
CF 2
McGILL

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

McGILL® *Inch Cam Follower Bearings*

Cam Follower Selection Guide

		Product Series	Material / Finish	Size Range: Inch	Size Range: Metric
CAMROL		CF	Black Oxide Finish 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 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® bearings and easily identifiable with "CR" designation.

Design Characteristics					Features							
Radial Load	Thrust Load	Precision	High Speed	Relative Base Cost *	Crowned OD	Eccentric Stud	Lubrication Holes	Seal	Hex Hole	Slotted Face	Jam Nuts	Page No.
●	○	●	◒	$	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

McGILL® Inch Cam Follower Bearings

Cam Follower Selection Guide

		Product Series	Material / Finish	Size Range: Inch	Size Range: Metric
Special Duty		SDCF	Black Oxide Finish Bearing Steel	1 - 4	
		SDMCF			25 - 100
TRAKROL		PCF	Black Oxide Finish 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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Design Characteristics					Features							
Radial Load	Thrust Load	Precision	High Speed	Relative Base Cost *	Crowned OD	Eccentric Stud	Lubrication Hole	Seal	Hex Hole	Slotted Face	Jam Nuts	Page No.
◒	○	●	◒	$$$	O	O	-	S	S	-	S	B-123
◒	○	●	◒	$$$	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
Accessories Included

O = Optional
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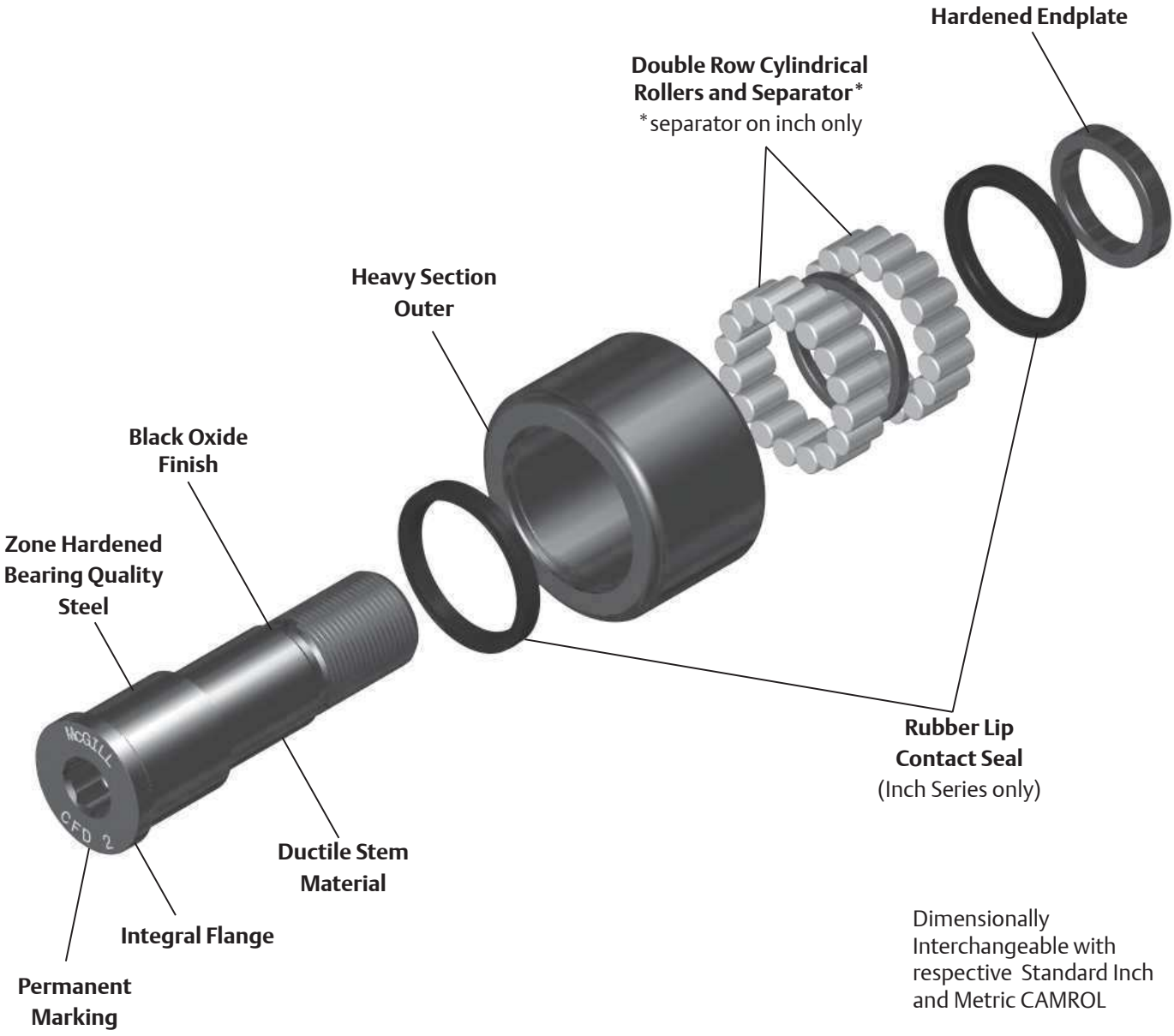
○ = Not Recommended
◒ ◒ ◒ ◒ ●
Poor ⟷ Best

