

# CARTER

*Bearings Are OUR Business*



PTDA Member



# Your Resource for Precision Bearings

## Standard Products

We maintain a large inventory of all of our standard bearings. This ready availability means we can meet your needs promptly — whether you want a batch shipment or just-in-time delivery.

## Interchangeability

To ensure consistent performance, our standard bearings are designed to be fully interchangeable with those from other bearing manufacturers.

## Responsiveness

If you have concerns about an application, we will get the answers you need as quickly as possible. Because we are precision bearing specialists, you can count on us for the information you need — from application suitability to new product development.

## Special Bearings

CARTER offers modifications on standard bearings. Whether it's bearing finishes, material, high/low temperature, special re-lub port options, along with changes in stud lengths & roller widths. Contact our sales team to learn more about our capabilities.

## Fast Delivery

Whether you are ordering a standard product or a custom design, you can count on Carter to deliver your order quickly. Our entire company is geared to respond rapidly to your time table.

Instead of just another source, Carter can be a resource for all your precision bearing needs. Our size and flexible structure enables us to respond rapidly to your requests. Our manufacturing processes can handle virtually any size order. Our quality control procedures ensure consistent tolerances, and our engineering expertise gives you a deep knowledge base to draw upon.

Product Manufactured at Carter Manufacturing Co., Inc.  
**ISO 9001:2015 QMS Certified by Intertek**

*All Carter Manufacturing bearings are warranted to be free from manufacturing defects for the applications for which they are designed.*

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# Standard

## Needle Bearing Cam Followers and Cam Yoke Rollers

Carter Standard Type bearings are easily mounted and ideally suited for many cam or track roller applications with moderate loading and shock. The bearings are sealed to help prevent contamination and retain lubrication. This Standard Type is recommended for applications where the stud hole can be accurately machined to within  $+.0000''$  and  $-.0005''$ . For other applications where these tolerances cannot be held to these limits, the Eccentric Type is recommended.

The outer race on Carter Cam Followers is high Carbon and Chromium bearing steel through-hardened and ground. The studs and inner races are low carbon alloy steel carburized and induction hardened. A zone hardened raceway leaves the shank end ductile. The needle rollers are high Carbon and Chromium bearing steel through-hardened and ground.

Carter Needle Bearing Cam Followers are available as sealed bearings with a slotted head, a hexagonal socket, or a crowned O.D. We also offer sealed or unsealed needle bearing Cam Yoke Rollers for supporting heavier loads



### Sealed with Slotted Head

Type CNB-S is the Standard Type having a slotted head which normally supplies sufficient turning ability for installing this type of bearing.

### Sealed with Hexagonal Socket

Type CNB-SB provides the ease of installing with a hex wrench which may be desired particularly on the larger sizes.

### Sealed with Crowned O.D.

Type CCNB-S is recommended wherever variations in dimensions of alignment of the tracks or cam might cause excessive angular loading. It reduces thrust on the rollers and wear, and aids reliability.

### Eccentric Stud

Type CNBE is designed for applications where holding close tolerances of the mounting holes may prove difficult. Available in slotted or hexed versions. The eccentric bushing is made of cold drawn steel so you can drill or dowel through the housing and into the stud for permanent locking. In most cases, the clamping action of the mounting nut is sufficient.



# Needle Bearing Application Data

## Lubrication

Carter Cam Followers and Cam Yoke Rollers are packed with a polymer type, lithium based grease containing corrosion resistant additives. This lubricant is suited to most bearing applications within a temperature range of 5°F to 275°F. Relubrication of the cam yoke rollers can be done through lube holes and the lube groove in the bore of the inner race. The mounting pin or shaft should be axially drilled and a radial hole drilled and matched with the hole in the race.

Provision for lubrication of the cam followers should be provided, where dimensions allow, through either end of the stud or through a cross drilled hole in the shank. The ends are counterbored to accept drive type lubrication fittings (not furnished). Each cam follower is supplied with grease plugs and these should be press fit into unused holes in the end of the stud. When not used, the cross hole is normally blocked when the cam follower is installed in the housing.

The following drive type fittings are recommended for lubrication of the CNB type cam followers:

CNB - 1/2" to 1 1/16" - 1/8" Alemite No. 3019 (Roller end only on these sizes.)

CNB - 3/4" to 2" - Alemite No.'s 1728-B, 4633, 1645-B, 3005, 3006, 3009, 3012-B

CNB - 2-1/4" to 2-3/4" - Alemite No.'s 1743 or 1743-B

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## Mounting Considerations

The housing that supports the cam follower stud, or shaft on which the cam yoke roller is mounted, should be of sufficient strength to resist excessive deformation under the expected applied load.

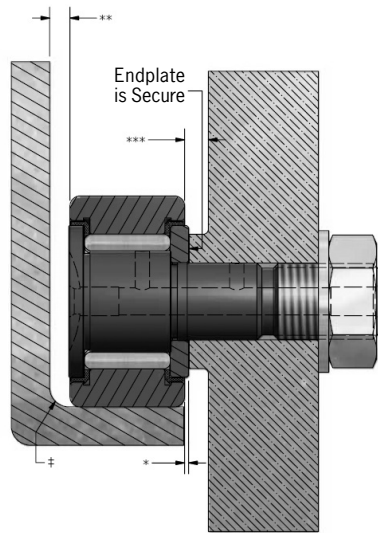
The face of the housing should be flat and square with the housing bore, and must have a diameter of at least that listed in the dimensional tables for proper support of the bearing endplate. In order to obtain the best support for the Carter Cam Follower Bearing, the chamfer on the housing bore should not exceed 0.5mm x 45.

When mounting stud type Cam Followers in a machine member, the radial lubrication hole should be located in the unloaded portion of the raceway. Any pressure required for installation should be applied against the solid center portion of the flanged inner stud, not on the flange perimeter, and the cam follower should be drawn up tightly by the nut so the bearing endplate is securely backed up.

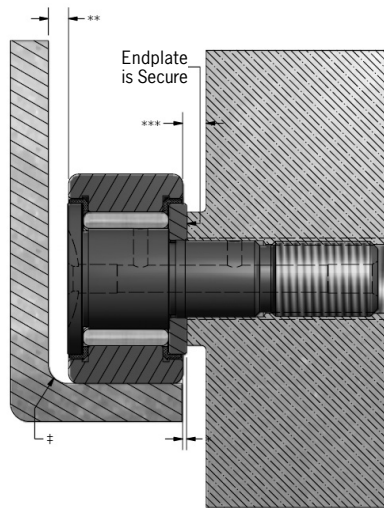
Precaution should be taken to avoid excessive torque when tightening the clamping nut, otherwise undue stress may be put on the stud.

# Cam Follower Mounting

## Jam Nut & Lock Washer Mounting



## Threaded Hole Mounting



\* CNB-16 thru CNB-128 have 1/32" clearance & CNB-160 thru CNB-224 have 1/16" clearance

\*\* Minimum clearance is recommended to be no less than 1/32"

\*\*\* May be flush with endplate, an emboss is recommended for additional clearance

‡ Outer roller must ride flush on track face for proper bearing operation. Do not let bearing ride on corner radius as this will produce a thrust load that a standard cam follower is not designed to handle

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## Mounting Details

The cam follower should be drawn up tightly endwise so the bearing endplate is securely backed up by the machine member.

A screw-driver slot is provided at the flanged end of the stud for the purpose of preventing the stud from turning when the nut is tightened. The bottom of the screw-driver slot is rounded and in some cases it may be necessary to use a special screw-driver having a rounded edge to hold the stud securely.

An optional hexagonal hole is provided in the stud face on selected sizes for use with applications involving bearings mounted in blind holes or with self-locking nuts requiring greater than average thread torque. In this modification, the ability to relubricate through the flange end of the stud is eliminated on sizes smaller than 3 inch outer diameter.

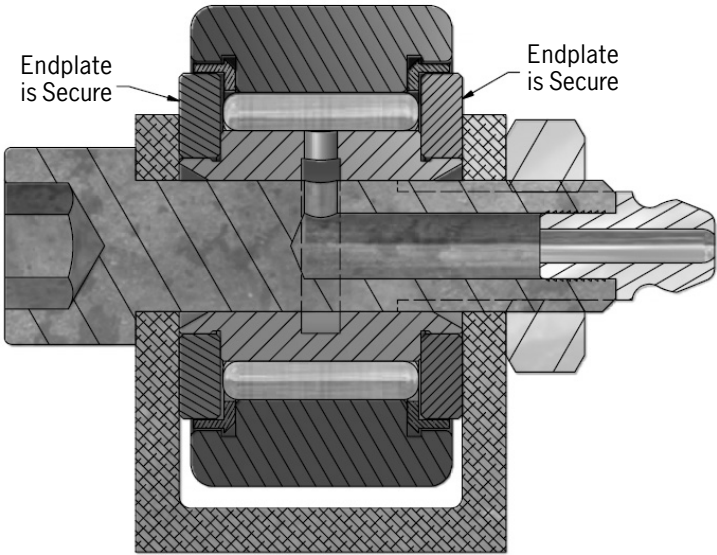
When driving the stud into the machine member, any pressure should be directed against the solid end of the stud, not against the flanged portion. This operation should be performed on an arbor press whenever possible.

The cam follower stud diameter should have a tight fit in the housing bore. Whenever possible, follow the recommended housing bore diameters given in the dimensional tables.

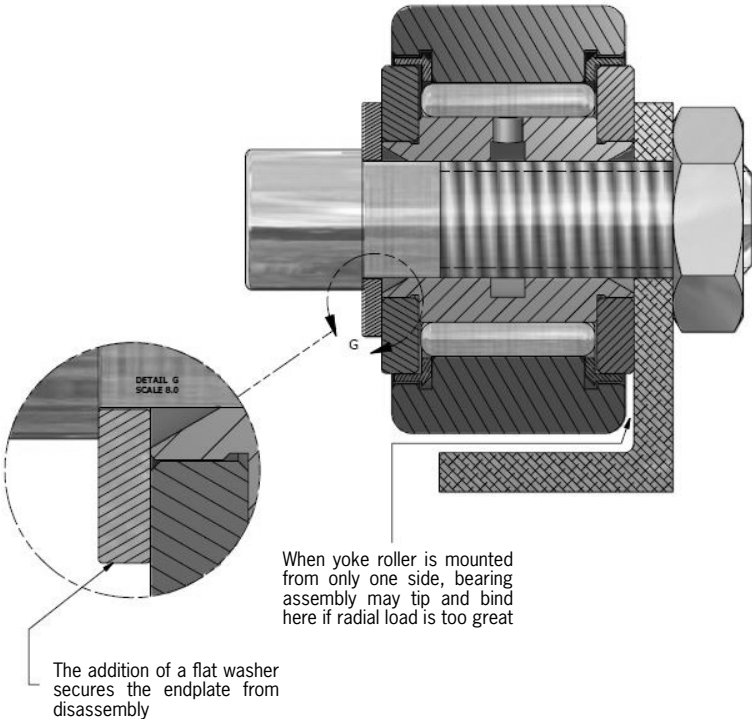


# Cam Yoke Roller Mounting

## Preferred Mounting Method (two-sided)



## Acceptable, Non-Preferred Method (one-sided)



## Mounting Details

Ideally, both sides of the assembly are supported allowing for a full axial load per assembly size and specified load limits. In addition, both endplates are secured and will not disassemble.

If it is not possible to clamp the bearing endwise, it is acceptable to mount the cam yoke roller as shown in the bottom image from one side. Even though this is an acceptable method to mount the yoke roller bearing, it is not recommended or encouraged.

The top image shows the correct and recommended method for mounting. A cam follower with a stem is preferred for use in applications with one-sided mounting. When a yoke roller is used in this method, listed load ratings do not apply.

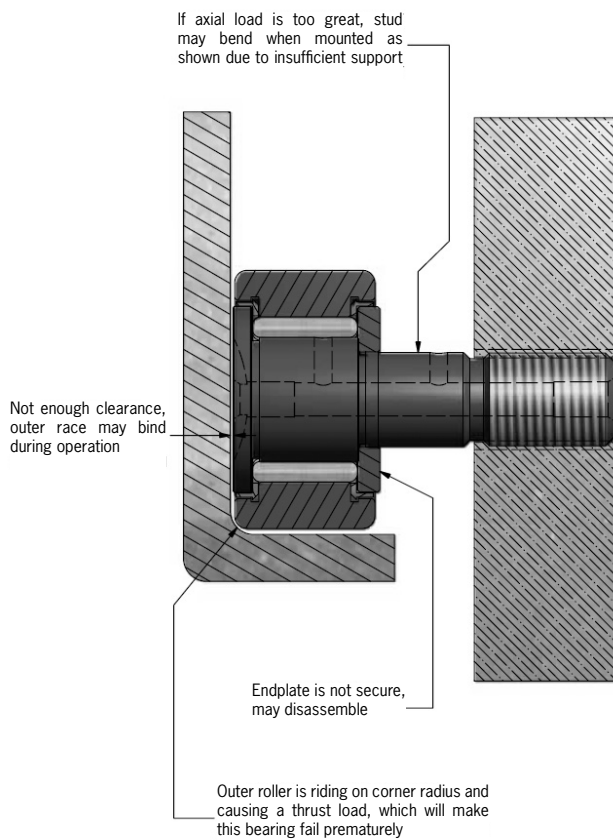
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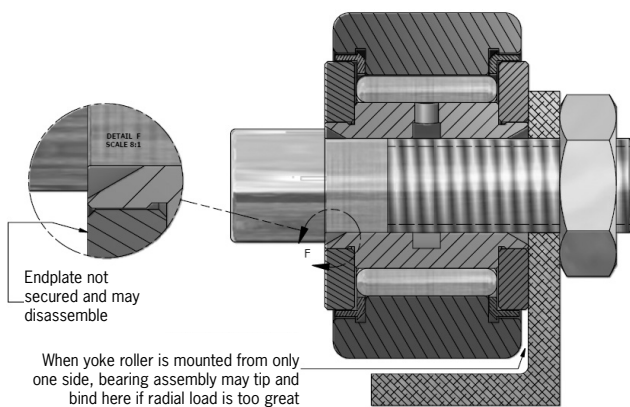
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# Needle Roller Mounting Mistakes

## Extended Stud & Additional Friction



## One-Sided, No Securing Washer



## Cam Follower

Mounting a cam follower with a gap between the securing block and the endplate will more than likely lead to stud deflection. The stem of the bearing is not being fully supported, potentially causing bending in the stud that will worsen over time and lead to premature failure. It also means the endplate is not secure and there is a risk of bearing disassembly.

Another mistake is the face of the bearing being pushed up against a flat surface. This lack of clearance can add additional friction, causing the bearing to bind during operation. It can also put force on the corner radius causing a thrust load which can lead to premature bearing failure.

## Cam Yoke Roller

With this method of mounting a cam yoke roller bearing, there is still the same risk for the bearing to tip and bind up due to it being a one-sided mount.

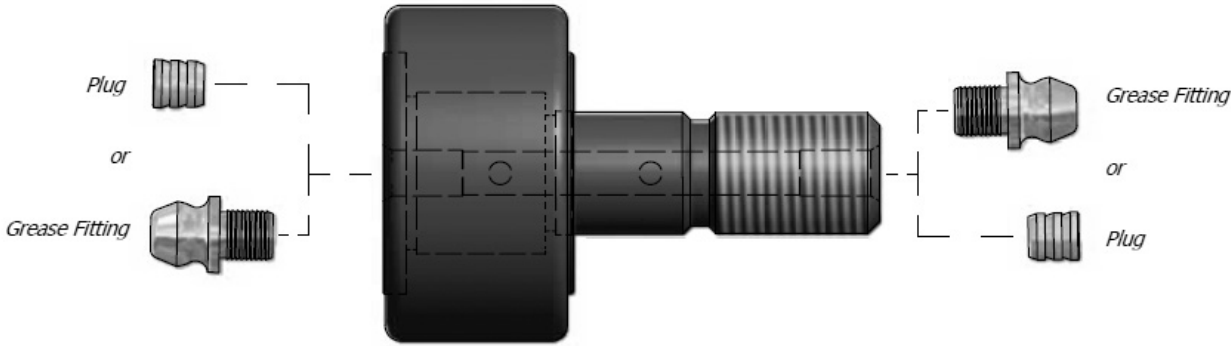
In this instance, however, there is no washer to secure the endplate adding in the risk of bearing disassembly.



# Lubrication Best Practices

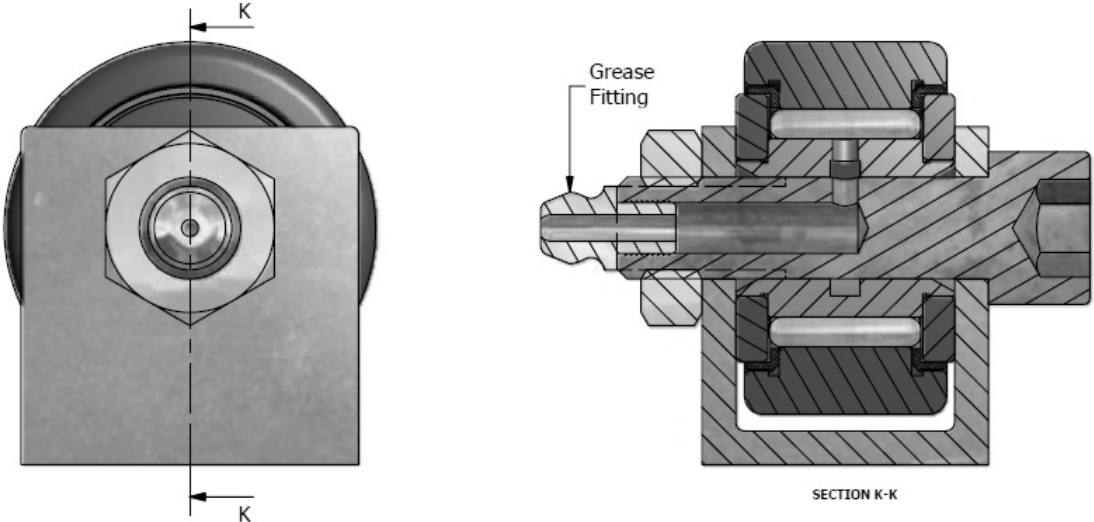
## Cam Follower

In the diagram below you will see that a standard Carter Cam Follower has a hole on each end of the assembly. This feature allows the end user more flexibility when configuring their relube requirements. A plug or grease fitting may be installed in each end of the assembly. Assemblies under 3" in diameter with the hex option only have grease holes in the threaded end of the stud.

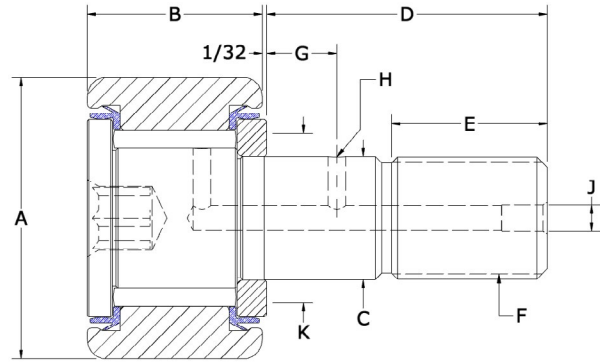


## Cam Yoke Roller

Relubing of the cam yoke roller depends on the application and shaft configuration. Below is a typical relube configuration. Grease fittings may go in either end of the bolt or shaft. Lube channels from the grease fitting to the lube hole need to be configured so that the lube hole on the diameter of the shaft is centered with the lube groove in the yoke roller inner bore.



