

# CAM FOLLOWERS

- Standard Type Cam Followers
- Solid Eccentric Stud Type Cam Followers
- Eccentric Type Cam Followers
- Thrust Disk Type Cam Followers
- Centralized Lubrication Type Cam Followers
- Easy Mounting Type Cam Followers
- Heavy Duty Type Cam Followers
- Miniature Type Cam Followers
- Thrust Disk Type Miniature Cam Followers



## Structure and Features

IKO Cam Followers are bearings with a stud incorporating needle rollers in a thick walled outer ring. These bearings are designed for outer ring rotation, and have superior rotational performance with a small coefficient of friction.

Also, they are designed to have minimal radial internal clearance to increase the loading zone, and thus reduce the effect of shock loads and ensure stable long life.

As studs already have threads or steps, they are easy to mount.

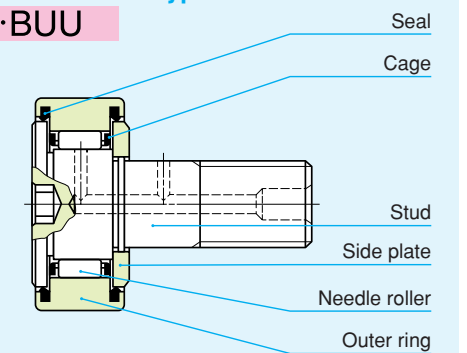
Cam Followers are follower bearings for cam mechanisms and linear motions and have high rigidity and high accuracy. They are, therefore, used widely for machine tools, industrial robots, electronic devices, and OA equipment.

Stainless steel made Cam Followers are superior in corrosion resistance and suitable for applications in environments where oil cannot be used or water splashed, and in clean rooms.

### Structures of Cam Followers

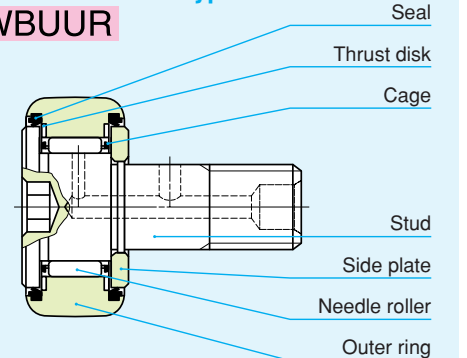
#### Structure of Standard Type Cam Follower

CF...BUU



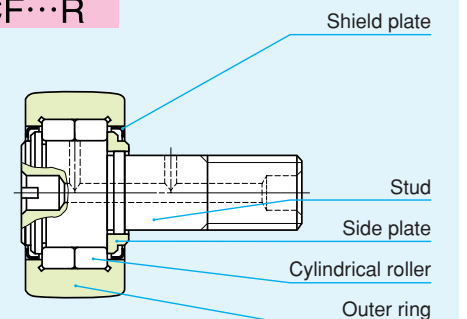
#### Structure of Thrust Disk Type Cam Follower

CF...WBUUR



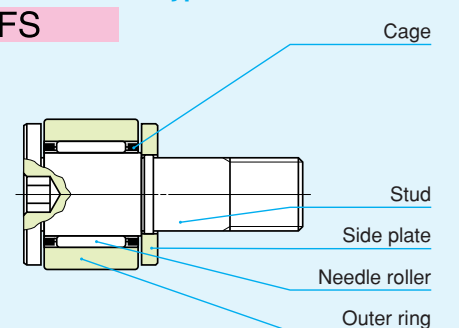
#### Structure of Heavy Duty Type Cam Follower

NUCF...R



#### Structure of Miniature Type Cam Follower

CFS



CF  
NUCF  
CFS  
CR

For Cam Followers, the types shown in Table 1 are available.

Table 1 Type of Cam Followers

Type				With cage		Full complement			
				Crowned outer ring	Cylindrical outer ring	Crowned outer ring	Cylindrical outer ring		
Metric CF series	Standard Type Cam Follower CF	High carbon steel made	With hexagon hole	Shield type	CF ... B R	CF ... B	CF ...VB R	CF ...VB	
				Sealed type	CF ... BUUR	CF ... BUU	CF ...VBUUR	CF ...VBUU	
		Stainless steel made	With screwdriver slot	Shield type	CF ... R	CF ...	CF ...V R	CF ...V	
				Sealed type	CF ... UUR	CF ... UU	CF ...V UUR	CF ...V UU	
		High carbon steel made	With hexagon hole	Shield type	CF ...FB R	CF ...FB	—	—	
				Sealed type	CF ...FBUUR	CF ...FBUU	—	—	
	Solid Eccentric Stud Type Cam Follower CFES	High carbon steel made	With hexagon hole	Shield type	CFES... B R	CFES... B	—	—	
				Sealed type	CFES... BUUR	CFES... BUU	—	—	
		Stainless steel made	With screwdriver slot	Shield type	CFES... R	CFES	—	—	
				Sealed type	CFES... UUR	CFES... UU	—	—	
	Eccentric Type Cam Follower CFE	High carbon steel made	With hexagon hole	Shield type	CFE ... B R	CFE ... B	CFE ...VB R	CFE ...VB	
				Sealed type	CFE ... BUUR	CFE ... BUU	CFE ...VBUUR	CFE ...VBUU	
		Stainless steel made	With screwdriver slot	Shield type	CFE ... R	CFE ...	CFE ...V R	CFE ...V	
				Sealed type	CFE ... UUR	CFE ... UU	CFE ...V UUR	CFE ...V UU	
	Thrust Disk Type Cam Follower CF...W	High carbon steel made	With hexagon hole	Shield type	CF ...WB R	—	—	—	
				Sealed type	CF ...WBUUR	—	—	—	
		Stainless steel made	With hexagon hole	Shield type	CF ...FWB R	—	—	—	
				Sealed type	CF ...FWBUUR	—	—	—	
	Centralized Lubrication Type Cam Follower CF-RU1, CF-FU1	High carbon steel made	With screwdriver slot	Sealed type	CF-RU1	CF-FU1	—	—	
	Easy Mounting Type Cam Follower CF-SFU	High carbon steel made	With screwdriver slot	Sealed type	—	CF-SFU	—	—	
	Heavy Duty Type Cam Follower NUCF	High carbon steel made	With screwdriver slot	Shield type	—	—	NUCF... R	—	
	Miniature CFS series	Miniature Type Cam Follower CFS	High carbon steel made Stainless steel made	With hexagon hole	Shield type	—	CFS	—	CFS ... V
					Shield type	—	CFS ... F	—	CFS ... FV
		Thrust Disk Type Miniature Cam Follower CFS...W	High carbon steel made Stainless steel made	With hexagon hole	Shield type	—	CFS ... W	—	—
Shield type					—	CFS ... FW	—	—	
Inch series	Inch series Cam Follower CR	High carbon steel made	With hexagon hole	Shield type	CR ... B R	CR ... B	CR ...VB R	CR ...VB	
				Sealed type	CR ... BUUR	CR ... BUU	CR ...VBUUR	CR ...VBUU	
		Stainless steel made	With screwdriver slot	Shield type	CR ... R	CR ...	CR ...V R	CR ...V	
				Sealed type	CR ... UUR	CR ... UU	CR ...V UUR	CR ...V UU	
	Inch series Cam Follower CRH	High carbon steel made	With hexagon hole	Shield type	—	—	—	CRH ...VB	
				Sealed type	—	—	—	CRH ...VBUU	
Stainless steel made	With screwdriver slot	Shield type	—	—	—	CRH ...V			
		Sealed type	—	—	—	CRH ...V UU			

**Standard Type Cam Followers**

These are the basic type bearings in IKO Cam Follower series. Models with stud diameters ranging from 3 to 30 mm are prepared, and are suitable for a wide range of applications.

**Solid Eccentric Stud Type Cam Followers**

The stud of these bearings is eccentric to the center axis of the outer ring. Thus, the position of the outer ring in the radial direction in relation to the mating track surface can easily be adjusted by turning the stud, and the load distribution on a number of cam follower outer rings used on the same track surface can be made uniform.

These are eccentric cam followers with a one-piece stud that can be mounted in the same mounting holes as those for Standard Type Cam Followers.

Eccentricity is 0.25 mm ~ 0.6 mm.

**Eccentric Type Cam Followers**

In these bearings, an eccentric collar is assembled with the Cam Follower stud, enabling the outer ring to be positioned easily in the radial direction against the mating track surface.

Eccentricity is 0.4 ~ 1.5 mm.

**Thrust Disk Type Cam Followers**

These bearings have special resin thrust disk washers superior in wear and heat resistance between the sliding surfaces of outer ring shoulders, stud head and side plate. These disk washers reduce friction and wear due to axial loads caused by misalignment, etc.

**Centralized Lubrication Type Cam Followers**

These bearings have one or two pipe-threaded holes in the stud. Thus, this series is suitable when centralized lubrication is required.

**Easy Mounting Type Cam Followers**

These bearings have a stepped tapered portion on the stud. When mounting the Cam Follower, it is easy to fix its location by tightening a set screw to the stepped portion. Thus, this type is suitable when a large number of Cam Followers are used in a machine such as a pallet changer.

**Heavy Duty Type Cam Followers**

These bearings are full complement type bearings incorporating double rows of full complement cylindrical rollers in the outer ring, and can withstand large radial loads and some axial loads.

**Miniature Type Cam Followers**

These are compactly designed bearings, incorporating very thin needle rollers in an outer ring with a small outside diameter. They are used in electronic devices, OA equipment, small index devices, etc.

**Inch series Cam Followers**

Two types, CR and CRH, are available in the Inch series Cam Followers. Black oxide film treatment is made on CRH models.

CF  
NUCF  
CFS  
CR

## Internal Structures and Shapes

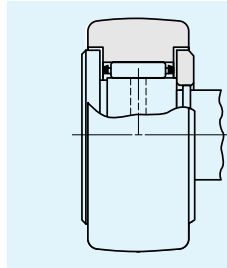
Various types are lined up in Cam Follower series, including the caged type, full complement type, shield type, sealed type, type with crowned outer ring, type

with cylindrical outer ring, type with hexagonal hole, etc.

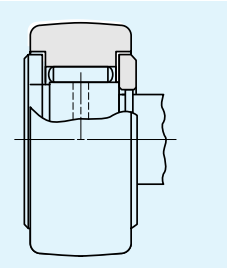
### Roller guide method

Cam Followers include the caged type and the full complement type. The caged type has a small coefficient of friction and is suitable for high speed rotations, while the full complement type is suitable for heavy loads at low speed rotations.

《With cage》



《Full complement》

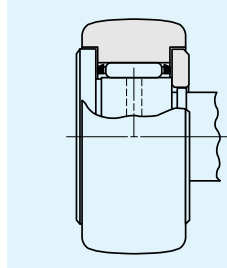


### Seal structure

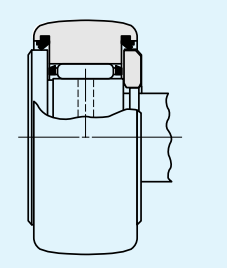
Cam Followers include the shield type and the sealed type. In the shield type, the narrow clearances between the outer ring and the stud flange and between the outer ring and the side plate form labyrinths.

The sealed type incorporates seals in the narrow clearances to prevent the penetration of foreign particles.

《Shield type》



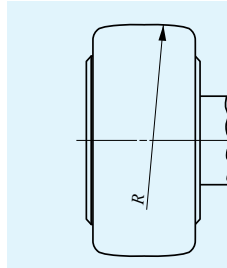
《Sealed type》



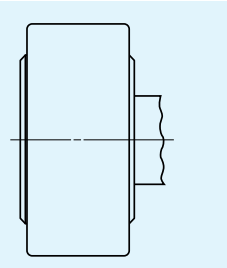
### Shape of outer ring outside surface

The outside surface of the outer ring of Cam Followers, which makes direct contact with the mating track surface, is either crowned or cylindrical. The crowned outer rings are effective in moderating the edge load due to mounting errors. The cylindrical outer rings have a large contact area with the mating track surface, and are suitable for applications in which the applied load is large or the track surface hardness is low.

《Crowned outer ring》



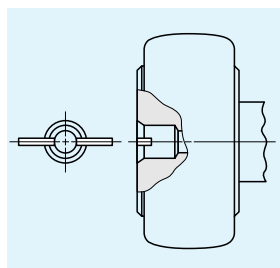
《Cylindrical outer ring》



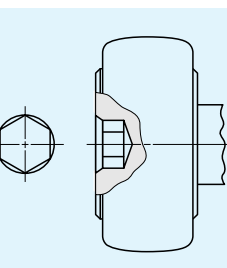
### Shape of stud head

Cam Followers are available in two stud head shape types, namely, the type with screwdriver slot and the type with hexagon hole for hexagon bar wrench.

《With screwdriver slot》



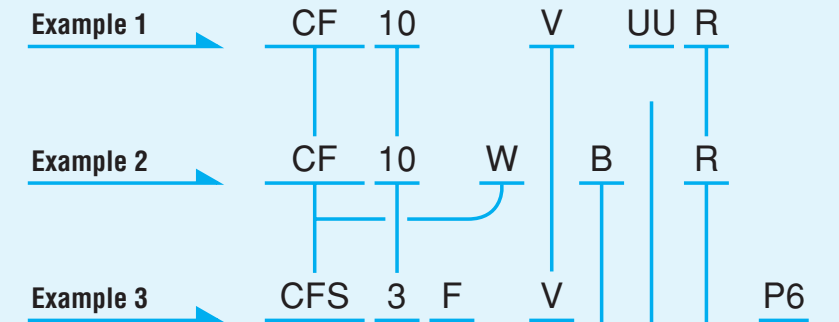
《With hexagon hole》



## Identification number

Some examples of the identification number of Cam Followers are shown below.

### Examples of identification number



Model code		
Metric CF series	CF	Standard Type Cam Follower
	CFES	Solid Eccentric Stud Type Cam Follower
	CFE	Eccentric Type Cam Follower
	CF...W	Thrust Disk Type Cam Follower
	CF-RU1	Centralized Lubrication Type Cam Follower (With crowned outer ring)
	CF-FU1	Centralized Lubrication Type Cam Follower (With cylindrical outer ring)
	CF-SFU	Easy Mounting Type Cam Follower
Miniature CFS series	NUCF	Heavy Duty Type Cam Follower
	CFS	Miniature Type Cam Follower
Inch series	CFS...W	Thrust Disk Type Miniature Cam Follower
	CR	Inch series Cam Follower
CRH		

Size	
The value indicates a stud diameter. (unit: mm)	
In the inch series, the outside diameter in units of 1/16 inch is indicated.	

Material	
No symbol	High carbon steel made
F	Stainless steel made

Roller guide method	
No symbol	With cage type
V	Full complement type

Shape of stud head	
B	With hexagon hole
No symbol	With screwdriver slot

Seal structure	
No symbol	Shield type
UU	Sealed type

Shape of outer ring outside surface	
R	With crowned outer ring
No symbol	With cylindrical outer ring

Classification symbol		
No symbol	Class 0	Applicable to Miniature CFS series
P6	Class 6	
P5	Class 5	
P4	Class 4	

CF  
NUCF  
CFS  
CR

## Accuracy

The accuracy of Cam Followers is shown in Table 2, Table 3.1, and Table 3.2. Cam Followers with special accuracy are also available. When they are required, please contact IKO.

**Table 2 Tolerances**

unit:  $\mu\text{m}$

Series	Metric CF series (1)		Miniature CFS series	Inch series	
	Crowned outer ring	Cylindrical outer ring		Crowned outer ring	Cylindrical outer ring
Dimensions and symbols					
Outside dia. of outer ring $D$	0~-50	See Table 3.1.	See Table 3.2.	0~-50	0~-25
Stud dia. $d_1$	h7		h6	+25~0	
Width of outer ring $C$	0~-120		0~-120	0~-130	

Note(1) Also applicable to Heavy Duty Type Cam Followers.

**Table 3.1 Tolerances and allowable values of outer rings (Metric CF series cylindrical outer rings)**

unit:  $\mu\text{m}$

$D$ Nominal outside dia. of outer ring mm		$\Delta_{Dmp}$ Single plane mean outside dia. deviation		$V_{Dp}$ Outside dia. variation in a single radial plane (Max.)	$V_{Dmp}$ Mean outside dia. variation (Max.)	$K_{ca}$ Radial runout of assembled bearing outer ring (Max.)
Over	Incl.	High	Low			
6	18	0	- 8	10	6	15
18	30	0	- 9	12	7	15
30	50	0	-11	14	8	20
50	80	0	-13	16	10	25
80	120	0	-15	19	11	35

**Table 3.2 Tolerances and allowable values of outer rings (Miniature CFS series)**

unit:  $\mu\text{m}$

$\Delta_{Dmp}$ Single plane mean outside dia. deviation								$K_{ca}$ Radial runout of assembled bearing outer ring (Max.)			
Class 0		Class 6		Class 5		Class 4		Class 0	Class 6	Class 5	Class 4
High	Low	High	Low	High	Low	High	Low				
0	-8	0	-7	0	-5	0	-4	15	8	5	4

## Clearance

The radial internal clearances of Cam Followers are shown in Table 4.

**Table 4 Radial internal clearance**

unit:  $\mu\text{m}$

Metric CF series (2)	Identification number (1)			Radial internal clearance	
	Heavy Duty Type Cam Followers NUCF	Miniature CFS series (3)	Inch series	Min.	Max.
CF 3 ~ CF 5	—	CFS2 ~ CFS5	CR 8, CR 8-1, CRH 8-1, CRH 9	3	17
CF 6	—	CFS6	CR10, CR10-1, CRH10-1, CRH11	5	20
CF 8 ~ CF12-1	—	—	CR12 ~ CR22, CRH12 ~ CRH22	5	25
CF16 ~ CF20-1	—	—	CR24 ~ CR36, CRH24 ~ CRH36	10	30
CF24 ~ CF30-2	—	—	CRH40 ~ CRH44	10	40
—	NUCF10 R ~ NUCF24 R	—	—	20	45
—	NUCF24-1R ~ NUCF30-2R	—	—	25	50
—	—	—	CRH64	15	50

Notes(1) Also applicable to the full complement type, crowned outer ring type, sealed type, and type with hexagon hole.

(2) Only representative types are shown in the table, but this table is applicable to the entire metric CF series.

(3) Only representative types are shown in the table, but this table is applicable to the entire miniature CFS series.

## Fit

Tables 5 and 6 show recommended tolerances of mounting holes for Cam Follower studs. Since the Cam Follower is supported in a cantilever position, the mounting hole diameter should be prepared without play between the stud and the hole especially when heavy shock loads are applied.

**Table 5 Recommended fit**

Type	Tolerance class of mounting hole for stud
Metric CF series	H7
Heavy Duty Type	H7
Miniature CFS series	H6
Inch series	F7

**Table 6 Dimensional tolerances of mounting hole**

unit:  $\mu\text{m}$

Nominal outside dia. of stud mm		F7		H6		H7	
Over	Incl.	High	Low	High	Low	High	Low
—	3	+16	+ 6	+ 6	0	+10	0
3	6	+22	+10	+ 8	0	+12	0
6	10	+28	+13	+ 9	0	+15	0
10	18	+34	+16	+11	0	+18	0
18	30	+41	+20	+13	0	+21	0
30	40	+50	+25	+16	0	+25	0
40	50						

CF  
NUCF  
CFS  
CR

### Maximum Allowable Static Load

The applicable load on Cam Followers is, in some cases, limited by the bending strength and shear strength of the stud and the strength of the outer ring instead of the load rating of the needle roller bearing. Therefore, the maximum allowable static load that is limited by these strengths is specified.

### Track Capacity

Track capacity is defined as a load which can be continuously applied on a Cam Follower placed on a steel track surface without causing any deformation or indentation on the track surface when the outer ring of

the Cam Follower makes contact with the mating track surface (plane). The track capacities shown in Tables 7.1 and 7.2 are applicable when the hardness of the mating track surface is 40HRC (Tensile strength 1250N/mm<sup>2</sup>). When the hardness of the mating track surface differs from 40HRC, the track capacity is obtained by multiplying the value by the track capacity factor shown in Table 8.

If lubrication between the outer ring and the mating track surface is insufficient, seizure and/or wear may occur depending on the application. Therefore, attention must be paid to lubrication and surface roughness of the mating track especially for high-speed rotations such as cam mechanisms.

Table 7.1 Track capacity

unit: N

Type	Identification number With crowned outer ring	Track capacity	Identification number With cylindrical outer ring	Track capacity
Metric CF series <sup>(1)</sup>	CF 3 R	542	CF 3	1 360
	CF 4 R	712	CF 4	1 790
	CF 5 R	794	CF 5	2 210
	CF 6 R	1 040	CF 6	3 400
	CF 8 R	1 330	CF 8	4 040
	CF10 R	1 610	CF10	4 680
	CF10-1R	2 030	CF10-1	5 530
	CF12 R	2 470	CF12	7 010
	CF12-1R	2 710	CF12-1	7 480
	CF16 R	3 060	CF16	11 200
	CF18 R	3 660	CF18	14 500
	CF20 R	5 190	CF20	23 200
	CF20-1R	4 530	CF20-1	21 000
	CF24 R	6 580	CF24	34 300
	CF24-1R	8 020	CF24-1	39 800
	CF30 R	9 220	CF30	52 700
	CF30-1R	9 990	CF30-1	56 000
CF30-2R	10 800	CF30-2	59 300	
Miniature CFS series <sup>(2)</sup>	—	—	CFS2	220
	—	—	CFS2.5	298
	—	—	CFS3	485
	—	—	CFS4	799
	—	—	CFS5	1 210
	—	—	CFS6	1 680

Notes<sup>(1)</sup> Only representative types are shown in the table, but this table is applicable to the entire metric CF series, and also to Heavy Duty Type Cam Followers.

<sup>(2)</sup> Only representative types are shown in the table, but this table is applicable to the entire miniature CFS series.

Table 7.2 Track capacity

unit: N

Type	Identification number With crowned outer ring	Track capacity	Identification number With cylindrical outer ring	Track capacity	Identification number With cylindrical outer ring	Track capacity
Inch series <sup>(1)</sup>	CR 8 R	770	CR 8	2 140	—	—
	CR 8-1R	770	CR 8-1	2 360	CRH 8-1	2 360
	—	—	—	—	CRH 9	2 650
	CR10 R	1 030	CR10	3 210	—	—
	CR10-1R	1 030	CR10-1	3 480	CRH10-1	3 480
	—	—	—	—	CRH11	3 830
	CR12 R	1 340	CR12	4 500	CRH12	4 500
	CR14 R	1 630	CR14	5 250	CRH14	5 250
	CR16 R	1 970	CR16	7 280	CRH16	7 280
	CR18 R	2 300	CR18	7 710	CRH18	7 710
	CR20 R	2 680	CR20	10 700	CRH20	10 700
	CR22 R	3 050	CR22	11 800	CRH22	11 800
	CR24 R	3 410	CR24	15 400	CRH24	15 400
	CR26 R	3 820	CR26	16 700	CRH26	16 700
	CR28 R	4 210	CR28	21 000	CRH28	21 000
	CR30 R	4 610	CR30	22 500	CRH30	22 500
	CR32 R	5 050	CR32	30 900	CRH32	30 900
	CR36 R	5 900	CR36	34 700	CRH36	34 700
	—	—	—	—	CRH40	45 000
	—	—	—	—	CRH44	49 500
—	—	—	—	CRH48	64 300	
—	—	—	—	CRH52	69 600	
—	—	—	—	CRH56	87 000	
—	—	—	—	CRH64	113 000	

Note<sup>(1)</sup> Only representative types are shown in the table, but this table is applicable to the entire inch series.

Table 8 Track capacity factor

Hardness HRC	Tensile strength N/mm <sup>2</sup>	Track capacity factor	
		With crowned outer ring	With cylindrical outer ring
20	760	0.22	0.37
25	840	0.31	0.46
30	950	0.45	0.58
35	1 080	0.65	0.75
38	1 180	0.85	0.89
40	1 250	1.00	1.00
42	1 340	1.23	1.15
44	1 435	1.52	1.32
46	1 530	1.85	1.51
48	1 635	2.27	1.73
50	1 760	2.80	1.99
52	1 880	3.46	2.29
54	2 015	4.21	2.61
56	2 150	5.13	2.97
58	2 290	6.26	3.39

### Allowable Rotational Speed

The allowable rotational speed of Cam Followers is affected by mounting and operating conditions. For reference, Table 9 shows  $d_1n$  values when only pure radial loads are applied. Considering that axial loads also act under actual operating conditions, the recommended  $d_1n$  value is 1/10 of the value shown in the table.

Table 9  $d_1n$  values of Cam Followers<sup>(1)</sup>

Type	Lubricant	
	Grease	Oil
Caged type	84 000	140 000
Full complement type	42 000	70 000
Heavy Duty Type Cam Follower	66 000	110 000

Note<sup>(1)</sup>  $d_1n$  value =  $d_1 \times n$   
 where,  $d_1$ : Stud diameter mm  
 $n$ : Rotational speed rpm

### Lubrication

Grease-prepacked Cam Followers are shown in Table 10. The lubricating grease prepacked in these bearings is ALVANIA GREASE 2 (SHELL).

For Cam Followers without prepacked grease, grease should be packed through the oil hole in the stud for use. If they are used without grease, wear of rolling contact surfaces may take place, leading to a short bearing life.

**Table 10 Grease-prepacked Cam Followers**

○ : With prepacked grease × : Without prepacked grease

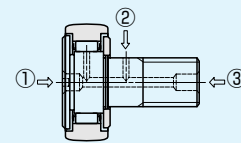
Series Size of stud dia. $d_1$ (1) mm	Type	With cage				Full complement type
		Shield type		Sealed type		
		With hexagon hole	With screwdriver slot	With hexagon hole	With screwdriver slot	
Metric CF series	CF	3 ~ 5	○	○	○	—
	CFES		○	○		
	CFE	6 ~ 10	×	×	○	○
	CF...W	12 ~ 30	×	×	○	○
	CF-RU1, CF-FU1	—	—	—	○	—
	CF-SFU	—	—	—	○	—
Heavy Duty Type Cam Followers NUCF		—	—	—	—	○
Miniature CFS series	CFS	—	—	—	—	○
	CFS...W	—	—	—	—	○
Inch series	CR	—	—	—	—	○
	CRH	—	—	—	—	○

Note(1) For Eccentric Type Cam Followers (CFE), thread diameter  $G$  shown in the table of dimensions is applicable.