* For estimating purpose only, individual costs may vary and are subject to change without notification

Heavy-Duty Inch and Metric CAMROL®

McGill Heavy-Duty CAMROL bearings are full complement cylindrical roller bearings featuring black oxide treated bearing steel, available in two basic mounting styles (stud or yoke) for use mechanical automation or linear motion applications. Our standard integral flange construction of stud version bearings helps maintain bearing integrity throughout the life. The inch series utilizes a rubber lip seal to provide a barrier for contamination and lubricant retention. Within the following section you can learn more about how these features and others can be applied to your application.



Dimensionally Interchangeable with respective Standard Inch and Metric CAMROL

Cam Follower Inch and Metric Nomenclature

Optional Prefix
- C - Crowned O.D. (Inch Series Only)
- M - Metric Series

Basic Type, Construction
- CFD - Heavy Duty Cam Follower
- CYRD - Heavy Duty Cam Yoke Roller

Construction Suffix
- E - Eccentric Bushing

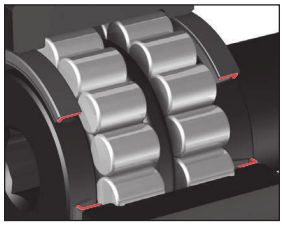
Size
- Inch Series: O.D. In Inches
- Metric Stud Type: O.D. In mm
- Metric Yoke Type: Bore In mm

Optional Suffix
- B - Broached Hex Hole (Metric Series Only)
- X - Cylindrical Roller Profile (Metric Series Only)
- R - Oil Hole (Inch Series Only)

C CFD E - 1 1/2 - B

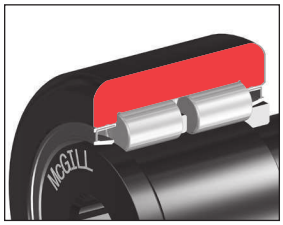
McGILL® *Heavy Duty CAMROL Bearings*

Features and Benefits



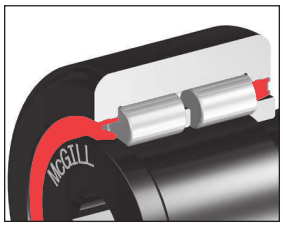
Double Row Full Complement Needle Rollers

The roller diameter to length ratio of Cylindrical rollers provides an end face and increases surface area to help support incidental thrust loads.



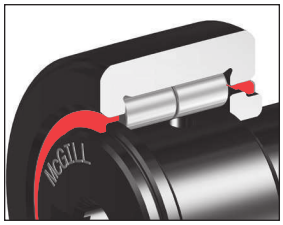
Heavy Section Outer

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



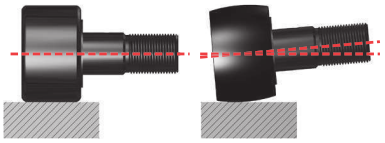
Rubber Lip Seals - Inch Series

Heavy-Duty CAMROL® Bearings have rubber lip seals to help keep contamination our and lubricant in. The seals are mounted inward to improve grease retention. Inch Only, removed as option- NS