# Needle Bearing Cam Followers



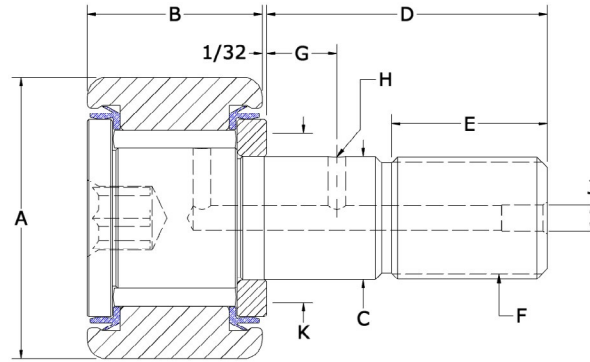
Standard Cam Follower															
Part Number		Roller		Stud				Lubrication			Other Specs				
		A	B	C	D	E	F	G	H	J	K	Recom. Bore Diameter	**Recom. Torque	Max Static Capacity	Basic Dynamic Rating
Sealed	Unsealed	Roller O.D. +.000 -0.001	Roller Width +.000 -0.005	Stud Diameter +.001 -0.000	Stud Length +.010 -0.010	M.E.T.	Thread Class 2A	Oil Hole Center	Oil Hole Diameter	Lube Fitting Size	Min. Boss Diameter	Recom. Bore Diameter +.0005 -0.0000	**Recom. Torque (in lb)	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)
CNB-16-S CCNB-16-S CNB-16-SB CCNB-16-SB	CNB-16 CCNB-16 CNB-16-B CCNB-16-B	0.500	0.375	0.190	0.625	0.250	10-32	-	-	1/8	19/64	0.190	15	1,085	930
CNB-20-S CCNB-20-S CNB-20-SB CCNB-20-SB	CNB-20 CCNB-20 CNB-20-B CCNB-20-B	0.625	0.4375	0.250	0.750	0.312	1/4-28	-	-	1/8	23/64	0.250	35	1,215	995
CNB-22-S CCNB-22-S CNB-22-SB CCNB-22-SB	CNB-22 CCNB-22 CNB-22-B CCNB-22-B	0.6875	0.4375	0.250	0.750	0.312	1/4-28	-	-	1/8	23/64	0.250	35	1,215	955
CNB-24-S CCNB-24-S CNB-24-SB CCNB-24-SB	CNB-24 CCNB-24 CNB-24-B CCNB-24-B	0.750	0.500	0.375	0.875	0.375	3/8-24	1/4	1/2	3/16	1/2	0.375	95	2,065	1,660
CNB-28-S CCNB-28-S CNB-28-SB CCNB-28-SB	CNB-28 CCNB-28 CNB-28-B CCNB-28-B	0.875	0.500	0.375	0.875	0.375	3/8-24	1/4	1/2	3/16	1/2	0.375	95	2,065	1,660
CNB-32-S CCNB-32-S CNB-32-SB CCNB-32-SB	CNB-32 CCNB-32 CNB-32-B CCNB-32-B	1.000	0.625	0.4375	1.000	0.500	7/16-20	1/4	41/64	3/16	41/64	0.4375	250	3,060	2,225
CNB-36-S CCNB-36-S CNB-36-SB CCNB-36-SB	CNB-36 CCNB-36 CNB-36-B CCNB-36-B	1.125	0.625	0.4375	1.000	0.500	7/16-20	1/4	41/64	3/16	41/64	0.4375	250	3,060	2,225
CNB-40-S CCNB-40-S CNB-40-SB CCNB-40-SB	CNB-40 CCNB-40 CNB-40-B CCNB-40-B	1.250	0.750	0.500	1.250	0.625	1/2-20	5/16	49/64	3/16	49/64	0.500	350	4,250	3,930
CNB-44-S CCNB-44-S CNB-44-SB CCNB-44-SB	CNB-44 CCNB-44 CNB-44-B CCNB-44-B	1.375	0.750	0.500	1.250	0.625	1/2-20	5/16	49/64	3/16	49/64	0.500	350	4,250	3,930
CNB-48-S CCNB-48-S CNB-48-SB CCNB-48-SB	CNB-48 CCNB-48 CNB-48-B CCNB-48-B	1.500	0.875	0.625	1.500	0.750	5/8-18	3/8	57/64	3/16	57/64	0.625	650	5,640	4,840
CNB-52-S CCNB-52-S CNB-52-SB CCNB-52-SB	CNB-52 CCNB-52 CNB-52-B CCNB-52-B	1.625	0.875	0.625	1.500	0.750	5/8-18	3/8	57/64	3/16	57/64	0.625	650	5,640	4,840
CNB-56-S CCNB-56-S CNB-56-SB CCNB-56-SB	CNB-56 CCNB-56 CNB-56-B CCNB-56-B	1.750	1.000	0.750	1.750	0.875	3/4-16	7/16	1 3/64	3/16	1 3/64	0.750	1,250	7,920	6,385

Lubrication information – see pages 5 & 9  
For crown dimensions - see page 24

\*\*Clamping torque is based on lubricated threads, if threads are dry, double the value listed. Available from stock



# Needle Bearing Cam Followers



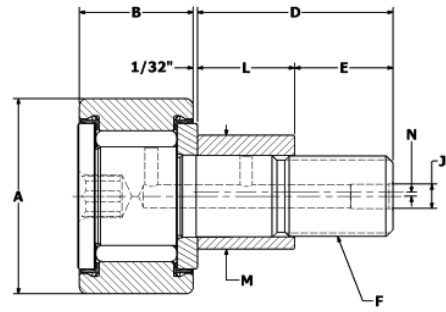
**Standard Cam Follower (cont.)**

Part Number		Roller		Stud				Lubrication				Other Specs			
		A	B	C	D	E	F	G	H	J	K				
Sealed	Unsealed	Roller O.D. +.000 - .001	Roller Width +.000 - .005	Stud Diameter +.001 - .000	Stud Length +.010 - .010	M.E.T.	Thread Class 2A	Oil Hole Center	Oil Hole Diameter	Lube Fitting Size	Min. Boss Diameter	Recom. Bore Diameter +.0005 - .0000	**Recom. Torque (in lb)	Max Static Capacity (lb)	Basic Dynamic Rating (lb)
CNB-60-S CCNB-60-S CNCB-60-SB CCNB-60-SB	CNB-60 CCNB-60 CNCB-60-B CCNB-60-B	1.875	1.000	0.750	1.750	0.875	3/4-16	7/16	1 3/64	3/16	1 3/64	0.750	1,250	7,920	6,385
CNB-64-S CCNB-64-S CNCB-64-SB CCNB-64-SB	CNB-64 CCNB-64 CNCB-64-B CCNB-64-B	2.000	1.250	0.875	2.000	1.000	7/8-14	1/2	1 13/64	3/16	1 13/64	0.875	1,500	10,570	8,090
CNB-72-S CCNB-72-S CNCB-72-SB CCNB-72-SB	CNB-72 CCNB-72 CNCB-72-B CCNB-72-B	2.250	1.250	0.875	2.000	1.000	7/8-14	1/2	1 13/64	3/16	1 13/64	0.875	1,500	10,570	8,090
CNB-80-S CCNB-80-S CNCB-80-SB CCNB-80-SB	CNB-80 CCNB-80 CNCB-80-B CCNB-80-B	2.500	1.500	1.000	2.250	1.125	1-14	9/16	1 5/16	3/16	1 5/16	1.000	2,250	16,450	11,720
CNB-88-S CCNB-88-S CNCB-88-SB CCNB-88-SB	CNB-88 CCNB-88 CNCB-88-B CCNB-88-B	2.750	1.500	1.000	2.250	1.125	1-14	9/16	1 5/16	3/16	1 5/16	1.000	2,250	16,450	11,720
CNB-96-S CCNB-96-S CNCB-96-SB CCNB-96-SB	CNB-96 CCNB-96 CNCB-96-B CCNB-96-B	3.000	1.750	1.250	2.500	1.250	1 1/4-12	5/8	1 3/4	1/4	1 3/4	1.250	3,450	24,910	15,720
CNB-104-S CCNB-104-S CNCB-104-SB CCNB-104-SB	CNB-104 CCNB-104 CNCB-104-B CCNB-104-B	3.250	1.750	1.250	2.500	1.250	1 1/4-12	5/8	1 3/4	1/4	1 3/4	1.250	3,450	24,910	15,720
CNB-112-S CCNB-112-S CNCB-112-SB CCNB-112-SB	CNB-112 CCNB-112 CNCB-112-B CCNB-112-B	3.500	2.000	1.375	2.750	1.375	1 3/8-12	11/16	1 59/64	1/4	1 59/64	1.375	4,200	31,625	22,800
CNB-128-S CCNB-128-S CNCB-128-SB CCNB-128-SB	CNB-128 CCNB-128 CNCB-128-B CCNB-128-B	4.000	2.250	1.500	3.500	1.500	1 1/2-12	3/4	2 9/32	1/4	2 9/32	1.500	5,000	44,770	29,985
CNB-160-SB* CCNB-160-SB*	-	5.000	2.750	2.000	5.062	2.562	2-12	7/8	3/16	1/4 N.P.T.	2 7/8	2.000	5,000	67,950	46,575
CNB-192-SB* CCNB-192-SB*	-	6.000	3.250	2.500	6.000	3.000	2 1/2-12	1	3/16	1/4 N.P.T.	3 3/8	2.500	5,000	80,450	60,000
CNB-224-SB* CCNB-224-SB*	-	7.000	3.750	3.000	7.687	4.125	3-12	1 1/4	3/16	1/4 N.P.T.	3 7/8	3.000	5,000	106,930	75,380
CNB-256-SB* CCNB-256-SB*	-	8.000	4.250	3.250	8.500	4.250	3 1/4-4	-	-	1/4 N.P.T.	4 3/4	3.250	5,000	144,100	92,200
CNB-288-SB* CCNB-288-SB*	-	9.000	4.750	3.750	9.500	4.750	3 1/2-4	-	-	1/4 N.P.T.	5 7/16	3.750	5,000	183,430	113,260
CNB-320-SB* CCNB-320-SB*	-	10.000	5.250	4.250	10.000	4.750	3 1/2-4	-	-	1/4 N.P.T.	5 59/64	4.250	5,000	215,565	131,545

\*1/16" for these sizes

\*\*Clamping torque is based on lubricated threads, if threads are dry, double the value listed.

# Needle Bearing Cam Followers - Eccentric



## Standard Eccentric Cam Follower

Part Number		Roller		Stud			Lubrication	Eccentric Bushing			Other Specs				
		A	B	D	E	F	J	L	M	N	Min. Boss Diameter	Recom. Bore Diameter +.0005 - .0000	**Recom. Torque (in lb)	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)
Sealed	Unsealed	Roller O.D. +.000 - .001	Roller Width +.000 - .005	Stud Length +.010 - .010	Thread Length	Thread Class 2A	Lube Fitting Size	Bushing Length +.000 - .010	Bushing Diameter +.001 - .001	Eccentric Offset					
CNBE-16-S CCNBE-16-S CNBE-16-SB CCNBE-16-SB	CNBE-16 CCNBE-16 CNBE-16-B CCNBE-16-B	0.500	0.375	0.625	1/4	10-32	*1/8	0.375	0.250	0.010	19/64	0.253	15	1,085	930
CNBE-20-S CCNBE-20-S CNBE-20-SB CCNBE-20-SB	CNBE-20 CCNBE-20 CNBE-20-B CCNBE-20-B	0.625	0.4375	0.750	29/93	1/4-28	*1/8	0.437	0.375	0.015	23/64	0.378	35	1,215	995
CNBE-22-S CCNBE-22-S CNBE-22-SB CCNBE-22-SB	CNBE-22 CCNBE-22 CNBE-22-B CCNBE-22-B	0.6875	0.4375	0.750	29/93	1/4-28	*1/8	0.437	0.375	0.015	23/64	0.378	35	1,215	995
CNBE-24-S CCNBE-24-S CNBE-24-SB CCNBE-24-SB	CNBE-24 CCNBE-24 CNBE-24-B CCNBE-24-B	0.750	0.500	0.875	3/8	3/8-24	3/16	0.500	0.500	0.015	0.500	0.503	95	1,215	955
CNBE-28-S CCNBE-28-S CNBE-28-SB CCNBE-28-SB	CNBE-28 CCNBE-28 CNBE-28-B CCNBE-28-B	0.875	0.500	0.875	3/8	3/8-24	3/16	0.500	0.500	0.015	0.500	0.503	95	2,065	1,660
CNBE-32-S CCNBE-32-S CNBE-32-SB CCNBE-32-SB	CNBE-32 CCNBE-32 CNBE-32-B CCNBE-32-B	1.000	0.625	1.000	1/2	7/16-20	3/16	0.500	0.625	0.030	41/64	0.628	250	2,065	1,660
CNBE-36-S CCNBE-36-S CNBE-36-SB CCNBE-36-SB	CNBE-36 CCNBE-36 CNBE-36-B CCNBE-36-B	1.125	0.625	1.000	1/2	7/16-20	3/16	0.500	0.625	0.030	41/64	0.628	250	3,060	2,225
CNBE-40-S CCNBE-40-S CNBE-40-SB CCNBE-40-SB	CNBE-40 CCNBE-40 CNBE-40-B CCNBE-40-B	1.250	0.750	1.250	5/8	1/2-20	3/16	0.625	0.687	0.030	49/64	0.690	350	3,060	2,225
CNBE-44-S CCNBE-44-S CNBE-44-SB CCNBE-44-SB	CNBE-44 CCNBE-44 CNBE-44-B CCNBE-44-B	1.375	0.750	1.250	5/8	1/2-20	3/16	0.625	0.687	0.030	49/64	0.690	350	4,250	3,930
CNBE-48-S CCNBE-48-S CNBE-48-SB CCNBE-48-SB	CNBE-48 CCNBE-48 CNBE-48-B CCNBE-48-B	1.500	0.875	1.500	3/4	5/8-18	3/16	0.750	0.875	0.030	57/64	0.878	650	4,250	3,930
CNBE-52-S CCNBE-52-S CNBE-52-SB CCNBE-52-SB	CNBE-52 CCNBE-52 CNBE-52-B CCNBE-52-B	1.625	0.875	1.500	3/4	5/8-18	3/16	0.750	0.875	0.030	57/64	0.878	650	5,640	4,840

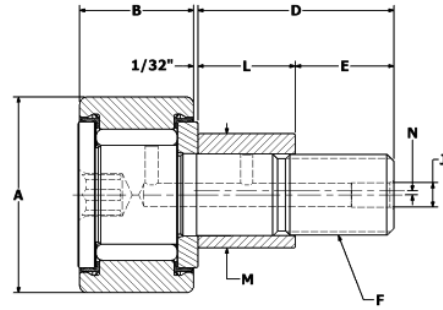
Lubrication information – see pages 5 & 9

For crown dimensions - see page 24

\*Assemblies with 'B' suffix do not offer relube features

\*\*Clamping torque is based on lubricated threads, if threads are dry, double the value listed.

# Needle Bearing Cam Followers - Eccentric



## Standard Eccentric Cam Follower (cont.)

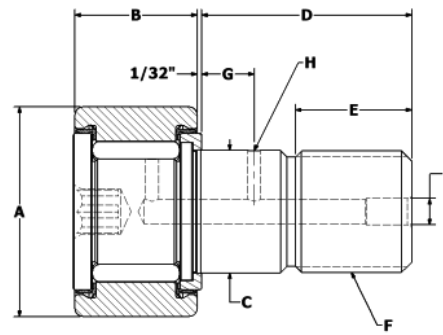
Part Number		Roller		Stud			Lubrication	Eccentric Bushing			Other Specs				
		A	B	D	E	F	J	L	M	N	Min. Boss Diameter	Recom. Bore Diameter +.0005 -.0000	**Recom. Torque Inch Pounds	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)
Sealed	Unsealed	Roller O.D. +.000 -.001	Roller Width +.000 -.005	Stud Length +.010 -.010	Thread Length	Thread Class 2A	Lube Fitting Size	Bushing Length +.000 -.010	Bushing Diameter +.001 -.001	Eccentric Offset					
CNBE-56-S CCNBE-56-S CNBE-56-SB CCNBE-56-SB	CNBE-56 CCNBE-56 CNBE-56-B CCNBE-56-B	1.750	1	1.750	7/8	3/4-16	3/16	0.875	1.000	0.030	1 3/64	1.003	1,250	7,920	6,385
CNBE-60-S CCNBE-60-S CNBE-60-SB CCNBE-60-SB	CNBE-60 CCNBE-60 CNBE-60-B CCNBE-60-B	1.875	1	1.750	7/8	3/4-16	3/16	0.875	1.000	0.030	1 3/64	1.003	1,250	7,920	6,385
CNBE-64-S CCNBE-64-S CNBE-64-SB CCNBE-64-SB	CNBE-64 CCNBE-64 CNBE-64-B CCNBE-64-B	2.000	1.25	2.000	1	7/8-14	3/16	1.000	1.187	0.030	1 13/64	1.190	1,500	10,570	8,090
CNBE-72-S CCNBE-72-S CNBE-72-SB CCNBE-72-SB	CNBE-72 CCNBE-72 CNBE-72-B CCNBE-72-B	2.250	1.25	2.000	1	7/8-14	3/16	1.000	1.187	0.030	1 13/64	1.190	1,500	10,570	8,090
CNBE-80-S CCNBE-80-S CNBE-80-SB CCNBE-80-SB	CNBE-80 CCNBE-80 CNBE-80-B CCNBE-80-B	2.500	1.5	2.250	1 1/8	1-14	3/16	1.125	1.375	0.030	1 5/16	1.378	2,250	16,450	11,720
CNBE-88-S CCNBE-88-S CNBE-88-SB CCNBE-88-SB	CNBE-88 CCNBE-88 CNBE-88-B CCNBE-88-B	2.750	1.5	2.250	1 1/8	1-14	3/16	1.125	1.375	0.030	1 5/16	1.378	2,250	16,450	11,720
CNBE-96-S CCNBE-96-S CNBE-96-SB CCNBE-96-SB	CNBE-96 CCNBE-96 CNBE-96-B CCNBE-96-B	3.000	1.75	2.500	1 1/4	1 1/4-12	1/4	1.250	1.750	0.060	1 3/4	1.753	3,450	24,910	15,720
CNBE-104-S CCNBE-104-S CNBE-104-SB CCNBE-104-SB	CNBE-104 CCNBE-104 CNBE-104-B CCNBE-104-B	3.250	1.75	2.500	1 1/4	1 1/4-12	1/4	1.250	1.750	0.060	1 3/4	1.753	3,450	24,910	15,720
CNBE-112-S CCNBE-112-S CNBE-112-SB CCNBE-112-SB	CNBE-112 CCNBE-112 CNBE-112-B CCNBE-112-B	3.500	2	2.750	1 3/8	1 3/8-12	1/4	1.375	1.812	0.060	1 59/64	1.815	4,200	31,625	22,800
CNBE-128-S CCNBE-128-S CNBE-128-SB CCNBE-128-SB	CNBE-128 CCNBE-128 CNBE-128-B CCNBE-128-B	4.000	2.25	3.500	1 1/2	1 1/2-12	1/4	2.000	2.000	0.060	2 9/32	2.003	5,000	44,770	29,985

Lubrication information – see pages 5 & 9

For crown dimensions - see page 24

\*\*Clamping torque is based on lubricated threads, if threads are dry, double the value listed.

