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# HARDINGE WORKHOLDING

Collets, Bushings & Tool Holders



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# Hardinge. Solid Since 1890.



When it comes to tool holding, value is all about precision and reliability. Hardinge® toolholder collets, bushings and toolholders are designed and engineered for quality and durability. Hardinge's standard of performance level is high to help you achieve the level of accuracy required for automotive, medical, aerospace and the electronic industries. Hardinge is committed to being your SINGLE SOURCE for all of your workholding and industrial products. Well known for high accuracy and precision, Hardinge can provide any gripping solution needed...

- Spindle tooling for manual & CNC lathes, automatics, turret lathes and rotary transfer machines
- Tooling for grinding machines
- Swiss-type collets, guide bushings & bar loader collets
- FlexC™ collet systems for lathes
- HQC® quick-change collet systems for automatics
- Sure-grip® expanding collet systems
- HCAC® collet adaptation chucks
- Sure-grip® 3-jaw power chucks
- Precision CNC tooling for mills
- Collet blocks
- Custom workholding

Hardinge is unique as a workholding product manufacturer. They have over a century of experience in manufacturing machine tools as well as the tooling they use. Hardinge tool holding systems are used in the production of their machine components as well as in their workholding production cells, putting Hardinge products to the test around the clock. Hardinge is an ISO certified facility with a Total Quality Program focusing on continuous improvement to meet the demanding needs of their customers.

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# Overview: ER and DA Toolholder Collets



[ER-Style—pages 10-11](#)



[ERNC-Style—page 12](#)



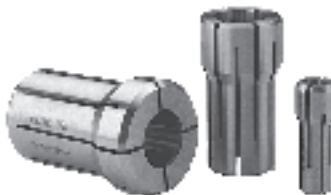
[ERTCSP Tap—page 13](#)



[ERQC Tap—page 14](#)



[ERTC Tap—page 15](#)



[DA-Style—pages 23-24](#)

Single- and double-angle collets feature a multi-slot design to provide maximum gripping force for efficient "push-back" control. This control helps prolong tool life which reduces machine downtime to produce more pieces-per-hour. All locating surfaces are precision ground to assure extremely close tolerances. Most of these collets feature a compression range of up to  $\frac{1}{64}$ " (.3968mm). Refer to the chart on page 12 for concentricity specifications.

## ER-Style Single-Angle Collets

**Standard ER-Style Collets** are used on Swiss-type lathes and in tool holders for mills and CNC lathes. They are used to grip drills, taps, reamers, end mills, boring bars and special round shank end-working tools.

**ERNC-Style Collets** are sealed for coolant use of up to 1000 psi. Exact sizes are available in metric, decimal inch and fractional inch. This series collet has fewer slots, resulting in less flexibility.

## ER-Style Single-Angle Tapping Collets

**ERTCSP Tap Collets** are designed to be used in a floating tap holder. They are multi-split with a square hole in the back of the collet to keep the tap from slipping in the collet.

**ERQC Quick-Change Solid Floating Tap Collets** have a Bilz-style quick-change feature, eliminating the need to remove the collet to change taps. There is a square in the collet assembly to keep the tap from turning in the collet. This system fits in the same tool holders that use ER-style collets. Each collet is made for a specific tap shank size. The collet has a floating spindle, eliminating the need for a special floating tap holder.

**ERTC Solid Floating Tap Collets** fit in the same tool holders that use the ER-style collets. Each collet is made for a specific tap shank size. The collet has a floating spindle, eliminating the need for a floating tap holder. The tap is held in the collet with set screws which grip on the square of the tap.

## DA-Style Double-Angle Toolholder Collets

The **Double-Angle Collet** is noted for its parallel gripping capability due to the two angles and the opposed split configuration. This places the parallel bearing on the tool shank, as well as the full diameter of the tool.



# Overview: TG, HDO and HF-Style Toolholder Collets



[TG-Style—pages 26-27](#)



[HDO-Style—pages 28-29](#)



[HF-Style—pages 30-31](#)

## TG-Style Single-Angle Toolholder Collets

**TG Collets** (tremendous grip) are used on CNC lathes and machining centers to grip round shank tools such as drills, taps, reamers, boring bars, end mills and other end-working tools.

## HDO-Style Single-Angle Toolholder Collets

The **HDO Collet** is a rigid, high precision system recommended for milling applications and is interchangeable with the Ortlieb-type collets. The collapse range of the collet is 0.5mm (.0196").

## HF-Style Single-Angle Toolholder Collets

The **HF Collet** is interchangeable with Universal Acura-Flex style collets. The collapse range of the collet is  $1/64"$  (.3968mm).

# Overview: Standard Collets for Tool Holders



[Cincinnati—page 31](#)



[1C—page 32](#)

All standard-style toolholder collets are manufactured from special alloy steels. They are precision-machined to extremely close tolerances to assure superior concentricity.

## Cincinnati Monoset Toolholder Collets

**Cincinnati Monoset Collets** are used in Cincinnati tool and cutter grinders. The collets are precision machined to exacting tolerances to assure concentricity between the OD of the collet and its bore.

## Hardinge® 1C Toolholder Collets

The **1C Collet** is used in the Hardinge T17  $5/8"$  and  $3/4"$  1C tool holders. This holder is mounted in round tool holders and turrets to place the tool on the spindle centerline for precision drilling. This collet is manufactured to hold drills as small as .005" in diameter.



[TT Floating—page 33](#)

## Hardinge® TT Floating Tap Holder Collets

**TT Tap Holder Collets** are used exclusively in the Hardinge TT Tap Holders –  $\frac{5}{8}$ " and  $\frac{3}{4}$ " round shanks. Each collet is made for a specific tap size. A square broached hole securely holds the shank of the tap, eliminating tap slippage and misalignment.



[TT Holder—page 33](#)

## TT- $\frac{5}{8}$ & - $\frac{3}{4}$ Collet-Type Releasing Tap Holder

The **Collet-Type Releasing Tap Holder** is used to provide thread length control on either right- or left-hand taps by switching a lever inside the body of the tap holder. The tap holder mounts directly into a round shank tool holder. TT-style tap holder collets are used for accurate holding and centering of taps. To provide a positive drive for the taps, the collets have a square slot in the back to accommodate the square on the tap shank and a notch in the back bearing of the collet that fits over a hardened pin in the bottom of the holder.



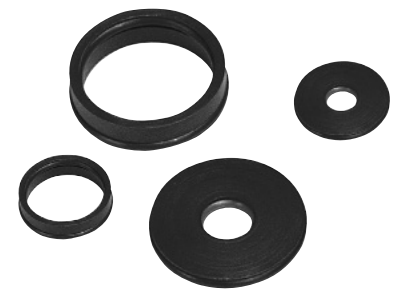
[GK Holder—page 34](#)

## GK Self-Feeding, Length-Control Tap Holder

The **Self-Feeding (Pafix) Tap Holder** provides automatic thread length control. The tap holder eliminates the need to match feed rate to thread pitch, minimizing tool breakage. The holder has a  $\frac{5}{8}$ " shank diameter. Thread length is controlled internally with an adjusting ring in .01" (.25 mm) increments. A driver is used in the holder to accommodate the square of the tap shank, providing a positive drive. A collet is used to centralize and hold the tap in the holder.

## "Cool Stop" Coolant Seals

Maximize coolant flow through your drills with the "Cool Stop" system. **"Cool Stop" Seals** are designed to seal around the shank of the drill and ID of the ER and TG holders. The gauge length of the holder does not change. The collet stays flush with the cap because the "Cool Stop" seal locates at the back of the collet. Each "Cool Stop" has a range from rated size down to .020" (5.0 mm), resulting in a small seal inventory for each collet style. You can keep the coolant running through the drill (rather than out the collet) at pressures up to 1500 psi.



[page 16](#)

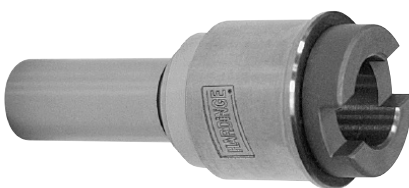
Quick-Change Tap Collets are used throughout the industry for mounting into Bilz-style and other popular tapping holders. Many taper-flange milling machine tap holders use these collets. The quick-change feature allows changing the tap without removing the collet from its holder. This feature ensures precise length control from one tap to another of the same length.



[QC Tap—page 35](#)



[QC Torque Tap—page 36](#)



[QC Tap Holder—page 37](#)

## Quick-Change Style Straight-Shank Tap Collets

The **Quick-Change Tap Collet** is a quick-releasing style. The collet does not have to be removed from the holder to change the tap. The nose piece pushes in, releasing the tap while no wrenches are required. The Quick-Change collet can only be used in holders specifically designed for it.

## Torque-Release Quick-Change Straight-Shank Tap Collets

The **Torque-Release Quick-Change Tap Collet** unit allows the collet to release at a predetermined torque. This unit can only be used in tension/compression Bilz-style tap holders, specifically designed for these straight-shank tap collets.

## Tool Holder for Quick-Change Straight-Shank Tap Collets

The **Straight-Shank Tool Holder** is used with Quick-Change style straight-shank tap collets. It can be mounted in round shank tool holders with either  $\frac{3}{4}$ " or 1" bores. The holder can be used on CNC lathes and milling machines.

# Overview: Precision Machined HD-Style Bushings

HD-Style bushings are precision machined inside and out. The hardness and resiliency manufactured into Hardinge bushings make them the longest lasting and most accurate bushings in the industry. Hardinge offers three bushing styles – HDB, HDC and HDZ.



[HDB-Style—pages 38-43](#)

## HDB-Style Split Bushings

The **HDB-Style Bushing** has a knurled shoulder for easy installation and removal. A flat is milled on the OD of the bushing where the toolholder or turret set screws clamp on the bushing. This style bushing is available in fractional, decimal, metric, letter, and number sizes for the ½" OD (HDB2), ⅝" OD (HDB5) and ¾" OD (HDB6) sizes. The 1" OD (HDB8), 1 ⅛" OD (HDB9), 1 ¼" / 32mm OD (HDB10) and 1 ½" / 40mm OD (HDB12) bushings are available in fractional and metric sizes. The HDB9 is also available as a solid bushing with either a #2 or #3 female Morse taper.



[HDC-Style—pages 44-45](#)

## HDC-Style Slotted Solid Bushings

The **HDC-Style Solid Bushing** features either one or two longitudinal slots, depending on the size of the bore. The slot allows the set screw from the tool holder to locate directly on the body of the tool. This style bushing is available in 1 ¼" / 32mm OD (HDC10) and 1 ½" / 40mm OD (HDC12) with fractional or metric size bores. The HDC10 and HDC12 are also available with female Morse tapers.



[HDZ-Style—page 46](#)

## HDZ-Style Slotted Solid Pre-Set Bushings

The **HDZ-Style Solid Bushing** features either one or two longitudinal slots, depending on the size of the bore. The slot allows the set screws from the tool holder to locate directly on the body of the tool. The bushing has a flange with two set screws positioned 90° apart. The tool can be placed in the bushing and set to a specific dimension from the locating shoulder and locked in place. This style is available in 1 ¼" / 32mm OD (HDC10) and 1 ½" / 40mm OD (HDC12) with fractional or metric size bores.



# Overview: ER-Style and Double-Angle Extension Tool Holders



Standard ER Holders  
—pages 17-18



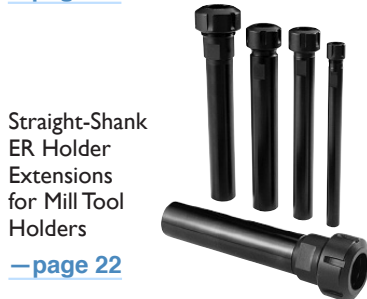
Rigid Holders for Floating Tap Collets  
—pages 17-18



Floating Tap Holders for Standard ER Collets  
—pages 17-18



Straight-Shank ER Holders for CNC Lathes  
—page 20  
for Thru-Coolant Applications  
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Straight-Shank ER Holder Extensions for Mill Tool Holders  
—page 22



R8, ER Collet Tool Holders for Bridgeport and other Knee Mills  
—page 22



Quick-Change Adapter converts Quick-Change Straight-Shank Tap Holder or Bilz-Style Holder to ER Collets  
—page 37

## ER-Style Collet Holders

ER-Style Collet Holders accept various versions of ER Collets. The holders for Swiss-type lathes and other CNC lathes are categorized by three styles:

- **ER Solid Shank Holder** can use the standard ER collet, as well as the ERNC split collets and the ERQC and ERTC floating tap collets.
- **Rigid Tap Holders** only use the ERQC and the ERTC floating tap collets.
- **Floating Tap Holders** use the standard ER collet and the ERTCSP collet that has a square hole for the tap shank.



Stepped Holder for ER-Style collets  
—page 19

**Straight-Shank Holders** are used for other CNC lathes and in mill tool holders as extensions. These holders come with adjustable stops for the drill or round shank tools.



Double-Angle Extension-Style—page 25

The **Double-Angle Collet Extension Tool Holder** mounts directly into a round shank tool holder to grip small diameter tools securely. Double-angle collets are used to provide a positive grip on the tool. Optional Qualifying Collars and Chuck Stops are available. The Collars can be positioned and locked on the holder shank to qualify the tool position in a holder.

**Chuck Stops** position inside the holder body to provide a qualified locating surface for tooling and to help prevent tool "push back".

**SB and SG Double-Angle Holders** are available for CNC lathe work. The SB has a 1 1/8" shank and the SG has a 1 1/4" shank.



SB/SG Holders—page 25

# ER8 through ER50 Collets – Metric

## ER8, ER11, ER12 Collets—Metric

Size Range mm      Inch	ER8 Collet Part Number	ER11 Collet Part Number	ER12 Collet Part Number
0.5 - .25    .019" - .010"	<a href="#">2093-00-17-005000</a>	—	—
1.0 - 0.5    .039" - .019"	<a href="#">2093-00-17-010000</a>	<a href="#">1911-00-17-010000</a>	<a href="#">2091-00-17-010000</a>
1.5 - 1.0    .059" - .039"	<a href="#">2093-00-17-015000</a>	<a href="#">1911-00-17-015000</a>	<a href="#">2091-00-17-015000</a>
2.0 - 1.5    .079" - .059"	<a href="#">2093-00-17-020000</a>	<a href="#">1911-00-17-020000</a>	<a href="#">2091-00-17-020000</a>
2.5 - 2.0    .098" - .079"	<a href="#">2093-00-17-025000</a>	<a href="#">1911-00-17-025000</a>	<a href="#">2091-00-17-025000</a>
3.0 - 2.5    .118" - .098"	<a href="#">2093-00-17-030000</a>	<a href="#">1911-00-17-030000</a>	<a href="#">2091-00-17-030000</a>
3.5 - 3.0    .138" - .118"	<a href="#">2093-00-17-035000</a>	<a href="#">1911-00-17-035000</a>	<a href="#">2091-00-17-035000</a>
4.0 - 3.5    .157" - .138"	<a href="#">2093-00-17-040000</a>	<a href="#">1911-00-17-040000</a>	<a href="#">2091-00-17-040000</a>
4.5 - 4.0    .177" - .157"	<a href="#">2093-00-17-045000</a>	<a href="#">1911-00-17-045000</a>	<a href="#">2091-00-17-045000</a>
5.0 - 4.5    .197" - .177"	<a href="#">2093-00-17-050000</a>	<a href="#">1911-00-17-050000</a>	<a href="#">2091-00-17-050000</a>
5.5 - 5.0    .217" - .197"		<a href="#">1911-00-17-055000</a>	<a href="#">2091-00-17-055000</a>
6.0 - 5.5    .236" - .217"		<a href="#">1911-00-17-060000</a>	<a href="#">2091-00-17-060000</a>
6.5 - 6.0    .255" - .236"		<a href="#">1911-00-17-065000</a>	<a href="#">2091-00-17-065000</a>
7.0 - 6.5    .276" - .255"		<a href="#">1911-00-17-070000</a>	<a href="#">2091-00-17-070000</a>
Standard Collet Sets	<a href="#">0947-08-17-000009</a> 9 Collets	<a href="#">0947-11-17-000013</a> 13 Collets	<a href="#">0947-12-17-000013</a> 13 Collets
Special Accuracy Sets	<a href="#">0947-08-17-00S009</a> 9 Collets	<a href="#">0947-11-17-00S013</a> 13 Collets	<a href="#">0947-12-17-00S013</a> 13 Collets

## ER50 Collets—Metric

Size Range mm      Inch	ER50 Collet Part Number
12.0 - 10.0    .472" - .394"	<a href="#">2131-00-17-120000</a>
14.0 - 12.0    .551" - .472"	<a href="#">2131-00-17-140000</a>
16.0 - 14.0    .630" - .551"	<a href="#">2131-00-17-160000</a>
18.0 - 16.0    .709" - .630"	<a href="#">2131-00-17-180000</a>
20.0 - 18.0    .787" - .709"	<a href="#">2131-00-17-200000</a>
22.0 - 20.0    .866" - .787"	<a href="#">2131-00-17-220000</a>
24.0 - 22.0    .945" - .866"	<a href="#">2131-00-17-240000</a>
26.0 - 24.0    1.024" - 0.945"	<a href="#">2131-00-17-260000</a>
28.0 - 26.0    1.102" - 1.024"	<a href="#">2131-00-17-280000</a>
30.0 - 28.0    1.181" - 1.102"	<a href="#">2131-00-17-300000</a>
32.0 - 30.0    1.260" - 1.181"	<a href="#">2131-00-17-320000</a>
34.0 - 32.0    1.339" - 1.260"	<a href="#">2131-00-17-340000</a>
Standard Collet Sets	<a href="#">0947-50-17-000012</a> 12 Collets
Special Accuracy Sets	<a href="#">0947-50-17-00S012</a> 12 Collets

## ER16, ER20, ER32, ER40 Collets – Metric Sizes

Size Range mm      Inch	ER16 Collet Part Number	ER20 Collet Part Number	ER25 Collet Part Number	ER32 Collet Part Number	ER40 Collet Part Number
1.0 - 0.5    .039" - .019"	<a href="#">1913-00-17-010000</a>	—	—	—	—
2.0 - 1.0    .079" - .039"	<a href="#">1913-00-17-020000</a>	<a href="#">1915-00-17-020000</a>	<a href="#">2095-00-17-020000</a>	—	—
3.0 - 2.0    .118" - .079"	<a href="#">1913-00-17-030000</a>	<a href="#">1915-00-17-030000</a>	<a href="#">2095-00-17-030000</a>	<a href="#">1917-00-17-030000</a>	—
4.0 - 3.0    .157" - .118"	<a href="#">1913-00-17-040000</a>	<a href="#">1915-00-17-040000</a>	<a href="#">2095-00-17-040000</a>	<a href="#">1917-00-17-040000</a>	<a href="#">2129-00-17-040000</a>
5.0 - 4.0    .197" - .157"	<a href="#">1913-00-17-050000</a>	<a href="#">1915-00-17-050000</a>	<a href="#">2095-00-17-050000</a>	<a href="#">1917-00-17-050000</a>	<a href="#">2129-00-17-050000</a>
6.0 - 5.0    .236" - .197"	<a href="#">1913-00-17-060000</a>	<a href="#">1915-00-17-060000</a>	<a href="#">2095-00-17-060000</a>	<a href="#">1917-00-17-060000</a>	<a href="#">2129-00-17-060000</a>
7.0 - 6.0    .276" - .136"	<a href="#">1913-00-17-070000</a>	<a href="#">1915-00-17-070000</a>	<a href="#">2095-00-17-070000</a>	<a href="#">1917-00-17-070000</a>	<a href="#">2129-00-17-070000</a>
8.0 - 7.0    .315" - .276"	<a href="#">1913-00-17-080000</a>	<a href="#">1915-00-17-080000</a>	<a href="#">2095-00-17-080000</a>	<a href="#">1917-00-17-080000</a>	<a href="#">2129-00-17-080000</a>
9.0 - 8.0    .354" - .315"	<a href="#">1913-00-17-090000</a>	<a href="#">1915-00-17-090000</a>	<a href="#">2095-00-17-090000</a>	<a href="#">1917-00-17-090000</a>	<a href="#">2129-00-17-090000</a>
10.0 - 9.0    .394" - .354"	<a href="#">1913-00-17-100000</a>	<a href="#">1915-00-17-100000</a>	<a href="#">2095-00-17-100000</a>	<a href="#">1917-00-17-100000</a>	<a href="#">2129-00-17-100000</a>
11.0 - 10.0    .433" - .394"		<a href="#">1915-00-17-110000</a>	<a href="#">2095-00-17-110000</a>	<a href="#">1917-00-17-110000</a>	<a href="#">2129-00-17-110000</a>
12.0 - 11.0    .472" - .433"		<a href="#">1915-00-17-120000</a>	<a href="#">2095-00-17-120000</a>	<a href="#">1917-00-17-120000</a>	<a href="#">2129-00-17-120000</a>
13.0 - 12.0    .511" - .472"		<a href="#">1915-00-17-130000</a>	<a href="#">2095-00-17-130000</a>	<a href="#">1917-00-17-130000</a>	<a href="#">2129-00-17-130000</a>
14.0 - 13.0    .551" - .511"			<a href="#">2095-00-17-140000</a>	<a href="#">1917-00-17-140000</a>	<a href="#">2129-00-17-140000</a>
15.0 - 14.0    .590" - .551"			<a href="#">2095-00-17-150000</a>	<a href="#">1917-00-17-150000</a>	<a href="#">2129-00-17-150000</a>
16.0 - 15.0    .629" - .590"			<a href="#">2095-00-17-160000</a>	<a href="#">1917-00-17-160000</a>	<a href="#">2129-00-17-160000</a>
17.0 - 16.0    .669" - .629"				<a href="#">1917-00-17-170000</a>	<a href="#">2129-00-17-170000</a>
18.0 - 17.0    .708" - .669"				<a href="#">1917-00-17-180000</a>	<a href="#">2129-00-17-180000</a>
19.0 - 18.0    .748" - .708"				<a href="#">1917-00-17-190000</a>	<a href="#">2129-00-17-190000</a>
20.0 - 19.0    .787" - .748"				<a href="#">1917-00-17-200000</a>	<a href="#">2129-00-17-200000</a>
21.0 - 20.0    .827" - .787"					<a href="#">2129-00-17-210000</a>
22.0 - 21.0    .866" - .827"					<a href="#">2129-00-17-220000</a>
23.0 - 22.0    .906" - .866"					<a href="#">2129-00-17-230000</a>
24.0 - 23.0    .945" - .906"					<a href="#">2129-00-17-240000</a>
25.0 - 24.0    .984" - .945"					<a href="#">2129-00-17-250000</a>
26.0 - 25.0    1.024" - .984"					<a href="#">2129-00-17-260000</a>
Standard Collet Sets	<a href="#">0947-16-17-000010</a> 10 Collets	<a href="#">0947-20-17-000012</a> 12 Collets	<a href="#">0947-25-17-000015</a> 15 Collets	<a href="#">0947-32-17-000018</a> 18 Collets	<a href="#">0947-40-17-000023</a> 23 Collets
Special Accuracy Sets	<a href="#">0947-16-17-00S010</a> 10 Collets	<a href="#">0947-20-17-00S012</a> 12 Collets	<a href="#">0947-25-17-00S015</a> 15 Collets	<a href="#">0947-32-17-00S018</a> 18 Collets	<a href="#">0947-40-17-00S023</a> 23 Collets

ER Series collets have enough flex to hold a large range of tool shanks, eliminating the need for separate collets for each tool. Refer to page 12 for concentricity specifications. (ER-series collets are interchangeable with DR- and ESX-type collets)



# ER8 through ER40 Collets – Inch

## ER-8 through ER12 Collets – Inch

Size		ER8 Collet	ER11 Collet	ER12 Collet
Inch	mm	Part Number	Part Number	Part Number
1/16"	1.58	—	<a href="#">1911-00-19-000625</a>	—
3/32"	2.38	—	<a href="#">1911-00-19-000937</a>	—
1/8"	3.17	—	<a href="#">1911-00-19-001250</a>	—
5/32"	3.96	—	<a href="#">1911-00-19-001562</a>	—
3/16"	4.76	—	<a href="#">1911-00-19-001875</a>	—
7/32"	5.55	—	<a href="#">1911-00-19-002187</a>	—
1/4"	6.35	—	<a href="#">1911-00-19-002500</a>	—
Standard Collet Sets		—	<a href="#">0947-11-19-000007</a> 7 Collets	—
Special Accuracy Sets		—	<a href="#">0947-11-19-00S007</a> 7 Collets	—

## Collet Dimensions

ER Style	A - Diameter		B - Length	
	mm	Inch	mm	Inch
8	8.5	.335"	13.5	.531"
11	11.5	.453"	18.0	.709"
12	12.0	.472"	19.5	.768"
16	17.0	.669"	27.0	1.063"
20	21.0	.827"	31.0	1.220"
25	26.0	1.024"	35.0	1.378"
32	33.0	1.299"	40.0	1.575"
40	41.0	1.614"	46.0	1.811"
50	52.0	2.047"	60.0	2.362"



## ER16 through ER40 Collets – Inch

Size Range		ER16 Collet	ER20 Collet	ER25 Collet	ER32 Collet	ER40 Collet
Inch	mm	Part Number	Part Number	Part Number	Part Number	Part Number
1/16"	1.58	<a href="#">1913-00-19-000625</a>	<a href="#">1915-00-19-000625</a>	<a href="#">2095-00-19-000625</a>	—	—
3/32"	2.38	<a href="#">1913-00-19-000937</a>	<a href="#">1915-00-19-000937</a>	<a href="#">2095-00-19-000937</a>	<a href="#">1917-00-19-000937</a>	—
1/8"	3.17	<a href="#">1913-00-19-001250</a>	<a href="#">1915-00-19-001250</a>	<a href="#">2095-00-19-001250</a>	<a href="#">1917-00-19-001250</a>	<a href="#">2129-00-19-001250</a>
5/32"	3.96	<a href="#">1913-00-19-001562</a>	<a href="#">1915-00-19-001562</a>	<a href="#">2095-00-19-001562</a>	<a href="#">1917-00-19-001562</a>	<a href="#">2129-00-19-001562</a>
3/16"	4.76	<a href="#">1913-00-19-001875</a>	<a href="#">1915-00-19-001875</a>	<a href="#">2095-00-19-001875</a>	<a href="#">1917-00-19-001875</a>	<a href="#">2129-00-19-001875</a>
7/32"	5.55	<a href="#">1913-00-19-002187</a>	<a href="#">1915-00-19-002187</a>	<a href="#">2095-00-19-002187</a>	<a href="#">1917-00-19-002187</a>	<a href="#">2129-00-19-002187</a>
1/4"	6.35	<a href="#">1913-00-19-002500</a>	<a href="#">1915-00-19-002500</a>	<a href="#">2095-00-19-002500</a>	<a href="#">1917-00-19-002500</a>	<a href="#">2129-00-19-002500</a>
9/32"	7.14	<a href="#">1913-00-19-002812</a>	<a href="#">1915-00-19-002812</a>	<a href="#">2095-00-19-002812</a>	<a href="#">1917-00-19-002812</a>	<a href="#">2129-00-19-002812</a>
5/16"	7.93	<a href="#">1913-00-19-003125</a>	<a href="#">1915-00-19-003125</a>	<a href="#">2095-00-19-003125</a>	<a href="#">1917-00-19-003125</a>	<a href="#">2129-00-19-003125</a>
11/32"	8.72	<a href="#">1913-00-19-003437</a>	<a href="#">1915-00-19-003437</a>	<a href="#">2095-00-19-003437</a>	<a href="#">1917-00-19-003437</a>	<a href="#">2129-00-19-003437</a>
3/8"	9.52	<a href="#">1913-00-19-003750</a>	<a href="#">1915-00-19-003750</a>	<a href="#">2095-00-19-003750</a>	<a href="#">1917-00-19-003750</a>	<a href="#">2129-00-19-003750</a>
13/32"	10.31	<a href="#">1913-00-19-004062</a>	<a href="#">1915-00-19-004062</a>	<a href="#">2095-00-19-004062</a>	<a href="#">1917-00-19-004062</a>	<a href="#">2129-00-19-004062</a>
7/16"	11.11	—	<a href="#">1915-00-19-004375</a>	<a href="#">2095-00-19-004375</a>	<a href="#">1917-00-19-004375</a>	<a href="#">2129-00-19-004375</a>
15/32"	11.90	—	<a href="#">1915-00-19-004687</a>	<a href="#">2095-00-19-004687</a>	<a href="#">1917-00-19-004687</a>	<a href="#">2129-00-19-004687</a>
1/2"	12.70	—	<a href="#">1915-00-19-005000</a>	<a href="#">2095-00-19-005000</a>	<a href="#">1917-00-19-005000</a>	<a href="#">2129-00-19-005000</a>
17/32"	13.49	—	—	<a href="#">2095-00-19-005312</a>	<a href="#">1917-00-19-005312</a>	<a href="#">2129-00-19-005312</a>
9/16"	14.28	—	—	<a href="#">2095-00-19-005625</a>	<a href="#">1917-00-19-005625</a>	<a href="#">2129-00-19-005625</a>
19/32"	15.08	—	—	<a href="#">2095-00-19-005937</a>	<a href="#">1917-00-19-005937</a>	<a href="#">2129-00-19-005937</a>
5/8"	15.87	—	—	<a href="#">2095-00-19-006250</a>	<a href="#">1917-00-19-006250</a>	<a href="#">2129-00-19-006250</a>
21/32"	16.66	—	—	—	<a href="#">1917-00-19-006562</a>	<a href="#">2129-00-19-006562</a>
11/16"	17.46	—	—	—	<a href="#">1917-00-19-006875</a>	<a href="#">2129-00-19-006875</a>
23/32"	18.25	—	—	—	<a href="#">1917-00-19-007187</a>	<a href="#">2129-00-19-007187</a>
3/4"	19.05	—	—	—	<a href="#">1917-00-19-007500</a>	<a href="#">2129-00-19-007500</a>
25/32"	19.84	—	—	—	—	<a href="#">2129-00-19-007812</a>
13/16"	20.63	—	—	—	—	<a href="#">2129-00-19-008125</a>
27/32"	21.43	—	—	—	—	<a href="#">2129-00-19-008437</a>
7/8"	22.22	—	—	—	—	<a href="#">2129-00-19-008750</a>
29/32"	23.01	—	—	—	—	<a href="#">2129-00-19-009062</a>
15/16"	23.81	—	—	—	—	<a href="#">2129-00-19-009375</a>
31/32"	24.60	—	—	—	—	<a href="#">2129-00-19-009687</a>
1"	25.40	—	—	—	—	<a href="#">2129-00-19-010000</a>
Standard Collet Sets		<a href="#">0947-16-19-000012</a> 12 Collets	<a href="#">0947-20-19-000015</a> 15 Collets	<a href="#">0947-25-19-000019</a> 19 Collets	<a href="#">0947-32-19-000022</a> 22 Collets	<a href="#">0947-40-19-000029</a> 20 Collets
Special Accuracy Sets		<a href="#">0947-16-19-00S012</a> 12 Collets	<a href="#">0947-20-19-00S015</a> 15 Collets	<a href="#">0947-25-19-00S019</a> 19 Collets	<a href="#">0947-32-19-00S022</a> 22 Collets	<a href="#">0947-40-19-00S029</a> 29 Collets

ER Series collets have enough flex to hold a large range of tool shanks, eliminating the need for separate collets for each tool. Refer to page 12 for concentricity specifications. (ER-series collets are interchangeable with DR- and ESX-type collets)



# ERNC-Style Collets for thru-coolant applications



The head-angle of the **ERNC-Style Collet** is sealed for thru-coolant applications and pressure-resistance tested to 1000 psi. Exact metric sizes are shown in millimeter and decimal inch equivalent.

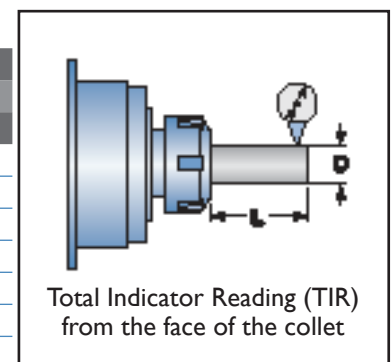
## ERNC Collets — Metric

Size Range		ERNC16 Collet	ERNC20 Collet	ERNC25 Collet	ERNC32 Collet	ERNC40 Collet
mm	Inch	Part Number	Part Number	Part Number	Part Number	Part Number
3.0	.118"	<a href="#">2133-00-17-030000</a>	<a href="#">2135-00-17-030000</a>	<a href="#">2137-00-17-030000</a>	<a href="#">2139-00-17-030000</a>	
4.0	.157"	<a href="#">2133-00-17-040000</a>	<a href="#">2135-00-17-040000</a>	<a href="#">2137-00-17-040000</a>	<a href="#">2139-00-17-040000</a>	<a href="#">2141-00-17-040000</a>
5.0	.197"	<a href="#">2133-00-17-050000</a>	<a href="#">2135-00-17-050000</a>	<a href="#">2137-00-17-050000</a>	<a href="#">2139-00-17-050000</a>	<a href="#">2141-00-17-050000</a>
6.0	.236"	<a href="#">2133-00-17-060000</a>	<a href="#">2135-00-17-060000</a>	<a href="#">2137-00-17-060000</a>	<a href="#">2139-00-17-060000</a>	<a href="#">2141-00-17-060000</a>
7.0	.276"	<a href="#">2133-00-17-070000</a>	<a href="#">2135-00-17-070000</a>	<a href="#">2137-00-17-070000</a>	<a href="#">2139-00-17-070000</a>	<a href="#">2141-00-17-070000</a>
8.0	.315"	<a href="#">2133-00-17-080000</a>	<a href="#">2135-00-17-080000</a>	<a href="#">2137-00-17-080000</a>	<a href="#">2139-00-17-080000</a>	<a href="#">2141-00-17-080000</a>
9.0	.354"	<a href="#">2133-00-17-090000</a>	<a href="#">2135-00-17-090000</a>	<a href="#">2137-00-17-090000</a>	<a href="#">2139-00-17-090000</a>	<a href="#">2141-00-17-090000</a>
10.0	.394"	<a href="#">2133-00-17-100000</a>	<a href="#">2135-00-17-100000</a>	<a href="#">2137-00-17-100000</a>	<a href="#">2139-00-17-100000</a>	<a href="#">2141-00-17-100000</a>
11.0	.433"		<a href="#">2135-00-17-110000</a>	<a href="#">2137-00-17-110000</a>	<a href="#">2139-00-17-110000</a>	<a href="#">2141-00-17-110000</a>
12.0	.472"		<a href="#">2135-00-17-120000</a>	<a href="#">2137-00-17-120000</a>	<a href="#">2139-00-17-120000</a>	<a href="#">2141-00-17-120000</a>
13.0	.512"		<a href="#">2135-00-17-130000</a>	<a href="#">2137-00-17-130000</a>	<a href="#">2139-00-17-130000</a>	<a href="#">2141-00-17-130000</a>
14.0	.551"			<a href="#">2137-00-17-140000</a>	<a href="#">2139-00-17-140000</a>	<a href="#">2141-00-17-140000</a>
15.0	.590"			<a href="#">2137-00-17-150000</a>	<a href="#">2139-00-17-150000</a>	<a href="#">2141-00-17-150000</a>
16.0	.629"			<a href="#">2137-00-17-160000</a>	<a href="#">2139-00-17-160000</a>	<a href="#">2141-00-17-160000</a>
17.0	.669"				<a href="#">2139-00-17-170000</a>	<a href="#">2141-00-17-170000</a>
18.0	.708"				<a href="#">2139-00-17-180000</a>	<a href="#">2141-00-17-180000</a>
19.0	.748"				<a href="#">2139-00-17-190000</a>	<a href="#">2141-00-17-190000</a>
20.0	.787"				<a href="#">2139-00-17-200000</a>	<a href="#">2141-00-17-200000</a>
21.0	.827"					<a href="#">2141-00-17-210000</a>
22.0	.866"					<a href="#">2141-00-17-220000</a>
23.0	.906"					<a href="#">2141-00-17-230000</a>
24.0	.945"					<a href="#">2141-00-17-240000</a>
25.0	.984"					<a href="#">2141-00-17-250000</a>
26.0	1.024"					<a href="#">2141-00-17-260000</a>

Note: Inch sizes from 1/8" to 1" by 1/32" increments available on request. ERNC50 Collets can be manufactured to order.