Metallic Shields - Metric Series

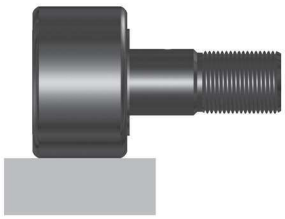
The metric series Heavy-Duty bearings metallic side shields providing a barriers to help retain grease and keep out containments. Metric Only, removed as option – NS



Crowned Outside Diameter (OD)

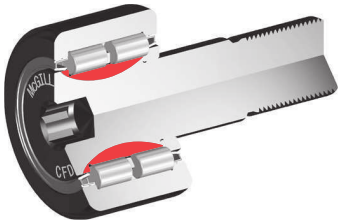
A crown on the OD of a cam follower bearing can increase bearing life versus a standard cylindrical cam follower. The crown achieves this performance by helping to distribute the stress on the outer ring and rolling elements resulting from misalignment due to mounting inaccuracy or stud deflection. The crown also helps reduce outer skidding in turntable or rotary applications. Not all applications may see the benefit of a crowned OD, consult Application Engineering for guidance for your application. Crowned OD is an option for Inch Series. Crowned OD is standard for Metric Series.

Features and Benefits continued



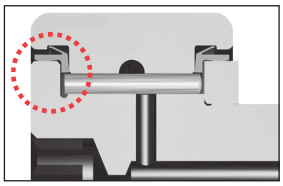
Cylindrical Outside Diameter (OD)

The cylindrical OD can improve performance in certain applications such as improved track capacity by maximizing the contact area with the track. Cylindrical OD is standard for Inch Series. Cylindrical OD is and option for Metric Series.



Zone Hardened Raceways

Heat treatment used to precisely harden working surfaces of the raceway and flange. The hardened surfaces provide support for the rolling element contact stresses, while keeping the core of the inner ductile to help absorb shock loads.



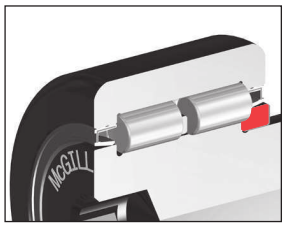
Integral Flange

The integral flange helps maintain bearing integrity throughout the bearing life. Zone hardened to provide wear resistance from incidental contact with the outer or rollers, and provides a sealing surface for rubber lipped seal.

Hex Hole (Broached)

The hex hole can aide in the installation and removal of stud type cam followers by increasing the holding power over a standard screw driver slot.
*Standard on inch, option on Metric.

Features and Benefits continued

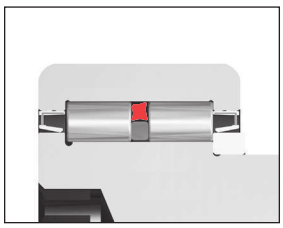


Hardened Endplate

Similar to the flange, the endplate must provide a contact surface for the seal and resist wear from incidental contact with the outer or rollers.

Factory Grease Fill

The cam follower and cam yoke roller bearings are factory lubricated with a medium temperature grease. Contact Application Engineering when application conditions require special lubricants.



Lubrication Reservoir

The inch series heavy-Duty bearings incorporate a spacer, resulting in an increased lubricant reservoir. Inch only

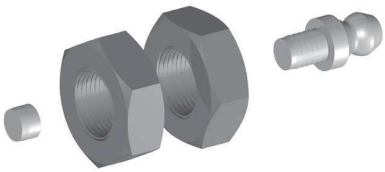
Black Oxide Finish

Bearings have a black oxide finish on all external surfaces.

Options

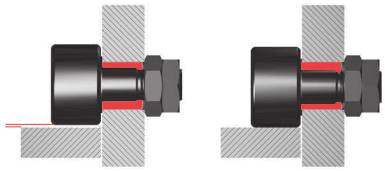
Permanent Marking

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



Installation Accessory Pack - Metric Series Stud Type

All McGill Metric Cam followers include (2) oil hole plug to help provide proper lubrication path to the rolling elements and prevent contamination from entering the bearing through a unused oil hole. Metric only, Inch as -OH option,



Eccentric Stud

Eccentric stud option provides a means of adjusting the radial position of the bearing, which can improve the load sharing of inline bearing combinations. Cam follower load sharing helps reduce operation costs by reducing premature failures due to overloaded bearings, the need of precise mounting hole location tolerances and providing ability to realign bearing due to track wear.

