



# IKO

New

Eccentric Type Cam Followers

# CFKRE

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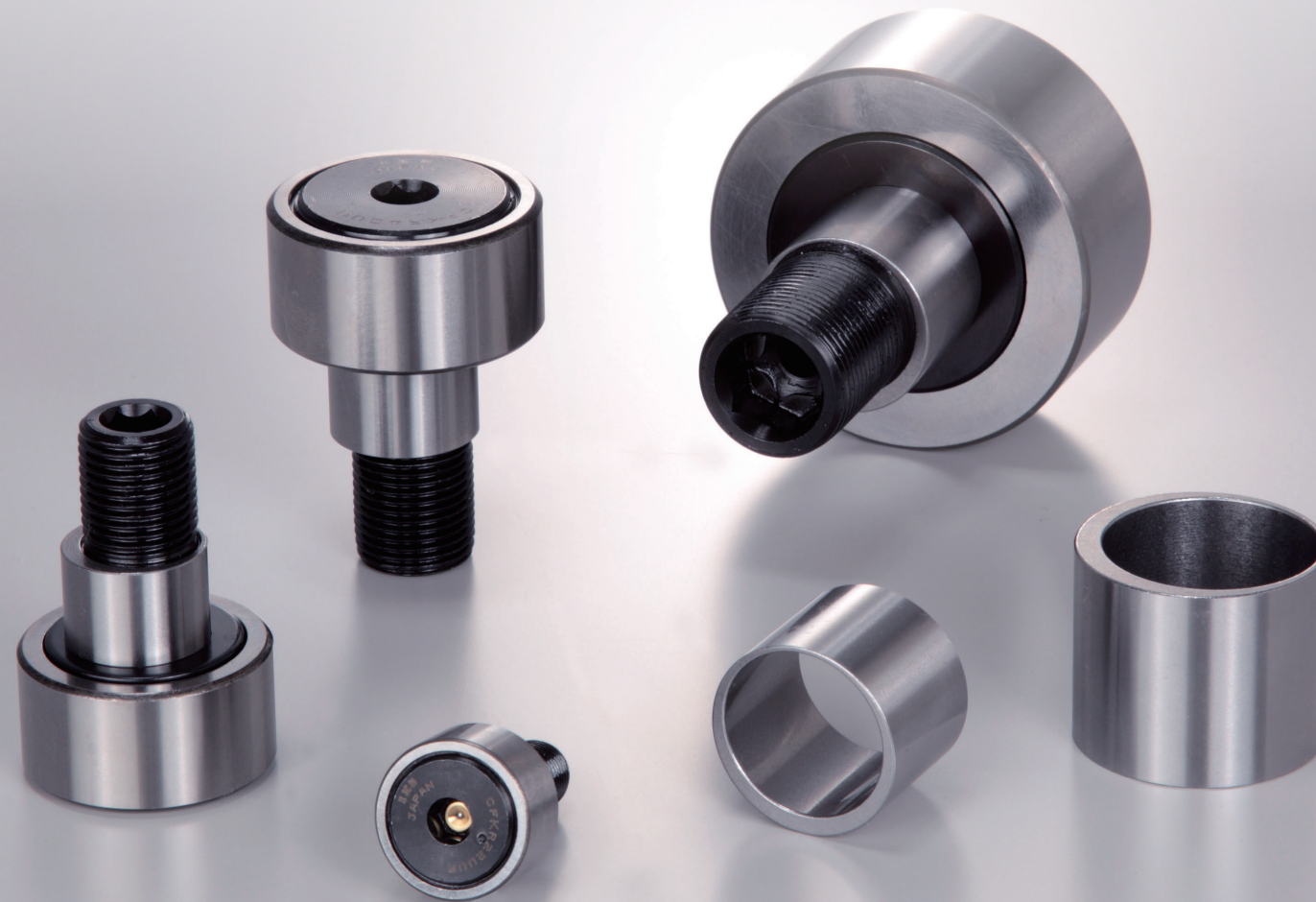
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NIPPON THOMPSON CO., LTD.



