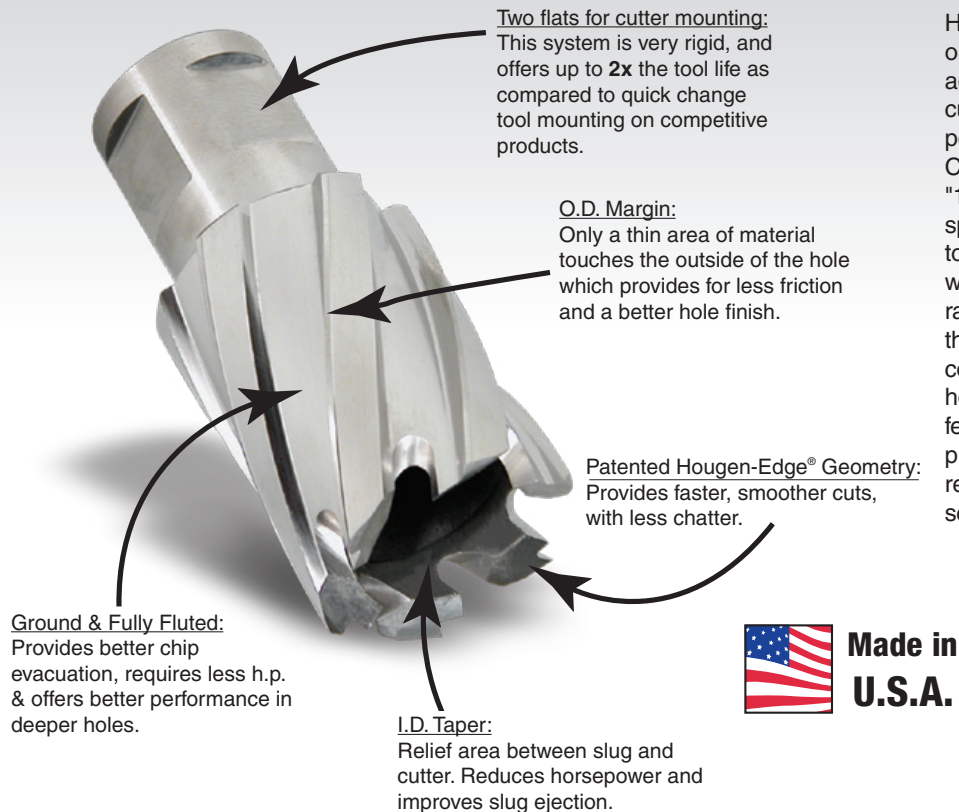
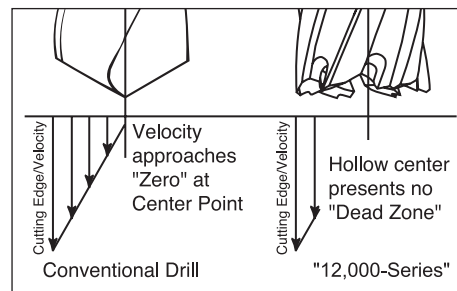


HOUGEN® "12,000-SERIES" CUTTERS - SIMPLY THE BEST

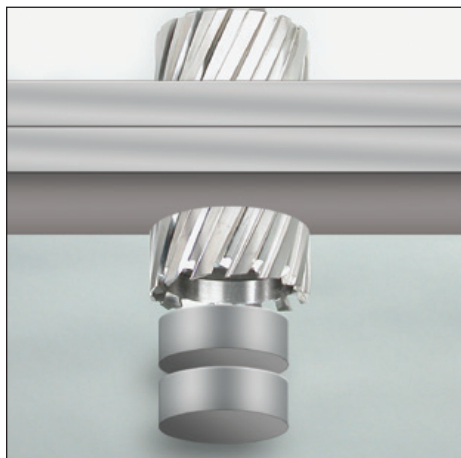


**Made in
U.S.A.**

Hougen "12,000-Series" cutters were the original annular cutters invented over 35 years ago. With the most features of any annular cutter, "12,000-Series" cutters provide the best performance in the largest variety of materials. Compared to traditional tooling (twist drills, etc.) "12,000-Series" cutters can multiply your cutting speed by up to 3 times. And you get longer tool life, a more accurate hole, a better finish, with no burrs. Hougen cutters maximize feed rates because up to 10 cutting edges distribute the cutting load evenly. "12,000-Series" cutters convert a smaller area to chips, requiring less horsepower and thrust. The Hougen-Edge® feature is a patented tooth geometry that provides long tool life, less chatter, and extended resharpenability. The slug also offers a higher scrap value than loose chips.



Why use Stack-Cut Geometry?



Hougen "12,000-Series" Annular Cutters with a Stack-Cut tooth geometry must be used whenever two or more plates are being drilled simultaneously. When drilling multiple pieces with traditional cutters, after the first piece is drilled, you need to stop and remove the slug before continuing on thru the second piece. Not a problem with stack cutters. Drill straight thru without stopping.

Many sizes of "12,000-Series" cutters are available from stock with stack cut geometry. All sizes are available by special request with stack-cut geometry.