Additional Options

BHT

Broached (Hex) hole at threaded end of cam follower stud.

THT

Threaded axial lubrication hole at threaded end of cam follower stud.

THF

Threaded axial lubrication hole at flanged end of cam follower stud. Available with all screw driver slot cam followers or broached cam followers over 3”.

THB

Threaded axial oil hole on both ends of cam follower stud. Available with all screw driver slot cam followers or broached cam followers over 3”.

ALG

Annular lubrication groove at cam follower stem radial lubrication hole.

Custom Capabilities

- *Customer specified factory grease fill*
- *Grease fitting installed*
- *Stud or thread length modifications*
- *Roller diameter variations or tolerances*
- *Cam followers grouped or matched diameter tolerance / run out sets*
- *Custom engineered to order designs*

McGILL® *Heavy Duty CAMROL Bearings*

Basic Construction Type: Stud Type Crowned / Cylindrical Outside Diameter

Rolling Elements: Full Complement Cylindrical Roller

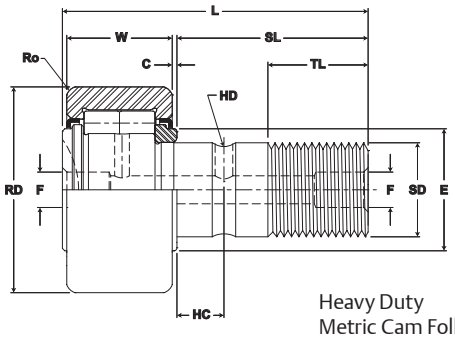
Bearing Material: Bearing Quality Steel

Seal Type: Metallic Shield

Lubrication: Lithium Soap Grease NLGI #2

System Configuration: Concentric / Eccentric

Mounting Feature: Slot / Hex Hole



Heavy Duty Metric Cam Follower

MCFD, MCFDE

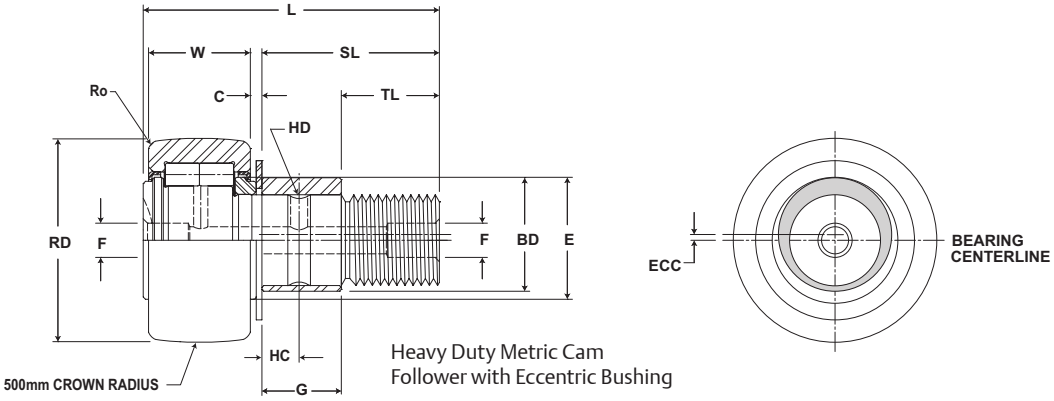
Part No.	RD		W		SD		SL	C	TL	L	R	ECC	G	BD	Track Roller Dynamic Rating	Track Roller Static Rating
With Shields	Roller Diameter		Roller Width		Stud Diameter		Stud Length	Endplate Extension	Minimum Thread Length	Length Overall	Cylindrical Suffix MCFD-xx-X	Eccentric Base Modifier MCFDE-xx				
	mm inch		mm inch		mm inch		mm inch		mm inch		mm inch	mm inch			N/lb	N/lb
	Nom.	Tol.	Nom.	Tol.	Nom.	Tol.	(Ref)	(Ref)	(Ref)	(Ref)	(Ref)	(Ref)	+05/-.15 (+.002 / -.006)	See Table		
MCFD 35	35.000 1.3780	+0/-.050 +0/-.002	18.00 .709	+0/.12 +0/-.005	16.000 .6299	+0/-.018 +0/-.0007	32.50 1.280	.80 .031	17.00 .669	52.00 2.047	500 20	N/A	N/A	N/A	16,000 3,597	18,000 4,047
MCFDE 35												0.5 .02	14 0.55	20 .79		
MCFD 35 X		+0/-.011 +0/-.0004									Cylindrical	N/A	N/A	N/A		
MCFDE 35 X												0.5 .02	14 0.55	20 .79		