# Needle Bearing Cam Followers - Heavy Stud



## Standard Heavy Stud Cam Follower

Part Number		Roller		Stud				Lubrication			Other Specs				
		A	B	C	D	E	F	G	H	J	Min. Boss Diameter	Recom. Bore Diameter +.0005 -.0000	**Recom. Torque (in lb)	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)
Sealed	Unsealed	Roller O.D. +.000 -.001	Roller Width +.000 -.005	Stud Diameter +.001 -.000	Stud Length +.010 -.010	M.E.T.	Thread Class 2A	Oil Hole Center	Oil Hole Diameter	Lube Fitting Size					
CNBH-16-S CCNBH-16-S CNBH-16-SB CCNBH-16-SB	CNBH-16 CCNBH-16 CNBH-16-B CCNBH-16-B	0.500	0.375	0.250	0.625	1/4	1/4-28	-	-	*1/8	13/32	0.250	35	1,580	680
CNBH-20-S CCNBH-20-S CNBH-20-SB CCNBH-20-SB	CNBH-20 CCNBH-20 CNBH-20-B CCNBH-20-B	0.625	0.4375	0.3125	0.750	29/93	5/16-24	-	-	*1/8	23/64	0.313	90	2,480	995
CNBH-22-S CCNBH-22-S CNBH-22-SB CCNBH-22-SB	CNBH-22 CCNBH-22 CNBH-22-B CCNBH-22-B	0.6875	0.4375	0.3125	0.750	29/93	5/16-24	-	-	*1/8	23/64	0.313	90	2,480	995
CNBH-24-S CCNBH-24-S CNBH-24-SB CCNBH-24-SB	CNBH-24 CCNBH-24 CNBH-24-B CCNBH-24-B	0.750	0.500	0.4375	0.875	3/8	7/16-20	1/4	3/32	3/16	1/2	0.4375	250	4,130	1,660
CNBH-28-S CCNBH-28-S CNBH-28-SB CCNBH-28-SB	CNBH-28 CCNBH-28 CNBH-28-B CCNBH-28-B	0.875	0.500	0.4375	0.875	3/8	7/16-20	1/4	3/32	3/16	1/2	0.4375	250	4,130	1,660
CNBH-32-S CCNBH-32-S CNBH-32-SB CCNBH-32-SB	CNBH-32 CCNBH-32 CNBH-32-B CCNBH-32-B	1.000	0.625	0.625	1.000	1/2	5/8-18	1/4	3/32	3/16	41/64	0.625	650	6,120	2,225
CNBH-36-S CCNBH-36-S CNBH-36-SB CCNBH-36-SB	CNBH-36 CCNBH-36 CNBH-36-B CCNBH-36-B	1.125	0.625	0.625	1.000	1/2	5/8-18	1/4	3/32	3/16	41/64	0.625	650	6,120	2,225
CNBH-40-S CCNBH-40-S CNBH-40-SB CCNBH-40-SB	CNBH-40 CCNBH-40 CNBH-40-B CCNBH-40-B	1.250	0.750	0.750	1.250	5/8	3/4-16	5/16	3/32	3/16	49/64	0.750	1,250	8,500	3,930
CNBH-44-S CCNBH-44-S CNBH-44-SB CCNBH-44-SB	CNBH-44 CCNBH-44 CNBH-44-B CCNBH-44-B	1.375	0.750	0.750	1.250	5/8	3/4-16	5/16	3/32	3/16	49/64	0.750	1,250	8,500	3,930
CNBH-48-S CCNBH-48-S CNBH-48-SB CCNBH-48-SB	CNBH-48 CCNBH-48 CNBH-48-B CCNBH-48-B	1.500	0.875	0.875	1.500	3/4	7/8-14	3/8	3/32	3/16	57/64	0.875	1,500	11,280	4,840
CNBH-52-S CCNBH-52-S CNBH-52-SB CCNBH-52-SB	CNBH-52 CCNBH-52 CNBH-52-B CCNBH-52-B	1.625	0.875	0.875	1.500	3/4	7/8-14	3/8	3/32	3/16	57/64	0.875	1,500	11,280	4,840
CNBH-56-S CCNBH-56-S CNBH-56-SB CCNBH-56-SB	CNBH-56 CCNBH-56 CNBH-56-B CCNBH-56-B	1.750	1.000	1.000	1.750	7/8	1-14	7/16	3/32	3/16	1 3/64	1.000	2,250	15,840	6,385

Lubrication information – see pages 5 & 9

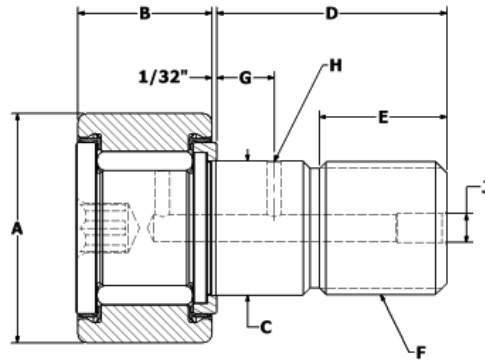
For crown dimensions - see page 24

\*Assemblies with 'B' suffix do not offer relube features

\*\*Clamping torque is based on lubricated threads, if threads are dry, double the value listed.



# Needle Bearing Cam Followers - Heavy Stud



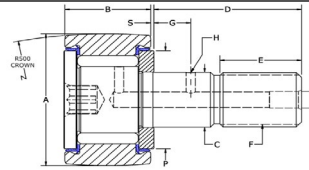
## Standard Heavy Stud Cam Follower (cont.)

Part Number		Roller		Stud				Lubrication			Other Specs				
		A	B	C	D	E	F	G	H	J					
Sealed	Unsealed	Roller O.D. +0.000 -0.001	Roller Width +0.000 -0.005	Stud Diameter +0.001 -0.000	Stud Length +0.010 -0.010	M.E.T.	Thread Class 2A	Oil Hole Center	Oil Hole Diameter	Lube Fitting Size	Min. Boss Diameter	Recom. Bore Diameter +0.0005 -0.0000	**Recom. Torque (in lb)	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)
CNBH-60-S CCNBH-60-S CNBH-60-SB CCNBH-60-SB	CNBH-60 CCNBH-60 CNBH-60-B CCNBH-60-B	1.875	1.000	1.000	1.750	7/8	1-14	7/16	3/32	3/16	1 13/64	1.000	2,250	15,840	6,385
CNBH-64-S CCNBH-64-S CNBH-64-SB CCNBH-64-SB	CNBH-64 CCNBH-64 CNBH-64-B CCNBH-64-B	2.000	1.250	1.125	2.000	1	1 1/8-12	1/2	1/8	3/16	1 13/64	1.125	2,800	21,140	8,090
CNBH-72-S CCNBH-72-S CNBH-72-SB CCNBH-72-SB	CNBH-72 CCNBH-72 CNBH-72-B CCNBH-72-B	2.250	1.250	1.125	2.000	1	1 1/8-12	1/2	1/8	3/16	1 13/64	1.125	2,800	21,140	8,090
CNBH-80-S CCNBH-80-S CNBH-80-SB CCNBH-80-SB	CNBH-80 CCNBH-80 CNBH-80-B CCNBH-80-B	2.500	1.500	1.250	2.250	1 1/8	1 1/4-12	9/16	1/8	3/16	1 5/16	1.250	3,450	32,900	11,720
CNBH-88-S CCNBH-88-S CNBH-88-SB CCNBH-88-SB	CNBH-88 CCNBH-88 CNBH-88-B CCNBH-88-B	2.750	1.500	1.250	2.250	1 1/8	1 1/4-12	9/16	1/8	3/16	1 5/16	1.250	3,450	32,900	11,720
CNBH-96-S CCNBH-96-S CNBH-96-SB CCNBH-96-SB	CNBH-96 CCNBH-96 CNBH-96-B CCNBH-96-B	3.000	1.750	1.500	2.500	1 1/4	1 1/2-12	5/8	1/8	1/4	1 3/4	1.500	5,000	49,820	15,720
CNBH-104-S CCNBH-104-S CNBH-104-SB CCNBH-104-SB	CNBH-104 CCNBH-104 CNBH-104-B CCNBH-104-B	3.250	1.750	1.500	2.500	1 1/4	1 1/2-12	5/8	1/8	1/4	1 3/4	1.500	5,000	49,820	15,720
CNBH-112-S CCNBH-112-S CNBH-112-SB CCNBH-112-SB	CNBH-112 CCNBH-112 CNBH-112-B CCNBH-112-B	3.500	2.000	1.750	2.750	1 3/8	1 3/4-12	11/16	1/8	1/4	1 59/64	1.750	5,000	63,250	22,800
CNBH-128-S CCNBH-128-S CNBH-128-SB CCNBH-128-SB	CNBH-128 CCNBH-128 CNBH-128-B CCNBH-128-B	4.000	2.250	2.000	3.500	1 1/2	2-12	3/4	1/8	1/4	2 9/32	2.000	5,000	89,540	29,985
CNBH-160-SB* CCNBH-160-SB*	-	5.000	2.750	2.500	5.062	2 5/8	2 1/2-12	7/8	3/16	1/4 N.P.T.	3 9/16	2.000	5,000	135,900	46,575
CNBH-192-SB* CCNBH-192-SB*	-	6.000	3.250	3.000	6.000	3	3-12	1	3/16	1/4 N.P.T.	4 15/32	2.500	5,000	160,900	60,000
CNBH-224-SB* CCNBH-224-SB*	-	7.000	3.750	3.500	7.687	4 1/8	3 1/2-4	1 1/4	3/16	1/4 N.P.T.	5 3/16	3.000	5,000	213,860	75,380

\*1/16" for these sizes

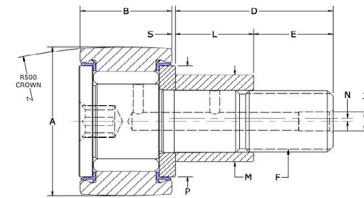
\*\*Clamping torque is based on lubricated threads, if threads are dry, double the value listed.

# Needle Bearing Cam Followers - Metric



## Metric Cam Follower

Part Number		Roller		Stud				Lubrication			Other Specs				
		A	B	C	C	D	E	F	G	H					J
Crowned	***Cylindrical	***Roller O.D. +.000 -0.050	Roller Width +.00 -0.12	Stud $\varnothing$	Tolerance	Stud Length +.25 -0.25	M.E.T.	Thread Class 6g	Oil Hole Center	Oil Hole Diameter	Lube Fitting Size	Recom. Bore Diameter	**Recom. Torque (Nm)	Max Static Capacity (N)	Basic Dynamic Rating (N)
MCNB-16-SB	MCNB-16-SBX	16	11	6	+0.00 / -0.12	16	9	M6x1.00	-	-	-	6	3	2,350	5,790
MCNB-19-SB	MCNB-19-SBX	19	11	8	+0.00/-0.15	20	11	M8x1.25	-	-	-	8	8	5,100	6,670
MCNB-22-SB	MCNB-22-SBX	22	12	10	+0.00/-0.15	23	12	M10x1.00	-	-	4	10	15	10,400	7,850
MCNB-26-SB	MCNB-26-SBX	26	12	10	+0.00/-0.15	23	12	M10x1.00	-	-	4	10	15	10,400	7,850
MCNB-30-SB	MCNB-30-SBX	30	14	12	+0.00/-0.18	25	14	M12x1.50	6	3	6	12	22	15,300	11,080
MCNB-32-SB	MCNB-32-SBX	32	14	12	+0.00/-0.18	25	14	M12x1.50	6	3	6	12	22	15,300	11,080
MCNB-35-SB	MCNB-35-SBX	35	18	16	+0.00/-0.18	32.5	18	M16x1.50	8	3	6	16	57	28,500	16,970
MCNB-40-SB	MCNB-40-SBX	40	20	18	+0.00/-0.18	36.5	19	M18x1.50	8	3	6	16	85	32,200	19,420
MCNB-47-SB	MCNB-47-SBX	47	24	20	+0.00/-0.21	40.5	21	M20x1.50	9	4	8	20	118	46,700	25,690
MCNB-52-SB	MCNB-52-SBX	52	24	20	+0.00/-0.21	40.5	21	M20x1.50	9	4	8	20	118	46,700	25,690
MCNB-62-SB	MCNB-62-SBX	62	29	24	+0.00/-0.21	49.5	25	M24x1.50	11	4	8	24	216	65,400	38,840
MCNB-72-SB	MCNB-72-SBX	72	29	24	+0.00/-0.21	49.5	25	M24x1.50	11	4	8	24	216	65,400	38,840



## Metric Eccentric Cam Follower

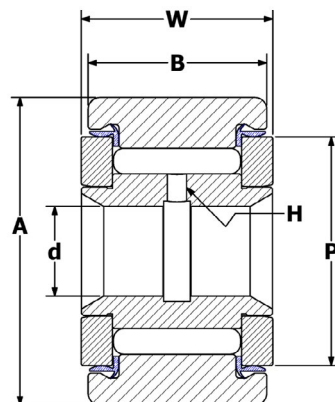
Part Number		Roller		Stud			Eccentric Bushing			Lubrication			Other Specs			
		A	B	D	E	F	L	M	N	G	H	J				
Crowned	***Cylindrical	Roller O.D. +.000 -0.050	Roller Width +.00 -0.12	Stud Length +.25 -0.25	Thread Length	Thread Class 6g	Bushing Length +05 -0.15	Bushing Diameter	Eccentric Offset -	Oil Hole Center	Oil Hole Diameter	Lube Fitting Size	Recom. Bore Diameter	**Recom. Torque (Nm)	Max Static Capacity (N)	Basic Dynamic Rating (N)
MCNBE-16-SB	MCNBE-16-SBX	16	11	16	9	M6x1.00	7	9	0.500	-	-	-	9.050	3	2,350	5,790
MCNBE-19-SB	MCNBE-19-SBX	19	11	20	11	M8x1.25	9	11	0.500	-	-	-	11.050	8	5,100	6,670
MCNBE-22-SB	MCNBE-22-SBX	22	12	23	12	M10x1.00	10	13	0.500	-	-	4	13.050	15	10,400	7,850
MCNBE-26-SB	MCNBE-26-SBX	26	12	23	12	M10x1.00	10	13	0.500	-	-	4	13.050	15	10,400	7,850
MCNBE-30-SB	MCNBE-30-SBX	30	14	25	14	M12x1.50	11	15	0.500	6	3	6	15.050	22	15,300	11,080
MCNBE-32-SB	MCNBE-32-SBX	32	14	25	14	M12x1.50	11	15	0.500	6	3	6	15.050	22	15,300	11,080
MCNBE-35-SB	MCNBE-35-SBX	35	18	32.5	18	M16x1.50	14	20	1.000	8	3	6	20.050	57	28,500	16,970
MCNBE-40-SB	MCNBE-40-SBX	40	20	36.5	19	M18x1.50	16	22	1.000	8	3	6	22.050	85	32,200	19,420
MCNBE-47-SB	MCNBE-47-SBX	47	24	40.5	21	M20x1.50	18	24	1.000	9	4	8	24.050	118	46,700	25,690
MCNBE-52-SB	MCNBE-52-SBX	52	24	40.5	21	M20x1.50	18	24	1.000	9	4	8	24.050	118	46,700	25,690
MCNBE-62-SB	MCNBE-62-SBX	62	29	49.5	25	M24x1.50	22	28	1.000	11	4	8	28.050	216	65,400	38,840
MCNBE-72-SB	MCNBE-72-SBX	72	29	49.5	25	M24x1.50	22	28	1.000	11	4	8	28.050	216	65,400	38,840

Lubrication information – see pages 5 & 9

\*\*Clamping torque is based on lubricated threads, if threads are dry, double the value listed.

\*\*\*Roller O.D. tolerances for cylindrical cam followers vary by size. Contact factory for exact tolerances.

# Needle Bearing Cam Yoke Roller



## Standard Cylindrical Yoke Roller

Part Number		Roller		Inner Ring		Assembly			Other Specs							
		A	B	d	W	H	P	Shaft Diameter(Ø) Push Fit		Shaft Diameter(Ø) Drive Fit		Shaft Diameter(Ø) Press Fit	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)		
Sealed	Unsealed	Roller O.D. +.000 -0.001	Roller Width +.000 -0.005	Bore Diameter	Overall Width +.005 -0.010	Oil Hole Diameter	Min. Boss Diameter									
YNB-24-S CYNB-24-S	YNB-24 CYNB-24	0.750	0.500	+0.0002 -0.0004	0.250	0.5625	3/32	1/2	+0.0002 -0.0002	0.2495	+0.0002 -0.0002	0.2501	+0.0002 -0.0002	0.2503	4,130	1,660
YNB-28-S CYNB-28-S	YNB-28 CYNB-28	0.875	0.500		0.250	0.5625	3/32	1/2		0.2495		0.2501		0.2503	4,130	1,660
YNB-32-S CYNB-32-S	YNB-32 CYNB-32	1.000	0.625		0.3125	0.6875	3/32	41/64		0.3120		0.3126		0.3128	6,120	2,225
YNB-36-S CYNB-36-S	YNB-36 CYNB-36	1.125	0.625		0.3125	0.6875	3/32	41/64		0.3120		0.3126		0.3128	6,120	2,225
YNB-40-S CYNB-40-S	YNB-40 CYNB-40	1.250	0.750		0.375	0.8125	3/32	49/64		0.3745		0.3751		0.3753	8,500	3,930
YNB-44-S CYNB-44-S	YNB-44 CYNB-44	1.375	0.750		0.375	0.8125	3/32	49/64		0.3745		0.3751		0.3753	8,500	3,930
YNB-48-S CYNB-48-S	YNB-48 CYNB-48	1.500	0.875		0.4375	0.9375	3/32	57/64		0.4370		0.4376		0.4378	11,280	4,840
YNB-52-S CYNB-52-S	YNB-52 CYNB-52	1.625	0.875		0.4375	0.9375	3/32	57/64		0.4370		0.4376		0.4378	11,280	4,840
YNB-56-S CYNB-56-S	YNB-56 CYNB-56	1.750	1.000		0.500	1.0625	3/32	1 3/64		0.4995		0.5001		0.5005	15,840	6,385
YNB-60-S CYNB-60-S	YNB-60 CYNB-60	1.875	1.000		0.500	1.0625	3/32	1 3/64		0.4995		0.5001		0.5005	15,840	6,385
YNB-64-S CYNB-64-S	YNB-64 CYNB-64	2.000	1.250		0.625	1.3125	1/8	1 13/64		0.6245		0.6251		0.6255	21,140	8,090
YNB-72-S CYNB-72-S	YNB-72 CYNB-72	2.250	1.250		0.625	1.3125	1/8	1 13/64		0.6245		0.6251		0.6255	21,140	8,090
YNB-80-S CYNB-80-S	YNB-80 CYNB-80	2.500	1.500		0.750	1.5625	1/8	1 5/16		0.7495		0.7501		0.7505	32,900	11,720
YNB-88-S CYNB-88-S	YNB-88 CYNB-88	2.750	1.500		0.750	1.5625	1/8	1 5/16		0.7495		0.7501		0.7505	32,900	11,720
YNB-96-S CYNB-96-S	YNB-96 CYNB-96	3.000	1.750		1.000	1.8125	1/8	1 3/4		0.9994		1.0002		1.0006	49,820	15,720
YNB-104-S CYNB-104-S	YNB-104 CYNB-104	3.250	1.750		1.000	1.8125	1/8	1 3/4		0.9994		1.0002		1.0006	49,820	15,720
YNB-112-S CYNB-112-S	YNB-112 CYNB-112	3.500	2.000		1.125	2.0625	1/8	1 59/64		1.1244		1.1252		1.1256	63,250	22,800
YNB-128-S CYNB-128-S	YNB-128 CYNB-128	4.000	2.250		1.250	2.3125	1/8	2 9/32		1.2494		1.2502		1.2506	89,540	29,985
YNB-160-S	-	5.000	2.750		1.750	2.8750	3/16	2 7/8		1.7494		1.7502		1.7506	135,900	46,575
YNB-192-S	-	6.000	3.250		2.250	3.3750	3/16	3 3/8		2.2494		2.2502		2.2506	160,900	60,000
YNB-224-S	-	7.000	3.750	2.750	3.8750	3/16	3 7/8	2.7494	2.7502	2.7506	213,860	75,380				
YNB-256-S	-	8.000	4.250	3.255	4.5000	1/4	4 3/4	3.2545	3.2560	3.2565	288,200	92,200				
YNB-288-S	-	9.000	4.750	3.755	5.0000	5/16	5 7/16	3.7545	3.7560	3.7565	366,850	113,260				
YNB-320-S	-	10.000	5.250	4.255	5.5000	3/8	5 59/64	4.2545	4.2560	4.2565	431,130	131,545				

# Xtenda™

## Stainless Steel Cam Followers and Cam Yoke Rollers

### Xtenda™

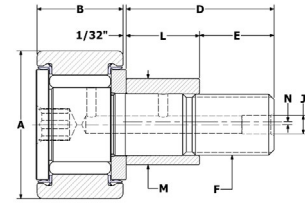
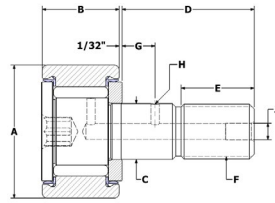
Carter's Xtenda Series stainless steel needle bearings are available in both standard and custom sizes. You can order Cam Followers from stock in sizes 1/2" thru 2 1/2" and cam yoke rollers from 3/4" thru 2 1/2", with custom designs available for virtually any special application. For information on larger sizes please contact Carter.

