	2.598	4MM (.1575)	RDX2008	RDX2008C
3.5mm	.1378	1.1024	0.8819	2.598	4MM (.1575)	RDX2009	RDX2009C
3.6mm	.1417	1.1024	0.8819	2.598	4MM (.1575)	RDX2010	RDX2010C
3.7mm	.1457	1.1024	0.8819	2.598	4MM (.1575)	RDX2011	RDX2011C
3.8mm	.1496	1.4173	1.1338	2.913	4MM (.1575)	RDX2012	RDX2012C
3.9mm	.1535	1.4173	1.1338	2.913	4MM (.1575)	RDX2013	RDX2013C
5/32	.1562	1.4173	1.1338	2.913	4MM (.1575)	RDX2014	RDX2014C
4mm	.1575	1.4173	1.1338	2.913	4MM (.1575)	RDX2015	RDX2015C
#21	.1590	1.4173	1.1338	2.913	6MM (.2362)	RDX2016	RDX2016C
4.1mm	.1614	1.4173	1.1338	2.913	6MM (.2362)	RDX2017	RDX2017C
4.2mm	.1654	1.4173	1.1338	2.913	6MM (.2362)	RDX2018	RDX2018C
4.3mm	.1693	1.4173	1.1338	2.913	6MM (.2362)	RDX2019	RDX2019C
4.4mm	.1732	1.4173	1.1338	2.913	6MM (.2362)	RDX2020	RDX2020C
4.5mm	.1772	1.4173	1.1338	2.913	6MM (.2362)	RDX2021	RDX2021C
4.6mm	.1811	1.4173	1.1338	2.913	6MM (.2362)	RDX2022	RDX2022C
4.7mm	.1850	1.4173	1.1338	2.913	6MM (.2362)	RDX2023	RDX2023C
3/16	.1875	1.7323	1.3858	3.228	6MM (.2362)	RDX2024	RDX2024C
4.8mm	.1890	1.7323	1.3858	3.228	6MM (.2362)	RDX2025	RDX2025C
4.9mm	.1929	1.7323	1.3858	3.228	6MM (.2362)	RDX2026	RDX2026C
5mm	.1968	1.7323	1.3858	3.228	6MM (.2362)	RDX2027	RDX2027C



Speeds & Feeds: Solid carbide page 26. Coolant fed page 27.

XHP 5X Dia, Carbide Drills



AlTiN Coated

XHP, 5X Dia., Solid and Coolant Fed Carbide Drills, 140° Point, Single Margin, 30° Helix (2008-3125)

Drill Size	Decimal Equiv	Flute Length	Drill Depth	OAL	Shank ø	Solid Part #	Coolant Fed Part #
5.1mm	.2008	1.7323	1.3858	3.228	6MM (.2362)	RDX2028	RDX2028C
13/64	.2031	1.7323	1.3858	3.228	6MM (.2362)	RDX2029	RDX2029C
5.2mm	.2047	1.7323	1.3858	3.228	6MM (.2362)	RDX2030	RDX2030C
5.3mm	.2087	1.7323	1.3858	3.228	6MM (.2362)	RDX2031	RDX2031C
5.4mm	.2126	1.7323	1.3858	3.228	6MM (.2362)	RDX2032	RDX2032C
5.5mm	.2165	1.7323	1.3858	3.228	6MM (.2362)	RDX2033	RDX2033C
7/32	.2187	1.7323	1.3858	3.228	6MM (.2362)	RDX2034	RDX2034C
5.6mm	.2205	1.7323	1.3858	3.228	6MM (.2362)	RDX2035	RDX2035C
5.7mm	.2244	1.7323	1.3858	3.228	6MM (.2362)	RDX2036	RDX2036C
5.8mm	.2283	1.7323	1.3858	3.228	6MM (.2362)	RDX2037	RDX2037C
5.9mm	.2323	1.7323	1.3858	3.228	6MM (.2362)	RDX2038	RDX2038C
6mm	.2362	1.7323	1.3858	3.228	6MM (.2362)	RDX2039	RDX2039C
6.1mm	.2402	2.0866	1.6693	3.583	8MM (.3150)	RDX2040	RDX2040C
6.2mm	.2441	2.0866	1.6693	3.583	8MM (.3150)	RDX2041	RDX2041C
6.3mm	.2480	2.0866	1.6693	3.583	8MM (.3150)	RDX2042	RDX2042C
1/4	.2500	2.0866	1.6693	3.583	8MM (.3150)	RDX2043	RDX2043C
6.4mm	.2520	2.0866	1.6693	3.583	8MM (.3150)	RDX2044	RDX2044C
6.5mm	.2559	2.0866	1.6693	3.583	8MM (.3150)	RDX2045	RDX2045C
F	.2570	2.0866	1.6693	3.583	8MM (.3150)	RDX2046	RDX2046C
6.6mm	.2598	2.0866	1.6693	3.583	8MM (.3150)	RDX2047	RDX2047C
6.7mm	.2638	2.0866	1.6693	3.583	8MM (.3150)	RDX2048	RDX2048C
6.8mm	.2677	2.0866	1.6693	3.583	8MM (.3150)	RDX2049	RDX2049C
6.9mm	.2717	2.0866	1.6693	3.583	8MM (.3150)	RDX2050	RDX2050C
7mm	.2756	2.0866	1.6693	3.583	8MM (.3150)	RDX2051	RDX2051C
7.1mm	.2795	2.0866	1.6693	3.583	8MM (.3150)	RDX2052	RDX2052C
9/32	.2812	2.0866	1.6693	3.583	8MM (.3150)	RDX2053	RDX2053C
7.2mm	.2835	2.0866	1.6693	3.583	8MM (.3150)	RDX2054	RDX2054C
7.3mm	.2874	2.0866	1.6693	3.583	8MM (.3150)	RDX2055	RDX2055C
7.4mm	.2913	2.0866	1.6693	3.583	8MM (.3150)	RDX2056	RDX2056C
7.5mm	.2953	2.0866	1.6693	3.583	8MM (.3150)	RDX2057	RDX2057C
7.6mm	.2992	2.0866	1.6693	3.583	8MM (.3150)	RDX2058	RDX2058C
7.7mm	.3031	2.0866	1.6693	3.583	8MM (.3150)	RDX2059	RDX2059C
7.8mm	.3071	2.0866	1.6693	3.583	8MM (.3150)	RDX2060	RDX2060C
7.9mm	.3110	2.0866	1.6693	3.583	8MM (.3150)	RDX2061	RDX2061C
5/16	.3125	2.0866	1.6693	3.583	8MM (.3150)	RDX2062	RDX2062C