MCFD 40	40.000 1.5748	+0/-.050 +0/-.002	20.00 .787	+0/.12 +0/-.009	18.000 .7087	+0/-.018 +0/-.0007	36.50 1.437	.80 .031	19.00 .748	58.00 2.283	500 20	N/A	N/A	N/A	18,000 4,047	22,000 4,946
MCFDE 40												1 .04	16 0.63	22 .87		
MCFD 40 X		+0/-.011 +0/-.0004									Cylindrical	N/A	N/A	N/A		
MCFDE 40 X												1 .04	16 0.63	22 .87		
MCFD 47	47.000 1.8504	+0/-.050 +0/-.002	24.00 .945	+0/.12 +0/-.013	20.000 .7874	+0/-.021 +0/-.0008	40.50 1.594	.80 .031	21.00 .827	66.00 2.598	500 20	N/A	N/A	N/A	27,000 6,070	32,000 7,194
MCFDE 47												1 .04	18 0.71	24 .94		
MCFD 47 X		+0/-.011 +0/-.0004									Cylindrical	N/A	N/A	N/A		
MCFDE 47 X												1 .04	18 0.71	24 .94		
MCFD 52	52.000 2.0472	+0/-.050 +0/-.002	24.00 .945	+0/.12 +0/-.017	20.000 .7874	+0/-.021 +0/-.0008	40.50 1.594	.80 .031	21.00 .827	66.00 2.598	500 20	N/A	N/A	N/A	30,000 6,745	35,000 7,869
MCFDE 52												1 .04	18 0.71	24 .94		
MCFD 52 X		+0/-.013 +0/-.0005									Cylindrical	N/A	N/A	N/A		
MCFDE 52 X												1 .04	18 0.71	24 .94		
MCFD 62	62.000 2.4409	+0/-.050 +0/-.002	29.00 1.142	+0/.12 +0/-.021	24.000 .9449	+0/-.021 +0/-.0008	49.50 1.949	.80 .031	25.00 .984	80.00 3.150	500 20	N/A	N/A	N/A	41,000 9,218	48,000 10,791
MCFDE 62												1 .04	22 0.87	28 .10		
MCFD 62 X		+0/-.013 +0/-.0005									Cylindrical	N/A	N/A	N/A		
MCFDE 62 X												1 .04	22 0.87	28 .10		

1. Standard bearing has a crowned roller outside diameter. For straight cylindrical outside roller diameter, add suffix "X". Example - MCFD-35-X.
2. Since load, lubrication method, temperature and other factors affect the maximum operating speed, it is impossible to determine precise limiting speed. The listed limiting speeds are based on lightly loaded bearings having adequate lubrication and are listed only as a design guide. If grease lubricated, frequent relubrication is required. Actual bearing testing in the specific application should be conducted if the anticipated operating speed approaches the listed limiting speed.
3. Clamping torque is based on dry threads. If threads are lubricated, use half of value shown.

Inch 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.