All standard Xtenda Series bearings are dimensionally interchangeable with standard cam followers and cam yoke rollers offered by other major manufacturers. But Carter bearings offer many advantages over other bearings. Our Seal Tight design minimizes contamination to keep your machinery running longer. We use a food-grade lubricant in our Xtenda Series bearings to ensure compatibility with any application. Other lubricants are also available. Our high precision manufacturing produces a bearing that can minimize expensive shutdowns due to bearing failure.





# Xtenda™ Needle Bearing Cam Followers - Standard Stainless Steel



## Standard Stainless Cam Follower

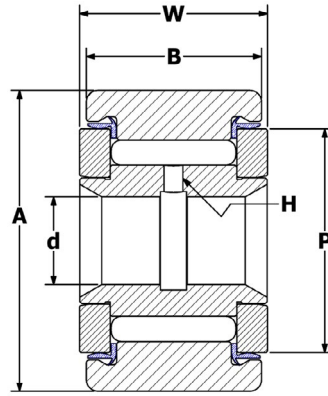
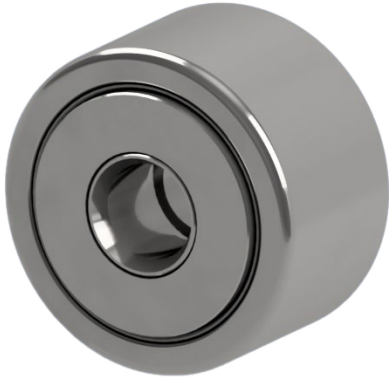
Part Number		Roller		Stud				Lubrication			Other Specs				
		A	B	C	D	E	F	G	H	J					
Cylindrical	Crowned	Roller O.D. +.000 -0.001	Roller Width +.000 -0.005	Stud Diameter +.001 -0.000	Stud Length +.010 -0.010	M.E.T.	Thread Class 2A	Oil Hole Center	Oil Hole Diameter	Lube Fitting Size	Min. Boss Diameter	Recom. Bore Diameter +.0005 -0.0000	**Recom. Torque (in lb)	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)
SC-16-SB	CSC-16-SB	0.500	0.375	0.190	0.625	0.250	10-32	-	-	1/8	19/64	0.190	8	310	610
SC-20-SB	CSC-20-SB	0.625	0.4375	0.250	0.750	0.312	1/4-28	-	-	1/8	23/64	0.250	18	600	860
SC-22-SB	CSC-22-SB	0.6875	0.4375	0.250	0.750	0.312	1/4-28	-	-	1/8	23/64	0.250	18	600	860
SC-24-SB	CSC-24-SB	0.750	0.500	0.375	0.875	0.375	3/8-24	1/4	3/32	3/16	1/2	0.375	48	1,500	1,490
SC-28-SB	CSC-28-SB	0.875	0.500	0.375	0.875	0.375	3/8-24	1/4	3/32	3/16	1/2	0.375	48	1,500	1,490
SC-32-SB	CSC-32-SB	1.000	0.625	0.4375	1.000	0.500	7/16-20	1/4	3/32	3/16	41/64	0.4375	125	1,800	2,000
SC-36-SB	CSC-36-SB	1.125	0.625	0.4375	1.000	0.500	7/16-20	1/4	3/32	3/16	41/64	0.4375	125	1,800	2,000
SC-40-SB	CSC-40-SB	1.250	0.750	0.500	1.250	0.625	1/2-20	5/16	3/32	3/16	49/64	0.500	175	2,300	3,530
SC-44-SB	CSC-44-SB	1.375	0.750	0.500	1.250	0.625	1/2-20	5/16	3/32	3/16	49/64	0.500	175	2,300	3,530
SC-48-SB	CSC-48-SB	1.500	0.875	0.625	1.500	0.750	5/8-18	3/8	3/32	3/16	57/64	0.625	325	4,000	4,350
SC-52-SB	CSC-52-SB	1.625	0.875	0.625	1.500	0.750	5/8-18	3/8	3/32	3/16	57/64	0.625	325	4,000	4,350
SC-56-SB	CSC-56-SB	1.750	1.000	0.750	1.750	0.875	3/4-16	7/16	3/32	3/16	1 3/64	0.750	625	6,000	5,730
SC-60-SB	CSC-60-SB	1.875	1.000	0.750	1.750	0.875	3/4-16	7/16	3/32	3/16	1 3/64	0.750	625	6,000	5,730
SC-64-SB	CSC-64-SB	2.000	1.250	0.875	2.000	1.000	7/8-14	1/2	1/8	3/16	1 13/64	0.875	750	8,200	7,270
SC-72-SB	CSC-72-SB	2.250	1.250	0.875	2.000	1.000	7/8-14	1/2	1/8	3/16	1 13/64	0.875	750	8,200	7,270
SC-80-SB	CSC-80-SB	2.500	1.500	1.000	2.250	1.125	1-14	9/16	1/8	3/16	1 5/16	1.000	1,125	12,335	10,430

## Standard Stainless Eccentric Cam Follower

Part Number		Roller		Stud			Eccentric Bushing			Other Specs				
		A	B	D	E	F	L	M	N					
Cylindrical	Crowned	Roller O.D. +.000 -0.001	Roller Width +.000 -0.005	Stud Length +.010 -0.010	Thread Length	Thread Class 2A	Bushing Length +.000 -0.010	Bushing Diameter +.001 -0.001	Eccentric offset	Min. Boss Diameter	Recom. Bore Diameter +.0005 -0.0000	Recom. Torque (in lb)	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)
SCE-16-SB	CSCE-16-SB	0.500	0.375	0.625	1/4	10-32	0.375	0.250	0.010	19/64	0.253	8	790	680
SCE-20-SB	CSCE-20-SB	0.625	0.4375	0.750	29/93	1/4-28	0.437	0.375	0.015	23/64	0.378	18	1,215	995
SCE-22-SB	CSCE-22-SB	0.6875	0.4375	0.750	29/93	1/4-28	0.437	0.375	0.015	23/64	0.378	18	1,215	955
SCE-24-SB	CSCE-24-SB	0.750	0.500	0.875	3/8	3/8-24	0.500	0.500	0.015	1/2	0.503	48	2,065	1,660
SCE-28-SB	CSCE-28-SB	0.875	0.500	0.875	3/8	3/8-24	0.500	0.500	0.015	1/2	0.503	48	2,065	1,660
SCE-32-SB	CSCE-32-SB	1.000	0.625	1.000	1/2	7/16-20	0.500	0.625	0.030	41/64	0.628	125	3,060	2,225
SCE-36-SB	CSCE-36-SB	1.125	0.625	1.000	1/2	7/16-20	0.500	0.625	0.030	41/64	0.628	125	3,060	2,225
SCE-40-SB	CSCE-40-SB	1.250	0.750	1.250	5/8	1/2-20	0.625	0.687	0.030	49/64	0.690	175	4,250	3,930
SCE-44-SB	CSCE-44-SB	1.375	0.750	1.250	5/8	1/2-20	0.625	0.687	0.030	49/64	0.690	175	4,250	3,930
SCE-48-SB	CSCE-48-SB	1.500	0.875	1.500	3/4	5/8-18	0.750	0.875	0.030	57/64	0.878	325	5,640	4,840
SCE-52-SB	CSCE-52-SB	1.625	0.875	1.500	3/4	5/8-18	0.750	0.875	0.030	57/64	0.878	325	5,640	4,840
SCE-56-SB	CSCE-56-SB	1.750	1.000	1.750	7/8	3/4-16	0.875	1.000	0.030	1 3/64	1.003	625	7,920	6,385
SCE-60-SB	CSCE-60-SB	1.875	1.000	1.750	7/8	3/4-16	0.875	1.000	0.030	1 3/64	1.003	625	7,920	6,385
SCE-64-SB	CSCE-64-SB	2.000	1.250	2.000	1	7/8-14	1.000	1.187	0.030	1 13/64	1.190	750	10,570	8,090
SCE-72-SB	CSCE-72-SB	2.250	1.250	2.000	1	7/8-14	1.000	1.187	0.030	1 13/64	1.190	750	10,570	8,090
SCE-80-SB	CSCE-80-SB	2.500	1.500	2.250	1 1/8	1-14	1.125	1.375	0.030	1 5/16	1.378	1,125	16,450	11,720

\*\*Clamping torque is based on lubricated threads, if threads are dry, double the value listed. Available from stock  
 100% 440C Stainless Construction    Food Grade Grease Standard    Other lubricants are available.

# Xtenda™ Cam Yoke Rollers - Standard Stainless Steel

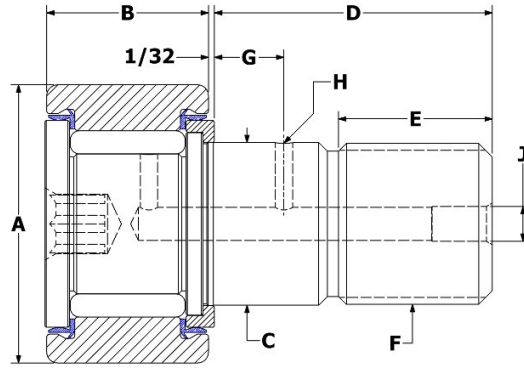


## Standard Stainless Yoke Roller

Part Number		Roller			Inner Ring	Lubrication		Other Specs				
		A	B	W	d	H	P					
Cylindrical	Crowned	Roller O.D. +0.000 -0.001	Roller Width +0.000 -0.005	Overall Width +0.005 -0.010	Bore Diameter +0.0002 -0.0004	Oil Hole Diameter	Min. Boss Diameter	Recom. Push Fit Shaft Ø +0.0002 -0.0002	Recom. Drive Fit Shaft Ø 0.0002 -0.0002	Recom. Press Fit Shaft Ø 0.0002 -0.0002	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)
SY-24-S	CSY-24-S	0.750	0.500	0.5625	0.250	3/32	1/2	0.2495	0.2501	0.2503	2,100	1,490
SY-28-S	CSY-28-S	0.875	0.500	0.5625	0.250	3/32	1/2	0.2495	0.2501	0.2503	2,100	1,490
SY-32-S	CSY-32-S	1.000	0.625	0.6875	0.3125	3/32	41/64	0.312	0.3126	0.3128	5,400	2,000
SY-36-S	CSY-36-S	1.125	0.625	0.6875	0.3125	3/32	41/64	0.312	0.3126	0.3128	5,400	2,000
SY-40-S	CSY-40-S	1.250	0.750	0.8125	0.375	3/32	49/64	0.3745	0.3751	0.3753	7,700	3,530
SY-44-S	CSY-44-S	1.375	0.750	0.8125	0.375	3/32	49/64	0.3745	0.3751	0.3753	7,700	3,530
SY-48-S	CSY-48-S	1.500	0.875	0.9375	0.4375	3/32	57/64	0.437	0.4376	0.4378	11,200	4,350
SY-52-S	CSY-52-S	1.625	0.875	0.9375	0.4375	3/32	57/64	0.437	0.4376	0.4378	11,200	4,350
SY-56-S	CSY-56-S	1.750	1.000	1.0625	0.500	3/32	1 3/64	0.4995	0.5001	0.5005	14,800	5,730
SY-60-S	CSY-60-S	1.875	1.000	1.0625	0.500	3/32	1 3/64	0.4995	0.5001	0.5005	14,800	5,730
SY-64-S	CSY-64-S	2.000	1.250	1.3125	0.625	1/8	1 13/64	0.6245	0.6251	0.6255	17,600	7,270
SY-72-S	CSY-72-S	2.250	1.250	1.3125	0.625	1/8	1 13/64	0.6245	0.6251	0.6255	17,600	7,270
SY-80-S	CSY-80-S	2.500	1.500	1.5625	0.750	1/8	1 5/16	0.7495	0.7501	0.7505	12,335	10,430

Available from stock  
 Food Grade Grease Standard  
 Other lubricants are available.

# Xtenda™ Needle Bearing Cam Followers - Heavy Duty Stainless Steel



## Heavy Stud Stainless Cam Follower

Part Number		Roller		Stud				Lubrication			Other Specs				
		A	B	C	D	E	F	G	H	J					
Cylindrical	Crowned	Roller O.D. +.000 -0.001	Roller Width +.000 -.005	Stud Diameter +.001 -.000	Stud Length +.010 -.010	M.E.T.	Thread Class 2A	Oil Hole Center	Oil Hole Diameter	Lube Fitting Size	Min. Boss Diameter	Recom. Bore Diameter +.0005 -.0000	**Recom. Torque (in lb)	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)
SCH-16-SB	CSCH-16-SB	0.500	0.375	0.250	0.625	0.250	1/4-28	-	-	-	13/32	0.250	12	1,106	544
SCH-20-SB	CSCH-20-SB	0.625	0.4375	0.3125	0.750	0.312	5/16-24	-	-	-	23/64	0.313	28	1,736	796
SCH-22-SB	CSCH-22-SB	0.6875	0.4375	0.3125	0.750	0.312	5/16-24	-	-	-	23/64	0.313	28	1,736	796
SCH-24-SB	CSCH-24-SB	0.750	0.500	0.4375	0.875	0.375	7/16-20	1/4	3/32	3/16	1/2	0.4375	76	2,891	1,328
SCH-28-SB	CSCH-28-SB	0.875	0.500	0.4375	0.875	0.375	7/16-20	1/4	3/32	3/16	1/2	0.4375	76	2,891	1,328
SCH-32-SB	CSCH-32-SB	1.000	0.625	0.625	1.000	0.500	5/8-18	1/4	3/32	3/16	41/64	0.625	200	4,284	1,780
SCH-36-SB	CSCH-36-SB	1.125	0.625	0.625	1.000	0.500	5/8-18	1/4	3/32	3/16	41/64	0.625	200	4,284	1,780
SCH-40-SB	CSCH-40-SB	1.250	0.750	0.750	1.250	0.625	3/4-16	5/16	3/32	3/16	49/64	0.750	280	5,950	3,144
SCH-44-SB	CSCH-44-SB	1.375	0.750	0.750	1.250	0.625	3/4-16	5/16	3/32	3/16	49/64	0.750	280	5,950	3,144
SCH-48-SB	CSCH-48-SB	1.500	0.875	0.875	1.500	0.750	7/8-14	3/8	3/32	3/16	57/64	0.875	520	7,896	3,872
SCH-52-SB	CSCH-52-SB	1.625	0.875	0.875	1.500	0.750	7/8-14	3/8	3/32	3/16	57/64	0.875	520	7,896	3,872
SCH-56-SB	CSCH-56-SB	1.750	1.000	1.000	1.750	0.875	1-14	7/16	3/32	3/16	1 3/64	1.000	1,000	11,088	5,108
SCH-60-SB	CSCH-60-SB	1.875	1.000	1.000	1.750	0.875	1-14	7/16	3/32	3/16	1 3/64	1.000	1,000	11,088	5,108
SCH-64-SB	CSCH-64-SB	2.000	1.250	1.125	2.000	1.000	1 1/8-12	1/2	1/8	3/16	1 13/64	1.125	1,200	14,798	6,472
SCH-72-SB	CSCH-72-SB	2.250	1.250	1.125	2.000	1.000	1 1/8-12	1/2	1/8	3/16	1 13/64	1.125	1,200	14,798	6,472
SCH-80-SB	CSCH-80-SB	2.500	1.500	1.250	2.250	1.125	1 1/4-12	9/16	1/8	3/16	1 5/16	1.250	2,250	21,379	10,532

\*\*Clamping torque is based on lubricated threads, if threads are dry, double the value listed.

Available from stock  
Food Grade Grease Standard  
Other Lubricants Available

[www.carterbearings.com](http://www.carterbearings.com)



- Part# Cross Reference Search
  - CARTER Product Search
  - FREE Online CAD Downloads
  - Best Practices Guide
  - Technical Information
  - CARTER Product Literature
  - Regional Sales Reps Contact Info
- [www.carterbearings.com](http://www.carterbearings.com)

# Additional Dimension Charts & Interchangeability

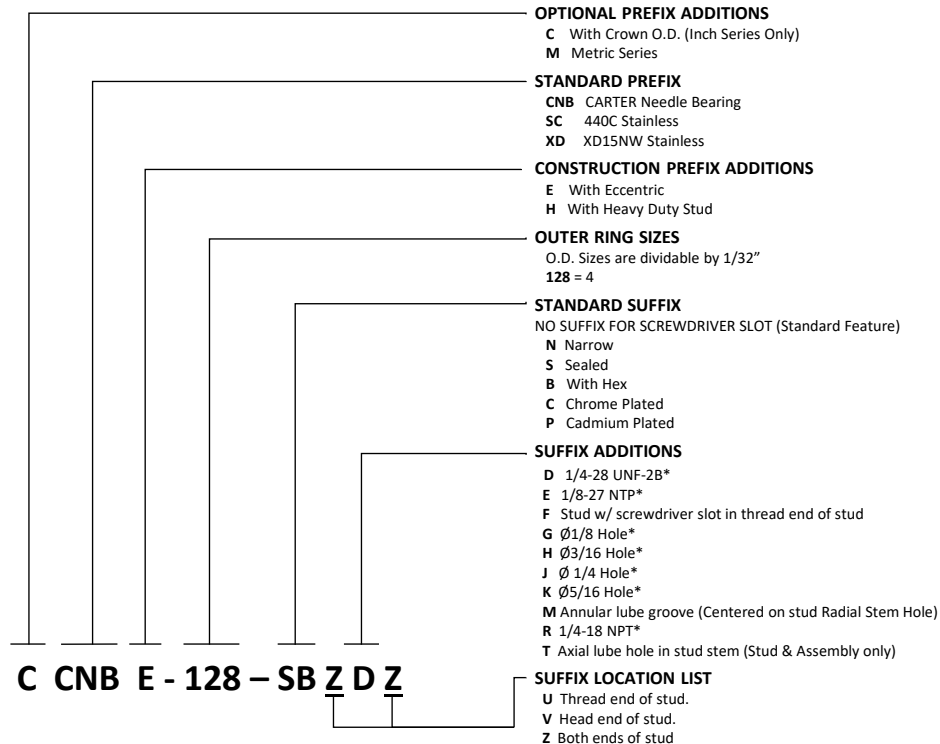
## Crown O.D. Radius Dimensions

Size	Part Number	Crown O.D.
1/2	CCNB-16	7
5/8	CCNB-20	8
11/16	CCNB-22	8
3/4	CCNB-24	10
7/8	CCNB-28	10
1	CCNB-32	12
1 1/8	CCNB-36	12
1 1/4	CCNB-40	14
1 3/8	CCNB-44	14
1 1/2	CCNB-48	20
1 5/8	CCNB-52	20
1 3/4	CCNB-56	20
1 7/8	CCNB-60	20
2	CCNB-64	24
2 1/4	CCNB-72	24
2 1/2	CCNB-80	30
2 3/4	CCNB-88	30
3	CCNB-96	30
3 1/4	CCNB-104	30
3 1/2	CCNB-112	30
4	CCNB-128	30
5	CCNB-160	48
6	CCNB-192	56
7	CCNB-224	60
8	CCNB-256	40
9	CCNB-288	40
10	CCNB-320	40