## Hardinge ER Collet Concentricity Specifications

Dimension – D		Dimension – L		Maximum TIR			
Clamping Range		Distance from Face		Precision DIN 6499		High Precision DIN 6499	
mm	Inch	mm	Inch	mm	Inch	mm	Inch
1.0 - 1.6	.039" - .063"	6.0	.236"	.015	.0006"	.008	.0003"
1.6 - 3.0	.063" - .118"	10.0	.394"	.015	.0006"	.008	.0003"
3.0 - 6.0	.118" - .236"	16.0	.630"	.015	.0006"	.008	.0003"
6.0 - 10.0	.236" - .394"	25.0	.984"	.015	.0006"	.008	.0003"
10.0 - 18.0	.394" - .709"	40.0	1.575"	.020	.0008"	.010	.0004"
18.0 - 26.0	.709" - 1.024"	50.0	1.969"	.020	.0008"	.010	.0004"
26.0 - 34.0	1.024" - 1.339"	60.0	2.363"	.025	.0010"	—	—



# ERTCSP-Style Tap Collets

The **ERTCSP-Style Rigid Tap Collet** with square drive are multi-split with more shank bearing surface than ER/DR collets. The bore is the exact size of the shank with a square broached hole to eliminate tap slippage. Available for thru-coolant applications.

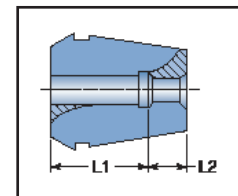


## ERTCSP-Style Tap Collets

Size Range	ERTCSP16 Tap	ERTCSP20 Tap	ERTCSP25 Tap	ERTCSP32 Collet	ERTCSP40 Collet
Tap Size	Shank	Part Number	Part Number	Part Number	Part Number
#0 - 6	.141"	<a href="#">1913-19-18-001410</a>	<a href="#">1915-19-18-001410</a>	—	—
#8	.168"	<a href="#">1913-19-18-001680</a>	<a href="#">1915-19-18-001680</a>	<a href="#">2095-19-18-001680</a>	<a href="#">1917-19-18-001680</a>
#10	.194"	<a href="#">1913-19-18-001940</a>	<a href="#">1915-19-18-001940</a>	<a href="#">2095-19-18-001940</a>	<a href="#">1917-19-18-001940</a>
#12	.220"	<a href="#">1913-19-18-002200</a>	<a href="#">1915-19-18-002200</a>	<a href="#">2095-19-18-002200</a>	<a href="#">1917-19-18-002200</a>
1/4"	.255"	<a href="#">1913-19-18-002550</a>	<a href="#">1915-19-18-002550</a>	<a href="#">2095-19-18-002550</a>	<a href="#">1917-19-18-002550</a>
5/16"	.318"		<a href="#">1915-19-18-003180</a>	<a href="#">2095-19-18-003180</a>	<a href="#">1917-19-18-003180</a>
3/8"	.381"		<a href="#">1915-19-18-003810</a>	<a href="#">2095-19-18-003810</a>	<a href="#">1917-19-18-003810</a>
7/16"	.323"		<a href="#">1915-19-18-003230</a>	<a href="#">2095-19-18-003230</a>	<a href="#">1917-19-18-003230</a>
1/2"	.367"		<a href="#">1915-19-18-003670</a>	<a href="#">2095-19-18-003670</a>	<a href="#">1917-19-18-003670</a>
9/16"	.429"			<a href="#">2095-19-18-004290</a>	<a href="#">1917-19-18-004290</a>
5/8"	.480"			<a href="#">2095-19-18-004800</a>	<a href="#">1917-19-18-004800</a>
11/16"	.542"				<a href="#">1917-19-18-005420</a>
3/4"	.590"				<a href="#">1917-19-18-005900</a>
13/16"	.652"				<a href="#">1917-19-18-006520</a>
7/8"	.697"				<a href="#">1917-19-18-006970</a>
15/16"	.760"				<a href="#">1917-19-18-007600</a>
1"	.800"				<a href="#">1917-19-18-008000</a>
Tap Kits		<a href="#">0949-16-18-000005</a> 5 Tap Collets	<a href="#">0949-20-18-000009</a> 9 Tap Collets	<a href="#">0949-25-18-000010</a> 10 Tap Collets	<a href="#">0949-32-18-000013</a> 13 Tap Collets
				<a href="#">0949-32-18-000013</a> 13 Tap Collets	<a href="#">0949-40-18-000013</a> 13 Tap Collets

## Collet Dimensions

Tap Size	L1	L2				
		ERTCSP16	ERTCSP20	ERTCSP25	ERTCSP32	ERTCSP40
0-6 - 1/4"	0.709"	0.374"	0.531"	0.630"	0.866"	1.102"
5/16" - 1/2"	0.866"	—	0.374"	0.472"	0.709"	0.945"
9/16" - 7/8"	0.984"	—	—	0.374"	0.591"	0.827"
1"	1.102"	—	—	—	—	0.709"



## ANSI Metric Taps — Shank Sizes

ANSI Metric Taps	M1 to M3.5	M4	M4.5 & M5	M6 & M6.3	M7 & M8	M10	M12	M14
Shank Size	.141"	.168"	.194"	.255"	.318"	.381"	.367"	.429"

Note: Metric (DIN), Japanese (JIS) and Chinese (CIC) standard sizes on request - see page 37 for shank sizes



# ERQC Quick-Change Floating Solid Tap Collets



**ERQC Quick-Change Tap Collets** can be used in any standard ER-, DR- or ESX-style collet holder used on lathes and milling machines. The ERQC collets allow taps to be quickly changed without removing the collet, maintaining gauge lengths from one tap to the next. The collet has a ball bearing tension compensating float and a solid square drive that eliminates tap slippage. Tap breakage is reduced when using synchronous (rigid) feed or machines requiring axial tension compensation.

## ERQC-Style Tap Collets

Size Range Tap Size	Shank	ERQC16 Tap Part Number	ERQC20 Tap Part Number	ERQC25 Tap Part Number	ERQC32 Collet Part Number	ERQC40 Collet Part Number
#0 - 6	.141"	<a href="#">2143-00-18-001410</a>	<a href="#">2145-00-18-001410</a>	<a href="#">2147-00-18-001410</a>	<a href="#">2149-00-18-001410</a>	<a href="#">2151-00-18-001410</a>
#8	.168"	<a href="#">2143-00-18-001680</a>	<a href="#">2145-00-18-001680</a>	<a href="#">2147-00-18-001680</a>	<a href="#">2149-00-18-001680</a>	<a href="#">2151-00-18-001680</a>
#10	.194"	<a href="#">2143-00-18-001940</a>	<a href="#">2145-00-18-001940</a>	<a href="#">2147-00-18-001940</a>	<a href="#">2149-00-18-001940</a>	<a href="#">2151-00-18-001940</a>
#12	.220"		<a href="#">2145-00-18-002200</a>	<a href="#">2147-00-18-002200</a>	<a href="#">2149-00-18-002200</a>	<a href="#">2151-00-18-002200</a>
1/4"	.255"		<a href="#">2145-00-18-002550</a>	<a href="#">2147-00-18-002550</a>	<a href="#">2149-00-18-002550</a>	<a href="#">2151-00-18-002550</a>
5/16"	.318"			<a href="#">2147-00-18-003180</a>	<a href="#">2149-00-18-003180</a>	<a href="#">2151-00-18-003180</a>
3/8"	.381"			<a href="#">2147-00-18-003810</a>	<a href="#">2149-00-18-003810</a>	<a href="#">2151-00-18-003810</a>
7/16"	.323"			<a href="#">2147-00-18-003230</a>	<a href="#">2149-00-18-003230</a>	<a href="#">2151-00-18-003230</a>
1/2"	.367"			<a href="#">2147-00-18-003670</a>	<a href="#">2149-00-18-003670</a>	<a href="#">2151-00-18-003670</a>
9/16"	.429"				<a href="#">2149-00-18-004290</a>	<a href="#">2151-00-18-004290</a>
5/8"	.480"					<a href="#">2151-00-18-004800</a>
1 1/16"	.542"					<a href="#">2151-00-18-005420</a>
Tap Kits		<a href="#">0948-16-18-000003</a> 3 Tap Collets	<a href="#">0948-20-18-000005</a> 5 Tap Collets	<a href="#">0948-25-18-000009</a> 9 Tap Collets	<a href="#">0948-32-18-000010</a> 10 Tap Collets	<a href="#">0948-40-18-000012</a> 12 Tap Collets

**ER Collet Racks** will help minimize damage to the precision surfaces and critical diameters of your collet. Collets which are loosely put in a drawer are subject to damage. Damaged collets may result in your cutting tools not being on the tool holder's or spindle's centerline, resulting in inaccurate machining.

## ER Collet Racks

	ER11 Rack	ER16 Rack	ER20 Rack	ER25 Rack	ER32 Rack	Combination Rack
Part Number	<a href="#">0946-11-00-000036</a>	<a href="#">0946-16-00-000036</a>	<a href="#">0946-20-00-000036</a>	<a href="#">0946-25-00-000036</a>	<a href="#">0946-32-00-000036</a>	<a href="#">0946-00-00-000069</a>
Collet Capacity	36 ER11 Collets	36 ER16 Collets	36 ER20 Collets	30 ER25 Collets	30 ER32 Collets	16 ER11 Collets 16 ER16 Collets 16 ER20 Collets 21 ER32 Collets

# ERTC Floating Solid Tap Collets — PCM-Style



The **Floating Solid Tap Collet** reduces tap breakage because of its tension compensation feature. This feature is needed when using synchronous (rigid) feed or machines requiring axial tension compensation. The collet is removed to change taps. The tap is secured with set screws which go through the sides of the square drive hole in the collet.

## ERTC Floating Solid Tap Collets

Size Range	Shank	ERTC11/12 Tap Collet Part Number	ERTC16 Tap Collet Part Number	ERTC20 Tap Collet Part Number	ERTC25 Tap Collet Part Number	ERTC32 Tap Collet Part Number
#0 - 6	.141"	<a href="#">1919-00-18-001410</a>	<a href="#">1921-00-18-001410</a>	<a href="#">1923-00-18-001410</a>	<a href="#">2097-00-18-001410</a>	—
#8	.168"		<a href="#">1921-00-18-001680</a>	<a href="#">1923-00-18-001680</a>	<a href="#">2097-00-18-001680</a>	<a href="#">2099-00-18-001680</a>
#10	.194"		<a href="#">1921-00-18-001940</a>	<a href="#">1923-00-18-001940</a>	<a href="#">2097-00-18-001940</a>	<a href="#">2099-00-18-001940</a>
#12	.220"			<a href="#">1923-00-18-002200</a>	<a href="#">2097-00-18-002200</a>	<a href="#">2099-00-18-002200</a>
1/4"	.255"			<a href="#">1923-00-18-002550</a>	<a href="#">2097-00-18-002550</a>	<a href="#">2099-00-18-002550</a>
5/16"	.318"				<a href="#">2097-00-18-003180</a>	<a href="#">2099-00-18-003180</a>
3/8"	.381"				<a href="#">2097-00-18-003810</a>	<a href="#">2099-00-18-003810</a>
7/16"	.323"				<a href="#">2097-00-18-003230</a>	<a href="#">2099-00-18-003230</a>
1/2"	.367"				<a href="#">2097-00-18-003670</a>	<a href="#">2099-00-18-003670</a>
9/16"	.429"				<a href="#">2095-19-18-004290</a>	<a href="#">2099-00-18-004290</a>
5/8"	.480"				<a href="#">2095-19-18-004800</a>	<a href="#">2099-00-18-004800</a>
1/8" NPT	.437"					<a href="#">2099-00-18-004370</a>

## ANSI Metric Taps — Shank Sizes

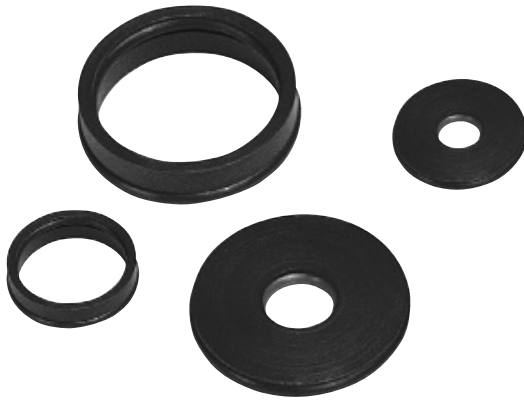
ANSI Metric Taps	M1 to M3.5	M4	M4.5 & M5	M6 & M6.3	M7 & M8	M10	M12	M14
Shank Size	.141"	.168"	.194"	.255"	.318"	.381"	.367"	.429"

Note: Metric (DIN), Japanese (JIS) and Chinese (CIC) standard sizes on request - see page 37 for shank sizes

# SHOPHARDINGE.COM



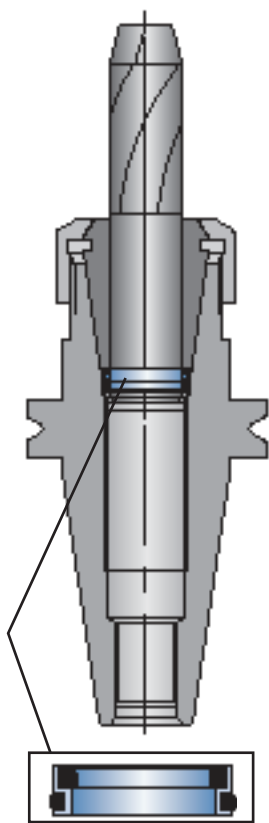
# "Cool Stop" Coolant Seals for ER & TG Collets



Maximize coolant flow through your drills with the "Cool Stop" system. The "Cool Stop" seals around the shank of the drill and the ID of the ER and TG holders. The gauge length of the holder does not change. The collet stays flush with the cap because the "Cool Stop" seal locates at the back of the collet. Each "Cool Stop" has a range from rated size down to .020" (5.0 mm), resulting in a small seal inventory for each collet style. You can keep the coolant running through the drill, rather than of the collet, at pressures up to 1500 psi.

## ER16, ER20, ER25, ER32 "Cool Stop" Seals – Metric

Size Range	ER16 Seal		ER20 Seal	ER25 Seal	ER32 Seal
	mm	Inch	Part Number	Part Number	Part Number
5.5 - 5.0	.217" - .197"	<a href="#">7988-01-16-055000</a>	<a href="#">7988-01-20-055000</a>	<a href="#">7988-01-25-055000</a>	<a href="#">7988-01-32-055000</a>
6.0 - 5.5	.236" - .217"	<a href="#">7988-01-16-060000</a>	<a href="#">7988-01-20-060000</a>	<a href="#">7988-01-25-060000</a>	<a href="#">7988-01-32-060000</a>
6.5 - 6.0	.256" - .236"	<a href="#">7988-01-16-065000</a>	<a href="#">7988-01-20-065000</a>	<a href="#">7988-01-25-065000</a>	<a href="#">7988-01-32-065000</a>
7.0 - 6.5	.276" - .256"	<a href="#">7988-01-16-070000</a>	<a href="#">7988-01-20-070000</a>	<a href="#">7988-01-25-070000</a>	<a href="#">7988-01-32-070000</a>
7.5 - 7.0	.295" - .276"	<a href="#">7988-01-16-075000</a>	<a href="#">7988-01-20-075000</a>	<a href="#">7988-01-25-075000</a>	<a href="#">7988-01-32-075000</a>
8.0 - 7.5	.315" - .295"	<a href="#">7988-01-16-080000</a>	<a href="#">7988-01-20-080000</a>	<a href="#">7988-01-25-080000</a>	<a href="#">7988-01-32-080000</a>
8.5 - 8.0	.335" - .315"		<a href="#">7988-01-20-085000</a>	<a href="#">7988-01-25-085000</a>	<a href="#">7988-01-32-085000</a>
9.0 - 8.5	.354" - .335"		<a href="#">7988-01-20-090000</a>	<a href="#">7988-01-25-090000</a>	<a href="#">7988-01-32-090000</a>
9.5 - 9.0	.374" - .354"		<a href="#">7988-01-20-095000</a>	<a href="#">7988-01-25-095000</a>	<a href="#">7988-01-32-095000</a>
10.0 - 9.5	.394" - .374"		<a href="#">7988-01-20-100000</a>	<a href="#">7988-01-25-100000</a>	<a href="#">7988-01-32-100000</a>
10.5 - 10.0	.413" - .394"			<a href="#">7988-01-25-105000</a>	<a href="#">7988-01-32-105000</a>
11.0 - 10.5	.433" - .413"			<a href="#">7988-01-25-110000</a>	<a href="#">7988-01-32-110000</a>
11.5 - 11.0	.453" - .433"			<a href="#">7988-01-25-115000</a>	<a href="#">7988-01-32-115000</a>
12.0 - 11.5	.472" - .453"			<a href="#">7988-01-25-120000</a>	<a href="#">7988-01-32-120000</a>
12.5 - 12.0	.492" - .472"			<a href="#">7988-01-25-125000</a>	<a href="#">7988-01-32-125000</a>
13.0 - 12.5	.512" - .492"			<a href="#">7988-01-25-130000</a>	<a href="#">7988-01-32-130000</a>
13.5 - 13.0	.531" - .512"			<a href="#">7988-01-25-135000</a>	<a href="#">7988-01-32-135000</a>
14.0 - 13.5	.551" - .531"			<a href="#">7988-01-25-140000</a>	<a href="#">7988-01-32-140000</a>
14.5 - 14.0	.571" - .551"			<a href="#">7988-01-25-145000</a>	<a href="#">7988-01-32-145000</a>
15.0 - 14.5	.591" - .571"				<a href="#">7988-01-32-150000</a>
15.5 - 15.0	.610" - .591"				<a href="#">7988-01-32-155000</a>
16.0 - 15.5	.630" - .610"				<a href="#">7988-01-32-160000</a>
16.5 - 16.0	.650" - .630"				<a href="#">7988-01-32-165000</a>
17.0 - 16.5	.669" - .650"				<a href="#">7988-01-32-170000</a>
17.5 - 17.0	.689" - .669"				<a href="#">7988-01-32-175000</a>
18.0 - 17.5	.709" - .689"				<a href="#">7988-01-32-180000</a>
18.5 - 18.0	.728" - .709"				<a href="#">7988-01-32-185000</a>
19.0 - 18.5	.748" - .728"				<a href="#">7988-01-32-190000</a>
19.5 - 19.0	.768" - .748"				<a href="#">7988-01-32-195000</a>
20.0 - 19.5	.787" - .768"				<a href="#">7988-01-32-200000</a>



Seal Cross Section

### Quick Assembly:

Put the collet in the cap, the drill through the collet, the "Cool Stop" seal on the drill shank and insert the assembly into the holder. Adjust the drill to the proper length and lock the cap. You are now ready to increase your productivity.

## TG100 "Cool Stop" Seals – Inch

Size Range	TG100 Seal	
	Inch	mm
<a href="#">7988-02-10-007500</a>	<a href="#">7988-02-10-007500</a>	<a href="#">7988-01-32-180000</a>
<a href="#">7988-02-10-007656</a>	<a href="#">7988-02-10-007656</a>	<a href="#">7988-01-32-185000</a>
<a href="#">7988-02-10-007812</a>	<a href="#">7988-02-10-007812</a>	<a href="#">7988-01-32-190000</a>
<a href="#">7988-02-10-007968</a>	<a href="#">7988-02-10-007968</a>	<a href="#">7988-01-32-195000</a>
<a href="#">7988-02-10-008125</a>	<a href="#">7988-02-10-008125</a>	<a href="#">7988-01-32-200000</a>
<a href="#">7988-02-10-008281</a>	<a href="#">7988-02-10-008281</a>	
<a href="#">7988-02-10-008437</a>	<a href="#">7988-02-10-008437</a>	
<a href="#">7988-02-10-008593</a>	<a href="#">7988-02-10-008593</a>	
<a href="#">7988-02-10-008750</a>	<a href="#">7988-02-10-008750</a>	
<a href="#">7988-02-10-008906</a>	<a href="#">7988-02-10-008906</a>	
<a href="#">7988-02-10-009062</a>	<a href="#">7988-02-10-009062</a>	
<a href="#">7988-02-10-009218</a>	<a href="#">7988-02-10-009218</a>	
<a href="#">7988-02-10-009375</a>	<a href="#">7988-02-10-009375</a>	
<a href="#">7988-02-10-009531</a>	<a href="#">7988-02-10-009531</a>	
<a href="#">7988-02-10-009687</a>	<a href="#">7988-02-10-009687</a>	
<a href="#">7988-02-10-009843</a>	<a href="#">7988-02-10-009843</a>	
<a href="#">7988-02-10-010000</a>	<a href="#">7988-02-10-010000</a>	

# ER-Style Collet Holders for Swiss-type & CNC Lathes — Inch



ST-0000187-10  
ST-0000187-05



ST-0000187  
ST-0000187-03



SN-0000187  
SN-0000187-03  
SN-0000187-05

## Standard Round Shank Tool Holders — one-piece nose cap — Inch

Shank Dia.	Tool Holder Part Number	Collet Style	Shank Length	Total Length	Cap Dia.	Cap Hex	Cap Part Number	Wrench Part Number	Collets		Tap Collets		
									ER	ERNC	ERTCSP	ERQC	ERTC
1/2"	<a href="#">ST-0000187-10</a>	ER11	.578"	1.000"	.750"	17 mm	<a href="#">ST-0000187-09</a>	Use Standard Open End Wrench	X				X
5/8"	<a href="#">ST-0000187-05</a>	ER16	1.378"	2.187"	1.100"	25 mm	<a href="#">ST-0000187-02</a>		X	X	X	X	X
5/8"	<a href="#">SN-0000187-05</a>	ER20	1.378"	3.010"	1.335"	30 mm	<a href="#">SN-0000187-20</a>		X	X	X	X	X
1"	<a href="#">ST-0000187</a>	ER16	4.134"	5.875"	1.100"	25 mm	<a href="#">ST-0000187-02</a>		X	X	X	X	X
1"	<a href="#">ST-0000187-03</a>	ER16	2.756"	4.312"	1.100"	25 mm	<a href="#">ST-0000187-02</a>		X	X	X	X	X
1"	<a href="#">SN-0000187</a>	ER20	4.134"	5.775"	1.335"	30 mm	<a href="#">SN-0000187-20</a>		X	X	X	X	X
1"	<a href="#">SN-0000187-03</a>	ER20	2.756"	4.395"	1.335"	30 mm	<a href="#">SN-0000187-20</a>		X	X	X	X	X



ST-0011202-25B  
(one-piece nose cap)



SN-0011202-25B  
(ball-bearing nose cap)



SN-0011202-05B  
(ball-bearing nose cap)

## Rigid Tap Holders for Floating Tap Collets — one-piece and ball-bearing nose cap — Inch

Shank Dia.	Tool Holder Part Number	Collet Style	Shank Length	Total Length	Cap Dia.	Cap Hex	Cap Part Number	Wrench Part Number	Collets		Tap Collets		
									ER	ERNC	ERTCSP	ERQC	ERTC
5/8"	ST-0011202-25B	ER20	1.378"	3.100"	1.335"	30 mm	—	Standard Open End				X	X
5/8"	SN-0011202-25B	ER20	1.378"	3.100"	1.375"	Slots	<a href="#">SN-0000187-07</a>	<a href="#">SN-0009189-01</a>				X	X
1"	SN-0011202-02B	ER20	4.134"	5.875"	1.375"	Slots	<a href="#">SN-0000187-07</a>	<a href="#">SN-0009189-01</a>				X	X



ST-0011202-02 B

## Floating Tap Holder for Flexible Split Collets — one-piece nose cap — Inch

Shank Dia.	Tool Holder Part Number	Collet Style	Shank Length	Total Length	Cap Dia.	Cap Hex	Cap Part Number	Wrench Part Number	Collets		Tap Collets		
									ER	ERNC	ERTCSP	ERQC	ERTC
1"	ST-0011202-02 B	ER16	2.756"	4.070"	1.100"	25 mm	—	Standard Open End	X		X		

# ER-Style Collet Holders for Swiss-type and CNC Lathes — Metric



ST-0000187-5M  
ST-0000187-10M



ST-0000187-7M  
ST-0000187-M



SN-0000187-M  
SN-0000187-3M  
SN-0000187-5M

## Standard Round Shank Tool Holders — one-piece nose cap — Metric

Shank Dia.	Tool Holder Part Number	Collet Style	Shank Length	Total Length	Cap Dia.	Cap Hex	Cap Part Number	Wrench Part Number	Collets		Tap Collets		
									ER	ERNC	ERTCSP	ERQC	ERTC
14 mm	<a href="#">ST-0000187-10 M</a>	ER11	14.7 mm	25.0 mm	19 mm	17 mm	<a href="#">ST-0000187-09</a>	Use Standard Open End Wrench	X		X		
16 mm	<a href="#">ST-0000187-5M</a>	ER16	35.0 mm	55.5 mm	28 mm	25 mm	<a href="#">ST-0000187-02</a>		X	X	X	X	X
16 mm	<a href="#">SN-0000187-5M</a>	ER20	35.0 mm	76.4 mm	34 mm	30 mm	<a href="#">SN-0000187-20</a>		X	X	X	X	X
25 mm	<a href="#">ST-0000187-7M</a>	ER11	85.0 mm	104.5 mm	19 mm	17 mm	<a href="#">ST-0000187-09</a>		X				X
25 mm	<a href="#">ST-0000187-M</a>	ER16	105.0 mm	149.0 mm	28 mm	25 mm	<a href="#">ST-0000187-02</a>		X	X	X	X	X
25 mm	<a href="#">ST-0000187-3M</a>	ER16	70.0 mm	109.5 mm	28 mm	25 mm	<a href="#">ST-0000187-02</a>		X	X	X	X	X
25 mm	<a href="#">SN-0000187-M</a>	ER20	105.0 mm	145.5 mm	34 mm	30 mm	<a href="#">SN-0000187-20</a>		X	X	X	X	X
25 mm	<a href="#">SN-0000187-3M</a>	ER20	70.0 mm	111.5 mm	34 mm	30 mm	<a href="#">SN-0000187-20</a>		X	X	X	X	X



ST-0011202-25MB  
(one-piece nose cap)



SN-0011202-25MB  
(ball-bearing nose cap)



SN-0011202-2MB  
(ball-bearing nose cap)

## Rigid Tap Holders for Floating Tap Collets — one-piece and ball-bearing nose cap — Metric

Shank Dia.	Tool Holder Part Number	Collet Style	Shank Length	Total Length	Cap Dia.	Cap Hex	Cap Part Number	Wrench Part Number	Collets		Tap Collets		
									ER	ERNC	ERTCSP	ERQC	ERTC
16 mm	<a href="#">ST-0011202-25MB</a>	ER20	35.0 mm	79.0 mm	34 mm	30 mm	—	Standard Open End				X	X
16 mm	<a href="#">SN-0011202-25MB</a>	ER20	35.0 mm	79.0 mm	35 mm	Slots	<a href="#">SN-0000187-07</a>	<a href="#">SN-0009189-01</a>				X	X
25 mm	<a href="#">SN-0011202-2MB</a>	ER20	105.0 mm	149.0 mm	35 mm	Slots	<a href="#">SN-0000187-07</a>	<a href="#">SN-0009189-01</a>				X	X



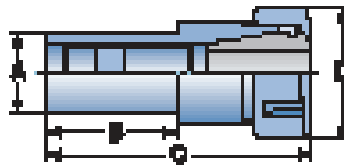
ST-0011202-2M B

## Floating Tap Holder for Flexible Split Collets — one-piece nose cap — Metric

Shank Dia.	Tool Holder Part Number	Collet Style	Shank Length	Total Length	Cap Dia.	Cap Hex	Cap Part Number	Wrench Part Number	Collets		Tap Collets		
									ER	ERNC	ERTCSP	ERQC	ERTC
25 mm	<a href="#">ST-0011202-2M B</a>	ER16	75.0 mm	103.0 mm	28 mm	25 mm	—	Standard Open End	X		X		



# ER-Style Collet Tool Holders — Straight Shank, Stepped



## ER-Style Collet Tool Holders — Straight Shank, Stepped — Metric

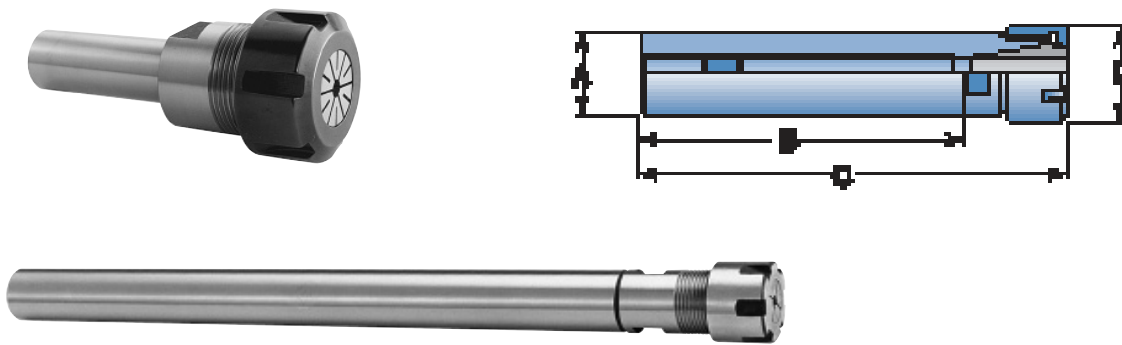
Tool Holder		A Shank Dia.		B Shank Length		C Total Length		D Cap		Nut (Cap)	Wrench (Not Included)
ER Collet	Part Number	mm	Inch	mm	Inch	mm	Inch	mm	Inch	Part Number	Part Number
ER11	<a href="#">7997-60-08-070000</a>	7	0.28"	45	1.77"	58	2.28"	16	0.63"	<a href="#">7991-01-11-000020</a>	<a href="#">7992-01-11-000020</a>
ER11	<a href="#">7997-60-08-080000</a>	8	0.31"	56	2.20"	70	2.76"	16	0.63"	<a href="#">7991-01-11-000020</a>	<a href="#">7992-01-11-000020</a>
ER16	<a href="#">7997-60-16-100000</a>	10	0.39"	44	1.73"	70	2.76"	22	0.87"	<a href="#">7991-01-16-000020</a>	<a href="#">7992-01-16-000020</a>
ER16	<a href="#">7997-70-16-100000</a>	10	0.39"	60	2.36"	86	3.39"	22	0.87"	<a href="#">7991-01-16-000020</a>	<a href="#">7992-01-16-000020</a>
ER16	<a href="#">7997-80-16-100000</a>	10	0.39"	80	3.15"	120	4.72"	22	0.87"	<a href="#">7991-01-16-000020</a>	<a href="#">7992-01-16-000020</a>
ER16	<a href="#">7997-80-16-120000</a>	12	0.47"	80	3.15"	105	4.13"	22	0.87"	<a href="#">7991-01-16-000020</a>	<a href="#">7992-01-16-000020</a>
ER16	<a href="#">7997-81-16-120000</a>	12	0.47"	80	3.15"	105	4.13"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>	<a href="#">7992-01-16-000021<sup>H</sup></a>
ER16	<a href="#">7997-61-16-140000</a>	14	0.55"	30	1.18"	55	2.17"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>	<a href="#">7992-01-16-000021<sup>H</sup></a>
ER16	<a href="#">7997-71-16-140000</a>	14	0.55"	60	2.36"	97	3.82"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>	<a href="#">7992-01-16-000021<sup>H</sup></a>
ER16	<a href="#">7997-71-16-160000</a>	16	0.63"	60	2.36"	90	3.55"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>	<a href="#">7992-01-16-000021<sup>H</sup></a>
ER20	<a href="#">7997-80-20-120000</a>	12	0.47"	100	3.94"	142	5.60"	28	1.10"	<a href="#">7991-01-20-000020</a>	<a href="#">7992-01-20-000020</a>
ER20	<a href="#">7997-80-20-150000</a>	15	0.59"	100	3.94"	142	5.60"	28	1.10"	<a href="#">7991-01-20-000020</a>	<a href="#">7992-01-20-000020</a>
ER20	<a href="#">7997-80-20-160000</a>	16	0.63"	100	3.94"	142	5.60"	28	1.10"	<a href="#">7991-01-20-000020</a>	<a href="#">7992-01-20-000020</a>
ER20	<a href="#">7997-61-20-200000</a>	20	0.79"	30	1.18"	55	2.17"	34	1.34"	<a href="#">7991-01-20-000021<sup>H</sup></a>	<a href="#">7992-01-20-000021<sup>H</sup></a>
ER25	<a href="#">7997-72-25-200000</a>	20	0.79"	50	1.97"	85	3.35"	42	1.65"	<a href="#">7991-01-25-000220<sup>E</sup></a>	<a href="#">7992-01-25-000220<sup>E</sup></a>
ER25	<a href="#">7997-82-25-200000</a>	20	0.79"	100	3.94"	135	5.31"	42	1.65"	<a href="#">7991-01-25-000220<sup>E</sup></a>	<a href="#">7992-01-25-000220<sup>E</sup></a>
ER25	<a href="#">7997-72-25-250000</a>	25	0.98"	50	1.97"	85	3.35"	42	1.65"	<a href="#">7991-01-25-000220<sup>E</sup></a>	<a href="#">7992-01-25-000220<sup>E</sup></a>
ER32	<a href="#">7997-72-32-200000</a>	20	0.79"	35	1.38"	83	3.27"	50	1.97"	<a href="#">7991-01-32-000220<sup>E</sup></a>	<a href="#">7992-01-32-000220<sup>E</sup></a>
ER32	<a href="#">7997-62-32-200000</a>	20	0.79"	50	1.97"	75	2.95"	50	1.97"	<a href="#">7991-01-32-000220<sup>E</sup></a>	<a href="#">7992-01-32-000220<sup>E</sup></a>
ER32	<a href="#">7997-72-32-250000</a>	25	0.98"	50	1.97"	95	3.74"	50	1.97"	<a href="#">7991-01-32-000220<sup>E</sup></a>	<a href="#">7992-01-32-000220<sup>E</sup></a>
ER40	<a href="#">7997-72-40-250000</a>	25	0.98"	50	1.97"	95	3.74"	63	2.48"	<a href="#">7991-01-40-000220<sup>E</sup></a>	<a href="#">7992-01-40-000220<sup>E</sup></a>

