





# *Cam Followers*

Unmounted bearing assembly consisting of hardened precision ground inner and outer raceways with either full complement or separated (cage) needle, ball, tapered or cylindrical rolling elements constructed with an integral stud or precision ground bore. Cam follower bearings provide an antifriction solution for translating rotation to linear motion or supporting either pure radial or combination thrust loads depending on the rolling elements types.

## **Bearing Configurations**

Cylindrical, Crowned, V-Groove Or Flanged

## **Mounting Styles**

Eccentric Or Concentric Stud Or Yoke

## **Outer Roller Diameter Range**

1/2" To 10" And 13 mm To 90 mm

## **Materials**

Bearing Quality Steel, Stainless

## Cam Follower Selection Guide

|            |                                                                                     |                |                                     | SIZE RANGE |         |
|------------|-------------------------------------------------------------------------------------|----------------|-------------------------------------|------------|---------|
|            |                                                                                     | Product Series | Material / Finish                   | Inch       | Metric  |
| CAMROL     |    | CF             | Black Oxide Finish<br>Bearing Steel | 1/2 - 10   |         |
|            |    | CYR            |                                     | 3/4 - 10   |         |
|            |    | CFH            |                                     | 1/2 - 7    |         |
|            |    | BCF            |                                     | 1/2 - 4    |         |
|            |    | BCYR           |                                     | 3/4 - 4    |         |
|            |   | MCF            |                                     |            | 16 - 90 |
|            |  | MCFR           |                                     |            | 13 - 90 |
|            |  | MCYR           |                                     |            | 5 - 50  |
|            |  | MCYRR          |                                     |            | 5 - 50  |
| Heavy-Duty |  | CFD            | Black Oxide Finish<br>Bearing Steel | 1 1/4 - 6  |         |
|            |  | CYRD           |                                     | 1 1/4 - 6  |         |
|            |  | MCFD           |                                     |            | 35 - 80 |
|            |  | MCYRD          |                                     |            | 15 - 50 |

\* For estimating purpose only, individually sizes may vary and are subject to change without notification

McGill CAMROL Cam Followers are available in 400 series stainless steel components for improved resistance to both external and internal corrosion.

CRES CAMROL bearings are dimensionally interchangeable with standard CAMROL<sup>®</sup> bearings and easily identifiable with "CR" designation.



# Inch Cam Follower Bearings **McGILL**

Cam Follower Bearings



| DESIGN CHARACTERISTICS |             |           |            |                      | FEATURES   |                |                   |      |          |              |          | Page No. |
|------------------------|-------------|-----------|------------|----------------------|------------|----------------|-------------------|------|----------|--------------|----------|----------|
| Radial Load            | Thrust Load | Precision | High Speed | Relative Base Cost * | Crowned OD | Eccentric Stud | Lubrication Holes | Seal | Hex Hole | Slotted Face | Jam Nuts |          |
|                        |             |           |            | \$                   | O          | O              | S                 | O    | O        | S            | -        | B-15     |
|                        |             |           |            | \$                   | O          | -              | S                 | O    | -        | -            | -        | B-39     |
|                        |             |           |            | \$\$                 | O          | -              | S                 | O    | O        | S            | -        | B-15     |
|                        |             |           |            | \$                   | O          | O              | S                 | O    | O        | S            | -        | B-45     |
|                        |             |           |            | \$                   | O          | -              | S                 | O    | -        | -            | -        | B-57     |
|                        |             |           |            | \$                   | S          | O              | S                 | O    | O        | S            | S        | B-69     |
|                        |             |           |            | \$                   | S          | O              | S                 | O    | O        | S            | S        | B-69     |
|                        |             |           |            | \$                   | S          | -              | S                 | O    | O        | -            | S        | B-91     |
|                        |             |           |            | \$                   | S          | -              | S                 | O    | -        | -            | S        | B-91     |
|                        |             |           |            | \$\$                 | O          | O              | O                 | S    | S        | -            | -        | B-103    |
|                        |             |           |            | \$\$                 | O          | -              | O                 | S    | -        | -            | -        | B-107    |
|                        |             |           |            | \$\$                 | S          | O              | S                 | -    | O        | S            | S        | B-111    |
|                        |             |           |            | \$\$                 | S          | -              | S                 | -    | -        | -            | -        | B-115    |