## Hex Wrench Sizes

Size	Part Number	Hex Wrench Size
1/2	CNB-16-B	1/8
5/8	CNB-20-B	1/8
11/16	CNB-22-B	1/8
3/4	CNB-24-B	3/16
7/8	CNB-28-B	3/16
1	CNB-32-B	1/4
1 1/8	CNB-36-B	1/4
1 1/4	CNB-40-B	1/4
1 3/8	CNB-44-B	1/4
1 1/2	CNB-48-B	5/16
1 5/8	CNB-52-B	5/16
1 3/4	CNB-56-B	5/16
1 7/8	CNB-60-B	5/16
2	CNB-64-B	7/16
2 1/4	CNB-72-B	7/16
2 1/2	CNB-80-B	1/2
2 3/4	CNB-88-B	1/2
3	CNB-96-B	3/4
3 1/4	CNB-104-B	3/4
3 1/2	CNB-112-B	3/4
4	CNB-128-B	3/4
5	CNB-160-B	7/8
6	CNB-192-B	1
7	CNB-224-B	1 1/4
8	CNB-256-B	1 1/4
9	CNB-288-B	1 1/4
10	CNB-320-B	1 1/4

## Cam Follower and Metric Nomenclature





# Needle Bearing Interchangeability Chart

Needle Bearing Cam Followers with Seals			
Type CNB			
Carter	McGill	RBC	SMITH
CNB-16-S	CF-1/2-S	S-16-L	CR-1/2-X
CNB-20-S	CF-5/8-S	S-20-L	CR-5/8-X
CNB-22-S	CF-11/16-S	S-22-L	CR-11/16-X
CNB-24-S	CF-3/4-S	S-24-L	CR-3/4-X
CNB-28-S	CF-7/8-S	S-28-L	CR-7/8-X
CNB-32-S	CF-1-S	S-32-L	CR-1-X
CNB-36-S	CF-1-1/8-S	S-36-L	CR-1 1/8-X
CNB-40-S	CF-1-1/4-S	S-40-L	CR-1 1/4-XA
CNB-44-S	CF-1-3/8-S	S-44-L	CR-1 3/8-X
CNB-48-S	CF-1-1/2-S	S-48-L	CR-1 1/2-X
CNB-52-S	CF-1-5/8-S	S-52-L	CR-1 5/8-X
CNB-56-S	CF-1-3/4-S	S-56-L	CR-1 3/4-X8
CNB-60-S	CF-1-7/8-S	S-60-L	CR-1 7/8-X
CNB-64-S	CF-2-S	S-64-L	CR-2-X
CNB-72-S	CF-2-1/4-S	S-72-L	CR-2 1/4-X
CNB-80-S	CF-2-1/2-S	S-80-L	CR-2 1/2-X
CNB-88-S	CF-2-3/4-S	S-88-L	CR-2 3/4-X
CNB-96-S	CF-3-S	S-96-L	CR-3-X
CNB-104-S	CF-3-1/4-S	S-104-L	YR-3 1/4-X
CNB-112-S	CF-3-1/2-S	S-112-L	CR-3 1/2-X
CNB-128-S	CF-4-S	S-128-L	CR-4-X
CNB-160-S	CF-5-S	S-160-L	-
CNB-192-S	CF-6-S	S-192-L	-
CNB-224-S	CF-7-S	S-224-L	-
CNB-256-S	CF-8-S	S-256-L	-
CNB-288-S	CF-9-S	S-288-L	-
CNB-320-S	CF-10-S	S-320-L	-

Needle Bearing Cam Yoke Rollers with Seals			
Type YNB			
Carter	McGill	RBC	SMITH
YNB-24-S	CYR-3/4-S	Y-24-L	YR-3/4-X
YNB-28-S	CYR-7/8-S	Y-28-L	YR-7/8-X
YNB-32-S	CYR-1-S	Y-32-L	YR-1-X
YNB-36-S	CYR-1-1/8-S	Y-36-L	YR-1-1/8-X
YNB-40-S	CYR-1-1/4-S	Y-40-L	YR-1 1/4-X
YNB-44-S	CYR-1-3/8-S	Y-44-L	YR-1-3/8-X
YNB-48-S	CYR-1-1/2-S	Y-48-L	YR-1 1/2-X
YNB-52-S	CYR-1-5/8-S	Y-52-L	YR-1-5/8-X
YNB-56-S	CYR-1-3/4-S	Y-56-L	YR-1-3/4-X
YNB-60-S	CYR-1-7/8-S	Y-60-L	YR-1-7/8-X
YNB-64-S	CYR-2-S	Y-64-L	YR-2-X
YNB-72-S	CYR-2-1/4-S	Y-72-L	YR-2 1/4-X
YNB-80-S	CYR-2-1/2-S	Y-80-L	YR-2 1/2-X
YNB-88-S	CYR-2-3/4-S	Y-88-L	YR-2-3/4-X
YNB-96-S	CYR-3-S	Y-96-L	YR-3-X
YNB-104-S	CYR-3-1/4-S	Y-104-L	YR-3 1/4-X
YNB-112-S	CYR-3-1/2-S	Y-112-L	YR-3 1/2-X
YNB-128-S	CYR-4-S	Y-128-L	YR-4-X
YNB-160-S	CF-5-S	S-160-L	-
YNB-192-S	CF-6-S	S-192-L	-
YNB-224-S	CF-7-S	S-224-L	-

## Comparative Type Number Changes For Added Features

For	Carter	McGill	RBC	SMITH
Unsealed	Omit S from Suffix Type No. Example: CNB-16	Same as Carter Example: CF-1/2	Omit L from Suffix Type No. Example: S-16	Omit X from Suffix. Example: CR-1/2
Crowned O.D.s with Seals	Add C on Prefix Type No. Example: CCNB-16-S	Same as Carter Example: CCF-1/2-S	Same as Carter Example: CS-16-L	Add C to Suffix Example: CR-1/2-XC
Hexagonal Socket (instead of Slotted Mounting Hole) with Seals	Add B to Suffix Type No. Example: CNB-16-SB	Same as Carter Example: CF-1/2-SB	Add W to Suffix Type No. Example: S-16-LW	Same as Carter Example: CR-1/2-XB
Eccentric Studs With Seals	Add E to end of Prefix Type No. Example: CNBE-16-S	Same as Carter Example: CFE-1/2-S	Add X to Suffix Type No. Example: S-16-LX	Add E to Suffix Example: CR-1/2-XE
Heavy Stud Cam Followers	Add H to end of Prefix Type No. Example: CNBH-16-S	Same as Carter Example: CFH-1/2-S	Prefix is H Example: H-16-L	Change C to an H in Prefix Example: HR-1/2-X

# Hi-Roller™

## Idler Rollers

### Hi-Roller™

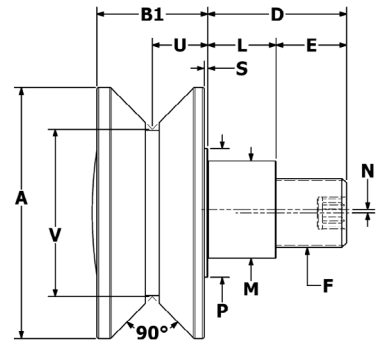
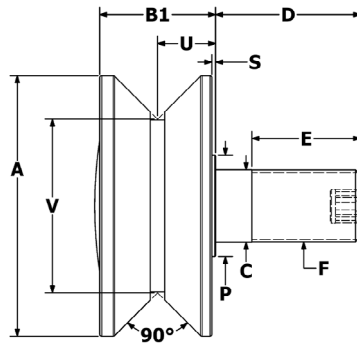
Hi-Roller bearings are designed for applications where both radial and thrust loading are present. They are available with either deep groove ball bearings or tapered roller bearings, and are capable of running at much higher speeds than needle bearing cam followers. These bearings are also available in yoke type configuration.

All Hi-Roller bearings are tightly sealed with an expansion plug on one end and radial contact lip seals on the bearings. This makes them ideal for use in environments where dust or high moisture is present.

*[www.carterbearings.com](http://www.carterbearings.com)*



# V-Groove Hi-Roller™ - Standard and Eccentric



## V-Groove Hi-Roller™

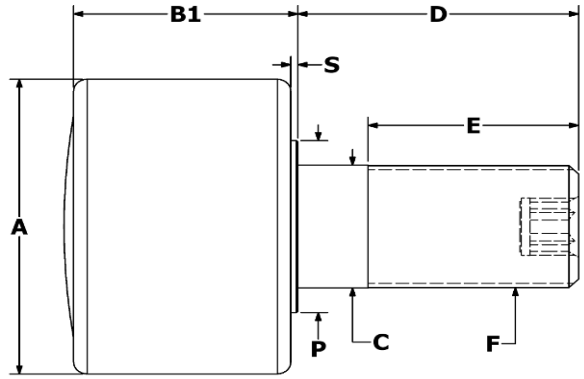
Part Number	Roller		Assembly		Stud				Endplate		Other Specs		
	A	V	B1	U	C	D	E	F	P	S			
ID	Roller O.D. Diameter	V-Groove Diameter	Roller Width	V-Groove Center Location	Stud Diameter +.000 -0.001	Stud Length +.030 -0.030	M.E.T.	Thread Class 2A	Diameter	Stickout	Basic Dynamic Rating (lbf)	Dynamic Thrust Load (lbf)	Maximum Static Capacity (lbf)
VHR-150-A	1.500	1.125	0.781	0.391	0.437	1.000	1/2	7/16-20	0.500	0.031	630	140	230
VHR-200-A	2.000	1.375	0.844	0.422	0.500	1.250	5/8	1/2-20	0.625	0.031	1,350	370	600
VHR-250-A	2.500	1.500	1.313	0.688	0.750	1.750	7/8	3/4-16	1.000	0.062	2,750	1,700	1,100
VHR-350-A	3.500	2.250	1.688	0.875	0.875	2.000	1 1/8	7/8-14	1.000	0.062	5,180	3,185	2,270
VHR-450-A	4.500	3.000	2.000	1.000	1.250	2.500	1 3/4	1 1/4-12	1.750	0.062	14,300	5,790	20,000
VHR-550-A	5.500	4.000	2.000	1.000	1.250	2.750	1 3/4	1 1/4-12	1.750	0.062	14,300	5,790	20,000
VHR-650-A	6.500	5.000	3.000	1.500	2.000	4.500	2 1/2	2-12	3.250	0.062	35,800	12,800	56,400
VHR-750-A	7.500	6.000	3.000	1.500	2.500	5.500	3 1/4	2 1/2-12	3.250	0.062	35,800	12,800	56,400
VHR-850-A	8.500	7.000	3.000	1.500	2.500	5.500	3 1/4	2 1/2-12	3.250	0.062	35,800	12,800	56,400

## V-Groove Eccentric Hi-Roller™

Part Number	Roller		Assembly		Stud			Eccentric Sleeve			Endplate		Other Specs		
	A	V	B1	U	D	E	F	L	M	N	P	S			
ID	Roller O.D. Diameter	V-Groove Diameter	Roller Width	V-Groove Center Location	Stud Length +.030 -0.030	Thread Length	Thread Class 2A	Eccentric Sleeve Length +.000 -0.010	Eccentric Sleeve Diameter +.001 -0.001	Offset	Diameter	Stickout	Basic Dynamic Rating (lbf)	Dynamic Thrust Load (lbf)	Maximum Static Capacity (lbf)
VHRE-150-A	1.500	1.125	0.781	0.391	1.000	0.500	7/16-20	0.500	0.625	0.030	0.750	0.031	630	140	230
VHRE-200-A	2.000	1.375	0.844	0.422	1.250	0.625	1/2-20	0.625	0.687	0.030	0.812	0.031	1,350	370	600
VHRE-250-A	2.500	1.500	1.313	0.688	1.750	0.895	3/4-16	0.855	1.000	0.030	1.375	0.062	2,760	680	1,100
VHRE-350-A	3.500	2.250	1.688	0.875	2.000	1.020	7/8-14	0.980	1.187	0.060	1.500	0.062	5,190	1,400	2,270
VHRE-450-A	4.500	3.000	2.000	1.000	2.500	1.270	1 1/4-12	1.230	1.750	0.060	2.312	0.062	14,270	12,000	20,000
VHRE-550-A	5.500	4.000	2.000	1.000	2.750	1.395	1 1/4-12	1.355	1.812	0.060	2.312	0.062	14,270	12,000	20,000
VHRE-650-A	6.500	5.000	3.000	1.500	4.500	2.375	2-12	2.125	2.625	0.060	3.250	0.062	35,840	33,100	56,400
VHRE-750-A	7.500	6.000	3.000	1.500	5.500	2.625	2 1/2-12	2.875	3.125	0.060	3.625	0.062	35,840	33,100	56,400

Load Ratings based on 500 hours L10 life @ 33 1/3 RPM.

# Plain Hi-Roller™



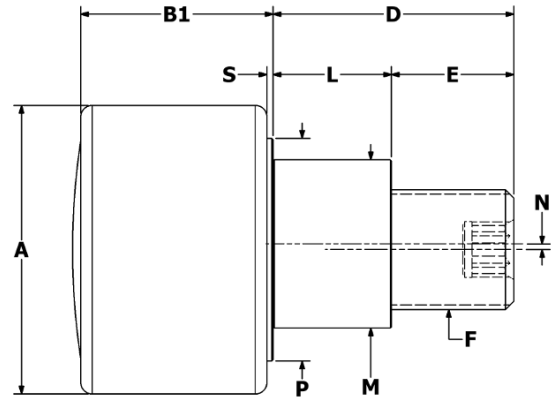
## Plain Hi-Roller™

Part Number		Roller	Assembly	Stud				Endplate		Other Specs		
		A	B1	C	D	E	F	P	S			
Cylindrical	Crowned	Roller O.D. +000 -001	Roller Width	Stud Diameter +000 -001	Stud Length +030 -030	M.E.T.	Thread Class 2A	Diameter	Stickout	Basic Dynamic Rating (lbf)	Dynamic Thrust Load (lbf)	Maximum Static Capacity (lbf)
PHR-100-A	CPHR-100-A	1.000	0.781	0.437	1.000	1/2	7/16-20	0.500	0.031	630	140	230
PHR-112-A	CPHR-112-A	1.125	0.781	0.437	1.000	1/2	7/16-20	0.500	0.031	630	140	230
PHR-125-A	CPHR-125-A	1.250	0.844	0.500	1.250	5/8	1/2-20	0.500	0.031	1,350	370	600
PHR-137-A	CPHR-137-A	1.375	0.844	0.500	1.250	5/8	1/2-20	0.625	0.031	1,350	370	600
PHR-150-A	CPHR-150-A	1.500	1.187	0.625	1.500	3/4	5/8-18	0.750	0.062	2,760	680	1,100
PHR-175-A	CPHR-175-A	1.750	1.187	0.750	1.750	7/8	3/4-16	1.000	0.062	2,760	680	1,100
PHR-200-A	CPHR-200-A	2.000	1.687	0.875	2.000	1 1/8	7/8-14	1.000	0.062	3,830	1,000	1,620
PHR-225-A	CPHR-225-A	2.250	1.687	0.875	2.000	1 1/8	7/8-14	1.000	0.062	3,830	1,000	1,620
PHR-250-A	CPHR-250-A	2.500	1.687	1.000	2.250	1 1/2	1-14	1.250	0.062	5,190	1,400	2,270
PHR-275-A	CPHR-275-A	2.750	1.687	1.000	2.250	1 1/2	1-14	1.250	0.062	5,190	1,400	2,270
PHR-300-A	CPHR-300-A	3.000	2.000	1.250	2.500	1 3/4	1 1/4-12	1.750	0.062	14,290	12,000	20,000
PHR-325-A	CPHR-325-A	3.250	2.000	1.250	2.500	1 3/4	1 1/4-12	1.750	0.062	14,290	12,000	20,000
PHR-350-A	CPHR-350-A	3.500	2.000	1.250	2.750	1 3/4	1 1/4-12	1.750	0.062	14,270	12,000	20,000
PHR-400-A	CPHR-400-A	4.000	2.000	1.250	2.750	1 3/4	1 1/4-12	1.750	0.062	14,270	12,000	20,000
PHR-450-A	CPHR-450-A	4.500	2.000	1.250	2.750	1 3/4	1 1/4-12	1.750	0.062	14,270	12,000	20,000
PHR-500-A	CPHR-500-A	5.000	3.000	2.000	4.500	2 1/2	2-12	3.250	0.062	33,290	32,500	51,900
PHR-600-A	CPHR-600-A	6.000	3.000	2.500	5.500	3 1/4	2 1/2-12	3.250	0.062	35,840	33,100	56,400
PHR-700-A	CPHR-700-A	7.000	3.000	2.500	5.500	3 1/4	2 1/2-12	3.250	0.062	35,840	33,100	56,400
PHR-800-A	CPHR-800-A	8.000	3.000	2.500	5.500	3 1/4	2 1/2-12	3.250	0.062	35,840	33,100	56,400
PHR-1000-A	CPHR-1000-A	10.000	3.000	2.500	5.500	3 1/4	2 1/2-12	3.250	0.062	35,840	33,100	56,400

Load Ratings based on 500 hours L10 life @ 33 1/3 RPM.