**Table 11 Position of oil hole**

○ : Oil hole is prepared.

Series Size of stud dia. $d_1$ (1) mm	Position of oil hole	①	②	③		
		Stud head	Stud outside surface	Stud end		
Metric CF series	CF CFES CFE CF...W	With hexagon hole	$d_1 \leq 10$	—	—	—
		With screwdriver slot	$10 < d_1$	—	○	○
	CF-RU1, CF-FU1 (2)	CF-SFU	$d_1 < 5$	—	—	—
			$5 \leq d_1 \leq 10$	○	—	—
			$10 < d_1$	○	○	○
	Heavy Duty Type Cam Followers NUCF	$d_1 \leq 12$	○	—	—	
		$12 < d_1$	○	○	○	
Miniature CFS series		$d_1 \leq 10$	○	—	—	
		$10 < d_1$	○	○	○	
Inch series	CR	With hexagon hole	$d_1 \leq 6.35$	—	—	—
		With screwdriver slot	$6.35 < d_1$	—	○	○
	CRH	$d_1 \leq 6.35$	○	—	—	
		$6.35 < d_1$	○	○	○	
		With hexagon hole	$d_1 \leq 7.938$	—	—	—
		With screwdriver slot	$7.938 < d_1$	—	○	○
		$d_1 \leq 7.938$	○	—	—	
		$7.938 < d_1$	○	○	○	



Notes(1) In case of Eccentric Type Cam Followers (CFE), thread diameter  $G$  shown in the table of dimensions is applicable in place of stud dia. and the oil hole on the outer surface of the stud cannot be used for lubrication.

(2) The stud head and stud end are provided with a tapped hole for piping.

### Oil Hole

The position of the oil hole is shown in Table 11. Oil holes are not provided on CF3 and CF4 models, the models with a hexagon hole with stud diameter of 10 mm or less, the easy mounting type models, and the miniature CFS models. Re-greasing cannot be made for these models.

Grease should be supplied gently with a straight type grease gun as specified by JIS B 9808:1991, which is applied carefully to the nipple head from the front.

### Accessories

Cam Follower accessories are shown in Table 12. Grease nipple dimensions are shown in Table 13. Dimensions of plug for unused oil hole and dimensions of plug inserter are shown in Table 14.

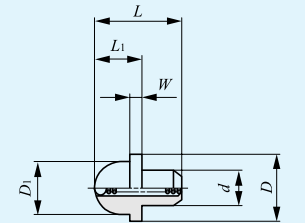
**Table 12 Accessories**

○ : Attached

Series Size of stud dia. $d_1$ mm		Accessories		Grease nipple	Plug	Nut	Spring washer
Metric CF series	CF CFES CF...W	With hexagon hole	$d_1 \leq 10$	—	—	○	—
			$10 < d_1$	○	○	○	—
	With screwdriver slot	$d_1 < 5$	—	—	○	—	
		$5 \leq d_1$	○	○	○	—	
	CFE		○	○	○	○	
	CF-RU1, CF-FU1		—	—	—	○	—
CF-SFU		—	—	—	—	—	
Heavy Duty Type Cam Followers NUCF		○	○	○	○	—	
Miniature CFS series	CFS	—	—	—	○	—	
	CFS...W	—	—	—	○	—	
Inch series	CR	With hexagon hole	$d_1 \leq 6.35$	—	—	○	—
			$6.35 < d_1$	○	○	○	—
	With screwdriver slot	—	○	○	○	—	
		CRH	With hexagon hole	$d_1 \leq 7.938$	—	—	○
$7.938 < d_1$	○			○	○	—	
		With screwdriver slot	—	○	○	○	—

**Table 13 Dimensions of grease nipple**

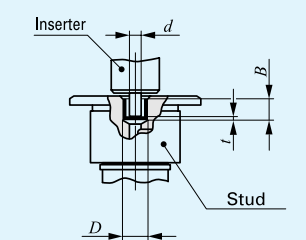
Code number	Dimensions of grease nipple mm						Applicable Cam Followers (1)
	$d$	$D$	$D_1$	$L$	$L_1$	$W$	
NPT4	4	7.5	6	10	5.5	1.5	CF 6~CF10-1
NPT6	6	8	6	11	6	2	CF12~CF18
NPT8	8	10	6	16	7	3	CF20~CF30-2
NPB2	3.18	7.5	6	9	5.5	1.5	CF5, CR8~CR10-1, CRH8-1~CRH11
NPB3	4.76	7.5	6	10	5.5	1.5	CR12~CR22, CRH12~CRH22
NPB3-1	4.76	7.5	6	12.5	5.5	1.55	CR24~CR36, CRH24~CRH44



Note(1) Only representative types are shown in the table. This table is also applicable to Heavy Duty Type Cam Followers.

**Table 14 Dimensions of plug**

Code number	Dimensions of plug mm			Dimension of inserter mm	Applicable Cam Followers (1)
	$D$	$t$	$B$		
UST4F	4	0.4	3.3	3	CF 6~CF10-1
UST6F	6	0.4	4	5	CF12~CF18
UST8F	8	0.4	5.8	7	CF20~CF30-2
USB2F	3.18	0.3	3.3	2.3	CF5, CR8~CR10-1
USB3F	4.76	0.4	4.3	3.7	CR12~CR36, CRH12~CRH44



Note(1) Only representative types are shown in the table. This table is also applicable to Heavy Duty Type Cam Followers.

## Operating Temperature Range

The operating temperature range for IKO Cam Followers is  $-20^{\circ}\text{C} \sim +120^{\circ}\text{C}$ . However, the maximum allowable temperature for the following types is different.

The maximum allowable temperature for the Metric CF series with a stud diameter  $d_1$  of 4 mm or less and CFS2 is  $+110^{\circ}\text{C}$ , and  $+100^{\circ}\text{C}$  when they are continuously operated.

The maximum allowable temperature for the sealed type with a stud diameter  $d_1$  of 5 mm or less is  $+80^{\circ}\text{C}$ .

## Mounting

① Make the center axis of the mounting hole perpendicular to the moving direction of the Cam Follower and match the side shoulder accurately with the seating surface indicated by dimension  $f$  in the table of dimensions. (See Fig. 1.) Then, fix the Cam Follower with the nut. Do not hit the flange head of the Cam Follower directly with a hammer, etc. This may lead to a bearing failure such as irregular rotation or cracking.

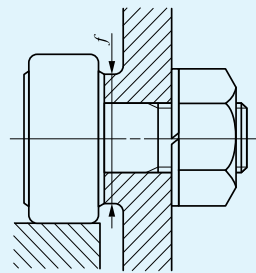


Fig. 1 Seating surface

② The IKO mark on the flange head of the stud indicates the position of the oil hole on the raceway. Avoid locating the oil hole within the loading zone. This may lead to a short bearing life. (See Fig. 2.) The hole located in the middle part of the stud perpendicular to the stud center axis is used for greasing or locking.

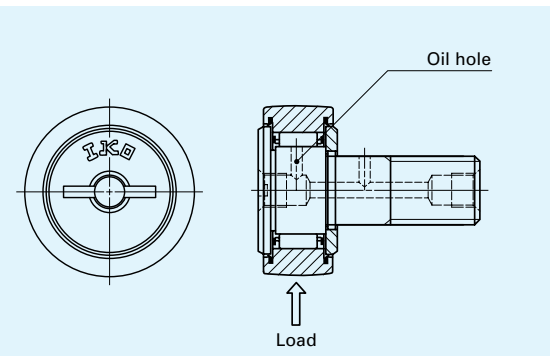


Fig. 2 Oil hole position and loading direction

③ When tightening the nut, the tightening torque should not exceed the values shown in the table of dimensions. If the tightening torque is too large, it is possible that the threaded portion of the stud will be broken. When there is a possibility of loosening, a special nut such as a lock nut, spring washer, or self-locking nut should be used.

④ In the case of Solid Eccentric Stud Type Cam Followers and Eccentric Type Cam Followers, the outer ring position can be adjusted appropriately by turning the stud with a screwdriver or hexagon bar wrench using the screwdriver slot or hexagon hole of the stud head. The stud is fixed with a nut and a spring washer, etc. The tightening torque should not exceed the values of maximum tightening torque shown in the table of dimensions.

When shock loads are applied and the adjusted eccentricity has to be ensured, it is recommended to make holes in the housing, stud and eccentric collar, and fix the stud with a dowel pin as shown in Fig. 3. However, when the stud diameter is less than 8 mm (Eccentric collar diameter 11 mm), it is difficult to make a hole in the stud because the stud is through-hardened.

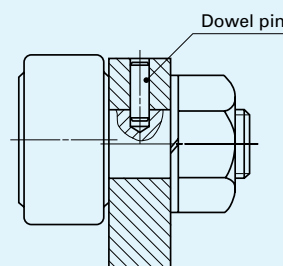


Fig. 3 Mounting example of Solid Eccentric Stud Type Cam Follower

⑤ In case of Eccentric Type Cam Followers (CFE), the length of the mounting hole should be more than 0.5 mm longer than the dimension  $B_3$  (Eccentric collar width) shown in the table of dimensions. (See Fig. 4.)

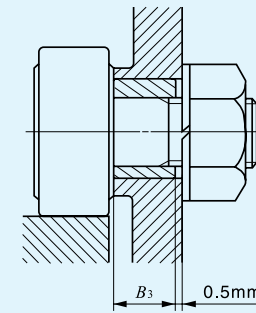


Fig. 4 Length of the mounting hole of Eccentric Type Cam Follower

⑥ For mounting Easy Mounting Type Cam Followers, it is recommended to fix the fixing screw from the upper side to the stepped portion of the stud. (See Fig. 5.)

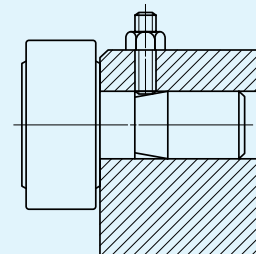
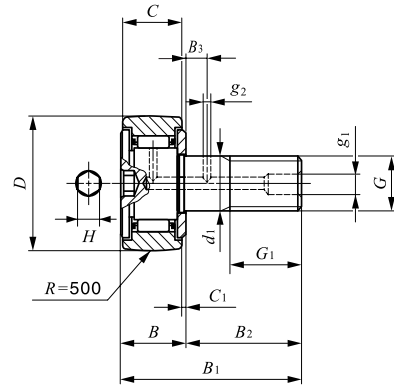
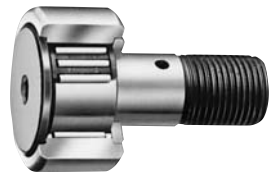


Fig. 5 Mounting example of Easy Mounting Type Cam Follower

**CAM FOLLOWERS**

Standard Type Cam Followers **With Cage/With Hexagon Hole**



CF...BR

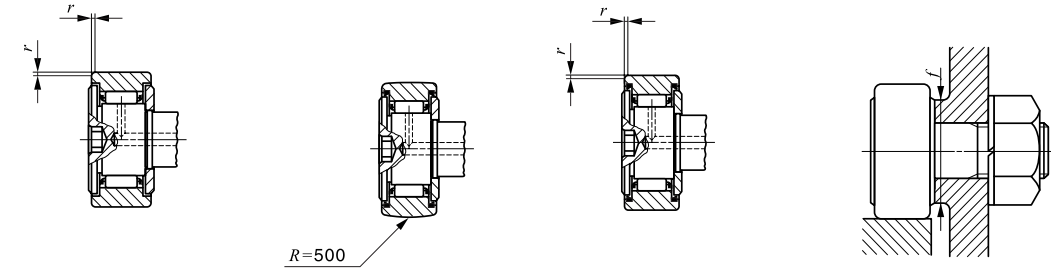
Stud dia. 3–30 mm

Stud dia. mm	Identification number				Mass (Ref.) g	D	C	d <sub>1</sub>	G
	Shield type		Sealed type						
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring					
3	CF 3 BR	CF 3 B	CF 3 BUUR	CF 3 BUU	4.3	10	7	3	M 3×0.5
4	CF 4 BR	CF 4 B	CF 4 BUUR	CF 4 BUU	7.4	12	8	4	M 4×0.7
5	CF 5 BR	CF 5 B	CF 5 BUUR	CF 5 BUU	10.3	13	9	5	M 5×0.8
6	CF 6 BR	CF 6 B	CF 6 BUUR	CF 6 BUU	18.5	16	11	6	M 6×1
8	CF 8 BR	CF 8 B	CF 8 BUUR	CF 8 BUU	28.5	19	11	8	M 8×1.25
	CF 8 BRM	CF 8 BM	CF 8 BUURM	CF 8 BUUM	28.5	19	11	8	M 8×1
10	CF 10 BR	CF 10 B	CF 10 BUUR	CF 10 BUU	45	22	12	10	M10×1.25
	CF 10 BRM	CF 10 BM	CF 10 BUURM	CF 10 BUUM	45	22	12	10	M10×1
	CF 10-1 BR	CF 10-1 B	CF 10-1 BUUR	CF 10-1 BUU	60	26	12	10	M10×1.25
	CF 10-1 BRM	CF 10-1 BM	CF 10-1 BUURM	CF 10-1 BUUM	60	26	12	10	M10×1
12	CF 12 BR	CF 12 B	CF 12 BUUR	CF 12 BUU	95	30	14	12	M12×1.5
	CF 12-1 BR	CF 12-1 B	CF 12-1 BUUR	CF 12-1 BUU	105	32	14	12	M12×1.5
16	CF 16 BR	CF 16 B	CF 16 BUUR	CF 16 BUU	170	35	18	16	M16×1.5
18	CF 18 BR	CF 18 B	CF 18 BUUR	CF 18 BUU	250	40	20	18	M18×1.5
20	CF 20 BR	CF 20 B	CF 20 BUUR	CF 20 BUU	460	52	24	20	M20×1.5
	CF 20-1 BR	CF 20-1 B	CF 20-1 BUUR	CF 20-1 BUU	385	47	24	20	M20×1.5
24	CF 24 BR	CF 24 B	CF 24 BUUR	CF 24 BUU	815	62	29	24	M24×1.5
	CF 24-1 BR	CF 24-1 B	CF 24-1 BUUR	CF 24-1 BUU	1 140	72	29	24	M24×1.5
30	CF 30 BR	CF 30 B	CF 30 BUUR	CF 30 BUU	1 870	80	35	30	M30×1.5
	CF 30-1 BR	CF 30-1 B	CF 30-1 BUUR	CF 30-1 BUU	2 030	85	35	30	M30×1.5
	CF 30-2 BR	CF 30-2 B	CF 30-2 BUUR	CF 30-2 BUU	2 220	90	35	30	M30×1.5

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension *r*

Remarks1. Models with a stud diameter *d*<sub>1</sub> of 10 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.

2. Shield type models with a stud diameter *d*<sub>1</sub> of 10mm or less and the sealed type models are provided with prepacked grease. Other models are not provided with prepacked grease. Perform proper lubrication for use.



CF...B

CF...BUUR

CF...BUU

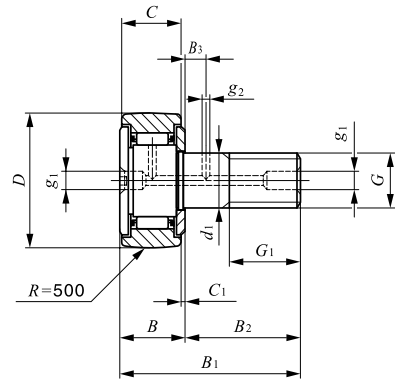
Boundary dimensions mm										Mounting dimension <i>f</i> Min. mm	Maximum tightening torque N-m	Basic dynamic load rating <i>C</i> N	Basic static load rating <i>C</i> <sub>0</sub> N	Maximum allowable static load N
<i>G</i> <sub>1</sub>	<i>B</i>	<i>B</i> <sub>1</sub>	<i>B</i> <sub>2</sub>	<i>B</i> <sub>3</sub>	<i>C</i> <sub>1</sub>	<i>g</i> <sub>1</sub>	<i>g</i> <sub>2</sub>	<i>H</i>	<i>r</i> <sub>s min</sub> <sup>(1)</sup>					
5	8	17	9	—	0.5	—	—	2	0.2	6.8	0.34	1 500	1 020	384
6	9	20	11	—	0.5	—	—	2.5	0.3	8.3	0.78	2 070	1 590	834
7.5	10	23	13	—	0.5	—	—	3	0.3	9.3	1.6	2 520	2 140	1 260
8	12.2max	28.2max	16	—	0.6	—	—	3	0.3	11	2.7	3 660	3 650	1 950
10	12.2max	32.2max	20	—	0.6	—	—	4	0.3	13	6.5	4 250	4 740	4 620
10	12.2max	32.2max	20	—	0.6	—	—	4	0.3	13	7.1	4 250	4 740	4 620
12	13.2max	36.2max	23	—	0.6	—	—	4	0.3	16	13.8	5 430	6 890	6 890
12	13.2max	36.2max	23	—	0.6	—	—	4	0.3	16	14.7	5 430	6 890	6 890
12	13.2max	36.2max	23	—	0.6	—	—	4	0.3	16	13.8	5 430	6 890	6 890
12	13.2max	36.2max	23	—	0.6	—	—	4	0.3	16	14.7	5 430	6 890	6 890
13	15.2max	40.2max	25	6	0.6	6	3	6	0.6	21	21.9	7 910	9 790	9 790
13	15.2max	40.2max	25	6	0.6	6	3	6	0.6	21	21.9	7 910	9 790	9 790
17	19.6max	52.1max	32.5	8	0.8	6	3	6	0.6	26	58.5	12 000	18 300	18 300
19	21.6max	58.1max	36.5	8	0.8	6	3	8	1	29	86.2	14 800	25 200	25 200
21	25.6max	66.1max	40.5	9	0.8	8	4	8	1	34	119	20 700	34 600	34 600
21	25.6max	66.1max	40.5	9	0.8	8	4	8	1	34	119	20 700	34 600	34 600
25	30.6max	80.1max	49.5	11	0.8	8	4	12	1	40	215	30 500	52 600	52 000
25	30.6max	80.1max	49.5	11	0.8	8	4	12	1	40	215	30 500	52 600	52 000
32	37 max	100 max	63	15	1	8	4	17	1	49	438	45 400	85 100	85 100
32	37 max	100 max	63	15	1	8	4	17	1	49	438	45 400	85 100	85 100
32	37 max	100 max	63	15	1	8	4	17	1	49	438	45 400	85 100	85 100

CF  
NUCF  
CFS  
CR



CAM FOLLOWERS

Standard Type Cam Followers With Cage/With Screwdriver Slot

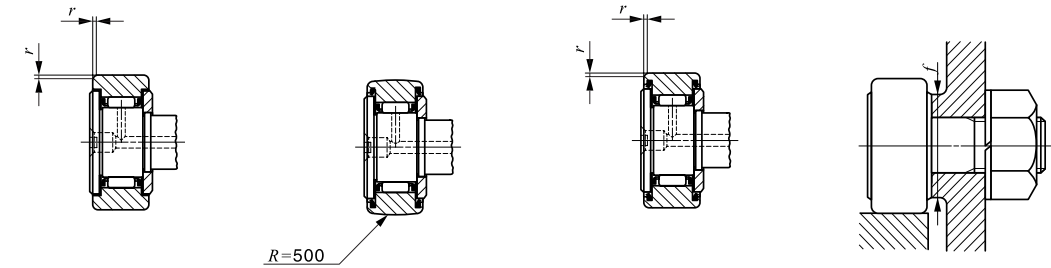


CF...R

Stud dia. 3—30 mm

Stud dia. mm	Identification number				Mass (Ref.) g	D	C	d <sub>1</sub>	G
	Shield type		Sealed type						
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring					
3	CF 3 R	CF 3	CF 3 UUR	CF 3 UU	4.3	10	7	3	M 3×0.5
4	CF 4 R	CF 4	CF 4 UUR	CF 4 UU	7.4	12	8	4	M 4×0.7
5	CF 5 R	CF 5	CF 5 UUR	CF 5 UU	10.3	13	9	5	M 5×0.8
6	CF 6 R	CF 6	CF 6 UUR	CF 6 UU	18.5	16	11	6	M 6×1
8	CF 8 R	CF 8	CF 8 UUR	CF 8 UU	28.5	19	11	8	M 8×1.25
	CF 8 RM	CF 8 M	CF 8 UURM	CF 8 UUM	28.5	19	11	8	M 8×1
10	CF 10 R	CF 10	CF 10 UUR	CF 10 UU	45	22	12	10	M10×1.25
	CF 10 RM	CF 10 M	CF 10 UURM	CF 10 UUM	45	22	12	10	M10×1
	CF 10-1 R	CF 10-1	CF 10-1 UUR	CF 10-1 UU	60	26	12	10	M10×1.25
	CF 10-1 RM	CF 10-1 M	CF 10-1 UURM	CF 10-1 UUM	60	26	12	10	M10×1
12	CF 12 R	CF 12	CF 12 UUR	CF 12 UU	95	30	14	12	M12×1.5
	CF 12-1 R	CF 12-1	CF 12-1 UUR	CF 12-1 UU	105	32	14	12	M12×1.5
16	CF 16 R	CF 16	CF 16 UUR	CF 16 UU	170	35	18	16	M16×1.5
18	CF 18 R	CF 18	CF 18 UUR	CF 18 UU	250	40	20	18	M18×1.5
20	CF 20 R	CF 20	CF 20 UUR	CF 20 UU	460	52	24	20	M20×1.5
	CF 20-1 R	CF 20-1	CF 20-1 UUR	CF 20-1 UU	385	47	24	20	M20×1.5
24	CF 24 R	CF 24	CF 24 UUR	CF 24 UU	815	62	29	24	M24×1.5
	CF 24-1 R	CF 24-1	CF 24-1 UUR	CF 24-1 UU	1 140	72	29	24	M24×1.5
30	CF 30 R	CF 30	CF 30 UUR	CF 30 UU	1 870	80	35	30	M30×1.5
	CF 30-1 R	CF 30-1	CF 30-1 UUR	CF 30-1 UU	2 030	85	35	30	M30×1.5
	CF 30-2 R	CF 30-2	CF 30-2 UUR	CF 30-2 UU	2 220	90	35	30	M30×1.5

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension *r*  
 Remarks1. Models with a stud diameter *d*<sub>1</sub> of 4 mm or less have no oil hole. Models with a stud diameter of more than 5 mm and up to 10 mm (marked \*) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.  
 2. Shield type models with a stud diameter *d*<sub>1</sub> of 5 mm or less and the sealed type models are provided with prepacked grease. Other models are not provided with prepacked grease. Perform proper lubrication for use.



