

# PRODUCT CATALOG

**WE PROVIDE SOLUTIONS!**



**polygon**  **solutions**  
shaping the broaching industry



## WHY CHOOSE POLYGON SOLUTIONS



### High Performance Quality Tools at Factory Direct Pricing!



Polygon Solutions offers a comprehensive selection of quality rotary broaching tools for small and large manufacturing companies across the Globe. We provide solutions to industries including aerospace, medical, automotive, fasteners, and plumbing. All of our tool holders come with a full 1 year warranty!



### Most Tools Stocked With Same Day Shipping!

Our fully stocked inventory is ready to ship same day. All orders received by 4:30 PM EST will ship same day via UPS, FedEx, DHL or USPS. For additional shipping information and stock availability please call our sales team at 239-628-4800.



### Tight Tolerances and Consistency!

Virtually all of our rotary broaching tools are CNC precision ground at our Facility in Fort Myers, Florida, using high precision grinding machines and proven manufacturing methods.



Polygon Solutions, Inc. is the only ISO 9001:2008 certified company specializing in the design and manufacture of rotary broaches and rotary broach tool holders. This certification guarantees that our quality management system is set to the highest standards via approved and documented processes.



### Constant Innovation and Product Expansion!

Polygon Solutions is a superior manufacturer of broach tools. We will continually improve our quality management system so as to create customer satisfaction and introduce new tools into the market.



### Experienced and Friendly Technical Support Staff!

Our knowledgeable team of engineers and technical experts are always available to take your call. We fully support every product in our catalog and will help walk you through tool selection, application support and troubleshooting.

# TABLE OF CONTENTS

## **MICRO SWISS TYPE BROACHING SYSTEM** (Ideal for micro forms .030" to .250")

Adjustment-Free Micro Rotary Broach Tool Holder .....	4
Torx Rotary Broaches for Micro Series .....	4
Hexagon Rotary Broaches for Micro Series .....	5

## **8MM SERIES ROTARY BROACH SYSTEM** (Ideal for smaller forms .050" to .315")

Adjustment-Free Rotary Broach Tool Holder .....	6
Torx Rotary Broaches for 8mm Series .....	6
Hexagon Rotary Broaches for 8mm Series .....	7
Square Rotary Broaches for 8mm Series .....	8

## **1/2" SERIES ROTARY BROACH SYSTEM** (Ideal for medium forms .081" to .630")

Adjustment-Free Rotary Broach Tool Holder .....	9
Torx Rotary Broaches for 1/2" Series .....	9
Hexagon Rotary Broaches for 1/2" Series .....	10
Square Rotary Broaches for 1/2" Series .....	12

## **3/4" SERIES ROTARY BROACH SYSTEM** (Ideal for large forms .500" to 2.50")

Adjustment-Free Heavy Duty Rotary Broach Tool Holder .....	14
Torx Rotary Broaches for 3/4" Series .....	14
Hexagon Rotary Broaches for 3/4" Series .....	15
Square Rotary Broaches for 3/4" Series .....	17

## **SPECIAL FORM ROTARY BROACHES - INTERNAL FORMS**

Double Hexagon Rotary Broaches - Internal .....	19
Serration Rotary Broaches - Internal .....	20
Involute Spline Rotary Broaches - Internal .....	21
Rosan-Type Rotary Broaches - Internal .....	22
J500 Rotary Broaches - Internal .....	23

## **EXTERNAL ROTARY BROACH TOOL HOLDERS - Adjustment-Free**

GT Series External Rotary Broach Tool Holder .....	24
HT Series External Heavy Duty Rotary Broach Tool Holder .....	24

## **EXTERNAL ROTARY BROACHES**

Hexagon Rotary Broaches - External .....	25
Serration Rotary Broaches - External .....	26
Involute Spline Rotary Broaches - External .....	27

## **CUSTOM INTERNAL / EXTERNAL ROTARY BROACHES**

Custom made rotary broaches based on your print or specifications .....	28
---	----

## **ACCESSORIES**

GO / NO-GO Gages (Torx, Hex and Custom Forms) .....	29
Alignment Tools (Used for Orientating or Timing During the Broaching Process) .....	30
Cutting Fluid (Engineered Specifically for Rotary Broaching) .....	30

## **ROTARY BROACHING TOOL KITS**

Complete Rotary Broaching System Kits Include GT Holder and Set of Rotary Broaches .....	31
--	----

## **TECHNICAL INFORMATION**

Instructions, Recommendations and Part Preparation / F.A.Q.'s .....	32
---	----

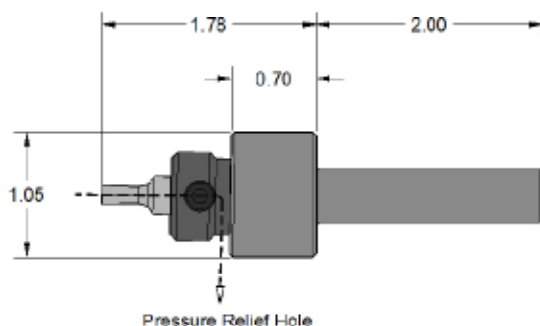
# MICRO SWISS TYPE BROACHING SYSTEM

Worlds Smallest Rotary Broaching Tool Holder

## ADJUSTMENT-FREE ROTARY BROACH MICRO TOOL HOLDER

### MICRO TOOL HOLDER

**MOST ADVANCED ROTARY BROACH TOOL HOLDER AVAILABLE!**



### For Use With **Micro Series** Rotary Broaches

Smaller than a business card, Polygon Solutions' Micro Rotary Broach Tool Holder is by far the smallest holder on the market. Ideal for Swiss-Type CNC Machines.

Generating accurate forms in popular Mini and Swiss CNC machines can be challenging due to the reduced envelope when compared to larger turning machines. Polygon's Micro Broaching Tool holder is specifically designed to address this issue, and extends less than 2" from the mounting block.

Polygon's Micro broach holder is already being used in Citizen, Star, Tsugami and machines.

**The **Micro Swiss** tool holder is ideal for smaller forms: .030" to .25" Accepts 8mm diameter x 28mm length micro rotary broaches**

### INNOVATIVE MICRO HOLDER FEATURES:

Our engineers went a step further by adding innovative features offered by no other company.

- Extremely Small Footprint - World's Smallest Broaching Tool Holder
- High Quality Sealed Bearings - No Messy Hourly Greasing = No Down Time
- Pressure Relief Technology - Allows Air & Fluid To Freely Escape
- Adjustment-Free Design - No Wasting Time Indicating Broach on Center

Shank Size (mm)	Accepts Broaches	Part Number	Price
<b>1/2"</b> (0.500")	Ø 8mm x 28mm	<b>MT-050-C</b>	<b>\$699</b>
<b>5/8"</b> (0.625")	Ø 8mm x 28mm	<b>MT-063-C</b>	<b>\$699</b>
<b>3/4"</b> (0.750")	Ø 8mm x 28mm	<b>MT-075-C</b>	<b>\$699</b>
<b>16mm</b>	Ø 8mm x 28mm	<b>MT-016-C</b>	<b>\$699</b>
<b>20mm</b>	Ø 8mm x 28mm	<b>MT-020-C</b>	<b>\$699</b>
<b>22mm</b>	Ø 8mm x 28mm	<b>MT-022-C</b>	<b>\$699</b>

### MICRO SERIES TORX BROACHES



Torx® Sizes

Nominal Size	(B) Major Dia.	(C) Minor Dia.	(D) Depth	Micro Vent Hole	M-2		M-42		PM M-4		PM T-15		ASP 30	
					Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
<b>T-03</b>	.0465	.0342	.049	No	T03C	\$299	T03CM	\$314	T03CP	\$314	T03CT	\$314	T03CN	\$329
<b>T-04</b>	.0531	.0382	.055	No	T04C	\$299	T04CM	\$314	T04CP	\$314	T04CT	\$314	T04CN	\$329
<b>T-05</b>	.0586	.0427	.062	No	T05C	\$299	T05CM	\$314	T05CP	\$314	T05CT	\$314	T05CN	\$329
<b>T-06</b>	.0703	.0512	.075	No	T06C	\$199	T06CM	\$214	T06CP	\$214	T06CT	\$214	T06CN	\$229
<b>T-08</b>	.0954	.0693	.102	Yes	T08C	\$199	T08CM	\$214	T08CP	\$214	T08CT	\$214	T08CN	\$229
<b>T-10</b>	.1123	.0813	.120	Yes	T10C	\$149	T10CM	\$164	T10CP	\$164	T10CT	\$164	T10CN	\$179
<b>T-15</b>	.1333	.0960	.142	Yes	T15C	\$149	T15CM	\$164	T15CP	\$164	T15CT	\$164	T15CN	\$179

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

### 8MM Dia x 28MM Length - For Use With **Micro Swiss** Tool Holders

The Torx® / hexalobular internal driving feature is ideal for fasteners such as bolts and screws. The six lobe design gives strength to the driver and is resistant to stripping. Broaches are designed to meet international hexalobular major and minor diameters per ISO 10664.

Hexalobular / Torx® rotary broaches conform with major and minor diameters of **ISO 10664**. Available from stock for immediate delivery!

# INTERNAL MICRO SERIES HEXAGON ROTARY BROACHES

Polygon Solutions' micro hexagon rotary broaches are precision ground with a tolerance of  $\pm 0.0005$ " and are available for immediate delivery. Nominal sizes conform to the industry standard - IFI and ANSI/ASME B18.3 2003.

Custom micro hex sizes can be made same or next day.

Our micro broaches can be made with M-2, PM M-4, PM T-15, M-42 or Polygon Solutions' ASP 30 brand for extremely tough applications.

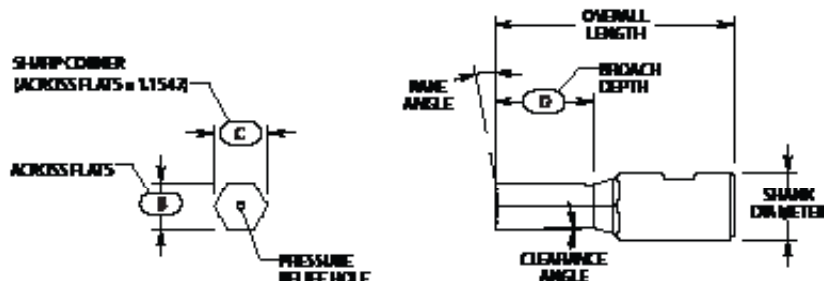
Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro.

For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

**CUSTOM**  
Sizes Available  
SAME DAY!!

All micro broaches larger than .079" include a **pressure relief vent hole** at no additional cost that allows air and fluid to escape during the broaching process to reduce pressure on your machine and extend tool life.

Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches.



## MICRO SERIES HEX BROACHES

8MM Diameter x 28MM Length - For Use With **Micro Swiss** Tool Holders (Page 3)

Standard Sizes

Nominal Size (inch)	(B) Across Flats	(D) Broaching Depth	Micro Vent Hole	M-2		M-42		PM M-4		PM T-15		ASP 30	
				Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
.050"	.0510	.102	No	H00510C	\$49	H00510CM	\$64	H00510CP	\$64	H00510CT	\$64	H00510CN	\$79
1/16"	.0635	.127	No	H00635C	\$49	H00635CM	\$64	H00635CP	\$64	H00635CT	\$64	H00635CN	\$79
5/64"	.0790	.158	Yes	H00790C	\$49	H00790CM	\$64	H00790CP	\$64	H00790CT	\$64	H00790CN	\$79
3/32"	.0950	.190	Yes	H00950C	\$49	H00950CM	\$64	H00950CP	\$64	H00950CT	\$64	H00950CN	\$79
7/64"	.1110	.222	Yes	H01110C	\$49	H01110CM	\$64	H01110CP	\$64	H01110CT	\$64	H01110CN	\$79
1/8"	.1265	.253	Yes	H01265C	\$49	H01265CM	\$64	H01265CP	\$64	H01265CT	\$64	H01265CN	\$79
9/64"	.1425	.285	Yes	H01425C	\$49	H01425CM	\$64	H01425CP	\$64	H01425CT	\$64	H01425CN	\$79
5/32"	.1585	.317	Yes	H01585C	\$49	H01585CM	\$64	H01585CP	\$64	H01585CT	\$64	H01585CN	\$79
11/64"	.1740	.348	Yes	H01740C	\$49	H01740CM	\$64	H01740CP	\$64	H01740CT	\$64	H01740CN	\$79
3/16"	.1895	.379	Yes	H01895C	\$49	H01895CM	\$64	H01895CP	\$64	H01895CT	\$64	H01895CN	\$79
7/32"	.2215	.443	Yes	H02215C	\$49	H02215CM	\$64	H02215CP	\$64	H02215CT	\$64	H02215CN	\$79
1/4"	.2525	.505	Yes	H02525C	\$49	H02525CM	\$64	H02525CP	\$64	H02525CT	\$64	H02525CN	\$79

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

Metric Sizes

Nominal Size (mm)	(B) Across Flats	(D) Broaching Depth	Micro Vent Hole	M-2		M-42		PM M-4		PM T-15		ASP 30	
				Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
1.30mm	.0515	.103	No	H00515C	\$49	H00515CM	\$64	H00515CP	\$64	H00515CT	\$64	H00515CN	\$79
1.50mm	.0610	.122	No	H00610C	\$49	H00610CM	\$64	H00610CP	\$64	H00610CT	\$64	H00610CN	\$79
2.00mm	.0810	.162	Yes	H00810C	\$49	H00810CM	\$64	H00810CP	\$64	H00810CT	\$64	H00810CN	\$79
2.50mm	.1010	.202	Yes	H01010C	\$49	H01010CM	\$64	H01010CP	\$64	H01010CT	\$64	H01010CN	\$79
3.00mm	.1210	.242	Yes	H01210C	\$49	H01210CM	\$64	H01210CP	\$64	H01210CT	\$64	H01210CN	\$79
4.00mm	.1610	.322	Yes	H01610C	\$49	H01610CM	\$64	H01610CP	\$64	H01610CT	\$64	H01610CN	\$79
5.00mm	.2000	.400	Yes	H02000C	\$49	H02000CM	\$64	H02000CP	\$64	H02000CT	\$64	H02000CN	\$79
6.00mm	.2400	.480	Yes	H02400C	\$49	H02400CM	\$64	H02400CP	\$64	H02400CT	\$64	H02400CN	\$79
7.00mm	.2790	.558	Yes	H02790C	\$66	H02790CM	\$64	H02790CP	\$81	H02790CT	\$81	H02790CN	\$79

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available



AWARD-WINNING SUPPORT - 239-628-4800



# 8MM SERIES BROACHING SYSTEM

Precision Made in the USA

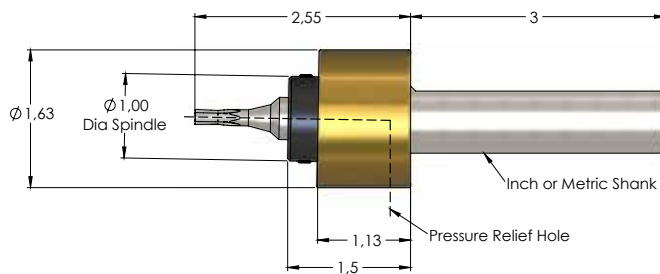
## ADJUSTMENT-FREE ROTARY BROACH TOOL HOLDER FOR 8MM SERIES INTERNAL BROACHES

### 8MM SERIES TOOL HOLDER

**MOST ADVANCED ROTARY BROACH TOOL HOLDER AVAILABLE!**



**\$799**



### For Use With 8mm Series Rotary Broaches

Great for any Mill, Lathe or Turning Center, Polygon Solutions' Award-Winning GT Series Tool Holder has a sleek design that offers a very small footprint allowing much needed clearance in today's machines.

#### 100% Adjustment-Free:

- 1) Insert Holder into Tool Block; and 2) Tighten Set Screws.

The 8mm Series tool holder is ideal for smaller forms: .050" to .315"  
Accepts 8mm diameter x 1.25" length rotary broaches

#### INNOVATIVE GT HOLDER FEATURES:

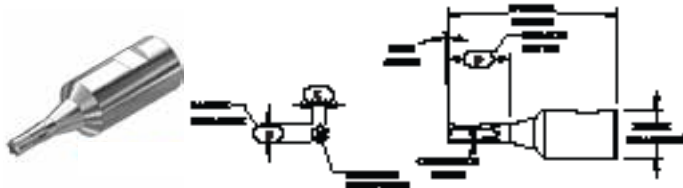
Our engineers went a step further by adding innovative features offered by no other company.

- High Quality Sealed Bearings - No Messy Hourly Greasing = No Down Time
- Pressure Relief Technology - Allows Air & Fluid To Freely Escape
- Adjustment-Free Design - No Wasting Time Indicating Broach on Center

Shank Size (inch)	Accepts Broaches	Part Number	Price
5/8" (0.625")	Ø 8mm x 1.25"	GT-063-A	\$799
3/4" (0.750")	Ø 8mm x 1.25"	GT-075-A	\$799
1" (1.000")	Ø 8mm x 1.25"	GT-100-A	\$799
1-1/4" (1.250")	Ø 8mm x 1.25"	GT-125-A	\$799
1-1/2" (1.500")	Ø 8mm x 1.25"	GT-150-A	\$799

Shank Size (mm)	Accepts Broaches	Part Number	Price
16mm	Ø 8mm x 1.25"	GT-016-A	\$799
20mm	Ø 8mm x 1.25"	GT-020-A	\$799
22mm	Ø 8mm x 1.25"	GT-022-A	\$799
25mm	Ø 8mm x 1.25"	GT-025-A	\$799
32mm	Ø 8mm x 1.25"	GT-032-A	\$799

### 8MM SERIES TORX BROACHES



### 8MM Dia x 1.25" Length - For Use With 8mm Series GT Tool Holders

The Torx® / hexalobular internal driving feature is ideal for fasteners such as bolts and screws. The six lobe design gives strength to the driver and is resistant to stripping. Broaches are designed to meet international hexalobular major and minor diameters per ISO 10664.

Hexalobular / Torx® rotary broaches conform with major and minor diameters of ISO 10664. Available from stock for immediate delivery!