Circular Track / Misalignment

Load Sharing / Adjustment To Track

Relubrication To Help Promote Bearing Operating Life

Contamination Barrier

Blind Hole Mounting

Allows The Use Of A Lube Fitting When Lubrication From The Flange Side Of Bearing

Accessories Included

**O = Optional**

**S = Standard**

**○ = Not Recommended**



**Poor** ← → **Best**

## Cam Follower Selection Guide

|              |                                                                                     |                | SIZE RANGE                          |               |          |
|--------------|-------------------------------------------------------------------------------------|----------------|-------------------------------------|---------------|----------|
|              |                                                                                     | Product Series | Material / Finish                   | Inch          | Metric   |
| Special Duty |    | SDCF           | Black Oxide Finish<br>Bearing Steel | 1 - 4         |          |
|              |    | SDMCF          |                                     |               | 25 - 100 |
| TRAKROL      |    | PCF            | Black Oxide Finish<br>Bearing Steel | 1 1/2 - 9     |          |
|              |    | PCYR           |                                     | 3 - 6         |          |
|              |    | FCF            |                                     | 1 1/2 - 9     |          |
|              |   | FCYR           |                                     | 3 - 6         |          |
|              |  | VCF            |                                     | 2 1/2 - 8 1/2 |          |
|              |  | VCYR           |                                     | 3 1/2 - 7 1/2 |          |

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# Inch Cam Follower Bearings **McGILL**

Cam Follower Bearings



| DESIGN CHARACTERISTICS |             |           |            |                      | FEATURES   |                |                  |      |          |              |          | Page No. |
|------------------------|-------------|-----------|------------|----------------------|------------|----------------|------------------|------|----------|--------------|----------|----------|
| Radial Load            | Thrust Load | Precision | High Speed | Relative Base Cost * | Crowned OD | Eccentric Stud | Lubrication Hole | Seal | Hex Hole | Slotted Face | Jam Nuts |          |
|                        |             |           |            | \$\$\$               | O          | O              | -                | S    | S        | -            | S        | B-123    |
|                        |             |           |            | \$\$\$               | O          | O              | -                | S    | S        | -            | S        | B-125    |
|                        |             |           |            | \$\$                 | O          | O              | -                | S    | -        | -            | O        | B-131    |
|                        |             |           |            | \$\$                 | O          | -              | -                | S    | S        | -            | -        | B-133    |
|                        |             |           |            | \$\$\$               | -          | O              | -                | S    | S        | -            | O        | B-135    |
|                        |             |           |            | \$\$                 | -          | -              | -                | S    | -        | -            | -        | B-137    |
|                        |             |           |            | \$\$                 | -          | O              | -                | S    | S        | -            | O        | B-139    |
|                        |             |           |            | \$\$                 | -          | -              | -                | S    | -        | -            | -        | B-141    |

Circular Track / Misalignment

Load Sharing / Adjustment To Track

Relubrication And Promote Bearing Life

Contamination Barrier

Blind Hole Mounting

Allows The Use Of A Lube Fitting When Lubrication From The Flange Side Of Bearing