Heavy Duty Metric Cam Follower with Eccentric Bushing

MCFD, MCFDE

Part No.	HC	HD	D	E	Ro	HBD	sdt	Thread Type	CT	LSD	WT
With Shields	Hole Center	Radial Lub. Hole Diameter	Lub. Hole Dia. / Lub. Fitting	Min. Clamping Diameter	Outer Radius (suffix X)	Housing Bore Diameter		Thread Type	Clamping Torque	Limiting Speed (Grease)	Bearing Weight
	mm inch		mm inch		mm inch				Nm in-lb	RPM	kg lb
	(Ref)	(Ref)	(Ref)	(Ref)	(Ref)	Nom.	Tol.				
MCFD 35	8.00 .315	3.00 .118	6.00 .236	21.00 .827	1.00 .039	16.000 .6299	+0/-.018 +0/-.0007	M16x1.5	85 752	6,500	.16 .36
MCFDE 35											
MCFD 35 X											
MCFDE 35 X											
MCFD 40	8.00 .315	3.00 .118	6.00 .236	23.00 .906	1.50 .059	18.000 .7087	+0/-.018 +0/-.0007	M18x1.5	85 752	5,500	.24 .53
MCFDE 40											
MCFD 40 X											
MCFDE 40 X											
MCFD 47	9.00 .354	4.00 .157	8.00 .315	27.00 1.063	1.50 .059	20.000 .7874	+0/-.021 +0/-.0008	M20x1.5	118 1,044	4,200	.38 .84
MCFDE 47											
MCFD 47 X											
MCFDE 47 X											
MCFD 52	9.00 .354	4.00 .157	8.00 .315	21.00 .827	1.50 .059	20.000 .7874	+0/-.021 +0/-.0008	M20x1.5	118 1,044	3,400	.45 .99
MCFDE 52											
MCFD 52 X											
MCFDE 52 X											
MCFD 62	11.00 .433	4.00 .157	8.00 .315	38.00 1.496	2.00 .079	24.000 .9449	+0/-.021 +0/-.0008	M24x1.5	216 1,912	2,600	.80 1.75
MCFDE 62											
MCFD 62 X											
MCFDE 62 X											