## ER-Style Collet Tool Holders — Straight Shank, Stepped — Inch

Tool Holder		A Shank Dia.		B Shank Length		C Total Length		D Cap		Nut (Cap)	Wrench (Not Included)
ER Collet	Part Number	mm	Inch	mm	Inch	mm	Inch	mm	Inch	Part Number	Part Number
ER11	<a href="#">7997-60-08-002500</a>	—	¼"	45	1.77"	58	2.28"	16	0.63"	<a href="#">7991-01-11-000020</a>	<a href="#">7992-01-11-000020</a>
ER16	<a href="#">7997-60-16-003750</a>	—	⅜"	44	1.73"	70	2.76"	22	0.87"	<a href="#">7991-01-16-000020</a>	<a href="#">7992-01-16-000020</a>
ER16	<a href="#">7997-90-16-005000</a>	—	½"	154	6.06"	168	6.61"	22	0.87"	<a href="#">7991-01-16-000020</a>	<a href="#">7992-01-16-000020</a>
ER16	<a href="#">7997-71-16-006250</a>	—	⅝"	60	2.36"	85	3.35"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>	<a href="#">7992-01-16-000021<sup>H</sup></a>
ER16	<a href="#">7997-81-16-006250</a>	—	⅝"	80	3.15"	105	4.13"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>	<a href="#">7992-01-16-000021<sup>H</sup></a>
ER16	<a href="#">7997-71-16-007500</a>	—	¾"	50	1.97"	79	3.11"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>	<a href="#">7992-01-16-000021<sup>H</sup></a>
ER16	<a href="#">7997-81-16-007500</a>	—	¾"	80	3.15"	110	4.33"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>	<a href="#">7992-01-16-000021<sup>H</sup></a>
ER16	<a href="#">7997-91-16-007500</a>	—	¾"	100	3.94"	125	4.92"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>	<a href="#">7992-01-16-000021<sup>H</sup></a>
ER16	<a href="#">7997-71-16-012500</a>	—	1¼"	60	2.36"	85	3.35"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>	<a href="#">7992-01-16-000021<sup>H</sup></a>
ER20	<a href="#">7997-80-20-006250</a>	—	⅝"	100	3.94"	142	5.60"	28	1.10"	<a href="#">7991-01-20-000020</a>	<a href="#">7992-01-20-000020</a>
ER25	<a href="#">7997-72-25-006250</a>	—	⅝"	50	1.97"	85	3.35"	42	1.65"	<a href="#">7991-01-25-000220<sup>E</sup></a>	<a href="#">7992-01-25-000220<sup>E</sup></a>
ER25	<a href="#">7997-72-25-007500</a>	—	¾"	50	1.97"	85	3.35"	42	1.65"	<a href="#">7991-01-25-000220<sup>E</sup></a>	<a href="#">7992-01-25-000220<sup>E</sup></a>
ER25	<a href="#">7997-82-25-007500</a>	—	¾"	100	3.94"	135	5.31"	42	1.65"	<a href="#">7991-01-25-000220<sup>E</sup></a>	<a href="#">7992-01-25-000220<sup>E</sup></a>
ER25	<a href="#">7997-72-25-008750</a>	—	⅞"	140	5.51"	100	3.94"	42	1.65"	<a href="#">7991-01-25-000220<sup>E</sup></a>	<a href="#">7992-01-25-000220<sup>E</sup></a>
ER32	<a href="#">7997-72-32-010000</a>	—	1"	50	1.97"	95	3.74"	50	1.97"	<a href="#">7991-01-32-000220<sup>E</sup></a>	<a href="#">7992-01-32-000220<sup>E</sup></a>
ER32	<a href="#">7997-92-32-012500</a>	—	1¼"	50	1.97"	110	4.33"	50	1.97"	<a href="#">7991-01-32-000220<sup>E</sup></a>	<a href="#">7992-01-32-000220<sup>E</sup></a>
ER32	<a href="#">7997-82-32-012500</a>	—	1¼"	60	2.36"	105	4.13"	50	1.97"	<a href="#">7991-01-32-000220<sup>E</sup></a>	<a href="#">7992-01-32-000220<sup>E</sup></a>
ER40	<a href="#">7997-72-40-010000</a>	—	1"	50	1.97"	95	3.74"	63	2.48"	<a href="#">7991-01-40-000220<sup>E</sup></a>	<a href="#">7992-01-40-000220<sup>E</sup></a>
ER40	<a href="#">7997-82-40-010000</a>	—	1"	—	2.375"	110	4.33"	63	2.48"	<a href="#">7991-01-40-000220<sup>E</sup></a>	<a href="#">7992-01-40-000220<sup>E</sup></a>
ER40	<a href="#">7997-82-40-012500</a>	—	1¼"	60	2.36"	105	4.13"	63	2.48"	<a href="#">7991-01-40-000220<sup>E</sup></a>	<a href="#">7992-01-40-000220<sup>E</sup></a>

Note: Tool holders in gray shading can be used on Hardinge machines. E = E-Style; H = Hex-Style. See page 21 for additional information on Caps and Wrenches.

# ER Collet Tool Holders — Straight Shank



## ER-Style Collet Tool Holders — Straight Shank, Stepped — Metric

ER Collet	Tool Holder		A Shank Dia.		B Shank Length		C Total Length		D Cap		Nut (Cap)		Wrench (Not Included)	
	Part Number		mm	Inch	mm	Inch	mm	Inch	mm	Inch	Part Number		Part Number	
ER8	<a href="#">7996-60-08-080000</a>		8	0.31"	56	2.20"	70	2.76"	12	0.47"	<a href="#">7991-01-08-000020</a>		<a href="#">7992-01-08-000020</a>	
ER8	<a href="#">7996-70-08-080000</a>		8	0.31"	80	3.15"	100	3.94"	12	0.47"	<a href="#">7991-01-08-000020</a>		<a href="#">7992-01-08-000020</a>	
ER8	<a href="#">7996-60-08-100000</a>		10	0.39"	56	2.20"	70	2.76"	12	0.47"	<a href="#">7991-01-08-000020</a>		<a href="#">7992-01-08-000020</a>	
ER8	<a href="#">7996-70-08-100000</a>		10	0.39"	80	3.15"	100	3.94"	12	0.47"	<a href="#">7991-01-08-000020</a>		<a href="#">7992-01-08-000020</a>	
ER8	<a href="#">7996-60-08-120000</a>		12	0.47"	80	3.15"	95	3.74"	12	0.47"	<a href="#">7991-01-08-000020</a>		<a href="#">7992-01-08-000020</a>	
ER11	<a href="#">7996-81-11-200000</a>		20	0.79"	115	4.53"	145	5.71"	19	0.75"	<a href="#">7991-01-11-000021<sup>H</sup></a>		<a href="#">7992-01-11-000021<sup>H</sup></a>	
ER11	<a href="#">7996-81-11-220000</a>		22	0.88"	100	3.94"	130	5.12"	19	0.75"	<a href="#">7991-01-11-000021<sup>H</sup></a>		<a href="#">7992-01-11-000021<sup>H</sup></a>	
ER12	<a href="#">7996-60-12-140000</a>		14	0.55"	25	0.98"	38	1.50"	19	0.75"	<a href="#">7991-01-12-000021<sup>H</sup></a>		<a href="#">7992-01-12-000021<sup>H</sup></a>	
ER16	<a href="#">7996-61-16-200000</a>		20	0.79"	30	1.18"	55	2.17"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>		<a href="#">7992-01-16-000021<sup>H</sup></a>	
ER16	<a href="#">7996-71-16-200000</a>		20	0.79"	50	1.97"	79	3.10"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>		<a href="#">7992-01-16-000021<sup>H</sup></a>	
ER16	<a href="#">7996-81-16-200000</a>		20	0.79"	100	3.94"	125	4.92"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>		<a href="#">7992-01-16-000021<sup>H</sup></a>	
ER16	<a href="#">7996-90-16-200000</a>		20	0.79"	100	3.94"	135	5.31"	22	0.87"	<a href="#">7991-01-16-000020</a>		<a href="#">7992-01-16-000020</a>	
ER16	<a href="#">7996-81-16-220000</a>		22	0.87"	80	3.15"	103	4.06"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>		<a href="#">7992-01-16-000021<sup>H</sup></a>	
ER16	<a href="#">7996-91-16-220000</a>		22	0.87"	134	5.28"	160	6.30"	28	1.10"	<a href="#">7991-01-16-000021<sup>H</sup></a>		<a href="#">7992-01-16-000021<sup>H</sup></a>	
ER20	<a href="#">7996-80-20-200000</a>		20	0.79"	100	3.94"	142	5.60"	28	1.10"	<a href="#">7991-01-20-000020</a>		<a href="#">7992-01-20-000020</a>	
ER20	<a href="#">7996-81-20-200000</a>		20	0.79"	100	3.94"	142	5.60"	34	1.34"	<a href="#">7991-01-20-000021<sup>H</sup></a>		<a href="#">7992-01-20-000021<sup>H</sup></a>	
ER20	<a href="#">7996-81-20-220000</a>		22	0.87"	100	3.94"	142	5.60"	34	1.34"	<a href="#">7991-01-20-000021<sup>H</sup></a>		<a href="#">7992-01-20-000021<sup>H</sup></a>	
ER20	<a href="#">7996-91-20-220000</a>		22	0.87"	120	4.72"	160	6.30"	34	1.34"	<a href="#">7991-01-20-000021<sup>H</sup></a>		<a href="#">7992-01-20-000021<sup>H</sup></a>	
ER20	<a href="#">7996-71-20-220000</a>		22	0.87"	80	3.15"	120	4.72"	34	1.34"	<a href="#">7991-01-20-000021<sup>H</sup></a>		<a href="#">7992-01-20-000021<sup>H</sup></a>	
ER25	<a href="#">7996-82-25-250000</a>		25	0.98"	100	3.94"	135	5.31"	42	1.65"	<a href="#">7991-01-25-000220<sup>E</sup></a>		<a href="#">7992-01-25-000220<sup>E</sup></a>	

## ER-Style Collet Tool Holders — Straight Shank, Stepped — Inch

ER Collet	Tool Holder		A Shank Dia.		B Shank Length		C Total Length		D Cap		Nut (Cap)		Wrench (Not Included)	
	Part Number		mm	Inch	mm	Inch	mm	Inch	mm	Inch	Part Number		Part Number	
ER8	<a href="#">7996-70-08-005000</a>		—	1/2"	80	3.15"	95	3.74"	12	0.47"	<a href="#">7991-01-08-000020</a>		<a href="#">7992-01-08-000020</a>	
ER11	<a href="#">7996-90-11-005000</a>		—	1/2"	154	6.06"	168	6.61"	16	0.63"	<a href="#">7991-01-11-000020</a>		<a href="#">7992-01-11-000020</a>	
ER11	<a href="#">7996-70-11-005000</a>		—	1/2"	80	3.15"	100	3.94"	16	0.63"	<a href="#">7991-01-11-000020</a>		<a href="#">7992-01-11-000020</a>	
ER11	<a href="#">7996-71-11-005000</a>		—	1/2"	80	3.15"	100	3.94"	19	0.75"	<a href="#">7991-01-11-000021<sup>H</sup></a>		<a href="#">7992-01-11-000021<sup>H</sup></a>	
ER11	<a href="#">7996-91-11-006250</a>		—	5/8"	140	5.51"	155	6.10"	19	0.75"	<a href="#">7991-01-11-000021<sup>H</sup></a>		<a href="#">7992-01-11-000021<sup>H</sup></a>	
ER11	<a href="#">7996-60-11-006250</a>		—	5/8"	—	2.00"	—	2.50"	16	0.63"	<a href="#">7991-01-11-000020</a>		<a href="#">7992-01-11-000020</a>	
ER11	<a href="#">7996-90-11-006250</a>		—	5/8"	154	6.06"	168	6.61"	16	0.63"	<a href="#">7991-01-11-000020</a>		<a href="#">7992-01-11-000020</a>	
ER11	<a href="#">7996-92-11-006250</a>		—	5/8"	154	6.06"	168	6.61"	19	0.75"	<a href="#">7991-01-11-000021<sup>H</sup></a>		<a href="#">7992-01-11-000021<sup>H</sup></a>	
ER20	<a href="#">7996-91-20-010000</a>		—	1"	134	5.28"	160	6.30"	28	1.10"	<a href="#">7991-01-20-000020</a>		<a href="#">7992-01-20-000020</a>	
ER25	<a href="#">7996-72-25-010000</a>		—	1"	50	1.97"	85	3.35"	42	1.65"	<a href="#">7991-01-25-000220<sup>E</sup></a>		<a href="#">7992-01-25-000220<sup>E</sup></a>	
ER25	<a href="#">7996-82-25-010000</a>		—	1"	100	3.94"	135	5.31"	42	1.65"	<a href="#">7991-01-25-000220<sup>E</sup></a>		<a href="#">7992-01-25-000220<sup>E</sup></a>	
ER25	<a href="#">7996-70-25-010000</a>		—	1"	50	1.97"	85	3.35"	35	1.38"	<a href="#">7991-01-25-000020</a>		<a href="#">7992-01-25-000020</a>	
ER25	<a href="#">7996-80-25-010000</a>		—	1"	100	3.94"	135	5.31"	35	1.38"	<a href="#">7991-01-25-000020</a>		<a href="#">7992-01-25-000020</a>	

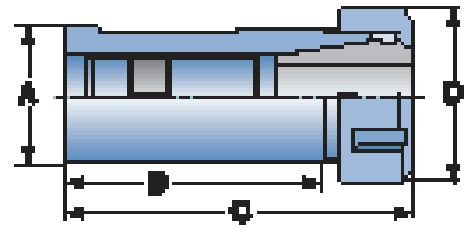
Note: Tool holders in gray shading can be used on Hardinge machines. Additional information on Caps and Wrenches.

E = E-Style; H = Hex-Style

See page 21 for addi-

# ER Collet Tool Holders — Straight-Shank, Coolant Style

Straight-Shank Coolant-Style ER Collet Tool holders are designed to be used with NC/CNC lathes that have coolant delivery systems built into their tool blocks.

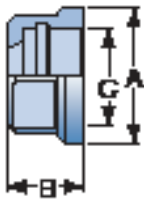


## ER Collet Tool Holders — Straight Shank, Coolant Style — Metric

ER Collet	Tool Holder		A Shank Dia.		B Shank Length		C Total Length		D Cap		E-Style Nut (Cap)	E-Style Wrench (Not Included)
	Part Number		mm	Inch	mm	Inch	mm	Inch	mm	Inch	Part Number	Part Number
ER32	<a href="#">7996-01-32-140000</a>		40	1.57"	80	3.15"	160	6.30"	50	1.97"	<a href="#">7991-01-32-000220</a>	<a href="#">7992-01-32-000220</a>

## Caps & Wrenches for Straight & Stepped ER Collet Tool Holders

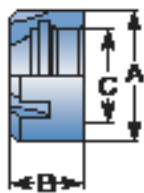
### Hex Caps and Wrenches



Cap Part Number	Collet Style	A		B		C	Wrench Part Number
		mm	Inch	mm	Inch	Thread	
<a href="#">7991-01-11-000021</a>	ER11	19	0.75"	11.3	.44"	M14 X .75	<a href="#">7992-01-11-000021</a>
<a href="#">7991-01-12-000021</a>	ER12	19	0.75"	12.5	.49"	M14 x .75	<a href="#">7992-01-12-000021</a>
<a href="#">7991-01-16-000021</a>	ER16	28	1.10"	17.0	.67"	M22 x 1.5	<a href="#">7992-01-16-000021</a>
<a href="#">7991-01-20-000021</a>	ER20	34	1.34"	19.0	.75"	M25 x 1.5	<a href="#">7992-01-20-000021</a>



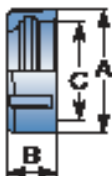
### Mini Caps and Wrenches



Cap Part Number	Collet Style	A		B		C	Wrench Part Number
		mm	Inch	mm	Inch	Thread	
<a href="#">7991-01-08-000020</a>	ER8	12	0.47"	10.8	.42"	M10 x .75	<a href="#">7992-01-08-000020</a>
<a href="#">7991-01-11-000020</a>	ER11	16	0.63"	11.3	.44"	M13 X .75	<a href="#">7992-01-11-000020</a>
<a href="#">7991-01-16-000020</a>	ER16	22	0.87"	17.0	.67"	M19 x 1	<a href="#">7992-01-16-000020</a>
<a href="#">7991-01-20-000020</a>	ER20	28	1.10"	19.0	.75"	M24 x 1	<a href="#">7992-01-20-000020</a>
<a href="#">7991-01-25-000020</a>	ER25	35	1.38"	20.0	.79"	M30 x 1	<a href="#">7992-01-25-000020</a>



### "E" Style Caps and Wrenches



Cap Part Number	Collet Style	A		B		C	Wrench Part Number
		mm	Inch	mm	Inch	Thread	
<a href="#">7991-01-25-000220</a>	ER25	42	1.65"	20.0	.79"	M32 x 1.5	<a href="#">7992-01-25-000220</a>
<a href="#">7991-01-32-000220</a>	ER32	50	1.97"	22.0	.87"	M40 x 1.5	<a href="#">7992-01-32-000220</a>
<a href="#">7991-01-40-000220</a>	ER40	63	2.48"	25.0	.98"	M50 x 1.5	<a href="#">7992-01-40-000220</a>



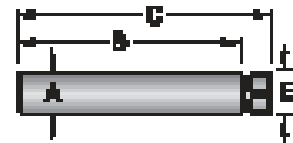
Note: Mini and "E" Style Wrenches are designed to break if over torqued.

# ER-Style Collet Holders for Mills and Knee Mills

## ER-Style Collet Tool Holders for Vertical Machining Centers



Collet Style	Part Number	Shank A	B	C	E	Standard Cap Part No. (included)
ER11	<a href="#">7996-01-11-005000</a>	.500"	5.8"	6.6"	.63"	7991-01-11-000001
ER16	<a href="#">7996-01-16-007500</a>	.750"	5.9"	7.0"	1.08"	7991-01-16-000001
ER20	<a href="#">7996-01-20-010000</a>	1.000"	5.8"	7.0"	1.375"	7991-01-20-000001
ER25	<a href="#">7996-01-25-010000</a>	1.000"	5.5"	7.5"	1.65"	7991-01-25-000001
ER32	<a href="#">7996-01-32-012500</a>	1.250"	5.5"	7.5"	1.88"	7991-01-32-000001



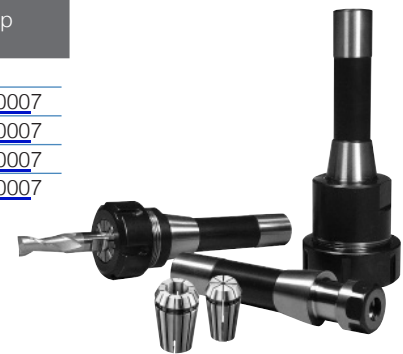
## Optional Caps, Wrenches, Screws and Extractors



Style	Dia. C	Wrench for Std. Cap and Ball Bearing Cap Part Number	Ball Bearing Cap Part Number	Fine Tune Cap Part Number	U-Balance Cap Part Number	Wrench for Fine Tune U-Balance Caps Part Number
ER11	.63"	<a href="#">7992-01-11-000003</a>	—	—	—	—
ER16	1.08"	<a href="#">7992-01-16-000003</a>	—	<a href="#">7991-01-16-000009</a>	<a href="#">7991-01-16-000010</a>	<a href="#">7992-01-16-000009</a>
ER20	1.375"	<a href="#">7992-01-20-000003</a>	<a href="#">7991-01-20-000008</a>	<a href="#">7991-01-20-000009</a>	<a href="#">7991-01-20-000010</a>	<a href="#">7992-01-20-000009</a>
ER25	1.65"	<a href="#">7992-01-25-000003</a>	<a href="#">7991-01-25-000008</a>	<a href="#">7991-01-25-000009</a>	<a href="#">7991-01-25-000010</a>	<a href="#">7992-01-25-000009</a>
ER32	1.88"	<a href="#">7992-01-32-000003</a>	<a href="#">7991-01-32-000008</a>	<a href="#">7991-01-32-000009</a>	<a href="#">7991-01-32-000010</a>	<a href="#">7992-01-32-000009</a>



Style	ER Stop Screw Standard Part Number	ER Stop Screw Standard Coolant Part Number	Thread	Extractor Clip
ER11	—	—	—	None
ER16	<a href="#">7990-01-16-000004</a>	<a href="#">7990-01-16-000006</a>	7/16"-20	<a href="#">7993-01-16-000007</a>
ER20	<a href="#">7990-01-20-000004</a>	<a href="#">7990-01-20-000006</a>	M14-1.5	<a href="#">7993-01-20-000007</a>
ER25	<a href="#">7990-01-25-000004</a>	<a href="#">7990-01-25-000006</a>	M18-1.5	<a href="#">7993-01-25-000007</a>
ER32	<a href="#">7990-01-32-000004</a>	<a href="#">7990-01-32-000006</a>	M22-1.5	<a href="#">7993-01-32-000007</a>

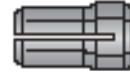
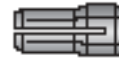


## R8, ER-Style Tool Holders for Bridgeport and other brand Knee Mills

Collet Style	Collet Holder	Taper	L	D	Range of Collets	Replacement Cap Part Number	Optional Wrench Part Number
ER16	<a href="#">1757-00-00-00ER16</a>	R8	5.414" (137.51)	1.102" (28.00)	1/64 to 3/8"	<a href="#">7991-01-16-000021</a>	<a href="#">7992-01-16-000021</a>
ER32	<a href="#">1757-00-00-00ER32</a>	R8	5.450" (138.43)	1.969" (50.00)	1/16 to 25/32"	<a href="#">7991-01-32-000220</a>	<a href="#">7992-01-32-000220</a>
ER40	<a href="#">1757-00-00-00ER40</a>	R8	6.705" (170.30)	2.480" (63.00)	3/32 - 1"	<a href="#">7991-01-40-000220</a>	<a href="#">7992-01-40-000220</a>

# DA Double-Angle Collets – Inch

## DA Collets – Inch



Size Range		DA300 Collet	DA200 Collet	DA100 Collet	DA 180 Collet
Inch	Inch Dec.	Part Number	Part Number	Part Number	Part Number
1/32"	.0312"	<a href="#">1891-00-19-000312</a>	—	—	—
3/64"	.0468"	<a href="#">1891-00-19-000468</a>	<a href="#">1889-00-19-000468</a>	<a href="#">1887-00-19-000468</a>	<a href="#">1885-00-19-000468</a>
1/16"	.0625"	<a href="#">1891-00-19-000625</a>	<a href="#">1889-00-19-000625</a>	<a href="#">1887-00-19-000625</a>	<a href="#">1885-00-19-000625</a>
5/64"	.0781"	<a href="#">1891-00-19-000781</a>	<a href="#">1889-00-19-000781</a>	<a href="#">1887-00-19-000781</a>	<a href="#">1885-00-19-000781</a>
3/32"	.0937"	<a href="#">1891-00-19-000937</a>	<a href="#">1889-00-19-000937</a>	<a href="#">1887-00-19-000937</a>	<a href="#">1885-00-19-000937</a>
7/64"	.1093"	<a href="#">1891-00-19-001093</a>	<a href="#">1889-00-19-001093</a>	<a href="#">1887-00-19-001093</a>	<a href="#">1885-00-19-001093</a>
1/8"	.1250"	<a href="#">1891-00-19-001250</a>	<a href="#">1889-00-19-001250</a>	<a href="#">1887-00-19-001250</a>	<a href="#">1885-00-19-001250</a>
9/64"	.1406"	<a href="#">1891-00-19-001406</a>	<a href="#">1889-00-19-001406</a>	<a href="#">1887-00-19-001406</a>	<a href="#">1885-00-19-001406</a>
5/32"	.1562"	<a href="#">1891-00-19-001562</a>	<a href="#">1889-00-19-001562</a>	<a href="#">1887-00-19-001562</a>	<a href="#">1885-00-19-001562</a>
11/64"	.1718"	<a href="#">1891-00-19-001718</a>	<a href="#">1889-00-19-001718</a>	<a href="#">1887-00-19-001718</a>	<a href="#">1885-00-19-001718</a>
3/16"	.1875"	<a href="#">1891-00-19-001875</a>	<a href="#">1889-00-19-001875</a>	<a href="#">1887-00-19-001875</a>	<a href="#">1885-00-19-001875</a>
13/64"	.2031"	<a href="#">1891-00-19-002031</a>	<a href="#">1889-00-19-002031</a>	<a href="#">1887-00-19-002031</a>	<a href="#">1885-00-19-002031</a>
7/32"	.2187"	<a href="#">1891-00-19-002187</a>	<a href="#">1889-00-19-002187</a>	<a href="#">1887-00-19-002187</a>	<a href="#">1885-00-19-002187</a>
15/64"	.2343"	<a href="#">1891-00-19-002343</a>	<a href="#">1889-00-19-002343</a>	<a href="#">1887-00-19-002343</a>	<a href="#">1885-00-19-002343</a>
1/4"	.2500"	<a href="#">1891-00-19-002500</a>	<a href="#">1889-00-19-002500</a>	<a href="#">1887-00-19-002500</a>	<a href="#">1885-00-19-002500</a>
17/64"	.2656"	—	<a href="#">1889-00-19-002656</a>	<a href="#">1887-00-19-002656</a>	<a href="#">1885-00-19-002656</a>
9/32"	.2812"	—	<a href="#">1889-00-19-002812</a>	<a href="#">1887-00-19-002812</a>	<a href="#">1885-00-19-002812</a>
19/64"	.2968"	—	<a href="#">1889-00-19-002968</a>	<a href="#">1887-00-19-002968</a>	<a href="#">1885-00-19-002968</a>
5/16"	.3125"	—	<a href="#">1889-00-19-003125</a>	<a href="#">1887-00-19-003125</a>	<a href="#">1885-00-19-003125</a>
21/64"	.3281"	—	<a href="#">1889-00-19-003281</a>	<a href="#">1887-00-19-003281</a>	<a href="#">1885-00-19-003281</a>
11/32"	.3437"	—	<a href="#">1889-00-19-003437</a>	<a href="#">1887-00-19-003437</a>	<a href="#">1885-00-19-003437</a>
23/64"	.3593"	—	<a href="#">1889-00-19-003593</a>	<a href="#">1887-00-19-003593</a>	<a href="#">1885-00-19-003593</a>
3/8"	.3750"	—	<a href="#">1889-00-19-003750</a>	<a href="#">1887-00-19-003750</a>	<a href="#">1885-00-19-003750</a>
25/64"	.3906"	—	<a href="#">1889-00-19-003906</a>	<a href="#">1887-00-19-003906</a>	<a href="#">1885-00-19-003906</a>
13/32"	.4062"	—	—	<a href="#">1887-00-19-004062</a>	<a href="#">1885-00-19-004062</a>
27/64"	.4218"	—	—	<a href="#">1887-00-19-004218</a>	<a href="#">1885-00-19-004218</a>
7/16"	.4375"	—	—	<a href="#">1887-00-19-004375</a>	<a href="#">1885-00-19-004375</a>
29/64"	.4531"	—	—	<a href="#">1887-00-19-004531</a>	<a href="#">1885-00-19-004531</a>
15/32"	.4687"	—	—	<a href="#">1887-00-19-004687</a>	<a href="#">1885-00-19-004687</a>
31/64"	.4843"	—	—	<a href="#">1887-00-19-004843</a>	<a href="#">1885-00-19-004843</a>
1/2"	.5000"	—	—	<a href="#">1887-00-19-005000</a>	<a href="#">1885-00-19-005000</a>
33/64"	.5156"	—	—	<a href="#">1887-00-19-005156</a>	<a href="#">1885-00-19-005156</a>
17/32"	.5312"	—	—	<a href="#">1887-00-19-005312</a>	<a href="#">1885-00-19-005312</a>
35/64"	.5468"	—	—	<a href="#">1887-00-19-005468</a>	<a href="#">1885-00-19-005468</a>
9/16"	.5625"	—	—	<a href="#">1887-00-19-005625</a>	<a href="#">1885-00-19-005625</a>
37/64"	.5781"	—	—	—	<a href="#">1885-00-19-005781</a>
19/32"	.5937"	—	—	—	<a href="#">1885-00-19-005937</a>
39/64"	.6093"	—	—	—	<a href="#">1885-00-19-006093</a>
5/8"	.6250"	—	—	—	<a href="#">1885-00-19-006250</a>
41/64"	.6406"	—	—	—	<a href="#">1885-00-19-006406</a>
21/32"	.6562"	—	—	—	<a href="#">1885-00-19-006562</a>
43/64"	.6718"	—	—	—	<a href="#">1885-00-19-006718</a>
11/16"	.6875"	—	—	—	<a href="#">1885-00-19-006875</a>
45/64"	.7031"	—	—	—	<a href="#">1885-00-19-007031</a>
23/32"	.7187"	—	—	—	<a href="#">1885-00-19-007187</a>
47/64"	.7343"	—	—	—	<a href="#">1885-00-19-007343</a>
3/4"	.7500"	—	—	—	<a href="#">1885-00-19-007500</a>
DA Collet Sets		9 Collets 1/8" to 1/4" (1/64" Incr.)	17 Collets 1/8" to 3/8" (1/64" Incr.)	34 Collets 3/64" to 3/16" (1/64" Incr.)	40 Collets 3/64" to 3/4" (1/64" Incr.)
DA Collet Sets		<a href="#">0931-00-19-300005</a> 5 Collets 1/8" to 1/4" (1/32" Incr.)	<a href="#">0931-00-19-200009</a> 9 Collets 1/8" to 3/8" (1/32" Incr.)	<a href="#">0931-00-19-000000</a> 34 Collets 3/64" to 3/16" (1/64" Incr.)	<a href="#">0933-00-19-000000</a> 40 Collets 3/64" to 3/4" (1/64" Incr.)

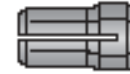
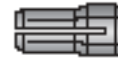


Double-Angle Collets are held in the proper size DAH holders shown on the following pages. The double-angle collet is noted for its parallel gripping capability due to the two angles and the opposed split configuration which places the parallel bearing on the tool shank as well as the full diameter of the tool. Collet range is -.05 mm (-0.0196").

