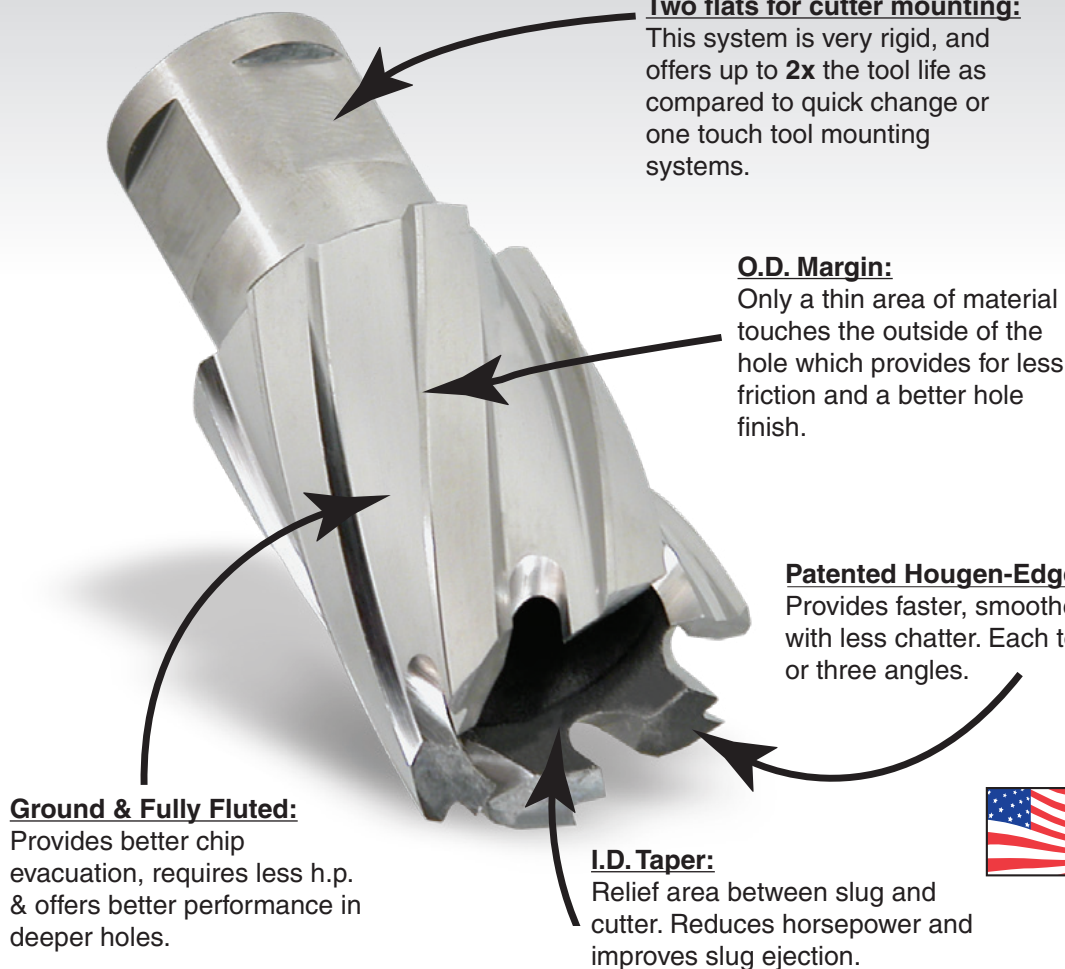


HOUGEN® "12,000-SERIES" CUTTERS - SIMPLY THE BEST



Two flats for cutter mounting:
This system is very rigid, and offers up to **2x** the tool life as compared to quick change or one touch tool mounting systems.

O.D. Margin:
Only a thin area of material touches the outside of the hole which provides for less friction and a better hole finish.

Patented Hougen-Edge® Geometry:
Provides faster, smoother cuts, with less chatter. Each tooth has two or three angles.

Ground & Fully Fluted:
Provides better chip evacuation, requires less h.p. & offers better performance in deeper holes.

I.D. Taper:
Relief area between slug and cutter. Reduces horsepower and improves slug ejection.



Made in U.S.A.

Features & Value

With the most features of any annular cutter, "12,000-Series" cutters provide the best performance and value. **Features include:** Two flats for cutter mounting, O.D. Margins, I.D. Margins, fully fluted tools, patented tooth geometries, material types, coatings, and resharpenability. Hougen cutters with the Hougen-Edge®, feature a patented tooth geometry that provides long tool life, less chatter, and extended resharpenability. Compared to traditional tooling (twist drills, etc.) Hougen 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 or more cutting edges distribute the cutting load evenly. By converting a smaller area to chips, Hougen Cutters require less horsepower and thrust.

1,000's & 1,000's of Holes

Just because you finished your 2,361st hole doesn't mean your cutter is done. Most Hougen cutters can be resharpened to save you money. And depending on the wear, can be resharpened up to 15 times. Hougen cutters give you the longest tool life and the lowest cost per hole.

American Made Quality

Hougen has been making "12,000-Series" Annular Cutters since we invented them in 1974. At one time, our president was putting the tooth geometry on every Hougen cutter in the world. *Why is that important?*

Because Hougen employees take personal responsibility for the quality of every Hougen tool. We perform quality checks on the latest machinery to ensure each cutter is made to exact specifications and tolerances. When products are made outside the United States its hard to control the quality, that's why we prefer to make our cutters right here at home.

Material & Coatings

Not every job requires the same tool. That's why we make annular cutters in a variety of materials and coatings. We purchase our raw steel from only trusted suppliers that incorporate today's most rigid quality standards. Cutters are made from heat treated M2 HSS to premium cobalt steels, uncoated tools to multi-layer special request coatings. Plus many modified and coated cutters are available in stock.



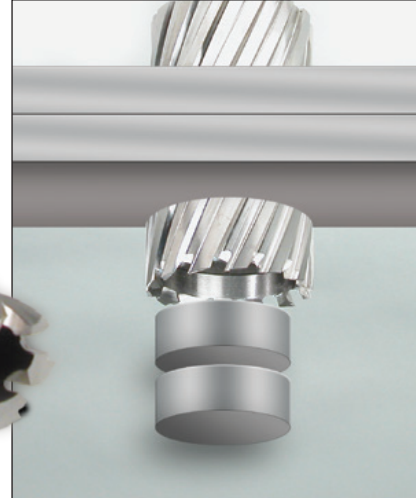
Selection & Price

Hougen has the largest selection of annular cutters of any cutter manufacturer. From cutters only a 1/4" in diameter for hand-held drills to Industrial Hougen® Cutters that can drill holes in 8-1/2" Inconel in a single pass, Hougen has you covered. **Customers who use Hougen cutters consider them a bargain!** Some products Hougen offers are priced more than competitors but if you consider the superior quality, lower cost per hole, most features, greatest resharpenability, best service... you see why more people choose Hougen.

Hougen products are available in over 4,000 locations



Why use Stack-Cut Geometry?



Hougen also offers "12,000-Series" Annular Cutters with a Stack-Cut tooth geometry. Tools with this 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.

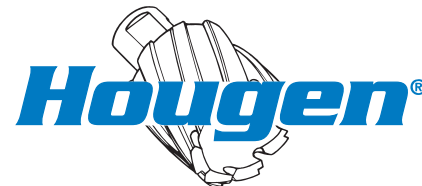


Holemaking Solutions

Hougen can solve your holemaking 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 holemaking solutions. Give us a call or send us an email with your holemaking challenge.



Distributed By:



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