# The *New* CFKRE Eccentric Type Cam Follower has double hex holes for easy mounting!

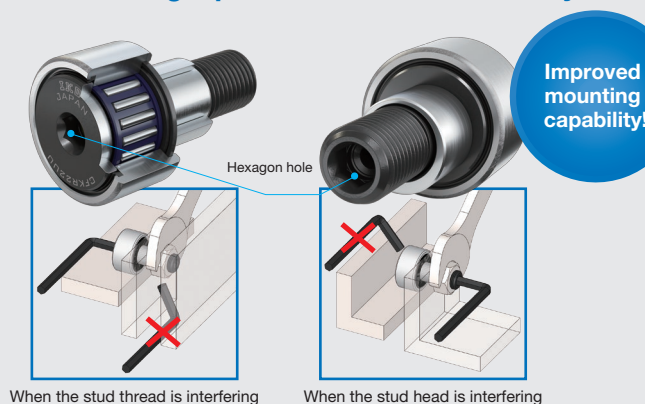


## Variations of CFKRE

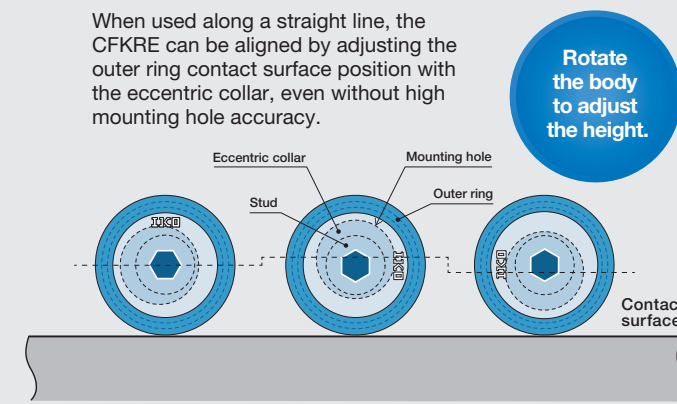
Model of bearing	Roller guide method	Shape of outer ring outside surface	Shape of seal	Identification number	Size (outside dia. of outer ring)														
					22	26	30	32	35	40	47	52	62	72	80	85	90		
Eccentric Type Cam Followers CFKRE	With cage	Crowned outer ring	Shield type	CFKRE...R <span style="color:red">New</span>	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
			Sealed type	CFKRE...UUR	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
		Cylindrical outer ring	Shield type	CFKRE	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
			Sealed type	CFKRE...UU	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	Full complement	Crowned outer ring	Shield type	CFKRE...VR	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
			Sealed type	CFKRE...VUUR	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
		Cylindrical outer ring	Shield type	CFKRE...V	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
			Sealed type	CFKRE...VUU	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

## Two Major Features of CFKRE

**1** CFKRE has hexagon holes at the end of each stud, making it possible to mount from any location.



**2** With the eccentric collar, it is easy to adjust the radial positioning.





## Example of Identification Number

**CFKRE 30 V UU R**

① ② ③ ④ ⑤

① Model	
CFKRE	Eccentric Type Cam Followers
② Dimensions	
Shows the outer ring outside diameter. (unit: mm)	
③ Roller guide method	
No symbol	With cage
V	Full complement

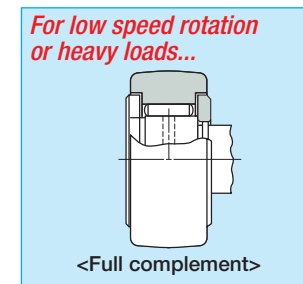
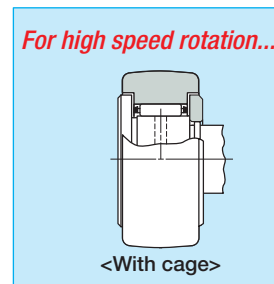
④ Seal structure	
No symbol	Shield type
UU	Sealed type
⑤ Shape of outer ring outside surface	
No symbol	Cylindrical outer ring
R	Crowned outer ring

## Wide Selection of Product Specifications for Your Use

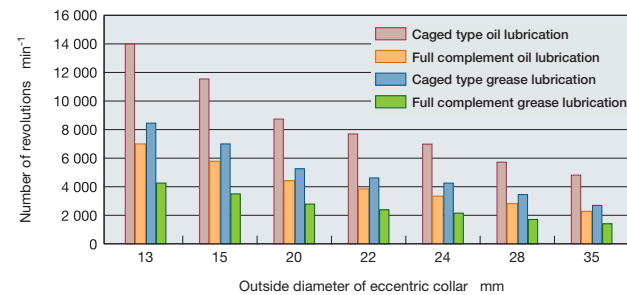
### Roller guide method

Caged type has a smaller friction coefficient and is best suited for high speed rotation.