Style	B	C
DA300	1.08"	.375"
DA200	1.18"	.539"
DA100	1.44"	.769"
DA180	1.62"	1.035"

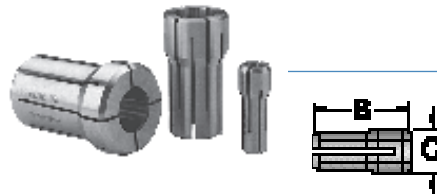


# DA Double-Angle Collets — Metric



## DA Collets — Metric Sizes

Size Range mm	DA300 Collet Part Number	DA200 Collet Part Number	DA100 Collet Part Number	DA180 Collet Part Number
1.0	<a href="#">1891-00-17-010000</a>	<a href="#">1889-00-17-010000</a>	<a href="#">1887-00-17-010000</a>	<a href="#">1885-00-17-010000</a>
1.5	<a href="#">1891-00-17-015000</a>	<a href="#">1889-00-17-015000</a>	<a href="#">1887-00-17-015000</a>	<a href="#">1885-00-17-015000</a>
2.0	<a href="#">1891-00-17-020000</a>	<a href="#">1889-00-17-020000</a>	<a href="#">1887-00-17-020000</a>	<a href="#">1885-00-17-020000</a>
2.5	<a href="#">1891-00-17-025000</a>	<a href="#">1889-00-17-025000</a>	<a href="#">1887-00-17-025000</a>	<a href="#">1885-00-17-025000</a>
3.0	<a href="#">1891-00-17-030000</a>	<a href="#">1889-00-17-030000</a>	<a href="#">1887-00-17-030000</a>	<a href="#">1885-00-17-030000</a>
3.5	<a href="#">1891-00-17-035000</a>	<a href="#">1889-00-17-035000</a>	<a href="#">1887-00-17-035000</a>	<a href="#">1885-00-17-035000</a>
4.0	<a href="#">1891-00-17-040000</a>	<a href="#">1889-00-17-040000</a>	<a href="#">1887-00-17-040000</a>	<a href="#">1885-00-17-040000</a>
4.5	<a href="#">1891-00-17-045000</a>	<a href="#">1889-00-17-045000</a>	<a href="#">1887-00-17-045000</a>	<a href="#">1885-00-17-045000</a>
5.0	<a href="#">1891-00-17-050000</a>	<a href="#">1889-00-17-050000</a>	<a href="#">1887-00-17-050000</a>	<a href="#">1885-00-17-050000</a>
5.5	<a href="#">1891-00-17-055000</a>	<a href="#">1889-00-17-055000</a>	<a href="#">1887-00-17-055000</a>	<a href="#">1885-00-17-055000</a>
6.0	<a href="#">1891-00-17-060000</a>	<a href="#">1889-00-17-060000</a>	<a href="#">1887-00-17-060000</a>	<a href="#">1885-00-17-060000</a>
6.5	<a href="#">1891-00-17-065000</a>	<a href="#">1889-00-17-065000</a>	<a href="#">1887-00-17-065000</a>	<a href="#">1885-00-17-065000</a>
7.0		<a href="#">1889-00-17-070000</a>	<a href="#">1887-00-17-070000</a>	<a href="#">1885-00-17-070000</a>
7.5		<a href="#">1889-00-17-075000</a>	<a href="#">1887-00-17-075000</a>	<a href="#">1885-00-17-075000</a>
8.0		<a href="#">1889-00-17-080000</a>	<a href="#">1887-00-17-080000</a>	<a href="#">1885-00-17-080000</a>
8.5		<a href="#">1889-00-17-085000</a>	<a href="#">1887-00-17-085000</a>	<a href="#">1885-00-17-085000</a>
9.0		<a href="#">1889-00-17-090000</a>	<a href="#">1887-00-17-090000</a>	<a href="#">1885-00-17-090000</a>
9.5		<a href="#">1889-00-17-095000</a>	<a href="#">1887-00-17-095000</a>	<a href="#">1885-00-17-095000</a>
10.0			<a href="#">1887-00-17-100000</a>	<a href="#">1885-00-17-100000</a>
10.5			<a href="#">1887-00-17-105000</a>	<a href="#">1885-00-17-105000</a>
11.0			<a href="#">1887-00-17-110000</a>	<a href="#">1885-00-17-110000</a>
11.5			<a href="#">1887-00-17-115000</a>	<a href="#">1885-00-17-115000</a>
12.0			<a href="#">1887-00-17-120000</a>	<a href="#">1885-00-17-120000</a>
12.5			<a href="#">1887-00-17-125000</a>	<a href="#">1885-00-17-125000</a>
13.0			<a href="#">1887-00-17-130000</a>	<a href="#">1885-00-17-130000</a>
13.5			<a href="#">1887-00-17-135000</a>	<a href="#">1885-00-17-135000</a>
14.0			<a href="#">1887-00-17-140000</a>	<a href="#">1885-00-17-140000</a>
14.5			<a href="#">1887-00-17-145000</a>	<a href="#">1885-00-17-145000</a>
15.0			<a href="#">1887-00-17-150000</a>	<a href="#">1885-00-17-150000</a>
15.5				<a href="#">1885-00-17-155000</a>
16.0				<a href="#">1885-00-17-160000</a>
16.5				<a href="#">1885-00-17-165000</a>
17.0				<a href="#">1885-00-17-170000</a>
17.5				<a href="#">1885-00-17-175000</a>
18.0				<a href="#">1885-00-17-180000</a>
18.5				<a href="#">1885-00-17-185000</a>
19.0				<a href="#">1885-00-17-190000</a>
19.5				<a href="#">1885-00-17-195000</a>
20.0				<a href="#">1885-00-17-200000</a>
DA Collet Sets			0931-00-17-000000 4 Collets 4.5, 6, 7, 8 (.5mm Incr.)	0933-00-17-000000 32 Collets 4.5 to 19 (.5mm Incr.)



**Double-Angle Collets** are held in the proper size DAH holders shown on the following pages. The double-angle collet is noted for its parallel gripping capability due to the two angles and the opposed split configuration which places the parallel bearing on the tool shank as well as the full diameter of the tool. Collet range is  $-0.5\text{ mm}$  ( $-0.0196''$ ).

### Dimensions

Style	B	C
DA300	1.08"	.375"
DA200	1.18"	.539"
DA100	1.44"	.769"
DA180	1.62"	1.035"

## DA Collet Racks

	DA100	DA180 Rack	DA/ER Combination
Part Number	<a href="#">0946-10-00-000036</a>	<a href="#">0946-18-00-000045</a>	<a href="#">0946-00-00-000054</a>
Collet Capacity	36 DA100 Collets	45 DA180 Collets	18 DA300, 27 DA200 and 9 ER16 Collets

Collet racks will help minimize damage to the precision surfaces and critical diameters of your collet. Collets which are loosely put in a drawer are subject to damage. Damaged collets may result in your cutting tools not being on the toolholder or spindle's centerline, resulting in inaccurate machining.

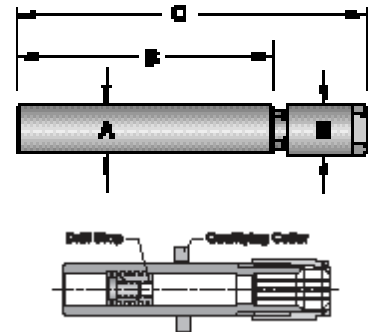
# DA Double-Angle Collet Tool Holders



Shown with optional collet.

**Double-Angle (DA) Collet Extension Tool Holders** mount directly into a round shank tool holder on both mills and lathes. The DAH model holders will accept DA100, DA180, DA200 or DA300 collets.

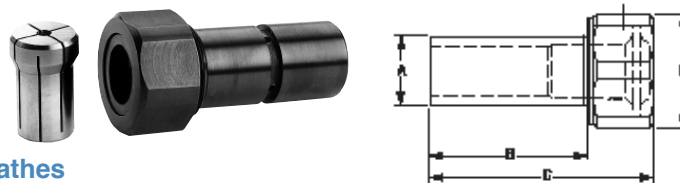
Optional qualifying collars and chuck stops are available. The collars position and lock on the holder shank to qualify the tool's position in the DAH holder. Chuck stops are positioned inside the holder body to provide a qualified locating stop for tooling and to help prevent tool "push back".



## DA Double-Angle Collet Extension Tool Holders

Collet Style	Model Number	Tool Holder Part Number	Shank A	B	Length C	Cap E	Cap (included) Part Number	Hex	Qualifying Collar Opt. Part Number	Drill Stop Opt. Part Number
DA300	DAH330	<a href="#">1925-00-00-000000</a>	.500"	2.188"	3.50"	.560"	<a href="#">1933-00-00-000000</a> ** 1935 - 1937	1/2"	<a href="#">1941-00-00-000000</a>	<a href="#">1939-00-00-000000</a>
DA300	DAH350	<a href="#">1927-00-00-000000</a>	.500"	4.188"	5.50"	.560"	<a href="#">1933-00-00-000000</a> ** 1935 - 1937	1/2"	<a href="#">1941-00-00-000000</a>	<a href="#">1939-00-00-000000</a>
DA300	—	<a href="#">7996-03-30-005000</a>	.500"	5.500"	6.79"	.560"	<a href="#">7991-03-30-000001</a> ** 1935 - 1937	1/2"	—	<a href="#">7990-03-30-000004</a>
DA300	DAH335	<a href="#">1943-00-00-000000</a>	.625"	2.188"	3.50"	.680"	<a href="#">1951-00-00-000000</a> ** 1935 - 1937	5/8"	<a href="#">1957-00-00-000000</a>	<a href="#">1939-00-00-000000</a>
DA300	DAH355	<a href="#">1945-00-00-000000</a>	.625"	4.188"	5.50"	.680"	<a href="#">1951-00-00-000000</a> ** 1935 - 1937	5/8"	<a href="#">1957-00-00-000000</a>	<a href="#">1939-00-00-000000</a>
DA200	DAH255	<a href="#">1959-00-00-000000</a>	.750"	1.875"	3.50"	.812"	<a href="#">1967-00-00-000000</a> ** 1969 - 1971	1 1/16"	<a href="#">1975-00-00-000000</a>	<a href="#">1973-00-00-000000</a>
DA200	DAH235	<a href="#">1961-00-00-000000</a>	.750"	3.875"	5.50"	.812"	<a href="#">1967-00-00-000000</a> ** 1969 - 1971	1 1/16"	<a href="#">1975-00-00-000000</a>	<a href="#">1973-00-00-000000</a>
DA200	—	<a href="#">7996-03-20-007500</a>	.750"	5.500"	7.23"	.860"	<a href="#">7991-03-20-000001</a> ** 1969 - 1971	3/4"	—	<a href="#">7990-03-20-000004</a>
DA100	DAH135	<a href="#">1977-00-00-000000</a>	1.000"	1.875"	3.50"	1.062"	<a href="#">1985-00-00-000000</a> ** 1987 - 1989	1 5/16"	<a href="#">1993-00-00-000000</a>	<a href="#">1991-00-00-000000</a>
DA100	DAH155	<a href="#">1979-00-00-000000</a>	1.000"	3.875"	5.50"	1.062"	<a href="#">1985-00-00-000000</a> ** 1987 - 1989	1 5/16"	<a href="#">1993-00-00-000000</a>	<a href="#">1991-00-00-000000</a>
DA100	—	<a href="#">7996-03-10-010000</a>	1.000"	5.500"	7.47"	1.062"	<a href="#">7991-03-10-000001</a> ** 1987 - 1989	3 1/32"	—	<a href="#">7990-03-10-000004</a>
DA180	—	<a href="#">7996-03-18-012500</a>	1.250"	5.500"	7.37"	1.440"	<a href="#">7991-03-18-000001</a> ** none required	1 1/4"	—	<a href="#">7990-03-18-000004</a>

\*\* Bushing and Retaining Wire required when reordering Cap.






## SB- and SG-Style DA180 Tool Holders for CNC Lathes

Collet Style	Model Number	Tool Holder Part Number	Shank A	B	Length C	Cap E	Cap (included) Part Number	Hex	Qualifying Collar Opt. Part Number	Drill Stop Opt. Part Number
DA180	SG-180	<a href="#">SG 0000187</a>	1.250"	2.500"	3.469"	1.747"	<a href="#">SG -0000187-02</a>	1 3/4"	Not Required	<a href="#">SB -0000187-05</a> & 06
DA180	SG-180M	<a href="#">SG 0000187 M</a>	32 mm	2.500"	3.469"	1.747"	<a href="#">SG -0000187-02</a>	1 3/4"	Not Required	<a href="#">SB -0000187-05</a> & 06
DA180	SB-180	<a href="#">SBA0000187</a>	1.125"	2.500"	3.560"	1.750"	<a href="#">SBA-0000187-02</a>	Pin	Not Required	<a href="#">SB -0000187-05</a> & 06

Spanner Wrench Part Number 4550009189.

# TG-Style Collets – Inch

## TG75 and TG100 Collets – Inch

Size Range		TG75 Collet	TG100 Collet
Inch	Inch Dec.	Part Number	Part Number
3/32"	.0937"	<a href="#">1907-00-19-000937</a>	<a href="#">1905-00-19-000937</a>
7/64"	.1093"	<a href="#">1907-00-19-001093</a>	<a href="#">1905-00-19-001093</a>
1/8"	.1250"	<a href="#">1907-00-19-001250</a>	<a href="#">1905-00-19-001250</a>
9/64"	.1406"	<a href="#">1907-00-19-001406</a>	<a href="#">1905-00-19-001406</a>
5/32"	.1562"	<a href="#">1907-00-19-001562</a>	<a href="#">1905-00-19-001562</a>
11/64"	.1718"	<a href="#">1907-00-19-001718</a>	<a href="#">1905-00-19-001718</a>
3/16"	.1875"	<a href="#">1907-00-19-001875</a>	<a href="#">1905-00-19-001875</a>
13/64"	.2031"	<a href="#">1907-00-19-002037</a>	<a href="#">1905-00-19-002031</a>
7/32"	.2187"	<a href="#">1907-00-19-002187</a>	<a href="#">1905-00-19-002187</a>
15/64"	.2343"	<a href="#">1907-00-19-002343</a>	<a href="#">1905-00-19-002343</a>
1/4"	.2500"	<a href="#">1907-00-19-002500</a>	<a href="#">1905-00-19-002500</a>
17/64"	.2656"	<a href="#">1907-00-19-002656</a>	<a href="#">1905-00-19-002656</a>
9/32"	.2812"	<a href="#">1907-00-19-002812</a>	<a href="#">1905-00-19-002812</a>
19/64"	.2968"	<a href="#">1907-00-19-002968</a>	<a href="#">1905-00-19-002968</a>
5/16"	.3125"	<a href="#">1907-00-19-003125</a>	<a href="#">1905-00-19-003125</a>
21/64"	.3281"	<a href="#">1907-00-19-003281</a>	<a href="#">1905-00-19-003281</a>
11/32"	.3437"	<a href="#">1907-00-19-003437</a>	<a href="#">1905-00-19-003437</a>
23/64"	.3593"	<a href="#">1907-00-19-003593</a>	<a href="#">1905-00-19-003593</a>
3/8"	.3750"	<a href="#">1907-00-19-003750</a>	<a href="#">1905-00-19-003750</a>
25/64"	.3906"	<a href="#">1907-00-19-003906</a>	<a href="#">1905-00-19-003906</a>
13/32"	.4062"	<a href="#">1907-00-19-004062</a>	<a href="#">1905-00-19-004062</a>
27/64"	.4218"	<a href="#">1907-00-19-004218</a>	<a href="#">1905-00-19-004218</a>
7/16"	.4375"	<a href="#">1907-00-19-004375</a>	<a href="#">1905-00-19-004375</a>
29/64"	.4531"	<a href="#">1907-00-19-004531</a>	<a href="#">1905-00-19-004531</a>
15/32"	.4687"	<a href="#">1907-00-19-004687</a>	<a href="#">1905-00-19-004687</a>
31/64"	.4843"	<a href="#">1907-00-19-004843</a>	<a href="#">1905-00-19-004843</a>
1/2"	.5000"	<a href="#">1907-00-19-005000</a>	<a href="#">1905-00-19-005000</a>
33/64"	.5156"	<a href="#">1907-00-19-005156</a>	<a href="#">1905-00-19-005156</a>
17/32"	.5312"	<a href="#">1907-00-19-005312</a>	<a href="#">1905-00-19-005312</a>
35/64"	.5468"	<a href="#">1907-00-19-005468</a>	<a href="#">1905-00-19-005468</a>
9/16"	.5625"	<a href="#">1907-00-19-005625</a>	<a href="#">1905-00-19-005625</a>
37/64"	.5781"	<a href="#">1907-00-19-005781</a>	<a href="#">1905-00-19-005781</a>
19/32"	.5937"	<a href="#">1907-00-19-005937</a>	<a href="#">1905-00-19-005937</a>
39/64"	.6093"	<a href="#">1907-00-19-006093</a>	<a href="#">1905-00-19-006093</a>
5/8"	.6250"	<a href="#">1907-00-19-006250</a>	<a href="#">1905-00-19-006250</a>
41/64"	.6406"	<a href="#">1907-00-19-006406</a>	<a href="#">1905-00-19-006406</a>
21/32"	.6562"	<a href="#">1907-00-19-006562</a>	<a href="#">1905-00-19-006562</a>
43/64"	.6718"	<a href="#">1907-00-19-006718</a>	<a href="#">1905-00-19-006718</a>
11/16"	.6875"	<a href="#">1907-00-19-006875</a>	<a href="#">1905-00-19-006875</a>
45/64"	.7031"	<a href="#">1907-00-19-007031</a>	<a href="#">1905-00-19-007031</a>
23/32"	.7187"	<a href="#">1907-00-19-007187</a>	<a href="#">1905-00-19-007187</a>
47/64"	.7343"	<a href="#">1907-00-19-007343</a>	<a href="#">1905-00-19-007343</a>
3/4"	.7500"	<a href="#">1907-00-19-007500</a>	<a href="#">1905-00-19-007500</a>
49/64"	.7656"		<a href="#">1905-00-19-007656</a>
25/32"	.7812"		<a href="#">1905-00-19-007812</a>
51/64"	.7968"		<a href="#">1905-00-19-007968</a>
13/16"	.8125"		<a href="#">1905-00-19-008125</a>
53/64"	.8281"		<a href="#">1905-00-19-008281</a>
27/32"	.8437"		<a href="#">1905-00-19-008437</a>
55/64"	.8593"		<a href="#">1905-00-19-008593</a>
7/8"	.8750"		<a href="#">1905-00-19-008750</a>
57/64"	.8906"		<a href="#">1905-00-19-008906</a>
29/32"	.9062"		<a href="#">1905-00-19-009062</a>
59/64"	.9218"		<a href="#">1905-00-19-009218</a>
15/16"	.9375"		<a href="#">1905-00-19-009375</a>
61/64"	.9531"		<a href="#">1905-00-19-009531</a>
31/32"	.9687"		<a href="#">1905-00-19-009687</a>
63/64"	.9843"		<a href="#">1905-00-19-009843</a>
1"	1.000"		<a href="#">1905-00-19-010000</a>



Sealed Collets are available. TG-style Tap Collets are also available for 1/4" to 1" taps (no metric sizes).

## TG150 Collets – Inch

Size Range		TG150 Collet
Inch	Inch Dec.	Part Number
1/2"	.5000"	<a href="#">1909-00-19-005000</a>
33/64"	.5156"	<a href="#">1909-00-19-005156</a>
17/32"	.5312"	<a href="#">1909-00-19-005312</a>
35/64"	.5468"	<a href="#">1909-00-19-005468</a>
9/16"	.5625"	<a href="#">1909-00-19-005625</a>
37/64"	.5781"	<a href="#">1909-00-19-005781</a>
19/32"	.5937"	<a href="#">1909-00-19-005937</a>
39/64"	.6093"	<a href="#">1909-00-19-006093</a>
5/8"	.6250"	<a href="#">1909-00-19-006250</a>
41/64"	.6406"	<a href="#">1909-00-19-006406</a>
21/32"	.6562"	<a href="#">1909-00-19-006562</a>
43/64"	.6718"	<a href="#">1909-00-19-006718</a>
11/16"	.6875"	<a href="#">1909-00-19-006875</a>
45/64"	.7031"	<a href="#">1909-00-19-007031</a>
23/32"	.7187"	<a href="#">1909-00-19-007187</a>
47/64"	.7343"	<a href="#">1909-00-19-007343</a>
3/4"	.7500"	<a href="#">1909-00-19-007500</a>
49/64"	.7656"	<a href="#">1909-00-19-007656</a>
25/32"	.7812"	<a href="#">1909-00-19-007812</a>
51/64"	.7968"	<a href="#">1909-00-19-007968</a>
13/16"	.8125"	<a href="#">1909-00-19-008125</a>
53/64"	.8281"	<a href="#">1909-00-19-008281</a>
27/32"	.8437"	<a href="#">1909-00-19-008437</a>
55/64"	.8593"	<a href="#">1909-00-19-008593</a>
7/8"	.8750"	<a href="#">1909-00-19-008750</a>
57/64"	.8906"	<a href="#">1909-00-19-008906</a>
29/32"	.9062"	<a href="#">1909-00-19-009062</a>
59/64"	.9218"	<a href="#">1909-00-19-009218</a>
15/16"	.9375"	<a href="#">1909-00-19-009375</a>
61/64"	.9531"	<a href="#">1909-00-19-009531</a>
31/32"	.9687"	<a href="#">1909-00-19-009687</a>
63/64"	.9843"	<a href="#">1909-00-19-009843</a>
1"	1.000"	<a href="#">1909-00-19-010000</a>
1 1/64"	1.0156"	<a href="#">1909-00-19-010156</a>
1 1/32"	1.0312"	<a href="#">1909-00-19-010312</a>
1 1/64"	1.0468"	<a href="#">1909-00-19-010468</a>
1 1/16"	1.0625"	<a href="#">1909-00-19-010625</a>
1 3/64"	1.0781"	<a href="#">1909-00-19-010781</a>
1 3/32"	1.0937"	<a href="#">1909-00-19-010937</a>
1 7/64"	1.1093"	<a href="#">1909-00-19-011093</a>
1 1/8"	1.1250"	<a href="#">1909-00-19-011250</a>
1 9/64"	1.1406"	<a href="#">1909-00-19-011406</a>
1 3/16"	1.1562"	<a href="#">1909-00-19-011562</a>
1 11/64"	1.1718"	<a href="#">1909-00-19-011718</a>
1 3/16"	1.1875"	<a href="#">1909-00-19-011875</a>
1 13/64"	1.2031"	<a href="#">1909-00-19-012031</a>
1 7/32"	1.2187"	<a href="#">1909-00-19-012187</a>
1 15/64"	1.2343"	<a href="#">1909-00-19-012343</a>
1 1/4"	1.2500"	<a href="#">1909-00-19-012500</a>
1 17/64"	1.2656"	<a href="#">1909-00-19-012656</a>
1 9/32"	1.2812"	<a href="#">1909-00-19-012812</a>
1 19/64"	1.2968"	<a href="#">1909-00-19-012968</a>
1 5/16"	1.3125"	<a href="#">1909-00-19-013125</a>
1 21/64"	1.3281"	<a href="#">1909-00-19-013281</a>
1 11/32"	1.3437"	<a href="#">1909-00-19-013437</a>
1 23/64"	1.3593"	<a href="#">1909-00-19-013593</a>
1 3/8"	1.3750"	<a href="#">1909-00-19-013750</a>
1 25/64"	1.3906"	<a href="#">1909-00-19-013906</a>
1 13/32"	1.4062"	<a href="#">1909-00-19-014062</a>
1 27/64"	1.4218"	<a href="#">1909-00-19-014218</a>
1 7/16"	1.4375"	<a href="#">1909-00-19-014375</a>
1 29/64"	1.4531"	<a href="#">1909-00-19-014531</a>
1 15/32"	1.4687"	<a href="#">1909-00-19-014687</a>
1 31/64"	1.4843"	<a href="#">1909-00-19-014843</a>
1 1/2"	1.5000"	<a href="#">1909-00-19-015000</a>

# TG-Style Collets — Metric

## TG100 and TG150 Collets — Metric

Size Range mm	TG100 Collet Part Number	TG150 Collet Part Number
6.0	<a href="#">1905-00-17-060000</a>	—
6.5	<a href="#">1905-00-17-065000</a>	—
7.0	<a href="#">1905-00-17-070000</a>	—
7.5	<a href="#">1905-00-17-075000</a>	—
8.0	<a href="#">1905-00-17-080000</a>	—
8.5	<a href="#">1905-00-17-085000</a>	—
9.0	<a href="#">1905-00-17-090000</a>	—
9.5	<a href="#">1905-00-17-095000</a>	—
10.0	<a href="#">1905-00-17-100000</a>	—
10.5	<a href="#">1905-00-17-105000</a>	—
11.0	<a href="#">1905-00-17-110000</a>	—
11.5	<a href="#">1905-00-17-115000</a>	—
12.0	<a href="#">1905-00-17-120000</a>	<a href="#">1909-00-17-120000</a>
12.5	<a href="#">1905-00-17-125000</a>	<a href="#">1909-00-17-125000</a>
13.0	<a href="#">1905-00-17-130000</a>	<a href="#">1909-00-17-130000</a>
13.5	<a href="#">1905-00-17-135000</a>	<a href="#">1909-00-17-135000</a>
14.0	<a href="#">1905-00-17-140000</a>	<a href="#">1909-00-17-140000</a>
14.5	<a href="#">1905-00-17-145000</a>	<a href="#">1909-00-17-145000</a>
15.0	<a href="#">1905-00-17-150000</a>	<a href="#">1909-00-17-150000</a>
15.5	<a href="#">1905-00-17-155000</a>	<a href="#">1909-00-17-155000</a>
16.0	<a href="#">1905-00-17-160000</a>	<a href="#">1909-00-17-160000</a>
16.5	<a href="#">1905-00-17-165000</a>	<a href="#">1909-00-17-165000</a>
17.0	<a href="#">1905-00-17-170000</a>	<a href="#">1909-00-17-170000</a>
17.5	<a href="#">1905-00-17-175000</a>	<a href="#">1909-00-17-175000</a>
18.0	<a href="#">1905-00-17-180000</a>	<a href="#">1909-00-17-180000</a>
18.5	<a href="#">1905-00-17-185000</a>	<a href="#">1909-00-17-185000</a>
19.0	<a href="#">1905-00-17-190000</a>	<a href="#">1909-00-17-190000</a>
19.5	<a href="#">1905-00-17-195000</a>	<a href="#">1909-00-17-195000</a>
20.0	<a href="#">1905-00-17-200000</a>	<a href="#">1909-00-17-200000</a>
20.5	<a href="#">1905-00-17-205000</a>	<a href="#">1909-00-17-205000</a>
21.0	<a href="#">1905-00-17-210000</a>	<a href="#">1909-00-17-210000</a>
21.5	<a href="#">1905-00-17-215000</a>	<a href="#">1909-00-17-215000</a>
22.0	<a href="#">1905-00-17-220000</a>	<a href="#">1909-00-17-220000</a>
22.5	<a href="#">1905-00-17-225000</a>	<a href="#">1909-00-17-225000</a>
23.0	<a href="#">1905-00-17-230000</a>	<a href="#">1909-00-17-230000</a>
23.5	<a href="#">1905-00-17-235000</a>	<a href="#">1909-00-17-235000</a>
24.0	<a href="#">1905-00-17-240000</a>	<a href="#">1909-00-17-240000</a>
24.5	<a href="#">1905-00-17-245000</a>	<a href="#">1909-00-17-245000</a>
25.0	<a href="#">1905-00-17-250000</a>	<a href="#">1909-00-17-250000</a>
25.5	<a href="#">1905-00-17-255000</a>	<a href="#">1909-00-17-255000</a>
26.0		<a href="#">1909-00-17-260000</a>
26.5		<a href="#">1909-00-17-265000</a>
27.0		<a href="#">1909-00-17-270000</a>
27.5		<a href="#">1909-00-17-275000</a>
28.0		<a href="#">1909-00-17-280000</a>
28.5		<a href="#">1909-00-17-285000</a>
29.0		<a href="#">1909-00-17-290000</a>
29.5		<a href="#">1909-00-17-295000</a>
30.0		<a href="#">1909-00-17-300000</a>
30.5		<a href="#">1909-00-17-305000</a>
31.0		<a href="#">1909-00-17-310000</a>
31.5		<a href="#">1909-00-17-315000</a>
32.0		<a href="#">1909-00-17-320000</a>
32.5		<a href="#">1909-00-17-325000</a>
33.0		<a href="#">1909-00-17-330000</a>
33.5		<a href="#">1909-00-17-335000</a>
34.0		<a href="#">1909-00-17-340000</a>
34.5		<a href="#">1909-00-17-345000</a>
35.0		<a href="#">1909-00-17-350000</a>
35.5		<a href="#">1909-00-17-355000</a>
36.0		<a href="#">1909-00-17-360000</a>
36.5		<a href="#">1909-00-17-365000</a>
37.0		<a href="#">1909-00-17-370000</a>
37.5		<a href="#">1909-00-17-375000</a>
38.0		<a href="#">1909-00-17-380000</a>

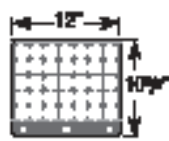
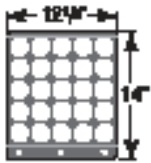


TG-Style Single-Angle High-Precision (tremendous grip) Collets are a shallow, single-angle collet used to ensure precise concentricity between the collet, the holder and the tool. The nose cap incorporates a rotating ball assembly with a radial float. The standard precision is per DIN 6341:  $\frac{3}{32}$ " to  $1\frac{1}{2}$ ", 0.0005" TIR. The collet collapse range is  $\frac{1}{64}$ ". Collets with seals are available for thru-coolant applications.

### TG Collet Sets — Inch and Metric

TG75 Collet Set Part Numbers	Qty.	Range & Increment
<a href="#">0930-00-19-000043</a>	43	$\frac{3}{32}$ " to $\frac{3}{4}$ " ( $\frac{1}{64}$ " Incr.)
<a href="#">0930-00-19-000025</a>	25	$\frac{3}{8}$ " to $\frac{3}{4}$ " ( $\frac{1}{64}$ " Incr.)
<a href="#">0930-00-19-000022</a>	22	$\frac{3}{32}$ " to $\frac{3}{4}$ " ( $\frac{1}{32}$ " Incr.)
<a href="#">0930-00-19-000013</a>	13	$\frac{3}{8}$ " to $\frac{3}{4}$ " ( $\frac{1}{32}$ " Incr.)
<a href="#">0930-00-19-000011</a>	11	$\frac{1}{8}$ " to $\frac{3}{4}$ " ( $\frac{1}{16}$ " Incr.)
TG100 Collet Set Part Numbers	Qty.	Range & Increment
<a href="#">0932-00-19-000059</a>	59	$\frac{3}{32}$ " to 1" ( $\frac{1}{64}$ " Incr.)
<a href="#">0932-00-19-000041</a>	41	$\frac{3}{8}$ " to 1" ( $\frac{1}{64}$ " Incr.)
<a href="#">0932-00-19-000030</a>	30	$\frac{3}{32}$ " to 1" ( $\frac{1}{32}$ " Incr.)
<a href="#">0932-00-19-000021</a>	21	$\frac{3}{8}$ " to 1" ( $\frac{1}{32}$ " Incr.)
TG150 Collet Set Part Numbers	Qty.	Range & Increment
<a href="#">0934-00-19-000065</a>	65	$\frac{1}{2}$ " to $1\frac{1}{2}$ " ( $\frac{1}{64}$ " Incr.)
<a href="#">0934-00-19-000033</a>	33	$\frac{1}{2}$ " to $1\frac{1}{2}$ " ( $\frac{1}{32}$ " Incr.)
<a href="#">0934-00-19-000017</a>	17	$\frac{1}{2}$ " to $1\frac{1}{2}$ " ( $\frac{1}{16}$ " Incr.)

### TG Collet Racks

	TG100	TG150
		
Part Number	<a href="#">0946-10-00-000035</a>	<a href="#">0946-15-00-000025</a>
Collet Capacity	35 TG100 Collets (or #2 Tap Collets)	25 TG150 Collets (or #3 Tap Collets)

**Collet Racks** help minimize damage to the precision surfaces and critical diameters of your collet. Collets which are loosely put in a drawer are subject to damage. Damaged collets may result in your cutting tools not being on the toolholder or spindle's centerline, resulting in inaccurate machining.

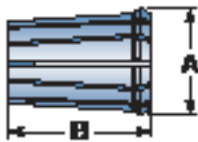
# HDO-Style (RDO) Collets — Metric

## HDO25, HDO35 and HDO44 Collets — Metric



HDO Collets are interchangeable with Ortlieb-type (RDO) collets. These rigid, high precision collets are recommended for milling. Standard size HDO collets are manufactured per DIN Form B specifications. They are available in inch and metric sizes from stock. The working range of the collet is 0.5mm (.019"). Refer to the chart on page 29 for concentricity specifications.

HDO collets are also used for high speed woodworking applications up to 30,000 RPM (Perske Routers). Collets are available with seals for thru-coolant applications. HDO16 and HDO20 collets are available on request.