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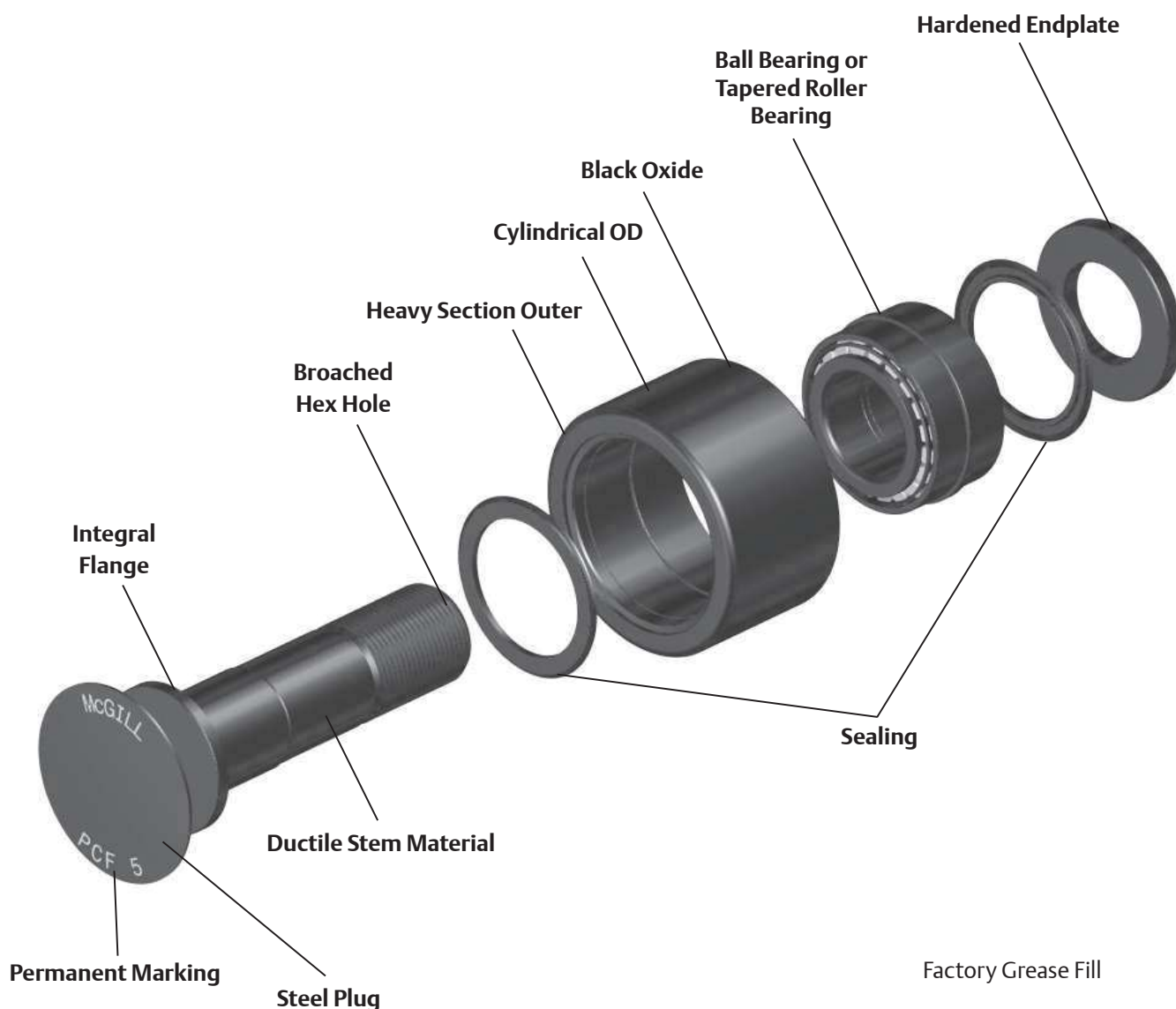
**Poor** ← → **Best**