Stack-Cut* and Flat Bottom Grooving Tooth Geometry is available on the following Series of Cutters:

- "12,000-Series"
- "43,000-Series"
- "23,000-Series"
- RotaLoc Plus™

Hougen's Technical Service Department should be contacted whenever special tooth geometry and applications will be necessary.

**NOTE: Stack-Cut geometry is a standard feature of RotaLoc™ Cutters.*

Carbide Cutters



Copperhead™ Carbide tipped cutters are premium tools with unique Hougen features. Designed for harder, rough, rusted, or more abrasive materials, but offer excellent performance in mild and structural steel applications.

These cutters feature a full length flute to pull chips out when deep in the hole. A thinner cutter wall improves cutting speed, while special Hougen tooth geometry optimizes cutter life and hole finish. Plus they now are available with the Fusion2™ style shank that fits Hougen mag drills and competitive one-touch arbors.

Hougen can design & manufacture custom cutters and tools for your specific application. Call or email us today...

**(810) 635-7111
info@hougen.com**

HOUGEN® "12,000-SERIES" ANNULAR CUTTERS

Cutter Dia. (Inches)	Decimal Equiv.	Part No.				
		1" D.O.C.	2" D.O.C.	3" D.O.C.	4" D.O.C.	6" D.O.C.
Use with Pilot		10531	10532			
7/16	.4375	12114	12214	----	----	----
29/64	.4531	----	12010	----	----	----
31/64	.4844	----	12011	----	----	----
1/2	.5000	12116	12216	----	----	----
33/64	.5156	----	12012	----	----	----
17/32	.5313	12117	12217	----	----	----
9/16	.5625	12118	12218	----	----	----
19/32	.5938	----	12219	----	----	----
Use with Pilot		10527	10528	24131	4-10528	6-10528
5/8	.6250	12120	12220	----	----	----
21/32	.6563	12121	12221	----	----	----
11/16	.6875	12122	12222	----	----	----
23/32	.7188	----	12223	----	----	----
3/4	.7500	12124	12224	3-12224	----	----
49/64	.7656	----	12020	----	----	----
25/32	.7812	12125	12225	----	----	----
13/16	.8125	12126	12226	3-12226	4-12226	6-12226
7/8	.8750	12128	12228	3-12228	----	----
59/64	.9219	----	12025	----	----	----
15/16	.9375	12130	12230	3-12230	4-12230	6-12230
1	1.0000	12132	12232	3-12232	----	----
1-1/16	1.0625	12134	12234	3-12234	4-12234	6-12234
1-1/8	1.1250	12136	12236	3-12236	----	----
1-3/16	1.1875	12138	12238	3-12238	4-12238	6-12238
1-1/4	1.2500	12140	12240	3-12240	----	----
1-5/16	1.3125	12142	12242	3-12242	----	----
1-3/8	1.3750	12144	12244	3-12244	----	----
1-7/16	1.4375	12146	12246	3-12246	----	----
1-1/2	1.5000	12148	12248	3-12248	----	----
1-9/16	1.5625	12150	12250	3-12250	----	----
1-5/8	1.6250	12152	12252	3-12252	----	----
1-11/16	1.6875	12154	12254	3-12254	----	----
1-3/4	1.7500	12156	12256	3-12256	----	----
1-13/16	1.8125	12158	12258	3-12258	----	----
1-7/8	1.8750	12160	12260	3-12260	----	----
1-15/16	1.9375	12162	12262	3-12262	----	----
2	2.0000	12164	12264	3-12264	----	----
2-1/16	2.0625	----	12266	3-12266	----	----
2-1/8	2.1250	----	12268	3-12268	----	----
2-3/16	2.1875	----	12270	3-12270	----	----
2-1/4	2.2500	----	12272	3-12272	----	----
2-5/16	2.3125	----	12274	3-12274	----	----
2-3/8	2.3750	----	12276	3-12276	----	----



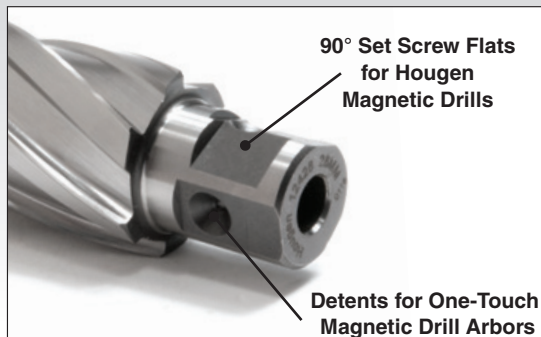
- Cuts holes faster
- Longer tool life
- Lower cost per hole
- Precision tooth geometry
- For the widest range of materials
- Resharpenable

For use with Hougén® Portable Magnetic Drills and many competitive models on materials up to 6" thick. They are made of hardened M2 high speed steel and are precision ground for excellent performance throughout the cut and long tool life. They require less horsepower and thrust to cut, and last much longer than traditional holemaking methods. "12,000-Series" cutters have a 3/4" dia. double-flatted shank and for extended tool life and lower cost per hole "12,000-Series" Cutters are resharpenable. Modified end tooth geometry is also available for drilling in stacked plate applications.