**Dimensions**

Style	A - Dia.		B - Length	
	mm	Inch	mm	Inch
25	25.5	1.00"	40	1.57"
35	35.3	1.39"	52	2.05"
44	44.0	1.73"	60	2.36"

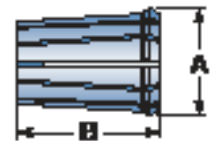
Size Range		HDO25 Collet	HDO35 Collet	HDO44 Collet
mm	Inch	Part Number	Part Number	Part Number
2.0 - 1.5	.079" - .059"	<a href="#">2535-00-17-020000</a>	<a href="#">2537-00-17-020000</a>	—
2.5 - 2.0	.098" - .079"	<a href="#">2535-00-17-025000</a>	<a href="#">2537-00-17-025000</a>	—
3.0 - 2.5	.118" - .098"	<a href="#">2535-00-17-030000</a>	<a href="#">2537-00-17-030000</a>	—
3.5 - 3.0	.138" - .118"	<a href="#">2535-00-17-035000</a>	<a href="#">2537-00-17-035000</a>	—
4.0 - 3.5	.157" - .138"	<a href="#">2535-00-17-040000</a>	<a href="#">2537-00-17-040000</a>	<a href="#">2539-00-17-040000</a>
4.5 - 4.0	.177" - .157"	<a href="#">2535-00-17-045000</a>	<a href="#">2537-00-17-045000</a>	<a href="#">2539-00-17-045000</a>
5.0 - 4.5	.197" - .177"	<a href="#">2535-00-17-050000</a>	<a href="#">2537-00-17-050000</a>	<a href="#">2539-00-17-050000</a>
5.5 - 5.0	.217" - .197"	<a href="#">2535-00-17-055000</a>	<a href="#">2537-00-17-055000</a>	<a href="#">2539-00-17-055000</a>
6.0 - 5.5	.236" - .217"	<a href="#">2535-00-17-060000</a>	<a href="#">2537-00-17-060000</a>	<a href="#">2539-00-17-060000</a>
6.5 - 6.0	.256" - .236"	<a href="#">2535-00-17-065000</a>	<a href="#">2537-00-17-065000</a>	<a href="#">2539-00-17-065000</a>
7.0 - 6.5	.276" - .256"	<a href="#">2535-00-17-070000</a>	<a href="#">2537-00-17-070000</a>	<a href="#">2539-00-17-070000</a>
7.5 - 7.0	.295" - .276"	<a href="#">2535-00-17-075000</a>	<a href="#">2537-00-17-075000</a>	<a href="#">2539-00-17-075000</a>
8.0 - 7.5	.315" - .295"	<a href="#">2535-00-17-080000</a>	<a href="#">2537-00-17-080000</a>	<a href="#">2539-00-17-080000</a>
8.5 - 8.0	.335" - .315"	<a href="#">2535-00-17-085000</a>	<a href="#">2537-00-17-085000</a>	<a href="#">2539-00-17-085000</a>
9.0 - 8.5	.354" - .335"	<a href="#">2535-00-17-090000</a>	<a href="#">2537-00-17-090000</a>	<a href="#">2539-00-17-090000</a>
9.5 - 9.0	.374" - .354"	<a href="#">2535-00-17-095000</a>	<a href="#">2537-00-17-095000</a>	<a href="#">2539-00-17-095000</a>
10.0 - 9.5	.394" - .374"	<a href="#">2535-00-17-100000</a>	<a href="#">2537-00-17-100000</a>	<a href="#">2539-00-17-100000</a>
10.5 - 10.0	.413" - .394"	<a href="#">2535-00-17-105000</a>	<a href="#">2537-00-17-105000</a>	<a href="#">2539-00-17-105000</a>
11.0 - 10.5	.433" - .413"	<a href="#">2535-00-17-110000</a>	<a href="#">2537-00-17-110000</a>	<a href="#">2539-00-17-110000</a>
11.5 - 11.0	.453" - .433"	<a href="#">2535-00-17-115000</a>	<a href="#">2537-00-17-115000</a>	<a href="#">2539-00-17-115000</a>
12.0 - 11.5	.472" - .453"	<a href="#">2535-00-17-120000</a>	<a href="#">2537-00-17-120000</a>	<a href="#">2539-00-17-120000</a>
12.5 - 12.0	.492" - .472"	<a href="#">2535-00-17-125000</a>	<a href="#">2537-00-17-125000</a>	<a href="#">2539-00-17-125000</a>
13.0 - 12.5	.512" - .492"	<a href="#">2535-00-17-130000</a>	<a href="#">2537-00-17-130000</a>	<a href="#">2539-00-17-130000</a>
13.5 - 13.0	.531" - .512"	<a href="#">2535-00-17-135000</a>	<a href="#">2537-00-17-135000</a>	<a href="#">2539-00-17-135000</a>
14.0 - 13.5	.551" - .531"	<a href="#">2535-00-17-140000</a>	<a href="#">2537-00-17-140000</a>	<a href="#">2539-00-17-140000</a>
14.5 - 14.0	.571" - .551"	<a href="#">2535-00-17-145000</a>	<a href="#">2537-00-17-145000</a>	<a href="#">2539-00-17-145000</a>
15.0 - 14.5	.591" - .571"	<a href="#">2535-00-17-150000</a>	<a href="#">2537-00-17-150000</a>	<a href="#">2539-00-17-150000</a>
15.5 - 15.0	.610" - .591"	<a href="#">2535-00-17-155000</a>	<a href="#">2537-00-17-155000</a>	<a href="#">2539-00-17-155000</a>
16.0 - 15.5	.630" - .610"	<a href="#">2535-00-17-160000</a>	<a href="#">2537-00-17-160000</a>	<a href="#">2539-00-17-160000</a>
16.5 - 16.0	.650" - .630"		<a href="#">2537-00-17-165000</a>	<a href="#">2539-00-17-165000</a>
17.0 - 16.5	.669" - .650"		<a href="#">2537-00-17-170000</a>	<a href="#">2539-00-17-170000</a>
17.5 - 17.0	.689" - .669"		<a href="#">2537-00-17-175000</a>	<a href="#">2539-00-17-175000</a>
18.0 - 17.5	.709" - .689"		<a href="#">2537-00-17-180000</a>	<a href="#">2539-00-17-180000</a>
18.5 - 18.0	.728" - .709"		<a href="#">2537-00-17-185000</a>	<a href="#">2539-00-17-185000</a>
19.0 - 18.5	.748" - .728"		<a href="#">2537-00-17-190000</a>	<a href="#">2539-00-17-190000</a>
19.5 - 19.0	.768" - .748"		<a href="#">2537-00-17-195000</a>	<a href="#">2539-00-17-195000</a>
20.0 - 19.5	.787" - .768"		<a href="#">2537-00-17-200000</a>	<a href="#">2539-00-17-200000</a>
20.5 - 20.0	.807" - .787"		<a href="#">2537-00-17-205000</a>	<a href="#">2539-00-17-205000</a>
21.0 - 19.5	.827" - .807"		<a href="#">2537-00-17-210000</a>	<a href="#">2539-00-17-210000</a>
21.5 - 21.0	.846" - .827"		<a href="#">2537-00-17-215000</a>	<a href="#">2539-00-17-215000</a>
22.0 - 21.5	.866" - .846"		<a href="#">2537-00-17-220000</a>	<a href="#">2539-00-17-220000</a>
22.5 - 22.0	.885" - .866"		<a href="#">2537-00-17-225000</a>	<a href="#">2539-00-17-225000</a>
23.0 - 22.5	.906" - .885"		<a href="#">2537-00-17-230000</a>	<a href="#">2539-00-17-230000</a>
23.5 - 23.0	.925" - .906"		<a href="#">2537-00-17-235000</a>	<a href="#">2539-00-17-235000</a>
24.0 - 23.5	.945" - .925"		<a href="#">2537-00-17-240000</a>	<a href="#">2539-00-17-240000</a>
24.5 - 24.0	.964" - .945"		<a href="#">2537-00-17-245000</a>	<a href="#">2539-00-17-245000</a>
25.0 - 24.5	.984" - .964"		<a href="#">2537-00-17-250000</a>	<a href="#">2539-00-17-250000</a>
25.5 - 25.0	1.003" - .984"			<a href="#">2539-00-17-255000</a>
26.0 - 25.5	1.024" - 1.003"			<a href="#">2539-00-17-260000</a>
26.5 - 26.0	1.043" - 1.024"			<a href="#">2539-00-17-265000</a>
27.0 - 26.5	1.062" - 1.043"			<a href="#">2539-00-17-270000</a>
27.5 - 27.0	1.082" - 1.062"			<a href="#">2539-00-17-275000</a>
28.0 - 27.5	1.102" - 1.082"			<a href="#">2539-00-17-280000</a>
28.5 - 28.0	1.122" - 1.102"			<a href="#">2539-00-17-285000</a>
29.0 - 28.5	1.141" - 1.122"			<a href="#">2539-00-17-290000</a>
29.5 - 29.0	1.161" - 1.141"			<a href="#">2539-00-17-295000</a>
30.0 - 29.5	1.181" - 1.161"			<a href="#">2539-00-17-300000</a>
30.5 - 30.0	1.200" - 1.181"			<a href="#">2539-00-17-305000</a>
31.0 - 30.5	1.220" - 1.200"			<a href="#">2539-00-17-310000</a>
31.5 - 31.0	1.240" - 1.220"			<a href="#">2539-00-17-315000</a>
32.0 - 31.5	1.260" - 1.240"			<a href="#">2539-00-17-320000</a>
		<a href="#">0951-25-17-000029</a>	<a href="#">0951-35-17-000047</a>	<a href="#">0951-44-17-000057</a>
Collet Sets		29 Collets	47 Collets	57 Collets
		1.5 - 16 mm (.5mm Incr.)	1.5 - 25 mm (.5mm Incr.)	3.5 - 32mm (.5mm Incr.)



# HDO-Style (RDO) Collets — Fractional

## HDO25, HDO35 and HDO44 Collets — Inch

Size Range		HDO25 Collet	HDO35 Collet	HDO44 Collet
Inch	mm	Part Number	Part Number	Part Number
1/8"	3.17	<a href="#">2535-00-19-001250</a>	<a href="#">2537-00-19-001250</a>	<a href="#">2539-00-19-001250</a>
9/16"	4.76	<a href="#">2535-00-19-001875</a>	<a href="#">2537-00-19-001875</a>	<a href="#">2539-00-19-001875</a>
1/4"	6.35	<a href="#">2535-00-19-002500</a>	<a href="#">2537-00-19-002500</a>	<a href="#">2539-00-19-002500</a>
5/16"	7.93	<a href="#">2535-00-19-003125</a>	<a href="#">2537-00-19-003125</a>	<a href="#">2539-00-19-003125</a>
3/8"	9.52	<a href="#">2535-00-19-003750</a>	<a href="#">2537-00-19-003750</a>	<a href="#">2539-00-19-003750</a>
7/16"	11.11	<a href="#">2535-00-19-004375</a>	<a href="#">2537-00-19-004375</a>	<a href="#">2539-00-19-004375</a>
1/2"	12.70	<a href="#">2535-00-19-005000</a>	<a href="#">2537-00-19-005000</a>	<a href="#">2539-00-19-005000</a>
9/16"	14.28	<a href="#">2535-00-19-005625</a>	<a href="#">2537-00-19-005625</a>	<a href="#">2539-00-19-005625</a>
5/8"	15.87	<a href="#">2535-00-19-006250</a>	<a href="#">2537-00-19-006250</a>	<a href="#">2539-00-19-006250</a>
11/16"	17.40		<a href="#">2537-00-19-006875</a>	<a href="#">2539-00-19-006875</a>
3/4"	19.05		<a href="#">2537-00-19-007500</a>	<a href="#">2539-00-19-007500</a>
13/16"	20.63		<a href="#">2537-00-19-008125</a>	<a href="#">2539-00-19-008125</a>
7/8"	22.22		<a href="#">2537-00-19-008750</a>	<a href="#">2539-00-19-008750</a>
15/16"	23.81		<a href="#">2537-00-19-009375</a>	<a href="#">2539-00-19-009375</a>
1"	25.40		<a href="#">2537-00-19-010000</a>	<a href="#">2539-00-19-010000</a>
1 1/16"	26.98			<a href="#">2539-00-19-010625</a>
1 1/8"	28.57			<a href="#">2539-00-19-011250</a>
1 3/16"	30.16			<a href="#">2539-00-19-011875</a>
1 1/4"	31.75			<a href="#">2539-00-19-012500</a>
Collet Sets		<a href="#">0951-25-19-000009</a> 9 Collets 1/8" to 5/8" (1/16" Incr.)	<a href="#">0951-35-19-000015</a> 15 Collets 1/8" to 1" (1/16" Incr.)	<a href="#">0951-44-19-000019</a> 19 Collets 1/8" to 1 1/4" (1/16" Incr.)

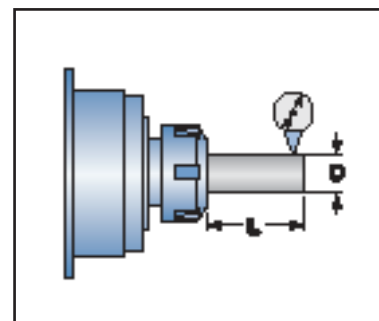


Dimensions

Style	A - Dia.		B - Length	
	mm	Inch	mm	Inch
25	25.5	1.00"	40	1.57"
35	35.3	1.39"	52	2.05"
44	44.0	1.73"	60	2.36"

## TIR Precision per DIN 6388B

L - Length		D - Diameter		Normal		High-Precision	
mm	Inch	mm	Inch	mm	Inch	mm	Inch
6	.236"	1.0 - 1.5	.0397" - .0590"	0.015	.00059"	0.008	.00031"
10	.394"	1.6 - 2.9	.0629" - .1141"	0.015	.00059"	0.008	.00031"
16	.630"	3.0 - 5.9	.1181" - .2322"	0.015	.00059"	0.008	.00031"
25	.984"	6.0 - 9.9	.2362" - .3897"	0.015	.00059"	0.008	.00031"
40	1.574"	10.0 - 17.9	.3937" - .6929"	0.020	.00078"	0.010	.00039"
50	1.968"	18.0 - 23.9	.7086" - .9409"	0.020	.00078"	0.010	.00039"
<b>60</b>	<b>2.362"</b>	24.0 - 29.9	.9448" - 1.1771"	0.020	.00078"	0.010	.00039"
80	3.149"	30.0 - 50.0	1.1811" - 1.9685"	0.030	.00118"	0.015	.00059"





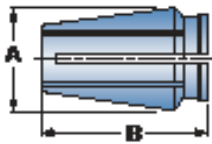
# HF-Style (AF) Collets — Inch & Metric

## HF25, HF38 and HF50 (AF) Collets — Inch



HF Collets are considered one of the most accurate style collets available and interchangeable with Universal Acura-Flex style (AF) collets. The collets will collapse  $\frac{1}{64}$ ". Sealed collets are available for thru-coolant applications.

Size Range Inch	Inch Dec.	HF25 Collet Part Number	HF38 Collet Part Number	HF50 Collet Part Number
$\frac{5}{64}$ "	.0781"	<a href="#">2541-00-19-000781</a>	<a href="#">2543-00-19-000781</a>	—
$\frac{3}{32}$ "	.0937"	<a href="#">2541-00-19-000937</a>	<a href="#">2543-00-19-000937</a>	—
$\frac{7}{64}$ "	.1093"	<a href="#">2541-00-19-001093</a>	<a href="#">2543-00-19-001093</a>	—
$\frac{1}{8}$ "	.1250"	<a href="#">2541-00-19-001250</a>	<a href="#">2543-00-19-001250</a>	<a href="#">2545-00-19-001250</a>
$\frac{9}{64}$ "	.1406"	<a href="#">2541-00-19-001406</a>	<a href="#">2543-00-19-001406</a>	<a href="#">2545-00-19-001406</a>
$\frac{5}{32}$ "	.1562"	<a href="#">2541-00-19-001562</a>	<a href="#">2543-00-19-001562</a>	<a href="#">2545-00-19-001562</a>
$\frac{11}{64}$ "	.1718"	<a href="#">2541-00-19-001718</a>	<a href="#">2543-00-19-001718</a>	<a href="#">2545-00-19-001718</a>
$\frac{3}{16}$ "	.1875"	<a href="#">2541-00-19-001875</a>	<a href="#">2543-00-19-001875</a>	<a href="#">2545-00-19-001875</a>
$\frac{13}{64}$ "	.2031"	<a href="#">2541-00-19-002031</a>	<a href="#">2543-00-19-002031</a>	<a href="#">2545-00-19-002031</a>
$\frac{7}{32}$ "	.2187"	<a href="#">2541-00-19-002187</a>	<a href="#">2543-00-19-002187</a>	<a href="#">2545-00-19-002187</a>
$\frac{15}{64}$ "	.2343"	<a href="#">2541-00-19-002343</a>	<a href="#">2543-00-19-002343</a>	<a href="#">2545-00-19-002343</a>
$\frac{1}{4}$ "	.2500"	<a href="#">2541-00-19-002500</a>	<a href="#">2543-00-19-002500</a>	<a href="#">2545-00-19-002500</a>
$\frac{17}{64}$ "	.2656"	—	<a href="#">2543-00-19-002656</a>	<a href="#">2545-00-19-002656</a>
$\frac{9}{32}$ "	.2812"	—	<a href="#">2543-00-19-002812</a>	<a href="#">2545-00-19-002812</a>
$\frac{19}{64}$ "	.2968"	—	<a href="#">2543-00-19-002968</a>	<a href="#">2545-00-19-002968</a>
$\frac{5}{16}$ "	.3125"	—	<a href="#">2543-00-19-003125</a>	<a href="#">2545-00-19-003125</a>
$\frac{21}{64}$ "	.3281"	—	<a href="#">2543-00-19-003281</a>	<a href="#">2545-00-19-003281</a>
$\frac{11}{32}$ "	.3437"	—	<a href="#">2543-00-19-003437</a>	<a href="#">2545-00-19-003437</a>
$\frac{23}{64}$ "	.3593"	—	<a href="#">2543-00-19-003593</a>	<a href="#">2545-00-19-003593</a>
$\frac{3}{8}$ "	.3750"	—	<a href="#">2543-00-19-003750</a>	<a href="#">2545-00-19-003750</a>
$\frac{25}{64}$ "	.3906"	—	—	<a href="#">2545-00-19-003906</a>
$\frac{13}{32}$ "	.4062"	—	—	<a href="#">2545-00-19-004062</a>
$\frac{27}{64}$ "	.4218"	—	—	<a href="#">2545-00-19-004218</a>
$\frac{7}{16}$ "	.4375"	—	—	<a href="#">2545-00-19-004375</a>
$\frac{29}{64}$ "	.4531"	—	—	<a href="#">2545-00-19-004531</a>
$\frac{15}{32}$ "	.4687"	—	—	<a href="#">2545-00-19-004687</a>
$\frac{31}{64}$ "	.4843"	—	—	<a href="#">2545-00-19-004843</a>
$\frac{1}{2}$ "	.5000"	—	—	<a href="#">2545-00-19-005000</a>
HF Collet Sets		<a href="#">0952-25-19-000012</a> 12 Collets $\frac{5}{64}$ " to $\frac{1}{4}$ " ( $\frac{1}{64}$ " Incr.)	<a href="#">0952-38-19-000020</a> 20 Collets $\frac{5}{64}$ " to $\frac{3}{8}$ " ( $\frac{1}{64}$ " Incr.)	<a href="#">0952-50-19-000025</a> 25 Collets $\frac{1}{8}$ " to $\frac{1}{2}$ " ( $\frac{1}{64}$ " Incr.)



### Dimensions

Style	A - Dia.		B - Length	
	Inch	mm	Inch	mm
HF25	.483"	12.27	1.000"	25.41
HF38	.563"	14.31	1.030"	26.18
HF50	.720"	18.30	1.160"	29.48

## HF25, HF38 and HF50 (AF) Collets — Metric

Size Range mm	Inch	HF25 Collet Part Number	HF38 Collet Part Number	HF50 Collet Part Number
3.0	.118"	<a href="#">2541-00-17-030000</a>	<a href="#">2543-00-17-030000</a>	—
5.0	.197"	<a href="#">2541-00-17-050000</a>	<a href="#">2543-00-17-050000</a>	<a href="#">2545-00-17-050000</a>
7.0	.276"	—	<a href="#">2543-00-17-070000</a>	<a href="#">2545-00-17-070000</a>
9.0	.354"	—	<a href="#">2543-00-17-090000</a>	<a href="#">2545-00-17-090000</a>

## HF75 and HF100 Collet Sets

	HF75 Collet Part Number	HF100 Collet Part Number
Collet Set	<a href="#">0952-75-19-000042</a> 41 Collets $\frac{1}{8}$ " to $\frac{3}{4}$ " ( $\frac{1}{64}$ " Incr.)	<a href="#">0952-10-19-000050</a> 50 Collets $\frac{1}{8}$ " to $1$ " ( $\frac{1}{64}$ " Incr.)
Collet Set	<a href="#">0952-75-19-000021</a> 21 Collets $\frac{1}{8}$ " to $\frac{3}{4}$ " ( $\frac{1}{32}$ " Incr.)	<a href="#">0952-10-19-000025</a> 25 Collets $\frac{1}{4}$ " to $1$ " ( $\frac{1}{32}$ " Incr.)
Collet Set	<a href="#">0952-75-19-000011</a> 11 Collets $\frac{1}{8}$ " to $\frac{3}{4}$ " ( $\frac{1}{16}$ " Incr.)	<a href="#">0952-10-19-000013</a> 13 Collets $\frac{1}{4}$ " to $1$ " ( $\frac{1}{16}$ " Incr.)

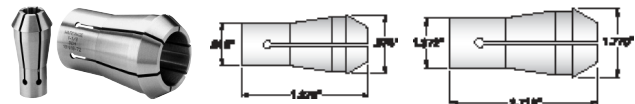
# HF-Style (AF) Collets and Cincinnati Monoset Collets

## HF75 and HF100 Collets — Inch

Size Range		HF75 Collet	HF100 Collet
Inch	Inch Dec.	Part Number	Part Number
1/8"	.1250"	<a href="#">2571-00-19-001250</a>	—
9/64"	.1406"	<a href="#">2571-00-19-001406</a>	—
5/32"	.1562"	<a href="#">2571-00-19-001562</a>	—
11/64"	.1718"	<a href="#">2571-00-19-001718</a>	—
3/16"	.1875"	<a href="#">2571-00-19-001875</a>	—
13/64"	.2031"	<a href="#">2571-00-19-002031</a>	—
7/32"	.2187"	<a href="#">2571-00-19-002187</a>	—
15/64"	.2343"	<a href="#">2571-00-19-002343</a>	<a href="#">2573-00-19-002343</a>
17/64"	.2656"	<a href="#">2571-00-19-002656</a>	<a href="#">2573-00-19-002656</a>
9/32"	.2812"	<a href="#">2571-00-19-002812</a>	<a href="#">2573-00-19-002812</a>
19/64"	.2968"	<a href="#">2571-00-19-002968</a>	<a href="#">2573-00-19-002968</a>
5/16"	.3125"	<a href="#">2571-00-19-003125</a>	<a href="#">2573-00-19-003125</a>
21/64"	.3281"	<a href="#">2571-00-19-003281</a>	<a href="#">2573-00-19-003281</a>
11/32"	.3437"	<a href="#">2571-00-19-003437</a>	<a href="#">2573-00-19-003437</a>
23/64"	.3593"	<a href="#">2571-00-19-003593</a>	<a href="#">2573-00-19-003593</a>
3/8"	.3750"	<a href="#">2571-00-19-003750</a>	<a href="#">2573-00-19-003750</a>
25/64"	.3906"	<a href="#">2571-00-19-003906</a>	<a href="#">2573-00-19-003906</a>
13/32"	.4062"	<a href="#">2571-00-19-004060</a>	<a href="#">2573-00-19-004062</a>
27/64"	.4218"	<a href="#">2571-00-19-004218</a>	<a href="#">2573-00-19-004218</a>
7/16"	.4375"	<a href="#">2571-00-19-004375</a>	<a href="#">2573-00-19-004375</a>
29/64"	.4531"	<a href="#">2571-00-19-004531</a>	<a href="#">2573-00-19-004531</a>
15/32"	.4687"	<a href="#">2571-00-19-004687</a>	<a href="#">2573-00-19-004687</a>
31/64"	.4843"	<a href="#">2571-00-19-004843</a>	<a href="#">2573-00-19-004843</a>
1/2"	.5000"	<a href="#">2571-00-19-005000</a>	<a href="#">2573-00-19-005000</a>
33/64"	.5156"	<a href="#">2571-00-19-005156</a>	<a href="#">2573-00-19-005156</a>
17/32"	.5312"	<a href="#">2571-00-19-005312</a>	<a href="#">2573-00-19-005312</a>
35/64"	.5468"	<a href="#">2571-00-19-005468</a>	<a href="#">2573-00-19-005468</a>
9/16"	.5625"	<a href="#">2571-00-19-005625</a>	<a href="#">2573-00-19-005625</a>
37/64"	.5781"	<a href="#">2571-00-19-005781</a>	<a href="#">2573-00-19-005781</a>
19/32"	.5937"	<a href="#">2571-00-19-005937</a>	<a href="#">2573-00-19-005937</a>
39/64"	.6093"	<a href="#">2571-00-19-006093</a>	<a href="#">2573-00-19-006093</a>
5/8"	.6250"	<a href="#">2571-00-19-006250</a>	<a href="#">2573-00-19-006250</a>
41/64"	.6406"	<a href="#">2571-00-19-006406</a>	<a href="#">2573-00-19-006406</a>
21/32"	.6562"	<a href="#">2571-00-19-006562</a>	<a href="#">2573-00-19-006562</a>
43/64"	.6718"	<a href="#">2571-00-19-006718</a>	<a href="#">2573-00-19-006718</a>
11/16"	.6875"	<a href="#">2571-00-19-006875</a>	<a href="#">2573-00-19-006875</a>
45/64"	.7031"	<a href="#">2571-00-19-007031</a>	<a href="#">2573-00-19-007031</a>
23/32"	.7187"	<a href="#">2571-00-19-007187</a>	<a href="#">2573-00-19-007187</a>
47/64"	.7343"	<a href="#">2571-00-19-007343</a>	<a href="#">2573-00-19-007343</a>
3/4"	.7500"	<a href="#">2571-00-19-007500</a>	<a href="#">2573-00-19-007500</a>
49/64"	.7656"	<a href="#">2571-00-19-007656</a>	<a href="#">2573-00-19-007656</a>
25/32"	.7812"	<a href="#">2571-00-19-007812</a>	<a href="#">2573-00-19-007812</a>
51/64"	.7968"	<a href="#">2571-00-19-007968</a>	<a href="#">2573-00-19-007968</a>
13/16"	.8125"	<a href="#">2571-00-19-008125</a>	<a href="#">2573-00-19-008125</a>
53/64"	.8281"	<a href="#">2571-00-19-008281</a>	<a href="#">2573-00-19-008281</a>
27/32"	.8437"	<a href="#">2571-00-19-008437</a>	<a href="#">2573-00-19-008437</a>
55/64"	.8593"	<a href="#">2571-00-19-008593</a>	<a href="#">2573-00-19-008593</a>
7/8"	.8750"	<a href="#">2571-00-19-008750</a>	<a href="#">2573-00-19-008750</a>
57/64"	.8906"	<a href="#">2571-00-19-008906</a>	<a href="#">2573-00-19-008906</a>
29/32"	.9062"	<a href="#">2571-00-19-009062</a>	<a href="#">2573-00-19-009062</a>
59/64"	.9218"	<a href="#">2571-00-19-009218</a>	<a href="#">2573-00-19-009218</a>
15/16"	.9375"	<a href="#">2571-00-19-009375</a>	<a href="#">2573-00-19-009375</a>
61/64"	.9531"	<a href="#">2571-00-19-009531</a>	<a href="#">2573-00-19-009531</a>
31/32"	.9687"	<a href="#">2571-00-19-009687</a>	<a href="#">2573-00-19-009687</a>
63/64"	.9843"	<a href="#">2571-00-19-009843</a>	<a href="#">2573-00-19-009843</a>
1"	1.000"	<a href="#">2571-00-19-010000</a>	<a href="#">2573-00-19-010000</a>

## HF75 and HF100 (AF) Collets — Metric

Size Range		HF75 Collet	HF100 Collet
mm	Inch	Part Number	Part Number
5.0	.197"	<a href="#">2571-00-17-050000</a>	—
7.0	.276"	<a href="#">2571-00-17-070000</a>	<a href="#">2573-00-17-070000</a>
9.0	.354"	<a href="#">2571-00-17-090000</a>	<a href="#">2573-00-17-090000</a>



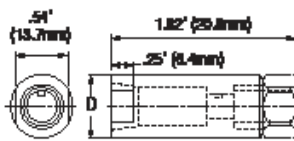
### Cincinnati Monoset 1CH and 3CH Collets

Size		1CH	3CH
Inch	mm	Part Number	Part Number
3/32"	.0937"	<a href="#">8859-00-19-000937</a>	—
1/8"	.1250"	<a href="#">8859-00-19-001250</a>	—
5/32"	.1562"	<a href="#">8859-00-19-001562</a>	—
11/64"	.1718"	<a href="#">8859-00-19-001718</a>	—
3/16"	.1875"	<a href="#">8859-00-19-001875</a>	—
13/64"	.2031"	<a href="#">8859-00-19-002031</a>	—
7/32"	.2187"	<a href="#">8859-00-19-002187</a>	—
15/64"	.2343"	<a href="#">8859-00-19-002343</a>	—
1/4"	.2500"	<a href="#">8859-00-19-002500</a>	<a href="#">8737-00-19-002500</a>
17/64"	.2656"	<a href="#">8859-00-19-002656</a>	—
9/32"	.2812"	<a href="#">8859-00-19-002812</a>	—
5/16"	.3125"	<a href="#">8859-00-19-003125</a>	<a href="#">8737-00-19-003125</a>
11/32"	.3437"	<a href="#">8859-00-19-003437</a>	—
29/64"	.3592"	<a href="#">8859-00-19-003593</a>	—
3/8"	.3750"	<a href="#">8859-00-19-003750</a>	<a href="#">8737-00-19-003750</a>
13/32"	.4062"	<a href="#">8859-00-19-004062</a>	<a href="#">8737-00-19-004062</a>
7/16"	.4375"	<a href="#">8859-00-19-004375</a>	<a href="#">8737-00-19-004375</a>
15/32"	.4687"	<a href="#">8859-00-19-004687</a>	<a href="#">8737-00-19-004687</a>
31/64"	.4843"	—	<a href="#">8737-00-19-004843</a>
1/2"	.5000"	<a href="#">8859-00-19-005000</a>	<a href="#">8737-00-19-005000</a>
9/16"	.5625"	—	<a href="#">8737-00-19-005625</a>
5/8"	.6250"	—	<a href="#">8737-00-19-006250</a>
41/64"	.6406"	—	<a href="#">8737-00-19-006406</a>
11/16"	.6875"	—	<a href="#">8737-00-19-006875</a>
3/4"	.7500"	—	<a href="#">8737-00-19-007500</a>
13/16"	.8125"	—	<a href="#">8737-00-19-008125</a>
7/8"	.8750"	—	<a href="#">8737-00-19-008750</a>
15/16"	.9375"	—	<a href="#">8737-00-19-009375</a>
1"	1.0000"	—	<a href="#">8737-00-19-010000</a>
1 1/16"	1.0625"	—	<a href="#">8737-00-19-010625</a>
1 1/8"	1.1250"	2CH fractional Collets available on request. Part Number 1619	<a href="#">8737-00-19-011250</a>
1 3/16"	1.1875"	—	<a href="#">8737-00-19-011875</a>
1 17/32"	1.2187"	—	<a href="#">8737-00-19-012187</a>
1 1/4"	1.2500"	—	<a href="#">8737-00-19-012500</a>

# 1C Tool Holders and Collets



Drill and collet sold separately



1C Collets and tool holders are an accurate method of holding drills, center drills, round shank boring bars, round shank turning tools and reamers. The **T17 Holder** is precision-machined and mounts directly into a round shank tool holder. Turning a nut at the rear of the assembly draws the collet into the assembly, where the matching angles of the collet and holder cause the collet to close down on the tool.

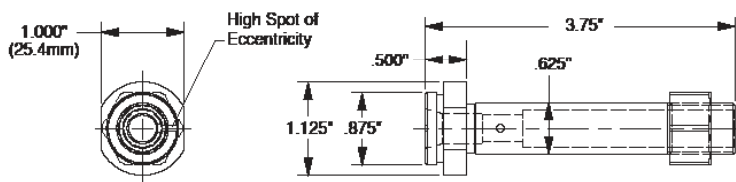
Clean-out Tap for 1C Draw Plug — Part Number 37 -0000546-AA

## 1C Collet Tool Holder

1C Tool Holder Model Number	1C Tool Holder Part Number	D - Shank Diameter	
		Inch	mm
<a href="#">T17-5/8</a>	37 -0000102	.625"	15.87
<a href="#">T17-3/4</a>	37 -0000102-01	.750"	19.05



The **1C Collet Eccentric Tool Holder** provides an ideal solution for indicating and centering your small drills in the X and Y axes, eliminating costly tool breakage due to misaligned drills. The .005" off-center tool holder enables you to rotate and sweep your drill to center line position. The tool holder is then secured by tightening the back locking nut.

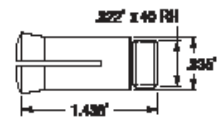


## 1C Collet Eccentric Tool Holder and Tool Holder / Collet Kit

1C Eccentric Tool Holder	Part Number
Tool Holder Assembly (without collets)	<a href="#">7381-0000000000</a>
- Eccentric Body for Drive Holder	<a href="#">7381-0000000001</a>
- 1C Draw Nut	<a href="#">7381-0000000002</a>
- Hex Nut	<a href="#">7381-0000000003</a>
- Dowel Pin Key	<a href="#">7381-0000000004</a>
- 1 <sup>5</sup> / <sub>16</sub> " Machinable Spacer	<a href="#">7381-0000000005</a>
- 2 <sup>1</sup> / <sub>4</sub> " Machinable Spacer	<a href="#">7381-0000000006</a>
Tool Holder / Collet Kit - Assembly with (4) round smooth 1C Collets	<a href="#">7381-0000000KIT</a>
	1/16, 1/8, 3/16, and 1/4"



**1C Collets** listed are round. Hex, square and decimal are available on request. Hex maximum hole is 7/32"; square maximum hole is 11/64". Metric decimal collets available from 0.5mm to 6mm in 0.1mm increments.



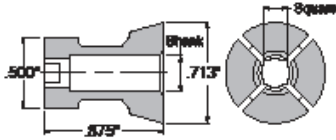
## 1C Collets — Inch

Size		1C Collet Part Number
Inch	mm	
1/64"	.0156"	<a href="#">1511-00-19-000156</a>
1/32"	.0312"	<a href="#">1511-00-19-000312</a>
3/64"	.0468"	<a href="#">1511-00-19-000468</a>
1/16"	.0625"	<a href="#">1511-00-19-000625</a>
5/64"	.0781"	<a href="#">1511-00-19-000781</a>
3/32"	.0937"	<a href="#">1511-00-19-000937</a>
7/64"	.1093"	<a href="#">1511-00-19-001093</a>
1/8"	.1250"	<a href="#">1511-00-19-001250</a>
9/64"	.1406"	<a href="#">1511-00-19-001406</a>
5/32"	.1562"	<a href="#">1511-00-19-001562</a>
11/64"	.1718"	<a href="#">1511-00-19-001718</a>
3/16"	.1875"	<a href="#">1511-00-19-001875</a>
13/64"	.2031"	<a href="#">1511-00-19-002031</a>
7/32"	.2187"	<a href="#">1511-00-19-002187</a>
15/64"	.2343"	<a href="#">1511-00-19-002343</a>
1/4"	.2500"	<a href="#">1511-00-19-002500</a>

## 1C Collets — Metric

Size		1C Collet Part Number
mm	Inch	
.50	.0196"	<a href="#">1511-00-17-005000</a>
.75	.0295"	<a href="#">1511-00-17-007500</a>
1.0	.0393"	<a href="#">1511-00-17-010000</a>
1.5	.0590"	<a href="#">1511-00-17-015000</a>
2.0	.0787"	<a href="#">1511-00-17-020000</a>
2.5	.0984"	<a href="#">1511-00-17-025000</a>
3.0	.1181"	<a href="#">1511-00-17-030000</a>
3.5	.1377"	<a href="#">1511-00-17-035000</a>
4.0	.1574"	<a href="#">1511-00-17-040000</a>
4.5	.1771"	<a href="#">1511-00-17-045000</a>
5.0	.1968"	<a href="#">1511-00-17-050000</a>
5.5	.2165"	<a href="#">1511-00-17-055000</a>
6.0	.2362"	<a href="#">1511-00-17-060000</a>
6.2	.2440"	<a href="#">1511-00-17-062000</a>

# TT Tap Holders and Collets



**TT Tap Collets** are used in the Hardinge® TT-5/8 and TT-3/4 Tap Holders. These collets are stocked in ANSI (USA) and ISO (England) standards. The ANSI Inch-series tap collets relate to taps manufactured in the United States. Metric collets manufactured in the United States have the same shank sizes as those used for the inch series. The metric collets manufactured to the ISO standard have different shank sizes than the ANSI series metric collets. Both styles are stock items ready for immediate delivery.

**NOTE:** Always check the size of your tap shank and then match it to the shank size in the charts below. Imported metric taps may not have the same shank size as other taps you have been using. The chart on page 37 indicates the different shank sizes for the same metric tap depending on the country of origin.