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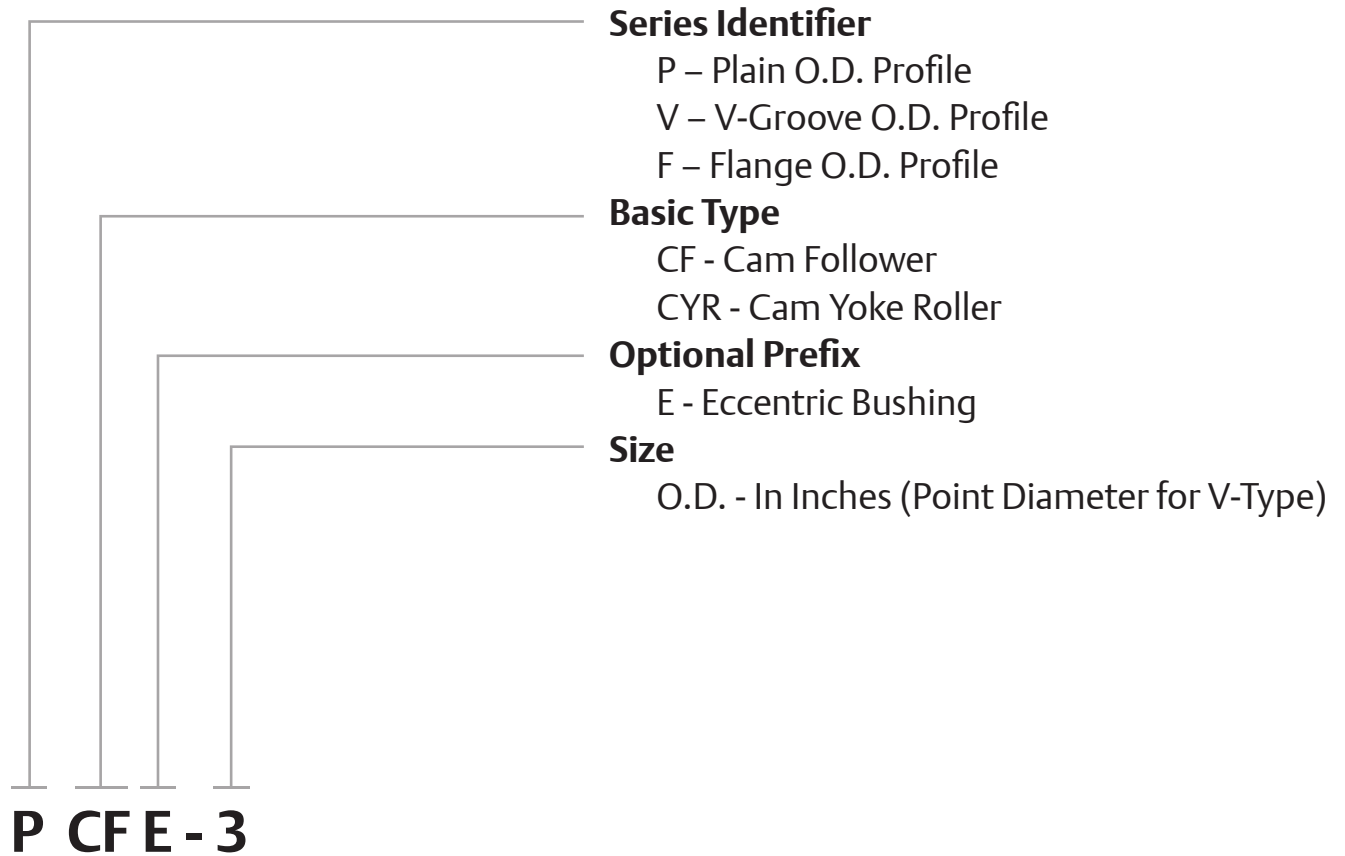
# McGILL® TRAKROL Cam Follower Bearings

## McGill TRAKROL Followers

TRAKROL bearings feature black oxide treated bearing steel and utilize either a precision ball or tapered roller bearing insert for longer operating life under combination radial and thrust loads. The capacity for combination loads allow the TRAKROL bearing to be available in plain (cylindrical), V-groove, and flanged O.D. in both stud and yoke styles. Small sizes (<3" OD or point diameter) use sealed ball bearing inserts along with a NYLAPLATE seal for additional protection. Stud type configurations utilize a metal end plug seal on the roller face providing a long lasting seal. Both bearing types provide a large internal grease reservoir along with special sealing makes TRAKROL bearings an excellent choice where reduced maintenance is required.



## TRAKROL Nomenclature





# McGILL® TRAKROL Cam Follower Bearings

## Features and Benefits

### Configurations

TRAKROL® bearings feature precision ball bearings or tapered roller bearings to help provide longer life when subjected to a combination of radial and thrust loads.



#### Plain Series

Plain OD bearings are generally used to support radial loads. Can also act as a “float” bearing when used in conjunction with a flange or V-Groove type.



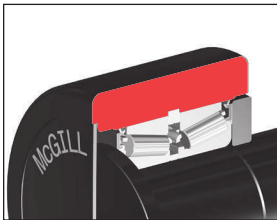
#### Flanged Series

Flanged OD bearings are popular in guide rail applications since integral flange help direct the load axially.



