

ENGINEERING DATA

Hex hole



Metric stud type CAMROL® bearings are available with a hexagonal hole in the face of the stud in place of the screw driver slot. This feature is advantageous for mounting bearings in blind holes or with self-locking nuts requiring greater-than-average thread torque. In this modification, relubrication through the flange end of the stud is not possible.

Hexagonal wrench sizes

BASIC BEARING NUMBER	HEX WRENCH SIZE, MM	BASIC BEARING NUMBER	HEX WRENCH SIZE, MM
13	3	47	10
16	4	47A	10
19	4	52	10
22	4	52A	10
22A	5	62	14
26	4	62A	14
26A	5	72	14
30	6	72A	14
32	6	80	14
35	8	85	14
40	8	90	14
40A	8		

Eccentric collar



The eccentric collar feature provides an easy means of radial adjustment for positioning of cam followers, track, guide and support rollers.

In-line combinations of eccentric collar CAMROL® bearings can be aligned without the need for extremely close tolerances of mounting holes and members. Problems involving control of clearances, pre-loading and compensation for wear can be avoided or solved by the easy adjustment of new bearings.

In most applications, a locknut is sufficient to hold the bearing at the desired position. In applications where a more positive means of holding a given position is required, this can be accomplished by drilling and doweling through the housing into the bushing and the stud.

Coding for metric CAMROL® bearings



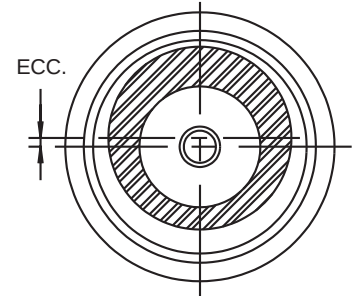
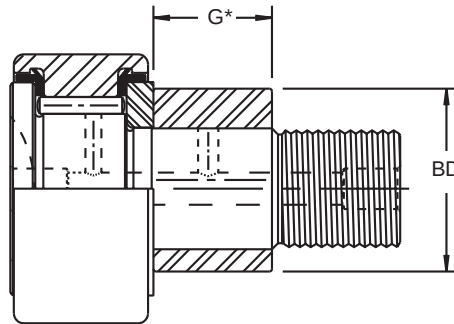
Stud type

SERIES	CONSTRUCTION FEATURES
MCF	Full complement of needle rollers
MCFE	With eccentric collar
MCF-X	With cylindrical outside diameter
MCF-B, MCF-BX	With hexagonal hole
MCF-S, MCF-SBX	With seals
MCFR	Caged needle rollers
MCFRE	With eccentric collar
MCFR-X	With cylindrical outside diameter
MCFR-B, MCFR-BX	With hexagonal hole
MCFR-S, MCFR-SBX	With seals
MCFD	Full complement cylindrical rollers
MCFDE	With eccentric collar
MCFD-X	With cylindrical outside diameter



Yoke type

SERIES	CONSTRUCTION FEATURES
MCYR	Full complement of needle rollers
MCYR-S	With seals
MCYR-X	With cylindrical outside diameter
MCYR-SX	With cylindrical outside diameter
MCYRR	Caged needle rollers
MCYRR-S	With seals
MCYRR-SX	With cylindrical outside diameter
MCYRD	Full complement cylindrical rollers
MCYRD-X	With cylindrical outside diameter



(For other dimensions refer to tabulated chart)

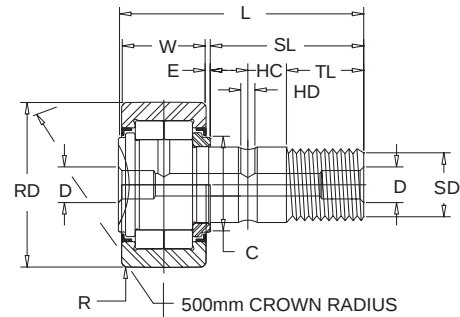
BASIC BEARING NUMBER	G*	BD		ECC. ECCENTRICITY	RECOMMENDED HOUSING BORE DIA.
	+0.05 -0.15	mm			+0.025 -0.000
	mm	MIN.	MAX.		mm
16	7	8.964	9.000	0.5	9.050
19	9	10.957	11.000	0.5	11.050
22	10	12.957	13.000	0.5	13.050
22A	10	12.957	13.000	0.5	13.050
26	10	12.957	13.000	0.5	13.050
26A	10	12.957	13.000	0.5	13.050
30	11	14.957	15.000	0.5	15.050
32	11	14.957	15.000	0.5	15.050
35	14	19.948	20.000	1.0	20.050
40	16	21.948	22.000	1.0	22.050
40A	16	21.948	22.000	1.0	22.050
47	18	23.948	24.000	1.0	24.050
47A	18	23.948	24.000	1.0	24.050
52	18	23.948	24.000	1.0	24.050
52A	18	23.948	24.000	1.0	24.050
62	22	27.948	28.000	1.0	28.050
62A	22	27.948	28.000	1.0	28.050
72	22	27.948	28.000	1.0	28.050
72A	22	27.948	28.000	1.0	28.050
80	29	34.938	35.000	1.5	35.050
85	29	34.938	35.000	1.5	35.050
90	29	34.938	35.000	1.5	35.050