## TT Tap Collets ANSI (USA) — Inch

TT Tap Collet Part Number	Shank Dia.	Collet Square	Tap Size
<a href="#">1761-00-18-001410</a>	0.141"	0.114"	# 0-6
<a href="#">1761-00-18-001680</a>	0.168"	0.135"	# 8
<a href="#">1761-00-18-001940</a>	0.194"	0.156"	# 10
<a href="#">1761-00-18-002200</a>	0.220"	0.169"	# 12
<a href="#">1761-00-18-002550</a>	0.255"	0.195"	1/4"
<a href="#">1761-00-18-003180</a>	0.318"	0.242"	5/16"
<a href="#">1761-00-18-003810</a>	0.381"	0.290"	3/8"
<a href="#">1761-00-18-003230</a>	0.323"	0.246"	7/16"
<a href="#">1761-00-18-003670</a>	0.367"	0.279"	1/2"
<a href="#">1761-00-18-003125</a>	0.3125"	0.238"	1/8" P.
<a href="#">0935-00-00-000000</a>	Set of 10 Collets		

## ANSI (USA) — Metric

Shank Size	Tap Size
0.141"	M1 to M3.5
0.168"	M4
0.194"	M4.5, M5
0.255"	M6, M6.3
0.318"	M7, M8
0.381"	M10
0.367"	M12
0.429"	M14

Note: See page 37 for shank sizes of Metric taps in ANSI, ISO, JIS, CIC & DIN specifications.

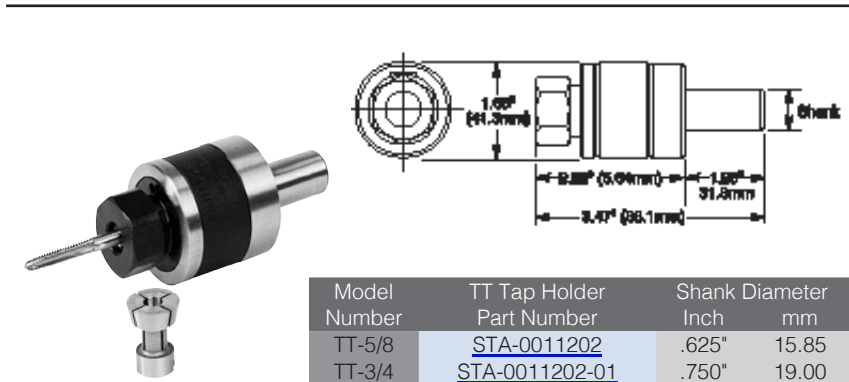
## TT Tap Collets ISO (England) — Metric / Inch

TT Tap Collet Part Number	Shank mm	Shank Inch	Collet Square	Tap Size
<a href="#">1761-00-17-025020</a>	2.5	.098"	.083"	M2
<a href="#">1761-00-17-028022</a>	2.8	.110"	.092"	M2.5
<a href="#">1761-00-17-031025</a>	3.15	.124"	.102"	M3
<a href="#">1761-00-17-035028</a>	3.55	.140"	.114"	M3.5
<a href="#">1761-00-17-040031</a>	4.0	.157"	.122"	M4
<a href="#">1761-00-17-045035</a>	4.5	.177"	.144"	M4.5
<a href="#">1761-00-17-050040</a>	5.0	.197"	.157"	M5
<a href="#">1761-00-17-056045</a>	5.6	.221"	.181"	—
<a href="#">1761-00-17-060049</a>	6.0	.236"	.197"	—
<a href="#">1761-00-17-063050</a>	6.3	.248"	.201"	M6
<a href="#">1761-00-17-071056</a>	7.1	.280"	.225"	M7
<a href="#">1761-00-17-080063</a>	8.0	.315"	.248"	M8
<a href="#">1761-00-17-090071</a>	9.0	.354"	.284"	M9
<a href="#">1761-00-17-100080</a>	10.0	.394"	.319"	M10

## TT Tap Collets JIS (Japanese) - Metric

TT Tap Collet Part Number	Shank Metric	Shank Square	Tap Size
<a href="#">1761-00-17-030000</a>	4 mm	0.1260"	M3
<a href="#">1761-00-17-040000</a>	5 mm	0.1575"	M4
<a href="#">1761-00-17-055000</a>	5.5 mm	0.2165"	M5
<a href="#">1761-00-17-060000</a>	6 mm	0.2362"	M6
<a href="#">1761-00-17-080000</a>	8 mm	—	M8
<a href="#">1761-00-17-100000</a>	7 mm	0.2165"	M10
<a href="#">1761-00-17-120000</a>	8.5mm	0.2559"	M12

Note: JIS part number relates to tap size not shank.



Model Number	TT Tap Holder Part Number	Shank Diameter Inch	Shank Diameter mm
TT-5/8	<a href="#">STA-0011202</a>	.625"	15.85
TT-3/4	<a href="#">STA-0011202-01</a>	.750"	19.00

**Collet-Style Releasing Tap Holders** are used to provide thread length control on either right- or left-hand taps by switching a lever inside the body of the tap holder. The tap holders are available in 5/8" and 3/4" shank size and mount directly into a round shank tool holder. TT-style tap holder collets are used for accurate holding and centering of taps. To provide a positive drive for the taps, the collets have a square slot in the back to accommodate the square of the top shank and a notch in the back bearing of the collet that fits over a hardened pin in the bottom of the holder.

# GK Self-Feeding Tap Holder, Collets and Drivers

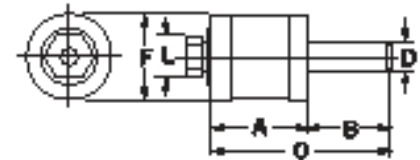


**GK Self-Feeding (Pafix) Tap Holders** provide automatic thread-length control. The tap holder eliminates the need to perfectly match the feed rate to the thread pitch, minimizing tool breakage and "pulled" or "squeezed" threads.

The holders have a  $\frac{5}{8}$ " (15.87mm) shank diameter that allows it to be mounted into a round shank tool holder. Thread length is controlled internally with an adjusting ring in .01" (.25mm) increments. A driver is used in the holder to accommodate the square of the tap shank, providing a positive drive. A collet is used to centralize and hold the tap in the holder. Tap holders are supplied standard with the necessary collets and drivers. Replacement tap collets and drivers are sold separately. The same unit is used for left- and right-hand taps. The GK11 and GK12 models come with 3 tap collets and 4 drivers. The GK21 and GK22 come with (6) tap collets and (6) drivers.

## Capacity

Model Number	Max. Tap Size Inch	Max. Tap Size mm	Max. Thrd Length Adj. Inch	Max. Thrd Length Adj. mm
GK11	$\frac{1}{4}$ "	6.35 mm	$\frac{19}{32}$ "	15.08 mm
GK12	$\frac{1}{4}$ "	6.35 mm	$\frac{19}{32}$ "	15.08 mm
GK21	$\frac{9}{16}$ "	14.29 mm	$\frac{27}{32}$ "	21.43 mm
GK22	$\frac{9}{16}$ "	14.29 mm	$\frac{19}{32}$ "	15.08 mm



## GK Self-Feeding (Pafix) Tap Holders with Collet and Driver

Model Number	Part Number	A		B		C		D-Shank		F		L	
		Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
GK11	<a href="#">K11-0011202-K</a>	2.17"	55.10	1.25"	31.80	3.42"	86.90	.625"	15.880	1.58"	40.10	.77"	19.60
GK12	<a href="#">S12-0011202-K</a>	1.89"	48.00	1.25"	31.80	3.14"	79.80	.625"	15.880	1.58"	40.10	.77"	19.60
GK21	<a href="#">K21-0011202-K</a>	2.17"	55.10	1.25"	31.80	3.42"	86.90	.625"	15.880	1.58"	40.10	.77"	19.60
GK22	<a href="#">S22-0011202-K</a>	1.89"	48.00	1.25"	31.80	3.14"	79.80	.625"	15.880	1.58"	40.10	.77"	19.60

NOTE: Collets and Drivers are included with each Tap Holder.  
See page 37 for shank sizes of Metric taps in ANSI, ISO, JIS, CIC & DIN specifications.

## Replacement Tap Collets and Drivers



Model Number	Tap English	Tap Size mm	Shank Dia.	Collet Number	Tap Square	Driver Number	Collet Part Number	Driver Part Number
GK11/12	#6	1.6	.141"	4 - 3.5	.110"	2.8	<a href="#">1T-0011831-C1</a>	<a href="#">1T-0011831-D1</a>
GK11/12	#8	4	.168"	5 - 4	.131"	3.55	<a href="#">1T-0011831-C2</a>	<a href="#">1T-0011831-D2</a>
GK11/12	#10	4.5 - 5	.194"	5 - 4	.152"	4	<a href="#">1T-0011831-C2</a>	<a href="#">1T-0011831-D2</a>
GK11/12	#12	—	.220"	6.5 - 5.5	.165"	4	<a href="#">1T-0011831-C3</a>	<a href="#">1T-0011831-D3</a>
GK11/12	#14	6	.255"	6.5 - 5.5	.191"	5	<a href="#">1T-0011831-C3</a>	<a href="#">1T-0011831-D4</a>
GK11/12	$\frac{1}{4}$ "	—	.255"	6.5 - 5.5	.191"	5	<a href="#">1T-0011831-C3</a>	<a href="#">1T-0011831-D4</a>
GK21/22	#8	4	.168"	5 - 4	.131"	3.55	<a href="#">2T-0011831-C1</a>	<a href="#">2T-0011831-D1</a>
GK21/22	#10	4.5 - 5	.194"	5 - 4	.152"	4	<a href="#">2T-0011831-C2</a>	<a href="#">2T-0011831-D2</a>
GK21/22	#12	—	.220"	6 - 5	.165"	4	<a href="#">2T-0011831-C2</a>	<a href="#">2T-0011831-D2</a>
GK21/22	#14	6	.255"	7 - 6	.191"	5	<a href="#">2T-0011831-C3</a>	<a href="#">2T-0011831-D3</a>
GK21/22	$\frac{1}{4}$ "	6.3	.255"	7 - 6	.191"	5	<a href="#">2T-0011831-C3</a>	<a href="#">2T-0011831-D3</a>
GK21/22	$\frac{5}{16}$ "	7 - 8	.318"	9 - 8	.238"	6.3	<a href="#">2T-0011831-C4</a>	<a href="#">2T-0011831-D4</a>
GK21/22	$\frac{3}{8}$ "	10	.381"	10 - 9	.286"	7.1	<a href="#">2T-0011831-C5</a>	<a href="#">2T-0011831-D6</a>
GK21/22	$\frac{7}{16}$ "	—	.323"	9 - 8	.242"	6.3	<a href="#">2T-0011831-C4</a>	<a href="#">2T-0011831-D4</a>
GK21/22	$\frac{1}{2}$ "	12 - 12.5	.367"	10 - 9	.274"	7.1	<a href="#">2T-0011831-C5</a>	<a href="#">2T-0011831-D6</a>
GK21/22	$\frac{9}{16}$ "	14	.429"	11 - 10	.322"	8	<a href="#">2T-0011831-C6</a>	<a href="#">2T-0011831-D7</a>



# Quick-Change Tap Collets for Bilz-Style Holders

## #0 Tap Collets — Inch

Tap Size	Shank Dia.	Collet Square	#0 Collet Size Part Number
# 0-6	0.141"	0.110"	<a href="#">7989-51-10-001410</a>
# 8	0.168"	0.131"	<a href="#">7989-51-10-001680</a>
# 10	0.194"	0.152"	<a href="#">7989-51-10-001940</a>
# 12	0.220"	0.165"	<a href="#">7989-51-10-002200</a>
¼"	0.255"	0.191"	<a href="#">7989-51-10-002550</a>
Set of 5 Collets			<a href="#">7989-51-10-000000</a>



## Dimensions

Style	D - Diameter		L - Length	
	Inch	mm	Inch	mm
0	0.51"	13.00	—	—
1	0.75"	19.00	1.12"	28.44
2	1.22"	31.00	1.81"	45.97
3	1.89"	48.00	2.74"	70.00
4	2.37"	60.00	—	—

This **Quick-Change Tap Collet** is commonly used with CAT-V or BT rigid or tension compensating tap holders. The collet allows changing of the tap very quickly and maintains gauge lengths between new taps.

## #1 Tap Collets — Inch

Tap Size	Shank Dia.	Collet Square	#1 Collet Size Part Number
# 0 - #6	0.141"	0.110"	<a href="#">7989-51-11-001410</a>
# 8	0.168"	0.131"	<a href="#">7989-51-11-001680</a>
# 10	0.194"	0.152"	<a href="#">7989-51-11-001940</a>
# 12	0.220"	0.165"	<a href="#">7989-51-11-002200</a>
¼"	0.255"	0.191"	<a href="#">7989-51-11-002550</a>
⅝"	0.318"	0.238"	<a href="#">7989-51-11-003180</a>
¾"	0.381"	0.286"	<a href="#">7989-51-11-003810</a>
7/16"	0.323"	0.242"	<a href="#">7989-51-11-003230</a>
½"	0.367"	0.275"	<a href="#">7989-51-11-003670</a>
9/16"	0.429"	0.322"	<a href="#">7989-51-11-004290</a>
⅝" Pipe	0.313"	0.234"	<a href="#">7989-51-11-003130</a>
⅞" Pipe	0.437"	0.328"	<a href="#">7989-51-11-004370</a>
Set of 12 Collets			<a href="#">7989-51-11-004370</a>

## #3 Tap Collets — Inch

Tap Size	Shank Dia.	Collet Square	#3 Collet Size Part Number
13/16"	0.652"	0.489"	<a href="#">7989-51-13-006520</a>
7/8"	0.697"	0.523"	<a href="#">7989-51-13-006970</a>
15/16"	0.760"	0.570"	<a href="#">7989-51-13-007600</a>
1"	0.800"	0.600"	<a href="#">7989-51-13-008000</a>
1 1/8"	0.896"	0.672"	<a href="#">7989-51-13-008960</a>
1 1/4"	1.021"	0.766"	<a href="#">7989-51-13-010210</a>
1 3/8"	1.108"	0.831"	<a href="#">7989-51-13-011080</a>
Set of 7 Collets			<a href="#">7989-51-12-000000</a>
3/8" Pipe	0.700"	0.531"	<a href="#">7989-51-13-007000</a>
1/2" Pipe	0.687"	0.515"	<a href="#">7989-51-13-006870</a>
3/4" Pipe	0.906"	0.679"	<a href="#">7989-51-13-009060</a>
1" Pipe	1.125"	0.843"	<a href="#">7989-51-13-011250</a>
Set of 4 Collets			<a href="#">7989-51-13-000001</a>

## #4 Tap Collets — Inch

Tap Size	Shank Dia.	Collet Square	#4 Collet Size Part Number
1"	0.800"	0.600"	<a href="#">7989-51-14-008000</a>
1 1/8"	0.896"	0.672"	<a href="#">7989-51-14-008960</a>
1 1/4"	1.021"	0.766"	<a href="#">7989-51-14-010210</a>
1 3/8"	1.108"	0.831"	<a href="#">7989-51-14-011080</a>
1 1/2"	1.233"	0.925"	<a href="#">7989-51-14-012330</a>
1 5/8"	1.305"	0.979"	<a href="#">7989-51-14-013050</a>
1 3/4"	1.430"	1.072"	<a href="#">7989-51-14-014300</a>
1 7/8"	1.519"	1.139"	<a href="#">7989-51-14-015190</a>
Set of 8 Collets			<a href="#">7989-51-14-000000</a>
3/4" Pipe	0.906"	0.679"	<a href="#">7989-51-14-009060</a>
1" Pipe	1.125"	0.843"	<a href="#">7989-51-14-011250</a>
1 1/4" Pipe	1.312"	0.984"	<a href="#">7989-51-14-013120</a>
1 1/2" Pipe	1.500"	1.125"	<a href="#">7989-51-14-015000</a>
Set of 4 Collets			<a href="#">7989-51-14-000001</a>

## #2 Tap Collets — Inch

Tap Size	Shank Dia.	Collet Square	#2 Collet Size Part Number
# 0 - #6	0.141"	0.110"	<a href="#">7989-51-12-001410</a>
# 8	0.168"	0.131"	<a href="#">7989-51-12-001680</a>
# 10	0.194"	0.152"	<a href="#">7989-51-12-001940</a>
# 12	0.220"	0.165"	<a href="#">7989-51-12-002200</a>
¼"	0.255"	0.191"	<a href="#">7989-51-12-002550</a>
⅝"	0.318"	0.238"	<a href="#">7989-51-12-003180</a>
¾"	0.381"	0.286"	<a href="#">7989-51-12-003810</a>
7/16"	0.323"	0.242"	<a href="#">7989-51-12-003230</a>
½"	0.367"	0.275"	<a href="#">7989-51-12-003670</a>
9/16"	0.429"	0.322"	<a href="#">7989-51-12-004290</a>
5/8"	0.480"	0.360"	<a href="#">7989-51-12-004800</a>
1 1/16"	0.542"	0.406"	<a href="#">7989-51-12-005420</a>
3/4"	0.590"	0.442"	<a href="#">7989-51-12-005900</a>
13/16"	0.652"	0.489"	<a href="#">7989-51-12-006520</a>
7/8"	0.697"	0.523"	<a href="#">7989-51-12-006970</a>
Set of 15 Collets			<a href="#">7989-51-12-000000</a>
⅝" Pipe	0.313"	0.234"	<a href="#">7989-51-12-003130</a>
⅞" Pipe	0.437"	0.328"	<a href="#">7989-51-12-004370</a>
¼" Pipe	0.562"	0.421"	<a href="#">7989-51-12-005620</a>
3/8" Pipe	0.700"	0.531"	<a href="#">7989-51-12-007000</a>
½" Pipe	0.687"	0.515"	<a href="#">7989-51-12-006870</a>
Set of 5 Collets			<a href="#">7989-51-12-000001</a>

Currently there are five standards for Metric taps, each having a different shank size. There are the ANSI (USA), DIN (Europe), ISO (England), JIS (Japanese), and CIC (Chinese) standards. Because of the variety, you need to check the shank diameter of your metric tap. Compare the dimension with the chart on page 37. We stock popular sizes of these different standards, even though they may not be listed.

## #1, #2, #3 Quick-Change Tap Collets — Metric DIN Standard

Tap Size	Shank Dia.	Collet Square	#1 Collet Size Part Number	#2 Collet Size Part Number	#3 Collet Size Part Number
M3	3.5mm	2.7mm	<a href="#">7989-51-21-035000</a>	—	—
M4	4.5mm	3.4mm	<a href="#">7989-51-21-045000</a>	—	—
M5,6,8	6.0mm	4.9mm	<a href="#">7989-51-21-060000</a>	<a href="#">7989-51-22-060000</a>	—
M8	8.0mm	6.2mm	<a href="#">7989-51-21-080000</a>	<a href="#">7989-51-22-080000</a>	—
M10	10.0mm	8.0mm	<a href="#">7989-51-21-100000</a>	<a href="#">7989-51-22-100000</a>	—
M10	7.0mm	5.5mm	<a href="#">7989-51-21-070000</a>	<a href="#">7989-51-22-070000</a>	—
M12	9.0mm	7.0mm	<a href="#">7989-51-21-090000</a>	<a href="#">7989-51-22-090000</a>	—
M14	11.0mm	9.0mm	<a href="#">7989-51-21-110000</a>	<a href="#">7989-51-22-110000</a>	<a href="#">7989-51-23-110000</a>
M16	12.0mm	9.0mm	<a href="#">7989-51-21-120000</a>	<a href="#">7989-51-22-120000</a>	<a href="#">7989-51-23-120000</a>
M18	14.0mm	11.0mm	—	<a href="#">7989-51-22-140000</a>	<a href="#">7989-51-23-140000</a>
M20	16.0mm	12.0mm	—	<a href="#">7989-51-22-160000</a>	<a href="#">7989-51-23-160000</a>
M22,M24	18.0mm	14.5mm	—	—	<a href="#">7989-51-23-180000</a>
M27	20.0mm	16.0mm	—	—	<a href="#">7989-51-23-200000</a>
M30	22.0mm	18.0mm	—	—	<a href="#">7989-51-23-220000</a>
M33	25.0mm	20.0mm	—	—	<a href="#">7989-51-23-250000</a>

Note: ANSI standard metric taps (the standard common in the United States) cannot be used in the Metric DIN collets shown above.



# Torque Control Tap Collets — Quick-Change

## #0 Tap Collets — Inch

Tap Size	Shank Dia.	Collet Square	#0 Collet Size Part Number
# 0-6	0.141"	0.110"	<a href="#">7989-52-10-001410</a>
# 8	0.168"	0.131"	<a href="#">7989-52-10-001680</a>
# 10	0.194"	0.152"	<a href="#">7989-52-10-001940</a>
# 12	0.220"	0.165"	<a href="#">7989-52-10-002200</a>
¼"	0.255"	0.191"	<a href="#">7989-52-10-002550</a>



### Dimensions

Style	DD - Diameter		LL - Length	
	Inch	mm	Inch	mm
0	0.51"	13.00	—	—
1	0.75"	19.00	1.83"	46.48
2	1.22"	31.00	2.72"	69.08
3	1.89"	48.00	3.96"	100.58
4	2.37"	60.00	—	—

Torque Control Tap Collets can only be used in Tension/Compression Tap Holders. These collets slip when the torque is exceeded.

## #1 Tap Collets — Inch

Tap Size	Shank Dia.	Collet Square	#1 Collet Size Part Number
# 0 - #6	0.141"	0.110"	<a href="#">7989-52-11-001410</a>
# 8	0.168"	0.131"	<a href="#">7989-52-11-001680</a>
# 10	0.194"	0.152"	<a href="#">7989-52-11-001940</a>
# 12	0.220"	0.165"	<a href="#">7989-52-11-002200</a>
¼"	0.255"	0.191"	<a href="#">7989-52-11-002550</a>
⅝"	0.318"	0.238"	<a href="#">7989-52-11-003180</a>
¾"	0.381"	0.286"	<a href="#">7989-52-11-003810</a>
7/16"	0.323"	0.242"	<a href="#">7989-52-11-003230</a>
½"	0.367"	0.275"	<a href="#">7989-52-11-003670</a>
9/16"	0.429"	0.322"	<a href="#">7989-52-11-004290</a>
⅝" Pipe	0.313"	0.234"	<a href="#">7989-52-11-003130</a>
⅞" Pipe	0.437"	0.328"	<a href="#">7989-52-11-004370</a>

## #3 Tap Collets — Inch

Tap Size	Shank Dia.	Collet Square	#3 Collet Size Part Number
13/16"	0.652"	0.489"	<a href="#">7989-52-13-006520</a>
7/8"	0.697"	0.523"	<a href="#">7989-52-13-006970</a>
15/16"	0.760"	0.570"	<a href="#">7989-52-13-007600</a>
1"	0.800"	0.600"	<a href="#">7989-52-13-008000</a>
1 1/8"	0.896"	0.672"	<a href="#">7989-52-13-008960</a>
1 1/4"	1.021"	0.766"	<a href="#">7989-52-13-010210</a>
1 3/8"	1.108"	0.831"	<a href="#">7989-52-13-011080</a>
3/8" Pipe	0.700"	0.531"	<a href="#">7989-52-13-007000</a>
1/2" Pipe	0.687"	0.515"	<a href="#">7989-52-13-006870</a>
3/4" Pipe	0.906"	0.679"	<a href="#">7989-52-13-009060</a>
1" Pipe	1.125"	0.843"	<a href="#">7989-52-13-011250</a>

## #4 Tap Collets — Inch

Tap Size	Shank Dia.	Collet Square	#4 Collet Size Part Number
1"	0.800"	0.600"	<a href="#">7989-52-14-008000</a>
1 1/8"	0.896"	0.672"	<a href="#">7989-52-14-008960</a>
1 1/4"	1.021"	0.766"	<a href="#">7989-52-14-010210</a>
1 3/8"	1.108"	0.831"	<a href="#">7989-52-14-011080</a>
1 1/2"	1.233"	0.925"	<a href="#">7989-52-14-012330</a>
1 5/8"	1.305"	0.979"	<a href="#">7989-52-14-013050</a>
1 3/4"	1.430"	1.072"	<a href="#">7989-52-14-014300</a>
1 7/8"	1.519"	1.139"	<a href="#">7989-52-14-015190</a>
3/4" Pipe	0.906"	0.679"	<a href="#">7989-52-14-009060</a>
1" Pipe	1.125"	0.843"	<a href="#">7989-52-14-011240</a>
1 1/4" Pipe	1.312"	0.984"	<a href="#">7989-52-14-013120</a>
1 1/2" Pipe	1.500"	1.125"	<a href="#">7989-52-14-015000</a>

Currently there are five standards for Metric taps, each having a different shank size. There are the ANSI (USA), DIN (Europe), ISO (England), JIS (Japanese), and CIC (Chinese) standards. Because of the variety, you need to check the shank diameter of your metric tap. Compare the dimension with the chart on page 37. We stock popular sizes of these different standards, even though they may not be listed.

## #2 Tap Collets — Inch

Tap Size	Shank Dia.	Collet Square	#2 Collet Size Part Number
5/16"	0.318"	0.238"	<a href="#">7989-52-12-003180</a>
3/8"	0.381"	0.286"	<a href="#">7989-52-12-003810</a>
7/16"	0.323"	0.242"	<a href="#">7989-52-12-003230</a>
½"	0.367"	0.275"	<a href="#">7989-52-12-003670</a>
9/16"	0.429"	0.322"	<a href="#">7989-52-12-004290</a>
5/8"	0.480"	0.360"	<a href="#">7989-52-12-004800</a>
11/16"	0.542"	0.406"	<a href="#">7989-52-12-005420</a>
¾"	0.590"	0.442"	<a href="#">7989-52-12-005900</a>
13/16"	0.652"	0.489"	<a href="#">7989-52-12-006520</a>
7/8"	0.697"	0.523"	<a href="#">7989-52-12-006970</a>
⅞" Pipe	0.313"	0.234"	<a href="#">7989-52-12-003130</a>
1" Pipe	0.437"	0.328"	<a href="#">7989-52-12-004370</a>
1/4" Pipe	0.562"	0.421"	<a href="#">7989-52-12-005620</a>
3/8" Pipe	0.700"	0.531"	<a href="#">7989-52-12-007000</a>
½" Pipe	0.687"	0.515"	<a href="#">7989-52-12-006870</a>

## #1, #2, #3 Torque Control Tap Collets — Metric DIN Standard

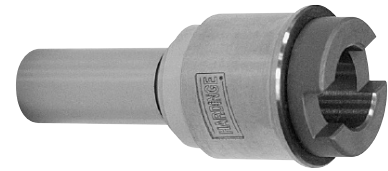
Tap Size	Shank Dia.	Collet Square	#1 Collet Size Part Number	#2 Collet Size Part Number	#3 Collet Size Part Number
M3	3.5mm	2.7mm	<a href="#">7989-52-21-035000</a>	—	—
M4	4.5mm	3.4mm	<a href="#">7989-52-21-045000</a>	—	—
M5,6,8	6.0mm	4.9mm	<a href="#">7989-52-21-060000</a>	<a href="#">7989-52-22-060000</a>	—
M8	8.0mm	6.2mm	<a href="#">7989-52-21-080000</a>	<a href="#">7989-52-22-080000</a>	—
M10	10.0mm	8.0mm	<a href="#">7989-52-21-100000</a>	<a href="#">7989-52-22-100000</a>	—
M10	7.0mm	5.5mm	<a href="#">7989-52-21-070000</a>	<a href="#">7989-52-22-070000</a>	—
M12	9.0mm	7.0mm	<a href="#">7989-52-21-090000</a>	<a href="#">7989-52-22-090000</a>	—
M14	11.0mm	9.0mm	<a href="#">7989-52-21-110000</a>	<a href="#">7989-52-22-110000</a>	<a href="#">7989-52-23-110000</a>
M16	12.0mm	9.0mm	—	<a href="#">7989-52-22-120000</a>	<a href="#">7989-52-23-120000</a>
M18	14.0mm	11.0mm	—	<a href="#">7989-52-22-140000</a>	<a href="#">7989-52-23-140000</a>
M20	16.0mm	12.0mm	—	<a href="#">7989-52-22-160000</a>	<a href="#">7989-52-23-160000</a>
M22, M24	18.0mm	14.5mm	—	—	<a href="#">7989-52-23-180000</a>
M27	20.0mm	16.0mm	—	—	<a href="#">7989-52-23-200000</a>
M30	22.0mm	18.0mm	—	—	<a href="#">7989-52-23-220000</a>
M33	25.0mm	20.0mm	—	—	<a href="#">7989-52-23-250000</a>

Note: ANSI standard metric taps (the standard common in the United States) cannot be used in the Metric DIN collets shown above.

# Bilz-Style Tap Holder for Quick-Change Tap Collets

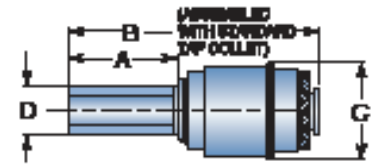
## Straight-Shank Tension/Compression Tap Holders

Head Number	Part Number	A		B		C		D - Shank	
		Inch	mm	Inch	mm	Inch	mm	Inch	mm
#1	<a href="#">2547-00-00-000001</a>	6.00"	152.4	8.50"	215.9	1.50"	38.1	1.00"	25.40
#2	<a href="#">2547-00-00-000002</a>	6.00"	152.4	9.25"	234.9	1.88"	47.7	1.00"	25.40



## Straight-Shank Rigid Tap Holders

Head Number	Part Number	A		B		C		D - Shank	
		Inch	mm	Inch	mm	Inch	mm	Inch	mm
#1	<a href="#">2549-00-00-000001</a>	1.72"	43.6	3.92"	99.5	1.50"	38.1	.75"	25.40
#2	<a href="#">2549-00-00-000002</a>	1.72"	43.6	4.70"	119.3	1.88"	47.7	.75"	25.40



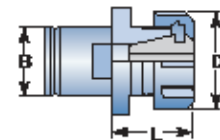
Note: Smaller sizes can be special ordered.

## Adapter for using ER & ERTCSP Collets in Bilz-Style or other popular tapping systems

Adapter with ER Collet system can be used for tapping, drilling, reaming, etc. This quick-change adapter fits Bilz-Style and other popular tapping systems to hold ER and ERTCSP collets. Collets permit holding ANSI and metric sizes. Fits in holder shown above.



Head Number	Adapter Part Number	Collet Series	Tap Range	B		L		D	
				Inch	mm	Inch	mm	Inch	mm
—	<a href="#">2153-00-00-000011</a>	ER11	0-6 - 1/4"	0.51"	13	1.10"	28	0.75"	19
#1	<a href="#">2153-00-00-000016</a>	ER16	0-6 - 1/2"	0.75"	19	0.98"	25	1.10"	28
#2	<a href="#">2153-00-00-000025</a>	ER25	0-6 - 3/4"	1.22"	31	1.34"	34	1.65"	42
#3	<a href="#">2153-00-00-000032</a>	ER32	0-6 - 1 1/8"	1.89"	48	1.89"	48	1.97"	50
#3	<a href="#">2153-00-00-000040</a>	ER40	0-6 - 1 1/8"	1.89"	48	—	—	2.48"	63



## Metric Tap Shanks — International Standards

Tap Thread	ISO England Metric			JIS Japanese Metric			CIC Chinese Metric			DIN Europe Metric			ANSI USA Metric	
	Shank Inch	Shank mm	Square Inch	Shank Inch	Shank mm	Square Inch	Shank Inch	Shank mm	Square Inch	Shank mm	Square mm	Square Inch	Inch Shank	Inch Square
M2	.098"	2.50	.083"	—	—	—	.0984"	2.500	.083"	—	—	—	.141"	.114"
M2.5	.110"	2.80	.092"	—	—	—	—	—	—	—	—	—	.141"	.114"
M3	.124"	3.15	.102"	.1575"	4.0	.1260"	.0881"	2.238	.075"	.1378"	3.5	2.7	.1063"	.114"
M3.5	.140"	3.55	.114"	—	—	—	—	—	—	—	—	—	.141"	.114"
M4	.157"	4.00	.122"	.1969"	5.0	.1575"	.1240"	3.150	.102"	.1772"	4.5	3.4	.1339"	.168"
M4.5	.177"	4.50	.144"	—	—	—	—	—	—	—	—	—	.194"	.156"
M5	.197"	5.00	.157"	.2165"	5.5	.1772"	.1574"	4.000	.128"	.2362"	6.0	4.9	.1929"	.194"
—	.221"	5.60	.181"	—	—	—	—	—	—	—	—	—	—	—
—	.236"	6.00	.197"	—	—	—	—	—	—	—	—	—	—	—
M6	.248"	6.30	.201"	.2362"	6.0	.1772"	.1771"	4.000	.144"	.2362"	6.0	4.9	.1929"	.255"
M7	.280"	7.10	.255"	—	—	—	—	—	—	—	—	—	.318"	.242"
M8	—	—	—	—	—	—	—	—	—	.2362"	6.0	4.9	.1929"	—
M8	.315"	8.00	.248"	.2441"	6.2	.1969"	.2480"	6.300	.201"	.3150"	8.0	6.2	.2441"	.318"
M9	.354"	9.00	.284"	—	—	—	—	—	—	—	—	—	—	—
M10	—	—	—	—	—	—	—	—	—	.2756"	7.0	5.5	.2165"	—
M10	.394"	10.00	.319"	.2756"	7.0	.2165"	.3143"	8.000	.252"	.3150"	8.0	8.0	.3150"	.381"
M12	—	—	—	.3346"	8.5	.2559"	.3543"	9.000	.284"	.3543"	9.0	7.0	.2756"	.367"

The bore of a tap collet should be the same size as the shank of the tap. Metric tap threads are consistent throughout the world; unfortunately the shanks are not, as you can see by the chart shown above. Because of the number of imported taps on the market, use a micrometer and check the actual size of the tap shank. Look it up on the chart and then order your tap collet accordingly.