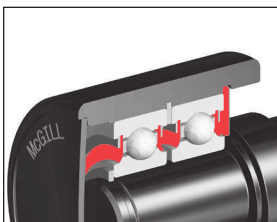
#### V-Groove Series

Typically used with “V” shaped tracks for both guidance and radial support. The configuration of the track reduces the amount of sediment build-up on the track.



#### Heavy Section Outer

The heavy section outer helps support radial loading and provide proper rolling element support.



#### Sealing

All TRAKROL bearing utilize rubber lip seals to help improve sealing and grease retention. TRAKROL bearings under 3” feature a ball bearing insert along with a NYLAPLATE wiping seal for addition protection. The NYLAPLATE seal is exclusive to McGill TRAKROL bearings and complements the rubber lip seal provided with the bearing insert.



## Features and Benefits continued



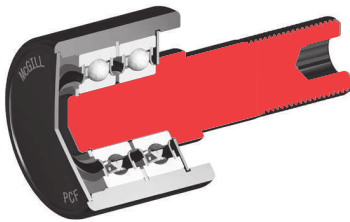
### Steel Plug

Metallic Plug seal helps keep contamination out the bearing and is resistant to weld spatter, abrasive contaminants and washout.



### Cylindrical Outside Diameter (OD)

The cylindrical OD can improve performance in certain applications such as improved track capacity by maximizing the contact area with the track.



### Ductile Material

Ductile stem helps resist shock loads.

### Factory Grease Fill

The bearings are factory lubricated with medium temperature grease. Contact Application Engineering when application conditions require special lubricants.



### Black Oxide Finish

Bearings have a black oxide finish on all external surfaces.



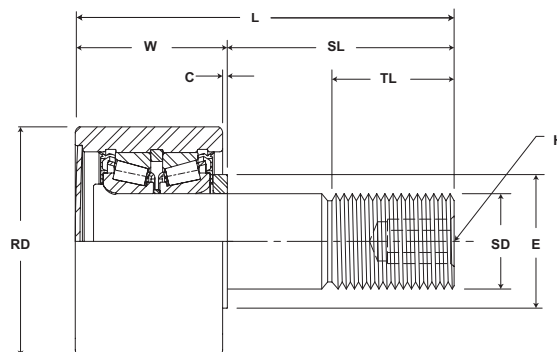
### Permanent Marking

Part number permanently marked on bearing face, helps bearing identification after years of service.

# McGILL® TRAKROL Cam Follower Bearings



- Basic Construction Type:** Stud Type Cylindrical Outside Diameter
- Rolling Elements:** Ball or Tapered Roller Bearing Insert
- Bearing Material:** Bearing Quality Steel
- Seal Type:** Metal Extension Plug and Rubber Lip Seal. Ball Bearing has Additional NYLAPLATE Seal
- Lubrication:** Polyurea Thickened Grease NLGI #2
- Stem Configuration:** Concentric / Eccentric
- Mounting Feature:** Hex Hole on Thread Face



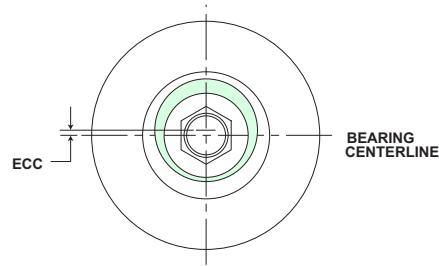
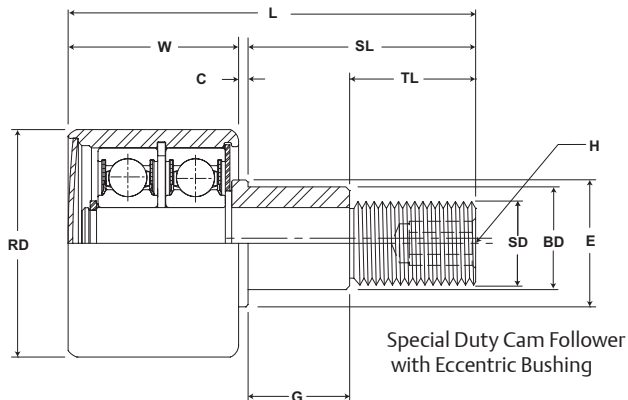
## PCF