#### Torx® Sizes

Nominal Size	(B) Major Dia.	(C) Minor Dia.	(D) Depth	Vent Hole	M-2		M-42		PM M-4		PM T-15		ASP 30	
					Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
T-03	.0465	.0342	.049	No	T03A	\$299	T03AM	\$314	T03AP	\$314	T03AT	\$314	T03AN	\$329
T-04	.0531	.0382	.055	No	T04A	\$299	T04AM	\$314	T04AP	\$314	T04AT	\$314	T04AN	\$329
T-05	.0586	.0427	.062	No	T05A	\$299	T05AM	\$314	T05AP	\$314	T05AT	\$314	T05AN	\$329
T-06	.0703	.0512	.075	No	T06A	\$199	T06AM	\$214	T06AP	\$214	T06AT	\$214	T06AN	\$229
T-08	.0954	.0693	.102	Yes	T08A	\$199	T08AM	\$214	T08AP	\$214	T08AT	\$214	T08AN	\$229
T-10	.1123	.0813	.120	Yes	T10A	\$149	T10AM	\$164	T10AP	\$164	T10AT	\$164	T10AN	\$179
T-15	.1333	.0960	.142	Yes	T15A	\$149	T15AM	\$164	T15AP	\$164	T15AT	\$164	T15AN	\$179

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

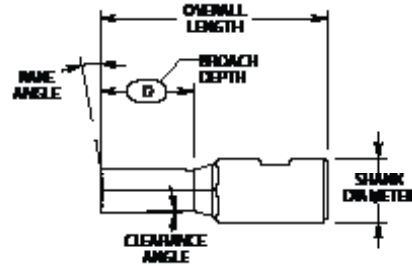
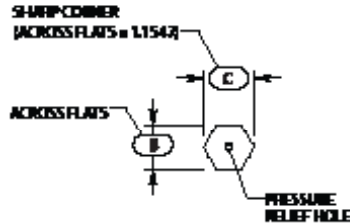
# INTERNAL 8MM SERIES HEXAGON ROTARY BROACHES

Polygon Solutions' hexagon rotary broaches are precision ground with a tolerance of  $\pm 0.0005"$  and are available for immediate delivery. Nominal sizes conform to the industry standard - IFI and ANSI/ASME B18.3 2003. Custom hex sizes can be made same or next day. Broaches can be made with M-2, PM M-4, PM T-15, M-42 or Polygon Solutions' ASP 30 brand for extremely tough applications. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro. Designed for use on any Mill, Lathe or Turning Center.

For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

All broaches larger than .079" include a **pressure relief vent hole** at no additional cost that allows air and fluid to escape during the broaching process to reduce pressure on your machine and *extend tool life*.

Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches.



## 8MM SERIES HEX BROACHES

8MM Diameter x 1.25" Length - For Use With 8mm Series GT Tool Holders (Page 3)

Standard Sizes				M-2		M-42		PM M-4		PM T-15		ASP 30	
Nominal Size (inch)	(B) Across Flats	(D) Broaching Depth	Vent Hole	Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
.050"	.0510	.102	No	H00510A	\$49	H00510AM	\$64	H00510AP	\$64	H00510AT	\$64	H00510AN	\$79
1/16"	.0635	.127	No	H00635A	\$49	H00635AM	\$64	H00635AP	\$64	H00635AT	\$64	H00635AN	\$79
5/64"	.0790	.158	Yes	H00790A	\$49	H00790AM	\$64	H00790AP	\$64	H00790AT	\$64	H00790AN	\$79
3/32"	.0950	.190	Yes	H00950A	\$49	H00950AM	\$64	H00950AP	\$64	H00950AT	\$64	H00950AN	\$79
7/64"	.1110	.222	Yes	H01110A	\$49	H01110AM	\$64	H01110AP	\$64	H01110AT	\$64	H01110AN	\$79
1/8"	.1265	.253	Yes	H01265A	\$49	H01265AM	\$64	H01265AP	\$64	H01265AT	\$64	H01265AN	\$79
9/64"	.1425	.285	Yes	H01425A	\$49	H01425AM	\$64	H01425AP	\$64	H01425AT	\$64	H01425AN	\$79
5/32"	.1585	.317	Yes	H01585A	\$49	H01585AM	\$64	H01585AP	\$64	H01585AT	\$64	H01585AN	\$79
11/64"	.1740	.348	Yes	H01740A	\$49	H01740AM	\$64	H01740AP	\$64	H01740AT	\$64	H01740AN	\$79
3/16"	.1895	.379	Yes	H01895A	\$49	H01895AM	\$64	H01895AP	\$64	H01895AT	\$64	H01895AN	\$79
7/32"	.2215	.443	Yes	H02215A	\$49	H02215AM	\$64	H02215AP	\$64	H02215AT	\$64	H02215AN	\$79
1/4"	.2525	.505	Yes	H02525A	\$49	H02525AM	\$64	H02525AP	\$64	H02525AT	\$64	H02525AN	\$79
9/32"	.2840	.568	Yes	H02840A	\$66	H02840AM	\$81	H02840AP	\$81	H02840AT	\$81		
5/16"	.3155	.631	Yes	H03155A	\$66	H03155AM	\$81	H03155AP	\$81	H03155AT	\$81		

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

Metric Sizes				M-2		M-42		PM M-4		PM T-15		ASP 30	
Nominal Size (mm)	(B) Across Flats	(D) Broaching Depth	Vent Hole	Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
1.30mm	.0515	.103	No	H00515A	\$49	H00515AM	\$64	H00515AP	\$64	H00515AT	\$64	H00515AN	\$79
1.50mm	.0610	.122	No	H00610A	\$49	H00610AM	\$64	H00610AP	\$64	H00610AT	\$64	H00610AN	\$79
2.00mm	.0810	.162	Yes	H00810A	\$49	H00810AM	\$64	H00810AP	\$64	H00810AT	\$64	H00810AN	\$79
2.50mm	.1010	.202	Yes	H01010A	\$49	H01010AM	\$64	H01010AP	\$64	H01010AT	\$64	H01010AN	\$79
3.00mm	.1210	.242	Yes	H01210A	\$49	H01210AM	\$64	H01210AP	\$64	H01210AT	\$64	H01210AN	\$79
4.00mm	.1610	.322	Yes	H01610A	\$49	H01610AM	\$64	H01610AP	\$64	H01610AT	\$64	H01610AN	\$79
5.00mm	.2000	.400	Yes	H02000A	\$49	H02000AM	\$64	H02000AP	\$64	H02000AT	\$64	H02000AN	\$79
6.00mm	.2400	.480	Yes	H02400A	\$49	H02400AM	\$64	H02400AP	\$64	H02400AT	\$64	H02400AN	\$79
7.00mm	.2790	.558	Yes	H02790A	\$66	H02790AM	\$64	H02790AP	\$81	H02790AT	\$81	H02790AN	\$79
8.00mm	.3185	.637	Yes	H03185A	\$66	H03185AM	\$64	H03185AP	\$81	H03185AT	\$81		

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available



AWARD-WINNING SUPPORT - 239-628-4800

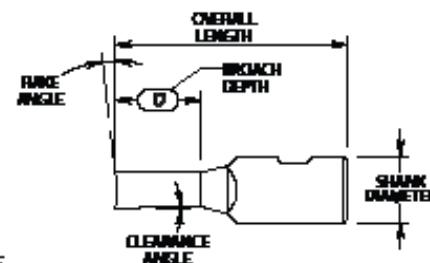
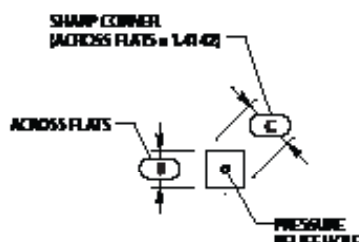
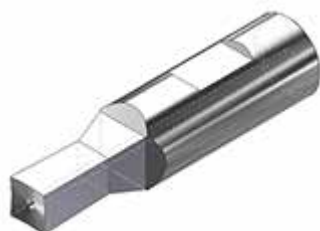
# INTERNAL 8MM SERIES SQUARE ROTARY BROACHES

Polygon Solutions' square rotary broaches are precision ground with a tolerance of  $\pm 0.0005"$  and are available for immediate delivery. Nominal sizes conform to the industry standard - IFI and ANSI/ASME B18.3 2003. Custom square sizes can be made same or next day. Broaches can be made with M-2, PM M-4, PM T-15, M-42 or Polygon Solutions' ASP 30 brand for extremely tough applications. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro.

For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

All broaches larger than .079" include a **pressure relief vent hole** at no additional cost that allows air and fluid to escape during the broaching process to reduce pressure on your machine and **extend tool life**.

Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches.



## 8MM SERIES SQUARE BROACH

8MM Diameter x 1.25" Length - For Use With 8mm Series GT Tool Holders (Page 3)

### Standard Sizes

Nominal Size (inch)	(B) Across Flats	(D) Broaching Depth	Vent Hole	M-2		M-42		PM M-4		PM T-15		ASP 30	
				Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
.050"	.0510	.102	No	S00510A	\$49	S00510AM	\$64	S00510AP	\$64	S00510AT	\$64	S00510AN	\$79
1/16"	.0635	.127	No	S00635A	\$49	S00635AM	\$64	S00635AP	\$64	S00635AT	\$64	S00635AN	\$79
5/64"	.0790	.158	Yes	S00790A	\$49	S00790AM	\$64	S00790AP	\$64	S00790AT	\$64	S00790AN	\$79
3/32"	.0950	.190	Yes	S00950A	\$49	S00950AM	\$64	S00950AP	\$64	S00950AT	\$64	S00950AN	\$79
7/64"	.1110	.222	Yes	S01110A	\$49	S01110AM	\$64	S01110AP	\$64	S01110AT	\$64	S01110AN	\$79
1/8"	.1265	.253	Yes	S01265A	\$49	S01265AM	\$64	S01265AP	\$64	S01265AT	\$64	S01265AN	\$79
9/64"	.1425	.285	Yes	S01425A	\$49	S01425AM	\$64	S01425AP	\$64	S01425AT	\$64	S01425AN	\$79
5/32"	.1585	.317	Yes	S01585A	\$49	S01585AM	\$64	S01585AP	\$64	S01585AT	\$64	S01585AN	\$79
11/64"	.1740	.348	Yes	S01740A	\$49	S01740AM	\$64	S01740AP	\$64	S01740AT	\$64	S01740AN	\$79
3/16"	.1895	.379	Yes	S01895A	\$49	S01895AM	\$64	S01895AP	\$64	S01895AT	\$64	S01895AN	\$79
7/32"	.2215	.443	Yes	S02215A	\$49	S02215AM	\$64	S02215AP	\$64	S02215AT	\$64	S02215AN	\$79
1/4"	.2525	.505	Yes	S02525A	\$66	S02525AM	\$81	S02525AP	\$81	S02525AT	\$81		
9/32"	.2840	.568	Yes	S02840A	\$66	S02840AM	\$81	S02840AP	\$81	S02840AT	\$81		
5/16"	.3155	.631	Yes	S03155A	\$66	S03155AM	\$81	S03155AP	\$81	S03155AT	\$81		

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

### Metric Sizes

Nominal Size (mm)	(B) Across Flats	(D) Broaching Depth	Vent Hole	M-2		M-42		PM M-4		PM T-15		ASP 30	
				Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
1.30mm	.0515	.103	No	S00515A	\$49	S00515AM	\$64	S00515AP	\$64	S00515AT	\$64	S00515AN	\$79
1.50mm	.0610	.122	No	S00610A	\$49	S00610AM	\$64	S00610AP	\$64	S00610AT	\$64	S00610AN	\$79
2.00mm	.0810	.162	Yes	S00810A	\$49	S00810AM	\$64	S00810AP	\$64	S00810AT	\$64	S00810AN	\$79
2.50mm	.1010	.202	Yes	S01010A	\$49	S01010AM	\$64	S01010AP	\$64	S01010AT	\$64	S01010AN	\$79
3.00mm	.1210	.242	Yes	S01210A	\$49	S01210AM	\$64	S01210AP	\$64	S01210AT	\$64	S01210AN	\$79
4.00mm	.1610	.322	Yes	S01610A	\$49	S01610AM	\$64	S01610AP	\$64	S01610AT	\$64	S01610AN	\$79
5.00mm	.2000	.400	Yes	S02000A	\$49	S02000AM	\$64	S02000AP	\$64	S02000AT	\$64	S02000AN	\$79
6.00mm	.2400	.480	Yes	S02400A	\$49	S02400AM	\$64	S02400AP	\$64	S02400AT	\$64		
7.00mm	.2790	.558	Yes	S02790A	\$66	S02790AM	\$81	S02790AP	\$81	S02790AT	\$81		
8.00mm	.3185	.637	Yes	S03185A	\$66	S03185AM	\$81	S03185AP	\$81	S03185AT	\$81		

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available



# 1/2" SERIES BROACHING SYSTEM

Precision Made in the USA

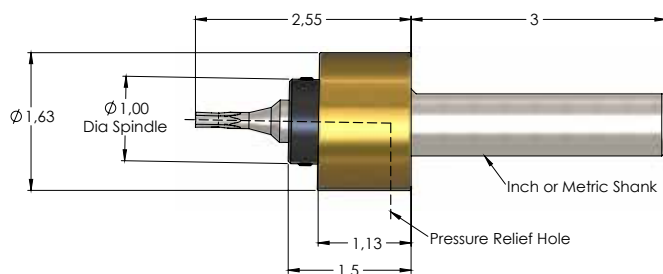
## ADJUSTMENT-FREE ROTARY BROACH TOOL HOLDER FOR 1/2" SERIES INTERNAL BROACHES

### 1/2" SERIES TOOL HOLDER

**MOST ADVANCED ROTARY BROACH TOOL HOLDER AVAILABLE!**



**\$799**



### For Use With 1/2" Series Rotary Broaches

Great for any Mill, Lathe or Turning Center, Polygon Solutions' Award-Winning GT Series Tool Holder has a sleek design that offers a very small footprint allowing much needed clearance in today's machines.

#### 100% Adjustment-Free:

- 1) Insert Holder into Tool Block; and 2) Tighten Set Screws.

The 1/2" Series tool holder is ideal for medium forms: .081" to .630"  
Accepts .500" diameter x 1.75" length rotary broaches

#### INNOVATIVE GT HOLDER FEATURES:

Our engineers went a step further by adding innovative features offered by no other company.

- High Quality Sealed Bearings - No Messy Hourly Greasing = No Down Time
- Pressure Relief Technology - Allows Air & Fluid To Freely Escape
- Adjustment-Free Design - No Wasting Time Indicating Broach on Center

Shank Size (inch)	Accepts Broaches	Part Number	Price
5/8" (.625")	Ø .500" x 1.75"	GT-063-B	\$799
3/4" (.750")	Ø .500" x 1.75"	GT-075-B	\$799
1" (1.000")	Ø .500" x 1.75"	GT-100-B	\$799
1-1/4" (1.250")	Ø .500" x 1.75"	GT-125-B	\$799
1-1/2" (1.500")	Ø .500" x 1.75"	GT-150-B	\$799

Shank Size (mm)	Accepts Broaches	Part Number	Price
16mm	Ø .500" x 1.75"	GT-016-B	\$799
20mm	Ø .500" x 1.75"	GT-020-B	\$799
22mm	Ø .500" x 1.75"	GT-022-B	\$799
25mm	Ø .500" x 1.75"	GT-025-B	\$799
32mm	Ø .500" x 1.75"	GT-032-B	\$799

### 1/2" SERIES TORX BROACHES



### .500" Dia x 1.75" Length - For Use With 1/2" Series GT Tool Holders

The Torx® / hexalobular internal driving feature is ideal for fasteners such as bolts and screws. The six lobe design gives strength to the driver and is resistant to stripping. Broaches are designed to meet international hexalobular major and minor diameters per ISO 10664.

Hexalobular / Torx® rotary broaches conform with major and minor diameters of ISO 10664. Available from stock for immediate delivery!

#### Torx® Sizes

Nominal Size	Torx® Sizes				M-2		M-42		PM M-4		PM T-15		ASP 30	
	(B) Major Dia.	(C) Minor Dia.	(D) Depth	Vent Hole	Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
T-08	.0954	.0693	.102	Yes	T08B	\$199	T08BM	\$214	T08BP	\$214	T08BT	\$214	T08BN	\$234
T-10	.1123	.0813	.120	Yes	T10B	\$149	T10BM	\$164	T10BP	\$164	T10BT	\$164	T10BN	\$184
T-15	.1333	.0960	.142	Yes	T15B	\$149	T15BM	\$164	T15BP	\$164	T15BT	\$164	T15BN	\$184
T-20	.1563	.1124	.167	Yes	T20B	\$149	T20BM	\$164	T20BP	\$164	T20BT	\$164	T20BN	\$184
T-25	.1798	.1294	.191	Yes	T25B	\$149	T25BM	\$164	T25BP	\$164	T25BT	\$164	T25BN	\$184
T-30	.2228	.1604	.238	Yes	T30B	\$199	T30BM	\$214	T30BP	\$214	T30BT	\$214	T30BN	\$234
T-40	.2683	.1932	.285	Yes	T40B	\$199	T40BM	\$214	T40BP	\$214	T40BT	\$214	T40BN	\$234
T-45	.3180	.2280	.333	Yes	T45B	\$224	T45BM	\$239	T45BP	\$239	T45BT	\$239	T45BN	\$259
T-50	.3543	.2559	.380	Yes	T50B	\$224	T50BM	\$239	T50BP	\$239	T50BT	\$239	T50BN	\$259

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available



AWARD-WINNING SUPPORT - 239-628-4800

# INTERNAL 1/2" SERIES HEXAGON ROTARY BROACHES - INCH SIZES

Polygon Solutions' hexagon rotary broaches are precision ground with a tolerance of  $\pm 0.0005"$  and are available for immediate delivery. Nominal sizes conform to the industry standard - IFI and ANSI/ASME B18.3 2003. Custom hex sizes can be made same or next day. Broaches can be made with M-2, PM M-4, PM T-15, M-42 or Polygon Solutions' ASP 30 brand for extremely tough applications. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro.

Don't see the size you are looking for? We can custom make any size to meet your requirements.

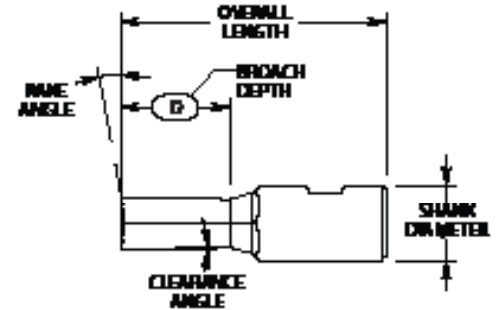
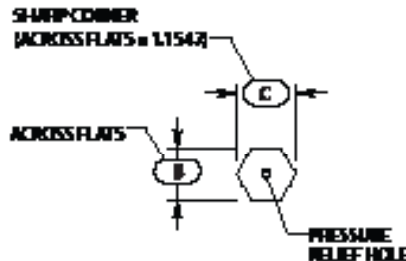
Polygon Solutions' broaching tools are designed for any mill, lathe or turning center.

For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

Mating external hexagon rotary broaches see page 23.