Speeds & Feeds: Solid carbide page 26. Coolant fed page 27.



AlTiN Coated

XHP, 5X Dia., Solid and Coolant Fed Carbide Drills, 140° Point, Single Margin, 30° Helix (3150-.4409)

Drill Size	Decimal Equiv	Flute Length	Drill Depth	OAL	Shank ø	Solid Part #	Coolant Fed Part #
8mm	.3150	2.0866	1.6693	3.583	8MM (.3150)	RDX2063	RDX2063C
8.1mm	.3189	2.4016	1.9213	4.055	10MM (.3937)	RDX2064	RDX2064C
8.2mm	.3228	2.4016	1.9213	4.055	10MM (.3937)	RDX2065	RDX2065C
8.3mm	.3268	2.4016	1.9213	4.055	10MM (.3937)	RDX2066	RDX2066C
8.4mm	.3307	2.4016	1.9213	4.055	10MM (.3937)	RDX2067	RDX2067C
8.5mm	.3346	2.4016	1.9213	4.055	10MM (.3937)	RDX2068	RDX2068C
8.6mm	.3386	2.4016	1.9213	4.055	10MM (.3937)	RDX2069	RDX2069C
8.7mm	.3425	2.4016	1.9213	4.055	10MM (.3937)	RDX2070	RDX2070C
8.8mm	.3465	2.4016	1.9213	4.055	10MM (.3937)	RDX2071	RDX2071C
8.9mm	.3504	2.4016	1.9213	4.055	10MM (.3937)	RDX2072	RDX2072C
9mm	.3543	2.4016	1.9213	4.055	10MM (.3937)	RDX2073	RDX2073C
9.1mm	.3583	2.4016	1.9213	4.055	10MM (.3937)	RDX2074	RDX2074C
9.2mm	.3622	2.4016	1.9213	4.055	10MM (.3937)	RDX2075	RDX2075C
9.3mm	.3661	2.4016	1.9213	4.055	10MM (.3937)	RDX2076	RDX2076C
9.4mm	.3701	2.4016	1.9213	4.055	10MM (.3937)	RDX2077	RDX2077C
9.5mm	.3740	2.4016	1.9213	4.055	10MM (.3937)	RDX2078	RDX2078C
3/8	.3750	2.4016	1.9213	4.055	10MM (.3937)	RDX2079	RDX2079C
9.6mm	.3780	2.4016	1.9213	4.055	10MM (.3937)	RDX2080	RDX2080C
9.7mm	.3819	2.4016	1.9213	4.055	10MM (.3937)	RDX2081	RDX2081C
9.8mm	.3858	2.4016	1.9213	4.055	10MM (.3937)	RDX2082	RDX2082C
9.9mm	.3898	2.4016	1.9213	4.055	10MM (.3937)	RDX2083	RDX2083C
10mm	.3937	2.4016	1.9213	4.055	10MM (.3937)	RDX2084	RDX2084C
10.1mm	.3976	2.7953	2.2362	4.646	12MM (.4724)	RDX2085	RDX2085C
10.2mm	.4016	2.7953	2.2362	4.646	12MM (.4724)	RDX2086	RDX2086C
10.3mm	.4055	2.7953	2.2362	4.646	12MM (.4724)	RDX2087	RDX2087C
10.4mm	.4094	2.7953	2.2362	4.646	12MM (.4724)	RDX2088	RDX2088C
10.5mm	.4134	2.7953	2.2362	4.646	12MM (.4724)	RDX2089	RDX2089C
10.6mm	.4173	2.7953	2.2362	4.646	12MM (.4724)	RDX2090	RDX2090C
10.7mm	.4213	2.7953	2.2362	4.646	12MM (.4724)	RDX2091	RDX2091C
10.8mm	.4252	2.7953	2.2362	4.646	12MM (.4724)	RDX2092	RDX2092C
10.9mm	.4291	2.7953	2.2362	4.646	12MM (.4724)	RDX2093	RDX2093C
11mm	.4331	2.7953	2.2362	4.646	12MM (.4724)	RDX2094	RDX2094C
11.1mm	.4370	2.7953	2.2362	4.646	12MM (.4724)	RDX2095	RDX2095C
7/16	.4375	2.7953	2.2362	4.646	12MM (.4724)	RDX2096	RDX2096C
11.2mm	.4409	2.7953	2.2362	4.646	12MM (.4724)	RDX2097	RDX2097C