| Part No.              | Insert Type                    | RD              | W            | SD            |             | SL          | C                  | TL            | L              | Track Roller Dynamic Rating | Track Roller Dynamic Thrust Rating* | Track Roller Static Rating |
|-----------------------|--------------------------------|-----------------|--------------|---------------|-------------|-------------|--------------------|---------------|----------------|-----------------------------|-------------------------------------|----------------------------|
| With LUBRI-DISC Seals | Ball or Tapered Roller Bearing | Roller Diameter | Roller Width | Stud Diameter |             | Stud Length | Endplate Extension | Thread Length | Length Overall | lb/N                        | lb/N                                | lb/N                       |
|                       |                                | Inch            | Inch         | mm            |             | Inch        | Inch               | Inch          | Inch           |                             |                                     |                            |
|                       |                                | (Ref)           | (Ref)        | Nom           | Tol         | (Ref)       | (Ref)              | Min           | (Ref)          |                             |                                     |                            |
| PCF 1 1/2             | BB                             | 1.50            | 1.19         | .625          | +0 / -0.001 | 1.500       | .06                | .75           | 2.69           | 2,520                       | 1,320                               | 1,370                      |
| PCFE 1 1/2            |                                | 38.1            | 30.2         | 15.9          | +0 / - 0.03 | 38.10       | 1.6                | 19.1          | 68.3           | 11,209                      | 5,871                               | 6,094                      |
| PCF 1 3/4             | BB                             | 1.75            | 1.19         | .750          | +0 / -0.001 | 1.750       | .06                | .88           | 2.94           | 2,520                       | 1,320                               | 1,370                      |
| PCFE 1 3/4            |                                | 44.5            | 30.2         | 19.1          | +0 / - 0.03 | 44.45       | 1.6                | 22.2          | 74.6           | 11,209                      | 5,871                               | 6,094                      |
| PCF 2                 | BB                             | 2.00            | 1.69         | .875          | +0 / -0.001 | 2.000       | .06                | 1.13          | 3.69           | 3,490                       | 1,830                               | 2,000                      |
| PCFE 2                |                                | 50.8            | 42.9         | 22.2          | +0 / - 0.03 | 50.80       | 1.6                | 28.6          | 93.7           | 15,524                      | 8,140                               | 8,896                      |
| PCF 2 1/4             | BB                             | 2.25            | 1.69         | .875          | +0 / -0.001 | 2.000       | .06                | 1.13          | 3.69           | 3,490                       | 1,830                               | 2,000                      |
| PCFE 2 1/4            |                                | 57.2            | 42.9         | 22.2          | +0 / - 0.03 | 50.80       | 1.6                | 28.6          | 93.7           | 15,524                      | 8,140                               | 8,896                      |
| PCF 2 1/2             | BB                             | 2.50            | 1.69         | 1.00          | +0 / -0.001 | 2.250       | .06                | 1.50          | 3.94           | 5,120                       | 2,680                               | 3,120                      |
| PCFE 2 1/2            |                                | 63.5            | 42.9         | 25.4          | +0 / - 0.03 | 57.15       | 1.6                | 38.1          | 100.0          | 22,774                      | 11,921                              | 13,878                     |
| PCF 3                 | TRB                            | 3.00            | 2.00         | 1.25          | +0 / -0.001 | 2.500       | .06                | 1.75          | 4.50           | 14,300                      | 5,790                               | 16,000                     |
| PCFE 3                |                                | 76.2            | 50.8         | 31.8          | +0 / - 0.03 | 63.50       | 1.6                | 44.5          | 114.3          | 63,606                      | 25,754                              | 71,168                     |
| PCF 3 1/4             | TRB                            | 3.25            | 2.00         | 1.25          | +0 / -0.001 | 2.500       | .06                | 1.75          | 4.50           | 14,300                      | 5,790                               | 16,000                     |
| PCFE 3 1/4            |                                | 82.6            | 50.8         | 31.8          | +0 / - 0.03 | 63.50       | 1.6                | 44.5          | 114.3          | 63,606                      | 25,754                              | 71,168                     |
| PCF 3 1/2             | TRB                            | 3.50            | 2.00         | 1.25          | +0 / -0.001 | 2.750       | .06                | 1.75          | 4.75           | 14,300                      | 5,790                               | 16,000                     |
| PCFE 3 1/2            |                                | 88.9            | 50.8         | 31.8          | +0 / - 0.03 | 69.85       | 1.6                | 44.5          | 120.7          | 63,606                      | 25,754                              | 71,168                     |
| PCF 4                 | TRB                            | 4.00            | 2.00         | 1.25          | +0 / -0.001 | 2.750       | .06                | 1.75          | 4.75           | 14,300                      | 5,790                               | 16,000                     |
| PCFE 4                |                                | 101.6           | 50.8         | 31.8          | +0 / - 0.03 | 69.85       | 1.6                | 44.5          | 120.7          | 63,606                      | 25,754                              | 71,168                     |
| PCF 4 1/2             | TRB                            | 4.50            | 2.00         | 1.25          | +0 / -0.001 | 2.750       | .06                | 1.75          | 4.75           | 14,300                      | 5,790                               | 16,000                     |
| PCF 5                 |                                | 114.3           | 50.8         | 31.8          | +0 / - 0.03 | 69.85       | 1.6                | 44.5          | 120.7          | 63,606                      | 25,754                              | 71,168                     |
| PCF 6                 | TRB                            | 6.00            | 3.00         | 2.50          | +0 / -0.001 | 5.500       | .06                | 3.25          | 8.50           | 35,800                      | 14,200                              | 62,000                     |
| PCF 7                 |                                | 152.4           | 76.2         | 63.5          | +0 / - 0.03 | 139.70      | 1.6                | 82.6          | 215.9          | 159,238                     | 63,162                              | 275,776                    |
| PCF 8                 | TRB                            | 8.00            | 3.00         | 2.50          | +0 / -0.001 | 5.500       | .06                | 3.25          | 8.50           | 35,800                      | 14,200                              | 62,000                     |
|                       |                                | 203.2           | 76.2         | 63.5          | +0 / - 0.03 | 139.70      | 1.6                | 82.6          | 215.9          | 159,238                     | 63,162                              | 275,776                    |

