

Bearings Are Our Business



CARTER
Bearings Are Our Business

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.

Custom Bearings

If you have a special application, we can modify one of our standard bearings to meet your needs exactly. Utilizing a proven design ensures that your custom precision bearing will give you the reliability you need.

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.

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

Carter reserves the right to update, revise or amend any information contained in this catalog, at any time, without notice, including any product data and/or specifications, and disavows any liability for such changes or for any typographical errors contained in this catalog.

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Xtenda™

Stainless Steel Cam Followers and Cam Yoke Rollers

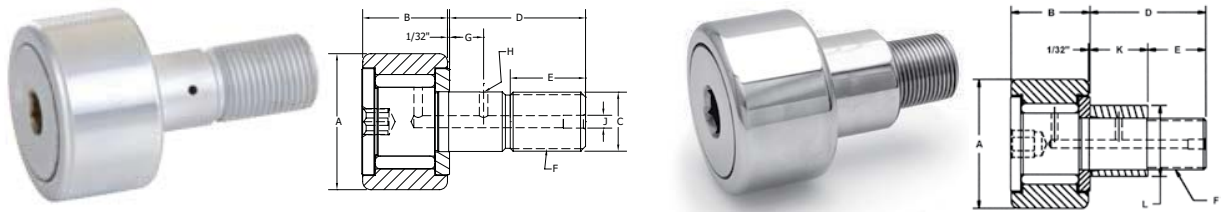
Xtenda™

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.

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



Needle Bearing Cam Followers - Standard Stainless Steel

Hexed & Sealed

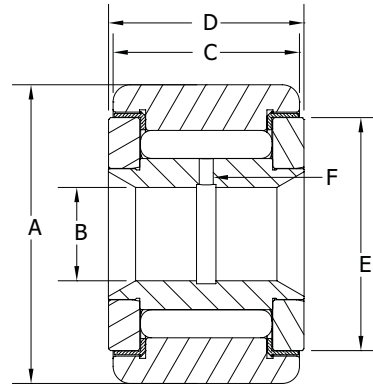
Part Number			Roller		Stud				Lubrication			Other Specs.				
			A	B	C	D	E	F	G	H	J					
Size	Sealed	Crowned	Roller O.D. +.000 -.001	Roller Width +.000 -.005	Stud Dia. +.001 -.000	Stud Length +.010 -.010	Min. Eff. Thread Length +.030 -.030	Thread Class 2A	Oil Hole Center	Oil Hole Dia.	Lube Fitting Size	Min. Boss Dia.	Recom. Bore +.0005 -.0000	**Recom. Torque Inch Pounds	Basic Dynamic Rating (lbs.)	Max. Static Capacity (lbs.)
1/2	SC-16-SB	CSC-16-SB	.500	.375	.190	.625	1/4	10-32	~	~	~	19/64	.1900	8	610	310
5/8	SC-20-SB	CSC-20-SB	.625	.438	.250	.750	39/125	1/4-28	~	~	~	23/64	.2500	18	860	600
11/16	SC-22-SB	CSC-22-SB	.6875	.438	.250	.750	39/125	1/4-28	~	~	~	23/64	.2500	18	860	600
3/4	SC-24-SB	CSC-24-SB	.750	.500	.375	.875	3/8	3/8-24	1/4	3/32	3/16	1/2	.3750	48	1490	1500
7/8	SC-28-SB	CSC-28-SB	.875	.500	.375	.875	3/8	3/8-24	1/4	3/32	3/16	1/2	.3750	48	1490	1500
1	SC-32-SB	CSC-32-SB	1.000	.625	.438	1.000	1/2	7/16-20	1/4	3/32	3/16	41/64	.4375	125	2000	1800
1 1/8	SC-36-SB	CSC-36-SB	1.125	.625	.438	1.000	1/2	7/16-20	1/4	3/32	3/16	41/64	.4375	125	2000	1800
1 1/4	SC-40-SB	CSC-40-SB	1.250	.750	.500	1.250	5/8	1/2-20	5/16	3/32	3/16	49/64	.5000	175	3530	2300
1 3/8	SC-44-SB	CSC-44-SB	1.375	.750	.500	1.250	5/8	1/2-20	5/16	3/32	3/16	49/64	.5000	175	3530	2300
1 1/2	SC-48-SB	CSC-48-SB	1.500	.875	.625	1.500	3/4	5/8-18	3/8	3/32	3/16	57/64	.6250	325	4350	4000
1 5/8	SC-52-SB	CSC-52-SB	1.625	.875	.625	1.500	3/4	5/8-18	3/8	3/32	3/16	57/64	.6250	325	4350	4000
1 3/4	SC-56-SB	CSC-56-SB	1.750	1.000	.750	1.750	7/8	3/4-16	7/16	3/32	3/16	1 3/64	.7500	625	5730	6000
1 7/8	SC-60-SB	CSC-60-SB	1.875	1.000	.750	1.750	7/8	3/4-16	7/16	3/32	3/16	1 3/64	.7500	625	5730	6000
2	SC-64-SB	CSC-64-SB	2.000	1.250	.875	2.000	1	7/8-14	1/2	1/8	3/16	1 13/64	.8750	750	7270	8200
2 1/4	SC-72-SB	CSC-72-SB	2.250	1.250	.875	2.000	1	7/8-14	1/2	1/8	3/16	1 13/64	.8750	750	7270	8200
2 1/2	SC-80-SB	CSC-80-SB	2.500	1.500	1.000	2.250	1 1/8	1-14	9/16	1/8	3/16	1 5/16	1.000	1125	10430	12335

Needle Bearing Cam Followers — Eccentric

Part Number			Roller		Bushing		Stud			Other Specs.		
			A	B	K	L	D	E	F			
Size	Cylindrical	Crowned	Roller O.D. +.000 -.001	Roller Width +.000 -.005	Bushing Length +.000 -.010	Bushing Dia. +.001 -.001	Stud Length +.010 -.010	Min. Eff. Thread Length	Thread Class 2A	Min. Boss Dia.	**Recom. Torque Inch Pounds	Basic Dynamic Rating Pounds
1/2	SCE-16-SB	CSCE-16-SB	.500	.375	.375	.250	.625	.250	10-32	19/64	15	680
5/8	SCE-20-SB	CSCE-20-SB	.625	.4375	.437	.375	.750	.312	1/4-28	23/64	35	995
11/16	SCE-22-SB	CSCE-22-SB	.6875	.4375	.437	.375	.750	.312	1/4-28	23/64	35	955
3/4	SCE-24-SB	CSCE-24-SB	.750	.500	.500	.500	.875	.375	3/8-24	1/2	95	1660
7/8	SCE-28-SB	CSCE-28-SB	.875	.500	.500	.500	.875	.375	3/8-24	1/2	95	1660
1	SCE-32-SB	CSCE-32-SB	1.000	.625	.500	.625	1.000	.500	7/16-20	5/8	250	2225
1 1/8	SCE-36-SB	CSCE-36-SB	1.125	.625	.500	.625	1.000	.500	7/16-20	5/8	250	2225
1 1/4	SCE-40-SB	CSCE-40-SB	1.250	.750	.625	.687	1.250	.625	1/2-20	3/4	350	3930
1 3/8	SCE-44-SB	CSCE-44-SB	1.375	.750	.625	.687	1.250	.625	1/2-20	3/4	350	3930
1 1/2	SCE-48-SB	CSCE-48-SB	1.500	.875	.750	.875	1.500	.750	5/8-18	57/64	650	4840
1 5/8	SCE-52-SB	CSCE-52-SB	1.625	.875	.750	.875	1.500	.750	5/8-18	57/64	650	4840
1 3/4	SCE-56-SB	CSCE-56-SB	1.750	1.000	.875	1.000	1.750	.875	3/4-16	1-3/64	1250	6385
1 7/8	SCE-60-SB	CSCE-60-SB	1.875	1.000	.875	1.000	1.750	.875	3/4-16	1-3/64	1250	6385
2	SCE-64-SB	CSCE-64-SB	2.000	1.250	1.000	1.187	2.000	1.000	7/8-14	1-13/64	1500	8090
2 1/4	SCE-72-SB	CSCE-72-SB	2.250	1.250	1.000	1.187	2.000	1.000	7/8-14	1-13/64	1500	8090
2 1/2	SCE-80-SB	CSCE-80-SB	2.500	1.500	1.125	1.375	2.250	1.125	1-14	1-5/16	2250	11720

**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



Cam Yoke Rollers – Standard Stainless Steel

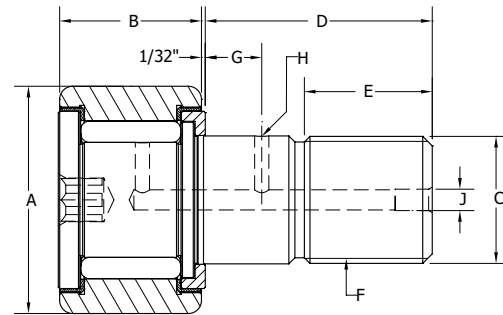
Sealed

Part Number			Roller				Other Specs.				
			A	B	C	D	E	F			
Size	Sealed	Crowned	Roller O.D. +.000 -.001	Bore +.0002 -.0004	Roller Width. +.000 -.005	Total Width +.005 -.010	Flange O.D. Ref.	Oil Hole Dia.	Recom. Shaft Diameter +/- .0002	Basic Dynamic Rating (lbs.)	Max. Static Capacity (lbs.)
3/4	SY-24-S	CSY-24-S	.750	.250	.500	.5625	1/2	3/32	.2497	1490	2100
7/8	SY-28-S	CSY-28-S	.875	.250	.500	.5625	1/2	3/32	.2497	1490	2100
1	SY-32-S	CSY-32-S	1.000	.3125	.625	.6875	41/64	3/32	.3122	2000	5400
1 1/8	SY-36-S	CSY-36-S	1.125	.3125	.625	.6875	41/64	3/32	.3122	2000	5400
1 1/4	SY-40-S	CSY-40-S	1.250	.375	.750	.8125	49/64	3/32	.3747	3530	7700
1 3/8	SY-44-S	CSY-44-S	1.375	.375	.750	.8125	49/64	3/32	.3747	3530	7700
1 1/2	SY-48-S	CSY-48-S	1.500	.4375	.875	.9375	57/64	3/32	.4372	4350	11200
1 5/8	SY-52-S	CSY-52-S	1.625	.4375	.875	.9375	57/64	3/32	.4372	4350	11200
1 3/4	SY-56-S	CSY-56-S	1.750	.500	1.000	1.0625	1 3/64	3/32	.4997	5730	14800
1 7/8	SY-60-S	CSY-60-S	1.875	.500	1.000	1.0625	1 3/64	3/32	.4997	5730	14800
2	SY-64-S	CSY-64-S	2.000	.625	1.250	1.3125	1 13/64	3/32	.6247	7270	17600
2 1/4	SY-72-S	CSY-72-S	2.250	.625	1.250	1.3125	1 13/64	3/32	.6247	7270	17600
2 1/2	SY-80-S	CSY-80-S	2.500	.750	1.500	1.5625	1 11/16	1/8	.7497	10430	12335

For Crowned Roller add 'C' Prefix to the part number C_SY-32-SB

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

Xtenda™ Needle Bearing Cam Followers - Heavy Duty Stainless Steel



Needle Bearing Cam Followers - Heavy Duty Stainless Steel

Hexed & Sealed

Part Number		Roller		Stud				Lubrication			Other Specs.			
		A	B	C	D	E	F	G	H	J				
Size	Sealed	Roller O.D. +.000 -.001	Roller Width +.000 -.005	Stud Dia. +.001 -.000	Stud Length +.010 -.010	Min. Eff. Thread Length +.030 -.030	Thread Class 2A	Oil Hole Center	Oil Hole Dia.	Lube Fitting Size	Min. Boss Dia.	**Recm. Torque Inch Pounds	Max. Static Capacity (lbs.)	Basic Dynamic Rating (lbs.)
1/2	SCH-16-SB	.500	.375	.250	.625	.250	1/4-28	~	~	*1/8	19/64	12	1106	544
5/8	SCH-20-SB	.625	.4375	.3125	.750	.312	5/16-24	~	~	*1/8	23/64	28	1736	796
11/16	SCH-22-SB	.6875	.4375	.3125	.750	.312	5/16-24	~	~	*1/8	23/64	28	1736	796
3/4	SCH-24-SB	.750	.500	.4375	.875	.375	7/16-20	1/4	3/32	3/16	1/2	76	2891	1328
7/8	SCH-28-SB	.875	.500	.4375	.875	.375	7/16-20	1/4	3/32	3/16	1/2	76	2891	1328
1	SCH-32-SB	1.000	.625	.625	1.000	.500	5/8-18	1/4	3/32	3/16	5/8	200	4284	1780
1 1/8	SCH-36-SB	1.125	.625	.625	1.000	.500	5/8-18	1/4	3/32	3/16	5/8	200	4284	1780
1 1/4	SCH-40-SB	1.250	.750	.750	1.250	.625	3/4-16	5/16	3/32	3/16	3/4	280	5950	3144
1 3/8	SCH-44-SB	1.375	.750	.750	1.250	.625	3/4-16	5/16	3/32	3/16	3/4	280	5950	3144
1 1/2	SCH-48-SB	1.500	.875	.875	1.500	.750	7/8-14	3/8	3/32	3/16	57/64	520	7896	3872
1 5/8	SCH-52-SB	1.625	.875	.875	1.500	.750	7/8-14	3/8	3/32	3/16	57/64	520	7896	3872
1 3/4	SCH-56-SB	1.750	1.000	1.000	1.750	.875	1-14	7/16	3/32	3/16	1 3/64	1000	11088	5108
1 7/8	SCH-60-SB	1.875	1.000	1.000	1.750	.875	1-14	7/16	3/32	3/16	1 3/64	1000	11088	5108
2	SCH-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	1200	14798	6472
2 1/4	SCH-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	1200	14798	6472
2 1/2	SCH-80-SB	2.500	1.500	1.250	2.250	1.125	1 1/4-12	9/16	1/8	3/16	1 11/16	2250	21379	10532

For Crowned Roller add 'C' Prefix to the part number C_SCH-32-SB

**Clamping torque is based on dry threads. If threads are lubricated, use half of values shown.

Available from stock
Food Grade Grease Standard
Other Lubricants Available

Hi-Roller™

Idler Rollers

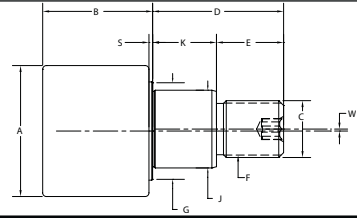
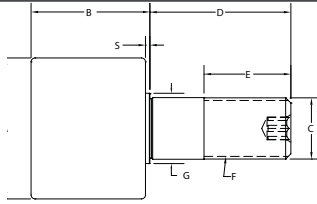
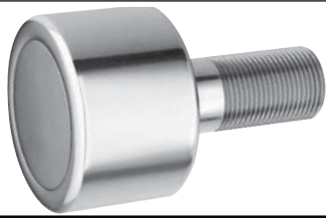
HiRoller™

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.