CF

CF...UUR

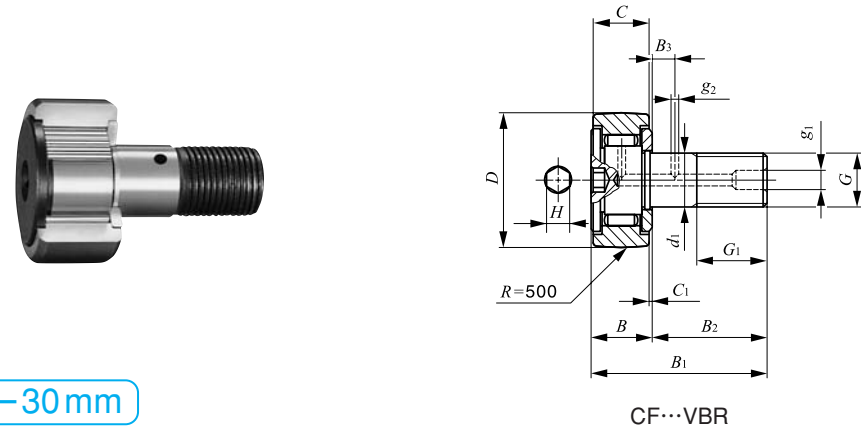
CF...UU

Boundary dimensions mm									Mounting dimension <i>f</i> Min. mm	Maximum tightening torque N-m	Basic dynamic load rating <i>C</i> N	Basic static load rating <i>C</i> <sub>0</sub> N	Maximum allowable static load N
<i>G</i> <sub>1</sub>	<i>B</i>	<i>B</i> <sub>1</sub>	<i>B</i> <sub>2</sub>	<i>B</i> <sub>3</sub>	<i>C</i> <sub>1</sub>	<i>g</i> <sub>1</sub>	<i>g</i> <sub>2</sub>	<i>r</i> <sub>s min</sub> <sup>(1)</sup>					
5	8	17	9	—	0.5	—	—	0.2	6.8	0.34	1 500	1 020	384
6	9	20	11	—	0.5	—	—	0.3	8.3	0.78	2 070	1 590	834
7.5	10	23	13	—	0.5	*3.1	—	0.3	9.3	1.6	2 520	2 140	1 260
8	12.2max	28.2max	16	—	0.6	*4	—	0.3	11	2.7	3 660	3 650	1 950
10	12.2max	32.2max	20	—	0.6	*4	—	0.3	13	6.5	4 250	4 740	4 620
10	12.2max	32.2max	20	—	0.6	*4	—	0.3	13	7.1	4 250	4 740	4 620
12	13.2max	36.2max	23	—	0.6	*4	—	0.3	16	13.8	5 430	6 890	6 890
12	13.2max	36.2max	23	—	0.6	*4	—	0.3	16	14.7	5 430	6 890	6 890
12	13.2max	36.2max	23	—	0.6	*4	—	0.3	16	13.8	5 430	6 890	6 890
12	13.2max	36.2max	23	—	0.6	*4	—	0.3	16	14.7	5 430	6 890	6 890
13	15.2max	40.2max	25	6	0.6	6	3	0.6	21	21.9	7 910	9 790	9 790
13	15.2max	40.2max	25	6	0.6	6	3	0.6	21	21.9	7 910	9 790	9 790
17	19.6max	52.1max	32.5	8	0.8	6	3	0.6	26	58.5	12 000	18 300	18 300
19	21.6max	58.1max	36.5	8	0.8	6	3	1	29	86.2	14 800	25 200	25 200
21	25.6max	66.1max	40.5	9	0.8	8	4	1	34	119	20 700	34 600	34 600
21	25.6max	66.1max	40.5	9	0.8	8	4	1	34	119	20 700	34 600	34 600
25	30.6max	80.1max	49.5	11	0.8	8	4	1	40	215	30 500	52 600	52 000
25	30.6max	80.1max	49.5	11	0.8	8	4	1	40	215	30 500	52 600	52 000
32	37 max	100 max	63	15	1	8	4	1	49	438	45 400	85 100	85 100
32	37 max	100 max	63	15	1	8	4	1	49	438	45 400	85 100	85 100
32	37 max	100 max	63	15	1	8	4	1	49	438	45 400	85 100	85 100

CF  
NUCF  
CFS  
CR

**CAM FOLLOWERS**

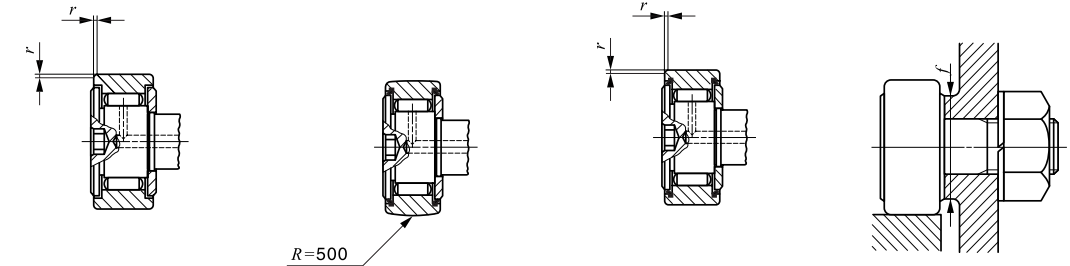
Standard Type Cam Followers **Full Complement Type/With Hexagon Hole**



Stud dia. 6—30 mm

Stud dia. mm	Identification number				Mass (Ref.) g	D	C	d <sub>1</sub>
	Shield type		Sealed type					
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring				
6	CF 6 VBR	CF 6 VB	CF 6 VBUUR	CF 6 VBUU	19	16	11	6
8	CF 8 VBR	CF 8 VB	CF 8 VBUUR	CF 8 VBUU	29	19	11	8
	CF 8 VBRM	CF 8 VBM	CF 8 VBUURM	CF 8 VBUUM	29	19	11	8
10	CF 10 VBR	CF 10 VB	CF 10 VBUUR	CF 10 VBUU	46	22	12	10
	CF 10 VBRM	CF 10 VBM	CF 10 VBUURM	CF 10 VBUUM	46	22	12	10
	CF 10-1 VBR	CF 10-1 VB	CF 10-1 VBUUR	CF 10-1 VBUU	61	26	12	10
	CF 10-1 VBRM	CF 10-1 VBM	CF 10-1 VBUURM	CF 10-1 VBUUM	61	26	12	10
12	CF 12 VBR	CF 12 VB	CF 12 VBUUR	CF 12 VBUU	97	30	14	12
	CF 12-1 VBR	CF 12-1 VB	CF 12-1 VBUUR	CF 12-1 VBUU	107	32	14	12
16	CF 16 VBR	CF 16 VB	CF 16 VBUUR	CF 16 VBUU	173	35	18	16
18	CF 18 VBR	CF 18 VB	CF 18 VBUUR	CF 18 VBUU	255	40	20	18
20	CF 20 VBR	CF 20 VB	CF 20 VBUUR	CF 20 VBUU	465	52	24	20
	CF 20-1 VBR	CF 20-1 VB	CF 20-1 VBUUR	CF 20-1 VBUU	390	47	24	20
24	CF 24 VBR	CF 24 VB	CF 24 VBUUR	CF 24 VBUU	820	62	29	24
	CF 24-1 VBR	CF 24-1 VB	CF 24-1 VBUUR	CF 24-1 VBUU	1 140	72	29	24
30	CF 30 VBR	CF 30 VB	CF 30 VBUUR	CF 30 VBUU	1 870	80	35	30
	CF 30-1 VBR	CF 30-1 VB	CF 30-1 VBUUR	CF 30-1 VBUU	2 030	85	35	30
	CF 30-2 VBR	CF 30-2 VB	CF 30-2 VBUUR	CF 30-2 VBUU	2 220	90	35	30

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension *r*  
 Remarks1. Models with a stud diameter *d*<sub>1</sub> of 10 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.  
 2. Provided with prepacked grease.

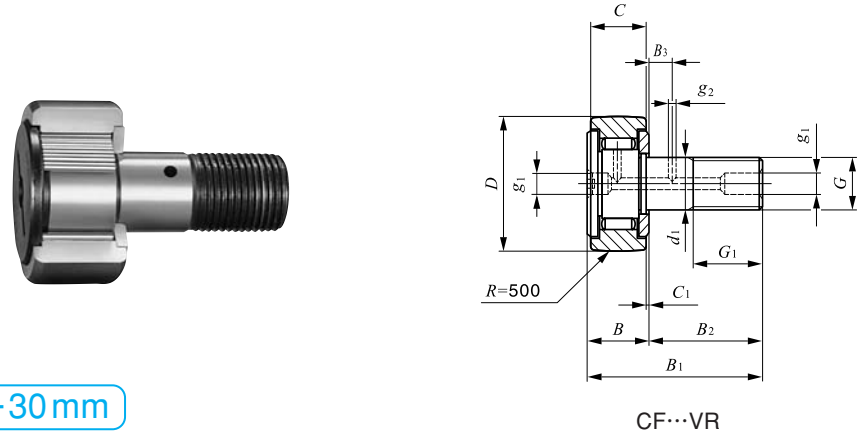


Boundary dimensions mm											Mounting dimension <i>f</i> Min. mm	Maximum tightening torque N·m	Basic dynamic load rating <i>C</i> N	Basic static load rating <i>C</i> <sub>0</sub> N	Maximum allowable static load N
<i>G</i>	<i>G</i> <sub>1</sub>	<i>B</i> max	<i>B</i> <sub>1</sub> max	<i>B</i> <sub>2</sub>	<i>B</i> <sub>3</sub>	<i>C</i> <sub>1</sub>	<i>g</i> <sub>1</sub>	<i>g</i> <sub>2</sub>	<i>H</i>	<i>r</i> <sub>smin</sub> <sup>(1)</sup>					
M 6×1	8	12.2	28.2	16	—	0.6	—	—	3	0.3	11	2.7	6 980	8 500	1 950
M 8×1.25	10	12.2	32.2	20	—	0.6	—	—	4	0.3	13	6.5	8 170	11 200	4 620
M 8×1	10	12.2	32.2	20	—	0.6	—	—	4	0.3	13	7.1	8 170	11 200	4 620
M10×1.25	12	13.2	36.2	23	—	0.6	—	—	4	0.3	16	13.8	9 570	14 500	8 650
M10×1	12	13.2	36.2	23	—	0.6	—	—	4	0.3	16	14.7	9 570	14 500	8 650
M10×1.25	12	13.2	36.2	23	—	0.6	—	—	4	0.3	16	13.8	9 570	14 500	8 650
M10×1	12	13.2	36.2	23	—	0.6	—	—	4	0.3	16	14.7	9 570	14 500	8 650
M12×1.5	13	15.2	40.2	25	6	0.6	6	3	6	0.6	21	21.9	13 500	19 700	13 200
M12×1.5	13	15.2	40.2	25	6	0.6	6	3	6	0.6	21	21.9	13 500	19 700	13 200
M16×1.5	17	19.6	52.1	32.5	8	0.8	6	3	6	0.6	26	58.5	20 700	37 600	23 200
M18×1.5	19	21.6	58.1	36.5	8	0.8	6	3	8	1	29	86.2	25 300	51 300	31 100
M20×1.5	21	25.6	66.1	40.5	9	0.8	8	4	8	1	34	119	33 200	64 500	37 500
M20×1.5	21	25.6	66.1	40.5	9	0.8	8	4	8	1	34	119	33 200	64 500	37 500
M24×1.5	25	30.6	80.1	49.5	11	0.8	8	4	12	1	40	215	46 600	92 000	52 000
M24×1.5	25	30.6	80.1	49.5	11	0.8	8	4	12	1	40	215	46 600	92 000	52 000
M30×1.5	32	37	100	63	15	1	8	4	17	1	49	438	67 700	144 000	85 900
M30×1.5	32	37	100	63	15	1	8	4	17	1	49	438	67 700	144 000	85 900
M30×1.5	32	37	100	63	15	1	8	4	17	1	49	438	67 700	144 000	85 900

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**CAM FOLLOWERS**

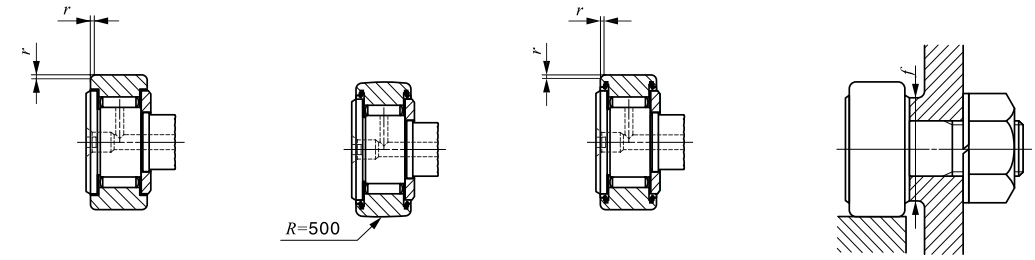
Standard Type Cam Followers **Full Complement Type/With Screwdriver Slot**



Stud dia. 6—30 mm

Stud dia. mm	Identification number				Mass (Ref.) g	D	C	d <sub>1</sub>
	Shield type		Sealed type					
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring				
6	CF 6 VR	CF 6 V	CF 6 VUUR	CF 6 VUU	19	16	11	6
8	CF 8 VR	CF 8 V	CF 8 VUUR	CF 8 VUU	29	19	11	8
	CF 8 VRM	CF 8 VM	CF 8 VUURM	CF 8 VUUM	29	19	11	8
10	CF 10 VR	CF 10 V	CF 10 VUUR	CF 10 VUU	46	22	12	10
	CF 10 VRM	CF 10 VM	CF 10 VUURM	CF 10 VUUM	46	22	12	10
	CF 10-1 VR	CF 10-1 V	CF 10-1 VUUR	CF 10-1 VUU	61	26	12	10
	CF 10-1 VRM	CF 10-1 VM	CF 10-1 VUURM	CF 10-1 VUUM	61	26	12	10
12	CF 12 VR	CF 12 V	CF 12 VUUR	CF 12 VUU	97	30	14	12
	CF 12-1 VR	CF 12-1 V	CF 12-1 VUUR	CF 12-1 VUU	107	32	14	12
16	CF 16 VR	CF 16 V	CF 16 VUUR	CF 16 VUU	173	35	18	16
18	CF 18 VR	CF 18 V	CF 18 VUUR	CF 18 VUU	255	40	20	18
20	CF 20 VR	CF 20 V	CF 20 VUUR	CF 20 VUU	465	52	24	20
	CF 20-1 VR	CF 20-1 V	CF 20-1 VUUR	CF 20-1 VUU	390	47	24	20
24	CF 24 VR	CF 24 V	CF 24 VUUR	CF 24 VUU	820	62	29	24
	CF 24-1 VR	CF 24-1 V	CF 24-1 VUUR	CF 24-1 VUU	1 140	72	29	24
30	CF 30 VR	CF 30 V	CF 30 VUUR	CF 30 VUU	1 870	80	35	30
	CF 30-1 VR	CF 30-1 V	CF 30-1 VUUR	CF 30-1 VUU	2 030	85	35	30
	CF 30-2 VR	CF 30-2 V	CF 30-2 VUUR	CF 30-2 VUU	2 220	90	35	30

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension *r*  
 Remarks1. Models with a stud diameter *d*<sub>1</sub> of 10 mm or less (marked \*) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.  
 2. Provided with prepacked grease.

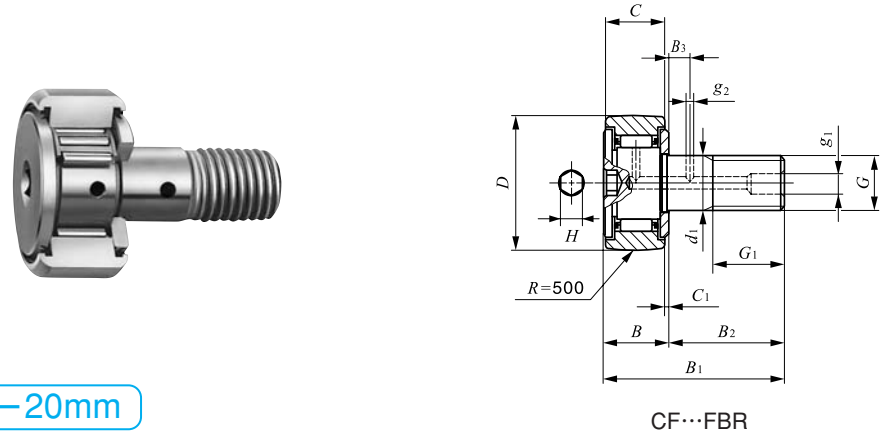


Boundary dimensions mm											Mounting dimension <i>f</i> Min. mm	Maximum tightening torque N·m	Basic dynamic load rating <i>C</i> N	Basic static load rating <i>C</i> <sub>0</sub> N	Maximum allowable static load N
<i>G</i>	<i>G</i> <sub>1</sub>	<i>B</i> max	<i>B</i> <sub>1</sub> max	<i>B</i> <sub>2</sub>	<i>B</i> <sub>3</sub>	<i>C</i> <sub>1</sub>	<i>g</i> <sub>1</sub>	<i>g</i> <sub>2</sub>	<i>r</i> <sub>smin</sub> <sup>(1)</sup>	<i>f</i>					
M 6×1	8	12.2	28.2	16	—	0.6	*4	—	0.3	11	2.7	6 980	8 500	1 950	
M 8×1.25	10	12.2	32.2	20	—	0.6	*4	—	0.3	13	6.5	8 170	11 200	4 620	
M 8×1	10	12.2	32.2	20	—	0.6	*4	—	0.3	13	7.1	8 170	11 200	4 620	
M10×1.25	12	13.2	36.2	23	—	0.6	*4	—	0.3	16	13.8	9 570	14 500	8 650	
M10×1	12	13.2	36.2	23	—	0.6	*4	—	0.3	16	14.7	9 570	14 500	8 650	
M10×1.25	12	13.2	36.2	23	—	0.6	*4	—	0.3	16	13.8	9 570	14 500	8 650	
M10×1	12	13.2	36.2	23	—	0.6	*4	—	0.3	16	14.7	9 570	14 500	8 650	
M12×1.5	13	15.2	40.2	25	6	0.6	6	3	0.6	21	21.9	13 500	19 700	13 200	
M12×1.5	13	15.2	40.2	25	6	0.6	6	3	0.6	21	21.9	13 500	19 700	13 200	
M16×1.5	17	19.6	52.1	32.5	8	0.8	6	3	0.6	26	58.5	20 700	37 600	23 200	
M18×1.5	19	21.6	58.1	36.5	8	0.8	6	3	1	29	86.2	25 300	51 300	31 100	
M20×1.5	21	25.6	66.1	40.5	9	0.8	8	4	1	34	119	33 200	64 500	37 500	
M20×1.5	21	25.6	66.1	40.5	9	0.8	8	4	1	34	119	33 200	64 500	37 500	
M24×1.5	25	30.6	80.1	49.5	11	0.8	8	4	1	40	215	46 600	92 000	52 000	
M24×1.5	25	30.6	80.1	49.5	11	0.8	8	4	1	40	215	46 600	92 000	52 000	
M30×1.5	32	37	100	63	15	1	8	4	1	49	438	67 700	144 000	85 900	
M30×1.5	32	37	100	63	15	1	8	4	1	49	438	67 700	144 000	85 900	
M30×1.5	32	37	100	63	15	1	8	4	1	49	438	67 700	144 000	85 900	

CF  
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**CAM FOLLOWERS**

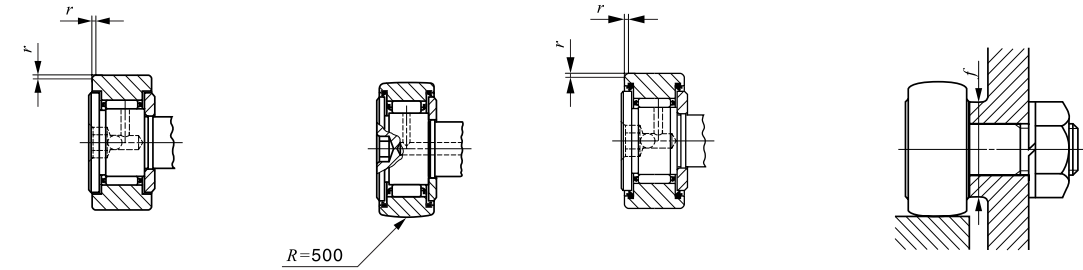
Stainless Steel Made Cam Followers **With Cage/With Hexagon Hole**



Stud dia. 3—20mm

Stud dia. mm	Identification number				Mass (Ref.) g	D	C	d <sub>1</sub>	G	G <sub>1</sub>
	Shield type		Sealed type							
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring						
3	CF 3 FBR	CF 3 FB	CF 3 FBUUR	CF 3 FBUU	4.3	10	7	3	M 3×0.5	5
4	CF 4 FBR	CF 4 FB	CF 4 FBUUR	CF 4 FBUU	7.4	12	8	4	M 4×0.7	6
5	CF 5 FBR	CF 5 FB	CF 5 FBUUR	CF 5 FBUU	10.3	13	9	5	M 5×0.8	7.5
6	CF 6 FBR	—	CF 6 FBUUR	—	18.5	16	11	6	M 6×1	8
8	CF 8 FBR	—	CF 8 FBUUR	—	28.5	19	11	8	M 8×1.25	10
10	CF 10 FBR	—	CF 10 FBUUR	—	45	22	12	10	M10×1.25	12
12	CF 12 FBR	—	CF 12 FBUUR	—	95	30	14	12	M12×1.5	13
16	CF 16 FBR	—	CF 16 FBUUR	—	170	35	18	16	M16×1.5	17
18	CF 18 FBR	—	CF 18 FBUUR	—	250	40	20	18	M18×1.5	19
20	CF 20 FBR	—	CF 20 FBUUR	—	460	52	24	20	M20×1.5	21

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension *r*  
 Remarks1. Models with a stud diameter *d*<sub>1</sub> of 10 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.  
 2. Shield type models with a stud diameter *d*<sub>1</sub> of 10 mm or less and the sealed type models are provided with prepacked grease. Other models are not provided with prepacked grease. Perform proper lubrication for use.



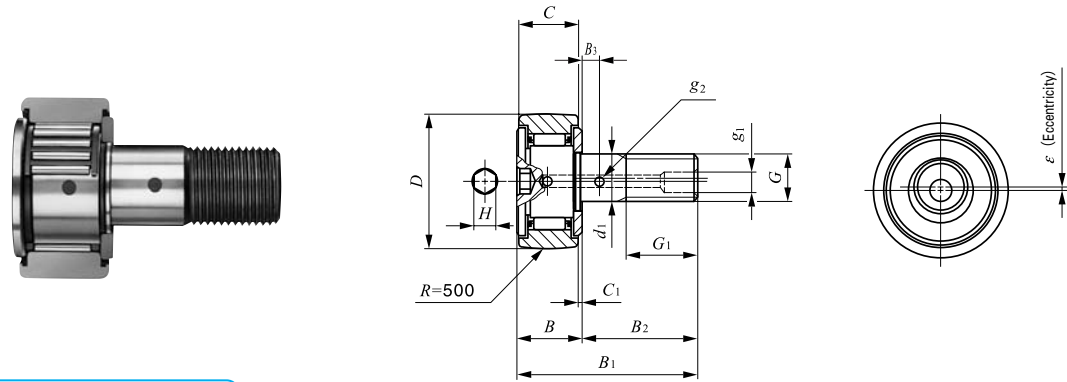
CF...FB      CF...FBUUR      CF...FBUU

Boundary dimensions mm									Mounting dimension <i>f</i> Min. mm	Maximum tightening torque N-m	Basic dynamic load rating <i>C</i> N	Basic static load rating <i>C</i> <sub>0</sub> N	Maximum allowable static load N
<i>B</i>	<i>B</i> <sub>1</sub>	<i>B</i> <sub>2</sub>	<i>B</i> <sub>3</sub>	<i>C</i> <sub>1</sub>	<i>g</i> <sub>1</sub>	<i>g</i> <sub>2</sub>	<i>H</i>	<i>r</i> <sub>s min</sub> <sup>(1)</sup>					
8	17	9	—	0.5	—	—	2	0.2	6.8	0.34	1 200	813	384
9	20	11	—	0.5	—	—	2.5	0.3	8.3	0.78	1 650	1 270	834
10	23	13	—	0.5	—	—	3	0.3	9.3	1.6	1 930	1 730	1 260
12.2 max	28.2 max	16	—	0.6	—	—	3	—	11	2.7	2 930	2 920	1 950
12.2 max	32.2 max	20	—	0.6	—	—	4	—	13	6.5	3 400	3 790	3 790
13.2 max	36.2 max	23	—	0.6	—	—	5	—	16	13.8	4 340	5 510	5 510
15.2 max	40.2 max	25	6	0.6	6	3	6	—	21	21.9	6 330	7 830	7 830
19.6 max	52.1 max	32.5	8	0.8	6	3	6	—	26	58.5	9 620	14 700	14 700
21.6 max	58.1 max	36.5	8	0.8	6	3	8	—	29	86.2	11 800	20 200	20 200
25.6 max	66.1 max	40.5	9	0.8	8	4	8	—	34	119	16 500	27 700	27 700

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**CAM FOLLOWERS**

Solid Eccentric Stud Type Cam Followers **With Cage/With Hexagon Hole**

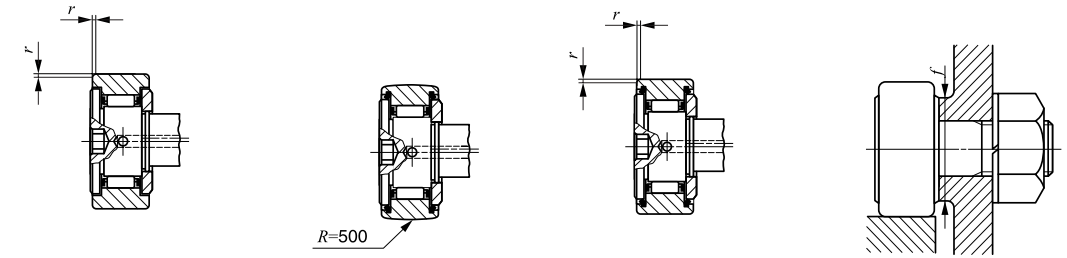


Stud dia. 6—18 mm

CFES...BR

Stud dia. mm	Identification number				Mass (Ref.) g	D	C	d <sub>1</sub>
	Shield type		Sealed type					
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring				
6	CFES 6 BR	CFES 6 B	CFES 6 BUUR	CFES 6 BUU	18.5	16	11	6
8	CFES 8 BR	CFES 8 B	CFES 8 BUUR	CFES 8 BUU	28.5	19	11	8
10	CFES 10 BR	CFES 10 B	CFES 10 BUUR	CFES 10 BUU	45	22	12	10
	CFES 10-1 BR	CFES 10-1 B	CFES 10-1 BUUR	CFES 10-1 BUU	60	26	12	10
12	CFES 12 BR	CFES 12 B	CFES 12 BUUR	CFES 12 BUU	95	30	14	12
	CFES 12-1 BR	CFES 12-1 B	CFES 12-1 BUUR	CFES 12-1 BUU	105	32	14	12
16	CFES 16 BR	CFES 16 B	CFES 16 BUUR	CFES 16 BUU	170	35	18	16
18	CFES 18 BR	CFES 18 B	CFES 18 BUUR	CFES 18 BUU	250	40	20	18

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension *r*  
 Remarks1. Models with a stud diameter *d*<sub>1</sub> of 10 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.  
 2. Shield type models with a stud diameter *d*<sub>1</sub> of 10 mm or less and the sealed type models are provided with prepacked grease. Other models are not provided with prepacked grease. Perform proper lubrication for use.