XHP 5X Dia, Carbide Drills



AlTiN Coated

XHP, 5X Dia., Solid and Coolant Fed Carbide Drills, 140° Point, Single Margin, 30° Helix (4449-.5787)

Drill Size	Decimal Equiv	Flute Length	Drill Depth	OAL	Shank ø	Solid Part #	Coolant Fed Part #
11.3mm	.4449	2.7953	2.2362	4.646	12MM (.4724)	RDX2098	RDX2098C
11.4mm	.4488	2.7953	2.2362	4.646	12MM (.4724)	RDX2099	RDX2099C
11.5mm	.4527	2.7953	2.2362	4.646	12MM (.4724)	RDX2100	RDX2100C
11.6mm	.4567	2.7953	2.2362	4.646	12MM (.4724)	RDX2101	RDX2101C
11.7mm	.4606	2.7953	2.2362	4.646	12MM (.4724)	RDX2102	RDX2102C
11.8mm	.4646	2.7953	2.2362	4.646	12MM (.4724)	RDX2103	RDX2103C
11.9mm	.4685	2.7953	2.2362	4.646	12MM (.4724)	RDX2104	RDX2104C
12mm	.4724	2.7953	2.2362	4.646	12MM (.4724)	RDX2105	RDX2105C
12.1mm	.4764	3.0315	2.4252	4.882	14MM (.5512)	RDX2106	RDX2106C
12.2mm	.4803	3.0315	2.4252	4.882	14MM (.5512)	RDX2107	RDX2107C
12.3mm	.4842	3.0315	2.4252	4.882	14MM (.5512)	RDX2108	RDX2108C
12.4mm	.4882	3.0315	2.4252	4.882	14MM (.5512)	RDX2109	RDX2109C
12.5mm	.4921	3.0315	2.4252	4.882	14MM (.5512)	RDX2110	RDX2110C
12.6mm	.4961	3.0315	2.4252	4.882	14MM (.5512)	RDX2111	RDX2111C
1/2	.5000	3.0315	2.4252	4.882	14MM (.5512)	RDX2112	RDX2112C
12.8mm	.5039	3.0315	2.4252	4.882	14MM (.5512)	RDX2113	RDX2113C
12.9mm	.5079	3.0315	2.4252	4.882	14MM (.5512)	RDX2114	RDX2114C
13mm	.5118	3.0315	2.4252	4.882	14MM (.5512)	RDX2115	RDX2115C
13.1mm	.5157	3.0315	2.4252	4.882	14MM (.5512)	RDX2116	RDX2116C
13.2mm	.5197	3.0315	2.4252	4.882	14MM (.5512)	RDX2117	RDX2117C
13.3mm	.5236	3.0315	2.4252	4.882	14MM (.5512)	RDX2118	RDX2118C
13.4mm	.5276	3.0315	2.4252	4.882	14MM (.5512)	RDX2119	RDX2119C
13.5mm	.5315	3.0315	2.4252	4.882	14MM (.5512)	RDX2120	RDX2120C
13.6mm	.5354	3.0315	2.4252	4.882	14MM (.5512)	RDX2121	RDX2121C
13.7mm	.5394	3.0315	2.4252	4.882	14MM (.5512)	RDX2122	RDX2122C
13.8mm	.5433	3.0315	2.4252	4.882	14MM (.5512)	RDX2123	RDX2123C
13.9mm	.5472	3.0315	2.4252	4.882	14MM (.5512)	RDX2124	RDX2124C
14mm	.5512	3.0315	2.4252	4.882	14MM (.5512)	RDX2125	RDX2125C
14.1mm	.5551	3.2677	2.6142	5.236	16MM (.6299)	RDX2126	RDX2126C
14.2mm	.5591	3.2677	2.6142	5.236	16MM (.6299)	RDX2127	RDX2127C
14.3mm	.5630	3.2677	2.6142	5.236	16MM (.6299)	RDX2128	RDX2128C
14.4mm	.5669	3.2677	2.6142	5.236	16MM (.6299)	RDX2129	RDX2129C
14.5mm	.5709	3.2677	2.6142	5.236	16MM (.6299)	RDX2130	RDX2130C
14.6mm	.5748	3.2677	2.6142	5.236	16MM (.6299)	RDX2131	RDX2131C
14.7mm	.5787	3.2677	2.6142	5.236	16MM (.6299)	RDX2132	RDX2132C



Speeds & Feeds: Solid carbide page 26. Coolant fed page 27.



AlTiN Coated

XHP, 5X Dia., Solid and Coolant Fed Carbide Drills, 140° Point, Single Margin, 30° Helix (5827-.6299)

Drill Size	Decimal Equiv	Flute Length	Drill Depth	OAL	Shank ø	Solid Part #	Coolant Fed Part #
14.8mm	.5827	3.2677	2.6142	5.236	16MM (.6299)	RDX2133	RDX2133C
14.9mm	.5866	3.2677	2.6142	5.236	16MM (.6299)	RDX2134	RDX2134C
15mm	.5905	3.2677	2.6142	5.236	16MM (.6299)	RDX2135	RDX2135C
15.1mm	.5945	3.2677	2.6142	5.236	16MM (.6299)	RDX2136	RDX2136C
15.2mm	.5984	3.2677	2.6142	5.236	16MM (.6299)	RDX2137	RDX2137C
15.3mm	.6024	3.2677	2.6142	5.236	16MM (.6299)	RDX2138	RDX2138C
15.4mm	.6063	3.2677	2.6142	5.236	16MM (.6299)	RDX2139	RDX2139C
15.5mm	.6102	3.2677	2.6142	5.236	16MM (.6299)	RDX2140	RDX2140C
15.6mm	.6142	3.2677	2.6142	5.236	16MM (.6299)	RDX2141	RDX2141C
15.7mm	.6181	3.2677	2.6142	5.236	16MM (.6299)	RDX2142	RDX2142C
15.8mm	.6220	3.2677	2.6142	5.236	16MM (.6299)	RDX2143	RDX2143C
5/8	.6250	3.2677	2.6142	5.236	16MM (.6299)	RDX2144	RDX2144C
15.9mm	.6260	3.2677	2.6142	5.236	16MM (.6299)	RDX2145	RDX2145C
16mm	.6299	3.2677	2.6142	5.236	16MM (.6299)	RDX2146	RDX2146C





