

# Somma

**TOOL COMPANY, INC.**

---

**PREMIER TOOLING FOR THE  
MANUFACTURING INDUSTRY**

*since 1939*

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**Customer Service**

**109 Scott Road Waterbury, CT 06705 USA**  
**(203)-753-2114 • Fax (203)-756-5489**  
**Email: sales@sommatool.com**

*Your local Somma distributor will provide you with prompt service and knowledgeable assistance. We also offer excellent backup support from our factory. Here is a list of people to contact at Somma Tool Company for sales and technical assistance.*

| SALES / SALES ENGINEERS |       |                  |       | BROACHING/<br>TECHNICAL SUPPORT |       | QC INSERT TOOLING/<br>TECHNICAL SUPPORT |       |
|-------------------------|-------|------------------|-------|---------------------------------|-------|---|-------|
| NAME                    | Ext.# | NAME             | Ext.# | NAME                            | Ext.# | NAME                                    | Ext.# |
| Matt Ciullo             | 105   | Gina Somma       | 104   | Dick Noti                       | 108   | Rob Somma                               | 111   |
| Jerry Somma             | 106   | Raphael Santiago | 107   | Abel Rodrigues                  | 110   | Rick Grante                             | 115   |

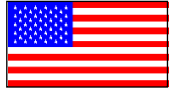
### Material Selector

|                          | Wear Resistance | Toughness | Red Hardness | Additional Notes   |
|--------------------------|-----------------|-----------|--------------|--|
| Forte                    |                 |           |              | Best option for rotary broaching due to its superior toughness and increased wear resistance                                   |
| M2                       |                 |           |              | Economical solution for cutoff blades and form tools, also popular for rotary broaching  |
| M42<br>Cobalt            |                 |           |              | Great but economical option for cutoff blades and form tools   |
| T15PM                    |                 |           |              | Great option for cutoff blades and form tools, can also be used for rotary broaching in tougher materials                      |
| 76PM<br>M48              |                 |           |              | Great option for form tools in short runs, low SFM, and/or interrupted cuts  |
| 86PM<br>Maxamet          |                 |           |              | Great option for form tools - can be run near carbide SFM but is less prone to chipping in tough materials or interrupted cuts |
| C2 Micrograin<br>Carbide |                 |           |              | Great option for cutoff blades and form tools for long-running jobs, at SFM $\leq$ 250   |
| C6 Micrograin<br>Carbide |                 |           |              | Great option for cutoff blades and form tools for long-running jobs, at SFM $>$ 250  |

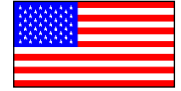
**Wear Resistance:** The relative ability of the material to withstand the abrasive action of difficult to machine materials

**Toughness:** The relative ability of the steel to withstand deflection and interrupted cuts without chipping

**Red Hardness:** The relative ability of the steel to withstand the heat generated when cutting hard materials without losing its own hardness



## INTERNAL ROTARY BROACHING



Simply stated, this is the process of forming an internal shape into an undersized pre-drilled hole. Generally used on blind hole applications where the length of the form does not exceed three times the diameter of the form. It also can be used for through hole applications. It is used on all types of machines to produce hundreds of items such as cap screws, faucet splines, involute gears, knurls and medical bone screws to name just a few.

**Proudly made in the U.S.A.**



The broach tool holder is designed with a live spindle which holds the cutting broach at a 1° angle. This design creates a wobble effect on the cutting broach which reduces the cutting profile and thus minimizes the required force that is needed to produce the internal shape.



**View our broaching videos on YouTube!**



**THESE ARE EXAMPLES OF SPECIAL SHAPES THAT HAVE BEEN SUCCESSFULLY BROACHED - LET US QUOTE ON YOUR REQUIREMENTS.**





*ARE YOU* **TOUGH** *ENOUGH?*

*introducing*



# FORTE

ROTARY BROACHING *from* **Somma**

**The Toughest Broaching  
Material Available**

**Improved Wear Resistance  
for Better Tool Life**

**Industry Leading  
Depth of Cut**

**Industry-Wide  
Compatibility**

**Largest Stock of ANSI Hex  
& Squares Available for  
Same Day Shipping**

**Special Hex & Square  
Sizes Available  
in 1-2 Days**

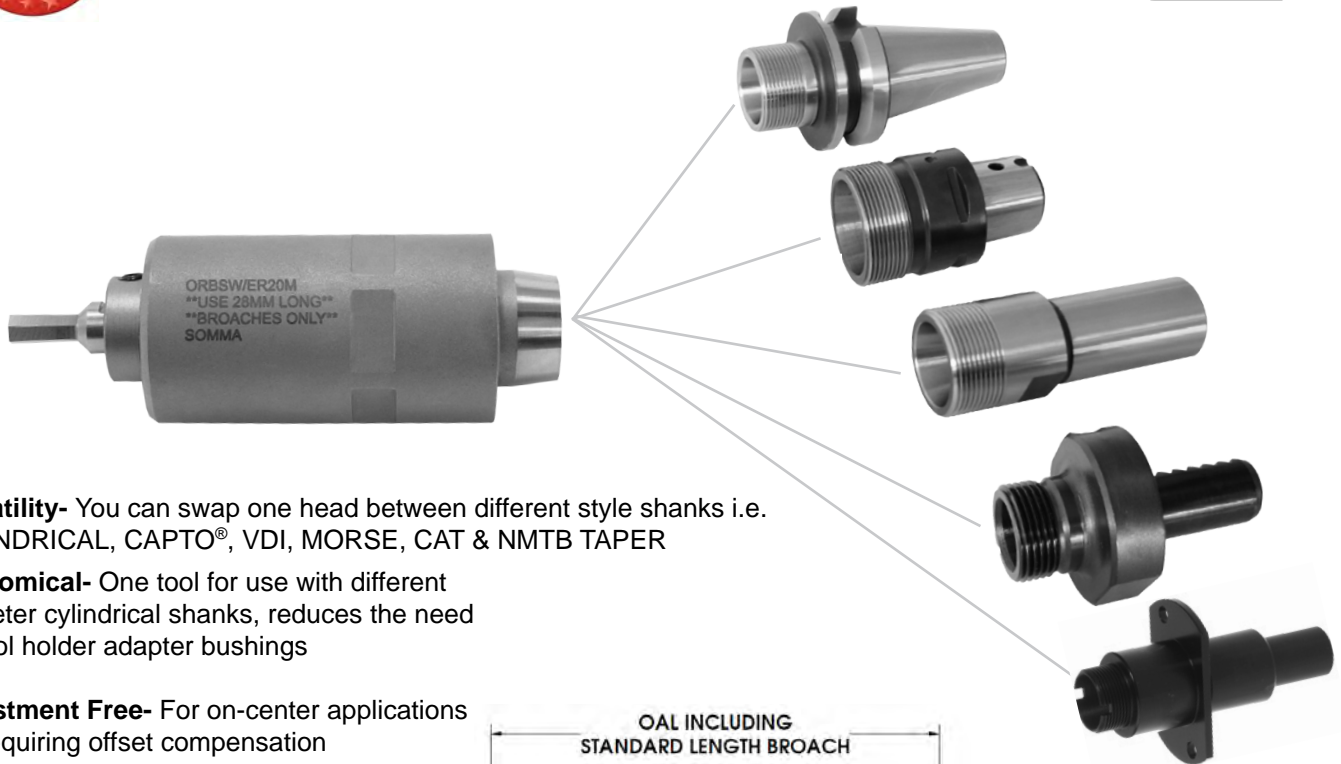
How much value do you place on  
increased tool life and reduced chipping?  
Somma / Forte

# Convert your ER collet chuck to an Internal Rotary Broach Tool Holder



This Compact Adjustment Free Offset Rotary Broach Tool Head will thread onto your existing ER collet chucks.  
Features built in 1° wobble cutting angle

Patent Pending



**Versatility-** You can swap one head between different style shanks i.e. CYLINDRICAL, CAPTO®, VDI, MORSE, CAT & NMTB TAPER

**Economical-** One tool for use with different diameter cylindrical shanks, reduces the need for tool holder adapter bushings

**Adjustment Free-** For on-center applications not requiring offset compensation

## ADJUSTMENT FREE BROACHING HEADS FOR ER COLLET CHUCKS

| Rotary Broach Adapter Part No. | For Collet Series | Using Collet Nut Style             | With Thread size     | Body Dia        | OAL      | Projection With Broach | Must Use Broach Series # |
|--------------------------------|-------------------|------------------------------------|----------------------|-----------------|----------|------------------------|--------------------------|
| ORBSW/ER16M<br>ORBSW/ER16H     | ER16              | Mini (castle)<br>Hex & Spanner (E) | M19 x 1<br>M22 X 1.5 | 28MM<br>(1.102) | 2-1/16"  | 2-11/16"               | --SW<br>8mm x 28mm       |
| ORBSW/ER20M<br>ORBSW/ER20H     | ER20              | Mini (castle)<br>Hex & Spanner (E) | M24 X 1<br>M25 X 1.5 | 28MM<br>(1.102) | 2-1/4"   | 2-7/8"                 | --SW<br>8mm x 28mm       |
| ORB00/ER25M<br>ORB00/ER25E     | ER25              | Mini (castle)<br>Spanner (E)       | M30 X 1<br>M32 X 1.5 | 1-1/2"          | 2-11/16" | 3-3/8"                 | --00<br>8mm x 1.25"      |
| ORB2/ER32E                     | ER32              | Spanner (E)                        | M40 X 1.5            | 2-3/8"          | 3-1/2"   | 4-1/2"                 | --2<br>1/2" x 1.75"      |