All broaches larger than .079" include a **pressure relief vent hole** that allows air and fluid to escape during the broaching process to reduce pressure on your machine and **extend tool life**.

Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches.



## 1/2" SERIES HEX BROACHES

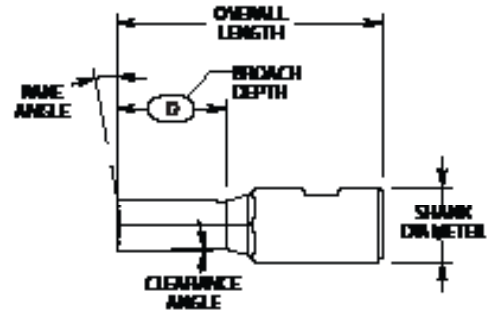
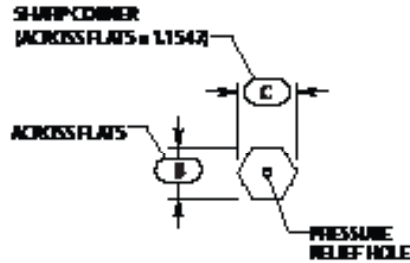
.500" Diameter x 1.75" Length - For Use With 1/2" Series GT Tool Holders (Page 3)

Standard Sizes				M-2		M-42		PM M-4		PM T-15		ASP 30	
Nominal Size (inch)	(B) Across Flats	(D) Broaching Depth	Vent Hole	Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
3/32"	.0950	.190	Yes	H00950B	\$56	H00950BM	\$71	H00950BP	\$71	H00950BT	\$71	H00950BN	\$91
7/64"	.1110	.222	Yes	H01110B	\$56	H01110BM	\$71	H01110BP	\$71	H01110BT	\$71	H01110BN	\$91
1/8"	.1265	.253	Yes	H01265B	\$56	H01265BM	\$71	H01265BP	\$71	H01265BT	\$71	H01265BN	\$91
9/64"	.1425	.285	Yes	H01425B	\$56	H01425BM	\$71	H01425BP	\$71	H01425BT	\$71	H01425BN	\$91
5/32"	.1585	.317	Yes	H01585B	\$56	H01585BM	\$71	H01585BP	\$71	H01585BT	\$71	H01585BN	\$91
11/64"	.1740	.348	Yes	H01740B	\$56	H01740BM	\$71	H01740BP	\$71	H01740BT	\$71	H01740BN	\$91
3/16"	.1895	.379	Yes	H01895B	\$56	H01895BM	\$71	H01895BP	\$71	H01895BT	\$71	H01895BN	\$91
7/32"	.2215	.443	Yes	H02215B	\$56	H02215BM	\$71	H02215BP	\$71	H02215BT	\$71	H02215BN	\$91
1/4"	.2525	.505	Yes	H02525B	\$56	H02525BM	\$71	H02525BP	\$71	H02525BT	\$71	H02525BN	\$91
9/32"	.2840	.568	Yes	H02840B	\$56	H02840BM	\$71	H02840BP	\$71	H02840BT	\$71	H02840BN	\$91
5/16"	.3155	.631	Yes	H03155B	\$56	H03155BM	\$71	H03155BP	\$71	H03155BT	\$71	H03155BN	\$91
11/32"	.3470	.694	Yes	H03470B	\$56	H03470BM	\$71	H03470BP	\$71	H03470BT	\$71	H03470BN	\$91
3/8"	.3785	.757	Yes	H03785B	\$56	H03785BM	\$71	H03785BP	\$71	H03785BT	\$71	H03785BN	\$91
13/32"	.4100	.800	Yes	H04100B	\$56	H04100BM	\$71	H04100BP	\$71	H04100BT	\$71	H04100BN	\$91
7/16"	.4415	.800	Yes	H04415B	\$71	H04415BM	\$86	H04415BP	\$86	H04415BT	\$86		
15/32"	.4730	.800	Yes	H04730B	\$71	H04730BM	\$86	H04730BP	\$86	H04730BT	\$86		
1/2"	.5045	.800	Yes	H05045B	\$71	H05045BM	\$86	H05045BP	\$86	H05045BT	\$86		
17/32"	.5360	.800	Yes	H05360B	\$71	H05360BM	\$86	H05360BP	\$86	H05360BT	\$86		
9/16"	.5675	.800	Yes	H05675B	\$71	H05675BM	\$86	H05675BP	\$86	H05675BT	\$86		
19/32"	.5990	1.00	Yes	H05990B	\$71	H05990BM	\$86	H05990BP	\$86	H05990BT	\$86		
5/8"	.6305	1.00	Yes	H06305B	\$71	H06305BM	\$86	H06305BP	\$86	H06305BT	\$86		
3/4"	.7565	1.00	Yes	H07565B	\$96	H07565BM	\$111	H07565BP	\$111	H07565BT	\$111		

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

# INTERNAL 1/2" SERIES HEXAGON ROTARY BROACHES - METRIC SIZES



## 1/2" SERIES HEX BROACHES

.500" Diameter x 1.75" Length - For Use With 1/2" Series GT Tool Holders (Page 3)

Metric Sizes				M-2		M-42		PM M-4		PM T-15		ASP 30	
Nominal Size (mm)	(B) Across Flats	(D) Broaching Depth	Vent Hole	Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
2.00mm	.0810	.162	Yes	H00810B	\$56	H00810BM	\$71	H00810BP	\$71	H00810BT	\$71	H00810BN	\$91
2.50mm	.1010	.202	Yes	H01010B	\$56	H01010BM	\$71	H01010BP	\$71	H01010BT	\$71	H01010BN	\$91
3.00mm	.1210	.242	Yes	H01210B	\$56	H01210BM	\$71	H01210BP	\$71	H01210BT	\$71	H01210BN	\$91
4.00mm	.1610	.322	Yes	H01610B	\$56	H01610BM	\$71	H01610BP	\$71	H01610BT	\$71	H01610BN	\$91
5.00mm	.2000	.400	Yes	H02000B	\$56	H02000BM	\$71	H02000BP	\$71	H02000BT	\$71	H02000BN	\$91
6.00mm	.2400	.480	Yes	H02400B	\$56	H02400BM	\$71	H02400BP	\$71	H02400BT	\$71	H02400BN	\$91
7.00mm	.2790	.558	Yes	H02790B	\$56	H02790BM	\$64	H02790BP	\$71	H02790BT	\$71	H02790BN	\$91
8.00mm	.3185	.637	Yes	H03185B	\$56	H03185BM	\$71	H03185BP	\$71	H03185BT	\$71	H03185BN	\$91
9.00mm	.3580	.716	Yes	H03580B	\$56	H03580BM	\$71	H03580BP	\$71	H03580BT	\$71	H03580BN	\$91
10.00mm	.3985	.757	Yes	H03985B	\$56	H03985BM	\$71	H03985BP	\$71	H03985BT	\$71	H03985BN	\$91
11.00mm	.4370	.800	Yes	H04370B	\$71	H04370BM	\$86	H04370BP	\$86	H04370BT	\$86		
12.00mm	.4775	.800	Yes	H04775B	\$71	H04775BM	\$86	H04775BP	\$86	H04775BT	\$86		
13.00mm	.5170	.800	Yes	H05170B	\$71	H05170BM	\$86	H05170BP	\$86	H05170BT	\$86		
14.00mm	.5565	.800	Yes	H05565B	\$71	H05565BM	\$86	H05565BP	\$86	H05565BT	\$86		
15.00mm	.5965	1.00	Yes	H05965B	\$71	H05965BM	\$86	H05965BP	\$86	H05965BT	\$86		
16.00mm	.6355	1.00	Yes	H06355B	\$71	H06355BM	\$86	H06355BP	\$86	H06355BT	\$86		
17.00mm	.6750	1.00	Yes	H06750B	\$71	H06750BM	\$86	H06750BP	\$86	H06750BT	\$86		
18.00mm	.7150	1.00	Yes	H07150B	\$96	H07150BM	\$111	H07150BP	\$111	H07150BT	\$111		
19.00mm	.7545	1.00	Yes	H07545B	\$96	H07545BM	\$111	H07545BP	\$111	H07545BT	\$111		
*Custom Sizes Are Available - Please call 239-628-4800				TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available									

## AVAILABLE OPTIONS FOR INTERNAL 1/2" SERIES HEXAGON ROTARY BROACHES:

- Deep Broaching Depth (up to 1.00")
- Custom Across the Flats Dimensions .028" to 1.94" (0.70-49mm)
- Spun Ground Diameter or Corner Radius
- Custom Rake Angle
- Tighter Tolerances up to .0001"
- Re-Sharpening Services
- Coatings: TiN, TiCN, TiAlN and Alcrona Pro
- Quantity Discounts at 2, 5, 10, 25, 50 and 100 Broaches



# INTERNAL 1/2" SERIES SQUARE ROTARY BROACHES - INCH SIZES

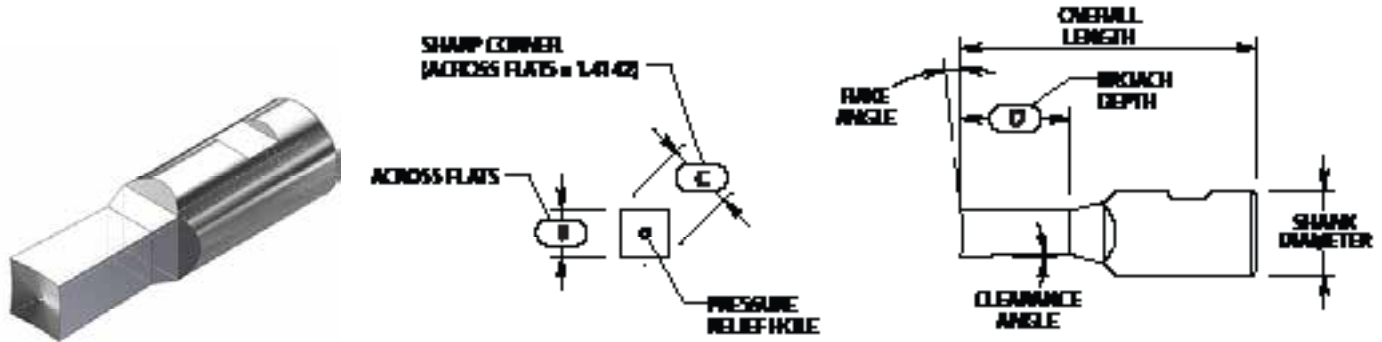
Polygon Solutions' square rotary broaches are precision ground with a tolerance of  $\pm 0.0005"$  and are available for immediate delivery. Nominal sizes conform to the industry standard - IFI and ANSI/ASME B18.3 2003. Custom hex sizes can be made same or next day. Broaches can be made with M-2, PM M-4, PM T-15, M-42 or Polygon Solutions' ASP 30 brand for extremely tough applications. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro.

For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

All broaches larger than .079" include a **pressure relief vent hole** that allows air and fluid to escape during the broaching process to reduce pressure on your machine and extend tool life.

Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches.

**CUSTOM**  
Sizes Available  
SAME DAY!!



## 1/2" SERIES SQUARE BROACHES

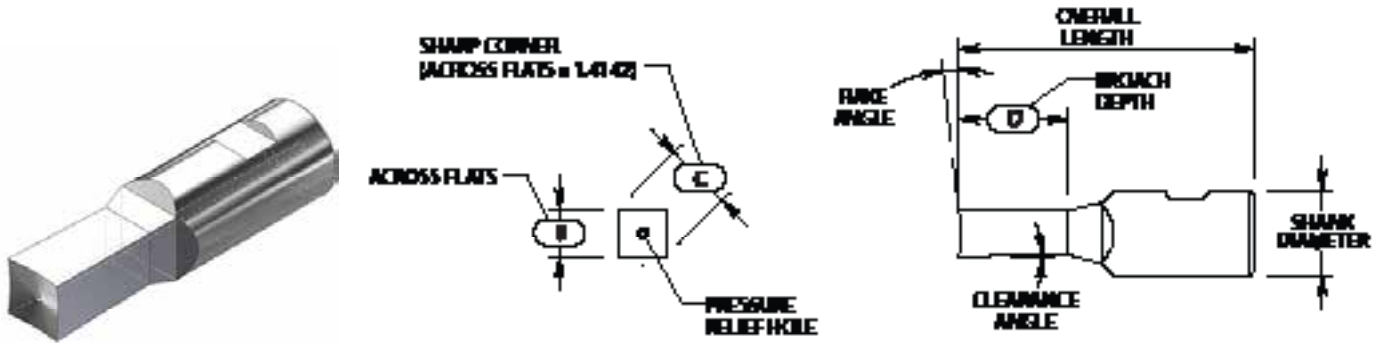
.500" Diameter x 1.75" Length - For Use With 1/2" Series GT Tool Holders (Page 3)

Standard Sizes				M-2		M-42		PM M-4		PM T-15		ASP 30	
Nominal Size (inch)	(B) Across Flats	(D) Broaching Depth	Vent Hole	Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
3/32"	.0950	.190	Yes	S00950B	\$56	S00950BM	\$71	S00950BP	\$71	S00950BT	\$71	S00950BN	\$91
7/64"	.1110	.222	Yes	S01110B	\$56	S01110BM	\$71	S01110BP	\$71	S01110BT	\$71	S01110BN	\$91
1/8"	.1265	.253	Yes	S01265B	\$56	S01265BM	\$71	S01265BP	\$71	S01265BT	\$71	S01265BN	\$91
9/64"	.1425	.285	Yes	S01425B	\$56	S01425BM	\$71	S01425BP	\$71	S01425BT	\$71	S01425BN	\$91
5/32"	.1585	.317	Yes	S01585B	\$56	S01585BM	\$71	S01585BP	\$71	S01585BT	\$71	S01585BN	\$91
11/64"	.1740	.348	Yes	S01740B	\$56	S01740BM	\$71	S01740BP	\$71	S01740BT	\$71	S01740BN	\$91
3/16"	.1895	.379	Yes	S01895B	\$56	S01895BM	\$71	S01895BP	\$71	S01895BT	\$71	S01895BN	\$91
7/32"	.2215	.443	Yes	S02215B	\$56	S02215BM	\$71	S02215BP	\$71	S02215BT	\$71	S02215BN	\$91
1/4"	.2525	.505	Yes	S02525B	\$56	S02525BM	\$71	S02525BP	\$71	S02525BT	\$71	S02525BN	\$91
9/32"	.2840	.568	Yes	S02840B	\$56	S02840BM	\$71	S02840BP	\$71	S02840BT	\$71	S02840BN	\$91
5/16"	.3155	.631	Yes	S03155B	\$56	S03155BM	\$71	S03155BP	\$71	S03155BT	\$71	S03155BN	\$91
11/32"	.3470	.694	Yes	S03470B	\$71	S03470BM	\$86	S03470BP	\$86	S03470BT	\$86		
3/8"	.3785	.757	Yes	S03785B	\$71	S03785BM	\$86	S03785BP	\$86	S03785BT	\$86		
13/32"	.4100	.800	Yes	S04100B	\$71	S04100BM	\$86	S04100BP	\$86	S04100BT	\$86		
7/16"	.4415	.800	Yes	S04415B	\$71	S04415BM	\$86	S04415BP	\$86	S04415AT	\$86		
15/32"	.4730	.800	Yes	S04730B	\$71	S04730BM	\$86	S04730BP	\$86	S04730BT	\$86		
1/2"	.5045	.800	Yes	S05045B	\$71	S05045BM	\$86	S05045BP	\$86	S05045BT	\$86		
17/32"	.5360	.800	Yes	S05360B	\$71	S05360BM	\$86	S05360BP	\$86	S05360BT	\$86		
9/16"	.5675	.800	Yes	S05675B	\$96	S05675BM	\$111	S05675BP	\$111	S05675BT	\$111		
19/32"	.5990	1.00	Yes	S05990B	\$96	S05990BM	\$111	S05990BP	\$111	S05990BT	\$111		
5/8"	.6305	1.00	Yes	S06305B	\$96	S06305BM	\$111	S06305BP	\$111	S06305BT	\$111		
3/4"	.7565	1.00	Yes	S07565B	\$96	S07565BM	\$111	S07565BP	\$111	S07565BT	\$111		

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

## INTERNAL 1/2" SERIES SQUARE ROTARY BROACHES - METRIC SIZES



**1/2" SERIES SQUARE BROACHES** .500" Diameter x 1.75" Length - For Use With 1/2" Series GT Tool Holders (Page 3)

Metric Sizes				M-2		M-42		PM M-4		PM T-15		ASP 30	
Nominal Size (mm)	(B) Across Flats	(D) Broaching Depth	Vent Hole	Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
2.00mm	.0810	.162	Yes	S00810B	\$56	S00810BM	\$71	S00810BP	\$71	S00810BT	\$71	S00810BN	\$91
2.50mm	.1010	.202	Yes	S01010B	\$56	S01010BM	\$71	S01010BP	\$71	S01010BT	\$71	S01010BN	\$91
3.00mm	.1210	.242	Yes	S01210B	\$56	S01210BM	\$71	S01210BP	\$71	S01210BT	\$71	S01210BN	\$91
4.00mm	.1610	.322	Yes	S01610B	\$56	S01610BM	\$71	S01610BP	\$71	S01610BT	\$71	S01610BN	\$91
5.00mm	.2000	.400	Yes	S02000B	\$56	S02000BM	\$71	S02000BP	\$71	S02000BT	\$71	S02000BN	\$91
6.00mm	.2400	.480	Yes	S02400B	\$56	S02400BM	\$71	S02400BP	\$71	S02400BT	\$71	S02400BN	\$91
7.00mm	.2790	.558	Yes	S02790B	\$56	S02790BM	\$71	S02790BP	\$71	S02790BT	\$71	S02790BN	\$91
8.00mm	.3185	.637	Yes	S03185B	\$56	S03185BM	\$71	S03185BP	\$71	S03185BT	\$71	S03185BN	\$91
9.00mm	.3580	.716	Yes	S03580B	\$71	S03580BM	\$86	S03580BP	\$86	S03580BT	\$86		
10.00mm	.3985	.757	Yes	S03985B	\$71	S03985BM	\$86	S03985BP	\$86	S03985BT	\$86		
11.00mm	.4370	.800	Yes	S04370B	\$71	S04370BM	\$86	S04370BP	\$86	S04370BT	\$86		
12.00mm	.4775	.800	Yes	S04775B	\$71	S04775BM	\$86	S04775BP	\$86	S04775BT	\$86		
13.00mm	.5170	.800	Yes	S05170B	\$71	S05170BM	\$86	S05170BP	\$86	S05170BT	\$86		
14.00mm	.5565	.800	Yes	S05565B	\$71	S05565BM	\$86	S05565BP	\$86	S05565BT	\$86		
15.00mm	.5965	1.00	Yes	S05965B	\$71	S05965BM	\$86	S05965BP	\$86	S05965BT	\$86		
16.00mm	.6355	1.00	Yes	S06355B	\$71	S06355BM	\$86	S06355BP	\$86	S06355BT	\$86		
17.00mm	.6750	1.00	Yes	S06750B	\$71	S06750BM	\$86	S06750BP	\$86	S06750BT	\$86		
18.00mm	.7150	1.00	Yes	S07150B	\$96	S07150BM	\$111	S07150BP	\$111	S07150BT	\$111		
19.00mm	.7545	1.00	Yes	S07545B	\$96	S07545BM	\$111	S07545BP	\$111	S07545BT	\$111		
*Custom Sizes Are Available - Please call 239-628-4800				TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available									

### AVAILABLE OPTIONS FOR INTERNAL 1/2" SERIES SQUARE ROTARY BROACHES:

- Deep Broaching Depth (up to 1.00")
- Custom Across the Flats Dimensions .028" to 1.59" (0.70-40mm)
- Spun Ground Diameter or Corner Radius
- Custom Rake Angle
- Tighter Tolerances up to .0001"
- Re-Sharpening Services
- Coatings: TiN, TiCN, TiAlN and Alcrona Pro
- Quantity Discounts at 2, 5, 10, 25, 50 and 100 Broaches





# 3/4" SERIES BROACHING SYSTEM

Precision Made in the USA

## ADJUSTMENT-FREE HEAVY DUTY TOOL HOLDER FOR 3/4" SERIES INTERNAL BROACHES

### 3/4" SERIES TOOL HOLDER

**MOST ADVANCED ROTARY BROACH TOOL HOLDER AVAILABLE!**



**\$1500**

### For Use With 3/4" Series Rotary Broaches

Great for any Mill, Lathe or Turning Center, Polygon Solutions' Heavy Duty HT Series Tool Holder is engineered for aggressive rotary broaching applications.