XHP, 3X Diameter, Solid Carbide Drills Technical Information

- Solid Carbide XHP 3X Diameter drills
- h6 shank and h7 tool tolerances
- Great drill for job shop and production applications
- High performance at an economical price
- 140° point geometry eliminates the need for spotting
- Recommended for steels, stainless, cast iron and special alloy's
- AlTiN Coated for lubricity and high heat control
- 45° Corner chamfer protects from material breakout on through hole applications and minimizes burrs

XHP, 3X Diameter, Solid Carbide Drills Speeds & Feeds

Material	Grades	Starting SFM	Tool Diameter (IPR)						1/2 (.5000)	5/8 (.6250)	
			1/8	5/32	3/16	1/4	5/16	3/8			
			(.1250)	(.1562)	(.1875)	(.2500)	(.3125)	(.3750)			
P - Steels											
High Strength Tool Steel	A2, D2, P20, H11, H13, S2, O1	130-195									
Low Carbon	A36, 12L14, 12L15, 1005, 1018, 1020, 1108-1119, 1213-1215, 1513-1518, 4012, 5015, 9310	460-590	.0057	.0071	.0071	.0089	.0112	.0143	.0143	.0178	
Medium Carbon	1040-1095, 1140-1151, 1330-1345, 1520-1572, 4023-4063, 4120-4161, 4330-4340, 4620-4640, 8620-8660, 8740-8750, 6150, 51000, 52100	260-330									
M - Stainless Steels											
Austenitic	300 Series	130-195	.0028	.0035	.0035	.0043	.0055	.0071	.0071	.0089	
Martensitic	400 Series	295-360									
K - Cast Irons											
	Ductile	165-230	.0061	.0076	.0085	.012	.012	.0152	.0171	.0209	
	Gray	330-460									
S - Special Alloys											
	High Temp Alloys	N/A									
	Titanium Alloys	N/A									

NOTE: Speeds and Feeds listed are estimated and will vary by application.



XHP, 3X Diameter, Coolant Fed, Carbide Drills Technical Information



- Carbide coolant fed XHP 3X Diameter drills
- h6 shank and h7 tool tolerances
- Great drill for job shop and production applications
- High performance at an economical price
- 140° point geometry eliminates the need for spotting
- Recommended for steels, stainless, cast iron and special alloy's
- AlTiN Coated for lubricity and high heat control
- 45° Corner chamfer protects from material breakout on through hole applications and minimizes burrs

XHP, 3X Diameter, Coolant Fed Drills Speeds & Feeds

Material	Grades	Starting SFM	Tool Diameter (IPR)						1/2 (.5000)	5/8 (.6250)
			1/8	5/32	3/16	1/4	5/16	3/8		
			(.1250)	(.1562)	(.1875)	(.2500)	(.3125)	(.3750)		
P - Steels										
High Strength Tool Steel	A2, D2, P20, H11, H13, S2, O1	195-260								
Low Carbon	A36, 12L14, 12L15, 1005, 1018, 1020, 1108-1119, 1213-1215, 1513-1518, 4012, 5015, 9310	560-690	.0057	.0071	.0071	.0089	.0112	.0143	.0143	.0178
Medium Carbon	1040-1095, 1140-1151, 1330-1345, 1520-1572, 4023-4063, 4120-4161, 4330-4340, 4620-4640, 8620-8660, 8740-8750, 6150, 51000, 52100	295-425								
M - Stainless Steels										
Austenitic	300 Series	195-260	.0028	.0035	.0035	.0043	.0055	.0071	.0071	.0089
Martensitic	400 Series	330-460								
K - Cast Irons										
	Ductile	230-295	.0061	.0076	.0085	.012	.012	.0152	.0171	.0209
	Gray	425-560								
S - Special Alloys										
	High Temp Alloys	35-100	.0013	.0016	.0019	.0025	.0031	.0038	.0050	.0063
	Titanium Alloys	130-195								

NOTE: Speeds and Feeds listed are estimated and will vary by application.