McGILL® *Heavy Duty CAMROL Bearings*

Basic Construction Type: Stud Type Crowned / Cylindrical Outside Diameter

Rolling Elements: Full Complement Cylindrical Roller

Bearing Material: Bearing Quality Steel

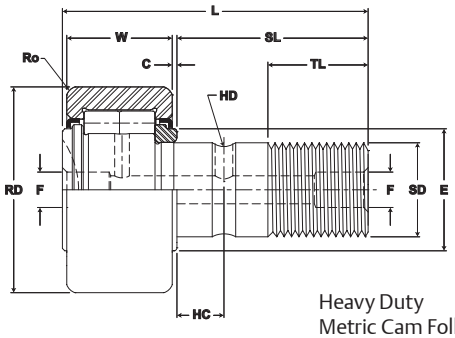
Seal Type: Metallic Shield

Lubrication: Lithium Soap Grease NLGI #2

System Configuration: Concentric / Eccentric / Heavy Stud

Mounting Feature: Slot / Hex Hole

Dimensional Interchange: ISO Standard



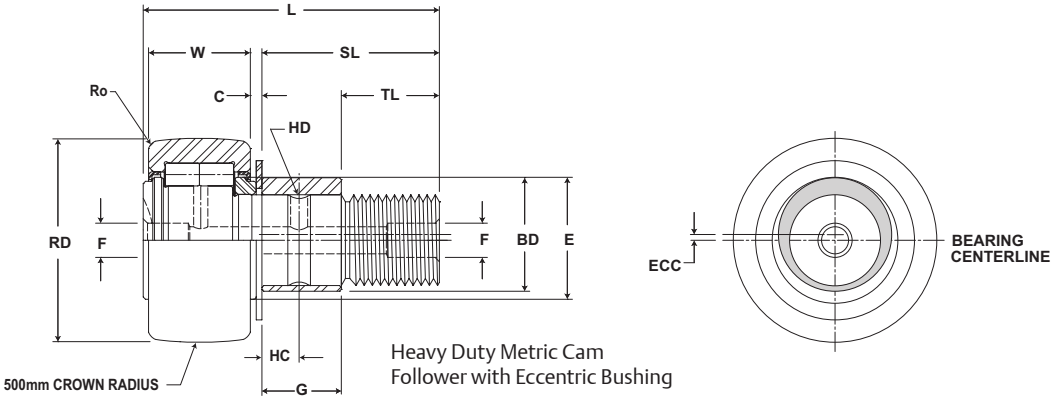
Heavy Duty Metric Cam Follower

MCFD, MCFDE

Part No.	RD		W		SD		SL	C	TL	L	R	ECC	G	BD	Track Roller Dynamic Rating	Track Roller Static Rating
With Shields	Roller Diameter		Roller Width		Stud Diameter		Stud Length	Endplate Extension	Minimum Thread Length	Length Overall	Cylindrical Suffix MCFD-xx-X	Eccentric Base Modifier MCFDE-xx				
	mm inch		mm inch		mm inch		mm inch		mm inch		mm inch	mm inch			N/lb	N/lb
	Nom.	Tol.	Nom.	Tol.	Nom.	Tol.	(Ref)	(Ref)	(Ref)	(Ref)	(Ref)	(Ref)	+05/-.15 (+.002 / -.006)	See Table		
MCFD 72	72.000 2.8346	+0/-.050 +0/-.002	29.00 1.142	+0/.12 +0/-.025	24.000 .9449	+0/-.021 +0/-.0008	49.50 1.949	.80 .031	25.00 .984	80.00 3.150	500 20	N/A	N/A	N/A	46,000 10,342	57,000 12,815
MCFDE 72												1 .04	22 0.87	28 .10		
MCFD 72 X		+0/-.013 +0/-.0005									Cylindrical	N/A	N/A	N/A		
MCFDE 72 X												1 .04	22 0.87	28 .10		
MCFD 80	80.000 3.1496	+0/-.050 +0/-.002	35.00 1.378	+0/.12 +0/-.029	30.000 1.1811	+0/-.021 +0/-.0008	63.00 2.480	1.00 .039	32.00 1.260	100.00 3.937	500 20	N/A	N/A	N/A	67,000 15,063	91,000 20,459
MCFDE 80												1.5 .06	29 1.14	35 .38		
MCFD 80 X		+0/-.015 +0/-.0006									Cylindrical	N/A	N/A	N/A		
MCFDE 80 X												1.5 .06	29 1.14	35 .38		
MCFD 90	90.000 3.5433	+0/-.050 +0/-.002	35.00 1.378	+0/.12 +0/-.033	30.000 1.1811	+0/-.021 +0/-.0008	63.00 2.480	1.00 .039	32.00 1.260	100.00 3.937	500 20	N/A	N/A	N/A	67,000 15,063	101,000 22,707
MCFDE 90												1.5 .06	29 1.14	35 .38		
MCFD 90 X		+0/-.015 +0/-.0006									Cylindrical	N/A	N/A	N/A		
MCFDE 90 X												1.5 .06	29 1.14	35 .38		

1. Standard bearing has a crowned roller outside diameter. For straight cylindrical outside roller diameter, add suffix "X". Example - MCFD-35-X.
2. Since load, lubrication method, temperature and other factors affect the maximum operating speed, it is impossible to determine precise limiting speed. The listed limiting speeds are based on lightly loaded bearings having adequate lubrication and are listed only as a design guide. If grease lubricated, frequent relubrication is required. Actual bearing testing in the specific application should be conducted if the anticipated operating speed approaches the listed limiting speed.
3. Clamping torque is based on dry threads. If threads are lubricated, use half of value shown.

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.



Heavy Duty Metric Cam Follower with Eccentric Bushing

MCFD, MCFDE

Part No.	HC	HD	D	E	Ro	HBD	sdt	Thread Type	CT	LSD	WT
With Shields	Hole Center	Radial Lub. Hole Diameter	Lub. Hole Dia. / Lub. Fitting	Min. Clamping Diameter	Outer Radius (suffix X)	Housing Bore Diameter		Thread Type	Clamping Torque	Limiting Speed (Grease)	Bearing Weight
	mm inch		mm inch		mm inch				Nm in-lb	RPM	kg lb
	(Ref)	(Ref)	(Ref)	(Ref)	(Ref)	Nom.	Tol.				
MCFD 72	12.00 .472	4.00 .157	8.00 .315	44.00 1.732	2.00 .079	24.000 .9449	+0/-.021 +0/-.0008	M24x1.5	216 1,912	2,100	1.01 2.23
MCFDE 72											
MCFD 72 X											
MCFDE 72 X											
MCFD 80	15.00 .591	4.00 .157	8.00 .315	47.00 1.850	2.00 .079	30.000 1.1811	+0/-.021 +0/-.0008	M30x1.5	441 3,903	1,800	1.54 3.39
MCFDE 80											
MCFD 80 X											
MCFDE 80 X											
MCFD 90	15.00 .591	4.00 .157	8.00 .315	47.00 1.850	2.00 .079	30.000 1.1811	+0/-.021 +0/-.0008	M30x1.5	441 3,903	1,800	1.96 4.32
MCFDE 90											
MCFD 90 X											
MCFDE 90 X											