Plain Hi-Roller - Standard and Eccentric



Plain Hi-Roller

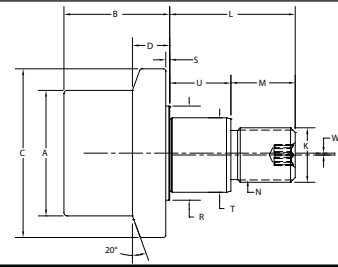
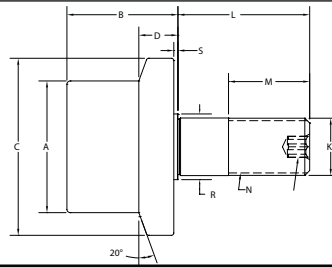
Part Number				Roller		Stud					Other Specs.			
				A	B	K	L	M	N	R	S			
Size	Sealed with Hex Socket	Osborn Part Number	McGill Part Number	Roller O.D. +.000 -.001	Roller Width	Stud Dia. +.001 -.000	Stud Length +.010 -.010	Min. Eff. Thread Length +.030 -.030	Thread Class 2A	Shldr. Dia.	Shldr. Len.	Basic Dynamic Rating*	Dynamic Thrust Load Rating (Lbs.)	Max. Static Capacity (Lbs.)
1	PHR-1	PLR-1	PCF-1	1.000	.781	.437	1.000	.500	7/16-20	.500	.031	630	140	230
1 1/8	PHR-1 1/8	PLR-1 1/8	PCF-1 1/8	1.125	.781	.437	1.000	.500	7/16-20	.500	.031	630	140	230
1 1/4	PHR-1 1/4	PLR-1 1/4	PCF-1 1/4	1.250	.844	.500	1.250	.625	1/2-20	.625	.031	1350	370	600
1 3/8	PHR-1 3/8	PLR-1 3/8	PCF-1 3/8	1.375	.844	.500	1.250	.625	1/2-20	.625	.031	1350	370	600
1 1/2	PHR-1 1/2	PLR-1 1/2	PCF-1 1/2	1.500	1.187	.625	1.500	.750	5/8-18	.750	.062	2760	680	1100
1 3/4	PHR-1 3/4	PLR-1 3/4	PCF-1 3/4	1.750	1.187	.750	1.750	.875	3/4-16	1.000	.062	2760	680	1100
2	PHR-2	PLR-2	PCF-2	2.000	1.687	.875	2.000	1.125	7/8-14	1.000	.062	3830	1000	1620
2 1/4	PHR-2 1/4	PLR-2 1/4	PCF-2 1/4	2.250	1.687	.875	2.000	1.125	7/8-14	1.000	.062	3830	1000	1620
2 1/2	PHR-2 1/2	PLR-2 1/2	PCF-2 1/2	2.500	1.687	1.000	2.250	1.500	1-14	1.250	.062	5190	1400	2270
2 3/4	PHR-2 3/4	PLR-2 3/4	PCF-2 3/4	2.750	1.687	1.000	2.250	1.500	1-14	1.250	.062	5190	1400	2270
3	PHR-3	PLR-3	PCF-3	3.000	2.000	1.250	2.500	1.750	1 1/4-12	1.750	.062	14290	12000	20000
3 1/4	PHR-3 1/4	PLR-3 1/4	PCF-3 1/4	3.250	2.000	1.250	2.500	1.750	1 1/4-12	1.750	.062	14290	12000	20000
3 1/2	PHR-3 1/2	PLR-3 1/2	PCF-3 1/2	3.500	2.000	1.250	2.750	1.750	1 1/4-12	1.750	.062	14270	12000	20000
4	PHR-4	PLR-4	PCF-4	4.000	2.000	1.250	2.750	1.750	1 1/4-12	1.750	.062	14270	12000	20000
4 1/2	PHR-4 1/2	PLR-4 1/2	PCF-4 1/2	4.500	2.000	1.250	2.750	1.750	1 1/4-12	1.750	.062	14270	12000	20000
5	PHR-5	PLR-5	PCF-5	5.000	3.000	2.000	4.500	2.500	2-12	2.500	.062	33290	32500	51900
6	PHR-6	PLR-6	PCF-6	6.000	3.000	2.500	5.500	3.250	2 1/2-12	3.250	.062	35840	33100	56400
7	PHR-7	PLR-7	PCF-7	7.000	3.000	2.500	5.500	3.250	2 1/2-12	3.250	.062	35840	33100	56400
8	PHR-8	PLR-8	PCF-8	8.000	3.000	2.500	5.500	3.250	2 1/2-12	3.250	.062	35840	33100	56400
10	PHR-10	PLR-10	-	10.000	3.000	2.500	5.500	3.250	2 1/2-12	3.250	.062	35840	33100	56400

Plain Hi-Roller - Eccentric

Part Number			Roller						Other Specs.						
			A	B	L	M	N	R	S	T	U	W			
Size	Carter No.	Osborn Part Number	Roller O.D. +.000 -.001	Roller Width	Stud Length +.010 -.010	Min. Eff. Thread Length +.030 -.030	Thread Class 2A	Shldr. Dia.	Shldr. Len.	Ecc. Dia. +.001 -.001	Ecc. Length +.000 -.010	Eccent.	Basic Dynamic Rating*	Dynamic Thrust Load Rating (Lbs.)	Max. Static Capacity (Lbs.)
1	PHRE-1	PLRE-1 1/4	1.000	0.781	1.000	0.500	7/16-20	0.750	.031	0.625	0.500	.030	630	140	230
1 1/8	PHRE-1 1/8	PLRE-1 1/8	1.125	0.781	1.000	0.500	7/16-20	0.750	.031	0.625	0.500	.030	630	140	230
1 1/4	PHRE-1 1/4	PLRE-1 1/4	1.250	0.844	1.250	0.625	1/2-20	0.812	.031	0.687	0.625	.030	1350	370	600
1 3/8	PHRE-1 3/8	PLRE-1 38/	1.375	0.844	1.250	0.625	1/2-20	0.812	.031	0.687	0.625	.030	1350	370	600
1 1/2	PHRE-1 1/2	PLRE-1 1/2	1.500	1.188	1.500	3/4	5/8-18	1.125	.062	.875	.730	.030	2760	680	1100
1 3/4	PHRE-1 3/4	PLRE-1 3/4	1.750	1.188	1.750	7/8	3/4-16	1.240	.062	1.000	.855	.030	2760	680	1100
2	PHRE-2	PLRE-2	2.000	1.688	2.000	1 1/8	7/8-14	1.500	.062	1.187	.980	.030	3830	1000	1620
2 1/4	PHRE-2 1/4	PLRE-2 1/4	2.250	1.688	2.000	1 1/8	7/8-14	1.500	.062	1.187	.980	.030	3830	1000	1620
2 1/2	PHRE-2 1/2	PLRE-2 1/2	2.500	1.688	2.250	1 1/2	1-14	1.687	.062	1.375	1.105	.030	5190	1400	2270
2 3/4	PHRE-2 3/4	PLRE-2 3/4	2.750	1.688	2.250	1 1/2	1-14	1.687	.062	1.375	1.105	.030	10880	4570	7630
3	PHRE-3	PLRE-3	3.000	2.000	2.500	1 3/4	1 1/4-12	2.312	.062	1.750	1.230	.060	5190	1400	2270
3 1/4	PHRE-3 1/4	PLRE-3 1/4	3.250	2.000	2.500	1 3/4	1 1/4-12	2.312	.062	1.750	1.230	.060	14270	12000	20000
3 1/2	PHRE-3 1/2	PLRE-3 1/2	3.500	2.000	2.750	1 3/4	1 1/4-12	2.312	.062	1.812	1.355	.060	14270	12000	20000
4	PHRE-4	PLRE-4	4.000	2.000	2.750	1 3/4	1 1/4-12	2.312	.062	1.812	1.355	.060	14270	12000	20000
4 1/2	PHRE-4 1/2	PLRE-4 1/2	4.500	2.000	2.750	1 3/4	1 1/4-12	2.312	.062	2.625	2.125	.060	14270	12000	20000
5	PHRE-5	PLRE-5	5.000	3.000	4.500	2 1/2	2-12	3.250	.062	2.625	2.125	.060	33290	32500	51900
6	PHRE-6	PLRE-6	6.000	3.000	5.500	3 1/4	2 1/2-12	3.625	.062	3.125	2.875	.060	35840	33100	56400

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

Flanged Hi-Roller™ - Standard and Eccentric



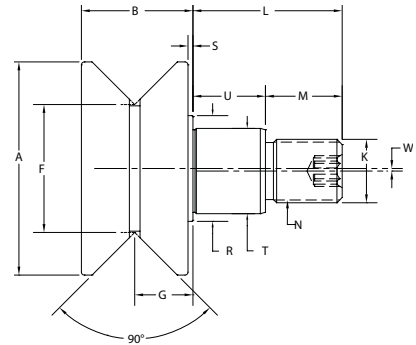
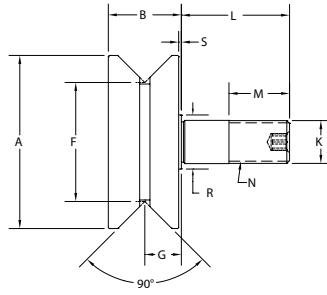
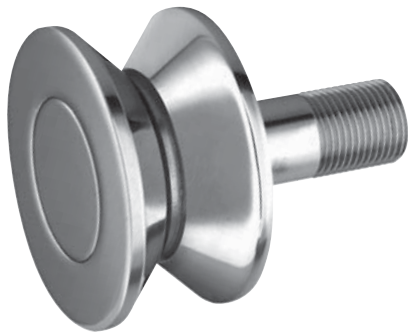
Part Number				Roller				Stud						Other Specs.		
				A	B	C	D	K	L	M	N	R	S			
Size	Sealed with Hex Socket	Osborn Part Number	McGill Part Number	Roller O.D.	Roller Width	Flange Dia.	Flange Width	Stud Dia. +.001 - .000	Stud Length +.010 - .010	Min. Eff. Thread Length +.030 - .030	Thread Class 2A	Shlder. Dia.	Shlder. Len.	Basic Dynamic Rating	Dynamic Thrust Load* Rating (Lbs.)	Max. Static Capacity (Lbs.)
1	FHR-1	FLR-1	FCF-1	1.000	.781	1.375	.219	.437	1.000	.500	7/16-20	.500	.031	630	140	230
1 1/8	FHR-1 1/8	FLR-1 1/8	FCF-1 1/8	1.125	.781	1.500	.219	.437	1.000	.500	7/16-20	.500	.031	630	140	230
1 1/4	FHR-1 1/4	FLR-1 1/4	FCF-1 1/4	1.250	.844	1.563	.219	.500	1.250	.625	1/2-20	.625	.031	1350	370	600
1 3/8	FHR-1 3/8	FLR-1 3/8	FCF-1 3/8	1.375	.844	1.688	.219	.500	1.250	.625	1/2-20	.625	.031	1350	370	600
1 1/2	FHR-1 1/2	FLR-1 1/2	FCF-1 1/2	1.500	1.188	2.188	.344	.625	1.500	.750	5/8-18	.750	.062	2750	1700	1100
1 3/4	FHR-1 3/4	FLR-1 3/4	FCF-1 3/4	1.750	1.188	2.438	.344	.750	1.750	.875	3/4-16	1.000	.062	2750	1700	1100
2	FHR-2	FLR-2	FCF-2	2.000	1.688	2.688	.594	.875	2.000	1.125	7/8-14	1.000	.062	3820	2380	1620
2 1/4	FHR-2 1/4	FLR-2 1/4	FCF-2 1/4	2.250	1.688	2.938	.594	.875	2.000	1.125	7/8-14	1.000	.062	3820	2380	1620
2 1/2	FHR-2 1/2	FLR-2 1/2	FCF-2 1/2	2.500	1.688	3.188	.594	1.000	2.250	1.500	1-14	1.250	.062	5180	3185	2270
2 3/4	FHR-2 3/4	FLR-2 3/4	FCF-2 3/4	2.750	1.688	3.438	.594	1.000	2.250	1.500	1-14	1.250	.062	5180	3185	2270
3	FHR-3	FLR-3	FCF-3	3.000	2.000	3.938	.594	1.250	2.500	1.750	1 1/4-12	1.750	.062	14300	5790	20000
3 1/4	FHR-3 1/4	FLR-3 1/4	FCF-3 1/4	3.250	2.000	4.188	.594	1.250	2.500	1.750	1 1/4-12	1.750	.062	14300	5790	20000
3 1/2	FHR-3 1/2	FLR-3 1/2	FCF-3 1/2	3.500	2.000	4.438	.594	1.250	2.750	1.750	1 1/4-12	1.750	.062	14300	5790	20000
4	FHR-4	FLR-4	FCF-4	4.000	2.000	4.938	.594	1.250	2.750	1.750	1 1/4-12	1.750	.062	14300	5790	20000
4 1/2	FHR-4 1/2	FLR-4 1/2	FCF-4 1/2	4.500	2.000	5.438	.594	1.250	2.750	1.750	1 1/4-12	1.750	.062	14300	5790	20000
5	FHR-5	FLR-5	FCF-5	5.000	3.000	5.938	.719	2.000	4.500	3.250	2-12	3.250	.062	35800	14200	56400
6	FHR-6	FLR-6	FCF-6	6.000	3.000	6.938	.719	2.500	5.500	3.250	2 1/2-12	3.250	.062	35800	14200	56400
7	FHR-7	FLR-7	FCF-7	7.000	3.000	7.938	.719	2.500	5.500	3.250	2 1/2-12	3.250	.062	35800	14200	56400
8	FHR-8	FLR-8	FCF-8	8.000	3.000	8.938	.719	2.500	5.500	3.250	2 1/2-12	3.250	.062	35800	14200	56400

Flanged Hi-Roller™ - Eccentric																	
Part Number			Roller								Other Specs.						
			A	B	C	D	L	M	N	R	S	T	U	W			
Size	Sealed with Hex Socket	Osborn Part Number	Roller O.D	Roller Width	Flange Dia.	Flange Width	Stud Length +.010 - .010	Min. Eff. Thread Length +.030 - .030	Thread Class 2A	Shlder. Dia.	Slider. Len.	Ecc. Dia. +.001 - .001	Ecc. Length +.000 - .010	Eccent.	Basic Dynamic Rating	Dynamic Thrust Load* Rating (Lbs.)	Max. Static Capacity (Lbs.)
1	FHRE-1	FLRE-1	1.000	.781	1.375	.219	1.000	.500	7/16-20	.750	.031	.625	.500	.030	630	140	230
1 1/8	FHRE-1 1/8	FLRE-1 1/8	1.125	.781	1.500	.219	1.000	.500	7/16-20	.750	.031	.625	.500	.030	630	140	230
1 1/4	FHRE-1 1/4	FLRE-1 1/4	1.250	.844	1.563	.219	1.250	.625	1/2-20	.812	.031	.687	.625	.030	1350	370	600
1 3/8	FHRE-1 3/8	FLRE-1 3/8	1.375	.844	1.688	.219	1.250	.625	1/2-20	.812	.031	.687	.625	.030	1350	370	600
1 1/2	FHRE-1 1/2	FLRE-1 1/2	1.500	1.188	2.188	.344	1.500	3/4	5/8-18	1.125	.062	.875	.730	.030	2760	680	1100
1 3/4	FHRE-1 3/4	FLRE-1 3/4	1.750	1.188	2.438	.344	1.750	7/8	3/4-16	1.240	.062	1.000	.855	.030	2760	680	1100
2	FHRE-2	FLRE-2	2.000	1.688	2.688	.594	2.000	1 1/8	7/8-14	1.500	.062	1.187	.980	.030	3830	1000	1620
2 1/4	FHRE-2 1/4	FLRE-2 1/4	2.250	1.688	2.938	.594	2.000	1 1/8	7/8-14	1.500	.062	1.187	.980	.030	3830	1000	1620
2 1/2	FHRE-2 1/2	FLRE-2 1/2	2.500	1.688	3.188	.594	2.250	1 1/2	1-14	1.687	.062	1.375	1.105	.030	5190	1400	2270
2 3/4	FHRE-2 3/4	FLRE-2 3/4	2.750	1.688	3.438	.594	2.250	1 1/2	1-14	1.687	.062	1.375	1.105	.030	5190	1400	2270
3	FHRE-3	FLRE-3	3.000	2.000	3.938	.594	2.500	1 3/4	1 1/4-12	2.312	.062	1.750	1.230	.060	14270	12000	20000
3 1/4	FHRE-3 1/4	FLRE-3 1/4	3.250	2.000	4.188	.594	2.500	1 3/4	1 1/4-12	2.312	.062	1.750	1.230	.060	14270	12000	20000
3 1/2	FHRE-3 1/2	FLRE-3 1/2	3.500	2.000	4.438	.594	2.750	1 3/4	1 1/4-12	2.312	.062	1.812	1.355	.060	14270	12000	20000
4	FHRE-4	FLRE-4	4.000	2.000	4.938	.594	2.750	1 3/4	1 1/4-12	2.312	.062	1.812	1.355	.060	14270	12000	20000