#### 100% Adjustment-Free:

- 1) Insert Holder into Tool Block; and 2) Tighten Set Screws.

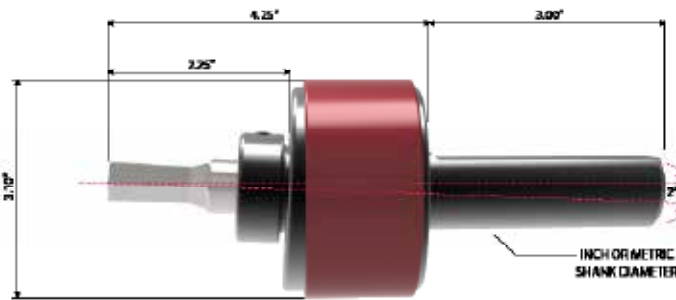
**Engineered with a 2-Degree Angle centerline offset for greatly reduced thrust requirements.**

**The 3/4" Series tool holder is ideal for large forms: .500" to 2.50"  
Accepts .750" diameter x 2.75" length rotary broaches**

#### INNOVATIVE HT HOLDER FEATURES:

Our engineers went a step further by adding innovative features offered by no other company.

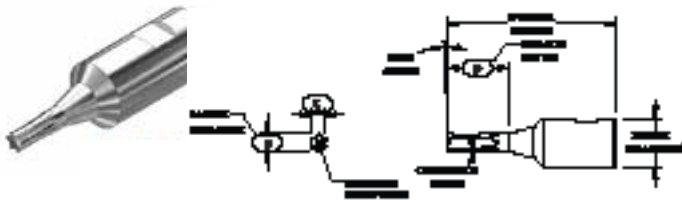
- Aggressive **2-Degree Angle** centerline offset to reduce thrust requirements
- High Quality Sealed Bearings - No Messy Hourly Greasing = No Down Time
- Pressure Relief Technology - Allows Air & Fluid To Freely Escape
- Adjustment-Free Design - No Wasting Time Indicating Broach on Center



Shank Size (inch)	Accepts Broaches	Part Number	Price
<b>1"</b> (1.000")	Ø .750" x 2.75"	<b>HT-100-H</b>	<b>\$1500</b>
<b>1-1/4"</b> (1.250")	Ø .750" x 2.75"	<b>HT-125-H</b>	<b>\$1500</b>
<b>1-1/2"</b> (1.500")	Ø .750" x 2.75"	<b>HT-150-H</b>	<b>\$1500</b>

Shank Size (mm)	Accepts Broaches	Part Number	Price
<b>25mm</b>	Ø .750" x 2.75"	<b>HT-025-H</b>	<b>\$1500</b>
<b>32mm</b>	Ø .750" x 2.75"	<b>HT-032-H</b>	<b>\$1500</b>

### 1/2" SERIES TORX BROACHES



Torx® Sizes

### .750" Dia x 2.75" Length - For Use With 3/4" Series HT Tool Holders

The Torx® / hexalobular internal driving feature is ideal for fasteners such as bolts and screws. The six lobe design gives strength to the driver and is resistant to stripping. Broaches are designed to meet international hexalobular major and minor diameters per ISO 10664.

Hexalobular / Torx® rotary broaches conform with major and minor diameters of **ISO 10664**. Available from stock for immediate delivery!

Nominal Size	(B) Major Dia.	(C) Minor Dia.	(D) Depth	Vent Hole	M-2		PM M-4		PM T-15	
					Part #	Price	Part #	Price	Part #	Price
<b>T-25</b>	.1798	.1294	.191	Yes	T25H	\$239	T25HP	\$264	T25HT	\$264
<b>T-30</b>	.2228	.1604	.238	Yes	T30H	\$289	T30HP	\$304	T30HT	\$304
<b>T-40</b>	.2683	.1932	.285	Yes	T40H	\$289	T40HP	\$304	T40HT	\$304
<b>T-45</b>	.3180	.2280	.333	Yes	T45H	\$314	T45HP	\$329	T45HT	\$329
<b>T-50</b>	.3543	.2559	.380	Yes	T50H	\$314	T50HP	\$329	T50HT	\$329

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

## INTERNAL 3/4" SERIES HEXAGON ROTARY BROACHES - INCH SIZES

Polygon Solutions' heavy duty hexagon rotary broaches are precision ground with a tolerance of  $\pm 0.001$ " and are available for immediate delivery.

Nominal sizes up to 1.00" conform to the industry standard - IFI and ANSI/ASME B18.3 2003. Custom hex sizes can be made same or next day.

Broaches can be made with M-2, PM M-4 or PM T-15 H.S.S. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro.

Don't see the size you are looking for? We can custom make any size to meet your requirements.

Polygon Solutions' broaching tools are designed for any mill, lathe or turning center.

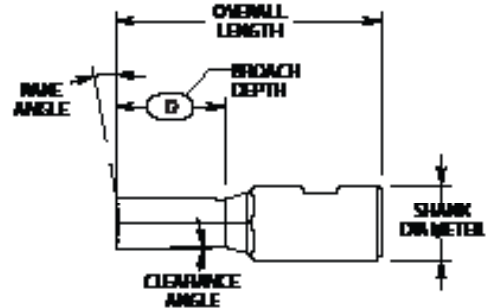
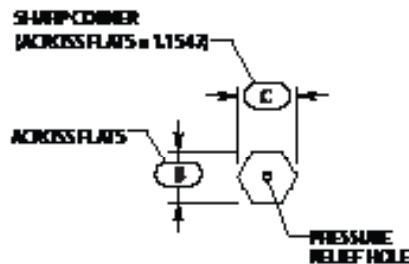
For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

Mating external hexagon rotary broaches see page 23.

All heavy duty broaches include a **pressure relief vent hole** that allows air and fluid to escape during the broaching process to reduce pressure on your machine and **extend tool life**.

Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches.

**CUSTOM**  
Sizes Available  
SAME DAY!!

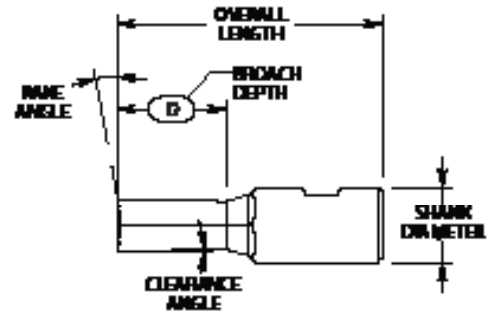
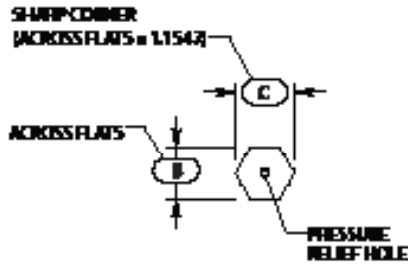


### 3/4" SERIES HEX BROACHES

.750" Diameter x 2.75" Length - For Use With 3/4" Series HT Tool Holders (Page 3)

Standard Sizes				M-2		PM M-4		PM T-15	
Nominal Size (inch)	(B) Across Flats	(D) Broaching Depth	Vent Hole	Part #	Price	Part #	Price	Part #	Price
7/16"	.4415	.800	Yes	H04415H	\$111	H04415HP	\$136	H04415HT	\$136
15/32"	.4730	.800	Yes	H04730H	\$111	H04730HP	\$136	H04730HT	\$136
1/2"	.5045	.800	Yes	H05045H	\$111	H05045HP	\$136	H05045HT	\$136
17/32"	.5360	.800	Yes	H05360H	\$111	H05360HP	\$136	H05360HT	\$136
9/16"	.5675	.800	Yes	H05675H	\$111	H05675HP	\$136	H05675HT	\$136
19/32"	.5990	1.00	Yes	H05990H	\$111	H05990HP	\$136	H05990HT	\$136
5/8"	.6305	1.00	Yes	H06305H	\$111	H06305HP	\$136	H06305HT	\$136
11/16"	.6935	1.75	Yes	H06935H	\$126	H06935HP	\$151	H06935HT	\$151
3/4"	.7565	1.75	Yes	H07565H	\$126	H07565HP	\$151	H07565HT	\$151
13/16"	.8195	1.75	Yes	H08195H	\$126	H08195HP	\$151	H08195HT	\$151
7/8"	.8835	1.75	Yes	H08835H	\$141	H08835HP	\$166	H08835HT	\$166
15/16"	.9470	1.75	Yes	H09470H	\$141	H09470HP	\$166	H09470HT	\$166
1.00"	1.0125	1.75	Yes	H10125H	\$141	H10125HP	\$166	H10125HT	\$166
1-1/8"	1.1375	1.75	Yes	H11375H	\$156	H11375HP	\$181	H11375HT	\$181
1-11/64"	1.1840	1.75	Yes	H11840H	\$156	H11840HP	\$181	H11840HT	\$181
1-1/4"	1.2625	1.75	Yes	H12625H	\$156	H12625HP	\$181	H12625HT	\$181
1-3/8"	1.3875	1.75	Yes	H13875H	\$156	H13875HP	\$181	H13875HT	\$181
1-1/2"	1.5125	1.75	Yes	H15125H	\$171	H15125HP	\$196	H15125HT	\$196
1-5/8"	1.6375	1.75	Yes	H16375H	\$171	H16375HP	\$196	H16375HT	\$196
1-3/4"	1.7625	1.75	Yes	H17625H	\$186	H17625HP	\$211	H17625HT	\$211
1-7/8"	1.8875	1.75	Yes	H18875H	\$186	H18875HP	\$211	H18875HT	\$211
2"	2.0125	1.75	Yes	H20125H	\$201	H20125HP	\$226	H20125HT	\$226
*Custom Sizes Are Available - Please call 239-628-4800				TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available					

# INTERNAL 3/4" SERIES HEXAGON ROTARY BROACHES - METRIC SIZES



## 3/4" SERIES HEX BROACHES

.750" Diameter x 2.75" Length - For Use With 3/4" Series HT Tool Holders (Page 3)

Standard Sizes

Nominal Size (mm)	(B) Across Flats	(D) Broaching Depth	Vent Hole	M-2		PM M-4		PM T-15	
				Part #	Price	Part #	Price	Part #	Price
12.00mm	.4775	.800	Yes	H04475H	\$111	H04475HP	\$136	H04475HT	\$136
13.00mm	.5170	.800	Yes	H05170H	\$111	H05170HP	\$136	H05170HT	\$136
14.00mm	.5565	.800	Yes	H05565H	\$111	H05565HP	\$136	H05565HT	\$136
15.00mm	.5965	.800	Yes	H05965H	\$111	H05965HP	\$136	H05965HT	\$136
16.00mm	.6355	.800	Yes	H06355H	\$111	H06355HP	\$136	H06355HT	\$136
17.00mm	.6750	1.00	Yes	H06750H	\$126	H06750HP	\$151	H06750HT	\$151
18.00mm	.7150	1.00	Yes	H07150H	\$126	H07150HP	\$151	H07015HT	\$151
19.00mm	.7545	1.75	Yes	H07545H	\$126	H07545HP	\$151	H07545HT	\$151
20.00mm	.7950	1.75	Yes	H07950H	\$126	H07950HP	\$151	H07950HT	\$151
21.00mm	.8355	1.75	Yes	H08355H	\$141	H08355HP	\$166	H08355HT	\$166
22.00mm	.8750	1.75	Yes	H08750H	\$141	H08750HP	\$166	H08750HT	\$166
23.00mm	.9160	1.75	Yes	H09160H	\$141	H09160HP	\$166	H09160HT	\$166
24.00mm	.9565	1.75	Yes	H09565H	\$141	H09565HP	\$166	H09565HT	\$166
25.00mm	.9960	1.75	Yes	H09960H	\$141	H09960HP	\$166	H09960HT	\$166
26.00mm	1.0360	1.75	Yes	H10360H	\$141	H10360HP	\$166	H10360HT	\$166
27.00mm	1.0750	1.75	Yes	H10750H	\$156	H10750HP	\$181	H10750HT	\$181
28.00mm	1.1140	1.75	Yes	H11140H	\$156	H11140HP	\$181	H11140HT	\$181
29.00mm	1.1540	1.75	Yes	H11540H	\$156	H11540HP	\$181	H11540HT	\$181
30.00mm	1.1930	1.75	Yes	H11930H	\$156	H11930HP	\$181	H11930HT	\$181
31.00mm	1.2325	1.75	Yes	H12325H	\$156	H12325HP	\$181	H12325HT	\$181
32.00mm	1.2720	1.75	Yes	H12720H	\$156	H12720HP	\$181	H12720HT	\$181
33.00mm	1.3110	1.75	Yes	H13110H	\$156	H13110HP	\$181	H13110HT	\$181

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

## AVAILABLE OPTIONS FOR INTERNAL 3/4" SERIES HEXAGON ROTARY BROACHES:

- Deep Broaching Depth (up to 1.75")
- Custom Across the Flats Dimensions .250" to 2.16" (7-54mm)
- Spun Ground Diameter or Corner Radius
- Custom Rake Angle
- Tighter Tolerances up to .0001"
- Re-Sharpening Services
- Coatings: TiN, TiCN, TiAlN and Alcrona Pro
- Quantity Discounts at 2, 5, 10, 25, 50 and 100 Broaches

**CUSTOM**  
Sizes Available  
SAME DAY!!

## INTERNAL 3/4" SERIES SQUARE ROTARY BROACHES - INCH SIZES

Polygon Solutions' heavy duty square rotary broaches are precision ground with a tolerance of  $\pm 0.001"$  and are available for immediate delivery. Nominal sizes up to 1.00" conform to the industry standard - IFI and ANSI/ASME B18.3 2003.

Don't see the size you are looking for? We can custom make any size to meet your requirements.

Polygon Solutions' broaching tools are designed for any mill, lathe or turning center.

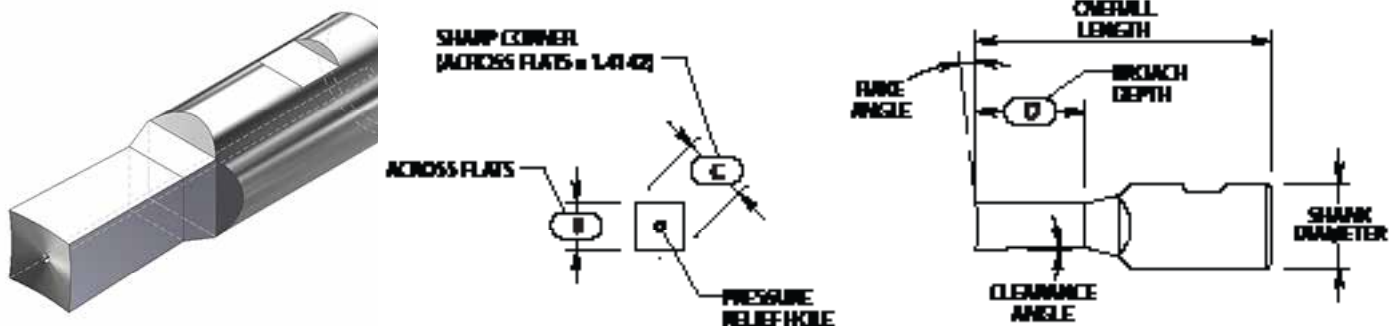
Broaches can be made with M-2, PM M-4 or PM T-15 H.S.S. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro.

For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

All heavy duty broaches include a **pressure relief vent hole** that allows air and fluid to escape during the broaching process to reduce pressure on your machine and extend tool life.

Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches.