\*Dynamic thrust load rating based on application of a centric, axial load. Fatigue life calculations for combined radial and thrust loading require special considerations and Application Engineering should be contacted.  
Metric dimensions for reference only.  
Not all parts are available from stock. Please contact customer service for availability (800) 626-2120.  
For more information on bearing capabilities outside of our standard offering, please contact Application Engineering (800) 626-2093.

# TRAKROL Cam Follower Bearings **McGILL®**

Cam Follower Bearings



PCF

| Part No.              | ECC                   | G            | BD            | H               | E                      | Housing Bore Diameter |                | Thread Type | Clamping Torque | WT             |
|-----------------------|-----------------------|--------------|---------------|-----------------|------------------------|-----------------------|----------------|-------------|-----------------|----------------|
| With LUBRI-DISC Seals | Eccentric             |              |               | Hex Hole        | Min. Clamping Diameter |                       |                |             |                 |                |
|                       | Base Modifier PCFE-XX |              |               |                 |                        |                       |                |             |                 |                |
|                       | inch mm               |              |               | inch mm         |                        | inch mm               |                |             | in-lb Nm        | lb kg          |
| (Ref)                 | +0/-0.010             | ±.001        | (Ref)         | (Ref)           | Nom.                   | Tol.                  |                |             |                 |                |
| PCF 1 1/2             | -                     | -            | -             | .2500<br>6.350  | .75<br>19.1            | .6260<br>15.900       | ±.001<br>±.025 | 5/8-18      | 650<br>74       | .51<br>.23     |
| PCFE 1 1/2            | .03<br>.8             | .73<br>18.5  | .875<br>22.2  |                 | 1.13<br>28.6           | .8780<br>22.301       |                |             |                 |                |
| PCF 1 3/4             | -                     | -            | -             | .2500<br>6.350  | 1.00<br>25.4           | .7510<br>19.075       | ±.001<br>±.025 | 3/4-16      | 1,250<br>142    | .81<br>.37     |
| PCFE 1 3/4            | .03<br>.8             | .86<br>21.7  | 1.000<br>25.4 |                 | 1.25<br>31.8           | 1.0030<br>25.476      |                |             |                 |                |
| PCF 2                 | -                     | -            | -             | .3750<br>9.525  | 1.00<br>25.4           | .8760<br>22.250       | ±.001<br>±.025 | 7/8-14      | 1,500<br>170    | 1.34<br>.61    |
| PCFE 2                | .03<br>.8             | .98<br>24.9  | 1.187<br>30.1 |                 | 1.50<br>38.1           | 1.1900<br>30.226      |                |             |                 |                |
| PCF 2 1/4             | -                     | -            | -             | .3750<br>9.525  | 1.00<br>25.4           | .8760<br>22.250       | ±.001<br>±.025 | 7/8-14      | 1,500<br>170    | 1.72<br>.78    |