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

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V-Groove Hi-Roller™ - Standard and Eccentric



Part Number				Roller				Stud						Other Specs.		
Size	Sealed with Hex Socket	Osborn Part Number	McGill Part Number	Roller O.D.	Roller Width	Point Dia.	Groove Loc.	Stud Dia. +.001 - .000	Stud Length +.010 - .010	Min. Eff. Thread Length +.030 - .030	Thread Class 2A	Shlder. Dia.	Shlder. Len.	Basic Dynamic Rating	Dynamic Thrust Load* Rating (Lbs.)	Max. Static Capacity (Lbs.)
1 1/2	VHR-1 1/2	VLR-1 1/2	VCF-1 1/2	1.500	.781	1.125	.391	.437	1.000	.500	7/16-20	.500	.031	630	140	230
2 1/2	VHR-2 1/2	VLR-2 1/2	VCF-2 1/2	2.500	1.313	1.500	.688	.750	1.750	.875	3/4-16	1.000	.062	2750	1700	1100
3 1/2	VHR-3 1/2	VLR-3 1/2	VCF-3 1/2	3.500	1.688	2.250	.875	.875	2.000	1.125	7/8-14	1.000	.062	5180	3185	2270
4 1/2	VHR-4 1/2	VLR-4 1/2	VCF-4 1/2	4.500	2.000	3.000	1.000	1.250	2.500	1.750	1 1/4-12	1.750	.062	14300	5790	20000
5 1/2	VHR-5 1/2	VLR-5 1/2	VCF-5 1/2	5.000	2.000	4.000	1.000	1.250	2.750	1.750	1 1/4-12	1.750	.062	14300	5790	20000
6 1/2	VHR-6 1/2	VLR-6 1/2	VCF-6 1/2	6.000	3.000	5.000	1.500	2.000	4.500	2.500	2-12	3.250	.062	35800	12800	56400
7 1/2	VHR-7 1/2	VLR-7 1/2	VCF-7 1/2	7.000	3.000	6.000	1.500	2.500	5.500	3.250	2 1/2-12	3.250	.062	35800	12800	56400
8 1/2	VHR-8 1/2	VLR-8 1/2	VCF-8 1/2	8.000	3.000	7.000	1.500	2.500	5.500	3.250	2 1/2-12	3.250	.062	35800	12800	56400

V-Groove Hi-Roller™ - Eccentric																		
Part Number			Roller									Other Specs.						
			A	B	F	G	K	L	M	N	R	S	T	U	W			
Size	Sealed with Hex Socket	Osborn Part Number	Roller O.D	Roller Width	Point Dia.	Groove Loc.	Stud Dia.	Stud Length +.10 -.010	Min. Eff. Thread Length +.030 -.030	Thread Class 2A	Shlder. Dia.	Shlder. Len.	Ecc. Dia. +.001 -.001	Ecc. Length +.000 -.010	Eccent.	Basic Dynamic Rating	Dynamic Thrust Load* Rating (Lbs.)	Max. Static Capacity (Lbs.)
1 1/2	VHRE-1 1/2	VLRE-1 1/2	1.500	.731	1.125	.391	.437	1.000	.500	7/16-20	.750	.031	.625	.500	.030	630	140	230
2 1/2	VHRE-2 1/2	VLRE-2 1/2	2.500	1.313	1.500	.688	.750	1.750	7/8	3/4-16	1.375	.062	1.000	.855	.030	2760	680	1100
3 1/2	VHRE-3 1/2	VLRE-3 1/2	3.500	1.688	2.250	.875	.875	2.000	1 1/8	7/8-14	1.500	.062	1.187	.980	.060	5190	1400	2270
4 1/2	VHRE-4 1/2	VLRE-4 1/2	4.500	2.000	3.000	1.000	1.250	2.500	1 1/4	1 1/4-12	2.310	.062	1.750	1.230	.060	14270	12000	20000

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

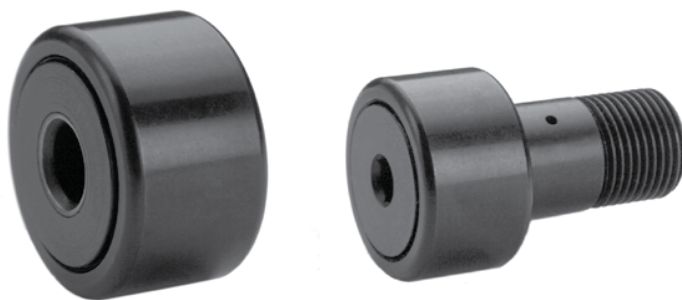
Standard

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 chrome 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 chrome 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 or 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 0°F to 250°F. Relubrication of the cam yoke rollers can be done through oil holes and the oil 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 11/16" - 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

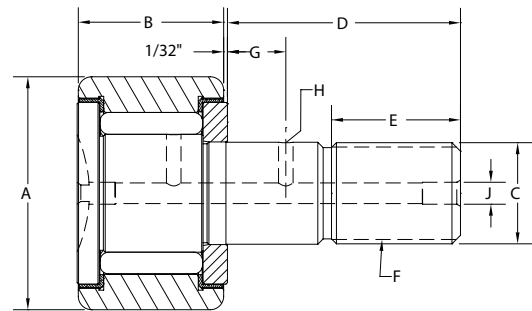
Mounting Cam Yoke Rollers

The recommended shaft diameters shown in the Selector Chart provide for either a slip or press fit. The shaft should be heat treated and press fit in the bearing bore for heavily loaded applications.

With moderate loads and a hardened shaft, a slip fit is sufficient. A slip or push fit and an unhardened shaft can be used in light load applications.

Endwise clamping of the cam yoke rollers should be provided to prevent axial movement and displacement of the end washer. A flat housing shoulder, which is square with the centerline of the bearing, should be provided for holding the washer. This should be at least as large as the minimum clamping diameter shown in the chart to provide adequate washer support.

Needle Bearing Cam Followers



Needle Bearing Cam Followers

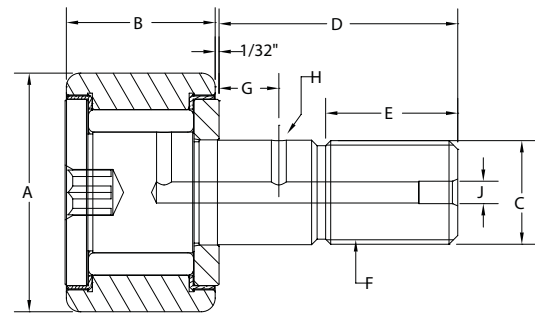
Slotted

Part Number			Roller		Stud				Lubrication			Other Specs.				
Size	Unsealed	Sealed	A Roller O.D. +.000 -.001	B Roller Width +.000 -.005	C Stud Dia. +.001 -.000	D Stud Length +.010 -.010	E Min. Eff. Thread Length +.030 -.030	F Thread Class 2A	G Oil Hole Center	H Oil Hole Dia.	J Lube Fitting Size	Min. Boss Dia.	Recom. Bore +.0005 -.0000	**Recom. Torque Inch Pounds	Max. Static Capacity (lbs.)	Basic Dynamic Rating (lbs.)
1/2	CNB-16-N	CNB-16-NS	.500	.344	.190	.500	.250	10-32	-	-	*1/8	19/64	.1900	15	720	620
1/2	CNB-16	CNB-16-S	.500	.375	.190	.625	.250	10-32	-	-	*1/8	19/64	.1900	15	1085	930
5/8	CNB-20-N	CNB-20-NS	.625	.406	.250	.625	.312	1/4-28	-	-	*1/8	23/64	.2500	35	1215	995
5/8	CNB-20	CNB-20-S	.625	.4375	.250	.750	.312	1/4-28	-	-	*1/8	23/64	.2500	35	1215	995
11/16	CNB-22	CNB-22-S	.6875	.4375	.250	.750	.312	1/4-28	-	-	*1/8	23/64	.2500	35	1215	955
3/4	CNB-24	CNB-24-S	.750	.500	.375	.875	.375	3/8-24	1/4	3/32	3/16	1/2	.3750	95	2065	1660
7/8	CNB-28	CNB-28-S	.875	.500	.375	.875	.375	3/8-24	1/4	3/32	3/16	1/2	.3750	95	2065	1660
1	CNB-32	CNB-32-S	1.000	.625	.4375	1.000	.500	7/16-20	1/4	3/32	3/16	41/64	.4375	250	3060	2225
1 1/8	CNB-36	CNB-36-S	1.125	.625	.4375	1.000	.500	7/16-20	1/4	3/32	3/16	41/64	.4375	250	3060	2225
1 1/4	CNB-40	CNB-40-S	1.250	.750	.500	1.250	.625	1/2-20	5/16	3/32	3/16	49/64	.5000	350	4250	3930
1 3/8	CNB-44	CNB-44-S	1.375	.750	.500	1.250	.625	1/2-20	5/16	3/32	3/16	49/64	.5000	350	4250	3930
1 1/2	CNB-48	CNB-48-S	1.500	.875	.625	1.500	.750	5/8-18	3/8	3/32	3/16	57/64	.6250	650	5640	4840
1 5/8	CNB-52	CNB-52-S	1.625	.875	.625	1.500	.750	5/8-18	3/8	3/32	3/16	57/64	.6250	650	5640	4840
1 3/4	CNB-56	CNB-56-S	1.750	1.000	.750	1.750	.875	3/4-16	7/16	3/32	3/16	1 3/64	.7500	1250	7920	6385
1 7/8	CNB-60	CNB-60-S	1.875	1.000	.750	1.750	.875	3/4-16	7/16	3/32	3/16	1 3/64	.7500	1250	7920	6385
2	CNB-64	CNB-64-S	2.000	1.250	.875	2.000	1.000	7/8-14	1/2	1/8	3/16	1 13/64	.8750	1500	10570	8090
2 1/4	CNB-72	CNB-72-S	2.250	1.250	.875	2.000	1.000	7/8-14	1/2	1/8	3/16	1 13/64	.8750	1500	10570	8090
2 1/2	CNB-80	CNB-80-S	2.500	1.500	1.000	2.250	1.125	1-14	9/16	1/8	3/16	1 5/16	1.0000	2250	16450	11720
2 3/4	CNB-88	CNB-88-S	2.750	1.500	1.000	2.250	1.125	1-14	9/16	1/8	3/16	1 5/16	1.0000	2250	16450	11720
3	CNB-96	CNB-96-S	3.000	1.750	1.250	2.500	1.250	1 1/4-12	5/8	1/8	1/4	1 3/4	1.2500	3450	24910	15720
3 1/4	CNB-104	CNB-104-S	3.250	1.750	1.250	2.500	1.250	1 1/4-12	5/8	1/8	1/4	1 3/4	1.2500	3450	24910	15720
3 1/2	CNB-112	CNB-112-S	3.500	2.000	1.375	2.750	1.375	1 3/8-12	11/16	1/8	1/4	1 59/64	1.3750	4200	31625	22800
4	CNB-128	CNB-128-S	4.000	2.250	1.500	3.500	1.500	1 1/2-12	3/4	1/8	1/4	2 9/32	1.5000	5000	44770	29985