# Plain Hi-Roller™ - Eccentric



## Plain Eccentric Hi-Roller™

Part Number		Roller	Assembly	Stud			Eccentric Sleeve			Endplate		Other Specs		
		A	B1	D	E	F	L	M	N	P	S			
Cylindrical	Crowned	Roller O.D. +0.000 -0.001	Roller Width	Stud Length +0.030 -0.030	Thread Length	Thread Class 2A	Eccentric Sleeve Length +0.000 -0.010	Eccentric Sleeve Diameter +0.001 -0.001	Offset	Diameter	Stickout	Basic Dynamic Rating (lbf)	Dynamic Thrust Load (lbf)	Maximum Static Capacity (lbf)
PHRE-100-A	CPHRE-100-A	1.000	0.781	1.000	0.500	7/16-20	0.500	0.625	0.030	0.750	0.031	630	140	230
PHRE-112-A	CPHRE-112-A	1.125	0.781	1.000	0.500	7/16-20	0.500	0.625	0.030	0.750	0.031	630	140	230
PHRE-125-A	CPHRE-125-A	1.250	0.844	1.250	0.625	1/2-20	0.625	0.687	0.030	0.812	0.031	1,350	370	600
PHRE-137-A	CPHRE-137-A	1.375	0.844	1.250	0.625	1/2-20	0.625	0.687	0.030	0.812	0.031	1,350	370	600
PHRE-150-A	CPHRE-150-A	1.500	1.187	1.500	0.770	5/8-18	0.730	0.875	0.030	1.125	0.062	2,760	680	1,100
PHRE-175-A	CPHRE-175-A	1.750	1.187	1.750	0.895	3/4-16	0.855	1.000	0.030	1.240	0.062	2,760	680	1,100
PHRE-200-A	CPHRE-200-A	2.000	1.687	2.000	1.020	7/8-14	0.980	1.187	0.030	1.500	0.062	3,830	1,000	1,620
PHRE-225-A	CPHRE-225-A	2.250	1.687	2.000	1.020	7/8-14	0.980	1.187	0.030	1.500	0.062	3,830	1,000	1,620
PHRE-250-A	CPHRE-250-A	2.500	1.687	2.250	1.145	1-14	1.105	1.375	0.030	1.687	0.062	5,190	1,400	2,270
PHRE-275-A	CPHRE-275-A	2.750	1.687	2.250	1.145	1-14	1.105	1.375	0.030	1.687	0.062	5,190	1,400	2,270
PHRE-300-A	CPHRE-300-A	3.000	2.000	2.500	1.270	1 1/4-12	1.230	1.750	0.060	2.312	0.062	14,290	12,000	20,000
PHRE-325-A	CPHRE-325-A	3.250	2.000	2.500	1.270	1 1/4-12	1.230	1.750	0.060	2.312	0.062	14,290	12,000	20,000
PHRE-350-A	CPHRE-350-A	3.500	2.000	2.750	1.395	1 1/4-12	1.355	1.812	0.060	2.312	0.062	14,270	12,000	20,000
PHRE-400-A	CPHRE-400-A	4.000	2.000	2.750	1.395	1 1/4-12	1.355	1.812	0.060	2.312	0.062	14,270	12,000	20,000
PHRE-450-A	CPHRE-450-A	4.500	2.000	2.750	1.395	1 1/4-12	2.125	2.625	0.060	2.312	0.062	14,270	12,000	20,000
PHRE-500-A	CPHRE-500-A	5.000	3.000	4.500	2.375	2-12	2.125	2.625	0.060	3.250	0.062	33,290	32,500	51,900
PHRE-600-A	CPHRE-600-A	6.000	3.000	5.500	2.625	2 1/2-12	2.875	3.125	0.060	3.625	0.062	35,840	33,100	56,400

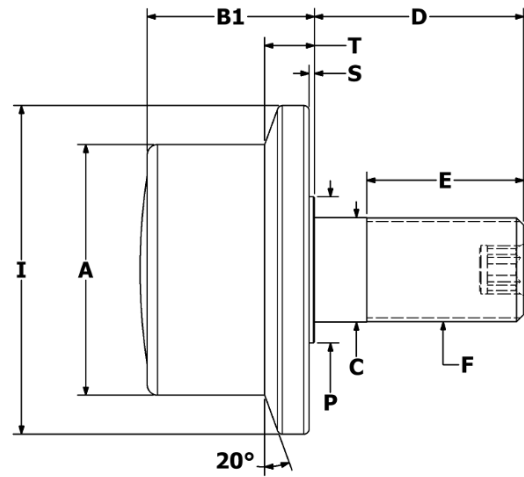
Load Ratings based on 500 hours L10 life @ 33 1/3 RPM.

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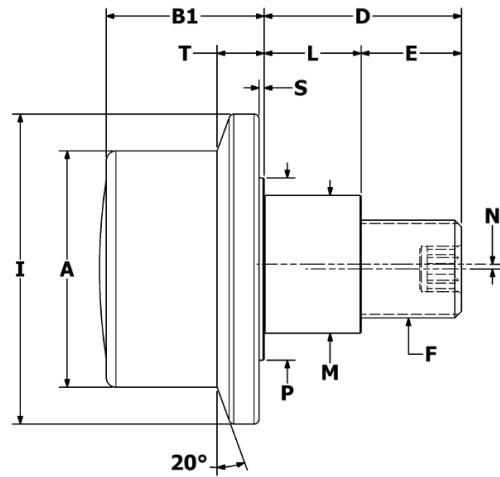
# Flanged Hi-Roller™



Flanged Hi-Roller™													
Part Number	Roller			Assembly	Stud				Endplate		Other Specs		
	A	I	T	B1	C	D	E	F	P	S			
ID	Roller O.D.	Flange Diameter	Flange Width	Roller Width	Stud Diameter +.000 -0.001	Stud Length +.030 -.030	M.E.T.	Thread Class 2A	Diameter	Stickout	Basic Dynamic Rating (lbf)	Dynamic Thrust Load (lbf)	Maximum Static Capacity (lbf)
FHR-100-A	1.000	1.375	0.219	0.781	0.437	1.000	1/2	7/16-20	0.500	0.031	630	140	230
FHR-112-A	1.125	1.500	0.219	0.781	0.437	1.000	1/2	7/16-20	0.500	0.031	630	140	230
FHR-125-A	1.250	1.563	0.219	0.844	0.500	1.250	5/8	1/2-20	0.500	0.031	1,350	370	600
FHR-137-A	1.375	1.688	0.219	0.844	0.500	1.250	5/8	1/2-20	0.625	0.031	1,350	370	600
FHR-150-A	1.500	2.188	0.344	1.187	0.625	1.500	3/4	5/8-18	0.750	0.062	2,760	680	1,100
FHR-175-A	1.750	2.438	0.344	1.187	0.750	1.750	7/8	3/4-16	1.000	0.062	2,760	680	1,100
FHR-200-A	2.000	2.688	0.594	1.687	0.875	2.000	1 1/8	7/8-14	1.000	0.062	3,830	1,000	1,620
FHR-225-A	2.250	2.938	0.594	1.687	0.875	2.000	1 1/8	7/8-14	1.000	0.062	3,830	1,000	1,620
FHR-250-A	2.500	3.188	0.594	1.687	1.000	2.250	1 1/2	1-14	1.250	0.062	5,190	1,400	2,270
FHR-275-A	2.750	3.438	0.594	1.687	1.000	2.250	1 1/2	1-14	1.250	0.062	5,190	1,400	2,270
FHR-300-A	3.000	3.938	0.594	2.000	1.250	2.500	1 3/4	1 1/4-12	1.750	0.062	14,290	12,000	20,000
FHR-325-A	3.250	4.188	0.594	2.000	1.250	2.500	1 3/4	1 1/4-12	1.750	0.062	14,290	12,000	20,000
FHR-350-A	3.500	4.438	0.594	2.000	1.250	2.750	1 3/4	1 1/4-12	1.750	0.062	14,270	12,000	20,000
FHR-400-A	4.000	4.938	0.594	2.000	1.250	2.750	1 3/4	1 1/4-12	1.750	0.062	14,270	12,000	20,000
FHR-450-A	4.500	5.438	0.594	2.000	1.250	2.750	1 3/4	1 1/4-12	1.750	0.062	14,270	12,000	20,000
FHR-500-A	5.000	5.938	0.719	3.000	2.000	4.500	2 1/2	2-12	3.250	0.062	33,290	32,500	51,900
FHR-600-A	6.000	6.938	0.719	3.000	2.500	5.500	3 1/4	2 1/2-12	3.250	0.062	35,840	33,100	56,400
FHR-700-A	7.000	7.938	0.719	3.000	2.500	5.500	3 1/4	2 1/2-12	3.250	0.062	35,840	33,100	56,400
FHR-800-A	8.000	8.938	0.719	3.000	2.500	5.500	3 1/4	2 1/2-12	3.250	0.062	35,840	33,100	56,400

Load Ratings based on 500 hours L10 life @ 33 1/3 RPM.

# Flanged Hi-Roller™ - Eccentric

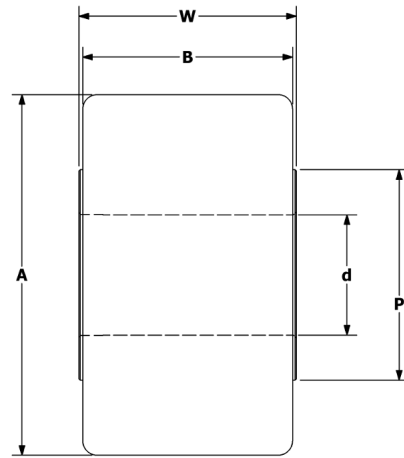
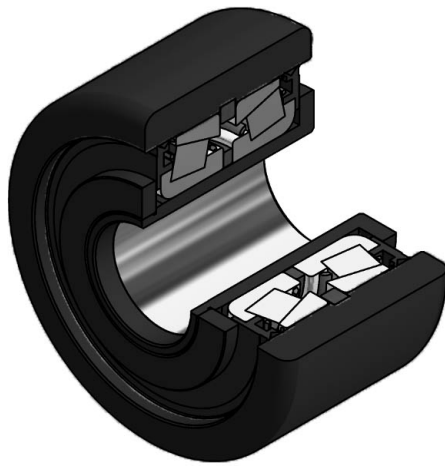


## Flanged Eccentric Hi-Roller™

Part Number	Roller			Assembly	Stud			Eccentric Sleeve			Endplate		Other Specs		
	A	I	T	B1	D	E	F	L	M	N	P	S			
ID	Roller O.D.	Flange Diameter	Flange Width	Roller Width	Stud Length +030 -030	Thread Length	Thread Class 2A	Eccentric Sleeve Length +000 -010	Eccentric Sleeve Diameter +001 -001	Offset	Diameter	Stickout	Basic Dynamic Rating (lbf)	Dynamic Thrust Load (lbf)	Maximum Static Capacity (lbf)
FHRE-100-A	1.000	1.375	0.219	0.781	1.000	0.500	7/16-20	0.500	0.625	0.030	0.750	0.031	630	140	230
FHRE-112-A	1.125	1.500	0.219	0.781	1.000	0.500	7/16-20	0.500	0.625	0.030	0.750	0.031	630	140	230
FHRE-125-A	1.250	1.563	0.219	0.844	1.250	0.625	1/2-20	0.625	0.687	0.030	0.812	0.031	1,350	370	600
FHRE-137-A	1.375	1.688	0.219	0.844	1.250	0.625	1/2-20	0.625	0.687	0.030	0.812	0.031	1,350	370	600
FHRE-150-A	1.500	2.188	0.344	1.187	1.500	0.770	5/8-18	0.730	0.875	0.030	1.125	0.062	2,760	680	1,100
FHRE-175-A	1.750	2.438	0.344	1.187	1.750	0.895	3/4-16	0.855	1.000	0.030	1.240	0.062	2,760	680	1,100
FHRE-200-A	2.000	2.688	0.594	1.687	2.000	1.020	7/8-14	0.980	1.187	0.030	1.500	0.062	3,830	1,000	1,620
FHRE-225-A	2.250	2.938	0.594	1.687	2.000	1.020	7/8-14	0.980	1.187	0.030	1.500	0.062	3,830	1,000	1,620
FHRE-250-A	2.500	3.188	0.594	1.687	2.250	1.145	1-14	1.105	1.375	0.030	1.687	0.062	5,190	1,400	2,270
FHRE-275-A	2.750	3.438	0.594	1.687	2.250	1.145	1-14	1.105	1.375	0.030	1.687	0.062	5,190	1,400	2,270
FHRE-300-A	3.000	3.938	0.594	2.000	2.500	1.270	1 1/4-12	1.230	1.750	0.060	2.312	0.062	14,290	12,000	20,000
FHRE-325-A	3.250	4.188	0.594	2.000	2.500	1.270	1 1/4-12	1.230	1.750	0.060	2.312	0.062	14,290	12,000	20,000
FHRE-350-A	3.500	4.438	0.594	2.000	2.750	1.395	1 1/4-12	1.355	1.812	0.060	2.312	0.062	14,270	12,000	20,000
FHRE-400-A	4.000	4.938	0.594	2.000	2.750	1.395	1 1/4-12	1.355	1.812	0.060	2.312	0.062	14,270	12,000	20,000
FHRE-450-A	4.500	5.438	0.594	2.000	2.750	1.395	1 1/4-12	1.355	1.812	0.060	2.312	0.062	14,270	12,000	20,000
FHRE-500-A	5.000	5.938	0.718	3.000	4.500	2.375	2-12	2.125	2.625	0.060	3.250	0.062	33,290	32,500	51,900
FHRE-600-A	6.000	6.938	0.718	3.000	5.500	2.625	2 1/2-12	2.875	3.125	0.060	3.625	0.062	35,840	33,100	56,400

Load Ratings based on 500 hours L10 life @ 33 1/3 RPM.

# Plain Hi-Roller™ Yoke Rollers



## Plain Yoke Hi-Roller™

Part Number	Roller		Inner Ring	Assembly		Other Specs		
	A	B	d	W	P			
ID	Roller O.D. +000 -001	Roller Width +000 -005	Bore Diameter +0005 -0000	Overall Width +005 -010	End Plate & Flange Diameter	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)	Thrust Capacity (lbf)
PHRY-150-A	1.500	0.875	0.437	0.937	7/8	780	1,850	480
PHRY-175-A	1.750	1.000	0.500	1.063	1	780	1,850	480
PHRY-200-A	2.000	1.250	0.625	1.313	1 1/8	1,810	3,400	1,120
PHRY-225-A	2.250	1.500	0.625	1.313	1 1/8	1,810	3,400	1,120
PHRY-250-A	2.500	1.500	0.750	1.562	1 1/4	7,630	10,880	4,570
PHRY-300-A	3.000	1.750	1.000	1.812	1 3/4	20,000	14,270	12,000
PHRY-325-A	3.250	1.750	1.000	1.812	1 3/4	20,000	14,270	12,000
PHRY-350-A	3.500	2.000	1.125	2.062	2	27,200	17,590	13,100
PHRY-400-A	4.000	2.250	1.250	2.312	2 1/4	27,200	17,590	13,100
PHRY-500-A	5.000	2.750	1.750	2.875	3 1/4	51,900	33,290	32,500
PHRY-600-A	6.000	3.250	2.250	3.375	3 1/2	56,400	35,840	33,100
PHRY-700-A	7.000	3.750	2.750	3.875	4 1/4	79,800	42,430	48,400
PHRY-800-A	8.000	4.250	3.255	4.500	4 3/4	159,800	83,890	110,000
PHRY-900-A	9.000	4.750	3.755	5.000	5 1/2	250,000	134,230	147,000
PHRY-1000-A	10.000	5.250	4.255	5.500	6 1/2	276,000	138,240	196,000

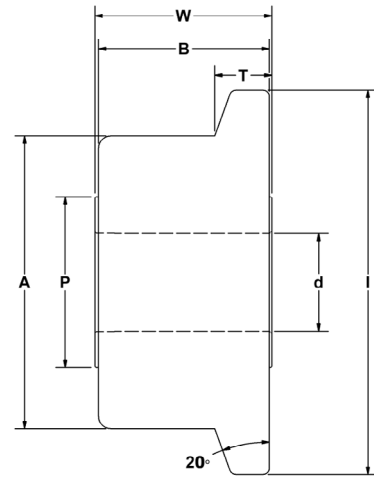
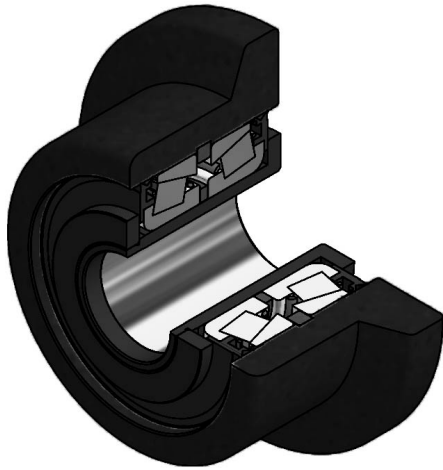
Load Ratings based on 500 hours L10 life @ 33 1/3 RPM.  
Limited sizes available from stock. Call for availability.

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# Flanged Hi-Roller™ Yoke Rollers



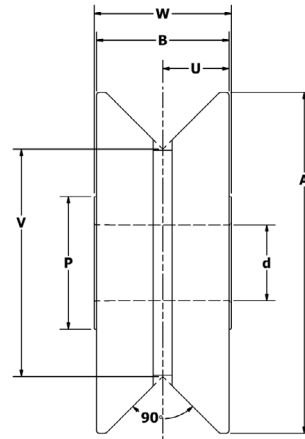
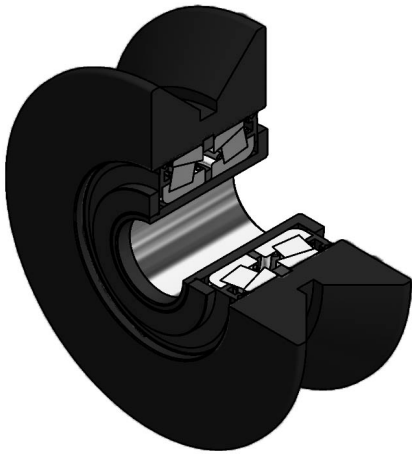
## Flanged Yoke Hi-Roller™

Part Number	Roller				Inner Ring	Assembly		Other Specs		
	A	B	I	T	d	W	P			
ID	Roller O.D. + .005 - .005	Roller Width + .000 - .005	Flange Diameter	Flange Width	Bore Diameter + .0005 - .0000	Overall Width + .005 - .010	End Plate & Flange Diameter	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)	Thrust Capacity (lbf)
FHRY-150-A	1.500	0.872	2 16/85	17/78	0.437	0.937	0.875	780	1,850	480
FHRY-175-A	1.750	1.000	2 39/89	1/4	0.500	1.063	1.000	780	1,850	480
FHRY-200-A	2.000	1.250	2 64/93	29/93	0.625	1.313	1.125	1,810	3,400	1,120
FHRY-225-A	2.250	1.250	2 91/97	29/93	0.625	1.313	1.125	1,810	3,400	1,120
FHRY-250-A	2.500	1.500	3 17/91	1/2	0.750	1.562	1.250	7,630	10,880	4,570
FHRY-300-A	3.000	1.750	3 89/95	36/61	1.000	1.812	1.750	20,000	14,270	12,000
FHRY-325-A	3.250	1.750	4 17/91	36/61	1.000	1.812	1.750	20,000	14,270	12,000
FHRY-350-A	3.500	2.000	4 38/87	36/61	1.125	2.062	2.000	27,200	17,590	13,100
FHRY-400-A	4.000	2.250	4 89/95	36/61	1.250	2.312	2.250	27,200	17,590	13,100
FHRY-500-A	5.000	2.750	5 89/95	18/25	1.750	2.875	3.250	51,900	33,290	32,500
FHRY-600-A	6.000	3.250	6 89/95	18/25	2.250	3.375	3.500	56,400	35,840	33,100
FHRY-700-A	7.000	3.750	7 89/95	18/25	2.750	3.875	4.250	79,800	42,430	48,400
FHRY-800-A	8.000	4.250	8 89/95	18/25	3.255	4.500	4.750	159,800	83,890	110,000
FHRY-900-A	9.000	4.750	9 89/95	18/25	3.755	5.000	5.500	250,000	134,230	147,000
FHRY-1000-A	10.000	5.250	10 89/95	18/25	4.255	5.500	6.500	276,000	138,240	196,000

Load Ratings based on 500 hours L10 life @ 33 1/3 RPM.  
Limited sizes available from stock. Call for availability.