**CUSTOM**  
Sizes Available  
SAME DAY!!



### 3/4" SERIES SQUARE BROACHES .750" Diameter x 2.75" Length - For Use With 3/4" Series HT Tool Holders (Page 3)

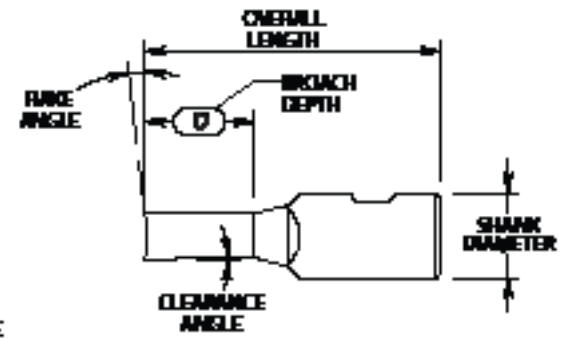
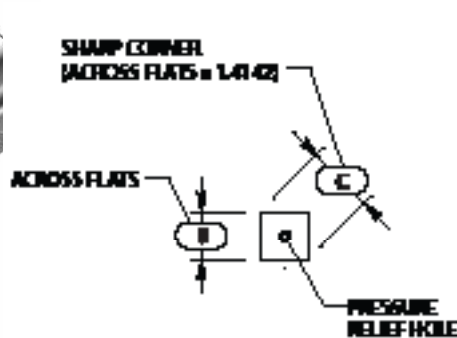
Standard Sizes

Nominal Size (inch)	(B) Across Flats	(D) Broaching Depth	Vent Hole	M-2		PM M-4		PM T-15	
				Part #	Price	Part #	Price	Part #	Price
7/16"	.4415	.800	Yes	S04415H	\$111	S04415HP	\$136	S04415HT	\$136
15/32"	.4730	.800	Yes	S04730H	\$111	S04730HP	\$136	S04730HT	\$136
1/2"	.5045	.800	Yes	S05045H	\$111	S05045HP	\$136	S05045HT	\$136
17/32"	.5360	.800	Yes	S05360H	\$126	S05360HP	\$151	S05360HT	\$151
9/16"	.5675	.800	Yes	S05675H	\$126	S05675HP	\$151	S05675HT	\$151
19/32"	.5990	1.00	Yes	S05990H	\$126	S05990HP	\$151	S05990HT	\$151
5/8"	.6305	1.00	Yes	S06305H	\$126	S06305HP	\$151	S06305HT	\$151
11/16"	.6935	1.75	Yes	S06935H	\$141	S06935HP	\$166	S06935HT	\$166
3/4"	.7565	1.75	Yes	S07565H	\$141	S07565HP	\$166	S07565HT	\$166
13/16"	.8195	1.75	Yes	S08195H	\$141	S08195HP	\$166	S08195HT	\$166
7/8"	.8835	1.75	Yes	S08835H	\$141	S08835HP	\$166	S08835HT	\$166
15/16"	.9470	1.75	Yes	S09470H	\$156	S09470HP	\$181	S09470HT	\$181
1.00"	1.0125	1.75	Yes	S10125H	\$156	S10125HP	\$181	S10125HT	\$181
1-1/8"	1.1375	1.75	Yes	S11375H	\$171	S11375HP	\$196	S11375HT	\$196
1-11/64"	1.1840	1.75	Yes	S11840H	\$171	S11840HP	\$196	S11840HT	\$196
1-1/4"	1.2625	1.75	Yes	S12625H	\$171	S12625HP	\$196	S12625HT	\$196
1-3/8"	1.3875	1.75	Yes	S13875H	\$186	S13875HP	\$211	S13875HT	\$211
1-1/2"	1.5125	1.75	Yes	S15125H	\$186	S15125HP	\$211	S15125HT	\$211
1-5/8"	1.6375	1.75	Yes	S16375H	\$201	S16375HP	\$226	S16375HT	\$226
1-3/4"	1.7625	1.75	Yes	S17625H	\$216	S17625HP	\$241	S17625HT	\$241

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

## INTERNAL 3/4" SERIES SQUARE ROTARY BROACHES - METRIC SIZES



**3/4" SERIES SQUARE BROACHES** .750" Diameter x 2.75" Length - For Use With 3/4" Series HT Tool Holders (Page 3)

Standard Sizes

Nominal Size (mm)	(B) Across Flats	(D) Broaching Depth	Vent Hole	M-2		PM M-4		PM T-15	
				Part #	Price	Part #	Price	Part #	Price
12.00mm	.4775	.800	Yes	S04475H	\$111	S04475HP	\$136	S04475HT	\$136
13.00mm	.5170	.800	Yes	S05170H	\$111	S05170HP	\$136	S05170HT	\$136
14.00mm	.5565	.800	Yes	S05565H	\$126	S05565HP	\$151	S05565HT	\$151
15.00mm	.5965	.800	Yes	S05965H	\$126	S05965HP	\$151	S05965HT	\$151
16.00mm	.6355	.800	Yes	S06355H	\$126	S06355HP	\$151	S06355HT	\$151
17.00mm	.6750	1.00	Yes	S06750H	\$141	S06750HP	\$166	S06750HT	\$166
18.00mm	.7150	1.00	Yes	S07150H	\$141	S07150HP	\$166	S07015HT	\$166
19.00mm	.7545	1.75	Yes	S07545H	\$141	S07545HP	\$166	S07545HT	\$166
20.00mm	.7950	1.75	Yes	S07950H	\$141	S07950HP	\$166	S07950HT	\$166
21.00mm	.8355	1.75	Yes	S08355H	\$141	S08355HP	\$166	S08355HT	\$166
22.00mm	.8750	1.75	Yes	S08750H	\$141	S08750HP	\$166	S08750HT	\$166
23.00mm	.9160	1.75	Yes	S09160H	\$156	S09160HP	\$181	S09160HT	\$181
24.00mm	.9565	1.75	Yes	S09565H	\$156	S09565HP	\$181	S09565HT	\$181
25.00mm	.9960	1.75	Yes	S09960H	\$156	S09960HP	\$181	S09960HT	\$181
26.00mm	1.0360	1.75	Yes	S10360H	\$156	S10360HP	\$181	S10360HT	\$181
27.00mm	1.0750	1.75	Yes	S10750H	\$171	S10750HP	\$196	S10750HT	\$196
28.00mm	1.1140	1.75	Yes	S11140H	\$171	S11140HP	\$196	S11140HT	\$196
29.00mm	1.1540	1.75	Yes	S11540H	\$171	S11540HP	\$196	S11540HT	\$196
30.00mm	1.1930	1.75	Yes	S11930H	\$171	S11930HP	\$196	S11930HT	\$196
31.00mm	1.2325	1.75	Yes	S12325H	\$171	S12325HP	\$196	S12325HT	\$196
32.00mm	1.2720	1.75	Yes	S12720H	\$171	S12720HP	\$196	S12720HT	\$196
33.00mm	1.3110	1.75	Yes	S13110H	\$186	S13110HP	\$211	S13110HT	\$211

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

### AVAILABLE OPTIONS FOR INTERNAL 3/4" SERIES SQUARE ROTARY BROACHES:

- Deep Broaching Depth (up to 1.75")
- Custom Across the Flats Dimensions .250" to 1.76" (7-44mm)
- Spun Ground Diameter or Corner Radius
- Custom Rake Angle
- Tighter Tolerances up to .0001"
- Re-Sharpening Services
- Coatings: TiN, TiCN, TiAlN and Alcrona Pro
- Quantity Discounts at 2, 5, 10, 25, 50 and 100 Broaches

**CUSTOM**  
Sizes Available  
SAME DAY!!



# INTERNAL DOUBLE HEXAGON ROTARY BROACHES

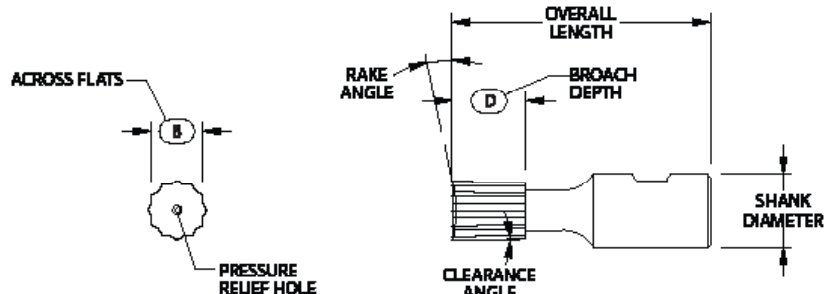
Polygon Solutions' double hexagon rotary broaches are precision ground with a tolerance of  $\pm 0.0005$ " and are available in standard and custom sizes.

Double Hex Broaches can be made with M-2, PM M-4, PM T-15 or M-42 H.S.S. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro.

For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

All double hex broaches include a **pressure relief vent hole** that allows air and fluid to escape during the broaching process to reduce pressure on your machine and **extend tool life**.

Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches.



## 1/2" SERIES DOUBLE HEX .500" Diameter x 1.75" Length - For Use With 1/2" Series GT Tool Holders (Page 4)

Standard Sizes				M-2		M-42		PM M-4		PM T-15		ASP 30	
Nominal Size (inch)	(B) Across Flats	(D) Broaching Depth	Vent Hole	Part #	Price	Part #	Price	Part #	Price	Part #	Price	Part #	Price
1/4"	.2525	.505	Yes	D02525B	\$275	D02525BM	\$290	D02525BP	\$290	D02525BT	\$290	D02525BN	\$305
9/32"	.2840	.568	Yes	D02840B	\$275	D02840BM	\$290	D02840BP	\$290	D02840BT	\$290	D02840BN	\$305
5/16"	.3155	.631	Yes	D03155B	\$275	D03155BM	\$290	D03155BP	\$290	D03155BT	\$290	D03155BN	\$305
11/32"	.3470	.694	Yes	D03470B	\$275	D03470BM	\$290	D03470BP	\$290	D03470BT	\$290	D03470BN	\$305
3/8"	.3785	.757	Yes	D03785B	\$275	D03785BM	\$290	D03785BP	\$290	D03785BT	\$290	D03785BN	\$305
13/32"	.4100	.800	Yes	D04100B	\$275	D04100BM	\$290	D04100BP	\$290	D04100BT	\$290	D04100BN	\$305
7/16"	.4415	.800	Yes	D04415B	\$290	D04415AM	\$305	D04415BP	\$305	D04415BT	\$305		
15/32"	.4730	.800	Yes	D04730B	\$290	D04730BM	\$305	D04730BP	\$305	D04730BT	\$305		
1/2"	.5045	.800	Yes	D05045B	\$290	D05045BM	\$305	D05045BP	\$305	D05045BT	\$305		
17/32"	.5360	.800	Yes	D05360B	\$290	D05360BM	\$305	D05360BP	\$305	D05360BT	\$305		
9/16"	.5675	.800	Yes	D05675B	\$290	D05675BM	\$305	D05675BP	\$305	D05675BT	\$305		
19/32"	.5990	1.00	Yes	D05990B	\$290	D05990BM	\$305	D05990BP	\$305	D05990BT	\$305		
5/8"	.6305	1.00	Yes	D06305B	\$305	D06305BM	\$320	D06305BP	\$320	D06305BT	\$320		
*Custom Sizes Are Available - Please call 239-628-4800				TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available									

## 3/4" SERIES DOUBLE HEX .750" Diameter x 2.75" Length - For Use With 3/4" Series HT Tool Holders (Page 3)

Standard Sizes				M-2		PM M-4		PM T-15	
Nominal Size (inch)	(B) Across Flats	(D) Broaching Depth	Vent Hole	Part #	Price	Part #	Price	Part #	Price
5/8"	.6305	1.00	Yes	D06305H	\$345	D06305HM	\$365	D06305HT	\$365
11/16"	.6935	1.75	Yes	D06935H	\$360	D06935HM	\$380	D06935HT	\$380
3/4"	.7565	1.75	Yes	D07565H	\$360	D07565HM	\$380	D07565HT	\$380
13/16"	.8195	1.75	Yes	D08195H	\$375	D08195HM	\$395	D08195HT	\$395
7/8"	.8835	1.75	Yes	D08835H	\$375	D08835HM	\$395	D08835HT	\$395
15/16"	.9470	1.75	Yes	D09470H	\$390	D09470HM	\$410	D09470HT	\$410
1.00"	1.0125	1.75	Yes	D10125H	\$405	D10125HM	\$425	D10125HT	\$425
1-1/8"	1.1375	1.75	Yes	D11375H	\$420	D11375HM	\$440	D11375HT	\$440
1-11/64"	1.1840	1.75	Yes	D11840H	\$420	D11840HM	\$440	D11840HT	\$440
1-1/4"	1.2625	1.75	Yes	D12625H	\$420	D12625HM	\$440	D12625HT	\$440
*Custom Sizes Are Available - Please call 239-628-4800				TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available					

# INTERNAL SERRATION ROTARY BROACHES

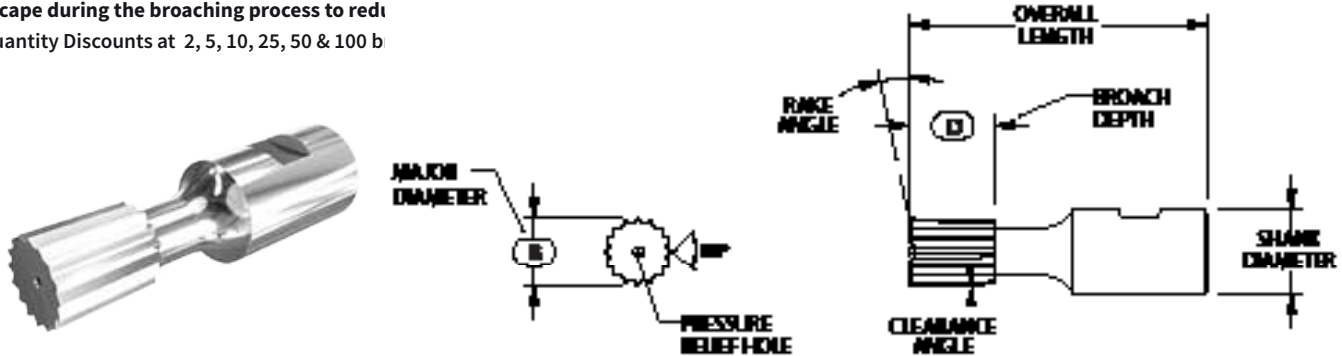
Polygon Solutions' serration rotary broaches are precision ground and are available in standard and custom sizes. Mating external serration broaches are also available (See page 26)

Serration Broaches can be made with M-2, PM M-4, PM T-15, M-42 or Polygon Solutions' ASP 30 brand for extremely tough applications. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro.

For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

All internal serration broaches include a **pressure relief vent hole** that allows air and fluid to escape during the broaching process to reduce

Quantity Discounts at 2, 5, 10, 25, 50 & 100 b



## 1/2" SERIES SERRATIONS

.500" Diameter x 1.75" Length - For Use With 1/2" Series GT Tool Holders (Page 4)

Standard Sizes

Nominal Size (inch)	# of Teeth	(B) Major Diameter	Vent Hole	M-2		PM M-4		PM T-15		ASP 30	
				Part #	Price	Part #	Price	Part #	Price	Part #	Price
11/32"	12	.3480	Yes	PS03480B-12	\$275	PS03480BP-12	\$290	PS03480BT-12	\$290	PS03480BN-12	\$305
	16	.3480	Yes	PS03480B-16	\$275	PS03480BP-16	\$290	PS03480BT-16	\$290	PS03480BN-16	\$305
	21	.3480	Yes	PS03480B-21	\$275	PS03480BP-21	\$290	PS03480BT-21	\$290	PS03480BN-21	\$305
3/8"	14	.3790	Yes	PS03790B-14	\$275	PS03790BP-14	\$290	PS03790BT-14	\$290	PS03790BN-14	\$305
	18	.3790	Yes	PS03790B-18	\$275	PS03790BP-18	\$290	PS03790BT-18	\$290	PS03790BN-18	\$305
	23	.3790	Yes	PS03790B-23	\$275	PS03790BP-23	\$290	PS03790BT-23	\$290	PS03790BN-23	\$305
13/32"	15	.4100	Yes	PS04100B-15	\$275	PS04100BP-15	\$290	PS04100BT-15	\$290	PS04100BN-15	\$305
	19	.4100	Yes	PS04100B-19	\$275	PS04100BP-19	\$290	PS04100BT-19	\$290	PS04100BN-19	\$305
	24	.4100	Yes	PS04100B-24	\$275	PS04100BP-24	\$290	PS04100BT-24	\$290	PS04100BN-24	\$305
7/16"	16	.4415	Yes	PS04415B-16	\$275	PS04415BP-16	\$290	PS04415BT-16	\$290	PS04415BN-16	\$305
	21	.4415	Yes	PS04415B-21	\$275	PS04415BP-21	\$290	PS04415BT-21	\$290	PS04415BN-21	\$305
	26	.4415	Yes	PS04415B-26	\$275	PS04415BP-26	\$290	PS04415BT-26	\$290	PS04415BN-26	\$305
15/32"	17	.4730	Yes	PS04730B-17	\$275	PS04730BP-17	\$290	PS04730BT-17	\$290	PS04730BN-17	\$305
	22	.4730	Yes	PS04730B-22	\$275	PS04730BP-22	\$290	PS04730BT-22	\$290	PS04730BN-22	\$305
	28	.4730	Yes	PS04730B-28	\$295	PS04730BP-28	\$310	PS04730BT-28	\$310	PS04730BN-28	\$325
1/2"	18	.5040	Yes	PS05040B-18	\$290	PS05040BP-18	\$305	PS05040BT-18	\$305		
	24	.5040	Yes	PS05040B-24	\$290	PS05040BP-24	\$305	PS05040BT-24	\$305		
	30	.5040	Yes	PS05040B-30	\$310	PS05040BP-30	\$325	PS05040BT-30	\$325		
9/16"	20	.5665	Yes	PS05665B-20	\$290	PS05665BP-20	\$305	PS05665BT-20	\$305		
	27	.5665	Yes	PS05665B-27	\$310	PS05665BP-27	\$325	PS05665BT-19	\$325		
	34	.5665	Yes	PS05665B-34	\$315	PS05665BP-34	\$330	PS05665BT-34	\$330		
5/8"	23	.6290	Yes	PS06290B-23	\$290	PS06290BP-23	\$305	PS06290BT-23	\$305		
	30	.6290	Yes	PS06290B-30	\$310	PS06290BP-30	\$325	PS06290BT-30	\$325		
	38	.6290	Yes	PS06290B-38	\$325	PS06290BP-38	\$340	PS06290BT-38	\$340		
3/4"	27	.7540	Yes	PS07540B-27	\$325	PS07540BP-27	\$340	PS07540BT-27	\$340		
	36	.7540	Yes	PS07540B-36	\$340	PS07540BP-36	\$355	PS07540BT-36	\$355		
	45	.7540	Yes	PS07540B-45	\$355	PS07540BP-45	\$370	PS07540BT-45	\$370		

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

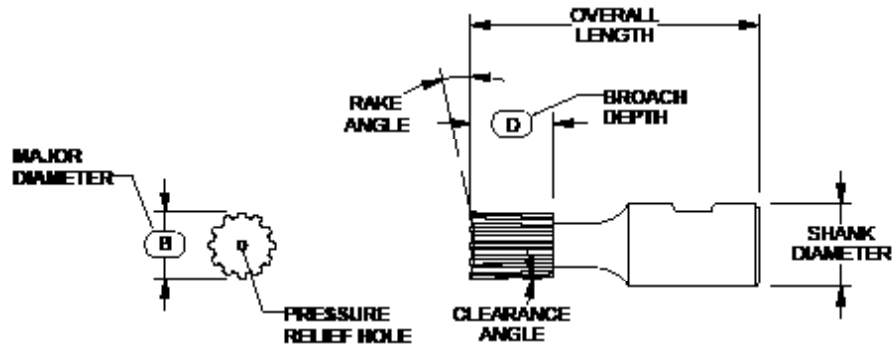
# INTERNAL INVOLUTE SPLINE ROTARY BROACHES

Polygon Solutions' involute spline rotary broaches are precision ground and are available in standard and custom sizes. Standard sizes are made with a 30° Pressure Angle; Side Fit, however, custom sizes can be made according to your specifications. Mating external involute splines broaches are also available (See page 25)

Involute Spline Broaches can be made with M-2, PM M-4, PM T-15, M-42 or Polygon Solutions' ASP 30 brand for extremely tough applications. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro.