*Relubricate through head end only. Lubrication information – see page 13

**Clamping torque is based on dry threads. If threads are lubricated, use half of values shown

Needle Bearing Cam Followers



Needle Bearing Cam Followers

Hexed

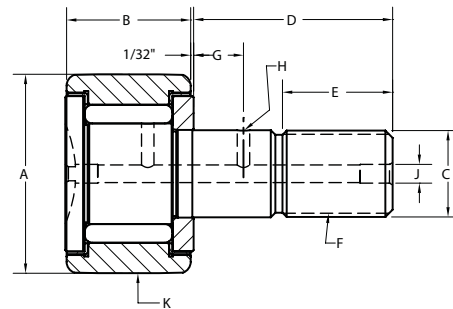
Part Number			Roller		Stud			Lubrication				Other Specs.				
			A	B	C	D	E	F	G	H	J					
Size	Unsealed	Sealed	Roller O.D + .000 - .001	Roller Width + .000 - .005	Stud Dia. + .001 - .000	Stud Length + .010 - .010	Min. Eff. Thread Length + .030 - .030	Thread Class 2A	Oil Hole Center	Oil Hole Dia.	Lube Fitting Size	Min. Boss Dia.	Recom. Bore + .0005 - .0000	**Recom. Torque Inch Pounds	Max. Static Capacity (lbs.)	Basic Dynamic Rating (lbs.)
1/2	CNB-16-NB	CNB-16-NSB	.500	.344	.190	.500	.250	10-32	~	~	~	19/64	.1900	15	720	620
1/2	CNB-16-B	CNB-16-SB	.500	.375	.190	.625	.250	10-32	~	~	~	19/64	.1900	15	1085	930
5/8	CNB-20-NB	CNB-20-NSB	.625	.406	.250	.625	.312	1/4-28	~	~	~	23/64	.2500	35	1215	995
5/8	CNB-20-B	CNB-20-SB	.625	.4375	.250	.750	.312	1/4-28	~	~	~	23/64	.2500	35	1215	995
11/16	CNB-22-B	CNB-22-SB	.6875	.4375	.250	.750	.312	1/4-28	~	~	~	23/64	.2500	35	1215	955
3/4	CNB-24-B	CNB-24-SB	.750	.500	.375	.875	.375	3/8-24	1/4	3/32	3/16	1/2	.3750	95	2065	1660
7/8	CNB-28-B	CNB-28-SB	.875	.500	.375	.875	.375	3/8-24	1/4	3/32	3/16	1/2	.3750	95	2065	1660
1	CNB-32-B	CNB-32-SB	1.000	.625	.4375	1.000	.500	7/16-20	1/4	3/32	3/16	41/64	.4375	250	3060	2225
1 1/8	CNB-36-B	CNB-36-SB	1.125	.625	.4375	1.000	.500	7/16-20	1/4	3/32	3/16	41/64	.4375	250	3060	2225
1 1/4	CNB-40-B	CNB-40-SB	1.250	.750	.500	1.250	.625	1/2-20	5/16	3/32	3/16	49/64	.5000	350	4250	3930
1 3/8	CNB-44-B	CNB-44-SB	1.375	.750	.500	1.250	.625	1/2-20	5/16	3/32	3/16	49/64	.5000	350	4250	3930
1 1/2	CNB-48-B	CNB-48-SB	1.500	.875	.625	1.500	.750	5/8-18	3/8	3/32	3/16	57/64	.6250	650	5640	4840
1 5/8	CNB-52-B	CNB-52-SB	1.625	.875	.625	1.500	.750	5/8-18	3/8	3/32	3/16	57/64	.6250	650	5640	4840
1 3/4	CNB-56-B	CNB-56-SB	1.750	1.000	.750	1.750	.875	3/4-16	7/16	3/32	3/16	1 3/64	.7500	1250	7920	6385
1 7/8	CNB-60-B	CNB-60-SB	1.875	1.000	.750	1.750	.875	3/4-16	7/16	3/32	3/16	1 3/64	.7500	1250	7920	6385
2	CNB-64-B	CNB-64-SB	2.000	1.250	.875	2.000	1.000	7/8-14	1/2	1/8	3/16	1 13/64	.8750	1500	10570	8090
2 1/4	CNB-72-B	CNB-72-SB	2.250	1.250	.875	2.000	1.000	7/8-14	1/2	1/8	3/16	1 13/64	.8750	1500	10570	8090
2 1/2	CNB-80-B	CNB-80-SB	2.500	1.500	1.000	2.250	1.125	1-14	9/16	1/8	3/16	1 5/16	1.0000	2250	16450	11720
2 3/4	CNB-88-B	CNB-88-SB	2.750	1.500	1.000	2.250	1.125	1-14	9/16	1/8	3/16	1 5/16	1.0000	2250	16450	11720
3	CNB-96-B	CNB-96-SB	3.000	1.750	1.250	2.500	1.250	1 1/4-12	5/8	1/8	1/4	1 3/4	1.2500	3450	24910	15720
3 1/4	CNB-104-B	CNB-104-SB	3.250	1.750	1.250	2.500	1.250	1 1/4-12	5/8	1/8	1/4	1 3/4	1.2500	3450	24910	15720
3 1/2	CNB-112-B	CNB-112-SB	3.500	2.000	1.375	2.750	1.375	1 3/8-12	11/16	1/8	1/4	1 59/64	1.3750	4200	31625	22800
4	CNB-128-B	CNB-128-SB	4.000	2.250	1.500	3.500	1.500	1 1/2-12	3/4	1/8	1/4	2 9/32	1.5000	5000	44770	29985
5*	~	CNB-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	2.0000	5000	67950	46575
6*	~	CNB-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	2.5000	5000	80450	60000
7*	~	CNB-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	3.0000	5000	106930	75380
8* ***	~	CNB-256-SB	8.000	4.250	3.250	8.500	4.250	3 1/4-4	~	~	1/4 N.P.T.	4 3/4	3.2500	5000	144100	92200
9* ***	~	CNB-288-SB	9.000	4.750	3.750	9.500	4.750	3 1/2-4	~	~	1/4 N.P.T.	5 7/16	3.7500	5000	183430	113260
10* ***	~	CNB-320-SB	10.000	5.250	4.250	10.000	4.750	3 1/2-4	~	~	1/4 N.P.T.	5 59/64	4.2500	5000	215565	131545

*1/16 these sizes

**Clamping torque is based on dry threads. If threads are lubricated, use half of values shown

***Standard tolerances do not apply. Consult factory.

Needle Bearing Cam Followers - Crowned



Needle Bearing Cam Followers - Crowned

Slotted & Hexed

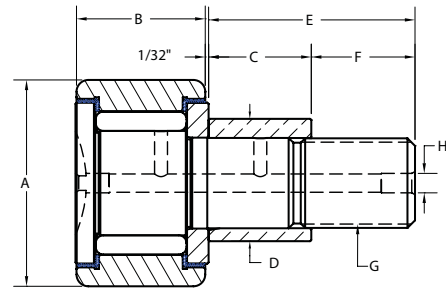
Part Number			Roller		Stud				Lubrication			Other Specs.				
			A	B	C	D	E	F	G	H	J					
Size	Sealed & Slotted with Crowned O.D.	Sealed & Hexed with Crowned O.D.	Roller O.D. +.000 -.001	Roller Width +.000 -.005	Stud Dia. +.001 -.000	Stud Length +.010 -.010	Min. Eff. Thread Length +.030 -.030	Thread Class 2A	Oil Hole Center	Oil Hole Dia.	Lube Fitting Size	Min. Boss Dia.	Recom. Bore +.0005 -.0000	**Recom. Torque Inch Pounds	Max. Static Capacity (lbs.)	Basic Dynamic Rating (lbs.)
1/2	CCNB-16-NS	CCNB-16-NSB	.500	.344	.190	.500	.250	10-32	~	~	*1/8	19/64	.1900	15	720	620
1/2	CCNB-16-S	CCNB-16-SB	.500	.375	.190	.625	.250	10-32	~	~	*1/8	19/64	.1900	15	1085	930
5/8	CCNB-20-NS	CCNB-20-NSB	.625	.406	.250	.625	.312	1/4-28	~	~	*1/8	23/64	.2500	35	1215	995
5/8	CCNB-20-S	CCNB-20-SB	.625	.4375	.250	.750	.312	1/4-28	~	~	*1/8	23/64	.2500	35	1215	995
11/16	CCNB-22-S	CCNB-22-SB	.6875	.4375	.250	.750	.312	1/4-28	~	~	*1/8	23/64	.2500	35	1215	955
3/4	CCNB-24-S	CCNB-24-SB	.750	.500	.375	.875	.375	3/8-24	1/4	3/32	3/16	1/2	.3750	95	2065	1660
7/8	CCNB-28-S	CCNB-28-SB	.875	.500	.375	.875	.375	3/8-24	1/4	3/32	3/16	1/2	.3750	95	2065	1660
1	CCNB-32-S	CCNB-32-SB	1.000	.625	.4375	1.000	.500	7/16-20	1/4	3/32	3/16	41/64	.4375	250	3060	2225
1 1/8	CCNB-36-S	CCNB-36-SB	1.125	.625	.4375	1.000	.500	7/16-20	1/4	3/32	3/16	41/64	.4375	250	3060	2225
1 1/4	CCNB-40-S	CCNB-40-SB	1.250	.750	.500	1.250	.625	1/2-20	5/16	3/32	3/16	49/64	.5000	350	4250	3930
1 3/8	CCNB-44-S	CCNB-44-SB	1.375	.750	.500	1.250	.625	1/2-20	5/16	3/32	3/16	49/64	.5000	350	4250	3930
1 1/2	CCNB-48-S	CCNB-48-SB	1.500	.875	.625	1.500	.750	5/8-18	3/8	3/32	3/16	57/64	.6250	650	5640	4840
1 5/8	CCNB-52-S	CCNB-52-SB	1.625	.875	.625	1.500	.750	5/8-18	3/8	3/32	3/16	57/64	.6250	650	5640	4840
1 3/4	CCNB-56-S	CCNB-56-SB	1.750	1.000	.750	1.750	.875	3/4-16	7/16	3/32	3/16	1-3/64	.7500	1250	7920	6385
1 7/8	CCNB-60-S	CCNB-60-SB	1.875	1.000	.750	1.750	.875	3/4-16	7/16	3/32	3/16	1-3/64	.7500	1250	7920	6385
2	CCNB-64-S	CCNB-64-SB	2.000	1.250	.875	2.000	1.000	7/8-14	1/2	1/8	3/16	1-13/64	.8750	1500	10570	8090
2 1/4	CCNB-72-S	CCNB-72-SB	2.250	1.250	.875	2.000	1.000	7/8-14	1/2	1/8	3/16	1-13/64	.8750	1500	10570	8090
2 1/2	CCNB-80-S	CCNB-80-SB	2.500	1.500	1.000	2.250	1.125	1-14	9/16	1/8	3/16	1-5/16	1.0000	2250	16450	11720
2 3/4	CCNB-88-S	CCNB-88-SB	2.750	1.500	1.000	2.250	1.125	1-14	9/16	1/8	3/16	1-5/16	1.0000	2250	16450	11720
3	CCNB-96-S	CCNB-96-SB	3.000	1.750	1.250	2.500	1.250	1 1/4-12	5/8	1/8	1/4	1-3/4	1.2500	3450	24910	15720
3 1/4	CCNB-104-S	CCNB-104-SB	3.250	1.750	1.250	2.500	1.250	1 1/4-12	5/8	1/8	1/4	1-3/4	1.2500	3450	24910	15720
3 1/2	CCNB-112-S	CCNB-112-SB	3.500	2.000	1.375	2.750	1.375	1 3/8-12	11/16	1/8	1/4	1-59/64	1.3750	4200	31625	22800
4	CCNB-128-S	CCNB-128-SB	4.000	2.250	1.500	3.500	1.500	1 1/2-12	3/4	1/8	1/4	2-9/32	1.500	5000	44770	29985
5"	~	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	2.0000	5000	67950	46575
6"	~	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	2.5000	5000	80450	60000
7"	~	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	3.0000	5000	106930	75380
8" ***	~	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	3.2500	5000	144100	92200
9" ***	~	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	3.7500	5000	183430	113260
10" ***	~	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	4.2500	5000	215565	131545

*Relubricate through head end only. Lubrication information – see page 13
For crown dimensions - see page 24

**Clamping torque is based on dry threads. If threads are lubricated, use half of values shown

Carter Manufacturing Co. | 616.842.8760

Needle Bearing Cam Followers - Eccentric



Needle Bearing Cam Followers - Eccentric

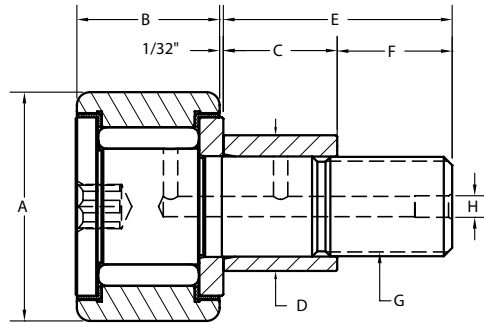
Slotted

Part Number			Roller		Bushing		Stud				Other Specs.			
Size	Unsealed Eccentric Stud	Sealed Eccentric Stud	A	B	C	D	E	F	G	H	Min. Boss Dia.	**Recm. Torque Inch Pounds	Max. Static Capacity (lbs.)	Basic Dynamic Rating (lbs.)
1/2	CNBE-16-N	CNBE-16-NS	.500	.375	.375	.250	.625	.250	10-32	*1/8	19/64	15	790	680
1/2	CNBE-16	CNBE-16-S	.500	.375	.375	.250	.625	.250	10-32	*1/8	19/64	15	790	680
5/8	CNBE-20-N	CNBE-20-NS	.625	.4375	.437	.375	.750	.312	1/4-28	*1/8	23/64	35	1215	995
5/8	CNBE-20	CNBE-20-S	.625	.4375	.437	.375	.750	.312	1/4-28	*1/8	23/64	35	1215	995
11/16	CNBE-22	CNBE-22-S	.6875	.4375	.437	.375	.750	.312	1/4-28	*1/8	23/64	35	1215	955
3/4	CNBE-24	CNBE-24-S	.750	.500	.500	.500	.875	.375	3/8-24	3/16	1/2	95	2065	1660
7/8	CNBE-28	CNBE-28-S	.875	.500	.500	.500	.875	.375	3/8-24	3/16	1/2	95	2065	1660
1	CNBE-32	CNBE-32-S	1.000	.625	.500	.625	1.000	.500	7/16-20	3/16	5/8	250	3060	2225
1 1/8	CNBE-36	CNBE-36-S	1.125	.625	.500	.625	1.000	.500	7/16-20	3/16	5/8	250	3060	2225
1 1/4	CNBE-40	CNBE-40-S	1.250	.750	.625	.687	1.250	.625	1/2-20	3/16	3/4	350	4250	3930
1 3/8	CNBE-44	CNBE-44-S	1.375	.750	.625	.687	1.250	.625	1/2-20	3/16	3/4	350	4250	3930
1 1/2	CNBE-48	CNBE-48-S	1.500	.875	.750	.875	1.500	.750	5/8-18	3/16	57/64	650	5640	4840
1 5/8	CNBE-52	CNBE-52-S	1.625	.875	.750	.875	1.500	.750	5/8-18	3/16	57/64	650	5640	4840
1 3/4	CNBE-56	CNBE-56-S	1.750	1.000	.875	1.000	1.750	.875	3/4-16	3/16	1-3/64	1250	7920	6385
1 7/8	CNBE-60	CNBE-60-S	1.875	1.000	.875	1.000	1.750	.875	3/4-16	3/16	1-3/64	1250	7920	6385
2	CNBE-64	CNBE-64-S	2.000	1.250	1.000	1.187	2.000	1.000	7/8-14	3/16	1-13/64	1500	10570	8090
2 1/4	CNBE-72	CNBE-72-S	2.250	1.250	1.000	1.187	2.000	1.000	7/8-14	3/16	1-13/64	1500	10570	8090
2 1/2	CNBE-80	CNBE-80-S	2.500	1.500	1.125	1.375	2.250	1.125	1-14	3/16	1-5/16	2250	16450	11720
2 3/4	CNBE-88	CNBE-88-S	2.750	1.500	1.125	1.375	2.250	1.125	1-14	3/16	1-5/16	2250	16450	11720
3	CNBE-96	CNBE-96-S	3.000	1.750	1.250	1.750	2.500	1.250	1 1/4-12	1/4	1-3/4	3450	24910	15720
3 1/4	CNBE-104	CNBE-104-S	3.250	1.750	1.250	1.750	2.500	1.250	1 1/4-12	1/4	1-3/4	3450	24910	15720
3 1/2	CNBE-112	CNBE-112-S	3.500	2.000	1.375	1.812	2.750	1.375	1 3/8-12	1/4	1-59/64	4200	31625	22800
4	CNBE-128	CNBE-128-S	4.000	2.250	2.000	2.000	3.500	1.500	1 1/2-12	1/4	2-9/32	5000	44770	29985