CFES...B

CFES...BUUR

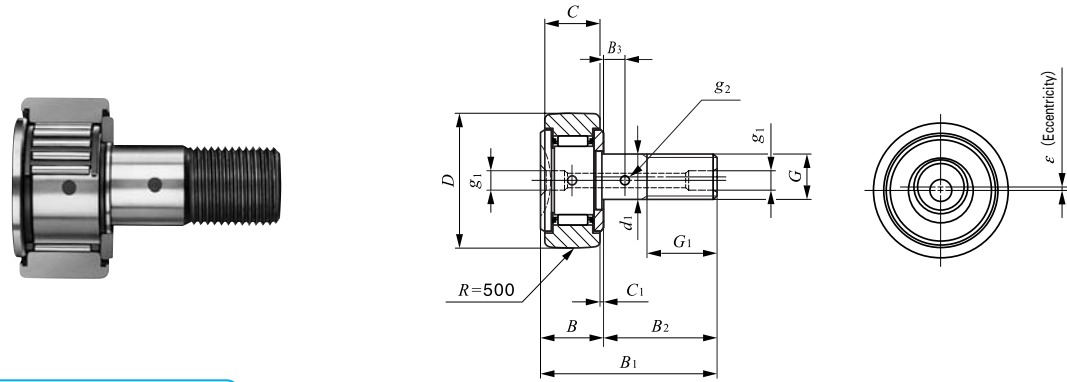
CFES...BUU

Boundary dimensions mm													Mounting dimension <i>f</i> Min. mm	Maximum tightening torque N-m	Basic dynamic load rating <i>C</i> N	Basic static load rating <i>C</i> <sub>0</sub> N	Maximum allowable static load N
<i>G</i>	<i>G</i> <sub>1</sub>	<i>B</i> <sub>max</sub>	<i>B</i> <sub>1max</sub>	<i>B</i> <sub>2</sub>	<i>B</i> <sub>3</sub>	<i>C</i> <sub>1</sub>	<i>g</i> <sub>1</sub>	<i>g</i> <sub>2</sub>	<i>H</i>	<i>r</i> <sub>smin</sub> <sup>(1)</sup>	Eccentricity <i>ε</i>						
M 6×1	8	12.2	28.2	16	—	0.6	—	—	3	0.3	0.25	11	2.7	3 660	3 650	1 980	
M 8×1.25	10	12.2	32.2	20	—	0.6	—	—	4	0.3	0.25	13	6.5	4 250	4 740	4 670	
M10×1.25	12	13.2	36.2	23	—	0.6	—	—	4	0.3	0.3	16	13.8	5 430	6 890	6 890	
M10×1.25	12	13.2	36.2	23	—	0.6	—	—	4	0.3	0.3	16	13.8	5 430	6 890	6 890	
M12×1.5	13	15.2	40.2	25	6	0.6	6	3	6	0.6	0.4	21	21.9	7 910	9 790	9 790	
M12×1.5	13	15.2	40.2	25	6	0.6	6	3	6	0.6	0.4	21	21.9	7 910	9 790	9 790	
M16×1.5	17	19.6	52.1	32.5	8	0.8	6	3	6	0.6	0.5	26	58.5	12 000	18 300	18 300	
M18×1.5	19	21.6	58.1	36.5	8	0.8	6	3	8	1	0.6	29	86.2	14 800	25 200	25 200	

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**CAM FOLLOWERS**

Solid Eccentric Stud Type Cam Followers **With Cage/With Screwdriver Slot**

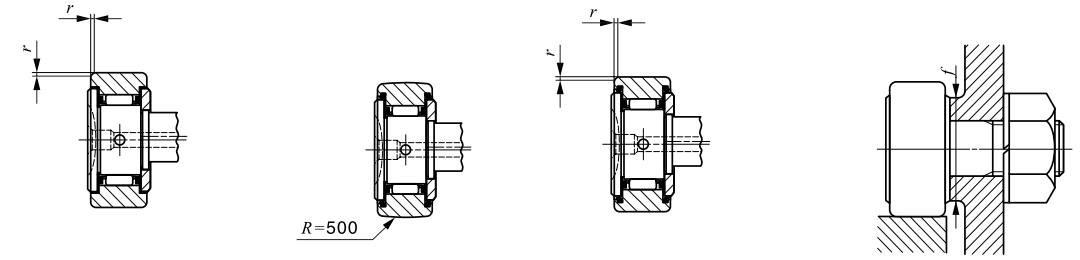


Stud dia. 6–18 mm

CFES...R

Stud dia. mm	Identification number				Mass (Ref.) g	D	C	d <sub>1</sub>
	Shield type		Sealed type					
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring				
6	CFES 6 R	CFES 6	CFES 6 UUR	CFES 6 UU	18.5	16	11	6
8	CFES 8 R	CFES 8	CFES 8 UUR	CFES 8 UU	28.5	19	11	8
10	CFES 10 R	CFES 10	CFES 10 UUR	CFES 10 UU	45	22	12	10
	CFES 10-1 R	CFES 10-1	CFES 10-1 UUR	CFES 10-1 UU	60	26	12	10
12	CFES 12 R	CFES 12	CFES 12 UUR	CFES 12 UU	95	30	14	12
	CFES 12-1 R	CFES 12-1	CFES 12-1 UUR	CFES 12-1 UU	105	32	14	12
16	CFES 16 R	CFES 16	CFES 16 UUR	CFES 16 UU	170	35	18	16
18	CFES 18 R	CFES 18	CFES 18 UUR	CFES 18 UU	250	40	20	18

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension *r*  
 Remarks1. Models with a stud diameter *d*<sub>1</sub> of 10 mm or less (marked \*) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.  
 2. Sealed type models are provided with prepacked grease. Other models are not provided with prepacked grease. Perform proper lubrication for use.



CFES

CFES...UUR

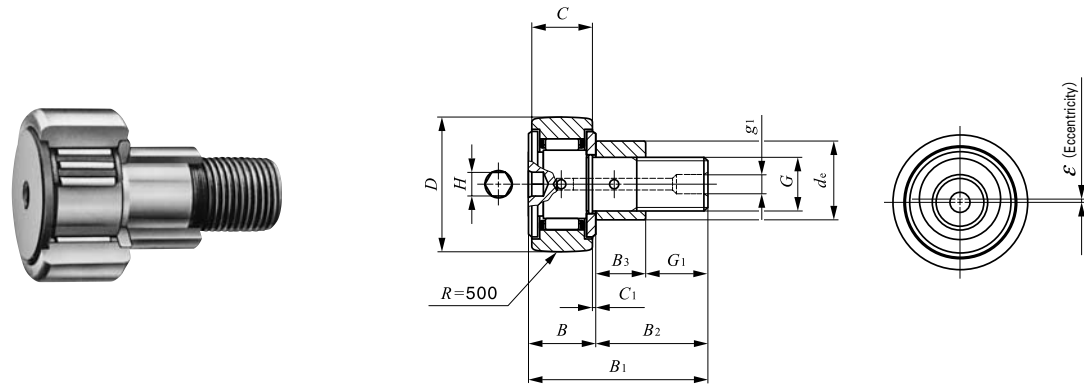
CFES...UU

Boundary dimensions mm											Eccentricity <i>f</i> Min. mm	Mounting dimension <i>f</i> Min. mm	Maximum tightening torque N·m	Basic dynamic load rating <i>C</i> N	Basic static load rating <i>C</i> <sub>0</sub> N	Maximum allowable static load N
<i>G</i>	<i>G</i> <sub>1</sub>	<i>B</i> max	<i>B</i> <sub>1</sub> max	<i>B</i> <sub>2</sub>	<i>B</i> <sub>3</sub>	<i>C</i> <sub>1</sub>	<i>g</i> <sub>1</sub>	<i>g</i> <sub>2</sub>	<i>r</i> <sub>smin</sub> <sup>(1)</sup>	<i>ε</i>						
M 6×1	8	12.2	28.2	16	—	0.6	*4	—	0.3	0.25	11	2.7	3 660	3 650	1 980	
M 8×1.25	10	12.2	32.2	20	—	0.6	*4	—	0.3	0.25	13	6.5	4 250	4 740	4 670	
M10×1.25	12	13.2	36.2	23	—	0.6	*4	—	0.3	0.3	16	13.8	5 430	6 890	6 890	
M10×1.25	12	13.2	36.2	23	—	0.6	*4	—	0.3	0.3	16	13.8	5 430	6 890	6 890	
M12×1.5	13	15.2	40.2	25	6	0.6	6	3	0.6	0.4	21	21.9	7 910	9 790	9 790	
M12×1.5	13	15.2	40.2	25	6	0.6	6	3	0.6	0.4	21	21.9	7 910	9 790	9 790	
M16×1.5	17	19.6	52.1	32.5	8	0.8	6	3	0.6	0.5	26	58.5	12 000	18 300	18 300	
M18×1.5	19	21.6	58.1	36.5	8	0.8	6	3	1	0.6	29	86.2	14 800	25 200	25 200	

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**CAM FOLLOWERS**

Eccentric Type Cam Followers **With Cage/With Hexagon Hole**



Outside diameter of eccentric collar 9—41 mm

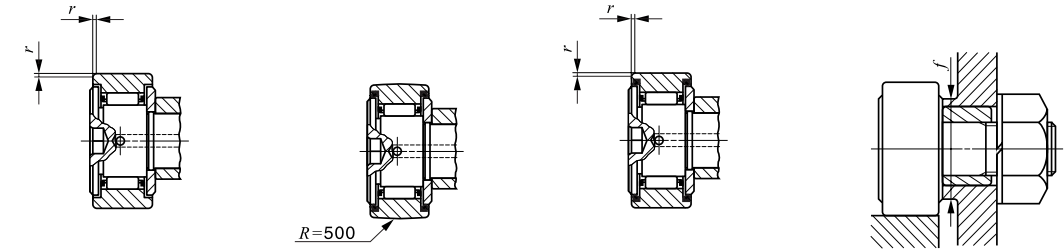
CFE...BR

Outside diameter of eccentric collar mm	Identification number				Mass (Ref.) g	D	C	de
	Shield type		Sealed type					
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring				
9	CFE 6 BR	CFE 6 B	CFE 6 BUUR	CFE 6 BUU	20.5	16	11	9
11	CFE 8 BR	CFE 8 B	CFE 8 BUUR	CFE 8 BUU	32	19	11	11
13	CFE 10 BR	CFE 10 B	CFE 10 BUUR	CFE 10 BUU	49.5	22	12	13
	CFE 10-1 BR	CFE 10-1 B	CFE 10-1 BUUR	CFE 10-1 BUU	65	26	12	13
16	CFE 12 BR	CFE 12 B	CFE 12 BUUR	CFE 12 BUU	105	30	14	16
	CFE 12-1 BR	CFE 12-1 B	CFE 12-1 BUUR	CFE 12-1 BUU	115	32	14	16
22	CFE 16 BR	CFE 16 B	CFE 16 BUUR	CFE 16 BUU	190	35	18	22
24	CFE 18 BR	CFE 18 B	CFE 18 BUUR	CFE 18 BUU	280	40	20	24
27	CFE 20 BR	CFE 20 B	CFE 20 BUUR	CFE 20 BUU	500	52	24	27
	CFE 20-1 BR	CFE 20-1 B	CFE 20-1 BUUR	CFE 20-1 BUU	425	47	24	27
33	CFE 24 BR	CFE 24 B	CFE 24 BUUR	CFE 24 BUU	895	62	29	33
	CFE 24-1 BR	CFE 24-1 B	CFE 24-1 BUUR	CFE 24-1 BUU	1 220	72	29	33
41	CFE 30 BR	CFE 30 B	CFE 30 BUUR	CFE 30 BUU	2 030	80	35	41
	CFE 30-1 BR	CFE 30-1 B	CFE 30-1 BUUR	CFE 30-1 BUU	2 190	85	35	41
	CFE 30-2 BR	CFE 30-2 B	CFE 30-2 BUUR	CFE 30-2 BUU	2 380	90	35	41

Note(1) Minimum allowable value of chamfer dimension r

Remarks1. Models with a stud thread diameter G of 10 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.

2. Shield type models with a stud thread diameter G of 10 mm or less and the sealed type models are provided with prepacked grease. Other models are not provided with prepacked grease. Perform proper lubrication for use.



CFE...B

CFE...BUUR

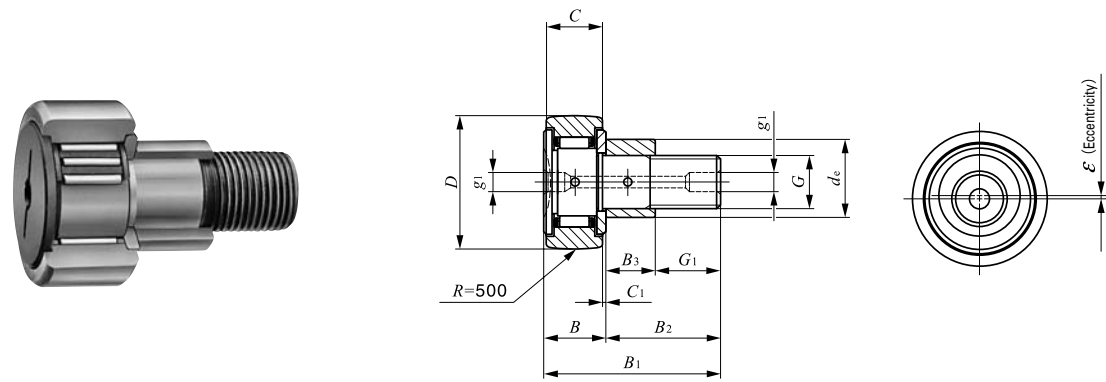
CFE...BUU

Boundary dimensions mm											Mounting dimension f Min. mm	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C0 N	Maximum allowable static load N
G	B3	B max	B1 max	B2	C1	g1	G1	H	r <sup>(1)</sup> smin	Eccentricity ε					
M 6×1	7.5	12.2	28.2	16	0.6	—	8.5	3	0.3	0.4	11	2.7	3 660	3 650	1 950
M 8×1.25	9.5	12.2	32.2	20	0.6	—	10.5	4	0.3	0.4	13	6.5	4 250	4 740	4 620
M10×1.25	10.5	13.2	36.2	23	0.6	—	12.5	4	0.3	0.4	16	13.8	5 430	6 890	6 890
M10×1.25	10.5	13.2	36.2	23	0.6	—	12.5	4	0.3	0.4	16	13.8	5 430	6 890	6 890
M12×1.5	11.5	15.2	40.2	25	0.6	6	13.5	6	0.6	0.8	21	21.9	7 910	9 790	9 790
M12×1.5	11.5	15.2	40.2	25	0.6	6	13.5	6	0.6	0.8	21	21.9	7 910	9 790	9 790
M16×1.5	15.5	19.6	52.1	32.5	0.8	6	17	6	0.6	0.8	26	58.5	12 000	18 300	18 300
M18×1.5	17.5	21.6	58.1	36.5	0.8	6	19	8	1	0.8	29	86.2	14 800	25 200	25 200
M20×1.5	19.5	25.6	66.1	40.5	0.8	8	21	8	1	0.8	34	119	20 700	34 600	34 600
M20×1.5	19.5	25.6	66.1	40.5	0.8	8	21	8	1	0.8	34	119	20 700	34 600	34 600
M24×1.5	25.5	30.6	80.1	49.5	0.8	8	24	12	1	0.8	40	215	30 500	52 600	52 000
M24×1.5	25.5	30.6	80.1	49.5	0.8	8	24	12	1	0.8	40	215	30 500	52 600	52 000
M30×1.5	32.5	37	100	63	1	8	30.5	17	1	1.5	49	438	45 400	85 100	85 100
M30×1.5	32.5	37	100	63	1	8	30.5	17	1	1.5	49	438	45 400	85 100	85 100
M30×1.5	32.5	37	100	63	1	8	30.5	17	1	1.5	49	438	45 400	85 100	85 100

CF  
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CFS  
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**CAM FOLLOWERS**

Eccentric Type Cam Followers **With Cage/With Screwdriver Slot**



Outside diameter of eccentric collar 9—41 mm

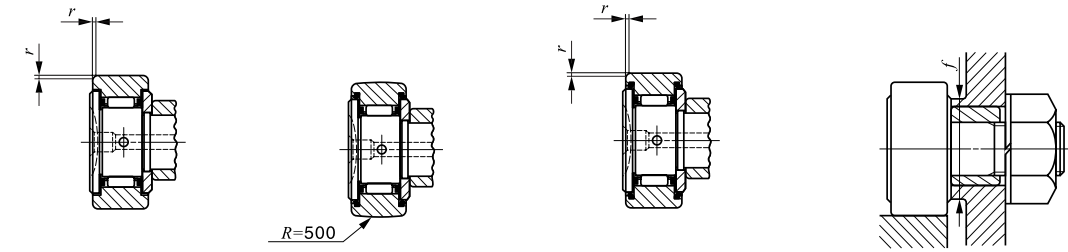
CFE...R

Outside diameter of eccentric collar mm	Identification number				Mass (Ref.) g	D	C	d <sub>e</sub>
	Shield type		Sealed type					
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring				
9	CFE 6 R	CFE 6	CFE 6 UUR	CFE 6 UU	20.5	16	11	9
11	CFE 8 R	CFE 8	CFE 8 UUR	CFE 8 UU	32	19	11	11
13	CFE 10 R	CFE 10	CFE 10 UUR	CFE 10 UU	49.5	22	12	13
	CFE 10-1 R	CFE 10-1	CFE 10-1 UUR	CFE 10-1 UU	65	26	12	13
16	CFE 12 R	CFE 12	CFE 12 UUR	CFE 12 UU	105	30	14	16
	CFE 12-1 R	CFE 12-1	CFE 12-1 UUR	CFE 12-1 UU	115	32	14	16
22	CFE 16 R	CFE 16	CFE 16 UUR	CFE 16 UU	190	35	18	22
24	CFE 18 R	CFE 18	CFE 18 UUR	CFE 18 UU	280	40	20	24
27	CFE 20 R	CFE 20	CFE 20 UUR	CFE 20 UU	500	52	24	27
	CFE 20-1 R	CFE 20-1	CFE 20-1 UUR	CFE 20-1 UU	425	47	24	27
33	CFE 24 R	CFE 24	CFE 24 UUR	CFE 24 UU	895	62	29	33
	CFE 24-1 R	CFE 24-1	CFE 24-1 UUR	CFE 24-1 UU	1 220	72	29	33
41	CFE 30 R	CFE 30	CFE 30 UUR	CFE 30 UU	2 030	80	35	41
	CFE 30-1 R	CFE 30-1	CFE 30-1 UUR	CFE 30-1 UU	2 190	85	35	41
	CFE 30-2 R	CFE 30-2	CFE 30-2 UUR	CFE 30-2 UU	2 380	90	35	41

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension r

Remarks1. Models with a stud thread diameter G of 10 mm or less (marked \*) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.

2. Sealed type models are provided with prepacked grease. Other models are not provided with prepacked grease. Perform proper lubrication for use.



CFE

CFE...UUR

CFE...UU

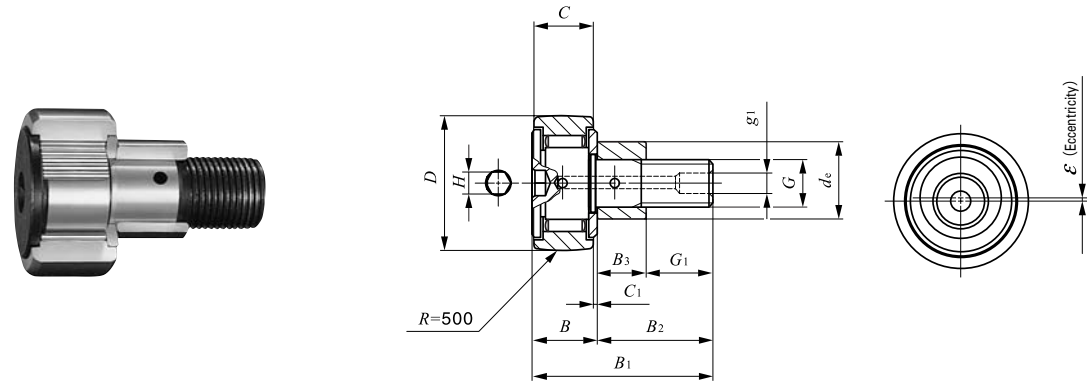
Boundary dimensions mm										Mounting dimension f Min. mm	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N	Maximum allowable static load N
G	B <sub>3</sub>	B max	B <sub>1</sub> max	B <sub>2</sub>	C <sub>1</sub>	g <sub>1</sub>	G <sub>1</sub>	r <sub>smin</sub> <sup>(1)</sup>	Eccentricity ε					
M 6×1	7.5	12.2	28.2	16	0.6	*4	8.5	0.3	0.4	11	2.7	3 660	3 650	1 950
M 8×1.25	9.5	12.2	32.2	20	0.6	*4	10.5	0.3	0.4	13	6.5	4 250	4 740	4 620
M10×1.25	10.5	13.2	36.2	23	0.6	*4	12.5	0.3	0.4	16	13.8	5 430	6 890	6 890
M10×1.25	10.5	13.2	36.2	23	0.6	*4	12.5	0.3	0.4	16	13.8	5 430	6 890	6 890
M12×1.5	11.5	15.2	40.2	25	0.6	6	13.5	0.6	0.8	21	21.9	7 910	9 790	9 790
M12×1.5	11.5	15.2	40.2	25	0.6	6	13.5	0.6	0.8	21	21.9	7 910	9 790	9 790
M16×1.5	15.5	19.6	52.1	32.5	0.8	6	17	0.6	0.8	26	58.5	12 000	18 300	18 300
M18×1.5	17.5	21.6	58.1	36.5	0.8	6	19	1	0.8	29	86.2	14 800	25 200	25 200
M20×1.5	19.5	25.6	66.1	40.5	0.8	8	21	1	0.8	34	119	20 700	34 600	34 600
M20×1.5	19.5	25.6	66.1	40.5	0.8	8	21	1	0.8	34	119	20 700	34 600	34 600
M24×1.5	25.5	30.6	80.1	49.5	0.8	8	24	1	0.8	40	215	30 500	52 600	52 000
M24×1.5	25.5	30.6	80.1	49.5	0.8	8	24	1	0.8	40	215	30 500	52 600	52 000
M30×1.5	32.5	37	100	63	1	8	30.5	1	1.5	49	438	45 400	85 100	85 100
M30×1.5	32.5	37	100	63	1	8	30.5	1	1.5	49	438	45 400	85 100	85 100
M30×1.5	32.5	37	100	63	1	8	30.5	1	1.5	49	438	45 400	85 100	85 100

CF  
NUCF  
CFS  
CR



**CAM FOLLOWERS**

Eccentric Type Cam Followers **Full Complement Type/With Hexagon Hole**

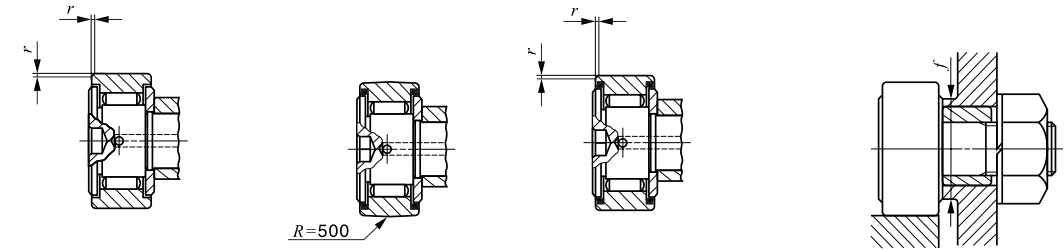


Outside diameter of eccentric collar 9—41 mm

CFE...VBR

Outside diameter of eccentric collar mm	Identification number				Mass (Ref.) g	D	C	de
	Shield type		Sealed type					
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring				
9	CFE 6 VBR	CFE 6 VB	CFE 6 VBUUR	CFE 6 VBUU	21	16	11	9
11	CFE 8 VBR	CFE 8 VB	CFE 8 VBUUR	CFE 8 VBUU	32.5	19	11	11
13	CFE 10 VBR	CFE 10 VB	CFE 10 VBUUR	CFE 10 VBUU	50.5	22	12	13
	CFE 10-1 VBR	CFE 10-1 VB	CFE 10-1 VBUUR	CFE 10-1 VBUU	66	26	12	13
16	CFE 12 VBR	CFE 12 VB	CFE 12 VBUUR	CFE 12 VBUU	107	30	14	16
	CFE 12-1 VBR	CFE 12-1 VB	CFE 12-1 VBUUR	CFE 12-1 VBUU	117	32	14	16
22	CFE 16 VBR	CFE 16 VB	CFE 16 VBUUR	CFE 16 VBUU	193	35	18	22
24	CFE 18 VBR	CFE 18 VB	CFE 18 VBUUR	CFE 18 VBUU	285	40	20	24
27	CFE 20 VBR	CFE 20 VB	CFE 20 VBUUR	CFE 20 VBUU	505	52	24	27
	CFE 20-1 VBR	CFE 20-1 VB	CFE 20-1 VBUUR	CFE 20-1 VBUU	430	47	24	27
33	CFE 24 VBR	CFE 24 VB	CFE 24 VBUUR	CFE 24 VBUU	900	62	29	33
	CFE 24-1 VBR	CFE 24-1 VB	CFE 24-1 VBUUR	CFE 24-1 VBUU	1 220	72	29	33
41	CFE 30 VBR	CFE 30 VB	CFE 30 VBUUR	CFE 30 VBUU	2 030	80	35	41
	CFE 30-1 VBR	CFE 30-1 VB	CFE 30-1 VBUUR	CFE 30-1 VBUU	2 190	85	35	41
	CFE 30-2 VBR	CFE 30-2 VB	CFE 30-2 VBUUR	CFE 30-2 VBUU	2 380	90	35	41

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension *r*  
 Remarks1. Models with a stud thread diameter *G* of 10 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.  
 2. Provided with prepacked grease.