For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

All internal involute spline broaches include a **pressure relief vent hole** that allows air and fluid to escape during the broaching process to reduce pressure on your machine and ex  
Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches



## 1/2" SERIES INVOLUTE SPLINES .500" Diameter x 1.75" Length - For Use With 1/2" Series GT Tool Holders (Page 4)

Standard Sizes | 30° Pressure Angle; Side Fit

Nominal Size (inch)	# of Teeth	(B) Major Diameter	Vent Hole	M-2		PM M-4		PM T-15		ASP 30	
				Part #	Price	Part #	Price	Part #	Price	Part #	Price
5/16"	13	.312	Yes	PI03120B-13	\$295	PI03120BP-13	\$310	PI03120BT-13	\$310	PI03120BN-13	\$325
11/32"	15	.3430	Yes	PI03430B-15	\$295	PI03430BP-15	\$310	PI03430BT-15	\$310	PI03480BN-16	\$325
3/8"	16	.3740	Yes	PI03740B-16	\$295	PI03740BP-16	\$310	PI03740BT-16	\$310	PI03740BN-16	\$325
13/32"	18	.4060	Yes	PI04060B-18	\$295	PI04060BP-18	\$310	PI04060BT-18	\$310	PI04060BN-18	\$325
7/16"	20	.4470	Yes	PI04470B-20	\$295	PI04470BP-20	\$310	PI04470BT-20	\$310	PI04470BN-20	\$325
15/32"	21	.4680	Yes	PI04680B-21	\$295	PI04680BP-21	\$310	PI04680BT-21	\$310	PI04680BN-21	\$325
1/2"	22	.4990	Yes	PI04990B-22	\$310	PI04990BP-22	\$325	PI04990BT-22	\$325	PI04990BN-22	\$340
9/16"	25	.5620	Yes	PI05620B-25	\$325	PI05620BP-25	\$340	PI05620BT-25	\$340	PI05620BN-25	\$355
5/8"	28	.6240	Yes	PI06240B-28	\$325	PI06240BP-28	\$340	PI06240BT-28	\$340	PI06240BN-28	\$355
21/32"	30	.6560	Yes	PI06560B-30	\$340	PI06560BP-30	\$355	PI06560BT-30	\$355	PI06560BN-30	\$370
11/16"	31	.6870	Yes	PI06870B-31	\$340	PI06870BP-31	\$355	PI06870BT-31	\$355	PI06870BN-31	\$370
3/4"	34	.7490	Yes	PI07490B-34	\$355	PI07490BP-34	\$370	PI07490BT-34	\$370	PI07490BN-34	\$385

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

## 3/4" SERIES INVOLUTE SPLINES .750" Diameter x 2.75" Length - For Use With 3/4" Series HT Tool Holders (Page 3)

Standard Sizes | 30° Pressure Angle; Side Fit

Nominal Size (inch)	# of Teeth	(D) Broaching Depth	Vent Hole	M-2		PM M-4		PM T-15	
				Part #	Price	Part #	Price	Part #	Price
5/8"	28	.6240	Yes	PI06240H-28	\$365	PI06240HP-28	\$390	PI06240HT-28	\$390
21/32"	30	.6560	Yes	PI06560H-30	\$380	PI06560HP-30	\$405	PI06560HT-30	\$405
11/16"	31	.6870	Yes	PI06870H-31	\$380	PI06870HP-31	\$405	PI06870HT-31	\$405
3/4"	34	.7490	Yes	PI07490H-34	\$395	PI07490HP-34	\$420	PI07490HT-34	\$420
13/16"	37	.8120	Yes	PI08120H-37	\$365	PI08120HP-37	\$390	PI08120HT-37	\$390
7/8"	40	.8740	Yes	PI08740H-40	\$380	PI08740HP-40	\$405	PI08740HT-40	\$405
15/16"	43	.9370	Yes	PI09370H-43	\$380	PI09370HP-43	\$405	PI09370HT-43	\$405
1"	46	.9990	Yes	PI09990H-46	\$395	PI09990HP-46	\$420	PI09990HT-46	\$420

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

# INTERNAL ROSAN-TYPE ROTARY BROACHES

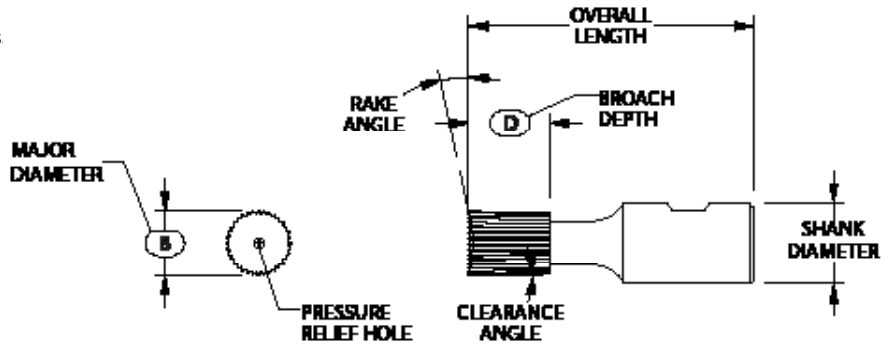
Polygon Solutions' Rosan-type rotary broaches are precision ground and engineered to produce internal serrations for SAE standard AS1300 ports (PS10035).

Rosan-type Broaches can be made with M-2, PM M-4, PM T-15, M-42 or Polygon Solutions' ASP 30 brand for extremely tough applications. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro.

For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

All rosan-type broaches include a **pressure relief vent hole** that allows air and fluid to escape during the broaching process to reduce pressure on your machine and **extend tool life**.

Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches



## 1/2" SERIES ROSAN-TYPE

**.500" Diameter x 1.75" Length - For Use With 1/2" Series GT Tool Holders (Page 4)**

SAE Standard AS1300 Port Sizes

SAE Port Ref. #	# of Teeth	Produces Port #	(B) Major Dia.	Vent Hole	M-2		PM M-4		PM T-15		ASP 30	
					Part #	Price	Part #	Price	Part #	Price	Part #	Price
AS1300-02	24	PS10035-02	.4110	Yes	PXR-02	\$345	PXR-02P	\$360	PXR-02T	\$360	PXR-02N	\$360
AS1300-03	26	PS10035-03	.4810	Yes	PXR-03	\$345	PXR-03P	\$360	PXR-03T	\$360	PXR-03N	\$360
AS1300-04	30	PS10035-04	.5270	Yes	PXR-04	\$425	PXR-04P	\$440	PXR-04T	\$440		
AS1300-05	36	PS10035-05	.6380	Yes	PXR-05	\$425	PXR-05P	\$440	PXR-05T	\$440		
AS1300-06	36	PS10035-06	.7130	Yes	PXR-06	\$425	PXR-06P	\$440	PXR-06T	\$440		
AS1300-08	40	PS10035-08	.8290	Yes	PXR-08	\$475	PXR-08P	\$490	PXR-08T	\$490		
AS1300-10	38	PS10035-10	1.0550	Yes	PXR-10	\$475	PXR-10P	\$490	PXR-10T	\$490		
AS1300-12	40	PS10035-12	1.1850	Yes	PXR-12	\$525	PXR-12P	\$540	PXR-12T	\$540		
AS1300-14	50	PS10035-14	1.3570	Yes	PXR-14	\$525	PXR-14P	\$540	PXR-14T	\$540		
AS1300-16	36	PS10035-16	1.4740	Yes	PXR-16	\$525	PXR-16P	\$540	PXR-16T	\$540		

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

## 3/4" SERIES INVOLUTE SPLINES

**.750" Diameter x 2.75" Length - For Use With 3/4" Series HT Tool Holders (Page 3)**

SAE Standard AS1300 Port Sizes

SAE Port Ref. #	# of Teeth	Produces Port #	(B) Major Dia.	Vent Hole	M-2		PM M-4		PM T-15	
					Part #	Price	Part #	Price	Part #	Price
AS1300-06	36	PS10035-06	.7130	Yes	PXR-06H	\$465	PXR-06HP	\$485	PXR-06HT	\$485
AS1300-08	40	PS10035-08	.8290	Yes	PXR-08H	\$515	PXR-08HP	\$540	PXR-08HT	\$540
AS1300-10	38	PS10035-10	1.0550	Yes	PXR-10H	\$515	PXR-10HP	\$540	PXR-10HT	\$540
AS1300-12	40	PS10035-12	1.1850	Yes	PXR-12H	\$565	PXR-12HP	\$590	PXR-12HT	\$590
AS1300-14	50	PS10035-14	1.3570	Yes	PXR-14H	\$565	PXR-14HP	\$590	PXR-14HT	\$590
AS1300-16	36	PS10035-16	1.4740	Yes	PXR-16H	\$565	PXR-16HP	\$590	PXR-16HT	\$590
AS1300-20	56	PS10035-20	1.7980	Yes	PXR-20H	\$615	PXR-20HP	\$640	PXR-20HT	\$640
AS1300-24	81	PS10035-24	2.0480	Yes	PXR-24H	\$745	PXR-24HP	\$770	PXR-24HT	\$770

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

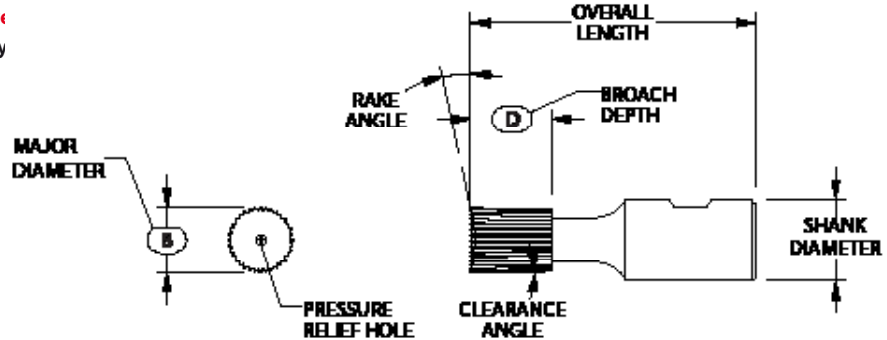
# INTERNAL J500 ROTARY BROACHES

Polygon Solutions' offers a wide variety of precision ground J500 rotary broaches that are available in standard and custom sizes. Designed for maximum tool life, Polygons' J500 rotary broach sizes conform to the SAE standards. Mating external J500 broaches are also available. Call 239-628-4800 for details.

J500 Broaches can be made with M-2, PM M-4, PM T-15, M-42 or Polygon Solutions' ASP 30 brand for extremely tough applications. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro.

For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

All internal J500 broaches include a **pressure relief v** during the broaching process to reduce pressure on y  
Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches.



## 8MM SERIES J500 BROACHES

.315" Diameter x 1.25" Length - For Use With **8mm Series** GT Tool Holders (Page 4)

SAE Standard Sizes				M-2		PM M-4		PM T-15		ASP 30	
Nominal Size (inch)	# of Teeth	(B) Major Diameter	Vent Hole	Part #	Price	Part #	Price	Part #	Price	Part #	Price
1/8"	36	.1265	Yes	PXJ01265A	\$295	PXJ01265AP	\$310	PXJ01265AT	\$310	PXJ01265AN	\$325
3/16"	36	.1895	Yes	PXJ01895A	\$295	PXJ01895AP	\$310	PXJ01895AT	\$310	PXJ01895AN	\$325
1/4"	36	.2515	Yes	PXJ02515A	\$295	PXJ02515AP	\$310	PXJ02515AT	\$310	PXJ02515AN	\$325
5/16"	36	.3150	Yes	PXJ03150A	\$295	PXJ03150AP	\$310	PXJ03150AT	\$310	PXJ03150AN	\$325
*Custom Sizes Are Available - Please call 239-628-4800						TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available					

## 1/2" SERIES J500 BROACHES

.500" Diameter x 1.75" Length - For Use With **1/2" Series** GT Tool Holders (Page 4)

SAE Standard Sizes				M-2		PM M-4		PM T-15		ASP 30	
Nominal Size (inch)	# of Teeth	(B) Major Diameter	Vent Hole	Part #	Price	Part #	Price	Part #	Price	Part #	Price
1/8"	36	.1265	Yes	PXJ01265B	\$295	PXJ01265BP	\$310	PXJ01265BT	\$310	PXJ01265BN	\$325
3/16"	36	.1895	Yes	PXJ01895B	\$295	PXJ01895BP	\$310	PXJ01895BT	\$310	PXJ01895BN	\$325
1/4"	36	.2515	Yes	PXJ02515B	\$295	PXJ02515BP	\$310	PXJ02515BT	\$310	PXJ02515BN	\$325
5/16"	36	.3150	Yes	PXJ03150B	\$295	PXJ03150BP	\$310	PXJ03150BT	\$310	PXJ03150BN	\$325
3/8"	36	.3765	Yes	PXJ03765B	\$295	PXJ03765BP	\$310	PXJ03765BT	\$310	PXJ03765BN	\$325
1/2"	36	.5015	Yes	PXJ05015B	\$310	PXJ05015BP	\$325	PXJ05015BT	\$325		
5/8"	36	.6265	Yes	PXJ06265B	\$310	PXJ06265BP	\$325	PXJ06265BT	\$325		
*Custom Sizes Are Available - Please call 239-628-4800						TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available					

## 3/4" SERIES J500 BROACHES

.750" Diameter x 2.75" Length - For Use With **3/4" Series** HT Tool Holders (Page 3)

SAE Standard Sizes				M-2		PM M-4		PM T-15	
Nominal Size (inch)	# of Teeth	(D) Broaching Depth	Vent Hole	Part #	Price	Part #	Price	Part #	Price
1/2"	36	.5015	Yes	PXJ05015H	\$350	PXJ05015HP	\$375	PXJ05015HT	\$375
5/8"	36	.6265	Yes	PXJ06265H	\$350	PXJ06265HP	\$375	PXJ06265HT	\$375
3/4"	48	.7515	Yes	PXJ07515H	\$395	PXJ07515HP	\$420	PXJ06265HT	\$420
7/8"	48	.8765	Yes	PXJ08765H	\$395	PXJ08765HP	\$420	PXJ08765HT	\$420
1"	48	1.0015	Yes	PXJ10015H	\$410	PXJ10015HP	\$435	PXJ10015HT	\$435
*Custom Sizes Are Available - Please call 239-628-4800						TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available			



# EXTERNAL ROTARY BROACH TOOL HOLDERS

Precision Made in the USA

## ADJUSTMENT-FREE ROTARY BROACH TOOL HOLDER FOR EXTERNAL BROACHES

### GT SERIES EXTERNAL TOOL HOLDER

**MOST ADVANCED ROTARY BROACH TOOL HOLDER AVAILABLE!**



**\$849**

For Use With **GT Series** External Rotary Broaches

Polygon Solutions' Award-Winning GT Series External Tool Holder has a sleek design that offers a very small footprint allowing much needed clearance in today's machines. **100% Adjustment-Free:** 1) Insert Holder into Tool Block; and 2) Tighten Set Screws.

The **GT Series** tool holder is ideal for medium forms: **.081" to .600"**  
Accepts **.750"** diameter x **1.135"** length external rotary broaches

#### INNOVATIVE GT HOLDER FEATURES:

Our engineers went a step further by adding innovative features offered by no other company.

- High Quality Sealed Bearings - No Messy Hourly Greasing = No Down Time
- Pressure Relief Technology - Allows Air & Fluid To Freely Escape
- Adjustment-Free Design - No Wasting Time Indicating Broach on Center

Shank Size (inch)	Accepts Broaches	Part Number	Price
<b>5/8"</b> (0.625")	Ø .750" x 1.135"	<b>GT-063-E</b>	<b>\$849</b>
<b>3/4"</b> (0.750")	Ø .750" x 1.135"	<b>GT-075-E</b>	<b>\$849</b>
<b>1"</b> (1.000")	Ø .750" x 1.135"	<b>GT-100-E</b>	<b>\$849</b>
<b>1-1/4"</b> (1.250")	Ø .750" x 1.135"	<b>GT-125-E</b>	<b>\$849</b>
<b>1-1/2"</b> (1.500")	Ø .750" x 1.135"	<b>GT-150-E</b>	<b>\$849</b>

Shank Size (mm)	Accepts Broaches	Part Number	Price
<b>16mm</b>	Ø .750" x 1.135"	<b>GT-016-E</b>	<b>\$849</b>
<b>20mm</b>	Ø .750" x 1.135"	<b>GT-020-E</b>	<b>\$849</b>
<b>22mm</b>	Ø .750" x 1.135"	<b>GT-022-E</b>	<b>\$849</b>
<b>25mm</b>	Ø .750" x 1.135"	<b>GT-025-E</b>	<b>\$849</b>
<b>32mm</b>	Ø .750" x 1.135"	<b>GT-032-E</b>	<b>\$849</b>

## ADJUSTMENT-FREE HEAVY DUTY TOOL HOLDER FOR EXTERNAL BROACHES

### HT SERIES EXTERNAL TOOL HOLDER

**MOST ADVANCED ROTARY BROACH TOOL HOLDER AVAILABLE!**



**\$1850**

For Use With **HT Series** External Rotary Broaches

Polygon Solutions' Heavy Duty HT Series Tool Holder is engineered for aggressive rotary broaching applications.