All Cutters are available with **stack geometry**.
To order: add 'S' to end of part no. ie...12226S.
(Some sizes may take 7-10 days. Call for availability).



HOUGEN® "12,000-SERIES" ANNULAR CUTTERS



Metric "12,000-Series" cutters now feature the Fusion2™ shank. This new shank design can be used in Hougen magnetic drills with the two flat arbors or in competitive models featuring the One-Touch arbor system.



Cutter Dia. (Metric)	Decimal Equivalent	Part No.		
		25mm D.O.C.	50mm D.O.C.	76mm D.O.C.
Use with Pilot		10531	10532	
12mm	.4724	12312	12412	----
13mm	.5118	12313	12413	----
14mm	.5512	12314	12414	----
15mm	.5906	12315	12415	----
Use with Pilot		10527	10528	24131
16mm	.6299	12316	12416	----
17mm	.6693	12317	12417	----
18mm	.7087	12318	12418	----
19mm	.7480	12319	12419	12519
20mm	.7874	12320	12420	12520
21mm	.8268	12321	12421	12521
22mm	.8661	12322	12422	12522
23mm	.9055	12323	12423	12523
24mm	.9449	12324	12424	12524
25mm	.9843	12325	12425	12525
26mm	1.0236	12326	12426	12526
27mm	1.0630	12327	12427	12527
28mm	1.1024	12328	12428	12528
29mm	1.1417	12329	12429	12529
30mm	1.1811	12330	12430	12530
31mm	1.2205	12331	12431	12531
32mm	1.2598	12332	12432	12532
33mm	1.2992	12333	12433	12533
34mm	1.3386	12334	12434	12534
35mm	1.3779	12335	12435	12535

Cutter Dia. (Metric)	Decimal Equivalent	Part No.		
		25mm D.O.C.	50mm D.O.C.	76mm D.O.C.
Use with Pilot		10527	10528	24131
36mm	1.4173	12336	12436	12536
37mm	1.4567	12337	12437	12537
38mm	1.4961	12338	12438	12538
39mm	1.5354	12339	12439	12539
40mm	1.5743	12340	12440	12540
41mm	1.6142	12341	12441	12541
42mm	1.6535	12342	12442	12542
43mm	1.6929	12343	12443	12543
44mm	1.7323	12344	12444	12544
45mm	1.7717	12345	12445	12545
46mm	1.8110	12346	12446	12546
47mm	1.8504	12347	12447	12547
48mm	1.8898	12348	12448	12548
49mm	1.9291	12349	12449	12549
50mm	1.9685	12350	12450	12550
51mm	2.0079	12351	12451	12551
52mm	2.0472	12352	12452	12552
53mm	2.0866	12353	12453	----
54mm	2.1260	12354	12454	----
55mm	2.1654	12355	12455	----
56mm	2.2047	12356	12456	----
57mm	2.2441	12357	12457	----
58mm	2.2835	12358	12458	----
59mm	2.3228	12359	12459	----
60mm	2.3622	12360	12460	----

"12,000-SERIES" TAP DRILL SIZES

A clean, accurate hole helps to make tapping an easier task. You can achieve that task easily with these tap drill size "12,000-Series" Cutters. Kit #12007 contains five popular sizes of tap drills.

Cutter Dia. (Inches)	Decimal Equivalent	Thread	Part No.	
			1" D.O.C.	2" D.O.C.
Use with Pilot			10531	10532
7/16	.4375	1/2-13	12114	12214
29/64	.4531	1/2-20	----	12010
31/64	.4844	9/16-12	----	12011
33/64	.5156	9/16-18	----	12012
17/32	.5313	5/8-11	12117	12217
37/64	.5781	5/8-18	----	12014
19/32	.5938	11/16-11	----	12219
Use with Pilot			10527	10528
21/32	.6563	3/4-10	12121	12221
11/16	.6875	3/4-16	12122	12222
23/32	.7188	1/2-14 NPT	----	12223
49/64	.7656	7/8-9	----	12020
25/32	.7812	7/8-9	12125	12225
13/16	.8125	7/8-14	12126	12226
7/8	.8750	1-8	12128	12228
59/64	.9219	1-12	----	12025

PILOTS - "12,000-SERIES"

The pilot serves three functions when used with "12,000-Series" cutters in a portable magnetic drill; 1) Locate the holes center point, 2) Initiate coolant flow to the center of the tool, 3) Eject the slug at the end of the cut. Always use a sharp pilot for best results.



Part No.	Description
10527	1" D.O.C. Pilot (5/8" - 2-3/8" & 16mm - 60mm)
10528	2" D.O.C. Pilot (5/8" - 2-3/8" & 16mm - 60mm)
10531	1" D.O.C. Pilot (7/16 - 9/16" & 12 - 15mm)
10532	2" D.O.C. Pilot (7/16 - 9/16" & 12 - 15mm)
24131	3" D.O.C. Pilot (3/4" - 2-3/8" & 19mm - 52mm)
4-10528	4" Pilot for Extended Reach "12,000-Series"
6-10528	6" Pilot for Extended Reach "12,000-Series"
Pilots for Old Style "12,000-Series" Cutters	
10533	1" D.O.C. Pilot (1/2" - 11/16" & 13mm - 18mm)
10534	2" D.O.C. Pilot (1/2" - 11/16" & 13mm - 18mm)

"12,000-SERIES" M2 CUTTERS TiN COATED

"12,000-Series" cutters with a TiN Coating increases tool life, reduces friction, and operates at cooler temperatures. For materials up to 325 BHN (34.5 HRC) or gummy materials. Made in USA.