CFE...VB

CFE...VBUUR

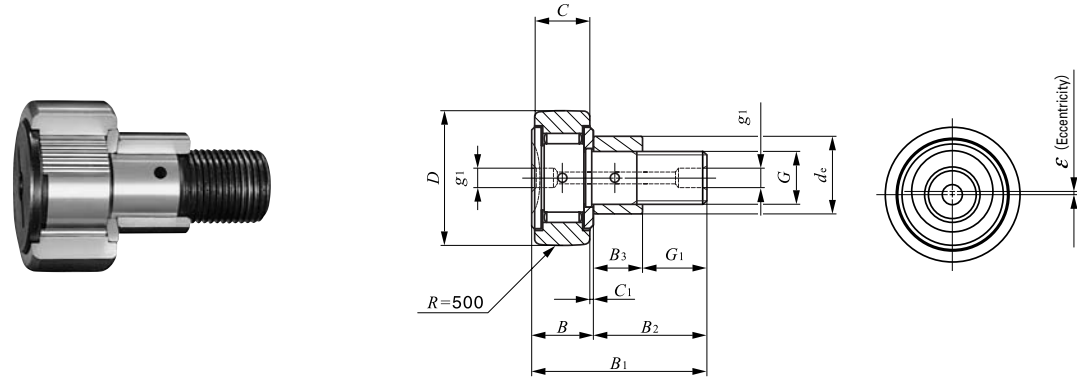
CFE...VBUU

Boundary dimensions mm											Mounting dimension <i>f</i> Min. mm	Maximum tightening torque N-m	Basic dynamic load rating <i>C</i> N	Basic static load rating <i>C</i> <sub>0</sub> N	Maximum allowable static load N
<i>G</i>	<i>B</i> <sub>3</sub>	<i>B</i> <sub>max</sub>	<i>B</i> <sub>1 max</sub>	<i>B</i> <sub>2</sub>	<i>C</i> <sub>1</sub>	<i>g</i> <sub>1</sub>	<i>G</i> <sub>1</sub>	<i>H</i>	<i>r</i> <sub>smin</sub> <sup>(1)</sup>	Eccentricity <i>ε</i>					
M 6×1	7.5	12.2	28.2	16	0.6	—	8.5	3	0.3	0.4	11	2.7	6 980	8 500	1 950
M 8×1.25	9.5	12.2	32.2	20	0.6	—	10.5	4	0.3	0.4	13	6.5	8 170	11 200	4 620
M10×1.25	10.5	13.2	36.2	23	0.6	—	12.5	4	0.3	0.4	16	13.8	9 570	14 500	8 650
M10×1.25	10.5	13.2	36.2	23	0.6	—	12.5	4	0.3	0.4	16	13.8	9 570	14 500	8 650
M12×1.5	11.5	15.2	40.2	25	0.6	6	13.5	6	0.6	0.8	21	21.9	13 500	19 700	13 200
M12×1.5	11.5	15.2	40.2	25	0.6	6	13.5	6	0.6	0.8	21	21.9	13 500	19 700	13 200
M16×1.5	15.5	19.6	52.1	32.5	0.8	6	17	6	0.6	0.8	26	58.5	20 700	37 600	23 200
M18×1.5	17.5	21.6	58.1	36.5	0.8	6	19	8	1	0.8	29	86.2	25 300	51 300	31 100
M20×1.5	19.5	25.6	66.1	40.5	0.8	8	21	8	1	0.8	34	119	33 200	64 500	37 500
M20×1.5	19.5	25.6	66.1	40.5	0.8	8	21	8	1	0.8	34	119	33 200	64 500	37 500
M24×1.5	25.5	30.6	80.1	49.5	0.8	8	24	12	1	0.8	40	215	46 600	92 000	52 000
M24×1.5	25.5	30.6	80.1	49.5	0.8	8	24	12	1	0.8	40	215	46 600	92 000	52 000
M30×1.5	32.5	37	100	63	1	8	30.5	17	1	1.5	49	438	67 700	144 000	85 900
M30×1.5	32.5	37	100	63	1	8	30.5	17	1	1.5	49	438	67 700	144 000	85 900
M30×1.5	32.5	37	100	63	1	8	30.5	17	1	1.5	49	438	67 700	144 000	85 900

CF  
NUCF  
CFS  
CR

**CAM FOLLOWERS**

Eccentric Type Cam Followers **Full Complement Type/With Screwdriver Slot**



Outside diameter of eccentric collar 9 – 41 mm

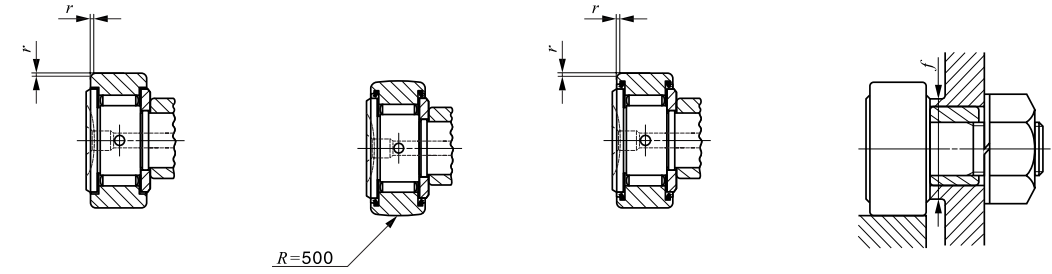
CFE...VR

Outside diameter of eccentric collar mm	Identification number				Mass (Ref.) g	D	C	de
	Shield type		Sealed type					
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring				
9	CFE 6 VR	CFE 6 V	CFE 6 VUUR	CFE 6 VUU	21	16	11	9
11	CFE 8 VR	CFE 8 V	CFE 8 VUUR	CFE 8 VUU	32.5	19	11	11
13	CFE 10 VR	CFE 10 V	CFE 10 VUUR	CFE 10 VUU	50.5	22	12	13
	CFE 10-1 VR	CFE 10-1 V	CFE 10-1 VUUR	CFE 10-1 VUU				
16	CFE 12 VR	CFE 12 V	CFE 12 VUUR	CFE 12 VUU	107	30	14	16
	CFE 12-1 VR	CFE 12-1 V	CFE 12-1 VUUR	CFE 12-1 VUU				
22	CFE 16 VR	CFE 16 V	CFE 16 VUUR	CFE 16 VUU	193	35	18	22
24	CFE 18 VR	CFE 18 V	CFE 18 VUUR	CFE 18 VUU	285	40	20	24
27	CFE 20 VR	CFE 20 V	CFE 20 VUUR	CFE 20 VUU	505	52	24	27
	CFE 20-1 VR	CFE 20-1 V	CFE 20-1 VUUR	CFE 20-1 VUU				
33	CFE 24 VR	CFE 24 V	CFE 24 VUUR	CFE 24 VUU	900	62	29	33
	CFE 24-1 VR	CFE 24-1 V	CFE 24-1 VUUR	CFE 24-1 VUU				
41	CFE 30 VR	CFE 30 V	CFE 30 VUUR	CFE 30 VUU	2 030	80	35	41
	CFE 30-1 VR	CFE 30-1 V	CFE 30-1 VUUR	CFE 30-1 VUU	2 190	85	35	41
	CFE 30-2 VR	CFE 30-2 V	CFE 30-2 VUUR	CFE 30-2 VUU	2 380	90	35	41

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension r

Remarks1. Models with a stud thread diameter G of 10 mm or less (marked \*) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.

2. Provided with prepacked grease.



CFE...V

CFE...VUUR

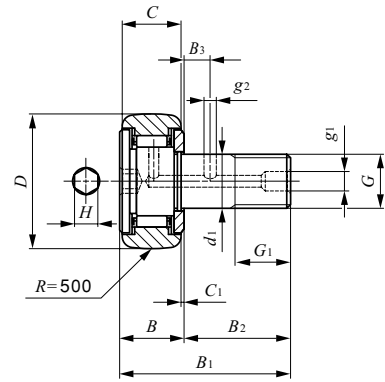
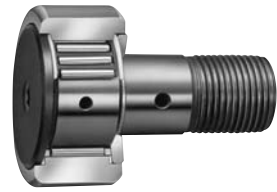
CFE...VUU

Boundary dimensions mm										Eccentricity ε	Mounting dimension f Min. mm	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N	Maximum allowable static load N
G	B <sub>3</sub>	B max	B <sub>1</sub> max	B <sub>2</sub>	C <sub>1</sub>	g <sub>1</sub>	G <sub>1</sub>	r <sub>s</sub> min <sup>(1)</sup>	ε						
M 6 × 1	7.5	12.2	28.2	16	0.6	*4	8.5	0.3	0.4	11	2.7	6 980	8 500	1 950	
M 8 × 1.25	9.5	12.2	32.2	20	0.6	*4	10.5	0.3	0.4	13	6.5	8 170	11 200	4 620	
M10 × 1.25	10.5	13.2	36.2	23	0.6	*4	12.5	0.3	0.4	16	13.8	9 570	14 500	8 650	
M10 × 1.25	10.5	13.2	36.2	23	0.6	*4	12.5	0.3	0.4	16	13.8	9 570	14 500	8 650	
M12 × 1.5	11.5	15.2	40.2	25	0.6	6	13.5	0.6	0.8	21	21.9	13 500	19 700	13 200	
M12 × 1.5	11.5	15.2	40.2	25	0.6	6	13.5	0.6	0.8	21	21.9	13 500	19 700	13 200	
M16 × 1.5	15.5	19.6	52.1	32.5	0.8	6	17	0.6	0.8	26	58.5	20 700	37 600	23 200	
M18 × 1.5	17.5	21.6	58.1	36.5	0.8	6	19	1	0.8	29	86.2	25 300	51 300	31 100	
M20 × 1.5	19.5	25.6	66.1	40.5	0.8	8	21	1	0.8	34	119	33 200	64 500	37 500	
M20 × 1.5	19.5	25.6	66.1	40.5	0.8	8	21	1	0.8	34	119	33 200	64 500	37 500	
M24 × 1.5	25.5	30.6	80.1	49.5	0.8	8	24	1	0.8	40	215	46 600	92 000	52 000	
M24 × 1.5	25.5	30.6	80.1	49.5	0.8	8	24	1	0.8	40	215	46 600	92 000	52 000	
M30 × 1.5	32.5	37	100	63	1	8	30.5	1	1.5	49	438	67 700	144 000	85 900	
M30 × 1.5	32.5	37	100	63	1	8	30.5	1	1.5	49	438	67 700	144 000	85 900	
M30 × 1.5	32.5	37	100	63	1	8	30.5	1	1.5	49	438	67 700	144 000	85 900	

CF  
NUCF  
CFS  
CR

**CAM FOLLOWERS**

Thrust Disk Type Cam Followers **With Cage/With Hexagon Hole**



CF...WBR

Stud dia. 3 – 12mm

Stud dia. mm	Identification number		Mass (Ref.) g	Boundary dimensions mm				
	Shield type	Sealed type		D	C	d <sub>1</sub>	G	G <sub>1</sub>
3	CF 3 WBR	CF 3 WBUUR	4.3	10	7	3	M 3 × 0.5	5
4	CF 4 WBR	CF 4 WBUUR	7.4	12	8	4	M 4 × 0.7	6
5	CF 5 WBR	CF 5 WBUUR	10.3	13	9	5	M 5 × 0.8	7.5
6	CF 6 WBR	CF 6 WBUUR	18.5	16	11	6	M 6 × 1	8
8	CF 8 WBR	CF 8 WBUUR	28.5	19	11	8	M 8 × 1.25	10
10	CF 10 WBR	CF 10 WBUUR	45	22	12	10	M10 × 1.25	12
	CF 10-1 WBR	CF 10-1 WBUUR	60	26	12	10	M10 × 1.25	12
12	CF 12 WBR	CF 12 WBUUR	95	30	14	12	M12 × 1.5	13
	CF 12-1 WBR	CF 12-1 WBUUR	105	32	14	12	M12 × 1.5	13

Remarks1. Models with a stud diameter  $d_1$  of 10 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.  
 2. Shield type models with a stud diameter  $d_1$  of 10 mm or less and the sealed type models are provided with prepacked grease. Other models are not provided with prepacked grease. Perform proper lubrication for use.



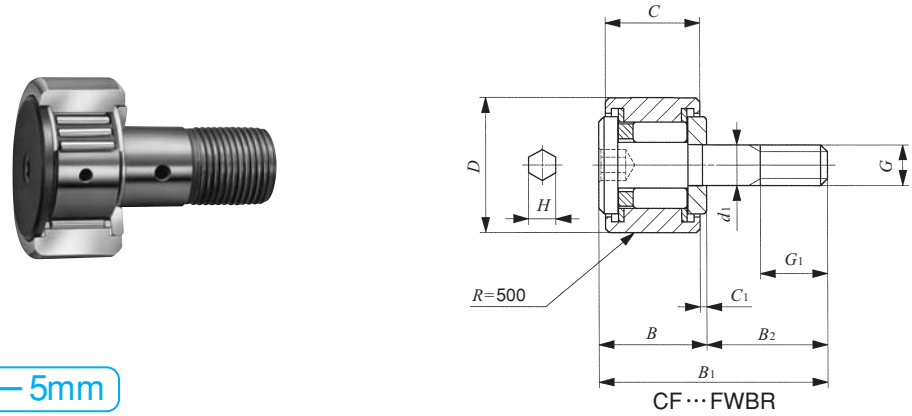
CF...WBUUR

B	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	C <sub>1</sub>	g <sub>1</sub>	g <sub>2</sub>	H	Mounting dimension f Min. mm	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N	Maximum allowable static load N
8	17	9	—	0.5	—	—	2	6.8	0.34	1 500	1 020	384
9	20	11	—	0.5	—	—	2.5	8.3	0.78	2 070	1 590	834
10	23	13	—	0.5	—	—	3	9.3	1.6	2 520	2 140	1 260
12.2 max	28.2 max	16	—	0.6	—	—	3	11	2.7	3 660	3 650	1 950
12.2 max	32.2 max	20	—	0.6	—	—	4	13	6.5	4 250	4 740	4 620
13.2 max	36.2 max	23	—	0.6	—	—	4	16	13.8	5 430	6 890	6 890
13.2 max	36.2 max	23	—	0.6	—	—	4	16	13.8	5 430	6 890	6 890
15.2 max	40.2 max	25	6	0.6	6	3	6	21	21.9	7 910	9 790	9 790
15.2 max	40.2 max	25	6	0.6	6	3	6	21	21.9	7 910	9 790	9 790

CF  
NUCF  
CFS  
CR

**CAM FOLLOWERS**

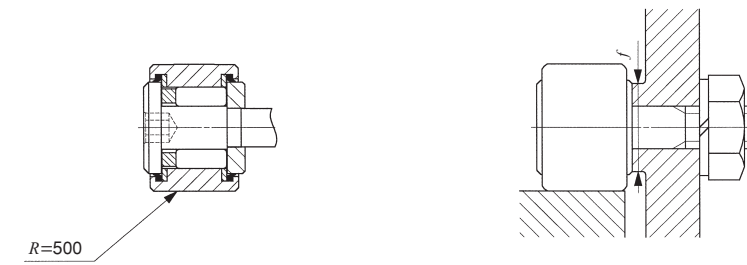
Thrust Disk Type Stainless Steel Made Cam Followers **With Cage/With Hexagon Hole**



Stud dia. 3 – 5mm

Stud dia. mm	Identification number		Mass (Ref.) g	Boundary dimensions mm				
	Shield type	Sealed type		D	C	d <sub>1</sub>	G	G <sub>1</sub>
3	CF 3 FWBR	CF 3 FWBUUR	4.3	10	7	3	M 3 × 0.5	5
4	CF 4 FWBR	CF 4 FWBUUR	7.4	12	8	4	M 4 × 0.7	6
5	CF 5 FWBR	CF 5 FWBUUR	10.3	13	9	5	M 5 × 0.8	7.5

Remarks1. No oil hole is provided.  
2. Provided with prepacked grease.



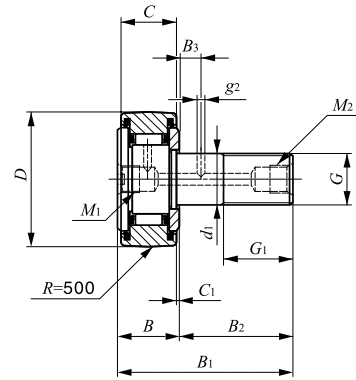
CF...FWBUUR

B	B <sub>1</sub>	B <sub>2</sub>	C <sub>1</sub>	H	Mounting dimension f Min. mm	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N	Maximum allowable static load N
8	17	9	0.5	2	6.8	0.34	1 200	813	384
9	20	11	0.5	2.5	8.3	0.78	1 650	1 270	834
10	23	13	0.5	3	9.3	1.6	1 930	1 730	1 260

CF  
NUCF  
CFS  
CR

**CAM FOLLOWERS**

Centralized Lubrication Type Cam Followers **With Cage/With Screwdriver Slot**



CF...RU1

Stud dia. 6 – 30mm

Stud dia. mm	Identification number		Mass (Ref.) g	Boundary dimensions mm				
	With crowned outer ring	With cylindrical outer ring		D	C	d <sub>1</sub>	G	G <sub>1</sub>
6	CF-RU1- 6	CF-FU1- 6	18.5	16	11	6	M 6 × 1	8
8	CF-RU1- 8	CF-FU1- 8	28.5	19	11	8	M 8 × 1.25	10
10	CF-RU1-10	CF-FU1-10	45	22	12	10	M10 × 1.25	12
	CF-RU1-10-1	CF-FU1-10-1	60	26	12	10	M10 × 1.25	12
12	CF-RU1-12	CF-FU1-12	95	30	14	12	M12 × 1.5	13
	CF-RU1-12-1	CF-FU1-12-1	105	32	14	12	M12 × 1.5	13
16	CF-RU1-16	CF-FU1-16	170	35	18	16	M16 × 1.5	17
18	CF-RU1-18	CF-FU1-18	250	40	20	18	M18 × 1.5	19
20	CF-RU1-20	CF-FU1-20	460	52	24	20	M20 × 1.5	21
	CF-RU1-20-1	CF-FU1-20-1	385	47	24	20	M20 × 1.5	21
24	CF-RU1-24	CF-FU1-24	815	62	29	24	M24 × 1.5	25
	CF-RU1-24-1	CF-FU1-24-1	1 140	72	29	24	M24 × 1.5	25
30	CF-RU1-30	CF-FU1-30	1 870	80	35	30	M30 × 1.5	32
	CF-RU1-30-1	CF-FU1-30-1	2 030	85	35	30	M30 × 1.5	32
	CF-RU1-30-2	CF-FU1-30-2	2 220	90	35	30	M30 × 1.5	32

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension *r*  
 Remarks1. Models with a stud diameter *d*<sub>1</sub> of 12 mm or less are provided with a lubrication tapped hole on the stud head only. Other models are provided with one lubrication tapped hole each on the head and end surface of the stud.  
 2. Provided with prepacked grease.



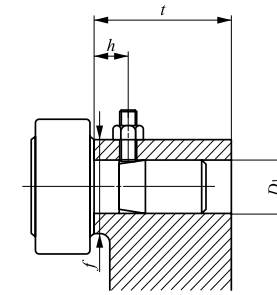
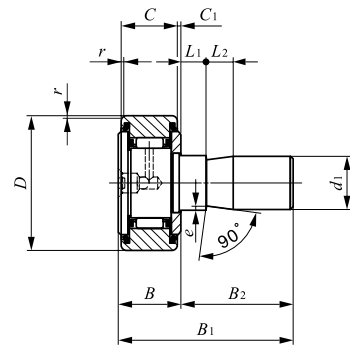
CF...FU1

B <sub>max</sub>	B <sub>1max</sub>	B <sub>2</sub>	B <sub>3</sub>	C <sub>1</sub>	g <sub>2</sub>	M <sub>1</sub>	M <sub>2</sub>	r <sub>s min</sub> <sup>(1)</sup>	Mounting dimension <i>f</i> Min. mm	Maximum tightening torque N-m	Basic dynamic load rating <i>C</i> N	Basic static load rating <i>C</i> <sub>0</sub> N	Maximum allowable static load N
12.2	28.2	16	—	0.6	—	M6× 0.75	—	0.3	11	2.7	3 660	3 650	1 950
12.2	32.2	20	—	0.6	—			0.3	13	6.5	4 250	4 740	4 620
13.2	36.2	23	—	0.6	—			0.3	16	13.8	5 430	6 890	6 890
13.2	36.2	23	—	0.6	—			0.3	16	13.8	5 430	6 890	6 890
15.2	40.2	25	—	0.6	—			0.6	21	23.9	7 910	9 790	9 790
15.2	40.2	25	—	0.6	—			0.6	21	23.9	7 910	9 790	9 790
19.6	52.1	32.5	8	0.8	3	PT 1/8	PT 1/8	0.6	26	58.5	12 000	18 300	18 300
21.6	58.1	36.5	8	0.8	3			1	29	86.2	14 800	25 200	25 200
25.6	66.1	40.5	9	0.8	4			1	34	119	20 700	34 600	34 600
25.6	66.1	40.5	9	0.8	4			1	34	119	20 700	34 600	34 600
30.6	80.1	49.5	11	0.8	4			1	40	215	30 500	52 600	52 000
30.6	80.1	49.5	11	0.8	4			1	40	215	30 500	52 600	52 000
37	100	63	15	1	4			1	49	438	45 400	85 100	85 100
37	100	63	15	1	4			1	49	438	45 400	85 100	85 100
37	100	63	15	1	4			1	49	438	45 400	85 100	85 100

CF  
NUCF  
CFS  
CR

**CAM FOLLOWERS**

Easy Mounting Type Cam Followers **With Cage/With Screwdriver Slot**



Stud dia. 6 – 20mm

CF...SFU

Stud dia. mm	Identification number	Mass (Ref.) g	Boundary dimensions mm							
			D	C	d <sub>1</sub>	B <sub>max</sub>	B <sub>1max</sub>	B <sub>2</sub>	C <sub>1</sub>	L <sub>1</sub>
6	CF-SFU- 6	19.5	16	11	6	12.2	32	19.8	0.6	5
8	CF-SFU- 8	29	19	11	8	12.2	32	19.8	0.6	5
10	CF-SFU-10	44	22	12	10	13.2	33	19.8	0.6	5
	CF-SFU-10-1	59	26	12	10	13.2	33	19.8	0.6	5
12	CF-SFU-12	94	30	14	12	15.2	35	19.8	0.6	5
	CF-SFU-12-1	104	32	14	12	15.2	35	19.8	0.6	5
16	CF-SFU-16	164	35	18	16	19.6	44.5	24.9	0.8	10
18	CF-SFU-18	235	40	20	18	21.6	46.5	24.9	0.8	10
20	CF-SFU-20	435	52	24	20	25.6	50.5	24.9	0.8	10
	CF-SFU-20-1	360	47	24	20	25.6	50.5	24.9	0.8	10

Note<sup>(1)</sup> Minimum allowable value of chamfer dimension *r*

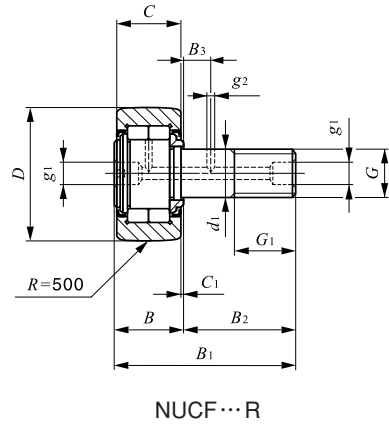
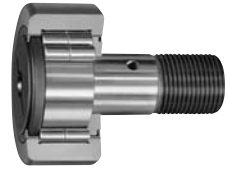
Remarks1. No oil hole is provided.  
2. Provided with prepacked grease.

L <sub>2</sub>	e	r <sub>s min</sub> <sup>(1)</sup>	Mounting dimensions mm					Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N	Maximum allowable static load N
			D <sub>1</sub>	Tolerance	t Min.	f Min.	h (Ref.)			
10	0.3	0.3	6	+0.012 0	20	11	10	3 660	3 650	1 950
10	0.5	0.3	8	+0.015 0	20	13	10	4 250	4 740	4 620
10	0.5	0.3	10		20	16	10	5 430	6 890	6 890
10	0.5	0.3	10	+0.018 0	20	16	10	5 430	6 890	6 890
10	1	0.6	12		20	21	10	7 910	9 790	9 790
10	1	0.6	12	+0.018 0	20	21	10	7 910	9 790	9 790
10	1	0.6	16		25	26	15	12 000	18 300	18 300
10	1	1	18	+0.021 0	25	29	15	14 800	25 200	25 200
10	1	1	20		25	34	15	20 700	34 600	34 600
10	1	1	20	+0.021 0	25	34	15	20 700	34 600	34 600
10	1	1	20		25	34	15	20 700	34 600	34 600

CF  
NUCF  
CFS  
CR

**CAM FOLLOWERS**

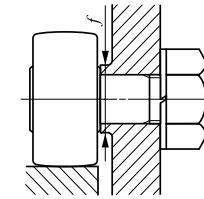
Heavy Duty Type Cam Followers **Full Compliment Type/With Screwdriver Slot**



Stud dia. 10 – 30mm

Stud dia. mm	Identification number	Mass (Ref.) g	Boundary dimensions mm							
			D	C	d <sub>1</sub>	G	G <sub>1</sub>	B <sub>max</sub>	B <sub>1max</sub>	B <sub>2</sub>
10	NUCF 10 R	44	22	12	10	M10 × 1.25	12	13.2	36.2	23
	NUCF 10-1 R	58	26	12	10	M10 × 1.25	12	13.2	36.2	23
12	NUCF 12 R	86	30	14	12	M12 × 1.5	13	15.2	40.2	25
	NUCF 12-1 R	97	32	14	12	M12 × 1.5	13	15.2	40.2	25
16	NUCF 16 R	167	35	18	16	M16 × 1.5	17	19.6	52.1	32.5
18	NUCF 18 R	244	40	20	18	M18 × 1.5	19	21.6	58.1	36.5
20	NUCF 20 R	457	52	24	20	M20 × 1.5	21	25.6	66.1	40.5
	NUCF 20-1 R	384	47	24	20	M20 × 1.5	21	25.6	66.1	40.5
24	NUCF 24 R	789	62	29	24	M24 × 1.5	25	30.6	80.1	49.5
	NUCF 24-1 R	1 020	72	29	24	M24 × 1.5	25	30.6	80.1	49.5
30	NUCF 30 R	1 600	80	35	30	M30 × 1.5	32	37	100	63
	NUCF 30-2 R	1 970	90	35	30	M30 × 1.5	32	37	100	63

Remarks1. Models with a stud diameter  $d_1$  of 10 mm or less (marked \*) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.  
2. Provided with prepacked grease.