μ For Eccentricity see chart page 24

**Clamping torque is based on dry threads. If threads are lubricated, use half of values shown.

Needle Bearing Cam Followers - Eccentric



Needle Bearing Cam Followers - Eccentric

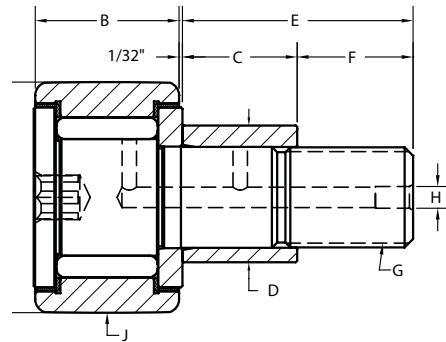
Hexed

Part Number			Roller		Bushing		Stud				Other Specs.			
			A	B	C	D	E	F	G	H				
Size	Unsealed Eccentric Stud	Sealed Eccentric Stud	Roller O.D. +.000 -.001	Roller Width +.000 -.005	Bushing Length +.000 -.010	Bushing Dia. +.001 -.001	Stud Length +.010 -.010	Min. Eff. Thread Length +.030 -.030	Thread Class 2A	Lube Fitting Size	Min. Boss Dia.	**Recm. Torque Inch Pounds	Max. Static Capacity Pounds	Basic Dynamic Rating Pounds
1/2	CNBE-16-NB	CNBE-16-NSB	.500	.375	.375	.250	.625	.250	10-32	~	19/64	15	790	680
1/2	CNBE-16-B	CNBE-16-SB	.500	.375	.375	.250	.625	.250	10-32	~	19/64	15	790	680
5/8	CNBE-20-NB	CNBE-20-NSB	.625	.4375	.437	.375	.750	.312	1/4-28	~	23/64	35	1215	995
5/8	CNBE-20-B	CNBE-20-SB	.625	.4375	.437	.375	.750	.312	1/4-28	~	23/64	35	1215	995
11/16	CNBE-22-B	CNBE-22-SB	.6875	.4375	.437	.375	.750	.312	1/4-28	~	23/64	35	1215	955
3/4	CNBE-24-B	CNBE-24-SB	.750	.500	.500	.500	.875	.375	3/8-24	3/16	1/2	95	2065	1660
7/8	CNBE-28-B	CNBE-28-SB	.875	.500	.500	.500	.875	.375	3/8-24	3/16	1/2	95	2065	1660
1	CNBE-32-B	CNBE-32-SB	1.000	.625	.500	.625	1.000	.500	7/16-20	3/16	41/64	250	3060	2225
1 1/8	CNBE-36-B	CNBE-36-SB	1.125	.625	.500	.625	1.000	.500	7/16-20	3/16	41/64	250	3060	2225
1 1/4	CNBE-40-B	CNBE-40-SB	1.250	.750	.625	.687	1.250	.625	1/2-20	3/16	49/64	350	4250	3930
1 3/8	CNBE-44-B	CNBE-44-SB	1.375	.750	.625	.687	1.250	.625	1/2-20	3/16	49/64	350	4250	3930
1 1/2	CNBE-48-B	CNBE-48-SB	1.500	.875	.750	.875	1.500	.750	5/8-18	3/16	57/64	650	5640	4840
1 5/8	CNBE-52-B	CNBE-52-SB	1.625	.875	.750	.875	1.500	.750	5/8-18	3/16	57/64	650	5640	4840
1 3/4	CNBE-56-B	CNBE-56-SB	1.750	1.000	.875	1.000	1.750	.875	3/4-16	3/16	1-3/64	7920	6385	6385
1 7/8	CNBE-60-B	CNBE-60-SB	1.875	1.000	.875	1.000	1.750	.875	3/4-16	3/16	1-3/64	1250	7920	6385
2	CNBE-64-B	CNBE-64-SB	2.000	1.250	1.000	1.187	2.000	1.000	7/8-14	3/16	1-13/64	1500	10570	8090
2 1/4	CNBE-72-B	CNBE-72-SB	2.250	1.250	1.000	1.187	2.000	1.000	7/8-14	3/16	1-13/64	1500	10570	8090
2 1/2	CNBE-80-B	CNBE-80-SB	2.500	1.500	1.125	1.375	2.250	1.125	1-14	3/16	1-5/16	2250	16450	11720
2 3/4	CNBE-88-B	CNBE-88-SB	2.750	1.500	1.125	1.375	2.250	1.125	1-14	3/16	1-5/16	2250	16450	11720
3	CNBE-96-B	CNBE-96-SB	3.000	1.750	1.250	1.750	2.500	1.250	1 1/4-12	1/4	1-3/4	3450	24910	15720
3 1/4	CNBE-104-B	CNBE-104-SB	3.250	1.750	1.250	1.750	2.500	1.250	1 1/4-12	1/4	1-3/4	3450	24910	15720
3 1/2	CNBE-112-B	CNBE-112-SB	3.500	2.000	1.375	1.812	2.750	1.375	1 3/8-12	1/4	1-59/64	4200	31625	22800
4	CNBE-128-B	CNBE-128-SB	4.000	2.250	2.000	2.000	3.500	1.500	1 1/2-12	1/4	2-9/32	5000	44770	29985

**Clamping torque is based on dry threads. If threads are lubricated, use half of values shown.

For eccentricity see chart - page 24

Needle Bearing Cam Followers - Eccentric, Crowned



Needle Bearing Cam Followers - Eccentric, Crowned

Sealed – Slotted & Hexed

Part Number			Roller		Bushing		Stud				Other Specs.			
			A	B	C	D	E	F	G	H				
Size	Slotted Head With Crowned O.D.	Hexed Head With Crowned O.D.	Roller O.D. +.000 -.001	Roller Width +.000 -.005	Bushing Length +.000 -.010	Bushing Dia. +.001 -.001	Stud Length +.010 -.010	Min. Eff. Thread Length +.030 -.030	Thread Class 2A	Lube Fitting Size	Min. Boss Dia.	**Recm. Torque Inch Pounds	Max. Static Capacity (lbs.)	Basic Dynamic Rating (lbs.)
1/2	CCNBE-16-NS	CCNBE-16-NSB	.500	.375	.375	.250	.625	.250	10-32	•~	19/64	15	790	680
1/2	CCNBE-16-S	CCNBE-16-SB	.500	.375	.375	.250	.625	.250	10-32	•~	19/64	15	790	680
5/8	CCNBE-20-NS	CCNBE-20-NSB	.625	.4375	.437	.375	.750	.312	1/4-28	•~	23/64	35	1215	995
5/8	CCNBE-20-S	CCNBE-20-SB	.625	.4375	.437	.375	.750	.312	1/4-28	•~	23/64	35	1215	995
11/16	CCNBE-22-S	CCNBE-22-SB	.6875	.4375	.437	.375	.750	.312	1/4-28	•~	23/64	35	1215	955
3/4	CCNBE-24-S	CCNBE-24-SB	.750	.500	.500	.500	.875	.375	3/8-24	3/16	1/2	95	2065	1660
7/8	CCNBE-28-S	CCNBE-28-SB	.875	.500	.500	.500	.875	.375	3/8-24	3/16	1/2	95	2065	1660
1	CCNBE-32-S	CCNBE-32-SB	1.000	.625	.500	.625	1.000	.500	7/16-20	3/16	41/64	250	3060	2225
1 1/8	CCNBE-36-S	CCNBE-36-SB	1.125	.625	.500	.625	1.000	.500	7/16-20	3/16	41/64	250	3060	2225
1 1/4	CCNBE-40-S	CCNBE-40-SB	1.250	.750	.625	.687	1.250	.625	1/2-20	3/16	49/64	350	4250	3930
1 3/8	CCNBE-44-S	CCNBE-44-SB	1.375	.750	.625	.687	1.250	.625	1/2-20	3/16	49/64	350	4250	3930
1 1/2	CCNBE-48-S	CCNBE-48-SB	1.500	.875	.750	.875	1.500	.750	5/8-18	3/16	57/64	650	5640	4840
1 5/8	CCNBE-52-S	CCNBE-52-SB	1.625	.875	.750	.875	1.500	.750	5/8-18	3/16	57/64	650	5640	4840
1 3/4	CCNBE-56-S	CCNBE-56-SB	1.750	1.000	.875	1.000	1.750	.875	3/4-16	3/16	1-3/64	1250	7920	6385
1 7/8	CCNBE-60-S	CCNBE-60-SB	1.875	1.000	.875	1.000	1.750	.875	3/4-16	3/16	1-3/64	1250	7920	6385
2	CCNBE-64-S	CCNBE-64-SB	2.000	1.250	1.000	1.870	2.000	1.000	7/8-14	3/16	1-13/64	1500	10570	8090
2 1/4	CCNBE-72-S	CCNBE-72-SB	2.250	1.250	1.000	1.187	2.000	1.000	7/8-14	3/16	1-13/64	1500	10570	8090
2 1/2	CCNBE-80-S	CCNBE-80-SB	2.500	1.500	1.125	1.375	2.250	1.125	1-14	3/16	1-5/16	2250	16450	11720
2 3/4	CCNBE-88-S	CCNBE-88-SB	2.750	1.500	1.125	1.375	2.250	1.125	1-14	3/16	1-5/16	2250	16450	11720
3	CCNBE-96-S	CCNBE-96-SB	3.000	1.750	1.250	1.750	2.500	1.250	1 1/4-12	1/4	1-3/4	3450	24910	15720
3 1/4	CCNBE-104-S	CCNBE-104-SB	3.250	1.750	1.250	1.750	2.500	1.250	1 1/4-12	1/4	1-3/4	3450	24910	15720
3 1/2	CCNBE-112-S	CCNBE-112-SB	3.500	2.000	1.375	1.812	2.750	1.375	1 3/8-12	1/4	1-59/64	4200	31625	22800
4	CCNBE-128-S	CCNBE-128-SB	4.000	2.250	2.000	2.000	3.500	1.500	1 1/2-12	1/4	2-9/32	5000	44770	29985

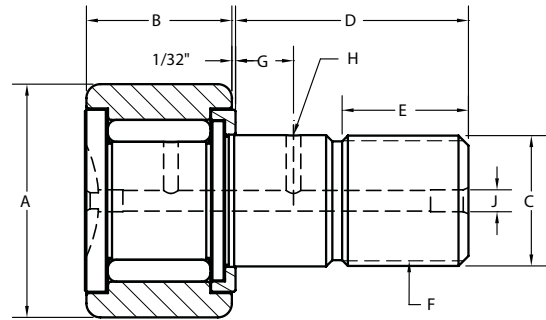
For crown dimensions – see page 24

**Clamping torque is based on dry threads. If threads are lubricated, use half of values shown.

For eccentricity see chart — see page 24

- Slotted head relube from head end only.

Needle Bearing Cam Followers - Heavy Duty



Needle Bearing Cam Followers - Heavy Duty

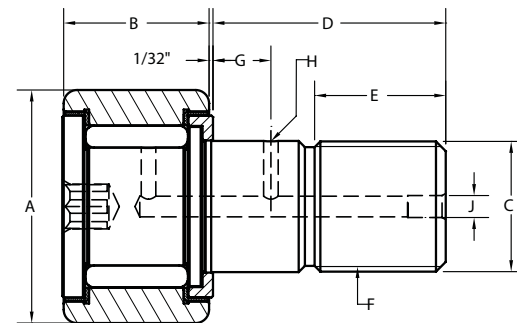
Slotted

Part Number			Roller		Stud				Lubrication			Other Specs.				
Size	Unsealed With Slotted Head	Sealed With Slotted Head	Roller O.D. +.000 -.001	Roller Width +.000 -.005	Stud Dia. +.001 -.000	Stud Length +.010 -.010	Min. Eff. Thread Length +.030 -.030	Thread Class 2A	Oil Hole Center	Oil Hole Dia.	Lube Fitting Size	Min. Boss Dia.	Recom. Bore +.0005 -.0000	**Recom. Torque Inch Pounds	Max. Static Capacity (lbs.)	Basic Dynamic Rating (lbs.)
1/2	CNBH-16	CNBH-16-S	.500	.375	.250	.625	.250	1/4-28	-	-	*1/8	13/32	.250	35	1580	680
5/8	CNBH-20	CNBH-20-S	.625	.4375	.3125	.750	.312	5/16-24	-	-	*1/8	15/32	.3125	90	2480	995
11/16	CNBH-22	CNBH-22-S	.6875	.4375	.3125	.750	.312	5/16-24	-	-	*1/8	15/32	.3125	90	2480	955
3/4	CNBH-24	CNBH-24-S	.750	.500	.4375	.875	.375	7/16-20	1/4	3/32	3/16	39/64	.4375	250	4130	1660
7/8	CNBH-28	CNBH-28-S	.875	.500	.4375	.875	.375	7/16-20	1/4	3/32	3/16	39/64	.4375	250	4130	1660
1	CNBH-32	CNBH-32-S	1.000	.625	.625	1.000	.500	5/8-18	1/4	3/32	3/16	25/32	.625	650	6120	2225
1 1/8	CNBH-36	CNBH-36-S	1.125	.625	.625	1.000	.500	5/8-18	1/4	3/32	3/16	25/32	.625	650	6120	2225
1 1/4	CNBH-40	CNBH-40-S	1.250	.750	.750	1.250	.625	3/4-16	5/16	3/32	3/16	63/64	.750	1250	8500	3930
1 3/8	CNBH-44	CNBH-44-S	1.375	.750	.750	1.250	.625	3/4-16	5/16	3/32	3/16	63/64	.750	1250	8500	3930
1 1/2	CNBH-48	CNBH-48-S	1.500	.875	.875	1.500	.750	7/8-14	3/8	3/32	3/16	1 3/32	.875	1500	11280	4840
1 5/8	CNBH-52	CNBH-52-S	1.625	.875	.875	1.500	.750	7/8-14	3/8	3/32	3/16	1 3/32	.875	1500	11280	4840
1 3/4	CNBH-56	CNBH-56-S	1.750	1.000	1.000	1.750	.875	1-14	7/16	3/32	3/16	1 1/4	1.000	2250	15840	6385
1 7/8	CNBH-60	CNBH-60-S	1.875	1.000	1.000	1.750	.875	1-14	7/16	3/32	3/16	1 1/4	1.000	2250	15840	6385
2	CNBH-64	CNBH-64-S	2.000	1.250	1.125	2.000	1.000	1 1/8-12	1/2	1/8	3/16	1-13/32	1.125	2800	21140	8090
2 1/4	CNBH-72	CNBH-72-S	2.250	1.250	1.125	2.000	1.000	1 1/8-12	1/2	1/8	3/16	1-13/32	1.125	2800	21140	8090
2 1/2	CNBH-80	CNBH-80-S	2.500	1.500	1.250	2.250	1.125	1 1/4-12	9/16	1/8	3/16	1-11/16	1.250	3450	32900	11720
2 3/4	CNBH-88	CNBH-88-S	2.750	1.500	1.250	2.250	1.125	1 1/4-12	9/16	1/8	3/16	1-11/16	1.250	3450	32900	11720
3	CNBH-96	CNBH-96-S	3.000	1.750	1.500	2.500	1.250	1 1/2-12	5/8	1/8	1/4	1-3/4	1.500	5000	49820	15720
3 1/4	CNBH-104	CNBH-104-S	3.250	1.750	1.500	2.500	1.250	1 1/2-12	5/8	1/8	1/4	1-3/4	1.500	5000	49820	15720
3 1/2	CNBH-112	CNBH-112-S	3.500	2.000	1.750	2.750	1.375	1 3/4-12	11/16	1/8	1/4	1-59/64	1.750	5000	63250	22800
4	CNBH-128	CNBH-128-S	4.000	2.250	2.000	3.500	1.500	2-12	3/4	1/8	1/4	2-9/32	2.000	5000	89540	29985