# HDB2 Split Bushings — 1/2" OD

## Inch Fractional

Size	Part Number
1/32"	.0312" 1763-00-19-000312
3/64"	.0468" 1763-00-19-000468
1/16"	.0625" 1763-00-19-000625
5/64"	.0781" 1763-00-19-000781
3/32"	.0937" 1763-00-19-000937
7/64"	.1093" 1763-00-19-001093
1/8"	.1250" 1763-00-19-001250
9/64"	.1406" 1763-00-19-001406
5/32"	.1562" 1763-00-19-001562
11/64"	.1718" 1763-00-19-001718
3/16"	.1875" 1763-00-19-001875
13/64"	.2031" 1763-00-19-002031
7/32"	.2187" 1763-00-19-002187
15/64"	.2343" 1763-00-19-002343
1/4"	.2500" 1763-00-19-002500
17/64"	.2656" 1763-00-19-002656
9/32"	.2812" 1763-00-19-002812
19/64"	.2968" 1763-00-19-002968
5/16"	.3125" 1763-00-19-003125
21/64"	.3281" 1763-00-19-003281
11/32"	.3437" 1763-00-19-003437
23/64"	.3593" 1763-00-19-003593
3/8"	.3750" 1763-00-19-003750

## Letter

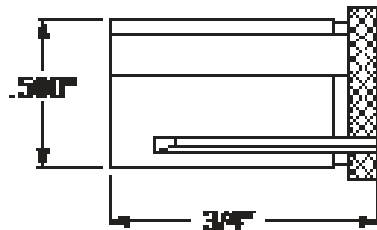
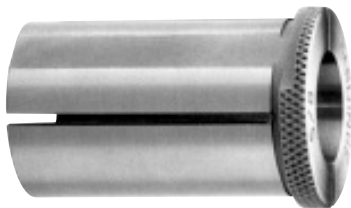
Size	Part Number
A	.2340" 1763-00-16-002340
B	.2380" 1763-00-16-002380
C	.2420" 1763-00-16-002420
D	.2460" 1763-00-16-002460
E	.2500" 1763-00-16-002500
F	.2570" 1763-00-16-002570
G	.2610" 1763-00-16-002610
H	.2660" 1763-00-16-002660
I	.2720" 1763-00-16-002720
J	.2770" 1763-00-16-002770
K	.2810" 1763-00-16-002810
L	.2900" 1763-00-16-002900
M	.2950" 1763-00-16-002950
N	.3020" 1763-00-16-003020
O	.3160" 1763-00-16-003160
P	.3230" 1763-00-16-003230
Q	.3320" 1763-00-16-003320
R	.3390" 1763-00-16-003390
S	.3480" 1763-00-16-003480
T	.3580" 1763-00-16-003580
U	.3680" 1763-00-16-003680
V	.3770" 1763-00-16-003770

## Number

Size	Part Number
67	.0320" 1763-00-15-000320
66	.0330" 1763-00-15-000330
65	.0350" 1763-00-15-000350
64	.0360" 1763-00-15-000360
63	.0370" 1763-00-15-000370
62	.0380" 1763-00-15-000380
61	.0390" 1763-00-15-000390
60	.0400" 1763-00-15-000400
59	.0410" 1763-00-15-000410
58	.0420" 1763-00-15-000420
57	.0430" 1763-00-15-000430
56	.0465" 1763-00-15-000465
55	.0520" 1763-00-15-000520
54	.0550" 1763-00-15-000550
53	.0595" 1763-00-15-000595
52	.0635" 1763-00-15-000635
51	.0670" 1763-00-15-000670
50	.0700" 1763-00-15-000700
49	.0730" 1763-00-15-000730
48	.0760" 1763-00-15-000760
47	.0785" 1763-00-15-000785
46	.0810" 1763-00-15-000810
45	.0820" 1763-00-15-000820
44	.0860" 1763-00-15-000860
43	.0890" 1763-00-15-000890
42	.0935" 1763-00-15-000935
41	.0960" 1763-00-15-000960
40	.0980" 1763-00-15-000980
39	.0995" 1763-00-15-000995
38	.1015" 1763-00-15-001015
37	.1040" 1763-00-15-001040
36	.1065" 1763-00-15-001065
35	.1100" 1763-00-15-001100
34	.1110" 1763-00-15-001110
33	.1130" 1763-00-15-001130
32	.1160" 1763-00-15-001160
31	.1200" 1763-00-15-001200
30	.1285" 1763-00-15-001285
29	.1360" 1763-00-15-001360
28	.1405" 1763-00-15-001405
27	.1440" 1763-00-15-001440
26	.1470" 1763-00-15-001470
25	.1495" 1763-00-15-001495
24	.1520" 1763-00-15-001520
23	.1540" 1763-00-15-001540
22	.1570" 1763-00-15-001570
21	.1590" 1763-00-15-001590
20	.1610" 1763-00-15-001610
19	.1660" 1763-00-15-001660
18	.1695" 1763-00-15-001695
17	.1730" 1763-00-15-001730
16	.1770" 1763-00-15-001770
15	.1800" 1763-00-15-001800
14	.1820" 1763-00-15-001820
13	.1850" 1763-00-15-001850
12	.1890" 1763-00-15-001890
11	.1910" 1763-00-15-001910
10	.1935" 1763-00-15-001935
9	.1960" 1763-00-15-001960
8	.1990" 1763-00-15-001990
7	.2010" 1763-00-15-002010
6	.2040" 1763-00-15-002040
5	.2055" 1763-00-15-002055
4	.2090" 1763-00-15-002090
3	.2130" 1763-00-15-002130
2	.2210" 1763-00-15-002210
1	.2280" 1763-00-15-002280

## Metric

mm	Inch	Part Number
1.0	.0393"	1763-00-17-010000
1.2	.0472"	1763-00-17-012000
1.4	.0551"	1763-00-17-014000
1.6	.0629"	1763-00-17-016000
1.8	.0590"	1763-00-17-018000
2.0	.0787"	1763-00-17-020000
2.2	.0866"	1763-00-17-022000
2.4	.0944"	1763-00-17-024000
2.5	.0984"	1763-00-17-025000
2.6	.1023"	1763-00-17-026000
2.8	.1102"	1763-00-17-028000
3.0	.1181"	1763-00-17-030000
3.2	.1259"	1763-00-17-032000
3.4	.1338"	1763-00-17-034000
3.5	.1377"	1763-00-17-035000
3.6	.1417"	1763-00-17-036000
3.8	.1496"	1763-00-17-038000
4.0	.1574"	1763-00-17-040000
4.2	.1653"	1763-00-17-042000
4.4	.1732"	1763-00-17-044000
4.5	.1771"	1763-00-17-045000
4.6	.1811"	1763-00-17-046000
4.8	.1889"	1763-00-17-048000
5.0	.1968"	1763-00-17-050000
5.5	.2165"	1763-00-17-055000
6.0	.2362"	1763-00-17-060000
6.5	.2559"	1763-00-17-065000
7.0	.2755"	1763-00-17-070000
7.5	.2952"	1763-00-17-075000
8.0	.3149"	1763-00-17-080000
8.5	.3346"	1763-00-17-085000
9.0	.3543"	1763-00-17-090000
9.5	.3740"	1763-00-17-095000
10.0	.3937"	1763-00-17-100000



## Tap — No Square

Bore	Tap	Part Number
#0-6	.141"	1763-00-18-001410
#8	.168"	1763-00-18-001680
#10	.194"	1763-00-18-001940
#12	.220"	1763-00-18-002200
1/4"	.255"	1763-00-18-002550
5/16"	.318"	1763-00-18-003180
7/16"	.323"	1763-00-18-003230
1/2"	.367"	1763-00-18-003670
3/8"	.381"	1763-00-18-003810

# HDB5 Split Bushings — 5/8" OD

## Inch Fractional

Size	Part Number
1/32"	.0312" 1765-00-19-000312
3/64"	.0468" 1765-00-19-000468
1/16"	.0625" 1765-00-19-000625
5/64"	.0781" 1765-00-19-000781
3/32"	.0937" 1765-00-19-000937
7/64"	.1093" 1765-00-19-001093
1/8"	.1250" 1765-00-19-001250
9/64"	.1406" 1765-00-19-001406
5/32"	.1562" 1765-00-19-001562
11/64"	.1718" 1765-00-19-001718
3/16"	.1875" 1765-00-19-001875
13/64"	.2031" 1765-00-19-002031
7/32"	.2187" 1765-00-19-002187
15/64"	.2343" 1765-00-19-002343
1/4"	.2500" 1765-00-19-002500
17/64"	.2656" 1765-00-19-002656
9/32"	.2812" 1765-00-19-002812
19/64"	.2968" 1765-00-19-002968
5/16"	.3125" 1765-00-19-003125
21/64"	.3281" 1765-00-19-003281
11/32"	.3437" 1765-00-19-003437
23/64"	.3593" 1765-00-19-003593
3/8"	.3750" 1765-00-19-003750
25/64"	.3906" 1765-00-19-003906
13/32"	.4062" 1765-00-19-004062
27/64"	.4218" 1765-00-19-004218
7/16"	.4375" 1765-00-19-004375
29/64"	.4531" 1765-00-19-004531
15/32"	.4687" 1765-00-19-004687
31/64"	.4843" 1765-00-19-004843
1/2"	.5000" 1765-00-19-005000

## Letter

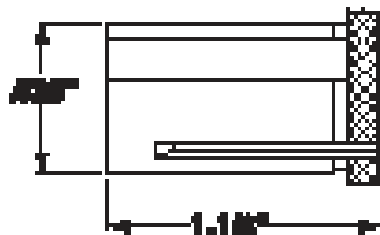
Size	Part Number
A	.2340" 1765-00-16-002340
B	.2380" 1765-00-16-002380
C	.2420" 1765-00-16-002420
D	.2460" 1765-00-16-002460
E	.2500" 1765-00-16-002500
F	.2570" 1765-00-16-002570
G	.2610" 1765-00-16-002610
H	.2660" 1765-00-16-002660
I	.2720" 1765-00-16-002720
J	.2770" 1765-00-16-002770
K	.2810" 1765-00-16-002810
L	.2900" 1765-00-16-002900
M	.2950" 1765-00-16-002950
N	.3020" 1765-00-16-003020
O	.3160" 1765-00-16-003160
P	.3230" 1765-00-16-003230
Q	.3320" 1765-00-16-003320
R	.3390" 1765-00-16-003390
S	.3480" 1765-00-16-003480
T	.3580" 1765-00-16-003580
U	.3680" 1765-00-16-003680
V	.3770" 1765-00-16-003770
W	.3860" 1765-00-16-003860
X	.3970" 1765-00-16-003970
Y	.4040" 1765-00-16-004040
Z	.4130" 1765-00-16-004130

## Number

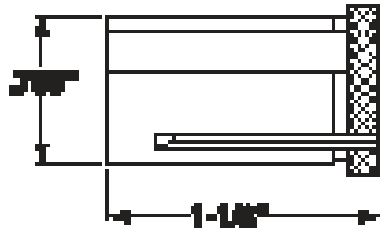
Size	Part Number
67	.0320" 1765-00-15-000320
66	.0330" 1765-00-15-000330
65	.0350" 1765-00-15-000350
64	.0360" 1765-00-15-000360
63	.0370" 1765-00-15-000370
62	.0380" 1765-00-15-000380
61	.0390" 1765-00-15-000390
60	.0400" 1765-00-15-000400
59	.0410" 1765-00-15-000410
58	.0420" 1765-00-15-000420
57	.0430" 1765-00-15-000430
56	.0465" 1765-00-15-000465
55	.0520" 1765-00-15-000520
54	.0550" 1765-00-15-000550
53	.0595" 1765-00-15-000595
52	.0635" 1765-00-15-000635
51	.0670" 1765-00-15-000670
50	.0700" 1765-00-15-000700
49	.0730" 1765-00-15-000730
48	.0760" 1765-00-15-000760
47	.0785" 1765-00-15-000785
46	.0810" 1765-00-15-000810
45	.0820" 1765-00-15-000820
44	.0860" 1765-00-15-000860
43	.0890" 1765-00-15-000890
42	.0935" 1765-00-15-000935
41	.0960" 1765-00-15-000960
40	.0980" 1765-00-15-000980
39	.0995" 1765-00-15-000995
38	.1015" 1765-00-15-001015
37	.1040" 1765-00-15-001040
36	.1065" 1765-00-15-001065
35	.1100" 1765-00-15-001100
34	.1110" 1765-00-15-001110
33	.1130" 1765-00-15-001130
32	.1160" 1765-00-15-001160
31	.1200" 1765-00-15-001200
30	.1285" 1765-00-15-001285
29	.1360" 1765-00-15-001360
28	.1405" 1765-00-15-001405
27	.1440" 1765-00-15-001440
26	.1470" 1765-00-15-001470
25	.1495" 1765-00-15-001495
24	.1520" 1765-00-15-001520
23	.1540" 1765-00-15-001540
22	.1570" 1765-00-15-001570
21	.1590" 1765-00-15-001590
20	.1610" 1765-00-15-001610
19	.1660" 1765-00-15-001660
18	.1695" 1765-00-15-001695
17	.1730" 1765-00-15-001730
16	.1770" 1765-00-15-001770
15	.1800" 1765-00-15-001800
14	.1820" 1765-00-15-001820
13	.1850" 1765-00-15-001850
12	.1890" 1765-00-15-001890
11	.1910" 1765-00-15-001910
10	.1935" 1765-00-15-001935
9	.1960" 1765-00-15-001960
8	.1990" 1765-00-15-001990
7	.2010" 1765-00-15-002010
6	.2040" 1765-00-15-002040
5	.2055" 1765-00-15-002055
4	.2090" 1765-00-15-002090
3	.2130" 1765-00-15-002130
2	.2210" 1765-00-15-002210
1	.2280" 1765-00-15-002280

## Metric

Size	Part Number
1.0	.0393" 1765-00-17-010000
1.5	.0590" 1765-00-17-015000
2.0	.0787" 1765-00-17-020000
2.5	.0984" 1765-00-17-025000
3.0	.1181" 1765-00-17-030000
3.5	.1377" 1765-00-17-035000
4.0	.1574" 1765-00-17-040000
4.5	.1771" 1765-00-17-045000
5.0	.1968" 1765-00-17-050000
5.5	.2165" 1765-00-17-055000
6.0	.2362" 1765-00-17-060000
6.1	.2402" 1765-00-17-061000
6.5	.2559" 1765-00-17-065000
7.0	.2756" 1765-00-17-070000
7.5	.2952" 1765-00-17-075000
8.0	.3150" 1765-00-17-080000
8.5	.3346" 1765-00-17-085000
9.0	.3543" 1765-00-17-090000
9.5	.3740" 1765-00-17-095000
10.0	.3937" 1765-00-17-100000
10.5	.4133" 1765-00-17-105000
11.0	.4330" 1765-00-17-110000
11.5	.4527" 1765-00-17-115000
12.0	.4724" 1765-00-17-120000
12.5	.4921" 1765-00-17-125000
13.0	.5118" 1765-00-17-130000



# HDB6 Split Bushings — 3/4" OD



## Inch Fractional

Size	Part Number
1/16"	.0625" <a href="#">1881-00-19-000625</a>
5/64"	.0781" <a href="#">1881-00-19-000781</a>
9/32"	.0937" <a href="#">1881-00-19-000937</a>
7/64"	.1093" <a href="#">1881-00-19-001093</a>
1/8"	.1250" <a href="#">1881-00-19-001250</a>
9/64"	.1406" <a href="#">1881-00-19-001406</a>
5/32"	.1562" <a href="#">1881-00-19-001562</a>
11/64"	.1718" <a href="#">1881-00-19-001718</a>
3/16"	.1875" <a href="#">1881-00-19-001875</a>
13/64"	.2031" <a href="#">1881-00-19-002031</a>
7/32"	.2187" <a href="#">1881-00-19-002187</a>
15/64"	.2343" <a href="#">1881-00-19-002343</a>
1/4"	.2500" <a href="#">1881-00-19-002500</a>
17/64"	.2656" <a href="#">1881-00-19-002656</a>
9/32"	.2812" <a href="#">1881-00-19-002812</a>
19/64"	.2968" <a href="#">1881-00-19-002968</a>
5/16"	.3125" <a href="#">1881-00-19-003125</a>
21/64"	.3281" <a href="#">1881-00-19-003281</a>
11/32"	.3437" <a href="#">1881-00-19-003437</a>
23/64"	.3593" <a href="#">1881-00-19-003593</a>
3/8"	.3750" <a href="#">1881-00-19-003750</a>
25/64"	.3906" <a href="#">1881-00-19-003906</a>
13/32"	.4062" <a href="#">1881-00-19-004062</a>
27/64"	.4218" <a href="#">1881-00-19-004218</a>
7/16"	.4375" <a href="#">1881-00-19-004375</a>
29/64"	.4531" <a href="#">1881-00-19-004531</a>
15/32"	.4687" <a href="#">1881-00-19-004687</a>
31/64"	.4843" <a href="#">1881-00-19-004843</a>
1/2"	.5000" <a href="#">1881-00-19-005000</a>
33/64"	.5156" <a href="#">1881-00-19-005156</a>
17/32"	.5312" <a href="#">1881-00-19-005312</a>
35/64"	.5468" <a href="#">1881-00-19-005468</a>
9/16"	.5625" <a href="#">1881-00-19-005625</a>
37/64"	.5781" <a href="#">1881-00-19-005781</a>
19/32"	.5937" <a href="#">1881-00-19-005937</a>
39/64"	.6093" <a href="#">1881-00-19-006093</a>
5/8"	.6250" <a href="#">1881-00-19-006250</a>

## Letter

Size	Part Number
A	.2340" <a href="#">1881-00-16-002340</a>
B	.2380" <a href="#">1881-00-16-002380</a>
C	.2420" <a href="#">1881-00-16-002420</a>
D	.2460" <a href="#">1881-00-16-002460</a>
E	.2500" <a href="#">1881-00-16-002500</a>
F	.2570" <a href="#">1881-00-16-002570</a>
G	.2610" <a href="#">1881-00-16-002610</a>
H	.2660" <a href="#">1881-00-16-002660</a>
I	.2720" <a href="#">1881-00-16-002720</a>
J	.2770" <a href="#">1881-00-16-002770</a>
K	.2810" <a href="#">1881-00-16-002810</a>
L	.2900" <a href="#">1881-00-16-002900</a>
M	.2950" <a href="#">1881-00-16-002950</a>
N	.3020" <a href="#">1881-00-16-003020</a>
O	.3160" <a href="#">1881-00-16-003160</a>
P	.3230" <a href="#">1881-00-16-003230</a>
Q	.3320" <a href="#">1881-00-16-003320</a>
R	.3390" <a href="#">1881-00-16-003390</a>
S	.3480" <a href="#">1881-00-16-003480</a>
T	.3580" <a href="#">1881-00-16-003580</a>
U	.3680" <a href="#">1881-00-16-003680</a>
V	.3770" <a href="#">1881-00-16-003770</a>
W	.3860" <a href="#">1881-00-16-003860</a>
X	.3970" <a href="#">1881-00-16-003970</a>
Y	.4040" <a href="#">1881-00-16-004040</a>
Z	.4130" <a href="#">1881-00-16-004130</a>

## Number

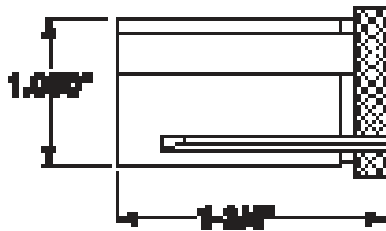
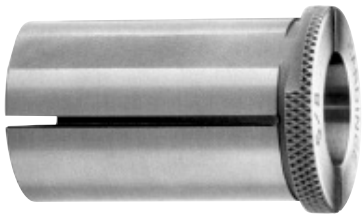
Size	Part Number
52	.0635" <a href="#">1881-00-15-000635</a>
51	.0670" <a href="#">1881-00-15-000670</a>
50	.0700" <a href="#">1881-00-15-000700</a>
49	.0730" <a href="#">1881-00-15-000730</a>
48	.0760" <a href="#">1881-00-15-000760</a>
47	.0785" <a href="#">1881-00-15-000785</a>
46	.0810" <a href="#">1881-00-15-000810</a>
45	.0820" <a href="#">1881-00-15-000820</a>
44	.0860" <a href="#">1881-00-15-000860</a>
43	.0890" <a href="#">1881-00-15-000890</a>
42	.0935" <a href="#">1881-00-15-000935</a>
41	.0960" <a href="#">1881-00-15-000960</a>
40	.0980" <a href="#">1881-00-15-000980</a>
39	.0995" <a href="#">1881-00-15-000995</a>
38	.1015" <a href="#">1881-00-15-001015</a>
37	.1040" <a href="#">1881-00-15-001040</a>
36	.1065" <a href="#">1881-00-15-001065</a>
35	.1100" <a href="#">1881-00-15-001100</a>
34	.1110" <a href="#">1881-00-15-001110</a>
33	.1130" <a href="#">1881-00-15-001130</a>
32	.1160" <a href="#">1881-00-15-001160</a>
31	.1200" <a href="#">1881-00-15-001200</a>
30	.1285" <a href="#">1881-00-15-001285</a>
29	.1360" <a href="#">1881-00-15-001360</a>
28	.1405" <a href="#">1881-00-15-001405</a>
27	.1440" <a href="#">1881-00-15-001440</a>
26	.1470" <a href="#">1881-00-15-001470</a>
25	.1495" <a href="#">1881-00-15-001495</a>
24	.1520" <a href="#">1881-00-15-001520</a>
23	.1540" <a href="#">1881-00-15-001540</a>
22	.1570" <a href="#">1881-00-15-001570</a>
21	.1590" <a href="#">1881-00-15-001590</a>
20	.1610" <a href="#">1881-00-15-001610</a>
19	.1660" <a href="#">1881-00-15-001660</a>
18	.1695" <a href="#">1881-00-15-001695</a>
17	.1730" <a href="#">1881-00-15-001730</a>
16	.1770" <a href="#">1881-00-15-001770</a>
15	.1800" <a href="#">1881-00-15-001800</a>
14	.1820" <a href="#">1881-00-15-001820</a>
13	.1850" <a href="#">1881-00-15-001850</a>
12	.1890" <a href="#">1881-00-15-001890</a>
11	.1910" <a href="#">1881-00-15-001910</a>
10	.1935" <a href="#">1881-00-15-001935</a>
9	.1960" <a href="#">1881-00-15-001960</a>
8	.1990" <a href="#">1881-00-15-001990</a>
7	.2010" <a href="#">1881-00-15-002010</a>
6	.2040" <a href="#">1881-00-15-002040</a>
5	.2055" <a href="#">1881-00-15-002055</a>
4	.2090" <a href="#">1881-00-15-002090</a>
3	.2130" <a href="#">1881-00-15-002130</a>
2	.2210" <a href="#">1881-00-15-002210</a>
1	.2280" <a href="#">1881-00-15-002280</a>

## Metric

mm	Inch	Part Number
1.0	.0393"	<a href="#">1881-00-17-010000</a>
1.5	.0590"	<a href="#">1881-00-17-015000</a>
2.0	.0787"	<a href="#">1881-00-17-020000</a>
2.5	.0984"	<a href="#">1881-00-17-025000</a>
3.0	.1181"	<a href="#">1881-00-17-030000</a>
3.5	.1377"	<a href="#">1881-00-17-035000</a>
4.0	.1574"	<a href="#">1881-00-17-040000</a>
4.5	.1771"	<a href="#">1881-00-17-045000</a>
5.0	.1968"	<a href="#">1881-00-17-050000</a>
5.5	.2165"	<a href="#">1881-00-17-055000</a>
6.0	.2362"	<a href="#">1881-00-17-060000</a>
6.5	.2559"	<a href="#">1881-00-17-065000</a>
7.0	.2756"	<a href="#">1881-00-17-070000</a>
7.5	.2952"	<a href="#">1881-00-17-075000</a>
8.0	.3150"	<a href="#">1881-00-17-080000</a>
8.5	.3346"	<a href="#">1881-00-17-085000</a>
9.0	.3543"	<a href="#">1881-00-17-090000</a>
9.5	.3740"	<a href="#">1881-00-17-095000</a>
10.0	.3937"	<a href="#">1881-00-17-100000</a>
10.5	.4133"	<a href="#">1881-00-17-105000</a>
11.0	.4330"	<a href="#">1881-00-17-110000</a>
11.5	.4527"	<a href="#">1881-00-17-115000</a>
12.0	.4724"	<a href="#">1881-00-17-120000</a>
12.5	.4921"	<a href="#">1881-00-17-125000</a>
13.0	.5118"	<a href="#">1881-00-17-130000</a>
13.5	.5314"	<a href="#">1881-00-17-135000</a>
14.0	.5511"	<a href="#">1881-00-17-140000</a>
14.5	.5708"	<a href="#">1881-00-17-145000</a>
15.0	.5905"	<a href="#">1881-00-17-150000</a>
15.5	.6102"	<a href="#">1881-00-17-155000</a>
16.0	.6299"	<a href="#">1881-00-17-160000</a>



# HDB8 Split Bushings — 1" / 25mm OD



Inch Fractional Dimensions



Metric Dimensions

## Inch Fractional

Size	Part Number
1/32"	.0312" 1893-00-19-000312
3/64"	.0468" 1893-00-19-000468
1/16"	.0625" 1893-00-19-000625
5/64"	.0781" 1893-00-19-000781
3/32"	.0937" 1893-00-19-000937
7/64"	.1093" 1893-00-19-001093
1/8"	.1250" 1893-00-19-001250
9/64"	.1406" 1893-00-19-001406
5/32"	.1562" 1893-00-19-001562
11/64"	.1718" 1893-00-19-001718
3/16"	.1875" 1893-00-19-001875
13/64"	.2031" 1893-00-19-002031
7/32"	.2187" 1893-00-19-002187
15/64"	.2343" 1893-00-19-002343
1/4"	.2500" 1893-00-19-002500
17/64"	.2656" 1893-00-19-002656
9/32"	.2812" 1893-00-19-002812
19/64"	.2968" 1893-00-19-002968
5/16"	.3125" 1893-00-19-003125
21/64"	.3281" 1893-00-19-003281
11/32"	.3437" 1893-00-19-003437
23/64"	.3593" 1893-00-19-003593
3/8"	.3750" 1893-00-19-003750
25/64"	.3906" 1893-00-19-003906
13/32"	.4062" 1893-00-19-004062
27/64"	.4218" 1893-00-19-004218
7/16"	.4375" 1893-00-19-004375
29/64"	.4531" 1893-00-19-004531
15/32"	.4687" 1893-00-19-004687
31/64"	.4843" 1893-00-19-004843
1/2"	.5000" 1893-00-19-005000
33/64"	.5156" 1893-00-19-005156
17/32"	.5312" 1893-00-19-005312
35/64"	.5468" 1893-00-19-005468
9/16"	.5625" 1893-00-19-005625
37/64"	.5781" 1893-00-19-005781
19/32"	.5937" 1893-00-19-005937
39/64"	.6093" 1893-00-19-006093
5/8"	.6250" 1893-00-19-006250
41/64"	.6406" 1893-00-19-006406
21/32"	.6562" 1893-00-19-006562
43/64"	.6718" 1893-00-19-006718
11/16"	.6875" 1893-00-19-006875
45/64"	.7031" 1893-00-19-007031
23/32"	.7187" 1893-00-19-007187
47/64"	.7343" 1893-00-19-007343
3/4"	.7500" 1893-00-19-007500
49/64"	.7656" 1893-00-19-007656
25/32"	.7812" 1893-00-19-007812
51/64"	.7968" 1893-00-19-007968
13/16"	.8125" 1893-00-19-008125
53/64"	.8281" 1893-00-19-008281
27/32"	.8437" 1893-00-19-008437
55/64"	.8593" 1893-00-19-008593
7/8"	.8750" 1893-00-19-008750

## Metric

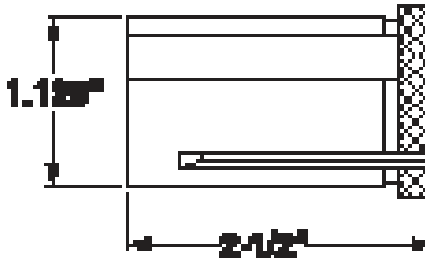
mm	Inch	Part Number
1.0	.0393"	1893-00-17-010000
1.5	.0590"	1893-00-17-015000
2.0	.0787"	1893-00-17-020000
2.5	.0984"	1893-00-17-025000
3.0	.1181"	1893-00-17-030000
3.5	.1377"	1893-00-17-035000
4.0	.1574"	1893-00-17-040000
4.5	.1771"	1893-00-17-045000
5.0	.1968"	1893-00-17-050000
5.5	.2165"	1893-00-17-055000
6.0	.2362"	1893-00-17-060000
6.5	.2559"	1893-00-17-065000
7.0	.2756"	1893-00-17-070000
7.5	.2952"	1893-00-17-075000
8.0	.3150"	1893-00-17-080000
8.5	.3346"	1893-00-17-085000
9.0	.3543"	1893-00-17-090000
9.5	.3740"	1893-00-17-095000
10.0	.3937"	1893-00-17-100000
10.5	.4133"	1893-00-17-105000
11.0	.4330"	1893-00-17-110000
11.5	.4527"	1893-00-17-115000
12.0	.4724"	1893-00-17-120000
12.5	.4921"	1893-00-17-125000
13.0	.5118"	1893-00-17-130000
13.5	.5314"	1893-00-17-135000
14.0	.5511"	1893-00-17-140000
14.5	.5708"	1893-00-17-145000
15.0	.5905"	1893-00-17-150000
15.5	.6102"	1893-00-17-155000
16.0	.6299"	1893-00-17-160000
16.5	.6496"	1893-00-17-165000
17.0	.6692"	1893-00-17-170000
17.5	.6889"	1893-00-17-175000
18.0	.7086"	1893-00-17-180000
18.5	.7283"	1893-00-17-185000
19.0	.7480"	1893-00-17-190000
19.5	.7677"	1893-00-17-195000
20.0	.7874"	1893-00-17-200000

## Metric OD & ID

mm	Inch	Part Number
2.0	.0787"	2051-00-17-020000
2.5	.0984"	2051-00-17-025000
3.0	.1181"	2051-00-17-030000
3.5	.1377"	2051-00-17-035000
4.0	.1574"	2051-00-17-040000
4.5	.1771"	2051-00-17-045000
5.0	.1968"	2051-00-17-050000
5.5	.2165"	2051-00-17-055000
6.0	.2362"	2051-00-17-060000
6.5	.2559"	2051-00-17-065000
7.0	.2756"	2051-00-17-070000
7.5	.2952"	2051-00-17-075000
8.0	.3150"	2051-00-17-080000
8.5	.3346"	2051-00-17-085000
9.0	.3543"	2051-00-17-090000
9.5	.3740"	2051-00-17-095000
10.0	.3937"	2051-00-17-100000
10.5	.4133"	2051-00-17-105000
11.0	.4330"	2051-00-17-110000
11.5	.4527"	2051-00-17-115000
12.0	.4724"	2051-00-17-120000
12.5	.4921"	2051-00-17-125000
13.0	.5118"	2051-00-17-130000
13.5	.5314"	2051-00-17-135000
14.0	.5511"	2051-00-17-140000
14.5	.5708"	2051-00-17-145000
15.0	.5905"	2051-00-17-150000
15.5	.6102"	2051-00-17-155000
16.0	.6299"	2051-00-17-160000
16.5	.6496"	2051-00-17-165000
17.0	.6692"	2051-00-17-170000
17.5	.6889"	2051-00-17-175000
18.0	.7086"	2051-00-17-180000
18.5	.7283"	2051-00-17-185000
19.0	.7480"	2051-00-17-190000
19.5	.7677"	2051-00-17-195000
20.0	.7874"	2051-00-17-200000



# HDB9 Split Bushings – 1 1/8" OD



## Inch Fractional

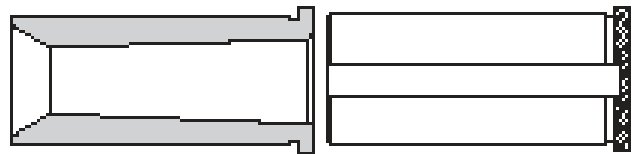
Size	Part Number
3/8"	.3750" <a href="#">1883-00-19-003750</a>
25/64"	.3906" <a href="#">1883-00-19-003906</a>
13/32"	.4062" <a href="#">1883-00-19-004062</a>
27/64"	.4218" <a href="#">1883-00-19-004218</a>
7/16"	.4375" <a href="#">1883-00-19-004375</a>
29/64"	.4531" <a href="#">1883-00-19-004531</a>
15/32"	.4687" <a href="#">1883-00-19-004687</a>
31/64"	.4843" <a href="#">1883-00-19-004843</a>
1/2"	.5000" <a href="#">1883-00-19-005000</a>
33/64"	.5156" <a href="#">1883-00-19-005156</a>
17/32"	.5312" <a href="#">1883-00-19-005312</a>
35/64"	.5468" <a href="#">1883-00-19-005468</a>
9/16"	.5625" <a href="#">1883-00-19-005625</a>
37/64"	.5781" <a href="#">1883-00-19-005781</a>
19/32"	.5937" <a href="#">1883-00-19-005937</a>
39/64"	.6093" <a href="#">1883-00-19-006093</a>
5/8"	.6250" <a href="#">1883-00-19-006250</a>
41/64"	.6406" <a href="#">1883-00-19-006406</a>
21/32"	.6562" <a href="#">1883-00-19-006562</a>
43/64"	.6718" <a href="#">1883-00-19-006718</a>
11/16"	.6875" <a href="#">1883-00-19-006875</a>
45/64"	.7031" <a href="#">1883-00-19-007031</a>
23/32"	.7187" <a href="#">1883-00-19-007187</a>
47/64"	.7343" <a href="#">1883-00-19-007343</a>
3/4"	.7500" <a href="#">1883-00-19-007500</a>
49/64"	.7656" <a href="#">1883-00-19-007656</a>
25/32"	.7812" <a href="#">1883-00-19-007812</a>
51/64"	.7968" <a href="#">1883-00-19-007968</a>
13/16"	.8125" <a href="#">1883-00-19-008125</a>
53/64"	.8281" <a href="#">1883-00-19-008281</a>
27/32"	.8437" <a href="#">1883-00-19-008437</a>
55/64"	.8593" <a href="#">1883-00-19-008593</a>
7/8"	.8750" <a href="#">1883-00-19-008750</a>
57/64"	.8906" <a href="#">1883-00-19-008906</a>
29/32"	.9062" <a href="#">1883-00-19-009062</a>
59/64"	.9218" <a href="#">1883-00-19-009218</a>
15/16"	.9375" <a href="#">1883-00-19-009375</a>
61/64"	.9531" <a href="#">1883-00-19-009531</a>
31/32"	.9687" <a href="#">1883-00-19-009687</a>
63/64"	.9843" <a href="#">1883-00-19-009843</a>
1"	1.0000" <a href="#">1883-00-19-010000</a>