**ADJUSTMENT FREE INTERNAL ROTATING BROACH TOOLS FOR SWISS MACHINES**

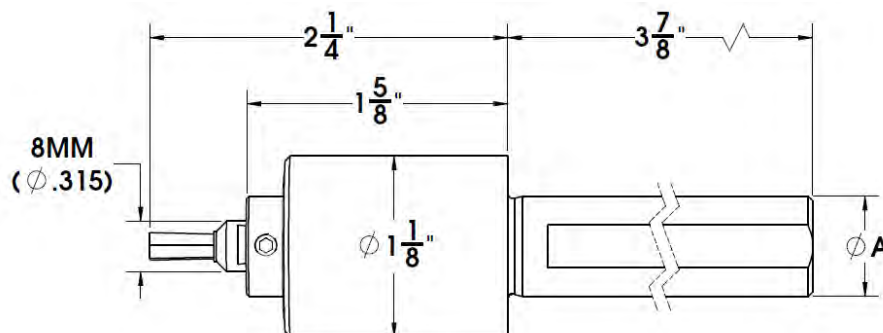
NOTE: USE ONLY SERIES# --SW BROACHES 8MM DIA X 28MM LONG(SHOWN ON NEXT PAGE)



| Catalog Number | A    |
|----------------|------|
| ORBSW-CT/10MM  | 10MM |
| ORBSW-CT/12MM  | 12MM |
| ORBSW-CT/14MM  | 14MM |
| ORBSW-CT/16MM  | 16MM |
| ORBSW-CT/20MM  | 20MM |
| ORBSW-CT/22MM  | 22MM |
| ORBSW-CT/25MM  | 25MM |
| ORBSW-CT/0.500 | 1/2" |
| ORBSW-CT/0.625 | 5/8" |
| ORBSW-CT/0.750 | 3/4" |
| ORBSW-CT/1.000 | 1"   |

- No center indicating required
- Adjustment free (with 28MM long broaches only)
- Smaller head diameter eliminates interference
- Short head length for limited back work space
- Built in wobble cutting features 1° angle
- Shank can be cut to desired length
- Fits most Swiss type & gang machines

*Hex, Square and Six Lobed broaches in stock to fit these holders.*



See page 17 for partial form index broaching

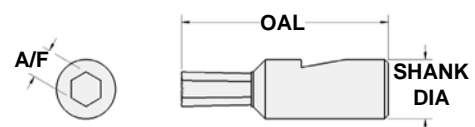
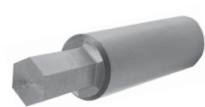


### INTERNAL HEX FOR SWISS HOLDERS

| INCH / Hex, for ORBSWS/...Holders            |             |                    |              |
|--|-------------|--------------------|--------------|
| 8MM (.315) Shank Diameter x 28MM (1.103) OAL |             |                    |              |
| Nominal Hex Size                             | Actual A/F* | Max Cutting Depth* | Part Number  |
| .050   | .0505       | .107               | HXSW-050-F   |
| 1/16   | .0630       | .133               | HXSW-1/16-F  |
| 5/64   | .0786       | .166               | HXSW-5/64-F  |
| 3/32   | .0947       | .199               | HXSW-3/32-F  |
| 7/64   | .1106       | .233               | HXSW-7/64-F  |
| 1/8  | .1265       | .266               | HXSW-1/8-F   |
| 9/64   | .1421       | .299               | HXSW-9/64-F  |
| 5/32   | .1582       | .333               | HXSW-5/32-F  |
| 3/16   | .1895       | .398               | HXSW-3/16-F  |
| 7/32   | .2212       | .427               | HXSW-7/32-F  |
| 1/4  | .2525       | .443               | HXSW-1/4-F   |
| 9/32   | .2837       | .458               | HXSW-9/32-F  |
| 5/16   | .3152       | .473               | HXSW-5/16-F  |
| 11/32  | .3467       | .572               | HXSW-11/32-F |
| 3/8  | .3782       |                    | HXSW-3/8-F   |

| METRIC / Hex, for ORBSWS/...Holders          |             |                    |             |
|--|-------------|--------------------|-------------|
| 8MM (.315) Shank Diameter x 28MM (1.103) OAL |             |                    |             |
| Nominal Hex Size                             | Actual A/F* | Max Cutting Depth* | Part Number |
| 1.5MM  | .0603       | .127               | HXSW-1.5-F  |
| 2.0MM  | .0800       | .169               | HXSW-2.0-F  |
| 2.5MM  | .1002       | .211               | HXSW-2.5-F  |
| 3.0MM  | .1204       | .253               | HXSW-3.0-F  |
| 4.0MM  | .1602       | .337               | HXSW-4.0-F  |
| 5.0MM  | .1997       | .420               | HXSW-5.0-F  |
| 6.0MM  | .2395       | .436               | HXSW-6.0-F  |
| 7.0MM  | .2789       | .456               | HXSW-7.0-F  |
| 8.0MM  | .3187       | .475               | HXSW-8.0-F  |
| 9.0MM  | .3583       | .572               | HXSW-9.0-F  |
| 10.0MM                                       | .3979       |                    | HXSW-10.0-F |

\* Superior, Hardened FORTE material  
 \* Precision ground  
 \* Angular clamping flat prevents pull out



### INTERNAL SQUARE FOR SWISS HOLDERS

| INCH / Square, for ORBSWS/...Holders         |             |                    |              |
|--|-------------|--------------------|--------------|
| 8MM (.315) Shank Diameter x 28MM (1.103) OAL |             |                    |              |
| Nominal Square Size                          | Actual A/F* | Max Cutting Depth* | Part Number  |
| 1/16   | .0630       | .133               | SQSW-1/16-F  |
| 5/64   | .0786       | .166               | SQSW-5/64-F  |
| 3/32   | .0947       | .199               | SQSW-3/32-F  |
| 7/64   | .1106       | .233               | SQSW-7/64-F  |
| 1/8  | .1265       | .266               | SQSW-1/8-F   |
| 9/64   | .1421       | .299               | SQSW-9/64-F  |
| 5/32   | .1582       | .333               | SQSW-5/32-F  |
| 11/64  | .1739       | .366               | SQSW-11/64-F |
| 3/16   | .1895       | .398               | SQSW-3/16-F  |
| 7/32   | .2209       | .427               | SQSW-7/32-F  |
| 1/4  | .2522       | .443               | SQSW-1/4-F   |
| 9/32   | .2837       | .458               | SQSW-9/32-F  |
| 5/16   | .3152       | .473               | SQSW-5/16-F  |

| METRIC / Square, for ORBSWS/...Holders       |             |                    |             |
|--|-------------|--------------------|-------------|
| 8MM (.315) Shank Diameter x 28MM (1.103) OAL |             |                    |             |
| Nominal Square Size                          | Actual A/F* | Max Cutting Depth* | Part Number |
| 1.5MM  | .0603       | .127               | SQSW-1.5-F  |
| 2.0MM  | .0800       | .169               | SQSW-2.0-F  |
| 2.5MM  | .1002       | .211               | SQSW-2.5-F  |
| 3.0MM  | .1204       | .253               | SQSW-3.0-F  |
| 4.0MM  | .1602       | .337               | SQSW-4.0-F  |
| 5.0MM  | .1997       | .420               | SQSW-5.0-F  |
| 6.0MM  | .2392       | .436               | SQSW-6.0-F  |
| 7.0MM  | .2789       | .456               | SQSW-7.0-F  |
| 8.0MM  | .3187       | .475               | SQSW-8.0-F  |



Hexagon go / no-go gages (with handle) are available upon request. See page 16 for Broach Centering Gages.

\* Custom A/F & Depths of Cut available to quote upon request

### INTERNAL 6 LOBED BROACHES FOR SWISS HOLDERS



| 6 Lobe for ORBSWS...Holders |                    |             |
|-----------------------------|--------------------|-------------|
| 8MM Shank Diameter x 28MM   |                    |             |
| Nominal 6-Lobe Size         | Max Cutting Depth* | Part Number |
| T5                          | .047               | TOSW-T5     |
| T6                          |                    | TOSW-T6     |
| T7                          | .063               | TOSW-T7     |
| T8                          | .078               | TOSW-T8     |
| T9                          |                    | TOSW-T9     |
| T10                         | .109               | TOSW-T10    |
| T15                         |                    | TOSW-T15    |
| T20                         | .156               | TOSW-T20    |
| T25                         |                    | TOSW-T25    |
| T27                         | .188               | TOSW-T27    |
| T30                         | .219               | TOSW-T30    |



\* Superior, Hardened FORTE material  
 \* Precision ground  
 \* Angular clamping flat prevents pull out

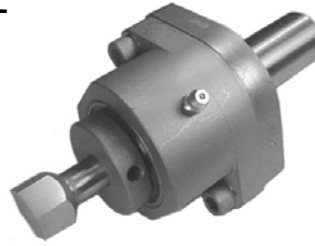
\* Custom depths of cut available to quote upon request

Available in T15PM H.S.S. (Prices on application)

### INTERNAL ADJUSTABLE ROTATING BROACH TOOL

This tool is used to produce hexagonal, square, and other non-round shapes on conventional lathes, mills, and screw machines without the need for a secondary operation. Due to the spindle offset, the turret forces needed to produce a part are minimized. The tool holder spindle is mounted in bearings allowing it to rotate or stop independent of the body without requiring auxiliary driving attachments.

Can be used on B&S, Davenport, and multi-spindle screw machines, as well as turret lathes and CNC machines.



Also available with  
CAT, VDI, CAPTO C6, HSK &  
Morse Taper Shanks

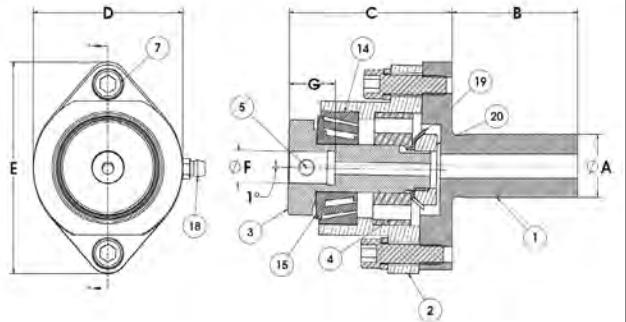
| Catalog Number | A    | B      | C        | D      | E       | F      | G     |
|----------------|------|--------|----------|--------|---------|--------|-------|
| ORB00/0.625    | 5/8" | 1-1/2" | 1-7/8"   |        |         | 8MM    | 9/16" |
| ORB00/0.750    | 3/4" | 2"     | 1-29/32" |        |         | Use    |       |
| ORB00/16MM     | 16MM | 1-1/2" | 1-7/8"   | 1-1/2" | 2-7/16" | Broach |       |
| ORB00/20MM     | 20MM |        |          |        |         | Series |       |
| ORB00/22MM     | 22MM |        |          |        |         | --00   |       |
|                |      |        |          |        |         |        |       |

|            |        |    |         |        |         |  |      |
|------------|--------|----|---------|--------|---------|--|------|
| ORB2/0.750 | 3/4"   | 2" | 2-9/16" | 2-3/8" | 3-5/16" | 1/2"<br>Use<br>Broach<br>Series<br>--2 | 3/4" |
| ORB2/1.000 | 1"     |    |         |        |         |  |      |
| ORB2/1.250 | 1-1/4" | 3" |         |        |         |  |      |
| ORB2/1.500 | 1-1/2" |    |         |        |         |  |      |
| ORB2/20MM  | 20MM   | 2" |         |        |         |  |      |
| ORB2/22MM  | 22MM   |    |         |        |         |  |      |
| ORB2/25MM  | 25MM   |    |         |        |         |  |      |
| ORB2/32MM  | 32MM   | 3" |         |        |         |  |      |

|             |        |    |          |        |        |   |        |
|-------------|--------|----|----------|--------|--------|---|--------|
| ORBHD/1.000 | 1"     | 3" | 4-15/32" | 3-1/2" | 5-1/4" | 3/4"<br>Use<br>Broach<br>Series<br>--HD | 1-1/4" |
| ORBHD/1.250 | 1-1/4" |    |          |        |        |   |        |
| ORBHD/1.500 | 1-1/2" |    |          |        |        |   |        |
| ORBHD/1.750 | 1-3/4" |    |          |        |        |   |        |
| ORBHD/32MM  | 32MM   |    |          |        |        |   |        |
| ORBHD/40MM  | 40MM   |    |          |        |        |   |        |