*Relubricate through head end only. Lubrication information - see page 13

**Clamping torque is based on dry threads. If threads are lubricated, use half of values shown.

Needle Bearing Cam Followers - Heavy Duty



Needle Bearing Cam Followers - Heavy Duty

Hexed

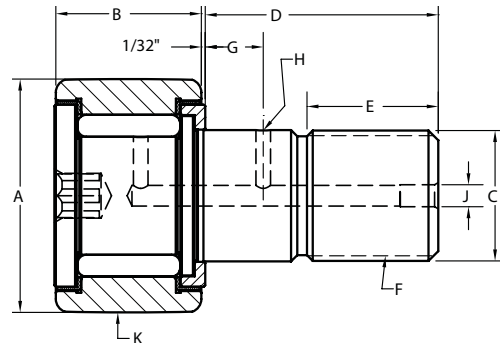
Part Number			Roller		Stud				Lubrication			Other Specs.				
Size	Unsealed With Hexed Head	Sealed With Hexed Head	A	B	C	D	E	F	G	H	J	Min. Boss Dia.	Recom. Bore +.0005 -.0000	**Recom. Torque Inch Pounds	Max. Static Capacity (lbs.)	Basic Dynamic Rating (lbs.)
1/2	CNBH-16-B	CNBH-16-SB	.500	.375	.250	.625	.250	1/4-28	-	-	*1/8	13/32	.250	35	1580	680
5/8	CNBH-20-B	CNBH-20-SB	.625	.4375	.3125	.750	.312	5/16-24	-	-	*1/8	15/32	.3125	90	2480	995
11/16	CNBH-22-B	CNBH-22-SB	.6875	.4375	.3125	.750	.312	5/16-24	-	-	*1/8	15/32	.3125	90	2480	955
3/4	CNBH-24-B	CNBH-24-SB	.750	.500	.4375	.875	.375	7/16-20	1/4	3/32	3/16	39/64	.4375	250	4130	1660
7/8	CNBH-28-B	CNBH-28-SB	.875	.500	.4375	.875	.375	7/16-20	1/4	3/32	3/16	39/64	.4375	250	4130	1660
1	CNBH-32-B	CNBH-32-SB	1.000	.625	.625	1.000	.500	5/8-18	1/4	3/32	3/16	25/32	.625	650	6120	2225
1 1/8	CNBH-36-B	CNBH-36-SB	1.125	.625	.625	1.000	.500	5/8-18	1/4	3/32	3/16	25/32	.625	650	6120	2225
1 1/4	CNBH-40-B	CNBH-40-SB	1.250	.750	.750	1.250	.625	3/4-16	5/16	3/32	3/16	63/64	.750	1250	8500	3930
1 3/8	CNBH-44-B	CNBH-44-SB	1.375	.750	.750	1.250	.625	3/4-16	5/16	3/32	3/16	63/64	.750	1250	8500	3930
1 1/2	CNBH-48-B	CNBH-48-SB	1.500	.875	.875	1.500	.750	7/8-14	3/8	3/32	3/16	1 3/32	.875	1500	11280	4840
1 5/8	CNBH-52-B	CNBH-52-SB	1.625	.875	.875	1.500	.750	7/8-14	3/8	3/32	3/16	1 3/32	.875	1500	11280	4840
1 3/4	CNBH-56-B	CNBH-56-SB	1.750	1.000	1.000	1.750	.875	1-14	7/16	3/32	3/16	1 1/4	1.000	2250	15840	6385
1 7/8	CNBH-60-B	CNBH-60-SB	1.875	1.000	1.000	1.750	.875	1-14	7/16	3/32	3/16	1 1/4	1.000	2250	15840	6385
2	CNBH-64-B	CNBH-64-SB	2.000	1.250	1.125	2.000	1.000	1 1/8-12	1/2	1/8	3/16	1 13/32	1.125	2800	21140	8090
2 1/4	CNBH-72-B	CNBH-72-SB	2.250	1.250	1.125	2.000	1.000	1 1/8-12	1/2	1/8	3/16	1 13/32	1.125	2800	21140	8090
2 1/2	CNBH-80-B	CNBH-80-SB	2.500	1.500	1.250	2.250	1.125	1 1/4-12	9/16	1/8	3/16	1 11/16	1.250	3450	32900	11720
2 3/4	CNBH-88-B	CNBH-88-SB	2.750	1.500	1.250	2.250	1.125	1 1/4-12	9/16	1/8	3/16	1 11/16	1.250	3450	32900	11720
3	CNBH-96-B	CNBH-96-SB	3.000	1.750	1.500	2.500	1.250	1 1/2-12	5/8	1/8	1/4	2 1/8	1.500	5000	49820	15720
3 1/4	CNBH-104-B	CNBH-104-SB	3.250	1.750	1.500	2.500	1.250	1 1/2-12	5/8	1/8	1/4	2 1/8	1.500	5000	49820	15720
3 1/2	CNBH-112-B	CNBH-112-SB	3.500	2.000	1.750	2.750	1.375	1 3/4-12	11/16	1/8	1/4	2 7/16	1.750	5000	63250	22800
4	CNBH-128-B	CNBH-128-SB	4.000	2.250	2.000	3.500	1.500	2-12	3/4	1/8	1/4	2 51/64	2.000	5000	89540	29985
5	~	CNBH-160-SB	5.000	2.750	2.500	5.062	2.562	2 1/2-12	7/8	3/16	1/4 N.P.T.	3 9/16	2.500	5000	135900	46575
6	~	CNBH-192-SB	6.000	3.250	3.000	6.000	3.000	3-12	1	3/16	1/4 N.P.T.	4 15/32	3.000	5000	160900	60000
7	~	CNBH-224-SB	7.000	3.750	3.500	7.687	4.125	3 1/2-4 †	1 1/4	3/16	1/4 N.P.T.	5 3/16	3.500	5000	213860	75380

† Course Thread

*Relubricate through head end only. Lubrication information - see page 13

**Clamping torque is based on dry threads. If threads are lubricated, use half of values shown.

Needle Bearing Cam Followers - Heavy Duty, Crowned



Needle Bearing Cam Followers - Heavy Duty, Crowned

Sealed – Slotted & Hexed

Part Number			Roller		Stud				Lubrication			Other Specs.				
Size	Slotted Head With Crowned O.D.	Hexed Head With Crowned O.D.	Roller O.D. +0.000 -0.001	Roller Width +0.000 -0.005	Stud Dia. +0.001 -0.000	Stud Length +0.010 -0.010	Min. Eff. Thread Length +0.030 -0.030	Thread Class 2A	Oil Hole Center	Oil Hole Dia.	Lube Fitting Size	Min. Boss Dia.	Recom. Bore +0.0005 -0.0000	**Recom. Torque Inch Pounds	Max. Static Capacity (lbs.)	Basic Dynamic Rating (lbs.)
1/2	CCNBH-16-S	CCNBH-16-SB	.500	.375	.250	.625	.250	1/4-28	~	~	*1/8	13/32	.250	35	1580	680
5/8	CCNBH-20-S	CCNBH-20-SB	.625	.4375	.3125	.750	.312	5/16-24	~	~	*1/8	15/32	.3125	90	2480	995
11/16	CCNBH-22-S	CCNBH-22-SB	.6875	.4375	.3125	.750	.312	5/16-24	~	~	*1/8	15/32	.3125	90	2480	955
3/4	CCNBH-24-S	CCNBH-24-SB	.750	.500	.4375	.875	.375	7/16-20	1/4	3/32	3/16	39/64	.4375	250	4130	1660
7/8	CCNBH-28-S	CCNBH-28-SB	.875	.500	.4375	.875	.375	7/16-20	1/4	3/32	3/16	39/64	.4375	250	4130	1660
1	CCNBH-32-S	CCNBH-32-SB	1.000	.625	.625	1.000	.500	5/8-18	1/4	3/32	3/16	25/32	.625	650	6120	2225
1 1/8	CCNBH-36-S	CCNBH-36-SB	1.125	.625	.625	1.000	.500	5/8-18	1/4	3/32	3/16	25/32	.625	650	6120	2225
1 1/4	CCNBH-40-S	CCNBH-40-SB	1.250	.750	.750	1.250	.625	3/4-16	5/16	3/32	3/16	63/64	.750	1250	8500	3930
1 3/8	CCNBH-44-S	CCNBH-44-SB	1.375	.750	.750	1.250	.625	3/4-16	5/16	3/32	3/16	63/64	.750	1250	8500	3930
1 1/2	CCNBH-48-S	CCNBH-48-SB	1.500	.875	.875	1.500	.750	7/8-14	3/8	3/32	3/16	1 3/32	.875	1500	11280	4840
1 5/8	CCNBH-52-S	CCNBH-52-SB	1.625	.875	.875	1.500	.750	7/8-14	3/8	3/32	3/16	1 3/32	.875	1500	11280	4840
1 3/4	CCNBH-56-S	CCNBH-56-SB	1.750	1.000	1.000	1.750	.875	1-14	7/16	3/32	3/16	1 1/4	1.000	2250	15840	6385
1 7/8	CCNBH-60-S	CCNBH-60-SB	1.875	1.000	1.000	1.750	.875	1-14	7/16	3/32	3/16	1 1/4	1.000	2250	15840	6385
2	CCNBH-64-S	CCNBH-64-SB	2.000	1.250	1.125	2.000	1.000	1 1/8-12	1/2	1/8	3/16	1 13/32	1.125	2800	21140	8090
2 1/4	CCNBH-72-S	CCNBH-72-SB	2.250	1.250	1.125	2.000	1.000	1 1/8-12	1/2	1/8	3/16	1 13/32	1.125	2800	21140	8090
2 1/2	CCNBH-80-S	CCNBH-80-SB	2.500	1.500	1.250	2.250	1.125	1 1/4-12	9/16	1/8	3/16	1 11/16	1.250	3450	32900	11720
2 3/4	CCNBH-88-S	CCNBH-88-SB	2.750	1.500	1.250	2.250	1.125	1 1/4-12	9/16	1/8	3/16	1 11/16	1.250	3450	32900	11720
3	CCNBH-96-S	CCNBH-96-SB	3.000	1.750	1.500	2.500	1.250	1 1/2-12	5/8	1/8	1/4	2 1/8	1.500	5000	49820	15720
3 1/4	CCNBH-104-S	CCNBH-104-SB	3.250	1.750	1.500	2.500	1.250	1 1/2-12	5/8	1/8	1/4	2 1/8	1.500	5000	49820	15720
3 1/2	CCNBH-112-S	CCNBH-112-SB	3.500	2.000	1.750	2.750	1.375	1 3/4-12	11/16	1/8	1/4	2 7/16	1.750	5000	63250	22800
4	CCNBH-128-S	CCNBH-128-SB	4.000	2.250	2.000	3.500	1.500	2-12	3/4	1/8	1/4	2 51/64	2.000	5000	89540	29985
5	~	CCNBH-160-SB	5.000	2.750	2.500	5.062	2.562	2 1/2-12	7/8	3/16	1/4 N.P.T.	3 9/16	2.500	5000	135900	46575
6	~	CCNBH-192-SB	6.000	3.250	3.000	6.000	3.000	3-12	1	3/16	1/4 N.P.T.	4 15/32	3.000	5000	160900	60000
7	~	CCNBH-224-SB	7.000	3.750	3.500	7.687	4.125	3 1/2-4 †	1 1/4	3/16	1/4 N.P.T.	5 3/16	3.500	5000	213860	75380

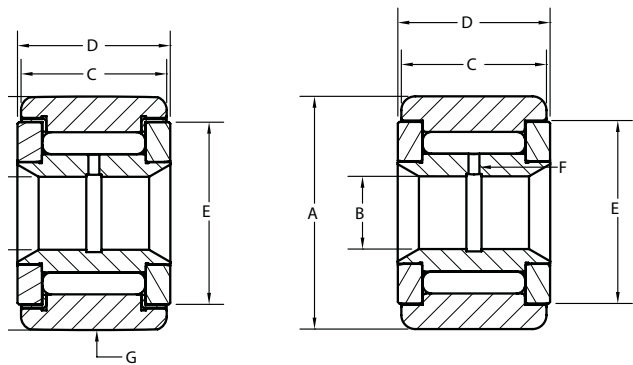
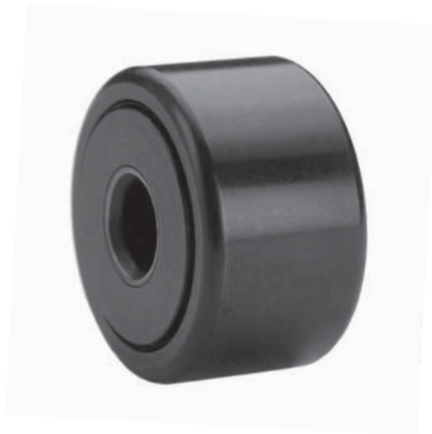
† Course Thread

*Relubricate through head end only. Lubrication information - see page 13

For Crown Dimensions – see chart on page 24

**Clamping torque is based on dry threads. If threads are lubricated, use half of values shown.

Needle Bearing Cam Yoke Rollers



Needle Bearing Cam Yoke Rollers

Unsealed, Sealed & Crowned Sealed

Part Number				Roller				Other Specs.						
				A	B	C	D	E	F					
Size	Unsealed	Sealed	Sealed With Crowned O.D.	Roller O.D +.000 -.001	Bore Ø	Roller Width. +.000 -.005	Total Width +.005 -.010	Flange O.D. Ref	Oil Hole Dia.	Recom. Shaft Diameter +/- .0002	Max. Static Capacity (lbs.)	Basic Dynamic Rating (lbs.)		
3/4	YNB-24	YNB-24-S	CYNB-24-S	.750	+.0002/ -.0004	.250	.500	.5625	5/8	3/32	.2497	4130	1660	
7/8	YNB-28	YNB-28-S	CYNB-28-S	.875		.250	.500	.5625	5/8	3/32	.2497	4130	1660	
1	YNB-32	YNB-32-S	CYNB-32-S	1.000		.3125	.625	.6875	23/32	3/32	.3122	6120	2225	
1 1/8	YNB-36	YNB-36-S	CYNB-36-S	1.125		.3125	.625	.6875	23/32	3/32	.3122	6120	2225	
1 1/4	YNB-40	YNB-40-S	CYNB-40-S	1.250		.375	.750	.8125	1	3/32	.3747	8500	3930	
1 3/8	YNB-44	YNB-44-S	CYNB-44-S	1.375		.375	.750	.8125	1	3/32	.3747	8500	3930	
1 1/2	YNB-48	YNB-48-S	CYNB-48-S	1.500		.4375	.875	.9375	1 1/8	3/32	.4372	11280	4840	
1 5/8	YNB-52	YNB-52-S	CYNB-52-S	1.625		.4375	.875	.9375	1 1/8	3/32	.4372	11280	4840	
1 3/4	YNB-56	YNB-56-S	CYNB-56-S	1.750		.500	1.000	1.0625	1 1/4	3/32	.4997	15840	6385	
1 7/8	YNB-60	YNB-60-S	CYNB-60-S	1.875		.500	1.000	1.0625	1 1/4	3/32	.4997	15840	6385	
2	YNB-64	YNB-64-S	CYNB-64-S	2.000		.625	1.250	1.3125	1 1/2	3/32	.6247	21140	8090	
2 1/4	YNB-72	YNB-72-S	CYNB-72-S	2.250		.625	1.250	1.3125	1 1/2	3/32	.6247	21140	8090	
2 1/2	YNB-80	YNB-80-S	CYNB-80-S	2.500	+.0001/ -.0005	.750	1.500	1.5625	1 3/4	1/8	.7497	32900	11720	
2 3/4	YNB-88	YNB-88-S	CYNB-88-S	2.750		.750	1.500	1.5625	1 3/4	1/8	.7497	32900	11720	
3	YNB-96	YNB-96-S	CYNB-96-S	3.000		1.000	1.750	1.8125	2 1/4	1/8	.9996	49820	15720	
3 1/4	YNB-104	YNB-104-S	CYNB-104-S	3.250		1.000	1.750	1.8125	2 1/4	1/8	.9996	49820	15720	
3 1/2	YNB-112	YNB-112-S	CYNB-112-S	3.500		1.125	2.000	2.0625	2 7/16	1/8	1.1246	63250	22800	
4	YNB-128	YNB-128-S	CYNB-128-S	4.000		1.250	2.250	2.3125	2 15/16	1/8	1.2496	89540	29985	
5	~	YNB-160-S	CYNB-160-S	5.000		1.750	2.750	2.8750	3 5/8	3/16	1.7496	135900	46575	
6	~	YNB-192-S	CYNB-192-S	6.000		2.250	3.250	3.3750	4 1/2	3/16	2.2496	160900	60000	
7	~	YNB-224-S	CYNB-224-S	7.000		2.750	3.750	3.8750	~	3/16	2.7496	213860	75380	
8	~	YNB-256-S	CYNB-256-S	8.000		3.255	4.250	4.5000	~	1/4	3.2553	288200	92200	
9	~	YNB-288-S	CYNB-288-S	9.000		-0/ +.001	3.755	4.750	5.0000	~	5/16	3.7553	366850	113260
10	~	YNB-320-S	CYNB-320-S	10.000			4.255	5.250	5.5000	~	3/8	4.2553	431130	131545