| PCFE 2 1/4            | .03<br>.8             | .98<br>24.9  | 1.187<br>30.1 |                 | 1.50<br>38.1           | 1.1900<br>30.226      |                |             |                 |                |
| PCF 2 1/2             | -                     | -            | -             | .4375<br>11.113 | 1.25<br>31.8           | 1.0010<br>25.425      | ±.001<br>±.025 | 1-14        | 2,240<br>254    | 2.12<br>.96    |
| PCFE 2 1/2            | .03<br>.8             | .98<br>24.9  | 1.187<br>30.1 |                 | 1.50<br>38.1           | 1.1900<br>30.226      |                |             |                 |                |
| PCF 3                 | -                     | -            | -             | .4375<br>11.113 | 1.75<br>44.5           | 1.2510<br>31.775      | ±.001<br>±.025 | 1 1/4-12    | 3,440<br>388    | 3.91<br>1.77   |
| PCFE 3                | .06<br>1.5            | 1.23<br>31.2 | 1.750<br>44.5 |                 | 2.31<br>58.7           | 1.7530<br>44.526      |                |             |                 |                |
| PCF 3 1/4             | -                     | -            | -             | .4375<br>11.113 | 1.75<br>44.5           | 1.2510<br>31.775      | ±.001<br>±.025 | 1 1/4-12    | 3,440<br>388    | 4.60<br>2.08   |
| PCFE 3 1/4            | .06<br>1.5            | 1.23<br>31.2 | 1.750<br>44.5 |                 | 2.31<br>58.7           | 1.7530<br>44.526      |                |             |                 |                |
| PCF 3 1/2             | -                     | -            | -             | .4375<br>11.113 | 1.75<br>44.5           | 1.2510<br>31.775      | ±.001<br>±.025 | 1 1/4-12    | 3,440<br>388    | 6.25<br>2.83   |
| PCFE 3 1/2            | .06<br>1.5            | 1.36<br>34.4 | 1.812<br>46.0 |                 | 2.31<br>58.7           | 1.8150<br>46.101      |                |             |                 |                |
| PCF 4                 | -                     | -            | -             | .4375<br>11.113 | 1.75<br>44.5           | 1.2510<br>31.775      | ±.001<br>±.025 | 1 1/4-12    | 3,440<br>388    | 7.94<br>3.60   |
| PCFE 4                | .06<br>1.5            | 1.36<br>34.4 | 1.812<br>46.0 |                 | 2.31<br>58.7           | 1.8150<br>46.101      |                |             |                 |                |
| PCF 4 1/2             | -                     | -            | -             | .4375<br>11.113 | 1.75<br>44.5           | 1.2510<br>31.775      | ±.001<br>±.025 | 1 1/4-12    | 3,440<br>388    | 9.88<br>4.48   |
| PCF 5                 | -                     | -            | -             |                 | 3.25<br>82.6           | 2.0010<br>50.825      |                |             |                 |                |
| PCF 6                 | -                     | -            | -             | .8750<br>22.225 | 3.25<br>82.6           | 2.5010<br>63.525      | ±.001<br>±.025 | 2 1/2-12    | 5,000<br>566    | 30.00<br>13.61 |
| PCF 7                 | -                     | -            | -             |                 | 3.25<br>82.6           | 2.5010<br>63.525      |                |             |                 |                |
| PCF 8                 | -                     | -            | -             | .8750<br>22.225 | 3.25<br>82.6           | 2.5010<br>63.525      | ±.001<br>±.025 | 2 1/2-12    | 5,000<br>566    | 49.00<br>22.23 |

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