*For positive clamping, housing thickness should be 0.3 mm greater than G dimension.

MCFD® SERIES

STUD TYPE

Series MCFD® — Shielded, full complement of cylindrical rollers



MCFD®

BEARING NO.	ROLLER DIA. RD (1)	ROLLER WIDTH W +0.00 -0.12	STUD DIA. SD	STUD L'GTH. SL	OVERALL LENGTH L	ENDPLATE EXTENSION E	THREAD	THREAD LENGTH TL	OIL HOLE		REAMED HOLE D
	NOM.		NOM.	NOM.	NOM.	NOM.		MIN.	HC NOM.	HD NOM.	NOM.
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
MCFD-35	35	18	16	32.5	52	0.8	M16x1.5	17	8	3	6
MCFD-40	40	20	18	36.5	58	0.8	M18x1.5	19	8	3	6
MCFD-47	47	24	20	40.5	66	0.8	M20x1.5	21	9	4	8
MCFD-52	52	24	20	40.5	66	0.8	M20x1.5	21	9	4	8
MCFD-62	62	29	24	49.5	80	0.8	M24x1.5	25	11	4	8
MCFD-72	72	29	24	49.5	80	0.8	M24x1.5	25	11	4	8
MCFD-80	80	35	30	63.0	100	1.0	M30x1.5	32	15	4	8
MCFD-90	90	35	30	63.0	100	1.0	M30x1.5	32	15	4	8

BEARING NO.	CORNER RADIUS R MIN.	ENDPLATE DIA. C	CLAMPING TORQUE (3) MAX.	LIMITING SPEED (2)		HOUSING BORE DIA.		LOAD RATING (NEWTONS)				BRG. MASS (APPROX.)
				GREASE	OIL	mm		ISO LOAD RATING		LOAD RATING AS TRACK ROLLER		
	mm	mm	NOM.	rpm	rpm	MIN.	MAX.	DYNAMIC	STATIC	DYNAMIC	STATIC	Kg
MCFD-35	0.6	21	57	6500	8500	16.000	16.018	23000	27000	16000	18000	.165
MCFD-40	1.0	23	85	5500	7200	18.000	18.018	25000	31000	18000	22000	.242
MCFD-47	1.0	27	118	4200	5500	20.000	20.021	38000	48000	27000	32000	.380
MCFD-52	1.0	21	118	3400	4400	20.000	20.021	42000	57000	30000	35000	.450
MCFD-62	1.0	38	216	2600	3400	24.000	24.021	58000	76000	41000	48000	.795
MCFD-72	1.1	44	216	2100	2700	24.000	24.021	64000	89000	46000	57000	1.010
MCFD-80	1.1	47	441	1800	2300	30.000	30.021	94000	129000	67000	91000	1.540
MCFD-90	1.1	47	441	1800	2300	30.000	30.021	94000	129000	67000	101000	1.960

- (1) Standard bearing has a crowned roller outside diameter. For straight cylindrical outside 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.

Tolerance limits for Cylindrical Roller Dia. "RD"

RD (NOM.)		TOLERANCE	
OVER	INCL.	MAX.	MIN.
mm	mm	mm	mm
30	50	0	-0.011
50	80	0	-0.013
80	120	0	-0.015

Tolerance limits for Crowned Roller Dia. "RD"

RD (NOM.)		TOLERANCE	
OVER	INCL.	MAX.	MIN.
mm	mm	mm	mm
30	120	0	-0.050

Tolerance limits for Stud Dia. "SD"

SD (NOM.)		TOLERANCE	
OVER	INCL.	MAX.	MIN.
mm	mm	mm	mm
10	18	0	-0.018
18	30	0	-0.021