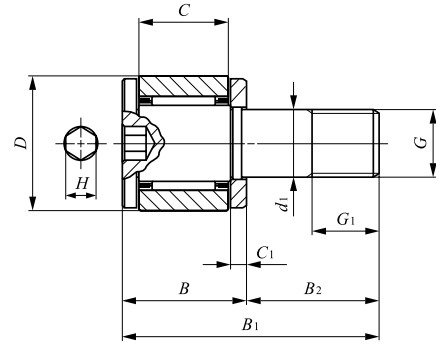


B <sub>3</sub>	C <sub>1</sub>	g <sub>1</sub>	g <sub>2</sub>	Mounting dimension f Min. mm	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N	Maximum allowable static load N
—	0.6	*4	—	12	13.8	10 400	11 500	5 300
—	0.6	*4	—	12	13.8	10 400	11 500	9 210
6	0.6	6	3	17	21.9	14 000	13 400	5 650
6	0.6	6	3	17	21.9	14 000	13 400	9 040
8	0.8	6	3	20	58.5	23 400	27 300	11 800
8	0.8	6	3	22	86.2	25 200	30 900	20 300
9	0.8	8	4	31	119	43 100	58 100	30 000
9	0.8	8	4	27	119	38 900	49 000	27 200
11	0.8	8	4	38	215	58 200	75 300	35 200
11	0.8	8	4	44	215	63 900	88 800	57 000
15	1	8	4	45	438	90 300	121 000	98 300
15	1	8	4	45	438	90 300	121 000	98 300

CF  
NUCF  
CFS  
CR

**CAM FOLLOWERS**

Miniature Type Cam Followers **With Cage/With Hexagon Hole**  
**Full Complement Type/With Hexagon Hole**

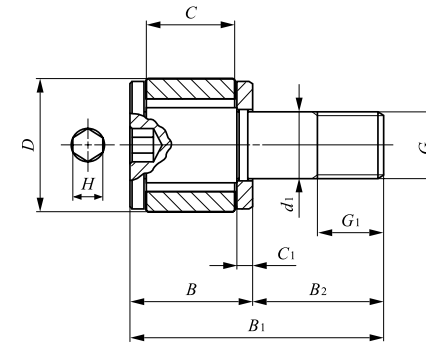


CFS

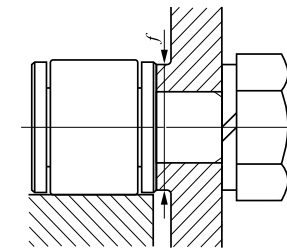
Stud dia. 2 – 6mm

Stud dia. mm	Identification number		Mass (Ref.) g	Boundary dimensions mm					
	With cage	Full complement		D	C	d <sub>1</sub>	G	G <sub>1</sub>	B
2	<b>CFS 2</b>	—	0.6	4.5	2.5	2	M2 × 0.4	2	4
	—	<b>CFS 2 V</b>	0.6	4.5	2.5	2	M2 × 0.4	2	4
2.5	<b>CFS 2.5</b>	—	1	5	3	2.5	M2.5 × 0.45	2.5	4.5
	—	<b>CFS 2.5 V</b>	1	5	3	2.5	M2.5 × 0.45	2.5	4.5
3	<b>CFS 3</b>	—	2	6	4	3	M3 × 0.5	3	5.5
	—	<b>CFS 3 V</b>	2	6	4	3	M3 × 0.5	3	5.5
4	<b>CFS 4</b>	—	4	8	5	4	M4 × 0.7	4	7
	—	<b>CFS 4 V</b>	4	8	5	4	M4 × 0.7	4	7
5	<b>CFS 5</b>	—	7	10	6	5	M5 × 0.8	5	8
	—	<b>CFS 5 V</b>	7	10	6	5	M5 × 0.8	5	8
6	<b>CFS 6</b>	—	13	12	7	6	M6 × 1	6	9.5
	—	<b>CFS 6 V</b>	13	12	7	6	M6 × 1	6	9.5

Remarks1. No oil hole is provided.  
 2. Provided with prepacked grease.



CFS...V



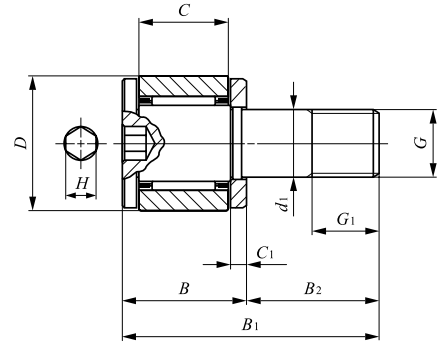
B <sub>1</sub>	B <sub>2</sub>	C <sub>1</sub>	H	Mounting dimension f Min. mm	Maximum tightening torque N-cm	Basic dynamic	Basic static	Maximum allowable static load N
						load rating C N	load rating C <sub>0</sub> N	
8	4	0.7	0.9	4.3	9.1	288	202	202
8	4	0.7	0.9	4.3	9.1	768	734	229
9.5	5	0.7	0.9	4.8	18.7	428	351	351
9.5	5	0.7	0.9	4.8	18.7	1 000	1 080	360
11.5	6	0.7	1.3	5.8	33.5	629	611	484
11.5	6	0.7	1.3	5.8	33.5	1 420	1 790	484
15	8	1.0	1.5	7.7	77.7	1 120	1 120	919
15	8	1.0	1.5	7.7	77.7	2 370	3 000	919
18	10	1.0	2	9.6	158	1 570	1 850	1 570
18	10	1.0	2	9.6	158	3 180	4 700	1 570
21.5	12	1.2	2.5	11.6	268	2 090	2 200	2 150
21.5	12	1.2	2.5	11.6	268	4 610	6 250	2 150

CF  
NUCF  
CFS  
CR



**CAM FOLLOWERS**

Miniature Type Cam Followers Stainless Steel Made **With Cage/With Hexagon Hole**  
**Full Complement Type/With Hexagon**

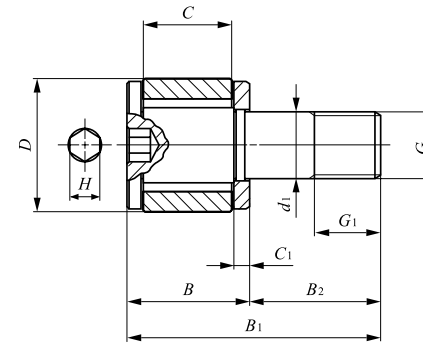


CFS...F

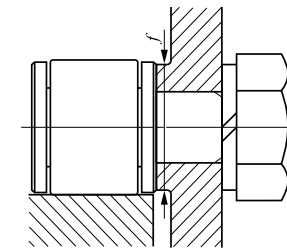
Stud dia. 2.5 – 6mm

Stud dia. mm	Identification number		Mass (Ref.) g	Boundary dimensions mm					
	With cage	Full complement		D	C	d <sub>1</sub>	G	G <sub>1</sub>	B
2.5	CFS 2.5 F	—	1	5	3	2.5	M2.5 × 0.45	2.5	4.5
	—	CFS 2.5 FV	1	5	3	2.5	M2.5 × 0.45	2.5	4.5
3	CFS 3 F	—	2	6	4	3	M3 × 0.5	3	5.5
	—	CFS 3 FV	2	6	4	3	M3 × 0.5	3	5.5
4	CFS 4 F	—	4	8	5	4	M4 × 0.7	4	7
	—	CFS 4 FV	4	8	5	4	M4 × 0.7	4	7
5	CFS 5 F	—	7	10	6	5	M5 × 0.8	5	8
	—	CFS 5 FV	7	10	6	5	M5 × 0.8	5	8
6	CFS 6 F	—	13	12	7	6	M6 × 1	6	9.5
	—	CFS 6 FV	13	12	7	6	M6 × 1	6	9.5

Remarks1. No oil hole is provided.  
 2. Provided with prepacked grease.



CFS...FV

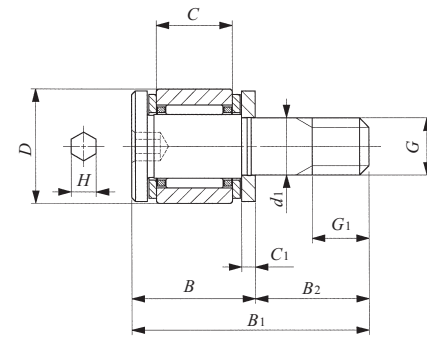


B <sub>1</sub>	B <sub>2</sub>	C <sub>1</sub>	H	Mounting dimension f Min. mm	Maximum tightening torque N-cm	Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N	Maximum allowable static load N
9.5	5	0.7	0.9	4.8	18.7	800	862	360
11.5	6	0.7	1.3	5.8	33.5	504	488	484
11.5	6	0.7	1.3	5.8	33.5	1 140	1 430	484
15	8	1.0	1.5	7.7	77.7	897	894	894
15	8	1.0	1.5	7.7	77.7	1 900	2 400	919
18	10	1.0	2	9.6	158	1 250	1 480	1 480
18	10	1.0	2	9.6	158	2 540	3 760	1 570
21.5	12	1.2	2.5	11.6	268	1 670	1 760	1 760
21.5	12	1.2	2.5	11.6	268	3 690	5 000	2 150

CF  
NUCF  
CFS  
CR

**CAM FOLLOWERS**

Thrust Disk Type Miniature Cam Followers **With Cage/With Hexagon Hole**

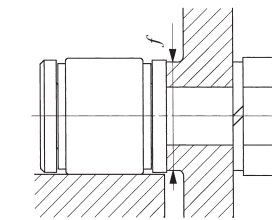


CFS... W

Stud dia. 2 – 6 mm

Stud dia. mm	Identification number	Mass (Ref.) g	Boundary dimensions mm					
			D	C	d <sub>1</sub>	G	G <sub>1</sub>	B
2	<b>CFS 2 W</b>	0.6	4.5	2.5	2	M2 × 0.4	2	4.5
2.5	<b>CFS 2.5 W</b>	1	5	3	2.5	M2.5 × 0.45	2.5	5
3	<b>CFS 3 W</b>	2	6	4	3	M3 × 0.5	3	6.5
4	<b>CFS 4 W</b>	4	8	5	4	M4 × 0.7	4	8
5	<b>CFS 5 W</b>	7	10	6	5	M5 × 0.8	5	9
6	<b>CFS 6 W</b>	13	12	7	6	M6 × 1	6	10.5

Remarks 1. No oil hole is provided.  
2. Provided with prepacked grease.

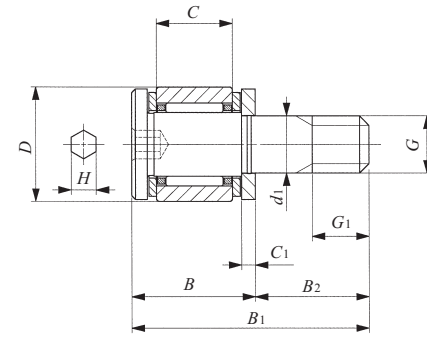


B <sub>1</sub>	B <sub>2</sub>	C <sub>1</sub>	H	Mounting dimension f Min. mm	Maximum tightening torque N-cm	Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N	Maximum allowable static load N
8.5	4	0.7	0.9	4.3	9.1	288	202	194
10	5	0.7	0.9	4.8	18.7	428	351	313
12.5	6	0.7	1.3	5.8	33.5	629	611	399
16	8	1.0	1.5	7.7	77.7	1 120	1 120	785
19	10	1.0	2	9.6	158	1 570	1 850	1 370
22.5	12	1.2	2.5	11.6	268	2 090	2 200	1 920

CF  
NUCF  
CFS  
CR

**CAM FOLLOWERS**

Thrust Disk Type Miniature Cam Followers · Stainless Steel Made **With Cage/With Hexagon Hole**

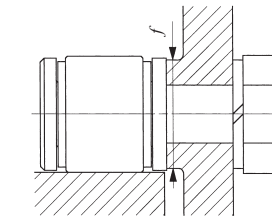


CFS...FW

Stud dia.2 – 6 mm

Stud dia. mm	Identification number	Mass (Ref.) g	Boundary dimensions mm					
			D	C	d <sub>1</sub>	G	G <sub>1</sub>	B
2	<b>CFS 2 FW</b>	0.6	4.5	2.5	2	M2 × 0.4	2	4.5
2.5	<b>CFS 2.5 FW</b>	1	5	3	2.5	M2.5 × 0.45	2.5	5
3	<b>CFS 3 FW</b>	2	6	4	3	M3 × 0.5	3	6.5
4	<b>CFS 4 FW</b>	4	8	5	4	M4 × 0.7	4	8
5	<b>CFS 5 FW</b>	7	10	6	5	M5 × 0.8	5	9
6	<b>CFS 6 FW</b>	13	12	7	6	M6 × 1	6	10.5

Remarks 1. No oil hole is provided.  
2. Provided with prepacked grease.

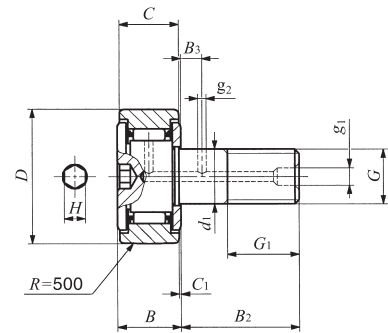
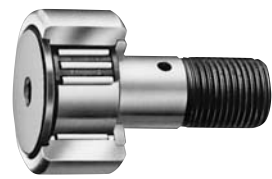


B <sub>1</sub>	B <sub>2</sub>	C <sub>1</sub>	H	Mounting dimension f Min. mm	Maximum tightening torque N-cm	Basic dynamic load rating	Basic static load rating	Maximum allowable static load
						C	C <sub>0</sub>	N
8.5	4	0.7	0.9	4.3	9.1	230	161	161
10	5	0.7	0.9	4.8	18.7	342	281	281
12.5	6	0.7	1.3	5.8	33.5	504	488	399
16	8	1.0	1.5	7.7	77.7	897	894	785
19	10	1.0	2	9.6	158	1 250	1 480	1 370
22.5	12	1.2	2.5	11.6	268	1 670	1 760	1 760

CF  
NUCF  
CFS  
CR

CAM FOLLOWERS

Inch Series Cam Followers With Cage/With Hexagon Hole

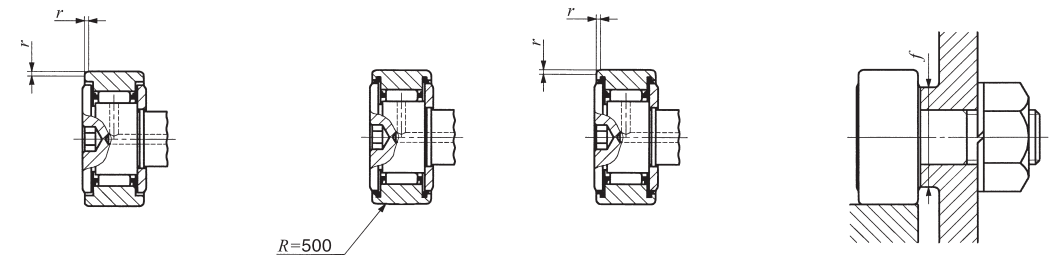


Stud dia. 4.826 – 22.225 mm

CR...BR

Stud dia. mm (inch)	Identification number				Mass (Ref.) g	Boundary dimensions mm (inch)				
	Shield type		Sealed type			D	C	d <sub>1</sub>	G UNF	G <sub>1</sub>
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring						
4.826 ( <sup>1</sup> / <sub>4</sub> )	CR 8 BR	CR 8 B	CR 8 BUUR	CR 8 BUU	9	12.700 ( <sup>1</sup> / <sub>2</sub> )	8.731 ( <sup>11</sup> / <sub>32</sub> )	4.826	No.10-32	6.350 ( <sup>1</sup> / <sub>4</sub> )
	CR 8-1 BR	CR 8-1 B	CR 8-1 BUUR	CR 8-1 BUU	10	12.700 ( <sup>1</sup> / <sub>2</sub> )	9.525 ( <sup>3</sup> / <sub>8</sub> )	4.826	No.10-32	6.350 ( <sup>1</sup> / <sub>4</sub> )
6.350 ( <sup>1</sup> / <sub>4</sub> )	CR 10 BR	CR 10 B	CR 10 BUUR	CR 10 BUU	19	15.875 ( <sup>5</sup> / <sub>8</sub> )	10.319 ( <sup>13</sup> / <sub>32</sub> )	6.350 ( <sup>1</sup> / <sub>4</sub> )	<sup>1</sup> / <sub>4</sub> - 28	7.938 ( <sup>5</sup> / <sub>16</sub> )
	CR 10-1 BR	CR 10-1 B	CR 10-1 BUUR	CR 10-1 BUU	21	15.875 ( <sup>5</sup> / <sub>8</sub> )	11.112 ( <sup>7</sup> / <sub>16</sub> )	6.350 ( <sup>1</sup> / <sub>4</sub> )	<sup>1</sup> / <sub>4</sub> - 28	7.938 ( <sup>5</sup> / <sub>16</sub> )
9.525 ( <sup>3</sup> / <sub>8</sub> )	CR 12 BR	CR 12 B	CR 12 BUUR	CR 12 BUU	35	19.050 ( <sup>3</sup> / <sub>4</sub> )	12.700 ( <sup>1</sup> / <sub>2</sub> )	9.525 ( <sup>3</sup> / <sub>8</sub> )	<sup>3</sup> / <sub>8</sub> - 24	9.525 ( <sup>3</sup> / <sub>8</sub> )
	CR 14 BR	CR 14 B	CR 14 BUUR	CR 14 BUU	46	22.225 ( <sup>7</sup> / <sub>8</sub> )	12.700 ( <sup>1</sup> / <sub>2</sub> )	9.525 ( <sup>3</sup> / <sub>8</sub> )	<sup>3</sup> / <sub>8</sub> - 24	9.525 ( <sup>3</sup> / <sub>8</sub> )
11.112 ( <sup>7</sup> / <sub>16</sub> )	CR 16 BR	CR 16 B	CR 16 BUUR	CR 16 BUU	73	25.400 (1 )	15.875 ( <sup>5</sup> / <sub>8</sub> )	11.112 ( <sup>7</sup> / <sub>16</sub> )	<sup>7</sup> / <sub>16</sub> - 20	12.700 ( <sup>1</sup> / <sub>2</sub> )
	CR 18 BR	CR 18 B	CR 18 BUUR	CR 18 BUU	88	28.575 (1 <sup>1</sup> / <sub>8</sub> )	15.875 ( <sup>5</sup> / <sub>8</sub> )	11.112 ( <sup>7</sup> / <sub>16</sub> )	<sup>7</sup> / <sub>16</sub> - 20	12.700 ( <sup>1</sup> / <sub>2</sub> )
12.700 ( <sup>1</sup> / <sub>2</sub> )	CR 20 BR	CR 20 B	CR 20 BUUR	CR 20 BUU	132	31.750 (1 <sup>1</sup> / <sub>4</sub> )	19.050 ( <sup>3</sup> / <sub>4</sub> )	12.700 ( <sup>1</sup> / <sub>2</sub> )	<sup>1</sup> / <sub>2</sub> - 20	15.875 ( <sup>5</sup> / <sub>8</sub> )
	CR 22 BR	CR 22 B	CR 22 BUUR	CR 22 BUU	157	34.925 (1 <sup>3</sup> / <sub>8</sub> )	19.050 ( <sup>3</sup> / <sub>4</sub> )	12.700 ( <sup>1</sup> / <sub>2</sub> )	<sup>1</sup> / <sub>2</sub> - 20	15.875 ( <sup>5</sup> / <sub>8</sub> )
15.875 ( <sup>5</sup> / <sub>8</sub> )	CR 24 BR	CR 24 B	CR 24 BUUR	CR 24 BUU	225	38.100 (1 <sup>1</sup> / <sub>2</sub> )	22.225 ( <sup>7</sup> / <sub>8</sub> )	15.875 ( <sup>5</sup> / <sub>8</sub> )	<sup>5</sup> / <sub>8</sub> - 18	19.050 ( <sup>3</sup> / <sub>4</sub> )
	CR 26 BR	CR 26 B	CR 26 BUUR	CR 26 BUU	260	41.275 (1 <sup>3</sup> / <sub>8</sub> )	22.225 ( <sup>7</sup> / <sub>8</sub> )	15.875 ( <sup>5</sup> / <sub>8</sub> )	<sup>5</sup> / <sub>8</sub> - 18	19.050 ( <sup>3</sup> / <sub>4</sub> )
19.050 ( <sup>3</sup> / <sub>4</sub> )	CR 28 BR	CR 28 B	CR 28 BUUR	CR 28 BUU	365	44.450 (1 <sup>3</sup> / <sub>4</sub> )	25.400 (1 )	19.050 ( <sup>3</sup> / <sub>4</sub> )	<sup>3</sup> / <sub>4</sub> - 16	22.225 ( <sup>7</sup> / <sub>8</sub> )
	CR 30 BR	CR 30 B	CR 30 BUUR	CR 30 BUU	410	47.625 (1 <sup>7</sup> / <sub>8</sub> )	25.400 (1 )	19.050 ( <sup>3</sup> / <sub>4</sub> )	<sup>3</sup> / <sub>4</sub> - 16	22.225 ( <sup>7</sup> / <sub>8</sub> )
22.225 ( <sup>7</sup> / <sub>8</sub> )	CR 32 BR	CR 32 B	CR 32 BUUR	CR 32 BUU	615	50.800 (2 )	31.750 (1 <sup>1</sup> / <sub>4</sub> )	22.225 ( <sup>7</sup> / <sub>8</sub> )	<sup>7</sup> / <sub>8</sub> - 14	25.400 (1 )
	CR 36 BR	CR 36 B	CR 36 BUUR	CR 36 BUU	750	57.150 (2 <sup>1</sup> / <sub>4</sub> )	31.750 (1 <sup>1</sup> / <sub>4</sub> )	22.225 ( <sup>7</sup> / <sub>8</sub> )	<sup>7</sup> / <sub>8</sub> - 14	25.400 (1 )

Remarks1. Models with a stud diameter  $d_1$  of 6.35 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.  
2. Provided with prepacked grease.



CR...B

CR...BUUR

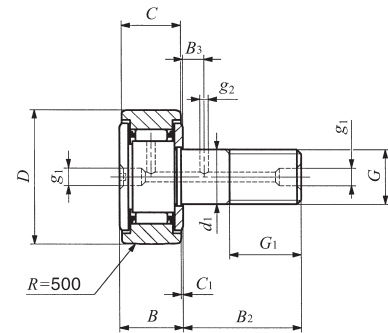
CR...BUU

Boundary dimensions mm (inch)								Mounting dimension f Min. mm (inch)	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N
B max	B <sub>2</sub>	B <sub>3</sub>	C <sub>1</sub>	g <sub>1</sub>	g <sub>2</sub>	H	r				
10.2 (0.40)	12.700 ( <sup>1</sup> / <sub>2</sub> )	— (—)	0.794 ( <sup>1</sup> / <sub>32</sub> )	— (—)	— (—)	3.175 ( <sup>1</sup> / <sub>8</sub> )	0.397 ( <sup>1</sup> / <sub>16</sub> )	8.334 ( <sup>21</sup> / <sub>64</sub> )	1.4	2 520	2 140
10.9 (0.43)	15.875 ( <sup>5</sup> / <sub>8</sub> )	— (—)	0.794 ( <sup>1</sup> / <sub>32</sub> )	— (—)	— (—)	3.175 ( <sup>1</sup> / <sub>8</sub> )	0.397 ( <sup>1</sup> / <sub>16</sub> )	8.334 ( <sup>21</sup> / <sub>64</sub> )	1.4	2 520	2 140
11.8 (0.46)	15.875 ( <sup>5</sup> / <sub>8</sub> )	— (—)	0.794 ( <sup>1</sup> / <sub>32</sub> )	— (—)	— (—)	3.175 ( <sup>1</sup> / <sub>8</sub> )	0.397 ( <sup>1</sup> / <sub>16</sub> )	11.509 ( <sup>29</sup> / <sub>64</sub> )	3.4	3 650	3 670
12.5 (0.49)	19.050 ( <sup>3</sup> / <sub>4</sub> )	— (—)	0.794 ( <sup>1</sup> / <sub>32</sub> )	— (—)	— (—)	3.175 ( <sup>1</sup> / <sub>8</sub> )	0.397 ( <sup>1</sup> / <sub>16</sub> )	11.509 ( <sup>29</sup> / <sub>64</sub> )	3.4	3 650	3 670
14.2 (0.56)	22.225 ( <sup>7</sup> / <sub>8</sub> )	6.350 ( <sup>1</sup> / <sub>4</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	2.381 ( <sup>3</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	13.494 ( <sup>17</sup> / <sub>32</sub> )	10.8	4 420	5 110
14.2 (0.56)	22.225 ( <sup>7</sup> / <sub>8</sub> )	6.350 ( <sup>1</sup> / <sub>4</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	2.381 ( <sup>3</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	15.081 ( <sup>19</sup> / <sub>32</sub> )	10.8	4 790	5 810
17.3 (0.68)	25.400 (1 )	6.350 ( <sup>1</sup> / <sub>4</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	3.175 ( <sup>1</sup> / <sub>8</sub> )	6.350 ( <sup>1</sup> / <sub>4</sub> )	1.191 ( <sup>3</sup> / <sub>16</sub> )	17.859 ( <sup>45</sup> / <sub>64</sub> )	17.4	8 810	10 800
17.3 (0.68)	25.400 (1 )	6.350 ( <sup>1</sup> / <sub>4</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	3.175 ( <sup>1</sup> / <sub>8</sub> )	6.350 ( <sup>1</sup> / <sub>4</sub> )	1.588 ( <sup>1</sup> / <sub>16</sub> )	19.050 ( <sup>3</sup> / <sub>4</sub> )	17.4	9 180	11 600
20.4 (0.80)	31.750 (1 <sup>1</sup> / <sub>4</sub> )	7.938 ( <sup>5</sup> / <sub>16</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	3.175 ( <sup>1</sup> / <sub>8</sub> )	6.350 ( <sup>1</sup> / <sub>4</sub> )	1.588 ( <sup>1</sup> / <sub>16</sub> )	21.828 ( <sup>55</sup> / <sub>64</sub> )	27.7	14 200	16 000
20.4 (0.80)	31.750 (1 <sup>1</sup> / <sub>4</sub> )	7.938 ( <sup>5</sup> / <sub>16</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	3.175 ( <sup>1</sup> / <sub>8</sub> )	6.350 ( <sup>1</sup> / <sub>4</sub> )	1.588 ( <sup>1</sup> / <sub>16</sub> )	21.828 ( <sup>55</sup> / <sub>64</sub> )	27.7	14 200	16 000
23.6 (0.93)	38.100 (1 <sup>1</sup> / <sub>2</sub> )	9.525 ( <sup>3</sup> / <sub>8</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	3.969 ( <sup>5</sup> / <sub>32</sub> )	7.938 ( <sup>3</sup> / <sub>16</sub> )	1.588 ( <sup>1</sup> / <sub>16</sub> )	26.196 (1 <sup>1</sup> / <sub>16</sub> )	55.7	18 600	24 300
23.6 (0.93)	38.100 (1 <sup>1</sup> / <sub>2</sub> )	9.525 ( <sup>3</sup> / <sub>8</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	3.969 ( <sup>5</sup> / <sub>32</sub> )	7.938 ( <sup>3</sup> / <sub>16</sub> )	1.588 ( <sup>1</sup> / <sub>16</sub> )	26.196 (1 <sup>1</sup> / <sub>16</sub> )	55.7	18 600	24 300
26.8 (1.06)	44.450 (1 <sup>3</sup> / <sub>4</sub> )	11.112 ( <sup>7</sup> / <sub>16</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	3.969 ( <sup>5</sup> / <sub>32</sub> )	7.938 ( <sup>3</sup> / <sub>16</sub> )	1.588 ( <sup>1</sup> / <sub>16</sub> )	32.543 (1 <sup>1</sup> / <sub>32</sub> )	100	25 100	38 200
26.8 (1.06)	44.450 (1 <sup>3</sup> / <sub>4</sub> )	11.112 ( <sup>7</sup> / <sub>16</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	3.969 ( <sup>5</sup> / <sub>32</sub> )	7.938 ( <sup>3</sup> / <sub>16</sub> )	1.588 ( <sup>1</sup> / <sub>16</sub> )	32.543 (1 <sup>1</sup> / <sub>32</sub> )	100	25 100	38 200
33.5 (1.32)	50.800 (2 )	12.700 ( <sup>1</sup> / <sub>2</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	11.112 ( <sup>7</sup> / <sub>16</sub> )	1.588 ( <sup>1</sup> / <sub>16</sub> )	37.306 (1 <sup>15</sup> / <sub>32</sub> )	162	32 500	63 900
33.5 (1.32)	50.800 (2 )	12.700 ( <sup>1</sup> / <sub>2</sub> )	0.794 ( <sup>1</sup> / <sub>32</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	4.762 ( <sup>3</sup> / <sub>16</sub> )	11.112 ( <sup>7</sup> / <sub>16</sub> )	1.588 ( <sup>1</sup> / <sub>16</sub> )	37.306 (1 <sup>15</sup> / <sub>32</sub> )	162	32 500	63 900