**100% Adjustment-Free**

**Engineered with a 2-Degree Angle centerline offset  
for greatly reduced thrust requirements.**

The **HT Series** tool holder is ideal for large forms: **.500" to 1.36"**  
Accepts **1.65"** diameter x **1.65"** length external rotary broaches

#### INNOVATIVE HT HOLDER FEATURES:

- Aggressive **2-Degree Angle** centerline offset to reduce thrust requirements
- High Quality Sealed Bearings - No Messy Hourly Greasing = No Down Time
- Pressure Relief Technology - Allows Air & Fluid To Freely Escape
- Adjustment-Free Design - No Wasting Time Indicating Broach on Center

Shank Size (inch)	Accepts Broaches	Part Number	Price
<b>1"</b> (1.000")	Ø 1.65" x 1.65"	<b>HT-100-E</b>	<b>\$1850</b>
<b>1-1/4"</b> (1.250")	Ø 1.65" x 1.65"	<b>HT-125-E</b>	<b>\$1850</b>
<b>1-1/2"</b> (1.500")	Ø 1.65" x 1.65"	<b>HT-150-E</b>	<b>\$1850</b>

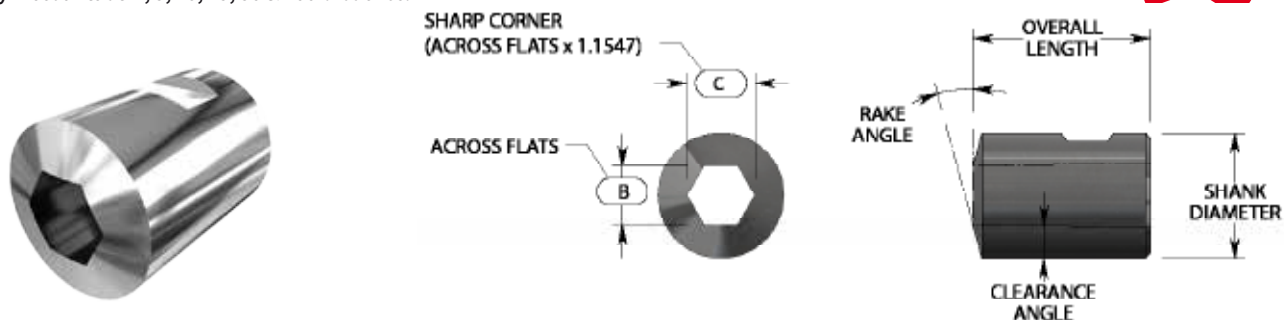
## EXTERNAL HEXAGON ROTARY BROACHES - INCH SIZES

Polygon Solutions' offers a wide range of external hexagon rotary broach sizes. Custom hex sizes can be made same or next day. Our Broaches can be made with M-2, PM M-4, PM T-15 or M-42 H.S.S. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro. For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

Mating internal hexagon rotary broaches see pages 8, 9, 13 and 14.

Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches.

**CUSTOM**  
Sizes Available  
SAME DAY!!



### GT SERIES EXTERNAL HEXAGON .750" Diameter x 1.135" Length - For Use With GT Series External Holders (Page 3)

Standard Sizes			M-2		PM M-4		PM T-15	
Nominal Size (inch)	(B) Across Flats	(D) Broaching Depth	Part #	Price	Part #	Price	Part #	Price
5/32"	.1535	1.10	EH01535E	\$300	EH01535EP	\$315	EH01535ET	\$315
11/64"	.1690	1.10	EH01690E	\$300	EH01690EP	\$315	EH01690ET	\$315
3/16"	.1845	1.10	EH01845E	\$300	EH01845EP	\$315	EH01845ET	\$315
7/32"	.2165	1.10	EH02165E	\$300	EH02165EP	\$315	EH02165ET	\$315
1/4"	.2475	1.10	EH02475E	\$300	EH02475EP	\$315	EH02475ET	\$315
9/32"	.2790	1.10	EH02790E	\$300	EH02790EP	\$315	EH02790ET	\$315
5/16"	.3105	1.10	EH03105E	\$300	EH03105EP	\$315	EH03105ET	\$315
11/32"	.3420	1.10	EH03420E	\$300	EH03420EP	\$315	EH03420ET	\$315
3/8"	.3735	1.10	EH03735E	\$300	EH03735EP	\$315	EH03735ET	\$315
13/32"	.4050	1.10	EH04050E	\$300	EH04050EP	\$315	EH04050ET	\$315
7/16"	.4365	1.10	EH04365E	\$300	EH04365EP	\$315	EH04365ET	\$315
15/32"	.4680	1.10	EH04680E	\$300	EH04680EP	\$315	EH04680ET	\$315
1/2"	.4995	1.10	EH04995E	\$300	EH04995EP	\$315	EH04995ET	\$315

\*Custom Inch and Metric Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

### HT SERIES EXTERNAL HEXAGON 1.65" Diameter x 1.65" Length - For Use With HT Series External Holders (Page 3)

Standard Sizes			M-2		PM M-4		PM T-15	
Nominal Size (inch)	(B) Across Flats	(D) Broaching Depth	Part #	Price	Part #	Price	Part #	Price
9/16"	.5625	1.50	EH05625EH	\$350	EH05625EHP	\$375	EH05625EHT	\$375
19/32"	.5940	1.50	EH05940EH	\$350	EH05940EHP	\$375	EH05940EHT	\$375
5/8"	.6255	1.50	EH06225EH	\$350	EH06225EHP	\$375	EH06225EHT	\$375
11/16"	.6885	1.50	EH06885EH	\$350	EH06885EHP	\$375	EH06885EHT	\$375
3/4"	.7515	1.50	EH07515EH	\$350	EH07515EHP	\$375	EH07515EHT	\$375
13/16"	.8145	1.50	EH08145EH	\$350	EH08145EHP	\$375	EH08145EHT	\$375
7/8"	.8785	1.50	EH08785EH	\$350	EH08785EHP	\$375	EH08785EHT	\$375
15/16"	.9420	1.50	EH09420EH	\$350	EH09420EHP	\$375	EH09420EHT	\$375
1.00"	1.0075	1.50	EH10075EH	\$350	EH10075EHP	\$375	EH10075EHT	\$375
1-1/8"	1.1325	1.50	EH11325EH	\$350	EH11325EHP	\$375	EH11325EHT	\$375
1-11/64"	1.1790	1.50	EH11790EH	\$350	EH11790EHP	\$375	EH11790EHT	\$375

\*Custom Inch and Metric Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

# EXTERNAL SERRATION ROTARY BROACHES

Polygon Solutions' serration rotary broaches are precision made and are available in standard and custom sizes.

Mating internal serration broaches are also available (See page 18)

Serration Broaches can be made with M-2, PM M-4, PM T-15 or M-42 H.S.S. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro.

For steel and coating recommendations call our award-winning technical support team at 239-628-4800.

Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches.



MAJOR  
DIAMETER

B

RAKE  
ANGLE

OVERALL  
LENGTH

SHANK  
DIAMETER

CLEARANCE  
ANGLE

## EXTERNAL SERRATIONS

**.750" Diameter x 1.135" Length - For Use With GT Series External Holders (Page 4)**

Standard Sizes			M-2		PM M-4		PM T-15	
Nominal Size (inch)	# of Teeth	(B) Major Diameter	Part #	Price	Part #	Price	Part #	Price
11/32"	12	.3400	PS03400E-12	\$275	PS03400EP-12	\$290	PS03400ET-12	\$290
	16	.3440	PS03440E-16	\$275	PS03440EP-16	\$290	PS03440ET-16	\$290
	21	.3400	PS03400E-21	\$275	PS03400EP-21	\$290	PS03400ET-21	\$290
3/8"	14	.3710	PS03710E-14	\$275	PS03710EP-14	\$290	PS03710ET-14	\$290
	18	.3710	PS03710E-18	\$275	PS03710EP-18	\$290	PS03710ET-18	\$290
	23	.3710	PS03710E-23	\$275	PS03710EP-23	\$290	PS03710ET-23	\$290
13/32"	15	.4020	PS04020E-15	\$275	PS04020EP-15	\$290	PS04020ET-15	\$290
	19	.4020	PS04020E-19	\$275	PS04020EP-19	\$290	PS04020ET-19	\$290
	24	.4020	PS04020E-24	\$275	PS04020EP-24	\$290	PS04020ET-24	\$290
7/16"	16	.4335	PS04335E-16	\$275	PS04335EP-16	\$290	PS04335ET-16	\$290
	21	.4335	PS04335E-21	\$275	PS04335EP-21	\$290	PS04335ET-21	\$290
	26	.4335	PS04335E-26	\$275	PS04335EP-26	\$290	PS04335ET-26	\$290
15/32"	17	.4650	PS04650E-17	\$275	PS04650EP-17	\$290	PS04650ET-17	\$290
	22	.4650	PS04650E-22	\$275	PS04650EP-22	\$290	PS04650ET-22	\$290
	28	.4650	PS04650E-28	\$295	PS04650EP-28	\$310	PS04650ET-28	\$310
1/2"	18	.4960	PS04960E-18	\$290	PS04960EP-18	\$305	PS04960ET-18	\$305
	24	.4960	PS04960E-24	\$290	PS04960EP-24	\$305	PS04960ET-24	\$305
	30	.4960	PS04960E-30	\$310	PS04960EP-30	\$325	PS04960ET-30	\$325
9/16"	20	.5585	PS05585E-20	\$290	PS05585EP-20	\$305	PS05585ET-20	\$305
	27	.5585	PS05585E-27	\$310	PS05585EP-27	\$325	PS05585ET-19	\$325
	34	.5585	PS05585E-34	\$315	PS05585EP-34	\$330	PS05585ET-34	\$330

\*Custom Sizes Are Available - Please call 239-628-4800

TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available

## HT EXTERNAL SERRATIONS

**1.65" Diameter x 1.65" Length - For Use With HT Series External Holders (Page 4)**

Standard Sizes			M-2		PM M-4		PM T-15	
Nominal Size (inch)	# of Teeth	(B) Major Diameter	Part #	Price	Part #	Price	Part #	Price
5/8"	23	.6210	PS06210EH-23	\$290	PS06210EHP-23	\$305	PS06210EHT-23	\$305
	30	.6210	PS06210EH-30	\$310	PS06210EHP-30	\$325	PS06210EHT-30	\$325
	38	.6210	PS06210EH-38	\$325	PS06210EHP-38	\$340	PS06210EHT-38	\$340
3/4"	27	.7460	PS07460EH-27	\$325	PS07460EHP-27	\$340	PS07460EHT-27	\$340
	36	.7460	PS07460EH-36	\$340	PS07460EHP-36	\$355	PS07460EHT-36	\$355

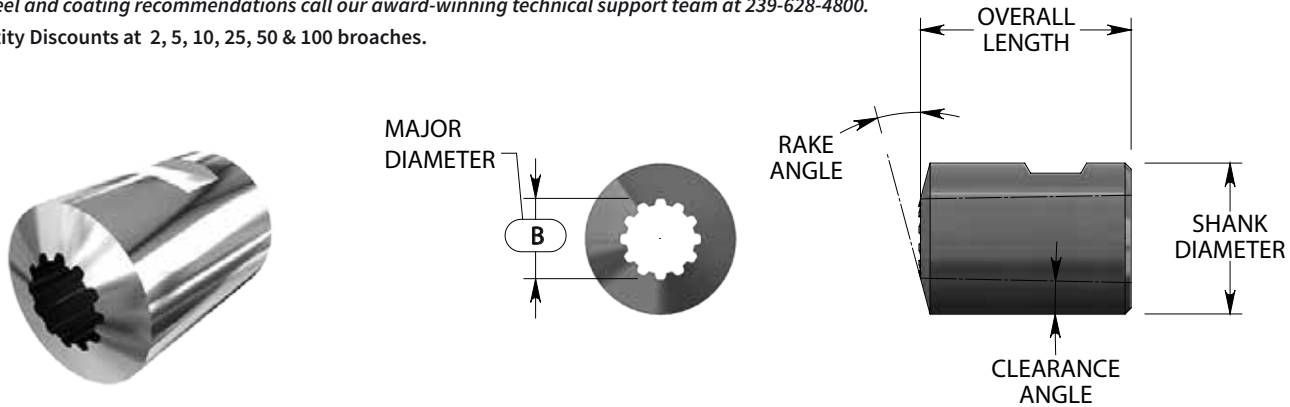
# EXTERNAL INVOLUTE SPLINE ROTARY BROACHES

Polygon Solutions' involute spline rotary broaches are precision made and are available in standard and custom sizes. Standard sizes are made with a 30° Pressure Angle; Side Fit, however, custom sizes can be made according to your specifications. Mating internal involute splines broaches are also available (See page 19)

Involute Spline Broaches can be made with M-2, PM M-4, PM T-15 or M-42 H.S.S. Available Coatings: TiN, TiCN, TiAlN or Alcrona Pro.

*For steel and coating recommendations call our award-winning technical support team at 239-628-4800.*

Quantity Discounts at 2, 5, 10, 25, 50 & 100 broaches.



EXTERNAL INVOLUTE SPLINES			.750” Diameter x 1.135” Length - For Use With <b>GT Series</b> External Holder (Page 4)					
Standard Sizes   30° Pressure Angle; Side Fit			M-2		PM M-4		PM T-15	
Nominal Size (inch)	# of Teeth	(B) Major Diameter	Part #	Price	Part #	Price	Part #	Price
5/16”	13	.2920	PI02920E-13	\$295	PI02920EP-13	\$310	PI02920ET-13	\$310
11/32”	15	.3330	PI03330E-15	\$295	PI03330EP-15	\$310	PI03330ET-15	\$310
3/8”	16	.3540	PI03540E-16	\$295	PI03540EP-16	\$310	PI03540ET-16	\$310
13/32”	18	.3960	PI03960E-18	\$295	PI03960EP-18	\$310	PI03960ET-18	\$310
7/16”	20	.4370	PI04370E-20	\$295	PI04370EP-20	\$310	PI04370ET-20	\$310
15/32”	21	.4580	PI04580E-21	\$295	PI04580EP-21	\$310	PI04580ET-21	\$310
1/2”	22	.4790	PI04790E-22	\$310	PI04790EP-22	\$325	PI04790ET-22	\$325
9/16”	25	.5420	PI05420E-25	\$325	PI05420EP-25	\$340	PI05420ET-25	\$340
5/8”	28	.6040	PI06040E-28	\$325	PI06040EP-28	\$340	PI06040ET-28	\$340
*Custom Sizes Are Available - Please call 239-628-4800					TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available			

HT EXTERNAL INVOLUTE SPLINES			1.65” Diameter x 1.65” Length - For Use With HT Series External Holder (Page 3)					
Standard Sizes   30° Pressure Angle; Side Fit			M-2		PM M-4		PM T-15	
Nominal Size (inch)	# of Teeth	(D) Broaching Depth	Part #	Price	Part #	Price	Part #	Price
1/2”	22	.4790	PI04790EH-22	\$350	PI04790EHP-22	\$375	PI04790EHT-22	\$375
9/16”	25	.5420	PI05420EH-25	\$365	PI05420EHP-25	\$390	PI05420EHT-25	\$390
5/8”	28	.6040	PI06040EH-28	\$365	PI06040EHP-28	\$390	PI06040EHT-28	\$390
21/32”	30	.6460	PI06460EH-30	\$380	PI06460EHP-30	\$405	PI06460EHT-30	\$405
11/16”	31	.6670	PI06670EH-31	\$380	PI06670EHP-31	\$405	PI06670EHT-31	\$405
3/4”	34	.7290	PI07290EH-34	\$395	PI07290EHP-34	\$420	PI07290EHT-34	\$420
13/16”	37	.7920	PI07920EH-37	\$395	PI07920EHP-37	\$420	PI07920EHT-37	\$420
7/8”	40	.8540	PI08540EH-40	\$410	PI08540EHP-40	\$435	PI08540EHT-40	\$435
15/16”	43	.9170	PI09170EH-43	\$410	PI09170EHP-43	\$435	PI09170EHT-43	\$435
1.00”	46	.9790	PI09790EH-46	\$425	PI09790EHP-46	\$450	PI09790EHT-46	\$450
*Custom Sizes Are Available - Please call 239-628-4800					TiN, TiCN, TiAlN or Alcrona Pro Coatings Are Available			

# CUSTOM INTERNAL/EXTERNAL ROTARY BROACHES

Custom Form Rotary Broaches Based On Your Print or Specifications

## SPECIAL FORM ROTARY BROACHES

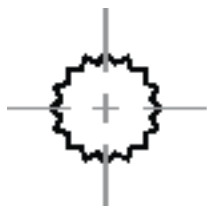
Designed and Manufactured To Your Print or Specifications

Custom internal and external rotary broaches can be designed and manufactured to suit a variety of applications. No other company offers as many unique special form rotary broach tools as Polygon Solutions. All custom broaches are designed by our engineers and manufactured in-house at our facility in Fort Myers, Florida, which allows for extremely fast turn around time. Most custom broaches can be designed and manufactured in 5 to 10 day business days. Polygon Solutions can also manufacture custom forms based on ANSI and SAE specifications.

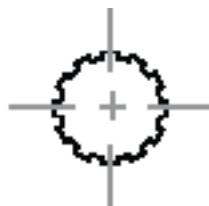
Some common custom broach forms include:

**Serration, Spline, Involute Spline, Rosan, Torx, Torx Plus, Double Hex, Double D, Single D, Double Square, Double Keyway, Missing Teeth, Spun Ground, Rectangle, Octagon, Pentagon, Triangle, Letter and Number.**

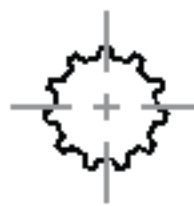
Polygon Solutions can also produce custom form gages to inspect your parts. **Reverse Engineering Services Available!**



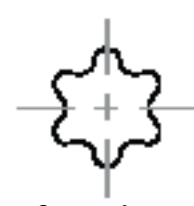
**SERRATION**



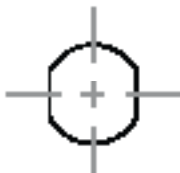
**SPLINE**



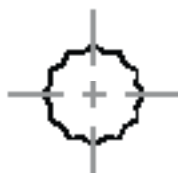
**INVOLUTE**



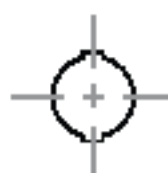
**SIX-LOBE  
HEXALOBULAR**



**DOUBLE  
'D'**



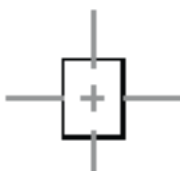
**DOUBLE  
HEXAGON**



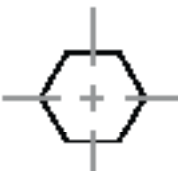
**DOUBLE  
KEYWAY**



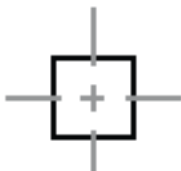
**DOUBLE  
SQUARE**



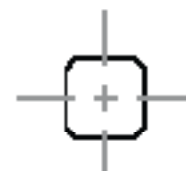
**RECTANGLE**



**HEXAGON**



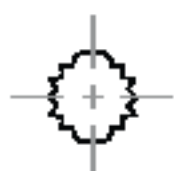
**SQUARE**



**SPUN  
GROUND**



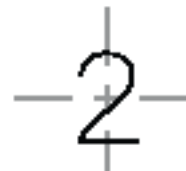
**TRIANGLE**



**MISSING  
TEETH**



**LETTER**



**NUMBER**



# GO / NO-GO GAGES

## TORX GO / NO-GO GAGE SETS

## 6-Lobe Hexalobular Gauge Sets Per ISO 10664



Torx-style inspection gages can be used to make sure that the size of the torx (6-lobe hexalobular) hole has been machined properly. Unlike rotary broaches, torx-style inspection gages have no taper. Our torx-style gages are held to tight tolerances and can be made to custom sizes. **Major and minor diameters conform to ISO 10664.**

Torx® Style Gauge Size	Polygon Solutions' Part Number	Price
T-06 Torx Gauge Set	T06G	\$999
T-08 Torx Gauge Set	T08G	\$999
T-10 Torx Gauge Set	T10G	\$749
T-15 Torx Gauge Set	T15G	\$749
T-20 Torx Gauge Set	T20G	\$749
T-25 Torx Gauge Set	T25G	\$749
T-27 Torx Gauge Set	T27G	\$749
T-30 Torx Gauge Set	T30G	\$999
T-40 Torx Gauge Set	T40G	\$999
T-45 Torx Gauge Set	T45G	\$999
T-50 Torx Gauge Set	T50G	\$999

Polygon's torx-style inspection gages are made as GO and NO-GO pairs. Each gage is designed to be held by hand and inserted into the torx hole. If the NO-GO gage fits, then the hole is too large and the part fails inspection. If the GO gage fits, then the hole is the right size and the part will pass inspection. If the hole was too small the GO gage would not have fit inside.