Cutter Dia. (Inches)	Decimal Equiv.	Part No.	
		1" D.O.C.	2" D.O.C.
Use with Pilot		10531	10532
7/16	.4375	12614	12714
1/2	.5000	12616	12716
9/16	.5625	12618	12718
Use with Pilot		10527	10528
5/8	.6250	12620	12720
11/16	.6875	12622	12722
3/4	.7500	12624	12724
13/16	.8125	12626	12726
7/8	.8750	12628	12728
15/16	.9375	12630	12730
1	1.0000	12632	12732
1-1/16	1.0625	12634	12734
1-1/8	1.1250	12636	12736
1-3/16	1.1875	12638	12738

Cutter Dia. (Inches)	Decimal Equiv.	Part No.	
		1" D.O.C.	2" D.O.C.
Use with Pilot		10527	10528
1-1/4	1.2500	12640	12740
1-5/16	1.3125	12642	12742
1-3/8	1.3750	12644	12744
1-7/16	1.4375	12646	12746
1-1/2	1.5000	12648	12748
1-9/16	1.5625	12650	12750
1-5/8	1.6250	12652	12752
1-11/16	1.6875	12654	12754
1-3/4	1.7500	12656	12756
1-13/16	1.8125	12658	12758
1-7/8	1.8750	12660	12760
1-15/16	1.9375	12662	12762
2	2.0000	12664	12764
2-1/16	2.0625	----	12766
2-1/8	2.1250	----	12768
2-3/16	2.1875	----	12770
2-1/4	2.2500	----	12772
2-5/16	2.3125	----	12774
2-3/8	2.3750	----	12776



 Made in
U.S.A.

"12,000-SERIES" M42 PREMIUM CUTTERS

"12,000-Series" Premium Steel Cutters with TiN Coating extends tool life, reduces friction, and operates at cooler temperatures. They're made from M42 high speed steel for cutting materials up to 350 BHN (37.7 HRC) or gummy materials. These tools are specifically designed to stay cool throughout the cut. For materials up to 2" (50mm) thick. Made in USA.

Cutter Dia. (Inches)	Decimal Equiv.	Part No.
Use with Pilot		10528
7/8	.8750	01354
15/16	.9375	01355
1	1.0000	01356
1-1/16	1.0625	01357
1-1/8	1.1250	01358
1-3/16	1.1875	01359
1-1/4	1.2500	01360
1-5/16	1.3125	01361
1-3/8	1.3750	01362
1-7/16	1.4375	01363
1-1/2	1.5000	01364

"12,000-SERIES" CUTTER KITS



"12,000-Series" cutter kits are conveniently packaged with the most popular diameters in protective cases for easy transporting and safe storage. Choose from fractional or metric diameters, in 1" or 2" depth of cut. Each kit includes hex wrenches and 2 pilots.

Part No.	Mat'l / Coating	D.O.C.	Diameters Included
12001	M2 HSS	1"	9/16, 11/16, 13/16, 15/16, 1-1/16"
12002	M2 HSS	2"	9/16, 11/16, 13/16, 15/16, 1-1/16"
12003	M2 HSS	25mm	14mm, 16mm, 18mm, 20mm, 22mm
12004	M2 HSS	50mm	14mm, 16mm, 18mm, 20mm, 22mm
12005	M2 HSS	1"	5/8, 3/4, 7/8, 1, 1-1/8"
12006	M2 HSS	2"	5/8, 3/4, 7/8, 1, 1-1/8"
12007	M2 HSS	2"	7/16, 17/32, 21/32, 25/32, 7/8"
12601	M2 / TiN	1"	9/16, 11/16, 13/16, 15/16, 1-1/16"
12702	M2 / TiN	2"	9/16, 11/16, 13/16, 15/16, 1-1/16"

ROTALOC™ & ROTALOC PLUS™ ANNULAR CUTTERS AND KITS



Patented

RotaLoc™ Annular Cutters are designed for use with the Houghen® HMD115 Ultra-Low Profile Truck Frame Drill. They're made of M42 high speed steel and feature Stack Cut geometry for penetrating multiple plates in a single pass, up to 3/4" depth of cut.

RotaLoc Plus™ Annular Cutters are designed for the Houghen® HMD150 Low Profile Drill. They're made of M2 high speed steel and are designed for a full 1" D.O.C.

Both series feature a 5/8" bayonet-style shank mounting for fast change out, with no other tools required to install in the drill spindle, and can be as easily removed. For optimum cutter tool life and cutter efficiency use Houghen® Slick-Stik™ Lubricant.