CF  
NUCF  
CFS  
CR

CAM FOLLOWERS

Inch Series Cam Followers With Cage/With Screwdriver Slot

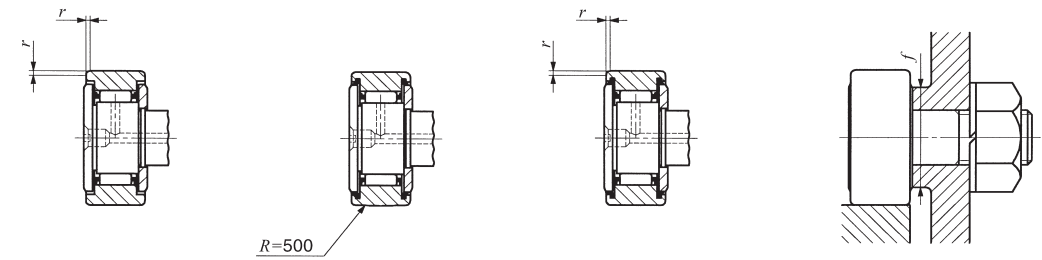


Stud dia. 4.826 – 22.225 mm

CR...R

Stud dia. mm (inch)	Identification number				Mass (Ref.) g	Boundary dimensions				
	Shield type		Sealed type			D	C	d <sub>1</sub>	G UNF	G <sub>1</sub>
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring						
4.826	CR 8 R	CR 8	CR 8 UUR	CR 8 UU	9	12.700 (1/2)	8.731 (11/32)	4.826	No.10-32	6.350 (1/4)
	CR 8-1 R	CR 8-1	CR 8-1 UUR	CR 8-1 UU	10	12.700 (1/2)	9.525 (3/8)	4.826	No.10-32	6.350 (1/4)
6.350 (1/4)	CR 10 R	CR 10	CR 10 UUR	CR 10 UU	19	15.875 (5/8)	10.319 (13/32)	6.350 (1/4)	1/4 - 28	7.938 (5/16)
	CR 10-1 R	CR 10-1	CR 10-1 UUR	CR 10-1 UU	21	15.875 (5/8)	11.112 (7/16)	6.350 (1/4)	1/4 - 28	7.938 (5/16)
9.525 (3/8)	CR 12 R	CR 12	CR 12 UUR	CR 12 UU	35	19.050 (3/4)	12.700 (1/2)	9.525 (3/8)	3/8 - 24	9.525 (3/8)
	CR 14 R	CR 14	CR 14 UUR	CR 14 UU	46	22.225 (7/8)	12.700 (1/2)	9.525 (3/8)	3/8 - 24	9.525 (3/8)
11.112 (7/16)	CR 16 R	CR 16	CR 16 UUR	CR 16 UU	73	25.400 (1 )	15.875 (5/8)	11.112 (7/16)	7/16 - 20	12.700 (1/2)
	CR 18 R	CR 18	CR 18 UUR	CR 18 UU	88	28.575 (1 1/8)	15.875 (5/8)	11.112 (7/16)	7/16 - 20	12.700 (1/2)
12.700 (1/2)	CR 20 R	CR 20	CR 20 UUR	CR 20 UU	132	31.750 (1 1/4)	19.050 (3/4)	12.700 (1/2)	1/2 - 20	15.875 (5/8)
	CR 22 R	CR 22	CR 22 UUR	CR 22 UU	157	34.925 (1 3/8)	19.050 (3/4)	12.700 (1/2)	1/2 - 20	15.875 (5/8)
15.875 (5/8)	CR 24 R	CR 24	CR 24 UUR	CR 24 UU	225	38.100 (1 1/2)	22.225 (7/8)	15.875 (5/8)	5/8 - 18	19.050 (3/4)
	CR 26 R	CR 26	CR 26 UUR	CR 26 UU	260	41.275 (1 5/8)	22.225 (7/8)	15.875 (5/8)	5/8 - 18	19.050 (3/4)
19.050 (3/4)	CR 28 R	CR 28	CR 28 UUR	CR 28 UU	365	44.450 (1 3/4)	25.400 (1 )	19.050 (3/4)	3/4 - 16	22.225 (7/8)
	CR 30 R	CR 30	CR 30 UUR	CR 30 UU	410	47.625 (1 7/8)	25.400 (1 )	19.050 (3/4)	3/4 - 16	22.225 (7/8)
22.225 (7/8)	CR 32 R	CR 32	CR 32 UUR	CR 32 UU	615	50.800 (2 )	31.750 (1 1/4)	22.225 (7/8)	7/8 - 14	25.400 (1 )
	CR 36 R	CR 36	CR 36 UUR	CR 36 UU	750	57.150 (2 1/4)	31.750 (1 1/4)	22.225 (7/8)	7/8 - 14	25.400 (1 )

Remarks1. Models with a stud diameter  $d_1$  of 6.35 mm or less (marked \*) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.  
2. Provided with prepacked grease.



CR

CR...UUR

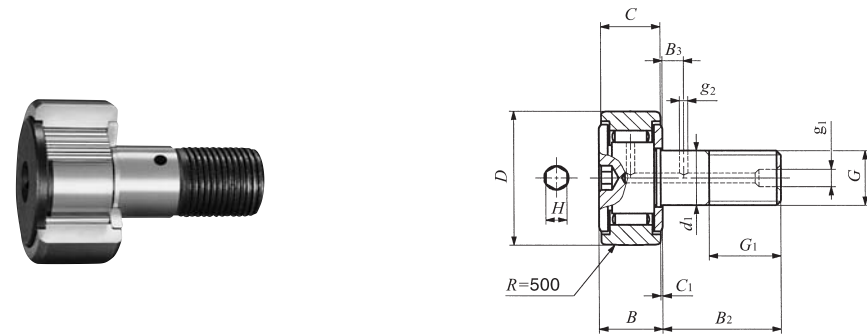
CR...UU

Boundary dimensions mm(inch)							Mounting dimension f Min. mm(inch)	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N
B max	B <sub>2</sub>	B <sub>3</sub>	C <sub>1</sub>	g <sub>1</sub>	g <sub>2</sub>	r				
10.2(0.40)	12.700 (1/2)	— (—)	0.794 (1/32)	*3.175 (1/8)	— (—)	0.397 (1/64)	8.334 (21/64)	1.4	2 520	2 140
10.9(0.43)	15.875 (5/8)	— (—)	0.794 (1/32)	*3.175 (1/8)	— (—)	0.397 (1/64)	8.334 (21/64)	1.4	2 520	2 140
11.8(0.46)	15.875 (5/8)	— (—)	0.794 (1/32)	*3.175 (1/8)	— (—)	0.397 (1/64)	11.509 (29/64)	3.4	3 650	3 670
12.5(0.49)	19.050 (3/4)	— (—)	0.794 (1/32)	*3.175 (1/8)	— (—)	0.397 (1/64)	11.509 (29/64)	3.4	3 650	3 670
14.2(0.56)	22.225 (7/8)	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	2.381 (3/32)	0.794 (1/32)	13.494 (17/32)	10.8	4 420	5 110
14.2(0.56)	22.225 (7/8)	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	2.381 (3/32)	0.794 (1/32)	15.081 (19/32)	10.8	4 790	5 810
17.3(0.68)	25.400 (1 )	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	3.175 (1/8)	1.191 (3/64)	17.859 (45/64)	17.4	8 810	10 800
17.3(0.68)	25.400 (1 )	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	3.175 (1/8)	1.588 (1/16)	19.050 (3/4)	17.4	9 180	11 600
20.4(0.80)	31.750 (1 1/4)	7.938 (5/16)	0.794 (1/32)	4.762 (3/16)	3.175 (1/8)	1.588 (1/16)	21.828 (55/64)	27.7	14 200	16 000
20.4(0.80)	31.750 (1 1/4)	7.938 (5/16)	0.794 (1/32)	4.762 (3/16)	3.175 (1/8)	1.588 (1/16)	21.828 (55/64)	27.7	14 200	16 000
23.6(0.93)	38.100 (1 1/2)	9.525 (3/8)	0.794 (1/32)	4.762 (3/16)	3.969 (5/32)	1.588 (1/16)	26.196 (1 3/64)	55.7	18 600	24 300
23.6(0.93)	38.100 (1 1/2)	9.525 (3/8)	0.794 (1/32)	4.762 (3/16)	3.969 (5/32)	1.588 (1/16)	26.196 (1 3/64)	55.7	18 600	24 300
26.8(1.06)	44.450 (1 3/4)	11.112 (7/16)	0.794 (1/32)	4.762 (3/16)	3.969 (5/32)	1.588 (1/16)	32.543 (1 3/32)	100	25 100	38 200
26.8(1.06)	44.450 (1 3/4)	11.112 (7/16)	0.794 (1/32)	4.762 (3/16)	3.969 (5/32)	1.588 (1/16)	32.543 (1 3/32)	100	25 100	38 200
33.5(1.32)	50.800 (2 )	12.700 (1/2)	0.794 (1/32)	4.762 (3/16)	4.762 (3/16)	1.588 (1/16)	37.306 (1 15/32)	162	32 500	63 900
33.5(1.32)	50.800 (2 )	12.700 (1/2)	0.794 (1/32)	4.762 (3/16)	4.762 (3/16)	1.588 (1/16)	37.306 (1 15/32)	162	32 500	63 900

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**CAM FOLLOWERS**

Inch Series Cam Followers **Full Complement Type/With Hexagon**

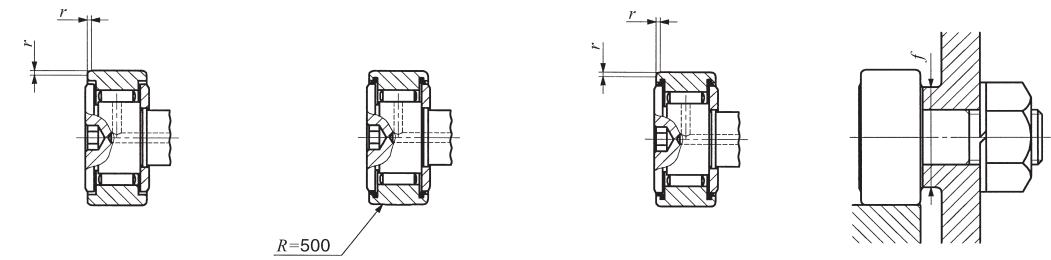


Stud dia. 4.826 – 22.225 mm

CR...VBR

Stud dia. mm (inch)	Identification number				Mass (Ref.) g	D	C	d <sub>1</sub>	G UNF	G <sub>1</sub>
	Shield type		Sealed type							
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring						
4.826	CR 8 VBR	CR 8 VB	CR 8 VBUUR	CR 8 VBUU	9	12.700 (1/2)	8.731 (11/32)	4.826	No.10-32	6.350 (1/4)
	CR 8-1 VBR	CR 8-1VB	CR 8-1 VBUUR	CR 8-1 VBUU	10	12.700 (1/2)	9.525 (3/8)	4.826	No.10-32	6.350 (1/4)
6.350 (1/4)	CR 10 VBR	CR 10 VB	CR 10 VBUUR	CR 10 VBUU	19	15.875 (5/8)	10.319 (13/32)	6.350 (1/4)	1/4 - 28	7.938 (5/16)
	CR 10-1 VBR	CR 10-1VB	CR 10-1 VBUUR	CR 10-1 VBUU	21	15.875 (5/8)	11.112 (7/16)	6.350 (1/4)	1/4 - 28	7.938 (5/16)
9.525 (3/8)	CR 12 VBR	CR 12 VB	CR 12 VBUUR	CR 12 VBUU	36	19.050 (3/4)	12.700 (1/2)	9.525 (3/8)	3/8 - 24	9.525 (3/8)
	CR 14 VBR	CR 14 VB	CR 14 VBUUR	CR 14 VBUU	47	22.225 (7/8)	12.700 (1/2)	9.525 (3/8)	3/8 - 24	9.525 (3/8)
11.112 (7/16)	CR 16 VBR	CR 16 VB	CR 16 VBUUR	CR 16 VBUU	74	25.400 (1 )	15.875 (5/8)	11.112 (7/16)	7/16 - 20	12.700 (1/2)
	CR 18 VBR	CR 18 VB	CR 18 VBUUR	CR 18 VBUU	85	28.575 (1 1/8)	15.875 (5/8)	11.112 (7/16)	7/16 - 20	12.700 (1/2)
12.700 (1/2)	CR 20 VBR	CR 20 VB	CR 20 VBUUR	CR 20 VBUU	137	31.750 (1 1/4)	19.050 (3/4)	12.700 (1/2)	1/2 - 20	15.875 (5/8)
	CR 22 VBR	CR 22 VB	CR 22 VBUUR	CR 22 VBUU	160	34.925 (1 3/8)	19.050 (3/4)	12.700 (1/2)	1/2 - 20	15.875 (5/8)
15.875 (5/8)	CR 24 VBR	CR 24 VB	CR 24 VBUUR	CR 24 VBUU	230	38.100 (1 1/2)	22.225 (7/8)	15.875 (5/8)	5/8 - 18	19.050 (3/4)
	CR 26 VBR	CR 26 VB	CR 26 VBUUR	CR 26 VBUU	265	41.275 (1 5/8)	22.225 (7/8)	15.875 (5/8)	5/8 - 18	19.050 (3/4)
19.050 (3/4)	CR 28 VBR	CR 28 VB	CR 28 VBUUR	CR 28 VBUU	372	44.450 (1 3/4)	25.400 (1 )	19.050 (3/4)	3/4 - 16	22.225 (7/8)
	CR 30 VBR	CR 30 VB	CR 30 VBUUR	CR 30 VBUU	418	47.625 (1 7/8)	25.400 (1 )	19.050 (3/4)	3/4 - 16	22.225 (7/8)
22.225 (7/8)	CR 32 VBR	CR 32 VB	CR 32 VBUUR	CR 32 VBUU	627	50.800 (2 )	31.750 (1 1/4)	22.225 (7/8)	7/8 - 14	25.400 (1 )
	CR 36 VBR	CR 36 VB	CR 36 VBUUR	CR 36 VBUU	759	57.150 (2 1/4)	31.750 (1 1/4)	22.225 (7/8)	7/8 - 14	25.400 (1 )

Remarks1. Models with a stud diameter  $d_1$  of 6.35 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.  
2. Provided with prepacked grease.



CR...VB

CR...VBUUR

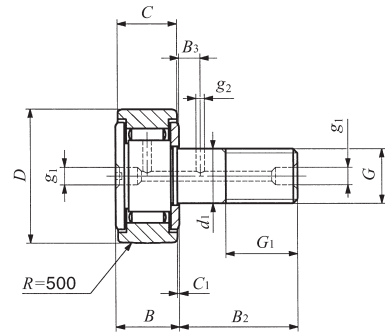
CR...VBUU

Boundary dimensions mm(inch)								Mounting dimension f Min. mm(inch)	Maximum tightening torque N·m	Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N
B max	B <sub>2</sub>	B <sub>3</sub>	C <sub>1</sub>	g <sub>1</sub>	g <sub>2</sub>	H	r				
10.2(0.40)	12.700 (1/2)	— (—)	0.794 (1/32)	— (—)	— (—)	3.175 (1/8)	0.397 (1/64)	8.334 (21/64)	1.4	4 260	4 750
10.9(0.43)	15.875 (5/8)	— (—)	0.794 (1/32)	— (—)	— (—)	3.175 (1/8)	0.397 (1/64)	8.334 (21/64)	1.4	4 710	5 410
11.8(0.46)	15.875 (5/8)	— (—)	0.794 (1/32)	— (—)	— (—)	3.175 (1/8)	0.397 (1/64)	11.509 (29/64)	3.4	5 830	7 660
12.5(0.49)	19.050 (3/4)	— (—)	0.794 (1/32)	— (—)	— (—)	3.175 (1/8)	0.397 (1/64)	11.509 (29/64)	3.4	6 340	8 530
14.2(0.56)	22.225 (7/8)	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	2.381 (3/32)	4.762 (3/16)	0.794 (1/32)	13.494 (17/32)	10.8	8 710	12 300
14.2(0.56)	22.225 (7/8)	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	2.381 (3/32)	4.762 (3/16)	0.794 (1/32)	15.081 (19/32)	10.8	8 710	12 300
17.3(0.68)	25.400 (1 )	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	3.175 (1/8)	6.350 (1/4)	1.191 (3/64)	17.859 (45/64)	17.4	13 100	22 700
17.3(0.68)	25.400 (1 )	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	3.175 (1/8)	6.350 (1/4)	1.588 (1/16)	19.050 (3/4)	17.4	13 100	22 700
20.4(0.80)	31.750 (1 1/4)	7.938 (5/16)	0.794 (1/32)	4.762 (3/16)	3.175 (1/8)	6.350 (1/4)	1.588 (1/16)	21.828 (55/64)	27.7	23 600	31 700
20.4(0.80)	31.750 (1 1/4)	7.938 (5/16)	0.794 (1/32)	4.762 (3/16)	3.175 (1/8)	6.350 (1/4)	1.588 (1/16)	21.828 (55/64)	27.7	23 600	31 700
23.6(0.93)	38.100 (1 1/2)	9.525 (3/8)	0.794 (1/32)	4.762 (3/16)	3.969 (5/32)	7.938 (5/16)	1.588 (1/16)	26.196 (1 3/64)	55.7	28 200	40 100
23.6(0.93)	38.100 (1 1/2)	9.525 (3/8)	0.794 (1/32)	4.762 (3/16)	3.969 (5/32)	7.938 (5/16)	1.588 (1/16)	26.196 (1 3/64)	55.7	28 200	40 100
26.8(1.06)	44.450 (1 3/4)	11.112 (7/16)	0.794 (1/32)	4.762 (3/16)	3.969 (5/32)	7.938 (5/16)	1.588 (1/16)	32.543 (1 5/32)	100	35 300	55 600
26.8(1.06)	44.450 (1 3/4)	11.112 (7/16)	0.794 (1/32)	4.762 (3/16)	3.969 (5/32)	7.938 (5/16)	1.588 (1/16)	32.543 (1 5/32)	100	35 300	55 600
33.5(1.32)	50.800 (2 )	12.700 (1/2)	0.794 (1/32)	4.762 (3/16)	4.762 (3/16)	11.112 (7/16)	1.588 (1/16)	37.306 (1 15/32)	162	45 700	80 600
33.5(1.32)	50.800 (2 )	12.700 (1/2)	0.794 (1/32)	4.762 (3/16)	4.762 (3/16)	11.112 (7/16)	1.588 (1/16)	37.306 (1 15/32)	162	45 700	80 600

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CAM FOLLOWERS

Inch Series Cam Followers Full Complement Type/With Screwdriver Slot

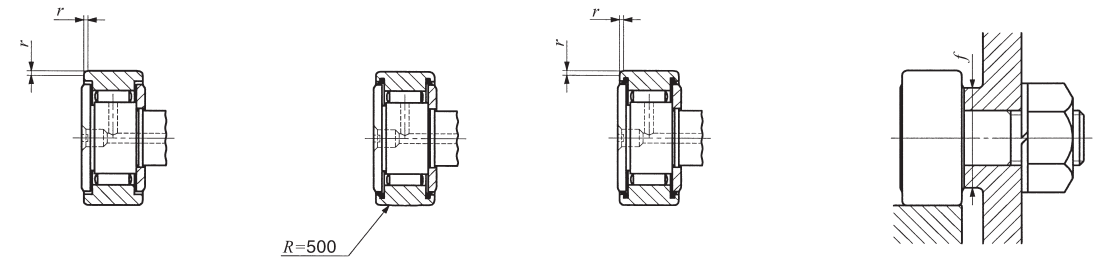


Stud dia. 4.826 – 31.750mm

CR...VR

Stud dia. mm (inch)	Identification number				Mass (Ref.) g	Boundary dimensions mm (inch)				
	Shield type		Sealed type			D	C	d <sub>1</sub>	G UNF	G <sub>1</sub>
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring						
4.826	CR 8 VR	CR 8 V	CR 8 VUUR	CR 8 VUU	9	12.700 (1/2)	8.731 (11/32)	4.826	No.10-32	6.350 (1/4)
	CR 8-1 VR	CR 8-1 V	CR 8-1 VUUR	CR 8-1 VUU	10	12.700 (1/2)	9.525 (3/8)	4.826	No.10-32	6.350 (1/4)
6.350 (1/4)	CR 10 VR	CR 10 V	CR 10 VUUR	CR 10 VUU	19	15.875 (5/8)	10.319 (13/32)	6.350 (1/4)	1/4 - 28	7.938 (5/16)
	CR 10-1 VR	CR 10-1 V	CR 10-1 VUUR	CR 10-1 VUU	21	15.875 (5/8)	11.112 (7/16)	6.350 (1/4)	1/4 - 28	7.938 (5/16)
9.525 (3/8)	CR 12 VR	CR 12 V	CR 12 VUUR	CR 12 VUU	36	19.050 (3/4)	12.700 (1/2)	9.525 (3/8)	3/8 - 24	9.525 (3/8)
	CR 14 VR	CR 14 V	CR 14 VUUR	CR 14 VUU	47	22.225 (7/8)	12.700 (1/2)	9.525 (3/8)	3/8 - 24	9.525 (3/8)
11.112 (7/16)	CR 16 VR	CR 16 V	CR 16 VUUR	CR 16 VUU	74	25.400 (1)	15.875 (5/8)	11.112 (7/16)	7/16 - 20	12.700 (1/2)
	CR 18 VR	CR 18 V	CR 18 VUUR	CR 18 VUU	85	28.575 (1 1/8)	15.875 (5/8)	11.112 (7/16)	7/16 - 20	12.700 (1/2)
12.700 (1/2)	CR 20 VR	CR 20 V	CR 20 VUUR	CR 20 VUU	137	31.750 (1 1/4)	19.050 (3/4)	12.700 (1/2)	1/2 - 20	15.875 (5/8)
	CR 22 VR	CR 22 V	CR 22 VUUR	CR 22 VUU	160	34.925 (1 3/8)	19.050 (3/4)	12.700 (1/2)	1/2 - 20	15.875 (5/8)
15.875 (5/8)	CR 24 VR	CR 24 V	CR 24 VUUR	CR 24 VUU	230	38.100 (1 1/2)	22.225 (7/8)	15.875 (5/8)	5/8 - 18	19.050 (3/4)
	CR 26 VR	CR 26 V	CR 26 VUUR	CR 26 VUU	265	41.275 (1 5/8)	22.225 (7/8)	15.875 (5/8)	5/8 - 18	19.050 (3/4)
19.050 (3/4)	CR 28 VR	CR 28 V	CR 28 VUUR	CR 28 VUU	372	44.450 (1 3/4)	25.400 (1)	19.050 (3/4)	3/4 - 16	22.225 (7/8)
	CR 30 VR	CR 30 V	CR 30 VUUR	CR 30 VUU	418	47.625 (1 7/8)	25.400 (1)	19.050 (3/4)	3/4 - 16	22.225 (7/8)
22.225 (7/8)	CR 32 VR	CR 32 V	CR 32 VUUR	CR 32 VUU	627	50.800 (2)	31.750 (1 1/4)	22.225 (7/8)	7/8 - 14	25.400 (1)
	CR 36 VR	CR 36 V	CR 36 VUUR	CR 36 VUU	759	57.150 (2 1/4)	31.750 (1 1/4)	22.225 (7/8)	7/8 - 14	25.400 (1)
31.750 (1 1/4)	—	—	—	CR 48 VUU	1960	76.200 (3)	44.450 (1 3/4)	31.750 (1 1/4)	1 1/4 - 12	31.750 (1 1/4)

Remarks1. Models with a stud diameter d<sub>1</sub> of 6.35 mm or less (marked \*) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.  
2. Provided with prepacked grease.