Polygon Solutions' gages are made of durable hardened M-2 tool steel. All gages include handles featuring green caps on the GO gage side and red caps on the NO-GO side.

## HEXAGON GO / NO-GO GAGE SETS

## ANSI B18.3 Hexagon Gauge Sets

Hexagon inspection gages can be used with Polygon's standard ASME broaches to make sure that the size of the hexagon hole has been machined properly. Unlike rotary broaches, hex inspection Gages have no taper. Polygon Solutions' hexagon gages are held to tight tolerances and can be made to custom shapes and sizes.

Polygon's hex inspection gages are made as GO and NO-GO pairs. Each gage is designed to be held by hand and inserted into the hexagon hole. If the NO-GO gage fits, then the hole is too large and the part fails inspection. If the GO gage fits, then the hole is the right size and the part will pass inspection. If the hole was too small the GO gage would not have fit inside.

Hex gages can also help to determine if there is too much twist in the form, a common troubleshooting feature of holes manufactured using the rotary broaching process. Polygon's hexagon gages are made of durable hardened M-2 tool steel. All gages include handles featuring green caps on the GO gage side and red caps on the NO-GO side.

**Gauge Tolerances Conform to ANSI B18.3 Standard and are NIST Traceable.**

Nominal Gauge Size	Member	Specs	Polygon Solutions' Part Number	Price
5/64" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H00790G	\$249
3/32" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H00950G	\$219
7/64" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H01110G	\$219
1/8" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H01265G	\$219
9/64" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H01425G	\$219
5/32" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H01585G	\$219
3/16" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H01895G	\$219
7/32" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H02215G	\$219
1/4" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H02525G	\$219
5/16" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H03155G	\$239
3/8" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H03785G	\$239
7/16" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H04415G	\$239
1/2" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H05045G	\$259
9/16" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H05675G	\$259
5/8" Hexagon Gauge	GO / NO-GO	ANSI B18.3	H06305G	\$269

Don't see the size you are looking for? We can custom make any size gage to meet your requirements. Call us at 239-628-4800.

# ALIGNMENT TOOLS

## Orientate Forms When Rotary Broaching

### ROTARY BROACHING BRAKE

For Use With Any GT or HT Series Tool Holders from Polygon Solutions





The rotary broach brake is used to align forms when rotary broaching.

Polygon Solutions designed the broaching brake to be used as an attachment to its innovative GT Series & HT Series rotary broach holder. The brake mounts to the tool holder using set screws. Additional screws are included at the opening of the brake to gently tighten against the spindle. The broach is fastened into the spindle, and must make contact and be aligned at the first hole.

When the broach is engaged with the part, the brake is loose enough to allow the spindle to turn without interfering with the broaching operation. Unlike typical rotary broaching operations, turning must stop before removing the broach. When the broach is removed, the brake screws are tight enough to hold the broach's position until it makes contact with the part at the next hole.

The rotary broaching brake can be used to hold orientation for single or multiple parts. Tightening the set screws to be loose enough to allow broaching, but tight enough to hold orientation requires patience and a level of experience. Some trial and error can be expected and the broach orientation will need to be checked at regular intervals. The hardware consists of standard screws and nuts that can be replaced or reordered easily.

The rotary broach brake is a simple device used to keep the broaching spindle tight enough to hold orientation, but loose enough to allow the spindle to turn while broaching.

Rotary Broaching Brake	For Use With	Part Number	Price
	GT Series Tool Holders	BR-163-B	\$175.00
	HT Series Heavy Duty Tool Holders	BR-290-H	\$225.00

# CUTTING FLUID

## Rotary Broaching Cutting Fluid

### ROTARY BROACHING CUTTING FLUID

Specially Formulated Cutting Fluid For Rotary Broaching Operations



Polygon Solutions has formulated a cutting fluid engineered specifically for rotary broaching operations. This universal high performance cutting fluid can be used on materials such as stainless steel, Titanium alloys, tool steel, ductile iron or nickel-cobalt alloys to reduce thrust requirements and extend tool life.

A few drops of rotary broaching cutting fluid to the tip of the rotary broach prior to engaging the broach to the workpiece is all that is needed.

Size	Part Number	Price
4 FL. OZ. Net (118ML)	CF-004	\$25.00
8 FL. OZ. Net (236ML)	CF-008	\$45.00

# ROTARY BROACHING KITS

## Complete Rotary Broaching Systems

Polygon's Rotary Broaching System Starter Kit includes our innovative GT Series rotary broach holder and a set of standard size rotary broaches. Great for any Mill, Lathe or Turning Center.

1/2" Series Broaching Kits include tool holder and 7 rotary broaches.

8mm Series Broaching Kits include tool holder and 8 rotary broaches.



### Rotary Broaching System Tool Kit

- ⇒ Polygon's GT Series Innovative Rotary Broach Tool Holder.
- ⇒ 1/2" Shank Rotary Broach Kits include: 1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 7/32" Hex, 1/4" Hex, and 5/16" Hex Broaches.
- ⇒ 8mm Shank Rotary Broach Kits include: 1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 7/32" Hex, 1/4" Hex, 5/16", and 3/8" Hex Broaches.
- ⇒ 1/2" Shank Metric Rotary Broach Kits include: 4mm Hex, 5mm Hex, 6mm Hex, 7mm Hex, 8mm Hex, 9mm Hex, 10mm Hex Broaches.
- ⇒ 8mm Shank Metric Rotary Broach Kits include: 1.5mm Hex, 2mm Hex, 2.5mm Hex, 3mm Hex, 3.5mm Hex, 4mm Hex, 5mm Hex, 6mm Hex Broaches.
- ⇒ Convenient carrying case.
- ⇒ Manufactured in the USA at our facility in Florida

### ROTARY BROACHING SYSTEM KITS

#### 1/2" Series Rotary Broaching System Tool Kits

Holder Shank Size	1/2" Series Broach Sizes Included in Kit (.500" Diameter 1.75" Overall Length Broaches)	Part Number	Price
5/8" Shank Holder	1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 1/4" Hex, 5/16" Hex, and 3/8" Hex	GT-063-B-KIT	\$1049
3/4" Shank Holder	1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 1/4" Hex, 5/16" Hex, and 3/8" Hex	GT-075-B-KIT	\$1049
1" Shank Holder	1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 1/4" Hex, 5/16" Hex, and 3/8" Hex	GT-100-B-KIT	\$1049
1-1/4" Shank Holder	1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 1/4" Hex, 5/16" Hex, and 3/8" Hex	GT-125-B-KIT	\$1049
1-1/2" Shank Holder	1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 1/4" Hex, 5/16" Hex, and 3/8" Hex	GT-150-B-KIT	\$1049
16mm Shank Holder	1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 1/4" Hex, 5/16" Hex, and 3/8" Hex	GT-016-B-KIT	\$1049
20mm Shank Holder	1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 1/4" Hex, 5/16" Hex, and 3/8" Hex	GT-020-B-KIT	\$1049
22mm Shank Holder	1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 1/4" Hex, 5/16" Hex, and 3/8" Hex	GT-022-B-KIT	\$1049
25mm Shank Holder	1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 1/4" Hex, 5/16" Hex, and 3/8" Hex	GT-025-B-KIT	\$1049
32mm Shank Holder	1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 1/4" Hex, 5/16" Hex, and 3/8" Hex	GT-032-B-KIT	\$1049

### ROTARY BROACHING SYSTEM KITS

#### 8mm Series Rotary Broaching System Tool Kits

Holder Shank Size	8mm Series Broach Sizes Included in Kit (8mm Diameter 1.25" Overall Length Broaches)	Part Number	Price
5/8" Shank Holder	3/32" Hex, 7/64" Hex, 1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 7/32" Hex, and 1/4" Hex	GT-063-A-KIT	\$1049
3/4" Shank Holder	3/32" Hex, 7/64" Hex, 1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 7/32" Hex, and 1/4" Hex	GT-075-A-KIT	\$1049
1" Shank Holder	3/32" Hex, 7/64" Hex, 1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 7/32" Hex, and 1/4" Hex	GT-100-A-KIT	\$1049
1-1/4" Shank Holder	3/32" Hex, 7/64" Hex, 1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 7/32" Hex, and 1/4" Hex	GT-125-A-KIT	\$1049
1-1/2" Shank Holder	3/32" Hex, 7/64" Hex, 1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 7/32" Hex, and 1/4" Hex	GT-150-A-KIT	\$1049
16mm Shank Holder	3/32" Hex, 7/64" Hex, 1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 7/32" Hex, and 1/4" Hex	GT-016-A-KIT	\$1049
20mm Shank Holder	3/32" Hex, 7/64" Hex, 1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 7/32" Hex, and 1/4" Hex	GT-020-A-KIT	\$1049
22mm Shank Holder	3/32" Hex, 7/64" Hex, 1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 7/32" Hex, and 1/4" Hex	GT-022-A-KIT	\$1049
25mm Shank Holder	3/32" Hex, 7/64" Hex, 1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 7/32" Hex, and 1/4" Hex	GT-025-A-KIT	\$1049
32mm Shank Holder	3/32" Hex, 7/64" Hex, 1/8" Hex, 9/64" Hex, 5/32" Hex, 3/16" Hex, 7/32" Hex, and 1/4" Hex	GT-032-A-KIT	\$1049

# ROTARY BROACHING BASICS

## Instructions, Recommendations and Part Preparation

This guide provides some basic rules and tips for successfully producing forms using the rotary broaching process. Broaching can be performed on a manual or CNC lathe, mill or other turning center. The only difference is that in a mill, the rotary broach tool holder is rotated in the machine spindle and the part is stationary whereas in a lathe the tool holder is stationary and the part is turning.

### Tool Holder Set-up:

The Polygon Solutions' tool holders have completely sealed bearings. Therefore, there is no need for constant greasing. Polygon Solutions' tool holders are completely adjustment-free and require minimal set-up. Centering the rotary broach as close as possible to the center of the workpiece is extremely important. Oversized forms or uneven form configuration can result from improperly centered broaching. As long as the toolholder block on your turret, or machine spindle on a mill, is centered with your workpiece, simply insert the Polygon Solutions tool holder and clamp it down.

**IMPORTANT: DO NOT attempt to locate center off the rotary broach or any part of the tool holder.**

### Coolant:

Rotary Broaching is generally a very low heat operation. However, it is recommended that coolant or cutting oil be used. When broaching tough materials like stainless steel, ASP 30ium or Inconel, Polygon Solutions recommends the use of our specially formulated cutting fluid. This cutting fluid is applied by adding a few drops to the tip of the broach prior to it engaging the workpiece. The Polygon Solutions cutting fluid greatly reduces thrust requirements and tool wear.

Order Part #: CF-004 (See Page 30).

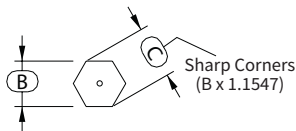
## Part Preparation Guide

### Pre-Drill Hole Diameter:

Internal rotary broaching requires a pre-drill hole. It is strongly recommended that the hole diameter is larger than the minor diameter of the form being broached. Below are formulas for recommended pre-drill hole diameters for hex and square forms. When broaching forms such as serration, spline or hexalobular (Torx), it is recommended to pre-drill a hole 2-3% larger than the minor diameter of the form.

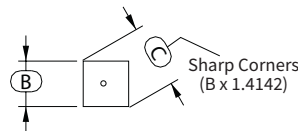
#### Hexagon Forms:

**Pre-Drill Hole  $\varnothing = B \times 1.03$**



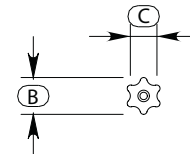
#### Square Forms:

**Pre-Drill Hole  $\varnothing = B \times 1.10$**



#### Torx Forms:

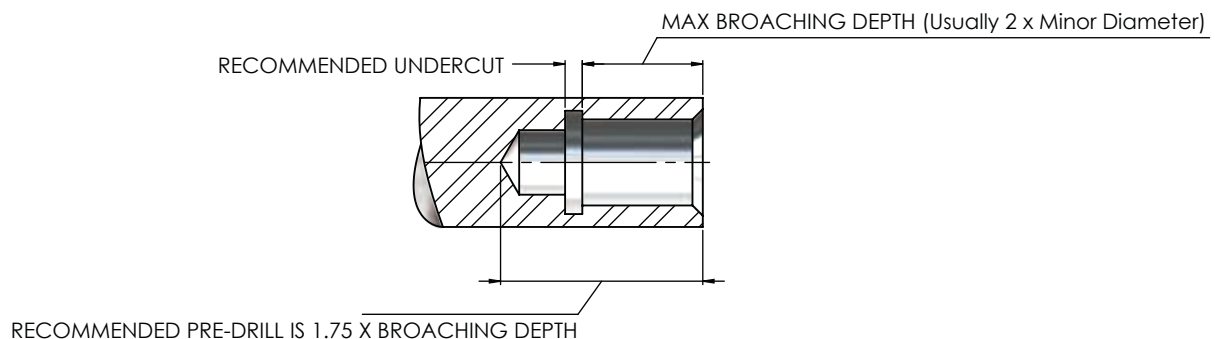
**Pre-Drill Hole  $\varnothing = C \times 1.03$**



\*These percentages may be reduced for free cutting material and increased in materials with tougher machinability.

### Pre-Drill Hole Depth:

If not broaching a through hole, the pre-drill hole must be as deep as possible. The pre-drill hole depth must be greater than the broaching depth to allow for chip accumulation. The minimum depth Polygon Solutions recommends to avoid excessive chip packing is 1.3 to 1.75 times the depth of the form being broached. If possible, an undercut just beyond the depth of the broached form will allow the chips to break away cleanly. Alternatively, chip removal can be achieved using a drill or boring tool.

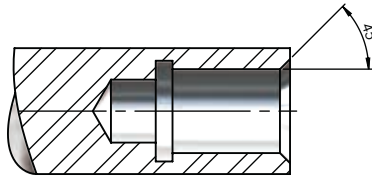


# ROTARY BROACHING BASICS

## Instructions, Recommendations and Part Preparation Continued

### Lead-In Chamfer:

A 45° lead-in chamfer, slightly larger than the major diameter of the broach, is essential for successfully rotary broaching an internal form. In tougher material a 30° chamfer may work better.



CHAMFER MUST BE LARGER THAN THE MAJOR DIAMETER OF THE BROACH FORM

### Speeds and Feeds:

Many factors affect speeds and feeds including material being broached, major and minor diameters and the form being broached. Polygon Solutions recommends starting with a minimum feed rate of .001-.003" IPR at 700-800 RPM.

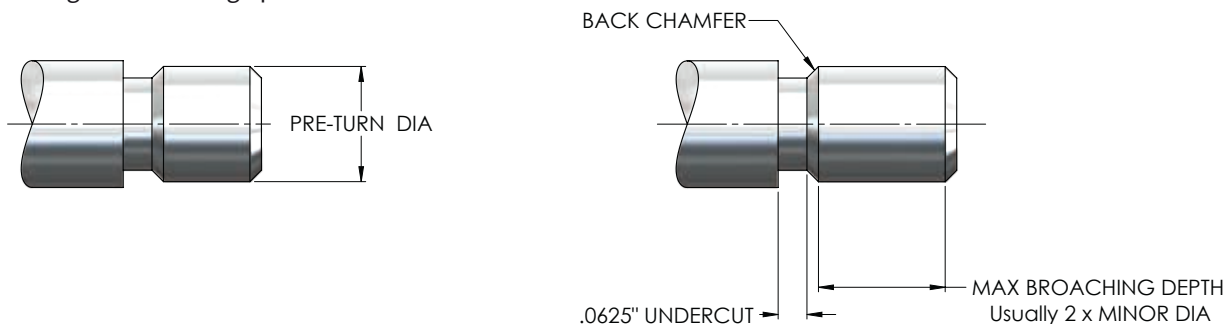
### Broaching Tougher Materials:

When broaching material such as stainless steel or ASP 30ium, a slower RPM and Feed Rate is recommended. Slow the speed down to 100 RPM until the part is engaged to a depth of .010" or until the part makes full contact with the broach and then increase the RPMs. This will prevent the broach from skipping around on the chamfer area when engaging the workpiece and reduce the risk of chipping the broach. PM M-4 broach material is recommended when broaching these tougher materials.

## External Broaching Part Preparation Guide

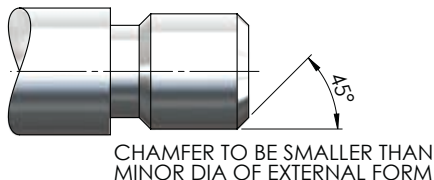
### Pre-Turn Diameter:

External rotary broaching requires the workpiece to be pre-turned. It is strongly recommended that the pre-turn diameter is smaller than the major diameter of the form being broached. When broaching forms such as serration, spline or hexalobular (Torx), it is recommended to pre-turn the workpiece to the smallest diameter allowed. Greater clearance requires less pressure during the broaching operation which will increase tool life.



### External Lead-In Chamfer:

A 45° lead-in chamfer, smaller than the minor diameter to the major diameter of the form, is essential for successfully rotary broaching an external form.



CHAMFER TO BE SMALLER THAN MINOR DIA OF EXTERNAL FORM

Additional technical information including videos can be found at [www.PolygonSolutions.com](http://www.PolygonSolutions.com) or you may contact our support staff at 239-628-4800.

**polygon solutions**

shaping the broaching industry

6461 METRO PLANTATION ROAD

FORT MYERS, FLORIDA 33966

239-628-4800