For information on mounting cam rollers – see page 13

For crown dimensions – see chart page 24

Dimension Chart

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	3/8
1 7/8	CNB-60-B	3/8
2	CNB-64-B	3/8
2 1/4	CNB-72-B	3/8
2 1/2	CNB-80-B	3/8
2 3/4	CNB-88-B	3/8
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	3/4
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

Eccentric Dimensions

Size	Part Number	Bushing Dia. +/- .001	Eccentricity	Recm. Housing Bore Dia. +/- .001
1/2	CNBE-16-SB	0.250	.010	0.253
5/8	CNBE-20-SB	0.375	.015	0.378
11/16	CNBE-22-SB	0.375	.015	0.378
3/4	CNBE-24-SB	0.500	.015	0.503
7/8	CNBE-28-SB	0.500	.015	0.503
1	CNBE-32-SB	0.625	.030	0.628
1 1/8	CNBE-36-SB	0.625	.030	0.628
1 1/4	CNBE-40-SB	0.687	.030	0.690
1 3/8	CNBE-44-SB	0.687	.030	0.690
1 1/2	CNBE-48-SB	0.875	.030	0.878
1 5/8	CNBE-52-SB	0.875	.030	0.878
1 3/4	CNBE-56-SB	1.000	.030	1.003
1 7/8	CNBE-60-SB	1.000	.030	1.003
2	CNBE-64-SB	1.187	.030	1.190
2 1/4	CNBE-72-SB	1.187	.030	1.190
2 1/2	CNBE-80-SB	1.375	.030	1.378
2 3/4	CNBE-88-SB	1.375	.030	1.378
3	CNBE-96-SB	1.750	.060	1.753
3 1/4	CNBE-104-SB	1.750	.060	1.753
3 1/2	CNBE-112-SB	1.812	.060	1.815
4	CNBE-128-SB	2.000	.060	2.003

Needle Bearing Interchangeability Chart

Needle Bearing Cam Followers with Seals

Type CNB

Carter	McGill	RBC	Torr
CNB-16-S	CF-1/2-S	S-16-L	CRS-8
CNB-20-S	CF-5/8-S	S-20-L	CRS-10
CNB-22-S	CF-11/16-S	S-22-L	~
CNB-24-S	CF-3/4-S	S-24-L	CRS-12
CNB-28-S	CF-7/8-S	S-28-L	CRS-14
CNB-32-S	CF-1-S	S-32-L	CRS-16
CNB-36-S	CF-1-1/8-S	S-36-L	CRS-18
CNB-40-S	CF-1-1/4-S	S-40-L	CRS-20
CNB-44-S	CF-1-3/8-S	S-44-L	CRS-22
CNB-48-S	CF-1-1/2-S	S-48-L	CRS-24
CNB-52-S	CF-1-5/8-S	S-52-L	CRS-26
CNB-56-S	CF-1-3/4-S	S-56-L	CRS-28
CNB-60-S	CF-1-7/8-S	S-60-L	CRS-30
CNB-64-S	CF-2-S	S-64-L	CRS-32
CNB-72-S	CF-2-1/4-S	S-72-L	CRS-36
CNB-80-S	CF-2-1/2-S	S-80-L	CRS-40
CNB-88-S	CF-2-3/4-S	S-88-L	CRS-44
CNB-96-S	CF-3-S	S-96-L	CRS-48
CNB-104-S	CF-3-1/4-S	S-104-L	CRS-52
CNB-112-S	CF-3-1/2-S	S-112-L	CRS-56
CNB-128-S	CF-4-S	S-128-L	CRS-64
CNB-160-S	CF-5-S	S-160-L	CRS-80
CNB-192-S	CF-6-S	S-192-L	CRS-96
CNB-224-S	CF-7-S	S-224-L	CRS-112
CNB-256-S	CF-8-S	S-256-L	CRS-128
CNB-288-S	CF-9-S	S-288-L	CRS-144
CNB-320-S	CF-10-S	S-320-L	CRS-160

Needle Bearing Cam Yoke Rollers with Seals

Type YNB

Carter	McGill	RBC	Torr
YNB-24-S	CYR-3/4-S	Y-24-L	YCRS-12
YNB-28-S	CYR-7/8-S	Y-28-L	YCRS-14
YNB-32-S	CYR-1-S	Y-32-L	YCRS-16
YNB-36-S	CYR-1-1/8-S	Y-36-L	YCRS-18
YNB-40-S	CYR-1-1/4-S	Y-40-L	YCRS-20
YNB-44-S	CYR-1-3/8-S	Y-44-L	YCRS-22
YNB-48-S	CYR-1-1/2-S	Y-48-L	YCRS-24
YNB-52-S	CYR-1-5/8-S	Y-52-L	YCRS-26
YNB-56-S	CYR-1-3/4-S	Y-56-L	YCRS-28
YNB-60-S	CYR-1-7/8-S	Y-60-L	YCRS-30
YNB-64-S	CYR-2-S	Y-64-L	YCRS-32
YNB-72-S	CYR-2-1/4-S	Y-72-L	YCRS-36
YNB-80-S	CYR-2-1/2-S	Y-80-L	YCRS-40
YNB-88-S	CYR-2-3/4-S	Y-88-L	YCRS-44
YNB-96-S	CYR-3-S	Y-96-L	YCRS-48
YNB-104-S	CYR-3-1/4-S	Y-104-L	YCRS-52
YNB-112-S	CYR-3-1/2-S	Y-112-L	YCRS-56
YNB-128-S	CYR-4-S	Y-128-L	YCRS-64
CNB-160-S	CF-5-S	S-160-L	YCRS-80
CNB-192-S	CF-6-S	S-192-L	YCRS-96
CNB-224-S	CF-7-S	S-224-L	YCRS-112
CNB-256-S	CF-8-S	S-256-L	YCRS-128
CNB-288-S	CF-9-S	S-288-L	YCRS-
CNB-320-S	CF-10-S	S-320-L	YCRS-

Comparative Type Number Changes For Added Features

For	Carter	McGill	RBC	Torr
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 S from Suffix Type No. Example: CR-8
Crowned O.D.s with Seals	Add C on Prefix Type No. Example: <u>C</u> CNB-16-S	Same as Carter Example: <u>C</u> CF-1/2-S	Same as Carter Example: <u>C</u> S-16-L	Same as Carter Example: <u>C</u> CRS-8
Hexagonal Socket (instead of Slotted Mounting Hole) with Seals	Add B to Suffix Type No. Example: CNB-16-S <u>B</u>	Same as Carter Example: CF-1/2-S <u>B</u>	Add W to Suffix Type No. Example: S-16-L <u>W</u>	Add B to the end of Prefix Type No. Example: CRS <u>B</u> -8
Eccentric Studs With Seals	Add E to end of Prefix Type No. Example: CNB <u>E</u> -16-S	Same as Carter Example: CF <u>E</u> -1/2-S	Add X to Suffix Type No. Example: S-16-L <u>X</u>	Same as Carter Example: CR <u>E</u> -8
Heavy Stud Cam Followers	Add H to end of Prefix Type No. Example: CNB <u>H</u> -16-S	Same as Carter Example: CF <u>H</u> -1/2-S	Prefix is H Example: <u>H</u> -16-L	Same as Carter Example: CRS <u>H</u> -8

Note: The Type Number may indicate several different extra features. For example: pertaining to Carter Bearings, an Eccentric Stud Bearing with a Crowned O.D. would be indicated by a C in front of the type designation for the Crowned O.D., and an E would be added for the Eccentric Stud, making the Type Number CCNBE.

Neverlube™

Cam Followers and Cam Yoke Rollers

Carter's advanced design self-lubricating sleeve bearing provides continuous, dependable lubrication for the life of the unit. This advanced design self-lubricating sleeve bearing has a heat-treated steel roller with machined lubrication reservoirs that are pre-filled with specially developed lube mixtures. As the bearing operates, this lubrication penetrates through a porous inner sintered bronze bushing by capillary action providing continuous, dependable lubrication for the life of the bearing.

The permanent lubrication not only eliminates leakage due to over-lubrication, but the plastic lube mixture reverts to its original consistency when the bearing is not in use, preventing any 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 the problem of lubricant leakage due to over-lubrication, but the plastic lube mixture reverts to its original consistency when the bearing is not in use preventing any 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

The Standard Neverlube Lubricant has an ambient temperature range of +30° F to +150° F.

This is normally supplied and is suitable for most applications. In addition, the following special lubricants can be supplied on request for other applications.

— Synthetic High Temperature Lubricant -Range -40° F to +330° F

— Synthetic Low Temperature Lubricant - For applications requiring low temperature specifications down to -80° F.

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;
- Constant high ambient temperatures in excess of 200° F unless supplied with the special high temperature lube.

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:

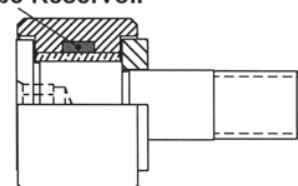
SFH-40-A Cam Follower At 800 RPM=.391
(Load Factor) x 400 = 156.4 Lbs. Capacity.

Shock Factors

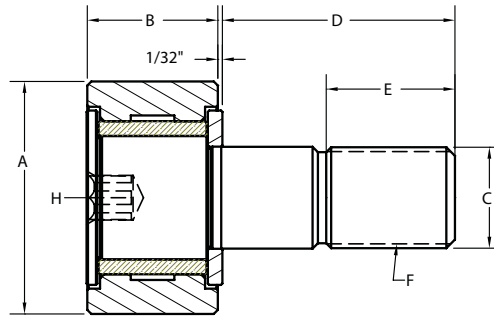
The load ratings given are based generally on uniform or steady loading. If the loading is of shock nature, the following factors should be divided into the bearing capacity.

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

Lube Reservoir



Neverlube™ Cam Followers



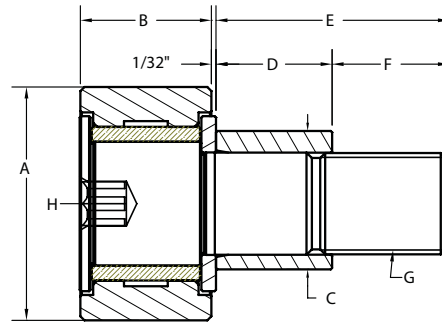
Neverlube Cam Followers - Standard with Hex Socket

Part Number			Roller		Stud			Other Specs.					
Size	Carter Part Number	McGill Part Number	A	B	C	D	E	F	H				
			Roller O.D. +.000 -.001	Roller Width +.000 -.005	Stud Dia. +.001 -.000	Stud Length +.010 -.010	Min. Eff. Thread Length +.030 -.030	Thread Class 2A	Hex Key Across Flats	*Load Factor	Min. Boss Ø	Housing Bore Ø +.0005 -.000	Recom. Clamping Torque in/lb
1/2	SFH-16-A	BCF-1/2-B	.500	.375	.190	.625	1/4	10-32	1/8	.070	19/64	.1900	15
5/8	SFH-20-A	BCF-5/8-B	.625	.4375	.250	.750	39/125	1/4-28	1/8	.097	23/64	.2500	35
11/16	SFH-22-A	BCF-11/16-B	.6875	.4375	.250	.750	39/125	1/4-28	1/8	.097	23/64	.2500	35
3/4	SFH-24-A	BCF-3/4-B	.750	.500	.375	.875	3/8	3/8-24	3/16	.164	1/2	.3750	95
7/8	SFH-28-A	BCF-7/8-B	.875	.500	.375	.875	3/8	3/8-24	3/16	.164	1/2	.3750	95
1	SFH-32-A	BCF-1-B	1.000	.625	.4375	1.000	1/2	7/16-20	1/4	.250	41/64	.4375	250
1 1/8	SFH-36-A	BCF-1 1/8-B	1.125	.625	.4375	1.000	1/2	7/16-20	1/4	.250	41/64	.4375	250
1 1/4	SFH-40-A	BCF-1 1/4-B	1.250	.750	.500	1.250	5/8	1/2-20	5/16	.391	49/64	.5000	350
1 3/8	SFH-44-A	BCF-1 3/8-B	1.375	.750	.500	1.250	5/8	1/2-20	5/16	.391	49/64	.5000	350
1 1/2	SFH-48-A	BCF-1 1/2-B	1.500	.875	.625	1.500	3/4	5/8-18	5/16	.544	57/64	.6250	650
1 5/8	SFH-52-A	BCF-1 5/8-B	1.625	.875	.625	1.500	3/4	5/8-18	5/16	.544	57/64	.6250	650
1 3/4	SFH-56-A	BCF-1 3/4-B	1.750	1.000	.750	1.750	7/8	3/4-16	3/8	.700	1 3/64	.7500	1250
1 7/8	SFH-60-A	BCF-1 7/8-B	1.875	1.000	.750	1.750	7/8	3/4-16	3/8	.700	1 3/64	.7500	1250
2	SFH-64-A	BCF-2-B	2.000	1.125	.875	2.000	1	7/8-14	3/8	.984	1 13/64	.8750	1500
2 1/4	SFH-72-A	BCF-2 1/4-B	2.250	1.125	.875	2.000	1	7/8-14	3/8	.984	1 13/64	.8750	1500
2 1/2	SFH-80-A	BCF-2 1/2-B	2.500	1.500	1.000	2.250	1 1/8	1-14	3/8	1.56	1 5/16	1.0000	2250
2 3/4	SFH-88-A	BCF-2 3/4-B	2.750	1.500	1.000	2.250	1 1/8	1-14	3/8	1.56	1 5/16	1.0000	2250
3	SFH-96-A	BCF-3-B	3.000	1.750	1.250	2.500	1 1/4	1 1/4-12	1/2	2.00	1 3/4	1.2500	3450
3 1/4	SFH-104-A	BCF-3 1/4-B	3.250	1.750	1.250	2.500	1 1/4	1 1/4-12	1/2	2.00	1 3/4	1.2500	3450
3 1/2	SFH-112-A	BCF-3 1/2-B	3.500	2.000	1.375	2.750	1 3/8	1 3/8-12	1/2	2.70	1 59/64	1.3750	4200
4	SFH-128-A	BCF-4-B	4.000	2.250	1.500	3.500	1 1/2	1 1/2-12	1/2	3.25	2 9/32	1.5000	5000

*For load factor information - see page 27

For description and application - see page 27

Neverlube™ Eccentric Cam Yoke Rollers - Eccentric



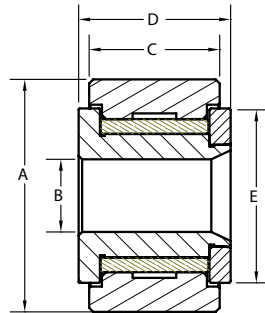
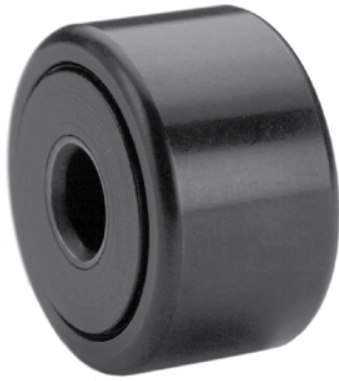
Neverlube Eccentric Cam Followers - with Hex Socket