ROTALOC™ ANNULAR CUTTERS M42 HSS - 3/4" D.O.C. - STACK CUT (FOR HMD115 OR HMD150)

Cutter Dia. (Inches)	Decimal Equiv.	Part No.
Use with Pilot 17100		
1/2	.5000	17116
9/16	.5625	17118
5/8	.6250	17120
11/16	.6875	17122
3/4	.7500	17124
13/16	.8125	17126
7/8	.8750	17128
15/16	.9375	17130
1	1.0000	17132
1-1/16	1.0625	17134
Cutter Dia. (Metric)	Decimal Equiv.	Part No.
Use with Pilot 17100 - 3/4" (19mm) D.O.C		
12mm	.4724	17300
13mm	.5118	17302
14mm	.5512	17304
15mm	.5906	17306
16mm	.6299	17308
17mm	.6693	17310
18mm	.7087	17312
19mm	.7480	17314
20mm	.7874	17316
21mm	.8268	17318
22mm	.8661	17320
23mm	.9055	17322
24mm	.9449	17324
24.5mm	.9645	17325
25mm	.9843	17326
26mm	1.0236	17328
26.5mm	1.0433	17329
27mm	1.0630	17330



ROTALOC™ & ROTALOC PLUS™ PILOTS

Part No.	Description
17100	Standard Pilot for HMD115
17101	Spring Ejection Pilot*
17470	For use with HMD150

* For early model HMD115 w/o spring ejection and all HMD100 drills.

ROTALOC PLUS™ ANNULAR CUTTERS M2 HSS - 1" D.O.C. - (FOR HMD150)

Cutter Dia. (Inches)	Decimal Equiv.	Part No.
Use with Pilot 17470		
7/16	.4375	17214
1/2	.5000	17216
17/32	.5313	17217
9/16	.5625	17218
5/8	.6250	17220
11/16	.6875	17222
3/4	.7500	17224
13/16	.8125	17226
7/8	.8750	17228
15/16	.9375	17230
1	1.0000	17232
1-1/16	1.0625	17234
1-1/8	1.1250	17236
1-3/16	1.1875	17238
1-1/4	1.2500	17240
1-5/16	1.3125	17242
1-3/8	1.3750	17244
Use with Pilot 17470 - 1" (25mm) D.O.C.		
12mm	.4724	17400
13mm	.5118	17402
14mm	.5512	17404
15mm	.5906	17406
16mm	.6299	17408
17mm	.6693	17410
17.5mm	.6890	17411
18mm	.7087	17412
19mm	.7480	17414
20mm	.7874	17416
21mm	.8268	17418
22mm	.8661	17420
23mm	.9055	17422
24mm	.9449	17424
24.5mm	.9645	17425
25mm	.9843	17426
26mm	1.0236	17428
26.5mm	1.0433	17429
27mm	1.0630	17430
28mm	1.1024	17432
29mm	1.1417	17434
30mm	1.1811	17436
31mm	1.2205	17438
32mm	1.2598	17440
33mm	1.2992	17442
34mm	1.3386	17444
35mm	1.3779	17446



ROTALOC™ & ROTALOC PLUS™ CUTTER KITS

Kit No.	Description
RotaLoc Kits for HMD115 and HMD150	
17001	Kit contains (10) cutters, 3/4" D.O.C. - 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1 & 1-1/16" dia, plus (2) Pilots in a sturdy plastic case.
17700	Kit contains (3) cutters, 3/4" D.O.C. - 1/2, 5/8, 3/4" dia, plus (3) Pilots in a sturdy plastic case.
17701	Kit contains (3) cutters, 3/4" D.O.C. - 9/16, 11/16, 13/16" dia, plus (3) Pilots in a sturdy plastic case.
17704	Kit contains (3) cutters, 3/4" D.O.C. - 13mm, 15mm, 18mm dia, plus (3) Pilots in a sturdy plastic case.
17705	Kit contains (3) cutters, 3/4" D.O.C. - 13mm, 16mm, 19mm dia, plus (3) Pilots in a sturdy plastic case.
RotaLoc Plus Kits for HMD150	
17800	Kit contains (3) cutters, 1" D.O.C. - 1/2, 5/8, 3/4" dia, plus (3) Pilots in a sturdy plastic case.
17801	Kit contains (3) cutters, 1" D.O.C. - 9/16, 11/16, 13/16" dia, plus (3) Pilots in a sturdy plastic case.
17804	Kit contains (3) cutters, 1" D.O.C. - 14mm, 16mm, 18mm dia, plus (3) Pilots in a sturdy plastic case.

All Cutters are available with **stack geometry**. To order: add 'S' to end of part no. ie...17226S. (Some sizes may take 7-10 days. Call for availability). RotaLoc Cutters for the HMD115 come standard with stack geometry.