CR...V

CR...VUUR

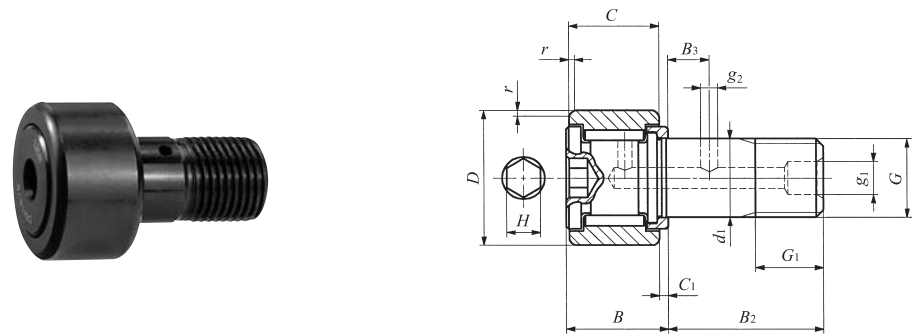
CR...VUU

Boundary dimensions mm (inch)							Mounting dimension f Min. mm (inch)	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N
B max	B <sub>2</sub>	B <sub>3</sub>	C <sub>1</sub>	g <sub>1</sub>	g <sub>2</sub>	r				
10.2 (0.40)	12.700 (1/2)	— (—)	0.794 (1/32)	*3.175 (1/8)	— (—)	0.397 (1/64)	8.334 (21/64)	1.4	4 260	4 750
10.9 (0.43)	15.875 (5/8)	— (—)	0.794 (1/32)	*3.175 (1/8)	— (—)	0.397 (1/64)	8.334 (21/64)	1.4	4 710	5 410
11.8 (0.46)	15.875 (5/8)	— (—)	0.794 (1/32)	*3.175 (1/8)	— (—)	0.397 (1/64)	11.509 (29/64)	3.4	5 830	7 660
12.5 (0.49)	19.050 (3/4)	— (—)	0.794 (1/32)	*3.175 (1/8)	— (—)	0.397 (1/64)	11.509 (29/64)	3.4	6 340	8 530
14.2 (0.56)	22.225 (7/8)	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	2.381 (3/32)	0.794 (1/32)	13.494 (17/32)	10.8	8 710	12 300
14.2 (0.56)	22.225 (7/8)	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	2.381 (3/32)	0.794 (1/32)	15.081 (19/32)	10.8	8 710	12 300
17.3 (0.68)	25.400 (1)	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	3.175 (1/8)	1.191 (3/64)	17.859 (45/64)	17.4	13 100	22 700
17.3 (0.68)	25.400 (1)	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	3.175 (1/8)	1.588 (1/16)	19.050 (3/4)	17.4	13 100	22 700
20.4 (0.80)	31.750 (1 1/4)	7.938 (5/16)	0.794 (1/32)	4.762 (3/16)	3.175 (1/8)	1.588 (1/16)	21.828 (55/64)	27.7	23 600	31 700
20.4 (0.80)	31.750 (1 1/4)	7.938 (5/16)	0.794 (1/32)	4.762 (3/16)	3.175 (1/8)	1.588 (1/16)	21.828 (55/64)	27.7	23 600	31 700
23.6 (0.93)	38.100 (1 1/2)	9.525 (3/8)	0.794 (1/32)	4.762 (3/16)	3.969 (5/32)	1.588 (1/16)	26.196 (1 1/16)	55.7	28 200	40 100
23.6 (0.93)	38.100 (1 1/2)	9.525 (3/8)	0.794 (1/32)	4.762 (3/16)	3.969 (5/32)	1.588 (1/16)	26.196 (1 1/16)	55.7	28 200	40 100
26.8 (1.06)	44.450 (1 3/4)	11.112 (7/16)	0.794 (1/32)	4.762 (3/16)	3.969 (5/32)	1.588 (1/16)	32.543 (1 1/32)	100	35 300	55 600
26.8 (1.06)	44.450 (1 3/4)	11.112 (7/16)	0.794 (1/32)	4.762 (3/16)	3.969 (5/32)	1.588 (1/16)	32.543 (1 1/32)	100	35 300	55 600
33.5 (1.32)	50.800 (2)	12.700 (1/2)	0.794 (1/32)	4.762 (3/16)	4.762 (3/16)	1.588 (1/16)	37.306 (1 15/32)	162	45 700	80 600
33.5 (1.32)	50.800 (2)	12.700 (1/2)	0.794 (1/32)	4.762 (3/16)	4.762 (3/16)	1.588 (1/16)	37.306 (1 15/32)	162	45 700	80 600
46.4 (1.83)	63.500 (2 1/2)	15.875 (5/8)	1.588 (1/16)	6.350 (1/4)	4.762 (3/16)	2.381 (3/32)	51.991 (2 3/64)	500	77 600	172 000

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**CAM FOLLOWERS**

Inch Series Cam Followers **Full Complement Type/With Hexagon**

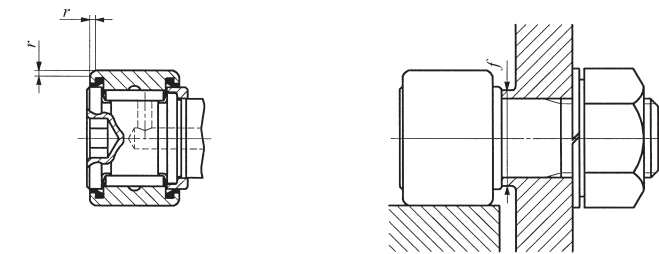


CRH...VB

Stud dia. 6.350 – 50.800mm

Stud dia. mm (inch)	Identification number		Mass (Ref.) g	Boundary dimensions mm(inch)					
	Shield type	Sealed type		D	C	d <sub>1</sub>	G UNF	G <sub>1</sub>	B max
6.350 (1/4)	CRH 8-1 VB	CRH 8-1 VBUU	12	12.700 (1/2)	9.525 (3/8)	6.350 (1/4)	1/4 - 28	6.350 (1/4)	11.1(0.44)
	CRH 9 VB	CRH 9 VBUU	15	14.228 (9/16)	9.525 (3/8)	6.350 (1/4)	1/4 - 28	6.350 (1/4)	11.1(0.44)
7.938 (5/16)	CRH 10-1 VB	CRH 10-1 VBUU	23	15.875 (5/8)	11.112 (7/16)	7.938 (5/16)	5/16 - 24	7.938 (5/16)	12.8(0.50)
	CRH 11 VB	CRH 11 VBUU	27	17.462 (11/16)	11.112 (7/16)	7.938 (5/16)	5/16 - 24	7.938 (5/16)	12.8(0.50)
11.112 (7/16)	CRH 12 VB	CRH 12 VBUU	39	19.050 (3/4)	12.700 (1/2)	11.112 (7/16)	7/16 - 20	9.525 (3/8)	14.6(0.57)
	CRH 14 VB	CRH 14 VBUU	49	22.225 (7/8)	12.700 (1/2)	11.112 (7/16)	7/16 - 20	9.525 (3/8)	14.6(0.57)
15.875 (5/8)	CRH 16 VB	CRH 16 VBUU	93	25.400 (1)	15.875 (5/8)	15.875 (5/8)	5/8 - 18	12.700 (1/2)	17.9(0.70)
	CRH 18 VB	CRH 18 VBUU	109	28.575 (1 1/8)	15.875 (5/8)	15.875 (5/8)	5/8 - 18	12.700 (1/2)	17.9(0.70)
19.050 (3/4)	CRH 20 VB	CRH 20 VBUU	176	31.750 (1 1/4)	19.050 (3/4)	19.050 (3/4)	3/4 - 16	15.875 (5/8)	21.0(0.83)
	CRH 22 VB	CRH 22 VBUU	200	34.925 (1 3/8)	19.050 (3/4)	19.050 (3/4)	3/4 - 16	15.875 (5/8)	21.0(0.83)
22.225 (7/8)	CRH 24 VB	CRH 24 VBUU	296	38.100 (1 1/2)	22.225 (7/8)	22.225 (7/8)	7/8 - 14	19.050 (3/4)	24.3(0.96)
	CRH 26 VB	CRH 26 VBUU	329	41.275 (1 5/8)	22.225 (7/8)	22.225 (7/8)	7/8 - 14	19.050 (3/4)	24.3(0.96)
25.400 (1)	CRH 28 VB	CRH 28 VBUU	463	44.450 (1 3/4)	25.400 (1)	25.400 (1)	1 - 14 UNS	22.225 (7/8)	27.4(1.08)
	CRH 30 VB	CRH 30 VBUU	508	47.625 (1 7/8)	25.400 (1)	25.400 (1)	1 - 14 UNS	22.225 (7/8)	27.4(1.08)
28.575 (1 1/8)	CRH 32 VB	CRH 32 VBUU	722	50.800 (2)	31.750 (1 1/4)	28.575 (1 1/8)	1 1/8 - 12	25.400 (1)	34.2(1.35)
	CRH 36 VB	CRH 36 VBUU	858	57.150 (2 1/4)	31.750 (1 1/4)	28.575 (1 1/8)	1 1/8 - 12	25.400 (1)	34.2(1.35)
31.750 (1 1/4)	CRH 40 VB	CRH 40 VBUU	1 260	63.500 (2 1/2)	38.100 (1 1/2)	31.750 (1 1/4)	1 1/4 - 12	28.575 (1 1/8)	40.0(1.57)
	CRH 44 VB	CRH 44 VBUU	1 460	69.850 (2 3/4)	38.100 (1 1/2)	31.750 (1 1/4)	1 1/4 - 12	28.575 (1 1/8)	40.0(1.57)
38.100 (1 1/2)	CRH 48 VB	CRH 48 VBUU	2 100	76.200 (3)	44.450 (1 3/4)	38.100 (1 1/2)	1 1/2 - 12	31.750 (1 1/4)	46.4(1.83)
	CRH 52 VB	CRH 52 VBUU	2 380	82.550 (3 1/4)	44.450 (1 3/4)	38.100 (1 1/2)	1 1/2 - 12	31.750 (1 1/4)	46.4(1.83)
44.450 (1 3/4)	CRH 56 VB	CRH 56 VBUU	3 240	88.900 (3 1/2)	50.800 (2)	44.450 (1 3/4)	1 3/4 - 12 UN	34.925 (1 3/8)	52.8(2.08)
50.800 (2)	CRH 64 VB	CRH 64 VBUU	4 960	101.600 (4)	57.150 (2 1/4)	50.800 (2)	2 - 12 UN	38.100 (1 1/2)	59.4(2.34)

Remarks1. Models with a stud diameter  $d_1$  of 7.938 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.  
2. Provided with prepacked grease.



CRH...VBUU

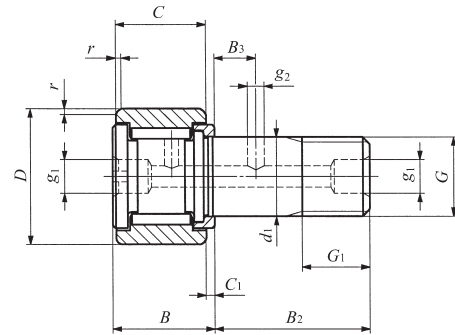
Boundary dimensions mm(inch)							Mounting dimension f Min. mm(inch)	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N
B <sub>2</sub>	B <sub>3</sub>	C <sub>1</sub>	g <sub>1</sub>	g <sub>2</sub>	H	r				
15.875 (5/8)	— (—)	0.794 (1/32)	— (—)	— (—)	3.175 (1/8)	0.397 (1/64)	8.334 (1/4)	3.4	4 710	5 410
15.875 (5/8)	— (—)	0.794 (1/32)	— (—)	— (—)	3.175 (1/8)	0.397 (1/64)	8.334 (1/4)	3.4	4 710	5 410
19.050 (3/4)	— (—)	0.794 (1/32)	— (—)	— (—)	3.175 (1/8)	0.397 (1/64)	11.112 (7/16)	6.8	6 340	8 530
19.050 (3/4)	— (—)	0.794 (1/32)	— (—)	— (—)	3.175 (1/8)	0.397 (1/64)	11.112 (7/16)	6.8	6 340	8 530
22.225 (7/8)	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	2.381 (3/32)	4.762 (3/16)	0.794 (1/32)	13.494 (11/32)	17.6	8 710	12 300
22.225 (7/8)	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	2.381 (3/32)	4.762 (3/16)	0.794 (1/32)	13.494 (11/32)	17.6	8 710	12 300
25.400 (1)	6.350 (1/4)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	6.350 (1/4)	1.191 (1/64)	18.256 (3/4)	57.8	13 100	22 700
25.400 (1)	6.350 (1/4)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	6.350 (1/4)	1.588 (1/16)	18.256 (3/4)	57.8	13 100	22 700
31.750 (1 1/4)	7.938 (5/16)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	6.350 (1/4)	1.588 (1/16)	24.209 (9/16)	103	23 600	31 700
31.750 (1 1/4)	7.938 (5/16)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	6.350 (1/4)	1.588 (1/16)	24.209 (9/16)	103	23 600	31 700
38.100 (1 1/2)	9.525 (3/8)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	7.938 (5/16)	1.588 (1/16)	26.988 (1 1/16)	162	28 200	40 100
38.100 (1 1/2)	9.525 (3/8)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	7.938 (5/16)	1.588 (1/16)	26.988 (1 1/16)	162	28 200	40 100
44.450 (1 3/4)	11.112 (7/16)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	7.938 (5/16)	1.588 (1/16)	32.941 (1 1/8)	258	35 300	55 600
44.450 (1 3/4)	11.112 (7/16)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	7.938 (5/16)	1.588 (1/16)	32.941 (1 1/8)	258	35 300	55 600
50.800 (2)	12.700 (1/2)	1.588 (1/16)	4.762 (3/16)	3.175 (1/8)	11.112 (7/16)	1.588 (1/16)	37.306 (1 15/32)	356	45 700	80 600
50.800 (2)	12.700 (1/2)	1.588 (1/16)	4.762 (3/16)	3.175 (1/8)	11.112 (7/16)	1.588 (1/16)	37.306 (1 15/32)	356	45 700	80 600
57.150 (2 1/4)	14.288 (9/16)	1.588 (1/16)	4.762 (3/16)	3.175 (1/8)	12.700 (1/2)	2.381 (3/32)	40.878 (1 31/64)	500	61 400	116 000
57.150 (2 1/4)	14.288 (9/16)	1.588 (1/16)	4.762 (3/16)	3.175 (1/8)	12.700 (1/2)	2.381 (3/32)	40.878 (1 31/64)	500	61 400	116 000
63.500 (2 1/2)	15.875 (5/8)	1.588 (1/16)	6.350 (1/4)	3.175 (1/8)	19.050 (3/4)	2.381 (3/32)	51.991 (2 3/16)	892	77 600	172 000
63.500 (2 1/2)	15.875 (5/8)	1.588 (1/16)	6.350 (1/4)	3.175 (1/8)	19.050 (3/4)	2.381 (3/32)	51.991 (2 3/16)	892	77 600	172 000
69.850 (2 3/4)	17.462 (11/16)	1.588 (1/16)	6.350 (1/4)	3.175 (1/8)	19.050 (3/4)	2.381 (3/32)	59.928 (2 3/8)	1 450	111 000	239 000
88.900 (3 1/2)	19.050 (3/4)	1.588 (1/16)	6.350 (1/4)	3.175 (1/8)	19.050 (3/4)	2.381 (3/32)	64.691 (2 5/8)	2 190	142 000	317 000

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CAM FOLLOWERS

Inch Series Cam Followers Full Complement Type/With Screwdriver Slot

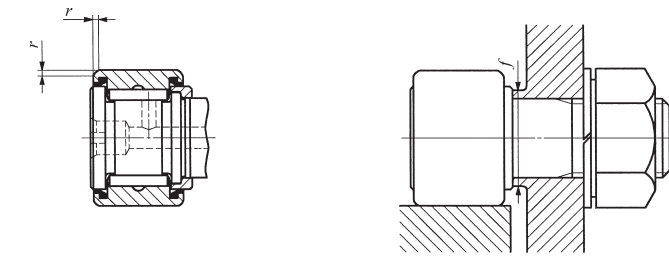


Stud dia. 6.350 – 50.800mm

CRH...V

Stud dia. mm (inch)	Identification number		Mass (Ref.) g	Boundary dimensions mm(inch)					
	Shield type	Sealed type		D	C	d <sub>1</sub>	G UNF	G <sub>1</sub>	B max
6.350 (1/4)	CRH 8-1 V	CRH 8-1 VUU	12	12.700 (1/2)	9.525 (3/8)	6.350 (1/4)	1/4 - 28	6.350 (1/4)	11.1 (0.44)
	CRH 9 V	CRH 9 VUU	15	14.228 (9/16)	9.525 (3/8)	6.350 (1/4)	1/4 - 28	6.350 (1/4)	11.1 (0.44)
7.938 (5/16)	CRH 10-1 V	CRH 10-1 VUU	23	15.875 (5/8)	11.112 (7/16)	7.938 (5/16)	5/16 - 24	7.938 (5/16)	12.8 (0.50)
	CRH 11 V	CRH 11 VUU	27	17.462 (11/16)	11.112 (7/16)	7.938 (5/16)	5/16 - 24	7.938 (5/16)	12.8 (0.50)
11.112 (7/16)	CRH 12 V	CRH 12 VUU	39	19.050 (3/4)	12.700 (1/2)	11.112 (7/16)	7/16 - 20	9.525 (3/8)	14.6 (0.57)
	CRH 14 V	CRH 14 VUU	49	22.225 (7/8)	12.700 (1/2)	11.112 (7/16)	7/16 - 20	9.525 (3/8)	14.6 (0.57)
15.875 (5/8)	CRH 16 V	CRH 16 VUU	93	25.400 (1)	15.875 (5/8)	15.875 (5/8)	5/8 - 18	12.700 (1/2)	17.9 (0.70)
	CRH 18 V	CRH 18 VUU	109	28.575 (1 1/8)	15.875 (5/8)	15.875 (5/8)	5/8 - 18	12.700 (1/2)	17.9 (0.70)
19.050 (3/4)	CRH 20 V	CRH 20 VUU	176	31.750 (1 1/4)	19.050 (3/4)	19.050 (3/4)	3/4 - 16	15.875 (5/8)	21.0 (0.83)
	CRH 22 V	CRH 22 VUU	200	34.925 (1 3/8)	19.050 (3/4)	19.050 (3/4)	3/4 - 16	15.875 (5/8)	21.0 (0.83)
22.225 (7/8)	CRH 24 V	CRH 24 VUU	296	38.100 (1 1/2)	22.225 (7/8)	22.225 (7/8)	7/8 - 14	19.050 (3/4)	24.3 (0.96)
	CRH 26 V	CRH 26 VUU	329	41.275 (1 5/8)	22.225 (7/8)	22.225 (7/8)	7/8 - 14	19.050 (3/4)	24.3 (0.96)
25.400 (1)	CRH 28 V	CRH 28 VUU	463	44.450 (1 3/4)	25.400 (1)	25.400 (1)	1 - 14 UNS	22.225 (7/8)	27.4 (1.08)
	CRH 30 V	CRH 30 VUU	508	47.625 (1 7/8)	25.400 (1)	25.400 (1)	1 - 14 UNS	22.225 (7/8)	27.4 (1.08)
28.575 (1 1/8)	CRH 32 V	CRH 32 VUU	722	50.800 (2)	31.750 (1 1/4)	28.575 (1 1/8)	1 1/8 - 12	25.400 (1)	34.2 (1.35)
	CRH 36 V	CRH 36 VUU	858	57.150 (2 1/4)	31.750 (1 1/4)	28.575 (1 1/8)	1 1/8 - 12	25.400 (1)	34.2 (1.35)
31.750 (1 1/4)	CRH 40 V	CRH 40 VUU	1 260	63.500 (2 1/2)	38.100 (1 1/2)	31.750 (1 1/4)	1 1/4 - 12	28.575 (1 1/8)	40.0 (1.57)
	CRH 44 V	CRH 44 VUU	1 460	69.850 (2 3/4)	38.100 (1 1/2)	31.750 (1 1/4)	1 1/4 - 12	28.575 (1 1/8)	40.0 (1.57)
38.100 (1 1/2)	CRH 48 V	CRH 48 VUU	2 100	76.200 (3)	44.450 (1 3/4)	38.100 (1 1/2)	1 1/2 - 12	31.750 (1 1/4)	46.4 (1.83)
	CRH 52 V	CRH 52 VUU	2 380	82.550 (3 1/4)	44.450 (1 3/4)	38.100 (1 1/2)	1 1/2 - 12	31.750 (1 1/4)	46.4 (1.83)
44.450 (1 3/4)	CRH 56 V	CRH 56 VUU	3 240	88.900 (3 1/2)	50.800 (2)	44.450 (1 3/4)	1 3/4 - 12 UN	34.925 (1 3/8)	52.8 (2.08)
50.800 (2)	CRH 64 V	CRH 64 VUU	4 960	101.600 (4)	57.150 (2 1/4)	50.800 (2)	2 - 12 UN	38.100 (1 1/2)	59.4 (2.34)

Remarks 1. Models with a stud diameter  $d_1$  of 7.938 mm or less (marked \*) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.  
2. Provided with prepacked grease.



CRH...VUU

Boundary dimensions mm(inch)						Mounting dimension f Min. mm(inch)	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N
B <sub>2</sub>	B <sub>3</sub>	C <sub>1</sub>	g <sub>1</sub>	g <sub>2</sub>	r				
15.875 (5/8)	— (—)	0.794 (1/32)	*3.175 (1/8)	— (—)	0.397 (1/64)	8.334 (1/4)	3.4	4 710	5 410
15.875 (5/8)	— (—)	0.794 (1/32)	*3.175 (1/8)	— (—)	0.397 (1/64)	8.334 (1/4)	3.4	4 710	5 410
19.050 (3/4)	— (—)	0.794 (1/32)	*3.175 (1/8)	— (—)	0.397 (1/64)	11.112 (7/16)	6.8	6 340	8 530
19.050 (3/4)	— (—)	0.794 (1/32)	*3.175 (1/8)	— (—)	0.397 (1/64)	11.112 (7/16)	6.8	6 340	8 530
22.225 (7/8)	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	2.381 (3/32)	0.794 (1/32)	13.494 (1 1/32)	17.6	8 710	12 300
22.225 (7/8)	6.350 (1/4)	0.794 (1/32)	4.762 (3/16)	2.381 (3/32)	0.794 (1/32)	13.494 (1 1/32)	17.6	8 710	12 300
25.400 (1)	6.350 (1/4)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	1.191 (1/64)	18.256 (3/32)	57.8	13 100	22 700
25.400 (1)	6.350 (1/4)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	1.588 (1/16)	18.256 (3/32)	57.8	13 100	22 700
31.750 (1 1/4)	7.938 (5/16)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	1.588 (1/16)	24.209 (1 1/16)	103	23 600	31 700
31.750 (1 1/4)	7.938 (5/16)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	1.588 (1/16)	24.209 (1 1/16)	103	23 600	31 700
38.100 (1 1/2)	9.525 (3/8)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	1.588 (1/16)	26.988 (1 1/16)	162	28 200	40 100
38.100 (1 1/2)	9.525 (3/8)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	1.588 (1/16)	26.988 (1 1/16)	162	28 200	40 100
44.450 (1 3/4)	11.112 (7/16)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	1.588 (1/16)	32.941 (1 1/16)	258	35 300	55 600
44.450 (1 3/4)	11.112 (7/16)	1.588 (1/16)	4.762 (3/16)	2.381 (3/32)	1.588 (1/16)	32.941 (1 1/16)	258	35 300	55 600
50.800 (2)	12.700 (1/2)	1.588 (1/16)	4.762 (3/16)	3.175 (1/8)	1.588 (1/16)	37.306 (1 13/32)	356	45 700	80 600
50.800 (2)	12.700 (1/2)	1.588 (1/16)	4.762 (3/16)	3.175 (1/8)	1.588 (1/16)	37.306 (1 13/32)	356	45 700	80 600
57.150 (2 1/4)	14.288 (9/16)	1.588 (1/16)	4.762 (3/16)	3.175 (1/8)	2.381 (3/32)	40.878 (1 3/16)	500	61 400	116 000
57.150 (2 1/4)	14.288 (9/16)	1.588 (1/16)	4.762 (3/16)	3.175 (1/8)	2.381 (3/32)	40.878 (1 3/16)	500	61 400	116 000
63.500 (2 1/2)	15.875 (5/8)	1.588 (1/16)	6.350 (1/4)	3.175 (1/8)	2.381 (3/32)	51.991 (2 3/16)	892	77 600	172 000
63.500 (2 1/2)	15.875 (5/8)	1.588 (1/16)	6.350 (1/4)	3.175 (1/8)	2.381 (3/32)	51.991 (2 3/16)	892	77 600	172 000
69.850 (2 3/4)	17.462 (11/16)	1.588 (1/16)	6.350 (1/4)	3.175 (1/8)	2.381 (3/32)	59.928 (2 3/16)	1 450	111 000	239 000
88.900 (3 1/2)	19.050 (3/4)	1.588 (1/16)	6.350 (1/4)	3.175 (1/8)	2.381 (3/32)	64.691 (2 5/16)	2 190	142 000	317 000

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