XHP, 5X Diameter, Solid Carbide Drills

Technical Information



- Solid Carbide XHP 5X Diameter drills
- h6 shank and h7 tool tolerances
- Great drill for job shop and production applications
- High performance at an economical price
- 140° point geometry eliminates the need for spotting
- Recommended for steels, stainless, cast iron and special alloy's
- AlTiN Coated for lubricity and high heat control
- 45° Corner chamfer protects from material breakout on through hole applications and minimizes burrs

XHP, 5X Diameter, Solid Carbide Drills Speeds & Feeds

Material	Grades	Starting SFM	Tool Diameter (IPR)							
			1/8	5/32	3/16	1/4	5/16	3/8	1/2	5/8
			(.1250)	(.1562)	(.1875)	(.2500)	(.3125)	(.3750)	(.5000)	(.6250)
P - Steels										
High Strength Tool Steel	A2, D2, P20, H11, H13, S2, O1	130-195								
Low Carbon	A36, 12L14, 12L15, 1005, 1018, 1020, 1108-1119, 1213-1215, 1513-1518, 4012, 5015, 9310	425- 560	.0057	.0071	.0071	.0089	.0112	.0143	.0143	.0178
Medium Carbon	1040-1095, 1140-1151, 1330-1345, 1520-1572, 4023-4063, 4120-4161, 4330-4340, 4620-4640, 8620-8660, 8740-8750, 6150, 51000, 52100	230-295								
M - Stainless Steels										
Austenitic	300 Series	130-195	.0028	.0035	.0035	.0043	.0055	.0071	.0071	.0089
Martensitic	400 Series	260-330								
K - Cast Irons										
	Ductile	130-195	.0061	.0076	.0085	.012	.012	.0152	.0171	.0209
	Gray	295-425								
S - Special Alloys										
	High Temp Alloys	N/A								
	Titanium Alloys	N/A								

NOTE: Speeds and Feeds listed are estimated and will vary by application.



XHP, 5X Diameter, Coolant Fed Drills Technical Information



- Carbide coolant fed XHP 5X Diameter drills
- h6 shank and h7 tool tolerances
- Great drill for job shop and production applications
- High performance at an economical price
- 140° point geometry eliminates the need for spotting
- Recommended for steels, stainless, cast iron and special alloy's
- AlTiN Coated for lubricity and high heat control
- 45° Corner chamfer protects from material breakout on through hole applications and minimizes burrs

XHP, 5X Diameter, Coolant Fed Drills Speeds & Feeds

Material	Grades	Starting SFM	Tool Diameter (IPR)								
			1/8	5/32	3/16	1/4	5/16	3/8	1/2	5/8	
			(.1250)	(.1562)	(.1875)	(.2500)	(.3125)	(.3750)	(.5000)	(.6250)	
P - Steels											
High Strength Tool Steel	A2, D2, P20, H11, H13, S2, O1	165-230									
Low Carbon	A36, 12L14, 12L15, 1005, 1018, 1020, 1108-1119, 1213-1215, 1513-1518, 4012, 5015, 9310	525-655	.0057	.0071	.0071	.0089	.0112	.0143	.0143	.0178	
Medium Carbon	1040-1095, 1140-1151, 1330-1345, 1520-1572, 4023-4063, 4120-4161, 4330-4340, 4620-4640, 8620-8660, 8740-8750, 6150, 51000, 52100	295-360									
M - Stainless Steels											
Austenitic	300 Series	165-230	.0028	.0035	.0035	.0043	.0055	.0071	.0071	.0089	
Martensitic	400 Series	295-425									
K - Cast Irons											
	Ductile	195-260	.0061	.0076	.0085	.012	.012	.0152	.0171	.0209	
	Gray	395-525									
S - Special Alloys											
	High Temp Alloys	35-65	.0013	.0016	.0019	.0025	.0031	.0038	.0050	.0063	
	Titanium Alloys	100-165									

NOTE: Speeds and Feeds listed are estimated and will vary by application.

RedLine Tools Tool Coating Application Guide

Coatings play a crucial part in the performance of your cutting tools, however, tool geometry is just as important to be successful. Although we do not offer all of these coatings, this helpful guide shows most of the coatings in use today and what materials they are designed to be used with.

P - Steels		
Best Coatings:	AlCrN	Aluminum Chromium Nitride
	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
Alternatives:	TiCN	Titanium Carbo-Nitride
	TiN	Titanium Nitride
	CrC	Chromium Carbide
M - Stainless Steels		
Best Coatings:	AlCrN	Aluminum Chromium Nitride
	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
Alternatives:	TiCN	Titanium Carbo-Nitride
	CrC	Chromium Carbide
K - Cast Irons		
Best Coatings:	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
Alternatives:	AlCrN	Aluminum Chromium Nitride
	TiCN	Titanium Carbo-Nitride
	TiN	Titanium Nitride
N - Non Ferrous		
Best Coatings:	ZrN	Zirconium Nitride
	TiCN	Titanium Carbo-Nitride
	TiB2	Titanium Diboride
	DLC	Diamond Like Carbide
S - High Temp Alloys		
Best Coatings:	AlCrN	Aluminum Chromium Nitride
	AlTiNX	Aluminum Titanium Nitride Xtreme
	TiAlNX	Titanium Aluminum Nitride Xtreme
	AlTiN	Aluminum Titanium Nitride
Alternatives:	TiCN	Titanium Carbo-Nitride
	CrC	Chromium Carbide



RedLine Tools Shrink Fit Machines

RSFM10 & RSFM20

Product Features

- Connect to power and air and change tools in 5 minutes or less.
- The RSFM10 & RSFM20 Shrink Fit Machines come with all 4 induction rings listed below.
- Includes toolholder adapter discs for **40 Taper, PSC6 and HSK63**
 - CAT50 AND HSK100 are built into the machine. No adapter required.
- The **OPTIONAL Toolholder Disk Pack** includes toolholder adapter discs for the following spindle adaptations - BT30, 40 Taper, HSK 40/50/63 and PSC4/PSC5/PSC6 (Not Sold Individually)
- Tools with **up to 11" Gage Lengths** can be accommodated with the RSFM10 & RSFM20.
- Easy to use touch screen adjustments for temp and time settings.
- Cooling Cycle uses 90 PSI shop air to cool the holder for safe handling.