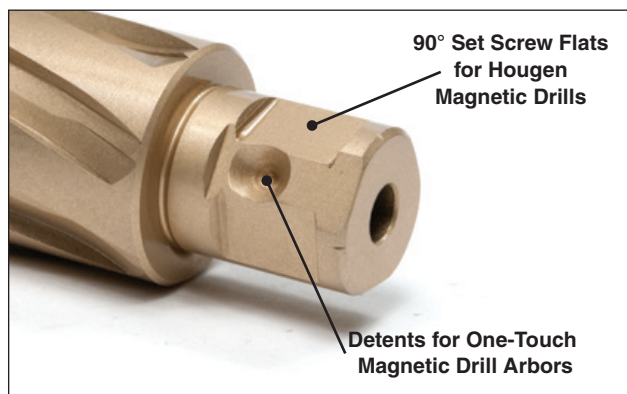
COPPERHEAD™ CARBIDE TIP CUTTERS



Copperhead™ Carbide Tip Cutters offer extended tool life on abrasive, tough-to-cut materials and in high-speed mag drills such as the HMD508. The unique Hougen design includes a special tooth geometry that helps maintain a better chip flow than other brands. Copperhead Cutters are available in fractional & metric sizes with the new Fusion2™ shank. The new shank allows for cutters to be used in Hougen drills and competitive models utilizing the one-touch arbor system. Using the set screw arbor system can result in up to **2x** the tool life as tool-less systems.

Cutter Dia. (Inches)	Part No. - Fusion2™ Shank			
	1" D.O.C. (25mm)	2" D.O.C. (50mm)	3" D.O.C. (76mm)	4" D.O.C. (102mm)
Use with Pilot	10529	10530	10535	10540
9/16	18118	18218	----	----
5/8	----	18220	----	----
11/16	18122	18222	3-18222	4-18222
3/4	----	18224	3-18224	4-18224
13/16	18126	18226	3-18226	4-18226
7/8	----	18228	3-18228	4-18228
15/16	18130	18230	3-18230	4-18230
1	----	18232	3-18232	4-18232
1-1/16	18134	18234	3-18234	4-18234
1-1/8	----	18236	3-18236	4-18236
1-3/16	----	18238	3-18238	4-18238
1-1/4	----	18240	3-18240	4-18240
1-5/16	----	18242	3-18242	4-18242
1-3/8	----	18244	3-18244	4-18244
1-1/2	----	18248	3-18248	4-18248
1-5/8	----	18252	3-18252	4-18252
1-3/4	----	18256	3-18256	4-18256
1-7/8	----	18260	3-18260	4-18260
2	----	18264	3-18264	4-18264

Fusion2™



Cutter Dia. (Metric)	Part No. Fusion2™ Shank	Cutter Dia. (Metric)	Part No. Fusion2™ Shank
Use with Pilot 10530 - 2" (50mm) D.O.C.		Use with Pilot 10530 - 2" (50mm) D.O.C.	
12mm	18412	38mm	18438
13mm	18413	39mm	18439
14mm	18414	40mm	18440
15mm	18415	41mm	18441
16mm	18416	42mm	18442
17mm	18417	43mm	18443
18mm	18418	44mm	18444
19mm	18419	45mm	18445
20mm	18420	46mm	18446
21mm	18421	47mm	18447
22mm	18422	48mm	18448
23mm	18423	49mm	18449
24mm	18424	50mm	18450
25mm	18425	51mm	18451
26mm	18426	52mm	18452
27mm	18427	53mm	18453
28mm	18428	54mm	18454
29mm	18429	55mm	18455
30mm	18430	56mm	18456
31mm	18431	57mm	18457
32mm	18432	58mm	18458
33mm	18433	59mm	18459
34mm	18434	60mm	18460
35mm	18435		
36mm	18436		
37mm	18437		

COPPERHEAD™ CUTTER KITS



Copperhead Cutters are available in fractional & metric kits for convenient storage and portability. Includes five 2" DOC cutters & two pilots.

Kit No.	Description 2" (50mm) DOC
18002	Fractional Kit contains (5) cutters, 9/16, 11/16, 13/16, 15/16, 1-1/16", (2) Pilots & Hex Wrenches
18004	Metric Kit contains (5) cutters, 14, 16, 18, 20, & 22mm, (2) Pilots & Hex Wrenches

INDUSTRIAL DUTY "43,000-SERIES" ANNULAR CUTTERS

You can produce holes up to 3-1/16" in diameter thru 3" (76mm) material with the Hougen® HMD933 portable magnetic drills using Hougen "43,000-Series" Annular Cutters. The heavy duty "43,000-Series" Annular Cutters handle the most demanding hole production jobs requiring portability for drilling large, deep holes. The cutters feature 1-1/4" Weldon Shank mounting which also provides for convenient use in stationary machine tools. Also available in stack geometry and grind downs.



Made in
U.S.A.

Cutter Dia. (Inches)	Decimal Equiv.	Part No. M2 M2 TiN Coated
1-1/4" Weldon Shank - 3" (76mm) D.O.C.		
2-7/16	2.4375	43078 23078
2-1/2	2.5000	43080 23080
2-9/16	2.5625	43082 23082
2-5/8	2.6250	43084 23084
2-11/16	2.6875	43086 23086
2-3/4	2.7500	43088 23088
2-13/16	2.8125	43090 23090
2-7/8	2.8750	43092 23092
2-15/16	2.9375	43094 23094
3	3.0000	43096 23096
3-1/16	3.0625	43098 23098

Hougen also offers a full line of Heavy Duty Industrial Annular Cutters for extreme & industrial applications. Find out more at... www.hougen.com

SHARPENING MACHINE



Shipping Weight: 64 lbs (29 kgs)

The Model 10950 Sharpening Machine has been specifically designed for reshaping "12,000-Series", RotaLoc™, and RotaLoc Plus™ Annular Cutters. It provides ease of operation while restoring factory specified tooth geometry. Made in USA.