# V-Groove Hi-Roller™ Yoke Rollers

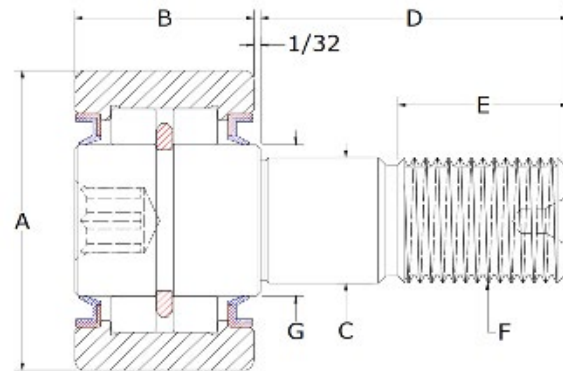


## V-Grooved Yoke Hi-Roller™

Part Number	Roller			Inner Ring	Assembly			Other Specs		
	A	B	V	d	W	U	P	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)	Thrust Capacity (lbf)
ID	Roller O.D.	Roller Width +0.00 -0.05	V-Groove Point Ø +0.05 -0.05	Bore Diameter +0.005 -0.000	Overall Width +0.05 -0.10	V-Groove Center Location	End Plate & Flange Diameter			
VHRY-250-A	2.500	0.875	1.750	0.437	89/95	0.468	0.875	780	1,850	480
VHRY-300-A	3.500	1.250	2.062	0.625	1 29/93	0.656	1.150	1,810	3,400	1,120
VHRY-375-A	3.750	1.500	2.500	0.750	1 50/89	0.781	1.250	7,630	10,880	4,570
VHRY-450-A	4.500	1.750	3.000	1.000	1 69/85	0.906	1.750	20,000	14,270	12,000
VHRY-500-A	5.000	2.000	3.500	1.125	2 6/97	1.030	2.000	27,200	17,590	13,100
VHRY-550-A	5.500	2.250	4.000	1.250	2 29/93	1.156	2.250	27,200	17,590	13,100
VHRY-650-A	6.500	2.750	5.000	1.750	2 7/8	1.437	3.500	44,600	35,840	23,010
VHRY-750-A	7.500	3.250	6.000	2.250	2 3/8	1.687	3.500	52,600	35,840	26,930
VHRY-850-A	8.500	3.750	7.000	2.750	3 7/8	1.937	4.250	60,300	42,430	30,850
VHRY-950-A	9.500	4.250	8.000	3.255	4 1/2	2.250	4.750	69,540	69,540	34,770
VHRY-1050-A	10.500	4.750	9.000	3.755	5	2.500	5.500	77,380	77,380	38,690
VHRY-1150-A	11.500	5.250	10.000	4.255	5 1/2	2.750	6.500	85,220	85,220	42,610

Load Ratings based on 500 hours L10 life @ 33 1/3 RPM.  
Limited sizes available from stock. Call for availability.

# Heavy Cylindrical Roller Bearings



Heavy Cylindrical Roller Bearings, Cam Follower														
Part Number	Roller		Stud						Other Specs					
	A	B	C	D	E	F	G	X	Mounting Bore Diameter (recommended)	**Recom. Torque (Inch Pounds)	Limiting Speed (RPM)	Basic Dynamic Rating (lbf)	Max Static Capacity (lbf)	Approx Weight (lbs)
CDR-150-S	1.500	0.875	0.625	1.500	3/4	5/8-18	3/4	5/16	0.625	390	6,200	6,201	7,000	0.51
CDR-175-S	1.750	1.0000	0.7500	1.750	0.875	3/4-16	1	5/16	0.750	750	4,700	8,200	10,500	0.83
CDR-200-S	2.0000	1.2500	0.8750	2.000	1.000	7/8-14	1-1/8	7/16	0.875	900	4,100	12,400	17,200	1.32

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# Neverlube™

## Cam Followers and Cam Yoke Rollers

Carter's Neverlube series has an advanced design, self-lubricating sleeve bearing that provides continuous, dependable lubrication for the life of the unit. The Neverlube bearings have a heat-treated steel roller with an SAE 841 oil impregnated bronze bushing rather than needle rollers. As the bearing operates, the oil rises to the surface of the sintered bronze bushing providing continuous, dependable lubrication for the life of the bearing.

The permanent lubrication not only eliminates leakage due to over-lubrication, but the oil restores itself when the bearing is not in use, preventing additional leakage. This is an important advantage in applications such as food processing and pharmaceutical manufacturing. Because there are no internal moving elements, Neverlube bearings offer trouble-free operation in a wide variety of applications, including situations where the equipment is subject to frequent wash downs.

### Application Information

Neverlube bearings offer many important benefits to engineers who are developing new equipment for special applications, or redesigning existing equipment to achieve competitive advantages such as lower cost and longer service life.

### Continuous Self-Lubrication

Continuous self-lubrication is an important advantage, particularly in applications where lubricating the bearing is inconvenient, difficult, or even impossible, or where dirt, dust or other contaminants can seep in causing needle, roller or ball bearings to "seize up."

Because there are no internal moving elements, Neverlube Bearings can be trouble-free in high humidity applications or where the equipment may be subject to frequent "wash downs," as in food processing plants.

### Lower Cost

The simplified design of Neverlube bearings can mean lower cost — The self-lubricating feature also helps reduce maintenance costs and assures adequate lubrication at all times, greatly reducing the possibility of bearing failure and unscheduled downtime. In addition, the Hex Socket, which is an important aid to easy installation and replacement, and which is normally an "extra," is included at no extra cost.

### Clean Lubrication

Neverlube bearings not only eliminate leakage due to over-lubrication, but the oil rises to the surface when in motion and restores itself when the bearing is not in use, preventing leakage from this source. This "clean" lubrication is an important advantage, particularly in applications such as food processing plants, and is a desirable feature in many other applications.

### Interchangeability

Neverlube Bearings are interchangeable with standard types of needle roller bearings dimensionally and otherwise. (See Interchangeability Charts.) So you can frequently have the self-lubricating features of Neverlube bearings and also save money on many of your present bearing applications.

### Temperature Range

Neverlube™ bearings have an operating temperature range of -20 °F to +300 °F. All Neverlube™ bushings come standard with Chemlube® 645 Synthetic lubricant.

For high-temp applications, unsealed bearings can be specified and have an operating temperature range of -20° F and +450° F due to the synthetic lube.

# Neverlube Application Data

## Application Data

Neverlube Bearings are particularly well suited to applications with light to moderate loads operating at medium to higher speeds... although they have been successfully used in many other applications. Frequently, the best means of determining this is to try sample bearings in your application.

They are not normally recommended, however, for applications with:

- Extra heavy loading at static or slow speeds;
- Heavy shock loads in conjunction with slow speeds or vibrating conditions;

Frequently, the best way is to compute the load and see if it conforms to your application, then try a sample and see how it performs. Some difficult conditions are so infrequent as not to pose a problem.

## Some of the typical applications of Neverlube Bearings are:

**Food Processing Machinery** which is often subject to frequent wash downs. Here the lack of moving parts and the “clean” self-lubricating features of Neverlube Bearings are particularly valuable.

**Farm and Construction Machinery** which often are subjected to a great deal of dust and grime which tends to clog other bearings.

**Machine Tools and Metalworking Machinery** where the bearings are often inaccessible and subject to chips, coolants and grime that can clog other bearings.

**Packaging Machinery** - As with Food Processing Machinery, the clean self-lubricating feature of Neverlube Bearings is particularly desirable in many of these applications. And many others.

## Load Data for Cam Followers & Cam Yoke Rollers

Because of their special design, Neverlube Cam Followers and Cam Yoke Rollers have a PV factor of 80,000 on which the following is based. To determine the safe load capacity for a specific load and RPM use the load factor shown on the catalog data page in conjunction with the following table:

RPM	Unit Load PSI
Slow & Intermittent.	4,000 Lbs.
150 to 300 RPM.	2,000 Lbs.
300 to 600 RPM.	600 Lbs.
600 to 900 RPM.	400 Lbs.
900 to 1200 RPM.	300 Lbs.
For higher RPM - Consult Factory	

EXAMPLE:

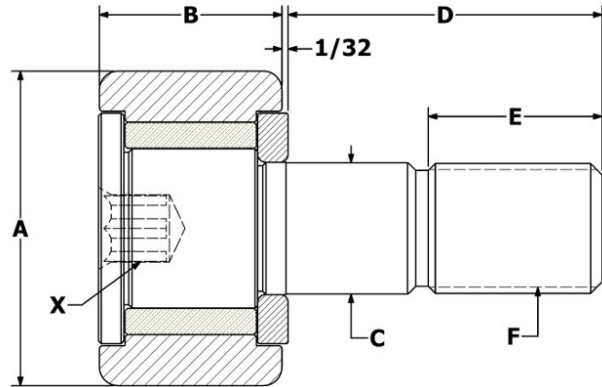
SFH-40-A Cam Follower At 800 RPM=.391  
(Load Factor) x 400 = 156.4 Lbs. Capacity.

## Shock Factors

The load ratings given are based generally on uniform or steady loading. If the loading is of shock nature, the following factors should be divided into the bearing capacity.

Type of Load	Factor
Uniform and Constant	1.0
Light Shock	1.5
Moderate Shock	2.0
Heavy Shock	3.0

# Neverlube™ Cam Followers



## Standard Neverlube Cam Follower

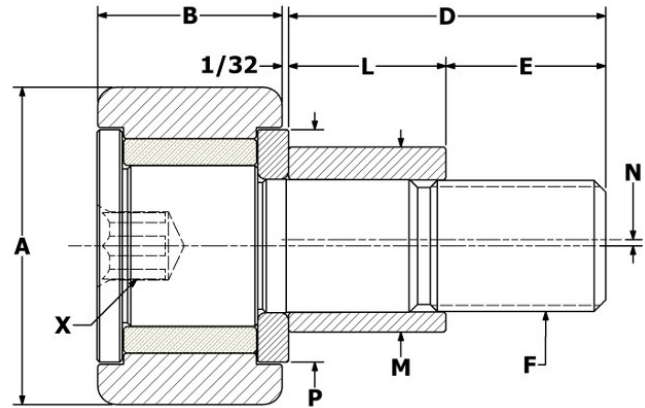
Part Number		Roller		Stud					Other Specs			
		A	B	C	D	E	F	X	Min. Boss Diameter	Recom. Bore Diameter +.0005 -0.000	**Recom. Torque (in lb)	*Load Factor
Cylindrical	Crowned	Roller O.D. +.000 -0.001	Roller Width +.000 -0.005	Stud Diameter +.001 -0.000	Stud Length +.010 -0.010	M.E.T.	Thread Class 2A	Hex Size	Min. Boss Diameter	Recom. Bore Diameter +.0005 -0.000	**Recom. Torque (in lb)	*Load Factor
SFH-16-A	CSFH-16-A	0.500	0.375	0.190	0.625	1/4	10-32	1/8	19/64	0.190	15	0.070
SFH-20-A	CSFH-20-A	0.625	0.4375	0.250	0.750	29/93	1/4-28	1/8	23/64	0.250	35	0.097
SFH-22-A	CSFH-22-A	0.6875	0.4375	0.250	0.750	29/93	1/4-28	1/8	23/64	0.250	35	0.097
SFH-24-A	CSFH-24-A	0.750	0.500	0.375	0.875	3/8	3/8-24	3/16	1/2	0.375	95	0.164
SFH-28-A	CSFH-28-A	0.875	0.500	0.375	0.875	3/8	3/8-24	3/16	1/2	0.375	95	0.164
SFH-32-A	CSFH-32-A	1.000	0.625	0.4375	1.000	1/2	7/16-20	1/4	41/64	0.438	250	0.250
SFH-36-A	CSFH-36-A	1.125	0.625	0.4375	1.000	1/2	7/16-20	1/4	41/64	0.438	250	0.250
SFH-40-A	CSFH-40-A	1.250	0.750	0.500	1.250	5/8	1/2-20	29/93	49/64	0.500	350	0.391
SFH-44-A	CSFH-44-A	1.375	0.750	0.500	1.250	5/8	1/2-20	29/93	49/64	0.500	350	0.391
SFH-48-A	CSFH-48-A	1.500	0.875	0.625	1.500	3/4	5/8-18	29/93	57/64	0.625	650	0.544
SFH-52-A	CSFH-52-A	1.625	0.875	0.625	1.500	3/4	5/8-18	29/93	57/64	0.625	650	0.544
SFH-56-A	CSFH-56-A	1.750	1.000	0.750	1.750	7/8	3/4-16	3/8	1 3/64	0.750	1,250	0.700
SFH-60-A	CSFH-60-A	1.875	1.000	0.750	1.750	7/8	3/4-16	3/8	1 3/64	0.750	1,250	0.700
SFH-64-A	CSFH-64-A	2.000	1.250	0.875	2.000	1	7/8-14	3/8	1 13/64	0.875	1,500	0.984
SFH-72-A	CSFH-72-A	2.250	1.250	0.875	2.000	1	7/8-14	3/8	1 13/64	0.875	1,500	0.984
SFH-80-B	CSFH-80-B	2.500	1.500	1.000	2.250	1 1/8	1-14	3/8	1 5/16	1.000	2,250	1.560
SFH-88-B	CSFH-88-B	2.750	1.500	1.000	2.250	1 1/8	1-14	3/8	1 5/16	1.000	2,250	1.560
SFH-96-B	CSFH-96-B	3.000	1.750	1.250	2.500	1 1/4	1 1/4-12	1/2	1 3/4	1.250	3,450	2.000
SFH-104-B	CSFH-104-B	3.250	1.750	1.250	2.500	1 1/4	1 1/4-12	1/2	1 3/4	1.250	3,450	2.000
SFH-112-B	CSFH-112-B	3.500	2.000	1.375	2.750	1 3/8	1 3/8-12	1/2	1 59/64	1.375	4,200	2.700
SFH-128-B	CSFH-128-B	4.000	2.250	1.500	3.500	1 1/2	1 1/2-12	1/2	2 9/32	1.500	5,000	3.250

\*For load factor information - see page 33

\*\*Clamping torque is based on lubricated threads, if threads are dry, double the value listed.



# Neverlube™ Eccentric Cam Followers - Eccentric



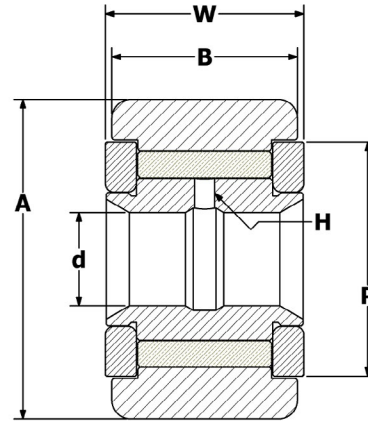
## Standard Eccentric Neverlube Cam Follower

Part Number		Roller		Stud					Eccentric Bushing			Other Specs			
		A	B	C	D	E	F	X	L	M	N				
Cylindrical	Crowned	Roller O.D. +0.000 -0.001	Roller Width +0.000 -0.005	Stud Diameter +0.0001 -0.000	Stud Length +0.010 -0.010	Thread Length	Thread Class 2A	Hex Size	Bushing Length +0.000 -0.010	Bushing Diameter +0.001 -0.001	Eccentric Offset	Min. Boss Diameter	Recom. Bore Diameter +0.0005 -0.000	**Recom. Torque (in lb)	*Load Factor
SFHE-16-A	CSFHE-16-A	0.500	0.375	0.190	0.625	1/4	10-32	1/8	0.375	0.250	0.010	19/64	0.253	15	0.070
SFHE-20-A	CSFHE-20-A	0.625	0.4375	0.250	0.750	29/93	1/4-28	1/8	0.437	0.375	0.015	23/64	0.378	35	0.097
SFHE-22-A	CSFHE-22-A	0.6875	0.4375	0.250	0.750	29/93	1/4-28	1/8	0.437	0.375	0.015	23/64	0.378	35	0.097
SFHE-24-A	CSFHE-24-A	0.750	0.500	0.375	0.875	3/8	3/8-24	3/16	0.500	0.500	0.015	1/2	0.503	95	0.164
SFHE-28-A	CSFHE-28-A	0.875	0.500	0.375	0.875	3/8	3/8-24	3/16	0.500	0.500	0.015	1/2	0.503	95	0.164
SFHE-32-A	CSFHE-32-A	1.000	0.625	0.4375	1.000	1/2	7/16-20	1/4	0.500	0.625	0.030	41/64	0.628	250	0.250
SFHE-36-A	CSFHE-36-A	1.125	0.625	0.4375	1.000	1/2	7/16-20	1/4	0.500	0.625	0.030	41/64	0.628	250	0.250
SFHE-40-A	CSFHE-40-A	1.250	0.750	0.500	1.250	5/8	1/2-20	29/93	0.625	0.687	0.030	49/64	0.690	350	0.391
SFHE-44-A	CSFHE-44-A	1.375	0.750	0.500	1.250	5/8	1/2-20	29/93	0.625	0.687	0.030	49/64	0.690	350	0.391
SFHE-48-A	CSFHE-48-A	1.500	0.875	0.625	1.500	3/4	5/8-18	29/93	0.750	0.875	0.030	57/64	0.878	650	0.544
SFHE-52-A	CSFHE-52-A	1.625	0.875	0.625	1.500	3/4	5/8-18	29/93	0.750	0.875	0.030	57/64	0.878	650	0.544
SFHE-56-A	CSFHE-56-A	1.750	1.000	0.750	1.750	7/8	3/4-16	3/8	0.875	1.000	0.030	1 3/64	1.003	1,250	0.700
SFHE-60-A	CSFHE-60-A	1.875	1.000	0.750	1.750	7/8	3/4-16	3/8	0.875	1.000	0.030	1 3/64	1.003	1,250	0.700
SFHE-64-A	CSFHE-64-A	2.000	1.250	0.875	2.000	1	7/8-14	3/8	1.000	1.187	0.030	1 13/64	1.190	1,500	0.984
SFHE-72-A	CSFHE-72-A	2.250	1.250	0.875	2.000	1	7/8-14	3/8	1.000	1.187	0.030	1 13/64	1.190	1,500	0.984
SFHE-80-B	CSFHE-80-B	2.500	1.500	1.000	2.250	1 1/8	1-14	3/8	1.125	1.375	0.030	1 5/16	1.378	2,250	1.560
SFHE-88-B	CSFHE-88-B	2.750	1.500	1.000	2.250	1 1/8	1-14	3/8	1.125	1.375	0.030	1 5/16	1.378	2,250	1.560
SFHE-96-B	CSFHE-96-B	3.000	1.750	1.250	2.500	1 1/4	1 1/4-12	1/2	1.250	1.750	0.060	1 3/4	1.753	3,450	2.000
SFHE-104-B	CSFHE-104-B	3.250	1.750	1.250	2.500	1 1/4	1 1/4-12	1/2	1.250	1.750	0.060	1 3/4	1.753	3,450	2.000
SFHE-112-B	CSFHE-112-B	3.500	2.000	1.375	2.750	1 3/8	1 3/8-12	1/2	1.375	1.812	0.060	1 59/64	1.815	4,200	2.700
SFHE-128-B	CSFHE-128-B	4.000	2.250	1.500	3.500	1 1/2	1 1/2-12	1/2	2.000	2.000	0.060	2 9/32	2.003	5,000	3.250

\*For load factor information - see page 33

\*\*Clamping torque is based on lubricated threads, if threads are dry, double the value listed.