Part Number			Roller		Bushing		Stud			Other Specs.		
			A	B	K	D	E	F	G		H	
Size	Carter Part Number	McGill Part Number	Roller O.D. +.000 -.001	Roller Width +.000 -.005	Bushing Dia. +/- .001	Bushing Length +.000 -.010	Stud Length +.010 -.010	Min. Eff. Thread Length +.030 -.030	Thread Class 2A	Eccentric	Hex Key Across Flats	*Load Factor
1/2	SFWE-16-A	BCFE-1/2-B	.500	.375	.250	.375	.625	.250	10-32	.010	1/8	.080
5/8	SFWE-20-A	BCFE-5/8-B	.625	.4375	.375	.437	.750	.312	1/4-28	.015	1/8	.097
11/16	SFWE-22-A	BCFE-11/16-B	.6875	.4375	.375	.437	.750	.312	1/4-28	.015	1/8	.097
3/4	SFWE-24-A	BCFE-3/4-B	.750	.500	.500	.500	.875	.375	3/8-24	.015	3/16	.164
7/8	SFWE-28-A	BCFE-7/8-B	.875	.500	.500	.500	.875	.375	3/8-24	.015	3/16	.164
1	SFWE-32-A	BCFE-1-B	1.000	.625	.625	.500	1.000	.500	7/16-20	.030	1/4	.250
1 1/8	SFWE-36-A	BCFE-1 1/8-B	1.125	.625	.625	.500	1.000	.500	7/16-20	.030	1/4	.250
1 1/4	SFWE-40-A	BCFE-1 1/4-B	1.250	.750	.687	.625	1.250	.625	1/2-20	.030	5/16	.391
1 3/8	SFWE-44-A	BCFE-1 3/8-B	1.375	.750	.687	.625	1.250	.625	1/2-20	.030	5/16	.391
1 1/2	SFWE-48-A	BCFE-1 1/2-B	1.500	.875	.875	.750	1.500	.750	5/8-18	.030	5/16	.544
1 5/8	SFWE-52-A	BCFE-1 5/8-B	1.625	.875	.875	.750	1.500	.750	5/8-18	.030	5/16	.544
1 3/4	SFWE-56-A	BCFE-1 3/4-B	1.750	1.000	1.000	.875	1.750	.875	3/4-16	.030	3/8	.700
1 7/8	SFWE-60-A	BCFE-1 7/8-B	1.875	1.000	1.000	.875	1.750	.875	3/4-16	.030	3/8	.700
2	SFWE-64-A	BCFE-2-B	2.000	1.125	1.187	1.000	2.000	1.000	7/8-14	.030	3/8	.984
2 1/4	SFWE-72-A	BCFE-2 1/4-B	2.250	1.125	1.187	1.000	2.000	1.000	7/8-14	.030	3/8	.984
2 1/2	SFWE-80-A	BCFE-2 1/2-B	2.500	1.500	1.375	1.125	2.250	1.125	1-14	.030	3/8	1.56
2 3/4	SFWE-88-A	BCFE-2 3/4-B	2.750	1.500	1.375	1.125	2.250	1.125	1-14	.030	3/8	1.56
3	SFWE-96-A	BCFE-3-B	3.000	1.750	1.750	1.250	2.500	1.250	1 1/4-12	.060	1/2	2.00
3 1/4	SFWE-104-A	BCFE-3 1/4-B	3.250	1.750	1.750	1.250	2.500	1.250	1 1/4-12	.060	1/2	2.00
3 1/2	SFWE-112-A	BCFE-3 1/2-B	3.500	2.000	1.812	1.375	2.750	1.375	1 3/8-12	.060	1/2	2.70
4	SFWE-128-A	BCFE-4-B	4.000	2.250	2.000	2.000	3.500	1.500	1 1/2-12	.060	1/2	3.25

*For load factor information - see page 27

For description and application - see pages 27

Neverlube Cam Yoke Rollers



Neverlube Cam Yoke Rollers

Part Number			Roller				Other Specs.		
			A	B	C	D	E		
Size	Unsealed	McGill Part Number	Roller O.D. +.000 -.001	Bore Ø	Roller Width. +.000 -.005	Total Width +.005 -.010	Flange O.D. Ref.	Recom. Shaft Diameter +/- .0002	*Load Factor
3/4	NYR-24-A	BCYR-3/4	.750	+.0002/ -.0004	.250	.500	.5625	5/8	.2497
7/8	NYR-28-A	BCYR-7/8	.875		.250	.500	.5625	5/8	.2497
1	NYR-32-A	BCYR-1	1.000		.3125	.625	.6875	11/16	.3122
1 1/8	NYR-36-A	BCYR-1 1/8	1.125		.3125	.625	.6875	11/16	.3122
1 1/4	NYR-40-A	BCYR-1 1/4	1.250		.375	.750	.8125	15/16	.3747
1 3/8	NYR-44-A	BCYR-1 3/8	1.375		.375	.750	.8125	15/16	.3747
1 1/2	NYR-48-A	BCYR-1 1/2	1.500		.4375	.875	.9375	1 1/8	.4372
1 5/8	NYR-52-A	BCYR-1 5/8	1.625		.4375	.875	.9375	1 1/8	.4372
1 3/4	NYR-56-A	BCYR-1 3/4	1.750		.500	1.000	1.0625	1 5/16	.4997
1 7/8	NYR-60-A	BCYR-1 7/8	1.875		.500	1.000	1.0625	1 5/16	.4997
2	NYR-64-A	BCYR-2	2.000		.625	1.250	1.3125	1 1/2	.6247
2 1/4	NYR-72-A	BCYR-2 1/4	2.250		.625	1.250	1.3125	1 1/2	.6247
2 1/2	NYR-80-A	BCYR-2 1/2	2.500		.750	1.500	1.5625	1 3/4	.7497
2 3/4	NYR-88-A	BCYR-2 3/4	2.750		.750	1.500	1.5625	1 3/4	.7497
3	NYR-96-A	BCYR-3	3.000	+.0001/ .0005	1.000	1.750	1.8125	2	.9996
3 1/4	NYR-104-A	BCYR-3 1/4	3.250		1.000	1.750	1.8125	2	.9996
3 1/2	NYR-112-A	BCYR-3 1/2	3.500		1.125	2.000	2.0625	2	1.1246
4	NYR-128-A	BCYR-4	4.000		1.250	2.250	2.3125	2 3/16	1.2496

Neverlube Bearings are unsealed

For description and application - see page 27

*For load factor information - see page 27

NEW

Cam Followers and Cam Yoke Rollers

Polycoated Bearings

Carter has added a complete new line of polycoated bearings. Polycoated bearings can be used for standard and specialized applications where noise reduction, reduced wear and non-marking are important factors in operations.

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

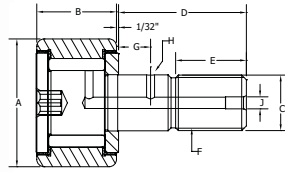
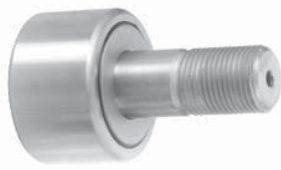


Chrome Plated Needle Bearing Cam Followers

- Stainless steel needles
- Corrosion resistant
- Wear resistant
- Available from stock



NEW Needle Bearing Cam Followers - Chrome Plated

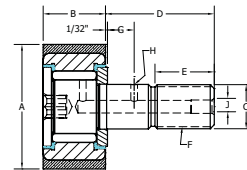


Needle Bearing Cam Followers - Chrome Plated

Hex Socket

Part Number		Roller		Stud				Lubrication			Other Specs.				
		A	B	C	D	E	F	G	H	J					
Size	Sealed With Slotted Head	Roller O.D. +.000 -.001	Roller Width +.000 -.005	Stud Dia. +.001 -.000	Stud Length +.010 -.010	Min. Eff. Thread Length +.030 -.030	Thread Class 2A	Oil Hole Center	Oil Hole Dia.	Lube Fitting Size	Min. Boss Dia.	Recom. Bore +.0005 -.0000	**Recom. Torque Inch Pounds	Max. Static Capacity (lbs.)	Basic Dynamic Rating (lbs.)
1/2	CNB-16-SBC	.500	.375	.190	.625	1/4	10-32	-	-	-	19/64	.1900	15	1085	930
5/8	CNB-20-SBC	.625	.4375	.250	.750	3/8-125	1/4-28	-	-	-	23/64	.2500	35	1215	995
3/4	CNB-24-SBC	.750	.500	.375	.875	3/8	3/8-24	1/4	3/32	3/16	1/2	.3750	95	2065	1660
1	CNB-32-SBC	1.000	.625	.4375	1.000	1/2	7/16-20	1/4	3/32	3/16	41/64	.4375	250	3060	2225
1 1/4	CNB-40-SBC	1.250	.750	.500	1.250	5/8	1/2-20	5/16	3/32	3/16	41/64	.5000	350	4250	3930
1 1/2	CNB-48-SBC	1.500	.875	.625	1.500	3/4	5/8-18	3/8	3/32	3/16	57/64	.6250	650	5640	4840
1 3/4	CNB-56-SBC	1.750	1.000	.750	1.750	7/8	3/4-16	7/16	3/32	3/16	1 3/64	.7500	1250	7920	6385
2	CNB-64-SBC	2.000	1.250	.875	2.000	1	7/8-14	1/2	1/8	3/16	1 13/64	.8750	1500	10570	8090

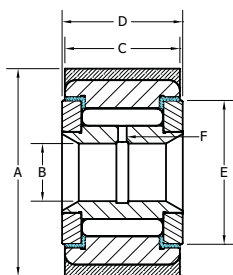
NEW Needle Bearing Cam Followers & Yoke Rollers - Standard Urethane



Needle Bearing Cam Followers — Standard Urethane

Part Number		Roller		Stud				Lubrication			Other Specs.		
		A	B	C	D	E	F	G	H	J			
Size	Cylindrical	Roller O.D +.005 -.005	Roller Width +.005 -.005	Stud Dia. +.001 -.000	Stud Length +.010 -.010	Min. Eff. Thread Length	Thread Class	Oil Hole Cent	Oil Hole Dia.	Lube Fitting Size	Min. Boss Dia.	Recom. Bore +.0005 -.0000	**Recm. Torque Inch Pounds
¾	CRT-24-SB	.750	.375	.190	.625	1/4	10-32	~	~	~	19/64	.1900	15
1	CRT-32-SB	1.000	.500	.375	.875	3/8	3/8-24	1/4	3/32	3/16	1/2	.3750	95
1 ¼	CRT-40-SB	1.250	.625	.4375	1.000	1/2	7/16-20	1/4	3/32	3/16	5/8	.4375	250
1 ½	CRT-48-SB	1.500	.750	.500	1.250	5/8	1/2-20	5/16	3/32	3/16	3/4	.5000	350
1 ¾	CRT-56-SB	1.750	.875	.625	1.500	3/4	5/8-18	3/8	3/32	3/16	57/64	.6250	650
2	CRT-64-SB	2.000	1.000	.750	1.750	7/8	3/4-16	7/16	3/32	3/16	1 3/64	.7500	1250
2 1/4	CRT-72-SB	2.250	1.250	.875	2.000	1	7/8-14	1/2	1/8	3/16	1 13/64	.8750	1500

Cam Yoke Rollers – Standard Urethane



Part Number		Roller				Other Specs.		
		A	B	C	D	E	F	
Size	Cylindrical	Roller O.D. +.005 -.005	Bore +.0002 -.0004	Roller Width +.005 -.005	Total Width +.005 -.010	Flange O.D. Ref.	Oil Hole Dia.	Recom. Shaft Diameter +/- .0002
1	YRT-32-S	1.000	.250	.500	.5625	5/8	3/32	.2497
1 1/4	YRT-40-S	1.250	.3125	.625	.6875	23/32	3/32	.3122
1 1/2	YRT-48-S	1.500	.375	.750	.8125	1	3/32	.3747
1 3/4	YRT-56-S	1.750	.4375	.875	.9375	1 1/8	3/32	.4372
2	YRT-64-S	2.000	.500	1.000	1.0625	1 1/4	3/32	.4997
2 1/4	YRT-72-S	2.250	.625	1.250	1.3125	1 1/2	3/32	.6247

**Clamping torque is based on dry threads. If threads are lubricated, use half of values shown.

Special Bearings

Special Applications

If you have a special application you can count on Carter to deliver the high precision bearings you need, when you need them. Unlike larger bearing manufacturers, Carter specializes in custom bearings. So we can respond to your design and scheduling requirements, often at a lower cost.

We can modify any of our standard, proven high precision bearings to give you the exact design features you want:

- custom materials and finishes
- high/low temperature modifications
- special relube port options
- stud configurations
- special laser-etched markings
- and more...

Just send us your data, drawings or sketches on the types needed and quantities required – we will promptly send you a quote. We have the capacity to make custom bearings in any quantity, including samples for your evaluation and testing on your equipment. And we make a special effort to supply samples as promptly as possible – at moderate cost.

We have produced an exceptionally wide range of special types, including variations of Neverlube Bearings, and various types of Needle, Ball and Roller Bearings, many of them with special features. For example, one special type bearing was developed for garbage truck loaders. Since this involved very severe service with a great deal of dust and grime, frequent weather changes, and intermittent heavy shock loads on the loading device, a very special bearing with a heavy seal was produced for this need and has worked very satisfactorily.

If you have a special bearing need, contact Carter. We know how to meet all your requirements.

Special Bearings

Cam Followers and Cam Yoke Rollers



Double Row Needle Bearings

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



Stainless Steel Hi-Roller™

for use in seafood processing plant.



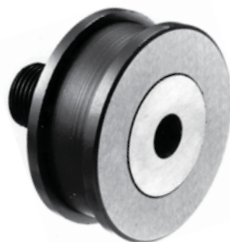
Metric Needle Bearings

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.

Special Bearings (continued)



Roller Lifter



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





Xtenda™ Stainless Steel Cam Followers & Cam Yoke Rollers

Stainless steel construction ideal for chemical, food, and harsh-environment applications.



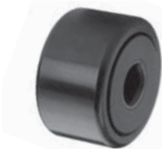
Hi-Roller™ Cam Followers and Cam Yoke Rollers

Available with either deep groove bearings or tapered roller bearings, they are capable of handling combined radial and thrust loads.



Standard Needle Bearing Cam Followers

Available sealed with slotted or hex socket heads. Crowned version available for applications with track alignment variations.



Standard Needle Bearing Cam Yoke Rollers

Allow “through-support” and greater load handling capacity since stud deflection is not a consideration.



Eccentric Stud Cam Followers

The perfect choice for applications where you need to account for slight variations in mounting hole location.



Heavy Stud Cam Followers

When you need high deflection resistance but your design won't allow a cam yoke roller and through-shaft.



Neverlube™ Cam Followers and Cam Yoke Rollers

Economical sintered bushing design with large lube reservoirs for dependable long-term performance.



Special Bearings

A wide range of special options in combinations including double row bearings, special outer race profiles, metric, stainless and composite materials.