- Improved holders and fasteners allow easier changes and tool sharpening.
- Holder bushing is more accurate for precise tooth height.

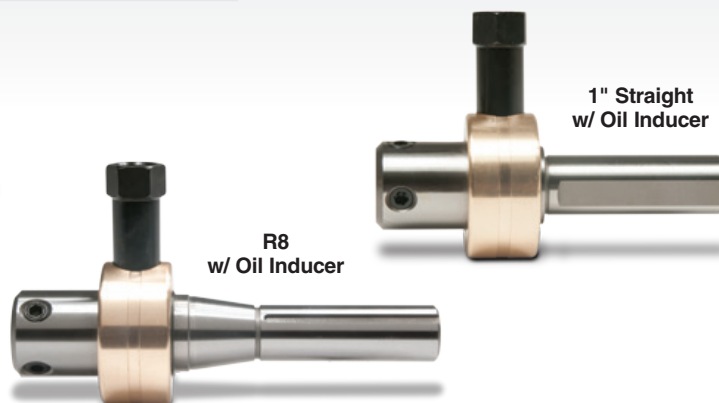
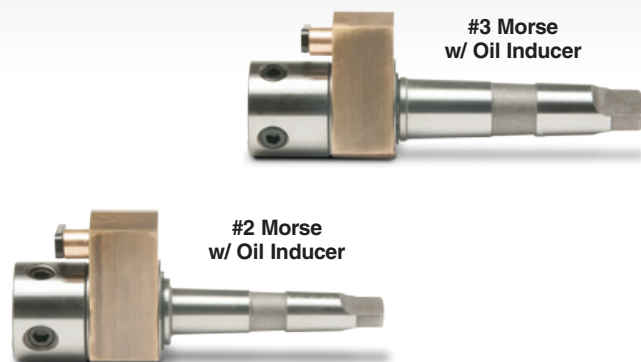
Part No.	Description
10950	Sharpening Machine (120V)
10950A	Sharpening Machine - No Motor (Requires Bosch Motor - 230V Model GGS 27L Purchase from local source)
03983	Borazon® Cup Wheel
04049	Tool holder - "12,000-Series"
04072	Borazon® Gullet Wheel
10747	Dressing Stick
10779	7/32" Hex Wrench for #04049
Optional Accessories	
04147	Tool Holder - RotaLoc™ Cutters
04118	Work Stand

ARBORS FOR MACHINE TOOLS

Convert CNC machines such as drill presses or mills into fast hole makers. 3 styles of holders: R-8, Straight, and Morse taper accommodate "12,000-Series" Cutters. Made in USA.

Part No.	Shank Size	Hole Capacity	
		Diameter	Depth
Arbor Assembly with Oil Inducer			
10804	#2 Morse	1"	1-1/2"
10806	#3 Morse	2-3/8"	1-1/2"
49849	R8	2-3/8"	2"
49850	1" Straight	2-3/8"	2"

Arbor Assembly without Oil Inducer			
10814	#2 Morse	1"	1-1/2"
10816	#3 Morse	2-3/8"	1-1/2"
49853	R8	2-3/8"	2"
49851	1" Straight	2-3/8"	2"



ARBORS FOR STATIONARY TOOLS



You can also use "12,000-Series" Cutters with stationary tools and drill presses. Triple flatted shank fits 1/2" drill chucks. Uses 1" (25mm) depth of cut "12,000-Series" Cutters for materials up to **1/2" (12.7mm) thick max.** (Not for use with Copperhead Cutters)

Part No.	Description
11016	Arbor Assembly (with set screws and spring) for 3/4" Shank Cutters up to 1/2" D.O.C. (Pilot not included)
Pilots	
11022	Starter Pilot for 7/16" - 9/16" & 12mm-15mm Dia. Cutters
11031	Starter Pilot for 5/8" - 2-1/16" & 16mm-52mm Dia. Cutters
Pilot for Old Style Cutters	
11032	Starter Pilot for 1/2"-11/16" & 13mm-18mm Dia. Cutters

HOLE ENLARGING PILOTS - "12,000-SERIES"

Take an existing hole and make it larger using Hougén's Hole Enlarging Pilots. Available in three select sizes. Replaceable "Nose" screws on to end of pilot.



* Use with 2" Cutters. Sold separately.

Part No.	Description
07370	Replacement Pilot
07373	11/16" Pilot assy for enlarging up to 13/16"
07372	13/16" Pilot assy for enlarging up to 15/16"
07371	15/16" Pilot assy for enlarging up to 1-1/16"
07368	11/16" Replacement Nose
07367	13/16" Replacement Nose
07366	15/16" Replacement Nose

CUSTOM CUTTERS AND MACHINES

Hougen can solve your holmaking problems with creative solutions to help you get the job done, complete it faster and at a lower cost. We have helped thousands of customers with unique holmaking solutions, from grind downs, to special cutting tools, to one of a kind magnetic drills. Give us a call or send us an email with your holmaking challenge.