Standard from stock H.S.S. broaches shown starting on page 12.  
Broach gages available - see page 16.

| Parts List              |                       |                      |                       |
|-------------------------|-----------------------|----------------------|-----------------------|
| Part Description        | ORB00/...<br>Cat. No. | ORB2/...<br>Cat. No. | ORBHD/...<br>Cat. No. |
| 1. Shank                | CALL                  | CALL                 | CALL                  |
| 2. Body                 | ORB00-2N              | ORB2-2N              | ORBHD-2               |
| 3. Spindle              | ORB00-3N              | ORB2-3N              | ORBHD-3               |
| 4. Radial Bearing       | ORB00-4N              | ORB2-4N              | ORBHD-4N              |
| 5. Set Screw            | ORB00-5               | ORB2-5               | FARH2-10              |
| 7. Clamp Screw & Washer | ORB00-7               | ORB2-7               | ORBHD-7               |
| 14. Angular Bearing     | ORB00-14N             | ORB2-14N             | ORBHD-14              |
| 15. Seal                | ORB00-15              | ----                 | ----                  |
| 18. Grease Fitting      | ORB00-18              | ORB00-18             | ORB00-18              |
| 19. Spindle Nut         | ORB00-19              | ORB2-19              | ORBHD-19              |
| 20. Spindle Washer      | ORB00-20              | ORB2-10              | ORBHD-20              |



### COLLET CHUCK STYLE ADJUSTABLE BROACH TOOL HOLDERS

More versatile, just change the collet to accept any shank diameter broaching tool within the collet range. For example, you can purchase three size collets, 0.315 (8mm), 0.472 (12mm), and 0.500 for the ER20 broach tool holder. This will allow you to use one holder for all common broach shank sizes. Built in stop screw allows you to adjust for different length broaches or to compensate for lengths on re-sharpened broaches. Eliminates necessity of centering cutting tool to "spindle" of broaching holder. No screws to knock cutting tool off center.



Standard from stock HSS broaches shown starting on page 12.  
Broach gages available - see page 16.

Use only exact size **High Precision** DIN6499 ER collets.



| Catalog Number     | A      | B      | C       | D      | E       | Nut Dia | Collet I.D. (Standard) | Broach Series # |
|--------------------|--------|--------|---------|--------|---------|---------|------------------------|-----------------|
| ORB00-ER16M/0.625  | 5/8"   | 1-1/2" | 2-7/16" | 1-1/2" | 2-7/16" | 22MM    | 8MM                    | --00            |
| *ORB00-ER16M/0.750 | 3/4"   | 2"     | 2-1/2"  |        |         |         |                        |                 |
| ORB2-ER20H/0.750   | 3/4"   | 2"     | 3-1/2"  | 2-3/8" | 3-5/16" | 1.348   | 1/2"                   | --2             |
| ORB2-ER20H/1.000   | 1"     |        |         |        |         |         |                        |                 |
| ORB2-ER20H/1.250   | 1-1/4" |        |         |        |         |         |                        |                 |
| ORB2-ER20H/1.500   | 1-1/2" |        |         |        |         |         |                        |                 |

NOTE: COLLET NUT, COLLET WRENCH, SPINDLE WRENCH AND STANDARD HIGH PRECISION COLLET INCLUDED.  
PRECISION COLLET INCLUDED WITH EACH CAT. NO.

ALSO AVAILABLE WITH METRIC SHANKS

\*Limited Davenport applications due to 47/64" longer projection than standard broach holder ORB00/0.750 shown above.

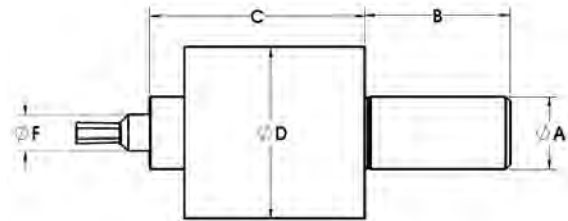
**HIGH PRECISION  
REPLACEMENT COLLETS  
(Common Broach Shank Sizes)**

| CAT. NO.   | I.D.        |
|------------|-------------|
| ER16-8HP   | 8mm / .315  |
| ER20-8HP   | 8mm / .315  |
| ER20-12HP  | 12mm / .472 |
| ER20-1/2HP | .500        |

FULL RANGE OF HIGH PRECISION  
COLLETS AVAILABLE

### CNC LATHE, ADJUSTMENT FREE, INTERNAL BROACH TOOL HOLDER

Introducing a wobble broach tool that can be quickly setup for use in CNC lathes.  
(Not for use on milling machines)

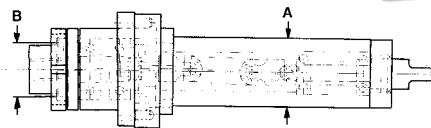


- No center indicating required
- Hex and square broaches in stock for these holders starting on page 12.
- Requires X-Axis machine adjustment only for broach lengths other than the standard designated lengths of 1.250" OAL for ORB00 holders and 1.750" OAL for ORB2 holders.

| Catalog Number | A      | B      | C        | D      | F    | Broach Series # |
|----------------|--------|--------|----------|--------|------|-----------------|
| ORB00-CT/0.625 | 5/8"   | 1-1/2" | 1-7/8"   | 1-1/2" | 8MM  | --00            |
| ORB00-CT/0.750 | 3/4"   |        |          |        |      |                 |
| ORB2-CT/0.750  | 3/4"   | 2"     | 2-15/16" | 2-3/8" | 1/2" | --2             |
| ORB2-CT/1.000  | 1"     |        |          |        |      |                 |
| ORB2-CT/1.250  | 1-1/4" |        |          |        |      |                 |
| ORB2-CT/1.500  | 1-1/2" |        |          |        |      |                 |

### DRIVEN ROTATING BROACH HOLDERS FOR MULTIPLE SPINDLE AND CNC MACHINES

- Rotated by machine drive shaft
- Mounts in endworking tool holder block
- Rotates broach at same RPM as workpiece
- Eliminates spiralling
- Eliminates skidding action at start of cut
- Produces accurate straight broached forms
- Available for external and internal cutting
- Spline drive shafts available
- Can remove shank to center it off the machine.



| CAT. NO.     | INTERNAL BROACHING |                   |
|--------------|--------------------|-------------------|
|              | "A"                | BROACH SHANK DIA. |
| DB-1.50-ORB2 | 1.500              | .500              |
| DB-2.00-ORB2 | 2.000              | .500              |
| DB-2.25-ORB2 | 2.250              | .500              |
| DB-50MM-ORB2 | 50MM               | .500              |

| CAT. NO.     | EXTERNAL BROACHING |       |
|--------------|--------------------|-------|
|              | "A"                | "B"   |
| DB-1.50-ORB2 | 1.500              | 1.575 |
| DB-2.00-ORB2 | 2.000              | 1.575 |
| DB-2.25-ORB2 | 2.250              | 1.575 |
| DB-50MM-ORB2 | 50MM               | 1.575 |

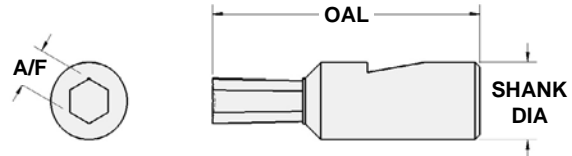
Standard from stock HSS broaches shown on pages 12 - 14. Broach gages available 16.

ALL BROACH HEAD DIMENSIONS SAME AS ORB2/... AND ORBX2/... AS SHOWN ON PAGES 10 & 18.

| INCH / Hex, for ORB00/...Holders               |             |                    |              |
|--|-------------|--------------------|--------------|
| 8MM (.315) Shank Diameter x 1-1/4" (1.250) OAL |             |                    |              |
| Nominal Hex Size                               | Actual A/F* | Max Cutting Depth* | Part Number  |
| .050   | .0505       | .107               | HX00-050-F   |
| 1/16   | .0630       | .133               | HX00-1/16-F  |
| 5/64   | .0786       | .166               | HX00-5/64-F  |
| 3/32   | .0947       | .199               | HX00-3/32-F  |
| 7/64   | .1106       | .233               | HX00-7/64-F  |
| 1/8  | .1265       | .266               | HX00-1/8-F   |
| 9/64   | .1421       | .299               | HX00-9/64-F  |
| 5/32   | .1582       | .333               | HX00-5/32-F  |
| 3/16   | .1895       | .398               | HX00-3/16-F  |
| 7/32   | .2212       | .465               | HX00-7/32-F  |
| 1/4  | .2525       | .531               | HX00-1/4-F   |
| 9/32   | .2837       | .596               | HX00-9/32-F  |
| 5/16   | .3152       | .621               | HX00-5/16-F  |
| 11/32  | .3467       | .656               | HX00-11/32-F |
| 3/8  | .3782       |                    | HX00-3/8-F   |
| 13/32  | .4097       |                    | HX00-13/32-F |
| 7/16   | .4412       |                    | HX00-7/16-F  |
| 15/32  | .4727       |                    | HX00-15/32-F |
| 1/2  | .5042       |                    | HX00-1/2-F   |



| METRIC / Hex, for ORB00/...Holders             |             |                    |             |
|--|-------------|--------------------|-------------|
| 8MM (.315) Shank Diameter x 1-1/4" (1.250) OAL |             |                    |             |
| Nominal Hex Size                               | Actual A/F* | Max Cutting Depth* | Part Number |
| 1.5MM  | .0603       | .127               | HX00-1.5-F  |
| 2.0MM  | .0800       | .169               | HX00-2.0-F  |
| 2.5MM  | .1002       | .211               | HX00-2.5-F  |
| 3.0MM  | .1204       | .253               | HX00-3.0-F  |
| 4.0MM  | .1602       | .337               | HX00-4.0-F  |
| 5.0MM  | .1997       | .420               | HX00-5.0-F  |
| 6.0MM  | .2395       | .503               | HX00-6.0-F  |
| 7.0MM  | .2789       | .586               | HX00-7.0-F  |
| 8.0MM  | .3187       | .623               | HX00-8.0-F  |
| 9.0MM  | .3583       | .656               | HX00-9.0-F  |
| 10.0MM   | .3979       |                    | HX00-10.0-F |
| 11.0MM   | .4376       |                    | HX00-11.0-F |
| 12.0MM   | .4774       |                    | HX00-12.0-F |