# Neverlube Cam Yoke Rollers



## Neverlube Cam Yoke Rollers

Part Number		Roller			Inner Ring			Other Specs									
		A	B	W	d	H	P	Shaft Diameter(Ø) Push Fit		Shaft Diameter(Ø) Drive Fit		Shaft Diameter(Ø) Press Fit	*Load Factor				
Cylindrical	Crowned	Roller O.D. +0.000 -0.001	Roller Width +0.000 -0.005	Overall Width +0.005 -0.010	Bore Diameter +0.0002 -0.0004	Oil Hole Diameter	Min. Boss Diameter										
NYR-24	CNYR-24	0.750	0.500	0.5625	0.250	3/32	1/2	+0.0002 -0.0002	0.2495	+0.0002 -0.0002	0.2501	+0.0002 -0.0002	0.2503	0.190			
NYR-28	CNYR-28	0.875	0.500	0.5625	0.250	3/32	1/2		0.2495		0.2501		0.2503	0.190			
NYR-32	CNYR-32	1.000	0.625	0.6875	0.3125	3/32	41/64		0.3120		0.3126		0.3128	0.250			
NYR-36	CNYR-36	1.125	0.625	0.6875	0.3125	3/32	41/64		0.3120		0.3126		0.3128	0.250			
NYR-40	CNYR-40	1.250	0.750	0.8125	0.375	3/32	49/64		0.3745		0.3751		0.3753	0.390			
NYR-44	CNYR-44	1.375	0.750	0.8125	0.375	3/32	49/64		0.3745		0.3751		0.3753	0.390			
NYR-48	CNYR-48	1.500	0.875	0.9375	0.4375	3/32	57/64		0.4370		0.4376		0.4378	0.510			
NYR-52	CNYR-52	1.625	0.875	0.9375	0.4375	3/32	57/64		0.4370		0.4376		0.4378	0.510			
NYR-56	CNYR-56	1.750	1.000	1.0625	0.500	3/32	1 3/64		0.4995		0.5001		0.5005	0.650			
NYR-60	CNYR-60	1.875	1.000	1.0625	0.500	3/32	1 3/64		0.4995		0.5001		0.5005	0.650			
NYR-64	CNYR-64	2.000	1.250	1.3125	0.625	1/8	1 13/64		0.6245		0.6251		0.6255	0.928			
NYR-72	CNYR-72	2.250	1.250	1.3125	0.625	1/8	1 13/64		0.6245		0.6251		0.6255	0.928			
NYR-80	CNYR-80	2.500	1.500	1.5625	0.750	1/8	1 5/16		0.7495		0.7501		0.7505	1.406			
NYR-88	CNYR-88	2.750	1.500	1.5625	0.750	1/8	1 5/16		0.7495		0.7501		0.7505	2.000			
NYR-96	CNYR-96	3.000	1.750	1.8125	1.000	1/8	1 3/4		+0.0002 -0.0003		0.9994		+0.0002 -0.0003	1.0002	+0.0002 -0.0003	1.0006	2.000
NYR-104	CNYR-104	3.250	1.750	1.8125	1.000	1/8	1 3/4				0.9994			1.0002		1.0006	2.700
NYR-112	CNYR-112	3.500	2.000	2.0625	1.125	1/8	1 59/64	1.1244		1.1252	1.1256	2.700					
NYR-128	CNYR-128	4.000	2.250	2.3125	1.250	1/8	2 9/32	1.2494		1.2502	1.2506	3.250					

\*For load factor information - see page 33

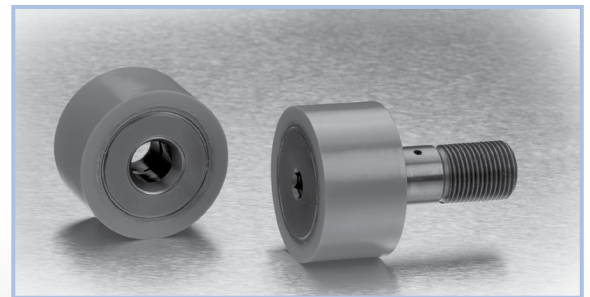
# Poly & Chrome

## Cam Followers and Cam Yoke Rollers

### Polycoated Bearings

Polyurethane-coated bearings can be used for standard and specialized applications where noise reduction, reduced wear and non-marking are important factors in operation. They are available from stock with a blue, 80 Shore A durometer polyurethane wheel on the outer race with available options upon request:

Food-grade polyurethane available on stainless bearings  
Reduced wear on cam tracks  
Other colors/durometers available  
Noise reduction  
Non-marking material  
Improved traction  
Short lead times



#### Important Notes:

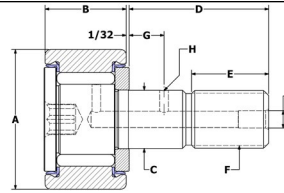
Load capacity is reduced due to the urethane. Also stud diameter, roller width and recommended bore diameter are different than a standard cam follower of the same outer diameter. Call for more information.

### Chrome Plated Needle Bearing Cam Followers

- Stainless steel needles (under 3" OD)
- Corrosion resistant
- Wear resistant
- Available from stock



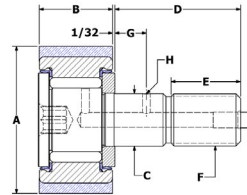
# Needle Bearing Cam Followers - Chrome Plated



## Chrome Plated Standard Hexed Sealed Cam Follower

Part Number	Roller		Stud				Lubrication			Other Specs				
	A	B	C	D	E	F	G	H	J	Min. Boss Diameter	Recom. Bore Diameter +.0005 - .0000	**Recom. Torque (in lb)	Max Static Capacity (lbf)	Basic Dynamic Rating (lbf)
Cylindrical	Roller O.D. +.000 - .001	Roller Width +.000 - .005	Stud Diameter +.001 - .000	Stud Length +.010 - .010	M.E.T.	Thread Class 2A	Oil Hole Center	Oil Hole Diameter	Lube Fitting Size					
CNB-16-SBC	0.500	0.375	0.190	0.625	0.250	10-32	-	-	-	19/64	0.190	15	1,085	930
CNB-20-SBC	0.625	0.4375	0.250	0.750	0.312	1/4-28	-	-	-	23/64	0.250	35	1,215	995
CNB-24-SBC	0.750	0.500	0.375	0.875	0.375	3/8-24	1/4	3/32	3/16	1/2	0.375	95	2,065	1,660
CNB-32-SBC	1.000	0.625	0.4375	1.000	0.500	7/16-20	1/4	3/32	3/16	41/64	0.438	250	3,060	2,225
CNB-40-SBC	1.250	0.750	0.500	1.250	0.625	1/2-20	5/16	3/32	3/16	49/64	0.500	350	4,250	3,930
CNB-48-SBC	1.500	0.875	0.625	1.500	0.750	5/8-18	3/8	3/32	3/16	57/64	0.625	650	5,640	4,840
CNB-56-SBC	1.750	1.000	0.750	1.750	0.875	3/4-16	7/16	3/32	3/16	1 3/64	0.750	1,250	7,920	6,385
CNB-64-SBC	2.000	1.250	0.875	2.000	1.000	7/8-14	1/2	1/8	3/16	1 13/64	0.875	1,500	10,570	8,090

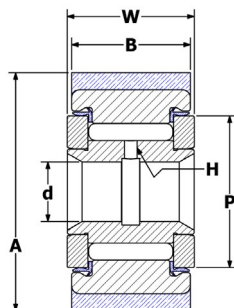
# Needle Bearing Cam Followers & Yoke Rollers - Standard Urethane



## Standard Urethane Cam Follower

Part Number	Roller		Stud				Lubrication			Other Specs		
	A	B	C	D	E	F	G	H	J	Min. Boss Diameter	Recom. Bore Diameter +.0005 - .0000	**Recom. Torque Inch Pounds
Cylindrical	Roller O.D.	Roller Width	Stud Diameter +.001 - .000	Stud Length +.010 - .010	M.E.T.	Thread Class 2A	Oil Hole Center	Oil Hole Diameter	Lube Fitting Size			
CRT-24-SB	0.750	0.375	0.190	0.625	0.250	10-32	-	-	-	19/64	0.190	15
CRT-32-SB	1.000	0.500	0.375	0.875	0.375	3/8-24	1/4	3/32	3/16	1/2	0.375	15
CRT-40-SB	1.250	0.625	0.4375	1.000	0.500	7/16-20	1/4	3/32	3/16	41/64	0.4375	35
CRT-48-SB	1.500	0.750	0.500	1.250	0.625	1/2-20	5/16	3/32	3/16	49/64	0.500	35
CRT-56-SB	1.750	0.875	0.625	1.500	0.750	5/8-18	3/8	3/32	3/16	57/64	0.625	35
CRT-64-SB	2.000	1.000	0.750	1.750	0.875	3/4-16	7/16	3/32	3/16	1 3/64	0.750	95
CRT-72-SB	2.250	1.250	0.875	2.000	1.000	7/8-14	1/2	1/8	3/16	1 13/64	0.875	95

## Standard Urethane Yoke Roller

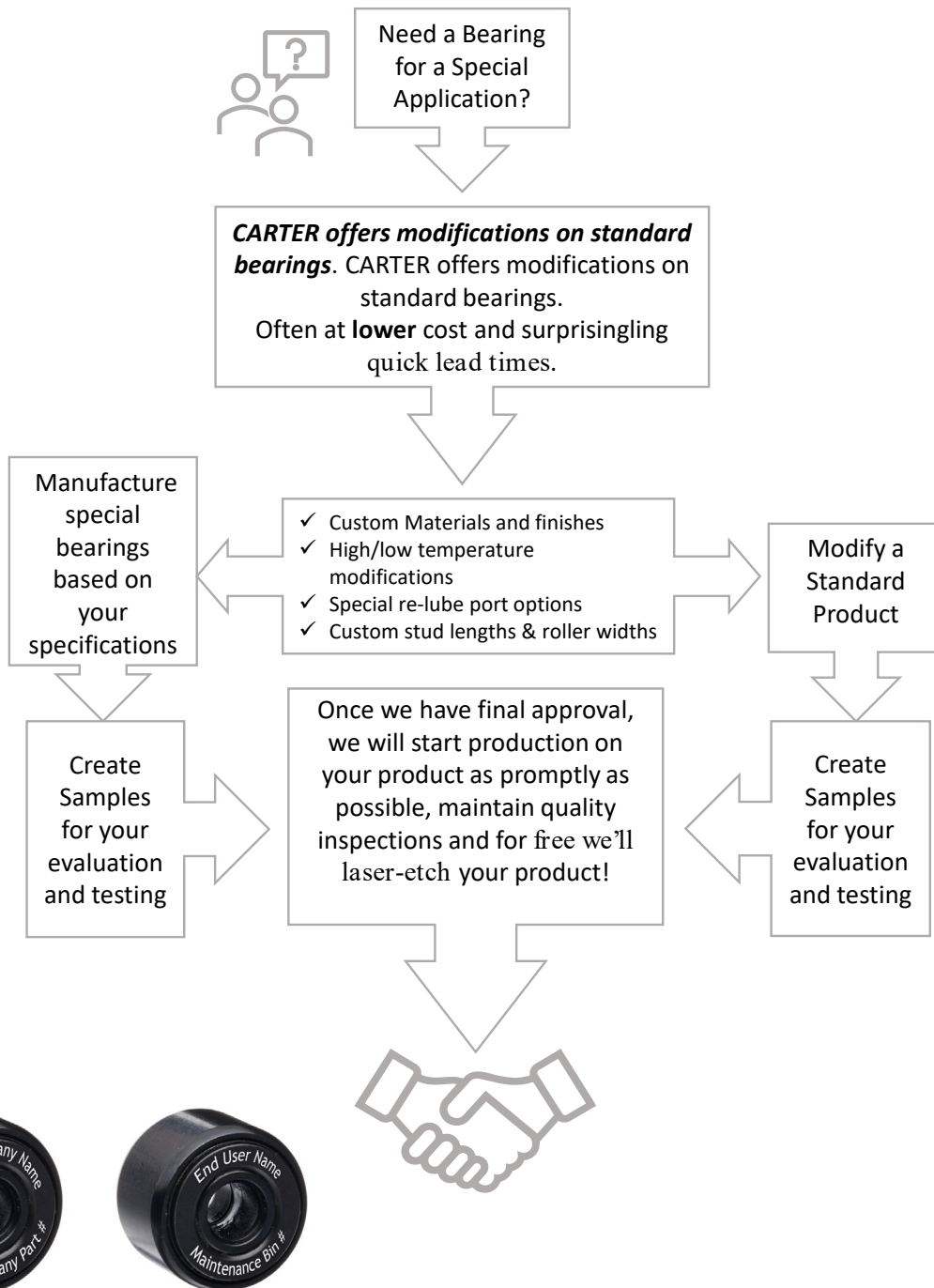


Part Number	Roller		Inner Ring	Assembly	Other Specs		
	A	B	d	W	H	P	Shaft Diameter +.0002 - .0001
Cylindrical	Roller O.D.	Roller Width	Bore Diameter +.0002 - .0004	Overall Width +.005 - .010	Oil Hole Diameter	Min Boss Diameter	
YRT-32-S	1.000	0.500	0.250	0.5625	3/32	5/8	0.2497
YRT-40-S	1.250	0.625	0.3125	0.6875	3/32	23/32	0.3122
YRT-48-S	1.500	0.750	0.375	0.8125	3/32	1	0.3747
YRT-56-S	1.750	0.875	0.4375	0.9375	3/32	1 1/8	0.4372
YRT-64-S	2.000	1.000	0.500	1.0625	3/32	1 1/4	0.4997
YRT-72-S	2.250	1.250	0.625	1.3125	3/32	1 1/2	0.6247

\*\*Clamping torque is based on lubricated threads, if threads are dry, double the value listed. Carter does not recommend any load that causes more than 20% compression of polyurethane tire, exceeding this will cause delamination. If a heavy load is required, please contact Carter Customer Service for help with a solution for your application



# Special Bearings



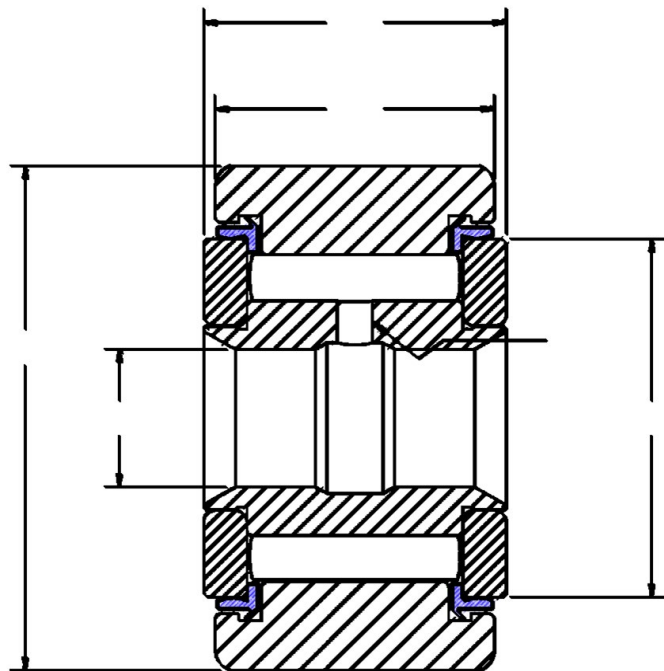
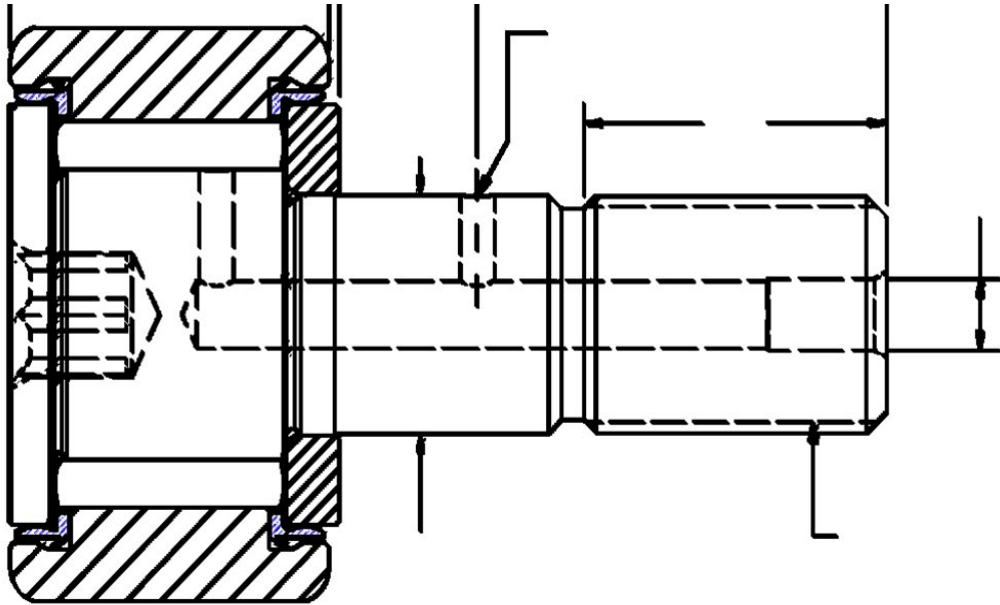
FREE LASER ETCHING



# Special Bearings

## Bearing Application Data

<b>Company:</b>		<b>Contact Name:</b>		<b>Phone:</b>	
<b>Street Address:</b>			<b>City:</b>		<b>State:</b>
<b>Email:</b>			<b>Industry Type:</b>		
Will you require CARTER to sign an NDA? Yes <input type="checkbox"/> No <input type="checkbox"/>					
<b>Bearing Application Features</b>					
Modification of a STANDARD Bearing? Yes <input type="checkbox"/> No <input type="checkbox"/> Manufacturer:					
Do you have any drawings of the original bearing from the previous manufacture our engineers can review? Yes <input type="checkbox"/> No <input type="checkbox"/>					
If applicable, can we get a sample of the existing bearing? Yes <input type="checkbox"/> No <input type="checkbox"/>					
Is this a NEW design? Yes <input type="checkbox"/> No <input type="checkbox"/>					
What will be the main function of the bearing?					
Main advantage being sought in bearing application?					
<b>Bearing Specifics</b>					
<b>Material Needed:</b>					
<b>Outer Material/Plating:</b>					
Lubrication Yes <input type="checkbox"/> No <input type="checkbox"/>				FDA Approval? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Double Needle Row Yes <input type="checkbox"/> No <input type="checkbox"/>					
<b>Yoke Roller</b> (Shaft Mount)			<b>Cam Follower</b> (Threaded Stud Mount)		
Crowned <input type="checkbox"/>		Crowned <input type="checkbox"/>		Eccentric Sleeve <input type="checkbox"/>	
Sealed <input type="checkbox"/>		Sealed <input type="checkbox"/>		Stud Configuration:	
Hex <input type="checkbox"/>					
<b>LOADS</b> Will the bearing be supporting any shock Loads? Yes <input type="checkbox"/> No <input type="checkbox"/> <b>Shock Load:</b>					
Maximum Radial Load:			Maximum Axial Load:		
<b>SPEEDS AND MOTION</b> Maximum rpm the bearing will be turning? For how long?					
Will this bearing be used in Full Rotation Yes <input type="checkbox"/> No <input type="checkbox"/>				Oscillating Yes <input type="checkbox"/> No <input type="checkbox"/>	
<b>Bearing Application DATA</b>					
Temperature Range Bearing Would be Subject To:		HIGH		LOW	
<i>If the High Temperature is above 230°F, the seals will start to fail. Some applications are considered High Temp or Low Temp which requires an alternative grease to our standard.</i>					
Moisture Level					
<input type="checkbox"/> Washdown Wash		Chemicals Yes <input type="checkbox"/> No <input type="checkbox"/> Please List:			
<input type="checkbox"/> Marine Usage <input type="checkbox"/> Near Saltwater <input type="checkbox"/> Saltwater Splash <input type="checkbox"/> Entirely Submerged					
Particulates and/or Debris Yes <input type="checkbox"/> No <input type="checkbox"/>					





## Roller Lifter



## Stainless Steel Hi-Roller™

for use in seafood processing plant.



## Metric Needle Bearings

with modified outer width and special re-lube option.



## Urethane Coated Cam Followers

for a transfer system. The urethane coating cushions the parts rolling down the assembly line, preventing damage.



## Needle Bearings with Grooved Outer Races

for tracking used on a materials handling applications.



## Double Row Needle Bearings

for packaging equipment. Two rollers operate independently of each other. Outer rollers are chrome-plated.



## Delrin Outer with Stainless Stud

for use in pharmaceutical manufacturing.



## Ball Bearing

with stud used as guide.



## Chain Sheave & Mast Guide Rollers

for use on fork lift mast.



## Band Saw Guides

[www.carterbearings.com](http://www.carterbearings.com)



- Part# Cross Reference Search
  - CARTER Product Search
  - FREE Online CAD Downloads
  - Best Practices Guide
  - Technical Information
  - CARTER Product Literature
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