ROTACUT™ SHEET METAL HOLE CUTTERS



Holemaking – faster and easier than with conventional twist drills and hole saws – in sheet metal, plate materials, and plastics up to 1/2" thick. RotaCut™ Cutters are precision-ground and produce clean, burr-free, round holes without deforming the surrounding material. For use in hand held drills with either 3/8" or 1/2" chucks, and in air feed drill spindles for production work. Lasts **10x** longer and cuts **3x** faster than twist drills or hole saws.

Cutter Dia. (Inches) **Decimal Equiv.** **Part No.**

3/8"-24 Thread Mount & 1/4" D.O.C.

Use with Arbor 11088 or 11006

1/4	.2500	11100
9/32	.2812	11102
5/16	.3125	11104
11/32	.3438	11106

Use with Arbor 11088, 11089, or 11006

3/8	.3750	11108
13/32	.4062	11110
27/64	.4219	11111
7/16	.4375	11112
29/64	.4531	11113
15/32	.4688	11114
1/2	.5000	11116
17/32	.5312	11118
9/16	.5625	11120
5/8	.6250	11124
11/16	.6875	11128
23/32	.7188	11130
3/4	.7500	11132

1/2"-20 Thread Mount & 1/2" D.O.C.

Use with Arbor 11005 or 11012

13/16	.8125	11136
7/8	.8750	11140
15/16	.9375	11144
1	1.0000	11148
1-1/16	1.0625	11152
1-1/8	1.1250	11156
1-3/16	1.1875	11160
1-1/4	1.2500	11164
1-5/16	1.3125	11165
1-3/8	1.3750	11166
1-7/16	1.4375	11167
1-1/2	1.5000	11168

Special sizes of RotaCut™ Cutters are available on request. Contact the Hougen Customer Service Department for more information.
800-426-7818

Cutter Dia. (Metric) **Decimal Equiv.** **Part No.**

3/8"-24 Thread Mount & 6.4mm D.O.C.

Use with Arbor 11088 or 11006

6mm	.2362	11206
7mm	.2756	11207
8mm	.3150	11208
8.5mm	.3346	11285
9mm	.3543	11209

Use with Arbor 11088, 11089, or 11006

10mm	.3937	11210
11mm	.4331	11211
12mm	.4724	11212
13mm	.5118	11213
14mm	.5512	11214
15mm	.5906	11215
16mm	.6299	11216
17mm	.6693	11217
18mm	.7087	11218
19mm	.7480	11219
20mm	.7874	11220

1/2"-20 Thread Mount & 12.7mm D.O.C.

Use with Arbor 11005 or 11012

21mm	.8268	11221
22mm	.8661	11222
23mm	.9055	11223
24mm	.9449	11224
25mm	.9843	11225

ROTACUT™ SPOTWELD CUTTER

Remove spotwelds in auto body and restoration work quickly with the RotaCut™ Premium Spotweld Cutter. Heavy cutter wall and fast cutting action that can last for hundreds of spotwelds.

Part No. **Description**

11200C	Package includes 3/8" RotaCut p/n 11108, Arbor p/n 11088, and instructions.
--------	---

ROTACUT™ KITS

11087 Kit



Hougen® offers kits packaged in sturdy cases for keeping handy the most often used sizes of RotaCut™ Annular Cutters.

Part No. **Description**

11075 / 11075C (Fractional)	Kit contains an 11088 Arbor Assembly, Center Punch, extra Pilot, and (7) Cutters: 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, & 3/4" (DOC: 1/4" / 6.4mm)
-----------------------------	---

11075-12 (Fractional)	Contains (12) 11075 Kits in a pop up display box
-----------------------	--

11077 (Metric)	Kit contains an 11088 Arbor Assembly, Center Punch, extra Pilot, and (7) Metric Cutters: 8, 10, 12, 14, 16, 18, & 20mm (DOC: 1/4" / 6.4mm)
----------------	--

11078 (Fractional)	Kit contains an 11005 Arbor Assembly, Center Punch, extra Pilot, and (6) Cutters: 7/8, 1, 1-1/8, 1-1/4, 1-3/8, & 1-1/2" (DOC: 1/2" / 12.7mm)
--------------------	--

11078-12 (Fractional)	Contains (12) 11078 Kits
-----------------------	--------------------------

11085 (Fractional)	Fractional Master Kit 16 Sizes of cutters from 1/4" to 3/4", extra Pilots, Arbor & Center Punch (DOC: 1/4" / 6.4mm)
--------------------	--

11085-12 (Fractional)	Contains (12) 11085 Kits
-----------------------	--------------------------

11086 (Metric)	Metric Master Kit 16 Sizes of cutters from 6mm to 20mm, extra Pilots, Arbor & Center Punch (DOC: 1/4" / 6.4mm)
----------------	---

11087 (Fractional)	Fractional Combo Kit Combines the 11075 and 11078 kits into one awesome package.
--------------------	---