Available in T15PM H.S.S.  
(Prices on application)

- \* Superior, Hardened FORTE material
- \* Precision ground
- \* Angular clamping flat prevents pull out
- \* Fit all brands of Rotating Broach Tools

| INCH / Hex, for ORB2/...Holders                 |             |                    |             |
|---|-------------|--------------------|-------------|
| 1/2" (.500) Shank Diameter x 1-3/4" (1.750) OAL |             |                    |             |
| Nominal Hex Size                                | Actual A/F* | Max Cutting Depth* | Part Number |
| 3/32  | .0947       | .199               | HX2-3/32-F  |
| 7/64  | .1106       | .233               | HX2-7/64-F  |
| 1/8   | .1265       | .266               | HX2-1/8-F   |
| 9/64  | .1421       | .299               | HX2-9/64-F  |
| 5/32  | .1582       | .333               | HX2-5/32-F  |
| 3/16  | .1895       | .398               | HX2-3/16-F  |
| 7/32  | .2212       | .465               | HX2-7/32-F  |
| 1/4   | .2525       | .531               | HX2-1/4-F   |
| 9/32  | .2837       | .596               | HX2-9/32-F  |
| 5/16  | .3152       | .662               | HX2-5/16-F  |
| 11/32   | .3467       | .729               | HX2-11/32-F |
| 3/8   | .3782       | .794               | HX2-3/8-F   |
| 13/32   | .4097       | .860               | HX2-13/32-F |
| 7/16  | .4412       | .875               | HX2-7/16-F  |
| 15/32   | .4727       | .890               | HX2-15/32-F |
| 1/2   | .5042       | .906               | HX2-1/2-F   |
| 17/32   | .5357       | .924               | HX2-17/32-F |
| 9/16  | .5672       | 0.969              | HX2-9/16-F  |
| 19/32   | .5987       |                    | HX2-19/32-F |
| 5/8   | .6302       |                    | HX2-5/8-F   |
| 21/32   | .6617       |                    | HX2-21/32-F |
| 11/16   | .6932       |                    | HX2-11/16-F |
| 23/32   | .7237       |                    | HX2-23/32-F |
| 3/4   | .7562       |                    | HX2-3/4-F   |



| METRIC / Hex, for ORB2/...Holders               |             |                    |             |
|---|-------------|--------------------|-------------|
| 1/2" (.500) Shank Diameter x 1-3/4" (1.750) OAL |             |                    |             |
| Nominal Hex Size                                | Actual A/F* | Max Cutting Depth* | Part Number |
| 2.0MM   | .0800       | .169               | HX2-2.0-F   |
| 2.5MM   | .1002       | .211               | HX2-2.5-F   |
| 3.0MM   | .1204       | .253               | HX2-3.0-F   |
| 4.0MM   | .1602       | .337               | HX2-4.0-F   |
| 5.0MM   | .1997       | .420               | HX2-5.0-F   |
| 6.0MM   | .2395       | .503               | HX2-6.0-F   |
| 7.0MM   | .2798       | .588               | HX2-7.0-F   |
| 8.0MM   | .3187       | .670               | HX2-8.0-F   |
| 9.0MM   | .3583       | .752               | HX2-9.0-F   |
| 10.0MM  | .3979       | .836               | HX2-10.0-F  |
| 11.0MM  | .4376       | .873               | HX2-11.0-F  |
| 12.0MM  | .4774       | .893               | HX2-12.0-F  |
| 13.0MM  | .5170       | .912               | HX2-13.0-F  |
| 14.0MM  | .5566       | .969               | HX2-14.0-F  |
| 15.0MM  | .5968       |                    | HX2-15.0-F  |
| 16.0MM  | .6369       |                    | HX2-16.0-F  |
| 17.0MM  | .6770       |                    | HX2-17.0-F  |
| 18.0MM  | .7169       |                    | HX2-18.0-F  |
| 19.0MM  | .7568       |                    | HX2-19.0-F  |

Hexagon go / no-go gages (with handle) are available upon request.

See page 16 for Broach Centering Gages.

- \* Custom lengths, A/F, & Depths of Cut available to quote upon request

| INCH / Square, for ORB00/...Holders<br>8MM (.315) Shank Diameter x 1-1/4" (1.250) OAL |             |                    |              |
|---|-------------|--------------------|--------------|
| Nominal Square Size   | Actual A/F* | Max Cutting Depth* | Part Number  |
| 1/16  | .0630       | .133               | SQ00-1/16-F  |
| 5/64  | .0786       | .166               | SQ00-5/64-F  |
| 3/32  | .0947       | .199               | SQ00-3/32-F  |
| 7/64  | .1106       | .233               | SQ00-7/64-F  |
| 1/8   | .1265       | .266               | SQ00-1/8-F   |
| 9/64  | .1421       | .299               | SQ00-9/64-F  |
| 5/32  | .1582       | .333               | SQ00-5/32-F  |
| 11/64   | .1739       | .366               | SQ00-11/64-F |
| 3/16  | .1895       | .398               | SQ00-3/16-F  |
| 7/32  | .2209       | .465               | SQ00-7/32-F  |
| 1/4   | .2522       | .531               | SQ00-1/4-F   |
| 9/32  | .2837       | .596               | SQ00-9/32-F  |
| 5/16  | .3152       | .621               | SQ00-5/16-F  |
| 11/32   | .3467       | .656               | SQ00-11/32-F |
| 3/8   | .3782       |                    | SQ00-3/8-F   |
| 13/32   | .4097       |                    | SQ00-13/32-F |

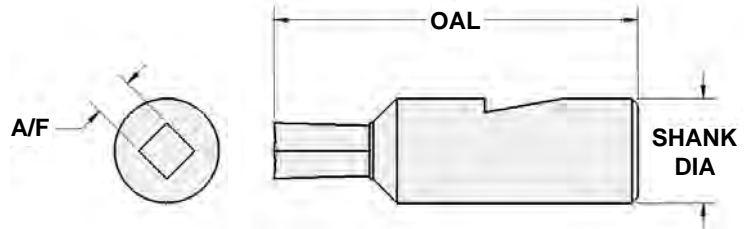
- \* Superior, Hardened FORTE material
- \* Precision ground
- \* Angular clamping flat prevents pull out
- \* Fit all brands of Rotating Broach Tools

| INCH / Square, for ORB2/...Holders<br>1/2" (.500) Shank Diameter x 1-3/4" (1.750) OAL |             |                    |             |
|---|-------------|--------------------|-------------|
| Nominal Square Size   | Actual A/F* | Max Cutting Depth* | Part Number |
| 3/32  | .0947       | .199               | SQ2-3/32-F  |
| 7/64  | .1106       | .233               | SQ2-7/64-F  |
| 1/8   | .1265       | .266               | SQ2-1/8-F   |
| 9/64  | .1421       | .299               | SQ2-9/64-F  |
| 5/32  | .1582       | .333               | SQ2-5/32-F  |
| 3/16  | .1895       | .398               | SQ2-3/16-F  |
| 7/32  | .2209       | .465               | SQ2-7/32-F  |
| 1/4   | .2522       | .531               | SQ2-1/4-F   |
| 9/32  | .2837       | .596               | SQ2-9/32-F  |
| 5/16  | .3152       | .662               | SQ2-5/16-F  |
| 11/32   | .3467       | .729               | SQ2-11/32-F |
| 3/8   | .3782       | .794               | SQ2-3/8-F   |
| 13/32   | .4097       | .860               | SQ2-13/32-F |
| 7/16  | .4412       | .875               | SQ2-7/16-F  |
| 1/2   | .5042       | .906               | SQ2-1/2-F   |
| 17/32   | .5357       | .924               | SQ2-17/32-F |
| 9/16  | .5672       | .969               | SQ2-9/16-F  |
| 19/32   | .5987       |                    | SQ2-19/32-F |
| 5/8   | .6302       |                    | SQ2-5/8-F   |
| 11/16   | .6932       |                    | SQ2-11/16-F |

Available in T15PM H.S.S.  
(Prices on application)

\* Custom Lengths, A/F, & Depths of Cut are available to quote upon request

| METRIC / Square, for ORB00/...Holders<br>8MM (.315) Shank Diameter x 1-1/4" (1.250) OAL |             |                    |             |
|---|-------------|--------------------|-------------|
| Nominal Square Size   | Actual A/F* | Max Cutting Depth* | Part Number |
| 1.5MM   | .0603       | .127               | SQ00-1.5-F  |
| 2.0MM   | .0800       | .169               | SQ00-2.0-F  |
| 2.5MM   | .1002       | .211               | SQ00-2.5-F  |
| 3.0MM   | .1204       | .253               | SQ00-3.0-F  |
| 4.0MM   | .1602       | .337               | SQ00-4.0-F  |
| 5.0MM   | .1997       | .420               | SQ00-5.0-F  |
| 6.0MM   | .2392       | .503               | SQ00-6.0-F  |
| 7.0MM   | .2789       | .586               | SQ00-7.0-F  |
| 8.0MM   | .3187       | .623               | SQ00-8.0-F  |
| 9.0MM   | .3583       | .656               | SQ00-9.0-F  |
| 10.0MM  | .3979       |                    | SQ00-10.0-F |



| METRIC / Square, for ORB2/...Holders<br>1/2" (.500) Shank Diameter x 1-3/4" (1.750) OAL |             |                    |             |
|---|-------------|--------------------|-------------|
| Nominal Square Size   | Actual A/F* | Max Cutting Depth* | Part Number |
| 2.0MM   | .0800       | .169               | SQ2-2.0-F   |
| 2.5MM   | .1002       | .211               | SQ2-2.5-F   |
| 3.0MM   | .1204       | .253               | SQ2-3.0-F   |
| 4.0MM   | .1602       | .337               | SQ2-4.0-F   |
| 5.0MM   | .1997       | .420               | SQ2-5.0-F   |
| 6.0MM   | .2392       | .503               | SQ2-6.0-F   |
| 7.0MM   | .2798       | .588               | SQ2-7.0-F   |
| 8.0MM   | .3187       | .670               | SQ2-8.0-F   |
| 9.0MM   | .3583       | .752               | SQ2-9.0-F   |
| 10.0MM  | .3979       | .836               | SQ2-10.0-F  |
| 11.0MM  | .4376       | .873               | SQ2-11.0-F  |
| 12.0MM  | .4774       | .893               | SQ2-12.0-F  |
| 13.0MM  | .5170       | .912               | SQ2-13.0-F  |
| 14.0MM  | .5566       | .969               | SQ2-14.0-F  |
| 15.0MM  | .5968       |                    | SQ2-15.0-F  |
| 16.0MM  | .6369       |                    | SQ2-16.0-F  |