Shrink Units

Tool Diameter	Power	L x D x H	Ship Wt	Part #
1/8"-1-1/4"	208-240VAC, single phase, 30A, NEMA L6-30P	16" x 16" x 22"	70lbs	<u>RSFM10</u>
1/8"-1-1/4"	208-240VAC, 3 phase, 30A, NEMA L15-30P	16" x 16" x 22"	70lbs	<u>RSFM20</u>

Accessory	Part #
Thermal Insulated Glove	<u>RTIG01</u>
Induction Ring (3MM-5MM)	<u>RIR0305</u>
Induction Ring (6MM-12MM)	<u>RIR0612</u>
Induction Ring (14MM-20MM)	<u>RIR1420</u>
Induction Ring (25MM-32MM)	<u>RIR2532</u>
Toolholder Adapter Disk Pack (Includes all adapters below)	<u>RTHADPK10/20</u>
Toolholder Adapter - BT30	Not Sold Individually
Toolholder Adapter - 40 Taper	Not Sold Individually
Toolholder Adapter - HSK40 & PSC4	Not Sold Individually
Toolholder Adapter - HSK50 & PSC5	Not Sold Individually
Toolholder Adapter - PSC6	Not Sold Individually
Toolholder Adapter - HSK63	Not Sold Individually



RedLine Tools Shrink Fit Machine

RSFM30

Product Features

- Connect to Power and air and change tools in 2 minutes or less.
- The **RSFM30 Shrink Fit Machine** comes with all 4 induction rings listed below.
- Includes toolholder adapter discs for **BT30, 40 Taper, HSK40/50/63 and PSC4/PSC5/PSC6**
 - CAT50 AND HSK100 are built into the machine. No adapter required.
- Tools with **Up to 24" Gage Lengths** can be accommodated with the **RSFM30**.
- Easy to use touch screen adjustments for temp and time settings.
- Cooling Cycle uses 90 PSI shop air to cool the holder for safe handling.

Shrink Units

Tool Diameter	Power	L x D x H	Ship Wt	Part #
1/8"-1-1/4"	480VAC, 3 phase, 30A NEMA L16-30P	20" x 20" x 37"	84lbs	<u>RSFM30</u>

Included Accessories

Accessory	Part #
Thermal Insulated Glove	<u>RTIG01</u>
Induction Ring (3MM-5MM)	<u>RIR0305</u>
Induction Ring (6MM-12MM)	<u>RIR0612</u>
Induction Ring (14MM-20MM)	<u>RIR1420</u>
Induction Ring (25MM-32MM)	<u>RIR2532</u>
Toolholder Adapter Disk Pack (Includes all adapters below)	<u>RTHADPK30</u>
Toolholder Adapter - BT30	Not Sold Individually
Toolholder Adapter - 40 Taper	Not Sold Individually
Toolholder Adapter - HSK40 & PSC4	Not Sold Individually
Toolholder Adapter - HSK50 & PSC5	Not Sold Individually
Toolholder Adapter - PSC6	Not Sold Individually
Toolholder Adapter - HSK63	Not Sold Individually

RedLine® Tools

PERFORMANCE MATTERS



RedLine Probe Calibration Kits

CAT40

**Probe Calibration Kit with
Haas Retention Knob**

Part #: [RC4CA0500500](#)

CAT50

**Probe Calibration Kit with
Haas Retention Knob**

Part #: [RC5CA0500500](#)

HSK63A

**Probe Calibration Kit
---**

Part #: [RHSK63ACA0500500](#)



Also available for purchase:

1.000" Class X Master Ring Gauge. Part #: [RMRG1000X](#). Class X has an allowed deviation of .00004", geometry of .00002", finish 4 micro-inch Ra

Cat40, Cat50 and HSK63A Calibration Kits come with a certificate of inspection. Please call or place your order online at ecomm.productivity.com.

A New Kind of Workstop

VersaStop

The VersaStop is a rigid precision workstop you can rely on for quick and predictable results.

- Stop rods with diameters of .062" - .394" can be utilized in the VersaStop system. Stop rods can be nearly any shape; square, round, oblong, triangle, rectangle, or hexagon.
- When a 1/4" or larger stop rod is used, clearance issues are eliminated because the stop rod becomes the highest point of the system.
- The stop rods can be conveniently loaded directly from the top which eliminates the need to slide it to the end for removal or insertion.



***Available in both left and
right hand kits!***



Part Number: RVSKL100

Vise Stop Kit - **LEFT HAND
MOUNT** for standard 6" vise



Part Number: RVSKR100

Vise Stop Kit - **RIGHT HAND
MOUNT** for Standard 6" vise

IRt RedLine® **Z-SET**



Z-SET Tool Setup Fixture

Part #: RC4SFZ

- Easy tool access for retention knob & working end
- Quick retention locks to hold tool in place
- Ability to flip most tools 180 degrees
- Heavy duty frame with mounting holes
- Helps keep employees safe while changing tools

RedLine *RT* turbo CHIP FANS



Now Available in Coolant Thru or Coolant Spray Nozzle

The RedLine Turbo chip fan is a safe and fast way to remove chips and coolant without stopping production. The cylindrical shank can be mounted in your collet chuck or endmill holder.