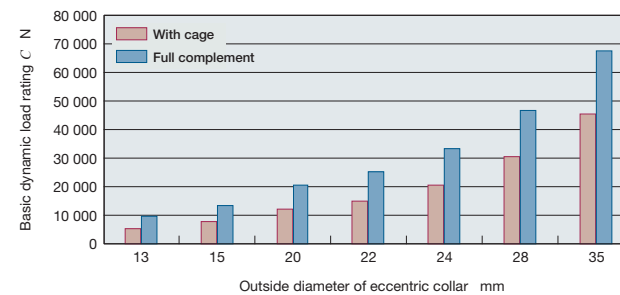
Full complement is best suited for low speed rotation, oscillatory movement or heavy loads.



Allowable rotational speed comparison



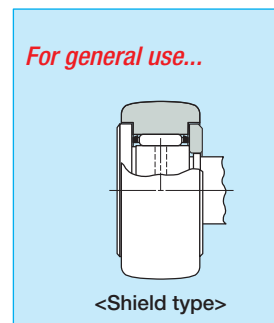
Dynamic load rating comparison



### Seal structure

The shield type has narrow clearances between the outer ring and the stud flange and between the outer ring and the side plate that form labyrinths.

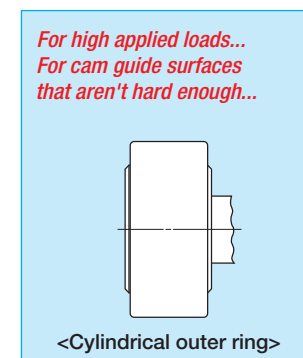
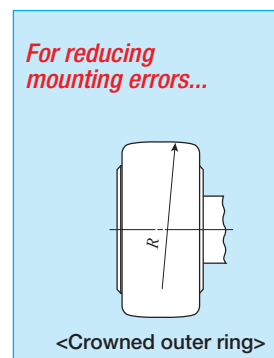
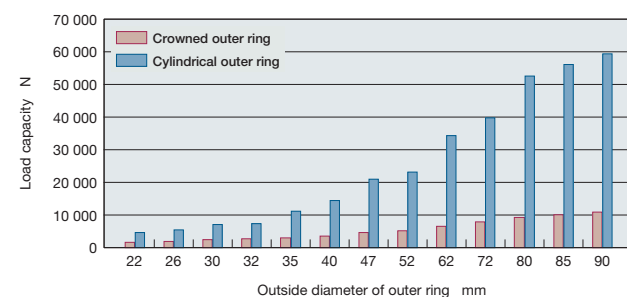
The sealed type incorporates seals to prevent the penetration of foreign particles.



### Shape of outer ring outside surface

The crowned outer ring is effective in moderating the edge load caused by mounting errors. The cylindrical outer ring is suitable for applications where the applied load is large or the cam guide surface is not hard enough.

Track capacity comparison



## Accuracy

Table 1 Tolerance unit:  $\mu\text{m}$

Name	Item	Crowned outer ring	Cylindrical outer ring
Outside dia. of outer ring $D$		0	See Table 2
		-50	
Width of outer ring $C$		0	
		-120	

Remark The recommended tolerance class for eccentric collar mounting holes is H7.