See page 16 for  
Broach Centering  
Gages.

| 6 Lobed for ORB00/...Holders |                    |             |
|------------------------------|--------------------|-------------|
| 8MM Shank Diameter x 1-1/4"  |                    |             |
| Nominal 6-Lobe Size          | Max Cutting Depth* | Part Number |
| T5                           | .047               | TO00-T5     |
| T6                           |                    | TO00-T6     |
| T7                           | .063               | TO00-T7     |
| T8                           | .078               | TO00-T8     |
| T9                           | .078               | TO00-T9     |
| T10                          | .109               | TO00-T10    |
| T15                          | .109               | TO00-T15    |
| T20                          | .156               | TO00-T20    |
| T25                          |                    | TO00-T25    |
| T27                          | .188               | TO00-T27    |
| T30                          | .219               | TO00-T30    |
| T40                          | .250               | TO00-T40    |
| T45                          | .313               | TO00-T45    |
| T50                          | .344               | TO00-T50    |
| T55                          |                    | TO00-T55    |



- \* Superior, Hardened **FORTE** material
- \* Precision ground
- \* Angular clamping flat prevents pull out
- \* Fit all Rotating Broach Tools

| 6 Lobed for ORB2/...Holders  |                    |             |
|------------------------------|--------------------|-------------|
| 1/2" Shank Diameter x 1-3/4" |                    |             |
| Nominal 6-Lobe Size          | Max Cutting Depth* | Part Number |
| T5                           | .047               | TO2-T5      |
| T6                           |                    | TO2-T6      |
| T7                           | .063               | TO2-T7      |
| T8                           | .075               | TO2-T8      |
| T9                           | .078               | TO2-T9      |
| T10                          | .109               | TO2-T10     |
| T15                          |                    | TO2-T15     |
| T20                          | .156               | TO2-T20     |
| T25                          |                    | TO2-T25     |
| T27                          | .188               | TO2-T27     |
| T30                          | .219               | TO2-T30     |
| T40                          | .250               | TO2-T40     |
| T50                          | .344               | TO2-T50     |
| T55                          |                    | TO2-T55     |
| T60                          | .469               | TO2-T60     |
| T70                          |                    | TO2-T70     |
| T90                          | .969               | TO2-T90     |
| T100                         |                    | TO2-T100    |

Broach gages available - see page 16.

\* Custom Lengths & Depths of Cut available to quote upon request

| INCH / Double Hex, for ORB00/...Holders        |             |                    |             |
|--|-------------|--------------------|-------------|
| 8MM (.315) Shank Diameter x 1-1/4" (1.250) OAL |             |                    |             |
| DOUBLE HEX SIZE                                | Actual A/F* | Max Cutting Depth* | Part Number |
| 1/4  | .2525       | .289               | DHX00-1/4   |
| 9/32   | .2840       | .367               | DHX00-9/32  |
| 5/16   | .3155       | .434               | DHX00-5/16  |
| 11/32  | .3467       | .629               | DHX00-11/32 |
| 3/8  | .3785       |                    | DHX00-3/8   |
| 13/32  | .4097       | .688               | DHX00-13/32 |
| 7/16   | .4415       |                    | DHX00-7/16  |
| 15/32  | .4725       |                    | DHX00-15/32 |
| 1/2  | .5045       |                    | DHX00-1/2   |

| METRIC / Double Hex, for ORB00/...Holders      |             |                    |             |
|--|-------------|--------------------|-------------|
| 8MM (.315) Shank Diameter x 1-1/4" (1.250) OAL |             |                    |             |
| DOUBLE HEX SIZE                                | Actual A/F* | Max Cutting Depth* | Part Number |
| 6.0MM  | .2395       | .133               | DHX00-6.0   |
| 7.0MM  | .2785       | .352               | DHX00-7.0   |
| 8.0MM  | .3185       | .499               | DHX00-8.0   |
| 9.0MM  | .3575       | .688               | DHX00-9.0   |
| 10.0MM   | .3985       |                    | DHX00-10.0  |
| 11.0MM   | .4365       |                    | DHX00-11.0  |
| 12.0MM   | .4775       |                    | DHX00-12.0  |

| INCH / Double Hex, for ORB2/...Holders          |             |                    |             |
|---|-------------|--------------------|-------------|
| 1/2" (.500) Shank Diameter x 1-3/4" (1.750) OAL |             |                    |             |
| DOUBLE HEX SIZE                                 | Actual A/F* | Max Cutting Depth* | Part Number |
| 1/4   | .2525       | .320               | DHX2-1/4    |
| 9/32  | .2840       | .356               | DHX2-9/32   |
| 5/16  | .3155       | .381               | DHX2-5/16   |
| 11/32   | .3467       | .438               | DHX2-11/32  |
| 3/8   | .3785       | .486               | DHX2-3/8    |
| 13/32   | .4097       | .539               | DHX2-13/32  |
| 7/16  | .4415       | .602               | DHX2-7/16   |
| 15/32   | .4725       | .678               | DHX2-15/32  |
| 1/2   | .5045       | .946               | DHX2-1/2    |
| 17/32   | .5357       |                    | DHX2-17/32  |
| 9/16  | .5675       |                    | DHX2-9/16   |
| 19/32   | .5987       |                    | DHX2-19/32  |
| 5/8   | .6305       |                    | DHX2-5/8    |
| 21/32   | .6617       |                    | DHX2-21/32  |
| 11/16   | .6935       |                    | DHX2-11/16  |
| 23/32   | .7242       |                    | DHX2-23/32  |
| 3/4   | .7565       |                    | DHX2-3/4    |

| METRIC / Double Hex, for ORB2/...Holders        |             |                    |             |
|---|-------------|--------------------|-------------|
| 1/2" (.500) Shank Diameter x 1-3/4" (1.750) OAL |             |                    |             |
| DOUBLE HEX SIZE                                 | Actual A/F* | Max Cutting Depth* | Part Number |
| 6MM   | .2395       | .305               | DHX2-6.0    |
| 7MM   | .2785       | .349               | DHX2-7.0    |
| 8MM   | .3195       | .399               | DHX2-8.0    |
| 9MM   | .3575       | .454               | DHX2-9.0    |
| 10MM  | .3985       | .520               | DHX2-10.0   |
| 11MM  | .4365       | .592               | DHX2-11.0   |
| 12MM  | .4775       | .693               | DHX2-12.0   |

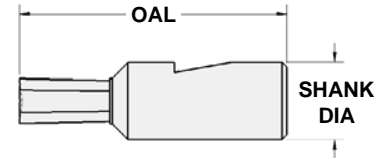
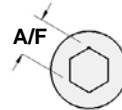
- \* Superior, Hardened **FORTE** material
- \* Precision ground
- \* Angular clamping flat prevents pull out
- \* Fit all brands of Rotating Broach Tools

| INCH / Hex, for ORBHD/...Holders                |             |                    |              |
|---|-------------|--------------------|--------------|
| 3/4" (.750) Shank Diameter x 2-3/4" (2.750) OAL |             |                    |              |
| Nominal Hex Size                                | Actual A/F* | Max Cutting Depth* | Part Number  |
| 1/4   | .2525       | .531               | HXHD-1/4-F   |
| 9/32  | .2837       | .596               | HXHD-9/32-F  |
| 5/16  | .3152       | .662               | HXHD-5/16-F  |
| 11/32   | .3467       | .729               | HXHD-11/32-F |
| 3/8   | .3782       | .794               | HXHD-3/8-F   |
| 13/32   | .4097       | .860               | HXHD-13/32-F |
| 7/16  | .4412       | .927               | HXHD-7/16-F  |
| 15/32   | .4727       | .993               | HXHD-15/32-F |
| 1/2   | .5042       | 1.059              | HXHD-1/2-F   |
| 17/32   | .5357       | 1.125              | HXHD-17/32-F |
| 9/16  | .5672       | 1.191              | HXHD-9/16-F  |
| 19/32   | .5987       | 1.257              | HXHD-19/32-F |
| 5/8   | .6302       | 1.323              | HXHD-5/8-F   |
| 21/32   | .6617       | 1.338              | HXHD-21/32-F |
| 11/16   | .6932       | 1.354              | HXHD-11/16-F |
| 23/32   | .7237       | 1.369              | HXHD-23/32-F |
| 3/4   | .7562       | 1.385              | HXHD-3/4-F   |
| 25/32   | .7882       | 1.400              | HXHD-25/32-F |
| 13/16   | .8202       | 1.469              | HXHD-13/16-F |
| 27/32   | .8522       |                    | HXHD-27/32-F |
| 7/8   | .8842       |                    | HXHD-7/8-F   |
| 29/32   | .9180       |                    | HXHD-29/32-F |
| 15/16   | .9517       |                    | HXHD-15/16-F |
| 31/32   | .9855       |                    | HXHD-31/32-F |
| 1"  | 1.0192      |                    | HXHD-1-F     |