- 3/4" steel shank
- Simple replacement of fan blades
- Fiberglass reinforced nylon blades
- Affordable

Turbo Standard



Part Number	Operating Speed	Blade Length	Ø Open Blade	Ø Closed Blade	A	B	C
RTF10	5,000-8,000 RPM	4.5"	10.0"	2.66"	7.33"	5.56"	2.66"

Part Number	Description	A	B	C
RCFN10	*Coolant Flush Nozzle Option	3.14"	.60"	2.75"



*Can be added onto [RTF10](#) fan for coolant flush coverage.

Turbo Shorty

Part Number	Operating Speed	Blade Length	Ø Open Blade	Ø Closed Blade	A	B	C
RTF63	6,000-12,000 RPM	2.5"	6.3"	2.66"	5.33"	3.56"	2.66"



Part Number	Description	A	B	C
RCFN63	*Coolant Flush Nozzle Option	1.34"	.60"	.95"



*Can be added onto [RTF63](#) fan for coolant flush coverage.

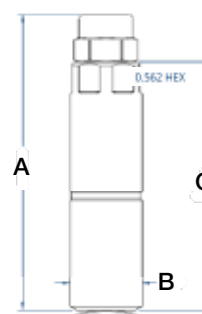
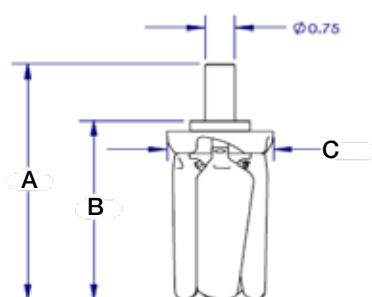


Turbo Standard - Coolant Flush

Part Number	Operating Speed	Blade Length	Ø Open Blade	Ø Closed Blade	A	B	C
RTF10CF	5,000-8,000 RPM	4.5"	10.0"	2.66"	7.33"	5.56"	2.66"

Turbo Shorty - Coolant Flush

Part Number	Operating Speed	Blade Length	Ø Open Blade	Ø Closed Blade	A	B	C
RTF63CF	6,000-12,000 RPM	2.5"	6.3"	2.66"	5.33"	3.56"	2.66"



Tap Drill Chart & Decimal Equivalents

RedLine® Tools
PERFORMANCE MATTERS



0.1mm .0039	#41 .0960	15/64 .2344	13.0mm .5118
0.2mm .0079	#40 .0980	6.0mm .2362	33/64 .5156
0.3mm .0118	2.5mm .0984	B .2380	17/32 .5313
#80 .0135	#39 .0995	C .2420	13.5mm .5315
#79 .0145	#38 .1015	D .2460	35/64 .5469
1/64 .0156	#37 .1040	E .2500	14.0mm .5512
0.4mm .0157	#36 .1065	1/4 .2500	9/16 .5625
#78 .0160	7/64 .1094	6.5mm .2559	14.5mm .5709
#77 .0180	#35 .1100	F .2570	37/64 .5781
0.5mm .0197	#34 .1110	G .2610	15.0mm .5906
#76 .0200	#33 .1130	17/64 .2656	19/32 .5938
#75 .0210	#32 .1160	H .2660	39/64 .6094
#74 .0225	3.0mm .1181	I .2720	15.5mm .6102
0.6mm .0236	#31 .1200	7.0mm .2756	5/8 .6250
#73 .0240	1/8 .1250	J .2770	16.0mm .6299
#72 .0250	#30 .1285	K .2810	41/64 .6406
#71 .0260	#29 .1360	9/32 .2812	16.5mm .6496
0.7mm .0276	3.5mm .1378	L .2900	21/32 .6562
#70 .0280	#28 .1405	M .2950	17.0mm .6693
#69 .0292	9/64 .1406	7.5mm .2953	43/64 .6719
#68 .0310	#27 .1440	19/64 .2969	11/16 .6875
1/32 .0312	#26 .1470	N .3020	17.5mm .6890
0.8mm .0315	#25 .1495	5/16 .3125	45/64 .7031
#67 .0320	#24 .1520	8.0mm .3150	18.0mm .7087
#66 .0330	#23 .1540	O .3160	23/32 .7188
#65 .0350	5/32 .1562	P .3230	18.5mm .7283
0.9mm .0354	#22 .1570	21/64 .3281	47/64 .7344
#64 .0360	4.0mm .1575	Q .3320	19.0mm .7480
#63 .0370	#21 .1590	8.5mm .3346	3/4 .7500
#62 .0380	#20 .1610	R .3390	49/64 .7656
#61 .0390	#19 .1660	11/32 .3438	19.5mm .7677
1.0mm .0394	#18 .1695	S .3480	25/32 .7812
#60 .0400	11/64 .1719	9.0mm .3543	20.0mm .7874
#59 .0410	#17 .1730	T .3580	51/64 .7969
#58 .0420	#16 .1770	23/64 .3594	20.5mm .8071
#57 .0430	4.5mm .1772	U .3680	13/16 .8125
#56 .0465	#15 .1800	9.5mm .3740	21.0mm .8268
3/64 .0469	#14 .1820	3/8 .3750	53/64 .8281
#55 .0520	#13 .1850	V .3770	27/32 .8438
#54 .0550	3/16 .1875	W .3860	21.5mm .8465
1.5mm .0591	#12 .1890	25/64 .3906	55/64 .8594
#53 .0595	#11 .1910	10.0mm .3937	22.0mm .8661
1/16 .0625	#10 .1935	X .3970	7/8 .8750
#52 .0635	#9 .1960	Y .4040	22.5mm .8858
#51 .0670	5.0mm .1969	13/32 .4062	57/64 .8906
#50 .0700	#8 .1990	Z .4130	23.0mm .9055
#49 .0730	#7 .2010	10.5mm .4134	29/32 .9062
#48 .0760	13/64 .2031	27/64 .4219	59/64 .9219
5/64 .0781	#6 .2040	11.0mm .4331	23.5mm .9252
#47 .0785	#5 .2055	7/16 .4375	15/16 .9375
2.0mm .0787	#4 .2090	11.5mm .4528	24.0mm .9449
#46 .0810	#3 .2130	29/64 .4531	61/64 .9531
#45 .0820	5.5mm .2165	15/32 .4688	24.5mm .9646
#44 .0860	7/32 .2188	12.0mm .4724	31/32 .9688
#43 .0890	#2 .2210	31/64 .4844	25.0mm .9843
#42 .0935	#1 .2280	12.5mm .4921	63/64 .9844
3/32 .0938	A .2340	1/2 .5000	1 1.000