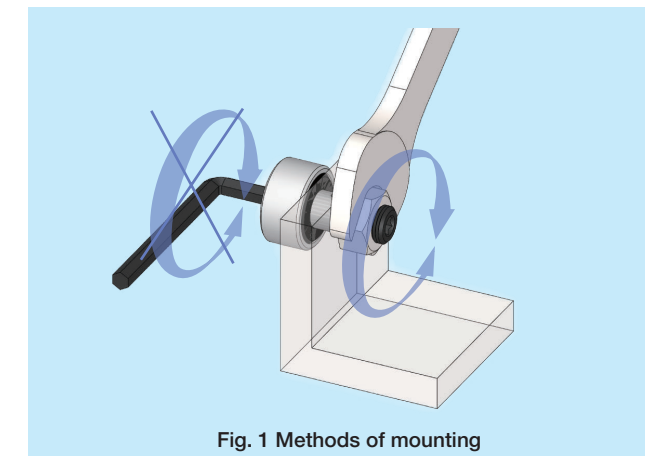
Table 2 Tolerance and allowance of outer ring (cylindrical outer ring) unit:  $\mu\text{m}$

Nominal outside diameter of outer ring mm	$\Delta_{Dmp}$		$K_{ra}$	
	Single plane mean outside diameter deviation	Radial runout (Maximum)		
Over	Incl.	High	Low	
18	30	0	-9	15
30	50	0	-11	20
50	80	0	-13	25
80	120	0	-15	35

## Mounting

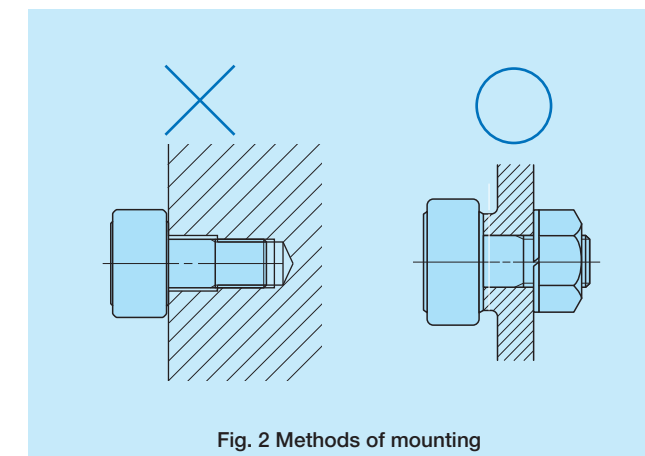
### Notes about mounting methods

- When mounting cam followers, fix in place by holding the hexagon hole with a hex wrench and using a wrench to tighten the nut (See Fig. 1). Mounting by turning the hexagon hole itself can cause damage to the hexagon hole of the cam follower.



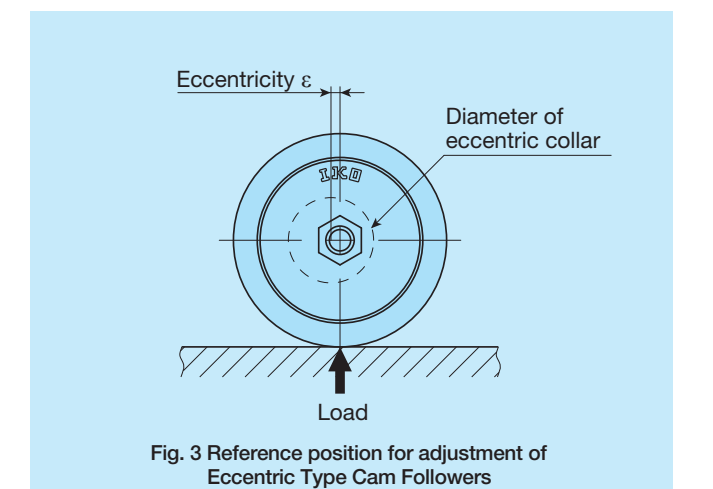
- When tightening the nut, the tightening torque should not exceed the values shown in the dimension table. If the tightening torque is too large, the threaded portion of the stud may break. When loosening, a special nut such as a lock nut, spring washer, or self-locking nut should be used.

- Direct-fixing the cam follower without nuts for mounting (See Fig. 2) is NOT recommended since it may be difficult to achieve sufficient tightening torque. If the screw loosens, stress concentrated on the thread can cause the stud to break.