- \* Superior, Hardened **FORTE** material
- \* Precision ground
- \* Angular clamping flat prevents pull out
- \* Fit all 3/4" I.D. Rotating Broach Tools

| METRIC / Hex, for ORBHD/...Holders              |             |                    |             |
|---|-------------|--------------------|-------------|
| 3/4" (.750) Shank Diameter x 2-3/4" (2.750) OAL |             |                    |             |
| Nominal Hex Size                                | Actual A/F* | Max Cutting Depth* | Part Number |
| 6.0MM   | .2395       | .503               | HXHD-6.0-F  |
| 7.0MM   | .2798       | .588               | HXHD-7.0-F  |
| 8.0MM   | .3187       | .670               | HXHD-8.0-F  |
| 9.0MM   | .3583       | .752               | HXHD-9.0-F  |
| 10.0MM  | .3979       | .836               | HXHD-10.0-F |
| 11.0MM  | .4376       | .919               | HXHD-11.0-F |
| 12.0MM  | .4774       | 1.003              | HXHD-12.0-F |
| 13.0MM  | .5170       | 1.086              | HXHD-13.0-F |
| 14.0MM  | .5566       | 1.169              | HXHD-14.0-F |
| 15.0MM  | .5968       | 1.254              | HXHD-15.0-F |
| 16.0MM  | .6369       | 1.338              | HXHD-16.0-F |
| 17.0MM  | .6770       | 1.346              | HXHD-17.0-F |
| 18.0MM  | .7169       | 1.366              | HXHD-18.0-F |
| 19.0MM  | .7568       | 1.385              | HXHD-19.0-F |
| 20.0MM  | .7972       | 1.405              | HXHD-20.0-F |
| 21.0MM  | .8375       | 1.469              | HXHD-21.0-F |
| 22.0MM  | .8779       |                    | HXHD-22.0-F |
| 23.0MM  | .9173       |                    | HXHD-23.0-F |
| 24.0MM  | .9566       |                    | HXHD-24.0-F |
| 25.0MM  | .9960       |                    | HXHD-25.0-F |
| 26.0MM  | 1.0354      |                    | HXHD-26.0-F |



Hexagon go / no-go gages (with handle) are available upon request.  
See page 16 for Broach Centering Gages.

| INCH / Square, for ORBHD/...Holders             |             |                    |              |
|---|-------------|--------------------|--------------|
| 3/4" (.750) Shank Diameter x 2-3/4" (2.750) OAL |             |                    |              |
| Nominal Square Size                             | Actual A/F* | Max Cutting Depth* | Part Number  |
| 9/32  | .2837       | .596               | SQHD-9/32-F  |
| 5/16  | .3152       | .662               | SQHD-5/16-F  |
| 11/32   | .3467       | .729               | SQHD-11/32-F |
| 3/8   | .3782       | .794               | SQHD-3/8-F   |
| 13/32   | .4097       | .860               | SQHD-13/32-F |
| 7/16  | .4412       | .927               | SQHD-7/16-F  |
| 15/32   | .4727       | .993               | SQHD-15/32-F |
| 1/2   | .5042       | 1.059              | SQHD-1/2-F   |
| 17/32   | .5357       | 1.125              | SQHD-17/32-F |
| 9/16  | .5672       | 1.191              | SQHD-9/16-F  |
| 19/32   | .5987       | 1.257              | SQHD-19/32-F |
| 5/8   | .6302       | 1.323              | SQHD-5/8-F   |
| 21/32   | .6617       | 1.338              | SQHD-21/32-F |
| 11/16   | .6932       | 1.354              | SQHD-11/16-F |
| 23/32   | .7237       | 1.369              | SQHD-23/32-F |
| 3/4   | .7562       | 1.385              | SQHD-3/4-F   |
| 25/32   | .7882       | 1.400              | SQHD-25/32-F |
| 13/16   | .8202       | 1.469              | SQHD-13/16-F |

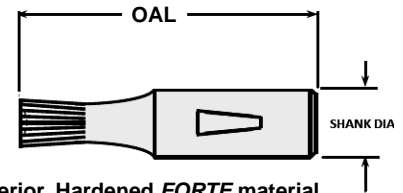
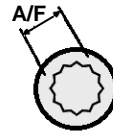
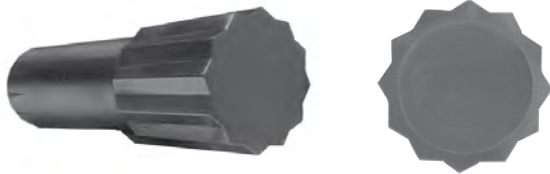


| METRIC / Square, for ORBHD/...Holders           |             |                    |             |
|---|-------------|--------------------|-------------|
| 3/4" (.750) Shank Diameter x 2-3/4" (2.750) OAL |             |                    |             |
| Nominal Square Size                             | Actual A/F* | Max Cutting Depth* | Part Number |
| 6.0MM   | .2392       | .503               | SQHD-6.0-F  |
| 7.0MM   | .2798       | .588               | SQHD-7.0-F  |
| 8.0MM   | .3187       | .670               | SQHD-8.0-F  |
| 9.0MM   | .3583       | .752               | SQHD-9.0-F  |
| 10.0MM  | .3979       | .836               | SQHD-10.0-F |
| 11.0MM  | .4376       | .919               | SQHD-11.0-F |
| 12.0MM  | .4774       | 1.003              | SQHD-12.0-F |
| 13.0MM  | .5170       | 1.086              | SQHD-13.0-F |
| 14.0MM  | .5566       | 1.169              | SQHD-14.0-F |
| 15.0MM  | .5968       | 1.253              | SQHD-15.0-F |
| 16.0MM  | .6369       | 1.326              | SQHD-16.0-F |
| 17.0MM  | .6770       | 1.346              | SQHD-17.0-F |
| 18.0MM  | .7169       | 1.366              | SQHD-18.0-F |
| 19.0MM  | .7568       | 1.385              | SQHD-19.0-F |
| 20.0MM  | .7972       | 1.405              | SQHD-20.0-F |

Available in T15PM H.S.S. (Prices on application)  
\*Custom Lengths, A/F, & Depths of Cut are available to quote upon request

| INCH /Double Hex, for ORBHD/...Holders          |             |                    |               |
|---|-------------|--------------------|---------------|
| 3/4" (.750) Shank Diameter x 2-3/4" (2.750) OAL |             |                    |               |
| DOUBLE HEX SIZE                                 | Actual A/F* | Max Cutting Depth* | Part Number   |
| 13/32   | .4097       | .700               | DHXHD-13/32   |
| 7/16  | .4415       | .730               | DHXHD-7/16    |
| 15/32   | .4725       | .761               | DHXHD-15/32   |
| 1/2   | .5045       | .796               | DHXHD-1/2     |
| 17/32   | .5357       | .831               | DHXHD-17/32   |
| 9/16  | .5675       | .872               | DHXHD-9/16    |
| 19/32   | .5987       | .912               | DHXHD-19/32   |
| 5/8   | .6305       | .959               | DHXHD-5/8     |
| 21/32   | .6617       | 1.011              | DHXHD-21/32-F |
| 11/16   | .6935       | 1.071              | DHXHD-11/16-F |
| 23/32   | .7242       | 1.438              | DHXHD-23/32-F |
| 3/4   | .7565       |                    | DHXHD-3/4-F   |
| 25/32   | .7877       |                    | DHXHD-25/32-F |
| 13/16   | .8195       |                    | DHXHD-13/16-F |
| 27/32   | .8512       |                    | DHXHD-27/32-F |
| 7/8   | .8845       |                    | DHXHD-7/8-F   |
| 29/32   | .9157       |                    | DHXHD-29/32-F |
| 15/16   | .9470       |                    | DHXHD-15/16-F |
| 31/32   | .9781       |                    | DHXHD-31/32-F |
| 1"  | 1.0095      |                    | DHXHD-1-F     |

| METRIC /Double Hex, for ORBHD/...Holders        |             |                    |             |
|---|-------------|--------------------|-------------|
| 3/4" (.750) Shank Diameter x 2-3/4" (2.750) OAL |             |                    |             |
| DOUBLE HEX SIZE                                 | Actual A/F* | Max Cutting Depth* | Part Number |
| 10.0MM  | .3985       | .689               | DHXHD-10.0  |
| 11.0MM  | .4365       | .725               | DHXHD-11.0  |
| 12.0MM  | .4775       | .766               | DHXHD-12.0  |
| 13.0MM  | .5165       | .809               | DHXHD-13.0  |
| 14.0MM  | .5565       | .857               | DHXHD-14.0  |
| 15.0MM  | .5965       | .909               | DHXHD-15.0  |
| 16.0MM  | .6355       | .967               | DHXHD-16.0  |
| 17.0MM  | .6775       | 1.039              | DHXHD-17.0  |
| 18.0MM  | .7145       | 1.118              | DHXHD-18.0  |
| 19.0MM  | .7575       | 1.247              | DHXHD-19.0  |
| 20.0MM  | .7945       | 1.438              | DHXHD-20.0  |
| 21.0MM  | .8355       |                    | DHXHD-21.0  |
| 22.0MM  | .8785       |                    | DHXHD-22.0  |
| 23.0MM  | .9155       |                    | DHXHD-23.0  |
| 24.0MM  | .9565       |                    | DHXHD-24.0  |
| 25.0MM  | .9935       |                    | DHXHD-25.0  |
| 26.0MM  | 1.0335      |                    | DHXHD-26.0  |



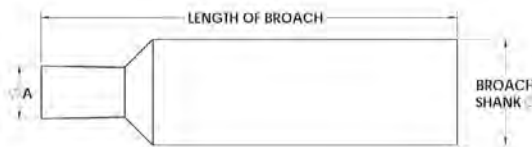
- \* Superior, Hardened FORTE material
- \* Precision ground
- \* Angular clamping flat prevents pull out
- \* Fit all brands of Rotating Broach Tools

### INTERNAL ROTARY BROACH SETUP TOOL GAGE

Using this gage will allow you to center your broach tool in minutes.