## Metric

mm	Inch	Part Number
9.0	.3543"	<a href="#">1883-00-17-090000</a>
9.5	.3740"	<a href="#">1883-00-17-095000</a>
10.0	.3937"	<a href="#">1883-00-17-100000</a>
10.5	.4133"	<a href="#">1883-00-17-105000</a>
11.0	.4330"	<a href="#">1883-00-17-110000</a>
11.5	.4527"	<a href="#">1883-00-17-115000</a>
12.0	.4724"	<a href="#">1883-00-17-120000</a>
12.5	.4921"	<a href="#">1883-00-17-125000</a>
13.0	.5118"	<a href="#">1883-00-17-130000</a>
13.5	.5314"	<a href="#">1883-00-17-135000</a>
14.0	.5511"	<a href="#">1883-00-17-140000</a>
14.5	.5708"	<a href="#">1883-00-17-145000</a>
15.0	.5905"	<a href="#">1883-00-17-150000</a>
15.5	.6102"	<a href="#">1883-00-17-155000</a>
16.0	.6299"	<a href="#">1883-00-17-160000</a>
16.5	.6496"	<a href="#">1883-00-17-165000</a>
17.0	.6692"	<a href="#">1883-00-17-170000</a>
17.5	.6889"	<a href="#">1883-00-17-175000</a>
18.0	.7086"	<a href="#">1883-00-17-180000</a>
18.5	.7283"	<a href="#">1883-00-17-185000</a>
19.0	.7480"	<a href="#">1883-00-17-190000</a>
19.5	.7677"	<a href="#">1883-00-17-195000</a>
20.0	.7874"	<a href="#">1883-00-17-200000</a>
20.5	.8070"	<a href="#">1883-00-17-205000</a>
21.0	.8267"	<a href="#">1883-00-17-210000</a>
21.5	.8464"	<a href="#">1883-00-17-215000</a>
22.0	.8661"	<a href="#">1883-00-17-220000</a>
22.5	.8858"	<a href="#">1883-00-17-225000</a>
23.0	.9055"	<a href="#">1883-00-17-230000</a>
23.5	.9251"	<a href="#">1883-00-17-235000</a>
24.0	.9448"	<a href="#">1883-00-17-240000</a>
24.5	.9645"	<a href="#">1883-00-17-245000</a>
25.0	.9842"	<a href="#">1883-00-17-250000</a>

## Taper Hole – ID

Size	Taper	OD	Length	Part Number
#2	Morse	1 1/8"	2.50"	<a href="#">1883-08-00-020000</a>
#3	Morse	1 1/8"	2.50"	<a href="#">1883-08-00-030000</a>



# HDB10 & HDB12 Split Bushings — 1¼", 1½" OD



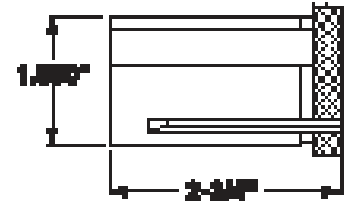
## HDB10 Inch Fractional

Size	Part Number	
3/8"	.3750"	<a href="#">2043-00-19-003750</a>
1/2"	.5000"	<a href="#">2043-00-19-005000</a>
5/8"	.6250"	<a href="#">2043-00-19-006250</a>
3/4"	.7500"	<a href="#">2043-00-19-007500</a>
7/8"	.8750"	<a href="#">2043-00-19-008750</a>
1"	1.0000"	<a href="#">2043-00-19-010000</a>



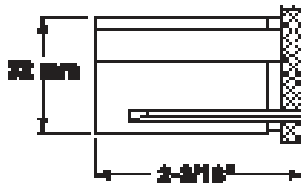
## HDB12 Inch Fractional

Size	Part Number	
3/8"	.3750"	<a href="#">2047-00-19-003750</a>
1/2"	.5000"	<a href="#">2047-00-19-005000</a>
5/8"	.6250"	<a href="#">2047-00-19-006250</a>
3/4"	.7500"	<a href="#">2047-00-19-007500</a>
7/8"	.8750"	<a href="#">2047-00-19-008750</a>
1"	1.0000"	<a href="#">2047-00-19-010000</a>
1¼"	1.2500"	<a href="#">2047-00-19-012500</a>



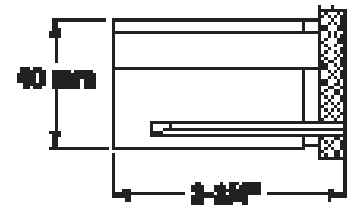
## HDB10 Metric OD & ID

mm	Inch	Part Number
10.0	.3937"	<a href="#">2045-00-17-100000</a>
12.0	.4724"	<a href="#">2045-00-17-120000</a>
16.0	.6299"	<a href="#">2045-00-17-160000</a>
20.0	.7874"	<a href="#">2045-00-17-200000</a>
25.0	.9842"	<a href="#">2045-00-17-250000</a>



## HDB12 Metric OD & ID

mm	Inch	Part Number
10.0	.3937"	<a href="#">2049-00-17-100000</a>
12.0	.4724"	<a href="#">2049-00-17-120000</a>
16.0	.6299"	<a href="#">2049-00-17-160000</a>
20.0	.7874"	<a href="#">2049-00-17-200000</a>
25.0	.9842"	<a href="#">2049-00-17-250000</a>
32.0	1.2598"	<a href="#">2049-00-17-320000</a>



## HDB Bushing Sets

Style	Type	Qty.	Range	Increment	Part Number
HDB2	Fractional	23	1/32" to 3/8"	1/64"	<a href="#">0937-00-19-000000</a>
HDB2	Letter	22	A to V	—	<a href="#">0937-00-16-000000</a>
HDB2	Number	67	#1 thru #67	—	<a href="#">0937-00-15-000000</a>
HDB5	Fractional	31	1/32" to 1/2"	1/64"	<a href="#">0938-00-19-000000</a>
HDB5	Letter	26	A to Z	—	<a href="#">0938-00-16-000000</a>
HDB5	Number	52	#1 thru #52	—	<a href="#">0938-00-15-000000</a>
HDB6	Fractional	37	1/16" to 5/8"	1/64"	<a href="#">0939-00-19-000000</a>
HDB6	Letter	26	A to Z	—	<a href="#">0939-00-16-000000</a>
HDB6	Number	52	#1 thru #52	—	<a href="#">0939-00-15-000000</a>
HDB8	Fractional	14	1/16" to 7/8"	1/16"	<a href="#">0940-00-19-000000</a>
HDB9	Fractional	41	3/8" to 1"	1/64"	<a href="#">0941-00-19-000000</a>

# HDC-Style Slotted Bushings

## HDC10 BMT — Inch Fractional

Bore	OD	Decimal	Length	Part Number
3/8"	1 1/4"	.3750"	2.375"	<a href="#">2267-00-19-003750</a>
1/2"	1 1/4"	.5000"	2.375"	<a href="#">2267-00-19-005000</a>
5/8"	1 1/4"	.6250"	2.375"	<a href="#">2267-00-19-006250</a>
3/4"	1 1/4"	.7500"	2.375"	<a href="#">2267-00-19-007500</a>
7/8"	1 1/4"	.8750"	2.375"	<a href="#">2267-00-19-008750</a>
1"	1 1/4"	1.000"	2.375"	<a href="#">2267-00-19-010000</a>

## HDC10 — Inch Fractional

Bore	OD	Decimal	Length	Part Number
3/8"	1 1/4"	.3750"	3.38"	<a href="#">1829-00-19-003750</a>
1/2"	1 1/4"	.5000"	3.38"	<a href="#">1829-00-19-005000</a>
5/8"	1 1/4"	.6250"	3.38"	<a href="#">1829-00-19-006250</a>
3/4"	1 1/4"	.7500"	3.38"	<a href="#">1829-00-19-007500</a>
7/8"	1 1/4"	.8750"	3.38"	<a href="#">1829-00-19-008750</a>
1"	1 1/4"	1.000"	3.38"	<a href="#">1829-00-19-010000</a>
1 1/8"	1 1/4"	1.125"	3.38"	<a href="#">1829-00-19-011250</a>

## HDC10 — Taper Hole ID

Size	OD	Taper	Length	Part Number
#3	1 1/4"	Morse	3.38"	<a href="#">1829-08-80-000003</a>

## HDC10 BMT — Metric

Bore	OD	Decimal	Length	Part Number
8	1 1/4"	.3149"	2.375"	<a href="#">2267-00-17-080000</a>
10	1 1/4"	.3937"	2.375"	<a href="#">2267-00-17-100000</a>
12	1 1/4"	.4724"	2.375"	<a href="#">2267-00-17-120000</a>
16	1 1/4"	.6299"	2.375"	<a href="#">2267-00-17-160000</a>
20	1 1/4"	.7874"	2.375"	<a href="#">2267-00-17-200000</a>
25	1 1/4"	.9842"	2.375"	<a href="#">2267-00-17-250000</a>

## HDC10M — Metric OD & ID

Bore	OD	Decimal	Length	Part Number
8	32 mm	.3149"	3.38"	<a href="#">1831-00-17-080000</a>
10	32 mm	.3937"	3.38"	<a href="#">1831-00-17-100000</a>
12	32 mm	.4724"	3.38"	<a href="#">1831-00-17-120000</a>
16	32 mm	.6299"	3.38"	<a href="#">1831-00-17-160000</a>
20	32 mm	.7874"	3.38"	<a href="#">1831-00-17-200000</a>
25	32 mm	.9842"	3.38"	<a href="#">1831-00-17-250000</a>

## HDC10M — Taper Hole ID Metric

Size	OD	Taper	Length	Part Number
#2	32mm	Morse	3.38"	<a href="#">1831-08-80-000002</a>
#3	32mm	Morse	3.38"	<a href="#">1831-08-80-000003</a>

## HDC10M — Metric OD / Inch ID

Bore	OD	Decimal	Length	Part Number
3/8"	32 mm	.3870"	3.38"	<a href="#">1831-00-19-003750</a>
1/2"	32 mm	.5000"	3.38"	<a href="#">1831-00-19-005000</a>
5/8"	32 mm	.6250"	3.38"	<a href="#">1831-00-19-006250</a>
3/4"	32 mm	.7500"	3.38"	<a href="#">1831-00-19-007500</a>
7/8"	32 mm	.8750"	3.38"	<a href="#">1831-00-19-008750</a>
1"	32 mm	1.0000"	3.38"	<a href="#">1831-00-19-010000</a>



HDC-Style Solid Bushings have one or two longitudinal slots, depending on the size of the bore. The slot allows the set screw from the tool holder to locate directly on the body of the tool. The HDC10 has a 1 1/4" or a 32mm OD. The HDC12 has a 1 1/2" or a 40mm OD. Both styles are available with fractional or metric size bores and with female Morse tapers.

## HDC12 — Inch Fractional

Bore	OD	Decimal	Length	Part Number
3/8"	1 1/2"	.3750"	3.56"	<a href="#">1895-00-19-003750</a>
1/2"	1 1/2"	.5000"	3.56"	<a href="#">1895-00-19-005000</a>
5/8"	1 1/2"	.6250"	3.56"	<a href="#">1895-00-19-006250</a>
3/4"	1 1/2"	.7500"	3.56"	<a href="#">1895-00-19-007500</a>
7/8"	1 1/2"	.8750"	3.56"	<a href="#">1895-00-19-008750</a>
1"	1 1/2"	1.0000"	3.56"	<a href="#">1895-00-19-010000</a>
1 1/8"	1 1/2"	1.1250"	3.56"	<a href="#">1895-00-19-011250</a>
1 1/4"	1 1/2"	1.2500"	3.56"	<a href="#">1895-00-19-012500</a>

## HDC12 — Taper Hole ID

Size	OD	Taper	Length	Part Number
#3	1 1/2"	Morse	3.56"	<a href="#">9189526001652L</a>
#4	1 1/2"	Morse	3.56"	<a href="#">1895-08-80-000004</a>

## HDC12M — Metric OD & ID

Bore	OD	Decimal	Length	Part Number
10	40 mm	.3937"	3.56"	<a href="#">1897-00-17-100000</a>
12	40 mm	.4724"	3.56"	<a href="#">1897-00-17-120000</a>
16	40 mm	.6299"	3.56"	<a href="#">1897-00-17-160000</a>
20	40 mm	.7874"	3.56"	<a href="#">1897-00-17-200000</a>
25	40 mm	.9842"	3.56"	<a href="#">1897-00-17-250000</a>
30	40 mm	1.1811"	3.56"	<a href="#">1897-00-17-300000</a>
32	40 mm	1.2598"	3.56"	<a href="#">1897-00-17-320000</a>

## HDC12M — Taper Hole ID Metric

Bore	OD	Taper	Length	Part Number
#2	40 mm	Morse	3.56"	<a href="#">1897-08-80-000002</a>
#3	40 mm	Morse	3.56"	<a href="#">1897-08-80-000003</a>
#4	40 mm	Morse	3.56"	<a href="#">1897-08-80-000004</a>

## HDC12M — Metric OD / Inch ID

Bore	OD	Decimal	Length	Part Number
1/2"	40 mm	.5000"	3.56"	<a href="#">1897-00-19-005000</a>
5/8"	40 mm	.6250"	3.56"	<a href="#">1897-00-19-006250</a>
3/4"	40 mm	.7500"	3.56"	<a href="#">1897-00-19-007500</a>
7/8"	40 mm	.8750"	3.56"	<a href="#">1897-00-19-008750</a>
1"	40 mm	1.0000"	3.56"	<a href="#">1897-00-19-010000</a>
1 1/8"	40 mm	1.1250"	3.56"	<a href="#">1897-00-19-011250</a>
1 1/4"	40 mm	1.2500"	3.56"	<a href="#">1897-00-19-012500</a>

# HDC-Style Slotted Bushings



Slotted bushings designed for the Hardinge Quest TwinTurn CNC Turning Centers. The HDC10TT series have a 1 1/4" or a 32mm OD.

## HDC10TT – Inch Fractional

Bore	OD	Decimal	Length	Part Number
3/8"	1 1/4"	.3750"	2.95"	<a href="#">2053-00-19-003750</a>
1/2"	1 1/4"	.5000"	2.95"	<a href="#">2053-00-19-005000</a>
5/8"	1 1/4"	.6250"	2.95"	<a href="#">2053-00-19-006250</a>
3/4"	1 1/4"	.7500"	2.95"	<a href="#">2053-00-19-007500</a>
7/8"	1 1/4"	.8750"	2.95"	<a href="#">2053-00-19-008750</a>
1"	1 1/4"	1.000"	2.95"	<a href="#">2053-00-19-010000</a>

## HDC10TTL – Inch Fractional for offset holders

Bore	OD	Decimal	Length	Part Number
3/8"	1 1/4"	.3750"	2.55"	<a href="#">2067-00-19-003750</a>
1/2"	1 1/4"	.5000"	2.55"	<a href="#">2067-00-19-005000</a>
5/8"	1 1/4"	.6250"	2.55"	<a href="#">2067-00-19-006250</a>
3/4"	1 1/4"	.7500"	2.55"	<a href="#">2067-00-19-007500</a>
7/8"	1 1/4"	.8750"	2.55"	<a href="#">2067-00-19-008750</a>
1"	1 1/4"	1.0000"	2.55"	<a href="#">2067-00-19-010000</a>

## HDC10MTT – Metric

Bore	OD	Decimal	Length	Part Number
8	32 mm	.3149"	2.95"	<a href="#">2055-00-17-080000</a>
10	32 mm	.3937"	2.95"	<a href="#">2055-00-17-100000</a>
12	32 mm	.4724"	2.95"	<a href="#">2055-00-17-120000</a>
16	32 mm	.6299"	2.95"	<a href="#">2055-00-17-160000</a>
20	32 mm	.7874"	2.95"	<a href="#">2055-00-17-200000</a>
25	32 mm	.9842"	2.95"	<a href="#">2055-00-17-250000</a>

## HDC10MTTL – Metric for offset holders

Bore	OD	Decimal	Length	Part Number
8 mm	32 mm	.3149"	2.55"	<a href="#">2069-00-17-080000</a>
10 mm	32 mm	.3937"	2.55"	<a href="#">2069-00-17-100000</a>
12 mm	32 mm	.4724"	2.55"	<a href="#">2069-00-17-120000</a>
16 mm	32 mm	.6299"	2.55"	<a href="#">2069-00-17-160000</a>
20 mm	32 mm	.7874"	2.55"	<a href="#">2069-00-17-200000</a>
25 mm	32 mm	.9842"	2.55"	<a href="#">2069-00-17-250000</a>

## Designed for Hardinge -EMAG Vertical CNC Lathes

The HDC10VL series have a 1 1/4" or a 32mm OD, while the HDC12VL series have a 1 1/2" or a 40mm OD.

## HDC10-VL – Inch Fractional

Bore	OD	Decimal	Length	Part Number
3/8"	1 1/4"	.3750"	2.63"	<a href="#">2251-00-19-003750</a>
1/2"	1 1/4"	.5000"	2.63"	<a href="#">2251-00-19-005000</a>
5/8"	1 1/4"	.6250"	2.63"	<a href="#">2251-00-19-006250</a>
3/4"	1 1/4"	.7500"	2.63"	<a href="#">2251-00-19-007500</a>
7/8"	1 1/4"	.8750"	2.63"	<a href="#">2251-00-19-008750</a>
1"	1 1/4"	1.000"	2.63"	<a href="#">2251-00-19-010000</a>
1 1/8"	1 1/4"	1.125"	2.63"	<a href="#">2251-00-19-011250</a>

## HDC12-VL – Inch Fractional

Bore	OD	Decimal	Length	Part Number
3/8"	1 1/2"	.3750"	3.15"	<a href="#">2255-00-19-003750</a>
1/2"	1 1/2"	.5000"	3.15"	<a href="#">2255-00-19-005000</a>
5/8"	1 1/2"	.6250"	3.15"	<a href="#">2255-00-19-006250</a>
3/4"	1 1/2"	.7500"	3.15"	<a href="#">2255-00-19-007500</a>
7/8"	1 1/2"	.8750"	3.15"	<a href="#">2255-00-19-008750</a>
1"	1 1/2"	1.0000"	3.15"	<a href="#">2255-00-19-010000</a>
1 1/8"	1 1/2"	1.1250"	3.15"	<a href="#">2255-00-19-011250</a>
1 1/4"	1 1/2"	1.2500"	3.15"	<a href="#">2255-00-19-012500</a>

## HDC10M-VL – Metric

Bore	OD	Decimal	Length	Part Number
8	32 mm	.3149"	2.63"	<a href="#">2253-00-17-080000</a>
10	32 mm	.3937"	2.63"	<a href="#">2253-00-17-100000</a>
12	32 mm	.4724"	2.63"	<a href="#">2253-00-17-120000</a>
16	32 mm	.6299"	2.63"	<a href="#">2253-00-17-160000</a>
20	32 mm	.7874"	2.63"	<a href="#">2253-00-17-200000</a>
25	32 mm	.9842"	2.63"	<a href="#">2253-00-17-250000</a>

## HDC12M-VL – Metric

Bore	OD	Decimal	Length	Part Number
10	40 mm	.3937"	3.15"	<a href="#">2257-00-17-100000</a>
12	40 mm	.4724"	3.15"	<a href="#">2257-00-17-120000</a>
16	40 mm	.6299"	3.15"	<a href="#">2257-00-17-160000</a>
20	40 mm	.7874"	3.15"	<a href="#">2257-00-17-200000</a>
25	40 mm	.9842"	3.15"	<a href="#">2257-00-17-250000</a>
30	40 mm	1.1811"	3.15"	<a href="#">2257-00-17-300000</a>
32	40 mm	1.2598"	3.15"	<a href="#">2257-00-17-320000</a>

## HDC10M-VL – Metric OD / Inch ID

Bore	OD	Decimal	Length	Part Number
3/8"	32 mm	.3750"	2.63"	<a href="#">2253-00-19-003750</a>
1/2"	32 mm	.5000"	2.63"	<a href="#">2253-00-19-005000</a>
5/8"	32 mm	.6250"	2.63"	<a href="#">2253-00-19-006250</a>
3/4"	32 mm	.7500"	2.63"	<a href="#">2253-00-19-007500</a>
1"	32 mm	1.0000"	2.63"	<a href="#">2253-00-19-010000</a>

## HDC12M-VL – Metric OD / Inch ID

Bore	OD	Decimal	Length	Part Number
1/2"	40 mm	.5000"	3.15"	<a href="#">2257-00-19-005000</a>
5/8"	40 mm	.6250"	3.15"	<a href="#">2257-00-19-006250</a>
3/4"	40 mm	.7500"	3.15"	<a href="#">2257-00-19-007500</a>
1"	40 mm	1.0000"	3.15"	<a href="#">2257-00-19-010000</a>
1 1/8"	40 mm	1.1250"	3.15"	<a href="#">2257-00-19-011250</a>
1 1/4"	40 mm	1.2500"	3.15"	<a href="#">2257-00-19-012500</a>

# HDZ-Style Slotted Bushings — Preset



**HDZ-Style Solid Bushings** feature one or two longitudinal slots, depending on the size of the bore. The slot allows the set screws from the tool holder to locate directly on the body of the tool. The bushing has a flange with two set screws 90° apart. The tool can be put in the bushing and set to a specific dimension from the locating shoulder and locked in place. The HDZ10 bushing has a 1 1/4" or a 32mm OD. The HDZ12 bushing has a 1 1/2" or a 40mm OD. Both bushings are available in metric or inch ODs and/or IDs.

## HDZ10 — Inch Fractional

Bore	OD	Decimal	Length	Part Number
3/8"	1 1/4"	.3750"	3.56"	<a href="#">2059-00-19-003750</a>
1/2"	1 1/4"	.5000"	3.56"	<a href="#">2059-00-19-005000</a>
5/8"	1 1/4"	.6250"	3.56"	<a href="#">2059-00-19-006250</a>
3/4"	1 1/4"	.7500"	3.56"	<a href="#">2059-00-19-007500</a>
7/8"	1 1/4"	.8750"	3.56"	<a href="#">2059-00-19-008750</a>
1"	1 1/4"	1.000"	3.56"	<a href="#">2059-00-19-010000</a>

## HDZ12 — Inch Fractional

Bore	OD	Decimal	Length	Part Number
3/8"	1 1/2"	.3750"	3.87"	<a href="#">2063-00-19-003750</a>
1/2"	1 1/2"	.5000"	3.87"	<a href="#">2063-00-19-005000</a>
5/8"	1 1/2"	.6250"	3.87"	<a href="#">2063-00-19-006250</a>
3/4"	1 1/2"	.7500"	3.87"	<a href="#">2063-00-19-007500</a>
7/8"	1 1/2"	.8750"	3.87"	<a href="#">2063-00-19-008750</a>
1"	1 1/2"	1.0000"	3.87"	<a href="#">2063-00-19-010000</a>
1 1/4"	1 1/2"	1.2500"	3.87"	<a href="#">2063-00-19-012500</a>

## HDZ10M — Metric

Bore	OD	Decimal	Length	Part Number
10 mm	32 mm	.3937"	3.56"	<a href="#">2061-00-17-100000</a>
12 mm	32 mm	.4724"	3.56"	<a href="#">2061-00-17-120000</a>
16 mm	32 mm	.6299"	3.56"	<a href="#">2061-00-17-160000</a>
20 mm	32 mm	.7874"	3.56"	<a href="#">2061-00-17-200000</a>
25 mm	32 mm	.9842"	3.56"	<a href="#">2061-00-17-250000</a>

## HDZ12M — Metric

Bore	OD	Decimal	Length	Part Number
10 mm	40 mm	.3937"	3.87"	<a href="#">2065-00-17-100000</a>
12 mm	40 mm	.4724"	3.87"	<a href="#">2065-00-17-120000</a>
16 mm	40 mm	.6299"	3.87"	<a href="#">2065-00-17-160000</a>
20 mm	40 mm	.7874"	3.87"	<a href="#">2065-00-17-200000</a>
25 mm	40 mm	.9842"	3.87"	<a href="#">2065-00-17-250000</a>
32 mm	40 mm	1.2598"	3.87"	<a href="#">2065-00-17-320000</a>

## Designed for Hardinge -EMAG Vertical CNC Lathes

The HDZ10-VL series have a 1 1/4" or a 32mm OD, while the HDZ12-VL series have a 1 1/2" or a 40mm OD.

## HDZ10-VL — Inch Fractional

Bore	OD	Decimal	Length	Part Number
3/8"	1 1/4"	.3750"	2.94"	<a href="#">2259-00-19-003750</a>
1/2"	1 1/4"	.5000"	2.94"	<a href="#">2259-00-19-005000</a>
5/8"	1 1/4"	.6250"	2.94"	<a href="#">2259-00-19-006250</a>
3/4"	1 1/4"	.7500"	2.94"	<a href="#">2259-00-19-007500</a>
7/8"	1 1/4"	.8750"	2.94"	<a href="#">2259-00-19-008750</a>
1"	1 1/4"	1.000"	2.94"	<a href="#">2259-00-19-010000</a>

## HDZ12-VL — Inch Fractional

Bore	OD	Decimal	Length	Part Number
3/8"	1 1/2"	.3750"	3.46"	<a href="#">2263-00-19-003750</a>
1/2"	1 1/2"	.5000"	3.46"	<a href="#">2263-00-19-005000</a>
5/8"	1 1/2"	.6250"	3.46"	<a href="#">2263-00-19-006250</a>
3/4"	1 1/2"	.7500"	3.46"	<a href="#">2263-00-19-007500</a>
7/8"	1 1/2"	.8750"	3.46"	<a href="#">2263-00-19-008750</a>
1"	1 1/2"	1.0000"	3.46"	<a href="#">2263-00-19-010000</a>
1 1/8"	1 1/2"	1.1250"	3.46"	<a href="#">2263-00-19-011250</a>
1 1/4"	1 1/2"	1.2500"	3.46"	<a href="#">2263-00-19-012500</a>

## HDZ10M-VL — Metric

Bore	OD	Decimal	Length	Part Number
10 mm	32 mm	.3937"	2.94"	<a href="#">2261-00-17-100000</a>
12 mm	32 mm	.4724"	2.94"	<a href="#">2261-00-17-120000</a>
16 mm	32 mm	.6299"	2.94"	<a href="#">2261-00-17-160000</a>
20 mm	32 mm	.7874"	2.94"	<a href="#">2261-00-17-200000</a>
25 mm	32 mm	.9842"	2.94"	<a href="#">2261-00-17-250000</a>

## HDZ12M-VL — Metric

Bore	OD	Decimal	Length	Part Number
10 mm	40 mm	.3937"	3.46"	<a href="#">2265-00-17-100000</a>
12 mm	40 mm	.4724"	3.46"	<a href="#">2265-00-17-120000</a>
16 mm	40 mm	.6299"	3.46"	<a href="#">2265-00-17-160000</a>
20 mm	40 mm	.7874"	3.46"	<a href="#">2265-00-17-200000</a>
25 mm	40 mm	.9842"	3.46"	<a href="#">2265-00-17-250000</a>
32 mm	40 mm	1.2598"	3.46"	<a href="#">2265-00-17-320000</a>

# Frequently Asked Questions



**"I'm using a small diameter split drill bushing and I can't seem to get the drill parallel to the centerline of the spindle. Why?"**

- A common cause for this problem is locking the second set screw on the bushing. The holes for small diameter drills do not extend the full length of the bushing. The back end of the bushing usually has a large internal chamfer or a counterbore. This cleared area is under the second lock screw. When you tighten this screw, the bushing may distort, shifting the drill's position. There may be line contact on which the drill will pivot. The solution is to use the front locking screw only.
- A second cause is that the bushing is too short. The first set screw is locking on the back of the bushing, causing it to collapse instead of gripping the shank of the tool.

**"I am trying to drill a very accurate hole using a DA-style collet system without any success. Any suggestions?"**

- Extremely accurate drilling requires a very good holder and collet. With the considerable flexibility of the DA, TG and ER collets, we tend to forget the cardinal rule for collets – the bore of the collet should be the exact size of the diameter being gripped for the best TIR and gripping force. Therefore, for extremely accurate drilling, the collet bore should be the same size as the shank of the drill.
- Second, if you have a choice of holders, it is best to use the ER collet holder over the DA collet holder. The DA holder is a double-angle holder with a closing angle on the front and back of the collet. The theory is that the collet will close parallel to the centerline of the holder. Unfortunately, it is very difficult to manufacture a holder and collet that accurately mate. For standard drilling tolerances, this usually is not a problem, but can be when doing extremely close tolerance drilling.

The ER is considered a single-angle collet because the major closing angle is long and shallow. This results in better concentricity than the double-angle system.

The TG collet system is better than the ER system because it has an even shallower closing angle. Unfortunately, this system is usually for larger shanks and most holders that use these collets are for vertical machining centers.

- For extremely accurate drilling, the bore of the collet should be the exact size of the shank of the drill.

**"I've tried rigid tapping using standard ER collets in my non-floating holders and I'm breaking taps. Why is this happening and is there a reasonably-priced solution?"**

- Taps may be breaking because your machine tool may not be designed for rigid tapping, you did not buy that option, or there is a small error between the spindle reversal and slide reversal. These are machine tool problems that you can work around without disassembling the machine. Use a floating tap collet such as the ERQC or the ERTC. These collets fit in the standard rigid holder and will float longitudinally.
- If you want to continue to use your current collets, floating tap holders are available. These holders are longer than the standard holders and more expensive than the floating tap collets.

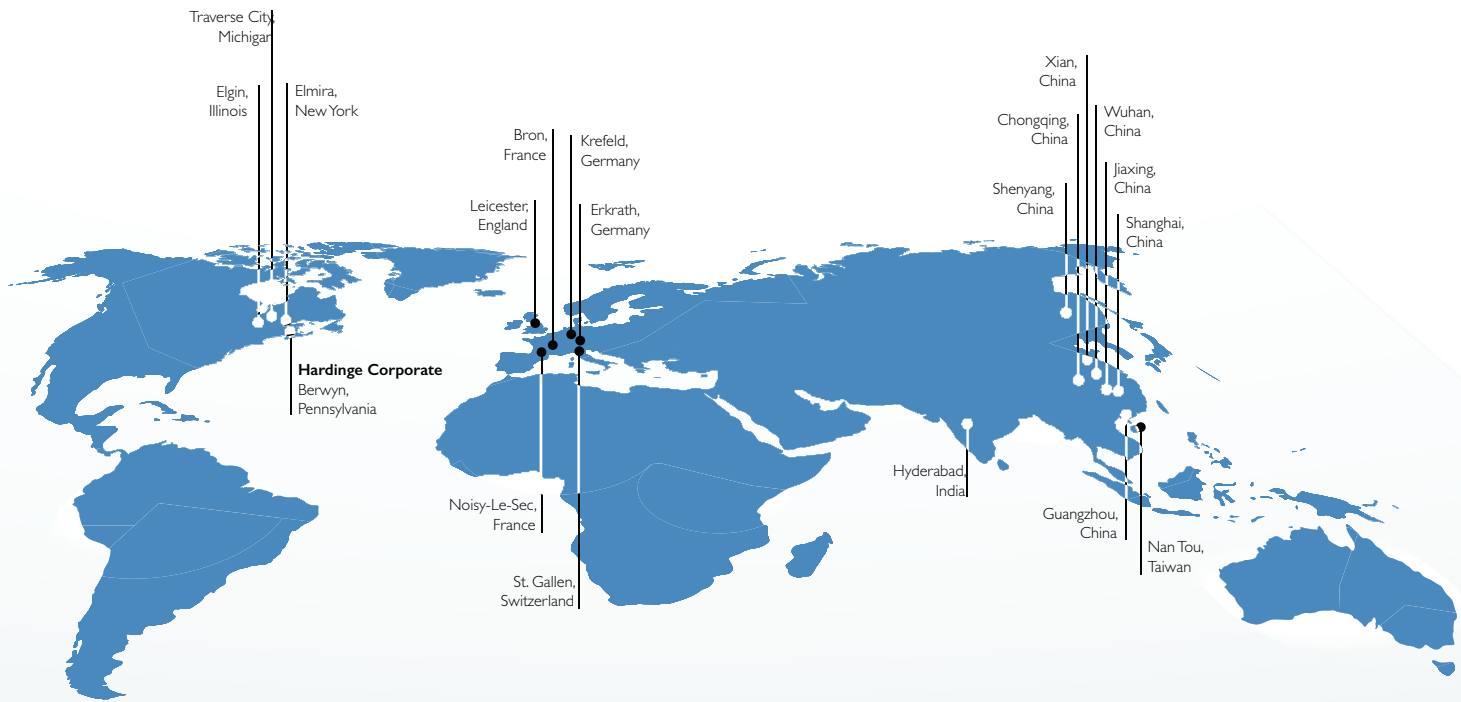
**"The TIR of the drill being held in my ER collet is excessive. What TIR can I expect from a standard ER collet?"**

- Quick fix — if you are using a ball bearing cap on your ER holder, change it to a one-piece cap. The ball bearing cap allows you to use more torque when gripping solid floating tap collets, but when used for drilling, the TIR is not as accurate as the one-piece cap.
- All of our ER collets are made to the DIN 6499 specification. Refer to page 12 for the acceptable TIR for your collet. When checking the collet and holder, use a certified gauge plug. First, indicate the seat of the holder, then assemble collet and gauge plug and indicate the plug at the "L" dimension. Make corrections for holder seat runout (the most accurate check is to use a coordinate measuring system – most indicators do not give a true reading when rotating 360° from the lathe spindle). If this checks out within specifications, check the gauge pin at the actual drill length, which may be longer than the "L" dimension. If the TIR at this point is too great, you will have to acquire a higher precision collet such as the ERNC. If you're using a metric bushing to hold a fractional drill, a more reasonable solution would be to acquire an inch series collet for the exact shank of your drill.

**"I am using an ER Collet in a high-speed spindle and am getting vibration that I don't get with my other holders. What's wrong?"**

- You're probably using a standard one-piece cap. Acquire a one-piece cap that has a ring to hold the collet instead of the standard cap that has an eccentric slot. The eccentricity of the groove will cause an out-of-balance condition at high rpm. If this does not eliminate the vibration, the complete assembly will have to be precision balanced in relation to the RPM you're running.





## HARDINGE COMPANIES WORLDWIDE

Hardinge is a leading international provider of advanced metal-cutting solutions. We provide a full spectrum of highly reliable CNC turning, milling, and grinding machines as well as technologically advanced workholding accessories.

The diverse products we offer enable us to support a variety of market applications in industries including aerospace, agricultural, automotive, construction, consumer products, defense, energy, medical, technology, transportation and more.

We've developed a strong global presence with manufacturing operations in North America, Europe, and Asia. Hardinge applies its engineering and applications expertise to provide your company with the right machine tool solution and support every time.

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