Tap Drill Sizes

Tap Size	Cutting Tap Drill Size	Roll Form Tap Drill Size	Tap Size (Metric)	Cutting Tap Drill Size	Roll Form Tap Drill Size
Cutting taps based on Approx 75% Full Thread		Roll form taps based on Approx 65% Thread	Recommended Drill Sizes Suitable for BH Tolerance		
0-80	3/64	54	M1.6 x 0.35	1.25mm	-
1-64	53	1.65mm	M1.8 x 0.35	1.45mm	-
1-72	53	1.70mm	M2 x 0.4	1.60mm	-
2-56	50	5/64	M2.2 x 0.45	1.75mm	-
2-64	50	2mm	M2.5 x 0.45	2.05mm	-
3-48	47	43	M3 x 0.5	2.50mm	7/64
3-56	46	2.30mm	M3.5 x .06	2.90mm	3.20mm
4-40	43	39	M4 x 0.7	3.30mm	#27
4-48	42	2.60mm	M4.5 x 0.75	3.75mm	4.10mm
5-40	39	33	M5 x 0.8	#19	4.60mm
5-44	38	2.90mm	M6 x 1	5mm	5.50mm
6-32	36	1/8	M7 x 1	6mm	6.50mm
6-40	33	3.20mm	M8 x 1.25	H	L
8-32	29	25	M8 x 1	J	7.50mm
8-36	29	24	M10 x 1.5	8.50mm	9.20mm
10-24	25	11/64	M10 x 1.25	8.75mm	U
10-32	21	16	M12 x 1.75	13/32	7/16
12-24	17	5mm	M12 x 1.25	10.75mm	.447*
12-28	15	8	M14 x 2	12mm	13mm
1/4-20	7	1	M14 x 1.5	12.50mm	13.20mm
1/4-28	3	A	M16 x 2	14mm	15mm
5/16-18	F	7.30mm	M16 x 1.5	14.50mm	15.25mm
5/16-24	I	M	M18 x 2.5	15.50mm	16.25mm
3/8-16	5/16	8.80mm	M18 x 1.5	16.50mm	17.25mm
3/8-24	Q	T	M20 x 2.5	17.50mm	47/64
7/16-14	U	Y	M20 x 1.5	18.50mm	.757*
7/16-20	W	10.50mm	M22 x 2.5	19.50mm	-
1/2-13	27/64	11.80mm	M22 x 1.5	20.50mm	-
1/2-20	29/64	12.00mm	M24 x 3	53/64	-
9/16-12	31/64	17/32	M24 x 2	22mm	-
9/16-18	33/64	13.50mm	M27 x 3	24mm	-
5/8-11	17/32	14.75mm	M27 x 2	63/64	-
5/8-18	37/64	15.25mm	M30 x 3.5	1-3/64*	-
3/4-10	21/32	45/64	M30 x 2	1-7/64*	-
3/4-16	11/16	23/32	M33 x 3.5	1-11/64*	-
7/8-9	49/64	-	M33 x 2	31mm*	-
7/8-14	13/16	-	M36 x 4	32mm*	-
1-8	7/8	-	M36 x 3	33mm*	-
1-12	59/64	-	M39 x 4	35mm*	-
1-14	15/16	-	M39 x 3	36mm*	-

Tap Drill Sizes

Tap Size	NPT** Tap Drill	NPTF** Tap Drill	NPS Tap Drill	NPSF Tap Drill
1/16	D	C	1/4	D
1/8	Q	Q	11/32	R
1/4	7/16	7/16	7/16	7/16
3/8	9/16	9/16	37/64	37/64
1/2	45/64	45/64	23/32	45/64
3/4	29/32	29/32	59/64	59/64
1	1-9/64	1-9/64	1-5/32	1-5/32
1-1/4	1-31/64	1-31/64	1-1/2	-
1-1/2	1-47/64	1-23/32	1-3/4	-
2	2-13/64	2-3/16	2-7/32	-
2-1/2	2-5/8	2-29/64	2-21/32	-
3	3-1/4	3-15/64	3-9/32	-

**For Tapping Without Reaming

Helpful Formulas

Surface Feet Per Minute $.262 \times \text{Diameter of Cutter} \times \text{RPM}$	Feed Rate (Inches Per Minute) $\text{Feed (Inches Per Tooth)} \times \text{\# of Teeth in Cutter} \times \text{RPM}$
RPM $3.82 \times \text{Surface Feet Per Minute} \div \text{Diameter}$	Metal Removal Rate $\text{Width of Cut} \times \text{Depth} \times \text{Cut} \times \text{Feedrate (Inches Per Minute)}$

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