To order:

Match the broach **shank diameter** and **broach length** of the broach currently using with the corresponding catalog number shown in the chart.



| BROACH SHANK O.D. | LENGTH OF BROACH | CAT. NO.   | A    |
|-------------------|------------------|------------|------|
| .315 (8MM)        | 28MM (1.103")    | CPSW-1.103 | .156 |
| .315 (8MM)        | 1-1/4"           | CP00-1.25  | .156 |
| .315 (8MM)        | 1-1/2"           | CP00-1.50  | .156 |
| .315 (8MM)        | 2"               | CP00-2.00  | .156 |
| .500              | 1-1/2"           | CP2-1.50   | .250 |
| .500              | 1-3/4"           | CP2-1.75   | .250 |
| .500              | 2"               | CP2-2.00   | .250 |
| .500              | 2-1/4"           | CP2-2.25   | .250 |
| .500              | 2-1/2"           | CP2-2.50   | .250 |
| .500              | 2-3/4"           | CP2-2.75   | .250 |
| .500              | 3"               | CP2-3.00   | .250 |
| .750              | 2-1/2"           | CPHD-2.50  | .250 |
| .750              | 2-3/4"           | CPHD-2.75  | .250 |

### GO / NO-GO GAGES with Handle



Custom made to your specifications or choose from Somma standard sizes shown

| PART NUMBER       | FOR CHECKING HEX SIZE | PART NUMBER       | FOR CHECKING HEX SIZE |
|-------------------|-----------------------|-------------------|-----------------------|
| HEX GAGE SET-050  | 0.0500 / 0.0510       | HEX GAGE SET-7/32 | 0.2187 / 0.2217       |
| HEX GAGE SET-1/16 | 0.0625 / 0.0635       | HEX GAGE SET-1/4  | 0.2500 / 0.2530       |
| HEX GAGE SET-5/64 | 0.0781 / 0.0791       | HEX GAGE SET-5/16 | 0.3125 / 0.3160       |
| HEX GAGE SET-3/32 | 0.0937 / 0.0952       | HEX GAGE SET-3/8  | 0.3750 / 0.3790       |
| HEX GAGE SET-7/64 | 0.1094 / 0.1111       | HEX GAGE SET-7/16 | 0.4375 / 0.4420       |
| HEX GAGE SET-1/8  | 0.1250 / 0.1270       | HEX GAGE SET-1/2  | 0.5000 / 0.5050       |
| HEX GAGE SET-9/64 | 0.1406 / 0.1426       | HEX GAGE SET-9/16 | 0.5625 / 0.5680       |
| HEX GAGE SET-5/32 | 0.1562 / 0.1587       | HEX GAGE SET-5/8  | 0.6250 / 0.6310       |
| HEX GAGE SET-3/16 | 0.1875 / 0.1900       | HEX GAGE SET-3/4  | 0.7500 / 0.7570       |

#### TORX STYLE PART NUMBER

- T5 GAGE SET
- T6 GAGE SET
- T7 GAGE SET
- T8 GAGE SET
- T10 GAGE SET
- T15 GAGE SET
- T20 GAGE SET
- T30 GAGE SET
- T40 GAGE SET
- T45 GAGE SET
- T50 GAGE SET
- T55 GAGE SET

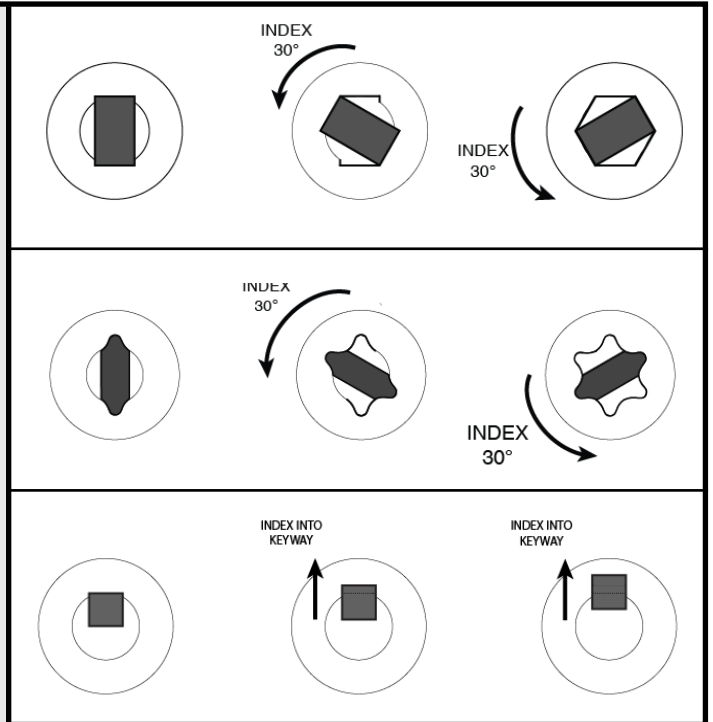


Index punch broaching is typically used on CNC machining centers for applications:

- Where the machine cannot generate enough thrust to form the entire shape desired.
- With more stringent requirements on the straightness of the form than can be achieved with rotary broaching.

The process involves punching a partial form in a prepared hole and indexing the spindle the required number of times to produce the finished form.

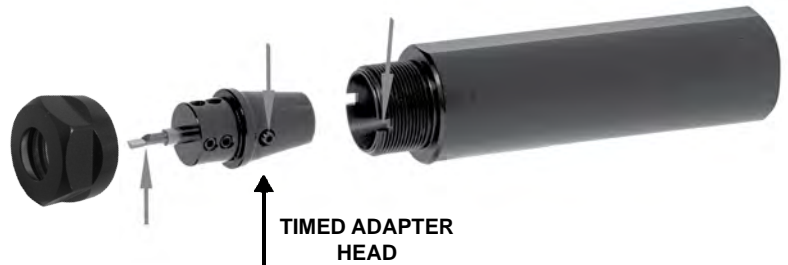
All Indexing broaches are made to order from superior Forte material to suit your application. Email [Sales@sommatool.com](mailto:Sales@sommatool.com) for a quote



| INDEX PUNCH BROACHING<br>ER16 SERIES SHANKS<br>(Collet nut not included) |        |             |
|--|--------|-------------|
| SHANK DIA  | OAL    | SHANK PART# |
| 1/2"   | 4-1/2" | SS050BTER16 |
| 5/8"   | 4-1/2" | SS062BTER16 |
| 3/4"   | 4-1/2" | SS075BTER16 |
| 1"   | 3"     | SS100BTER16 |
| 1"   | 4-1/2" | SS100BTER16 |
| 16MM   | 4-1/2" | SS16BTER16  |
| 20MM   | 71MM   | SS20BTER16  |
| 20MM   | 114MM  | SS20BTER16  |
| 22MM   | 118MM  | SS22BTER16  |
| 25MM   | 60MM   | SS25BTER16  |
| 25MM   | 95MM   | SS25BTER16  |

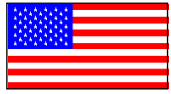
| INDEX PUNCH BROACHING SHANKS<br>ER32 SERIES SHANKS<br>(Collet nut not included) |        |             |
|---|--------|-------------|
| SHANK DIA   | OAL    | SHANK PART# |
| 1"  | 4-1/2" | SS100BTER32 |
| 1-1/4"  | 4-1/2" | SS125BTER32 |
| 1-1/2"  | 6"     | SS150BTER32 |
| 2"  | 6"     | SS200BTER32 |
| 32MM  | 4-1/2" | SS32BTER32  |

## Indexing Punch Broach Holders & Timed Adapter Heads

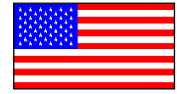


ADAPTER HEADS ARE PERFECTLY CENTERED DUE TO 90° TIMING OF THE FLAT ON THE SHANK OF THE TOOLHOLDER TO THE I.D. NOTCHES ON THE FRONT OF THE TOOLHOLDER AND THE SAME TIMING OF THE PINS ON THE ADAPTER HEADS TO THE SCREWS HOLDING THE BROACH TOOL.

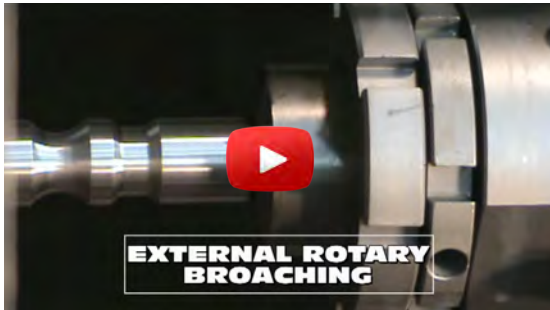
| HEADS FOR INDEX PUNCH BROACHING<br>(COLLET NUT INCLUDED) |      |          |            |
|--|------|----------|------------|
| SERIES   | I.D. | NUT O.D. | PART#      |
| ER16   | 8MM  | 25MM     | ER16BT8MM  |
| ER16   | 1/2" | 25MM     | ER16BT0500 |
| ER32   | 8MM  | 50MM     | ER32BT8MM  |
| ER32   | 1/2" | 50MM     | ER32BT0500 |



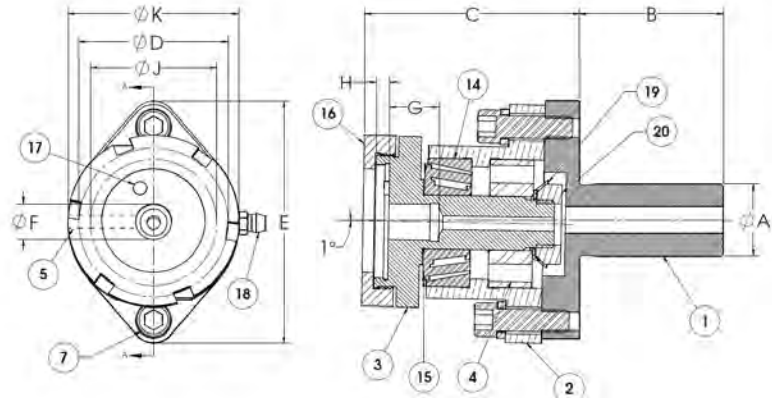
# EXTERNAL ROTARY BROACHING



The process of forming an external shape on the turned O.D. of a part. This tool is used on all types of machines to produce hundreds of items. These include hex and square drivers, faucet splines, involute gears and knurled parts to name a few. Adjustable to compensate for machine misalignment.



View our broaching videos on YouTube!



### EXTERNAL ADJUSTABLE ROTATING BROACH TOOL HOLDER

| Catalog Number | A      | B      | C        | D      | E        | F     | G      | H     | J      | K      |
|----------------|--------|--------|----------|--------|----------|-------|--------|-------|--------|--------|
| ORB00/0.625    | 5/8"   | 1-1/2" | 2-1/32"  |        |          | 3/8"  | .300   |       |        |        |
| ORB00/0.750    | 3/4"   | 2"     | 2-1/2"   |        |          | 1/2"  | 11/16" |       |        |        |
| ORB00/16MM     | 16MM   |        |          | 1-1/2" | 2-7/16"  |       |        | 3/16" | 24MM   | 1-5/8" |
| ORB00/20MM     | 20MM   | 1-1/2" | 2-1/32"  |        |          | 3/8"  | .300   |       |        |        |
| ORB00/22MM     | 22MM   |        |          |        |          |       |        |       |        |        |
| ORB2/0.750     | 3/4"   | 2"     |          |        |          |       |        |       |        |        |
| ORB2/1.000     | 1"     |        |          |        |          |       |        |       |        |        |
| ORB2/1.250     | 1-1/4" | 3"     |          |        |          |       |        |       |        |        |
| ORB2/1.500     | 1-1/2" |        | 2-31/32" | 2-3/8" | 3-5/16"  | 1/2"  | .700   | 3/16" | 40MM   | 2-3/8" |
| ORB2/20MM      | 20MM   |        |          |        |          |       |        |       |        |        |
| ORB2/22MM      | 22MM   | 2"     |          |        |          |       |        |       |        |        |
| ORB2/25MM      | 25MM   |        |          |        |          |       |        |       |        |        |
| ORB2/32MM      | 32MM   | 3"     |          |        |          |       |        |       |        |        |
| ORBHD/1.500    | 1-1/2" |        |          |        |          |       |        |       |        |        |
| ORBHD/1.750    | 1-3/4" | 3"     | 4-3/4"   | 3-1/2" | 4-17/32" | ----- | -----  | 3/16" | 2-1/2" | 3-5/8" |
| ORBHD/32MM     | 32MM   |        |          |        |          |       |        |       |        |        |



Also available with  
CAT, VDI, CAPTO  
C6, HSK &  
Morse Taper Shanks



Standard from stock H.S.S. external broaches shown on pg 19.

Note: The ORB00/0.750 & all ORB2/... external holders can also be used for internal broaching!

| Diagram# | Part Description | Part # for ORB00/... | Part # for ORB2/... | Part # for ORBHD/... |
|----------|------------------|----------------------|---------------------|----------------------|
| 3        | Spindle          | ORB00-3N...          | ORB2-3N             | ORBHD-3              |
| 16       | Spindle Cap      | ORB00-16             | ORB2-16             | ORBHD-16             |
| 17       | Drive Pin        | ORB00-17             | ORB2-17             | ORBHD-17             |
|          | Spanner Wrench   | ADH00-3              | ADH2-3              | ORBHD-SP             |

All other features & parts are the same as the internal broach tool holders shown on top of pg. 10

### INCH / Hex, for ORBX00/...Holders

.9445 MOUNTING DIAMETER

| HEX SIZE | A     | L = 3/8"    | L = 1"      |
|----------|-------|-------------|-------------|
|          |       | CAT. NO.    | CAT. NO.    |
| 1/4      | .2435 | EHX00-1/4   | EHX0S-1/4   |
| 9/32     | .2745 | EHX00-9/32  | EHX0S-9/32  |
| 5/16     | .3045 | EHX00-5/16  | EHX0S-5/16  |
| 11/32    | .3355 | EHX00-11/32 | EHX0S-11/32 |
| 3/8      | .3665 | EHX00-3/8   | EHX0S-3/8   |
| 13/32    | .3965 | EHX00-13/32 | EHX0S-13/32 |
| 7/16     | .4275 | EHX00-7/16  | EHX0S-7/16  |

### INCH / Hex, for ORBX2/...Holders

1.5745 MOUNTING DIAMETER

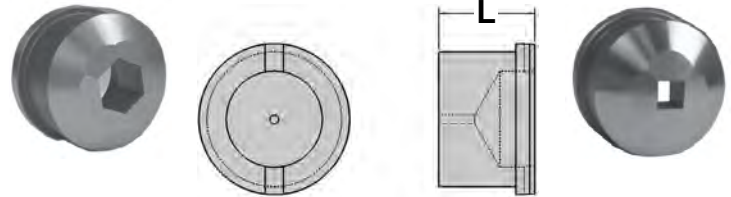
| HEX SIZE | A     | L = 1"     | L = 1-3/4"  |
|----------|-------|------------|-------------|
|          |       | CAT. NO.   | CAT. NO.    |
| 1/4      | .2435 | EHX2-1/4   | EHX2L-1/4   |
| 9/32     | .2745 | EHX2-9/32  | EHX2L-9/32  |
| 5/16     | .3045 | EHX2-5/16  | EHX2L-5/16  |
| 11/32    | .3355 | EHX2-11/32 | EHX2L-11/32 |
| 3/8      | .3665 | EHX2-3/8   | EHX2L-3/8   |
| 13/32    | .3965 | EHX2-13/32 | EHX2L-13/32 |
| 7/16     | .4275 | EHX2-7/16  | EHX2L-7/16  |
| 15/32    | .4625 | EHX2-15/32 | EHX2L-15/32 |
| 1/2      | .4885 | EHX2-1/2   | EHX2L-1/2   |
| 17/32    | .5195 | EHX2-17/32 | EHX2L-17/32 |
| 9/16     | .5505 | EHX2-9/16  | EHX2L-9/16  |
| 19/32    | .5815 | EHX2-19/32 | EHX2L-19/32 |
| 5/8      | .6115 | EHX2-5/8   | EHX2L-5/8   |
| 21/32    | .6425 | EHX2-21/32 | EHX2L-21/32 |
| 11/16    | .6735 | EHX2-11/16 | EHX2L-11/16 |
| 23/32    | .7045 | EHX2-23/32 | EHX2L-23/32 |
| 3/4      | .7355 | EHX2-3/4   | EHX2L-3/4   |
| 25/32    | .7665 | EHX2-25/32 | EHX2L-25/32 |
| 13/16    | .7975 | EHX2-13/16 | EHX2L-13/16 |
| 27/32    | .8285 | EHX2-27/32 | EHX2L-27/32 |
| 7/8      | .8595 | EHX2-7/8   | EHX2L-7/8   |
| 29/32    | .8905 | EHX2-29/32 | EHX2L-29/32 |
| 15/16    | .9215 | EHX2-15/16 | EHX2L-15/16 |
| 31/32    | .9515 | EHX2-31/32 | EHX2L-31/32 |
| 1"       | .9815 | EHX2-1     | EHX2L-1     |

### METRIC / Hex, for ORBX00/...Holders

.9445 MOUNTING DIAMETER

| HEX SIZE | A     | L = 3/8"   | L = 1"     |
|----------|-------|------------|------------|
|          |       | CAT. NO.   | CAT. NO.   |
| 6MM      | .2275 | EHX00-6.0  | EHX0S-6.0  |
| 7MM      | .2665 | EHX00-7.0  | EHX0S-7.0  |
| 8MM      | .3055 | EHX00-8.0  | EHX0S-8.0  |
| 9MM      | .3455 | EHX00-9.0  | EHX0S-9.0  |
| 10MM     | .3845 | EHX00-10.0 | EHX0S-10.0 |

Note: External square broaches also available.

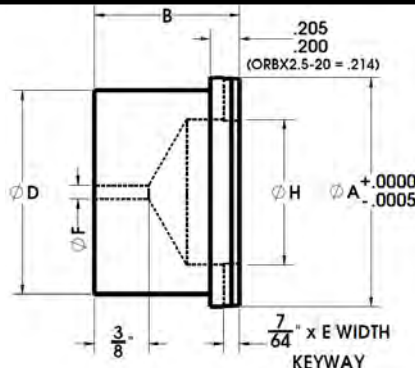


### METRIC / Hex, for ORBX2/...Holders

1.5745 MOUNTING DIAMETER

| HEX SIZE | A     | L = 1"    | L = 1-3/4" |
|----------|-------|-----------|------------|
|          |       | CAT. NO.  | CAT. NO.   |
| 6MM      | .2275 | EHX2-6.0  | EHX2L-6.0  |
| 7MM      | .2665 | EHX2-7.0  | EHX2L-7.0  |
| 8MM      | .3055 | EHX2-8.0  | EHX2L-8.0  |
| 9MM      | .3455 | EHX2-9.0  | EHX2L-9.0  |
| 10MM     | .3845 | EHX2-10.0 | EHX2L-10.0 |
| 11MM     | .4235 | EHX2-11.0 | EHX2L-11.0 |
| 12MM     | .4615 | EHX2-12.0 | EHX2L-12.0 |
| 13MM     | .5005 | EHX2-13.0 | EHX2L-13.0 |
| 14MM     | .5395 | EHX2-14.0 | EHX2L-14.0 |
| 15MM     | .5795 | EHX2-15.0 | EHX2L-15.0 |
| 16MM     | .6185 | EHX2-16.0 | EHX2L-16.0 |
| 17MM     | .6585 | EHX2-17.0 | EHX2L-17.0 |
| 18MM     | .6975 | EHX2-18.0 | EHX2L-18.0 |
| 19MM     | .7365 | EHX2-19.0 | EHX2L-19.0 |
| 20MM     | .7745 | EHX2-20.0 | EHX2L-20.0 |
| 21MM     | .8135 | EHX2-21.0 | EHX2L-21.0 |
| 22MM     | .8525 | EHX2-22.0 | EHX2L-22.0 |
| 23MM     | .8925 | EHX2-23.0 | EHX2L-23.0 |
| 24MM     | .9315 | EHX2-24.0 | EHX2L-24.0 |
| 25MM     | .9695 | EHX2-25.0 | EHX2L-25.0 |

### EXTERNAL BROACH BLANKS



| TO FIT     | A      | B     | D     | E    | F    | H       | Forte H.S.S. | T15PM H.S.S. |
|------------|--------|-------|-------|------|------|---------|--------------|--------------|
|            |        |       |       |      |      |         | CAT. NO.     | CAT. NO.     |
| ORBX00/... | 0.9448 | 3/8   | .750  | .094 | 3/32 | -       | ORBX00-20    | ORBX00-20-P  |
|            |        | 1"    | .750  | .094 | 3/32 | 1/2     | ORBX0S-20    | ORBX0S-20-P  |
| ORBX2/...  | 1.5740 | 1"    | 1.403 | .188 | 3/32 | 1"      | ORBX2-20     | ORBX2-20-P   |
|            |        | 1-3/4 | 1.403 | .188 | 3/32 | 1"      | ORBX2-20L    | ORBX2-20L-P  |
| ORBXHD/... | 2.500  | 1-1/4 | 2.313 | .188 | 3/16 | 1-13/16 | ORBXHD-20    | ORBXHD-20-P  |
| Non Somma  | 2.312  | 1"    | 2.060 | .086 | 3/32 | 1-1/2"  | ORBX2.5-20   | ORBX2.5-20-P |

See pages 11 and 18 for holders for these external broaches.

# Somma

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