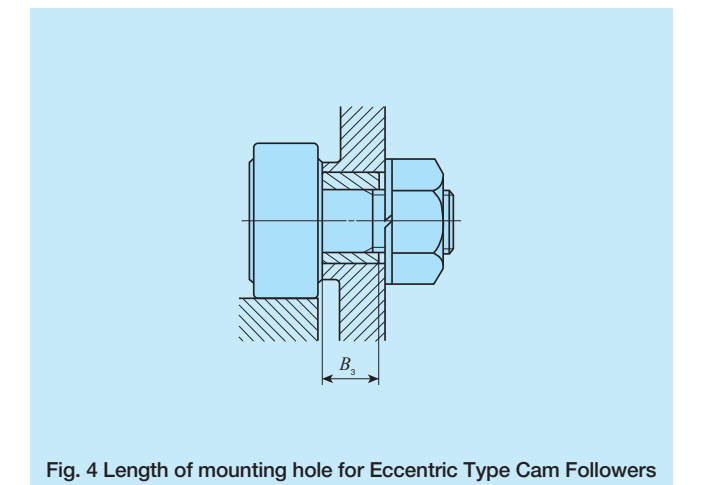


### Mounting methods for Eccentric Type Cam Followers

- Eccentric Type Cam Followers are mounted with a reference position where the mark on the stud head is located (See Fig.3). The outer ring position can be adjusted by rotating it using the hexagon hole on the stud head. The stud is fixed with a nut and a spring washer, etc. The tightening torque should not exceed the maximum tightening torque values shown in the dimension table. When shock loads are applied and the adjusted eccentricity must be maintained, it is recommended to make holes in the housing, stud and eccentric collar, and to fix the stud with a dowel pin.

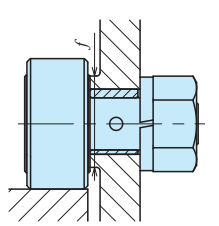
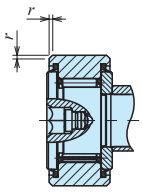
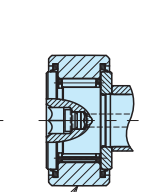
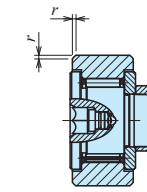
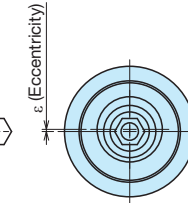
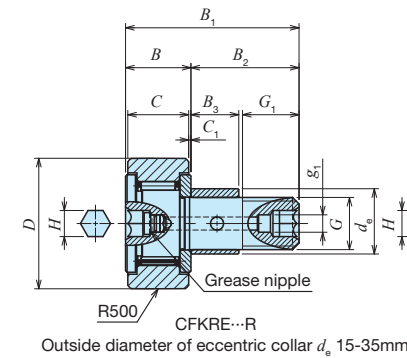
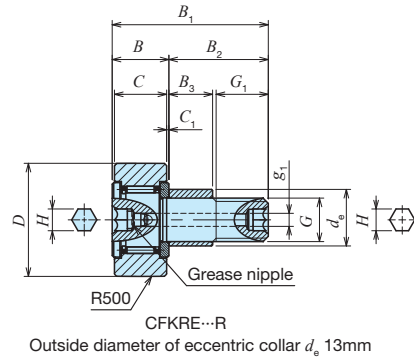


- For Eccentric Type Cam Followers, the length of the mounting hole should be more than the B3 dimension (eccentric collar width) shown in the dimension table (See Fig. 4).



# Eccentric Type Cam Followers / With Cage

Type of material	No symbol	High carbon steel
	F	Stainless steel
Roller guide method	No symbol	With cage
	V	Full complement
Seal structure	No symbol	Shield type
	UU	Sealed type
Shape of outer ring outside surface	No symbol	Cylindrical outer ring
	R	Crowned outer ring



Outside diameter of eccentric collar mm	Identification number (1)				Mass (Ref.) g	Boundary dimensions mm											Eccentricity $\epsilon$	Mounting related dimensions $f$ Min. mm	Maximum tightening torque N·m	Basic dynamic load rating C N	Basic static load rating $C_0$ N	Maximum allowable static load N	Track capacity (2) N			
	Shield type		Sealed type			D	C	$d_6$	G	$G_1$	$B_{max}$	$B_1_{max}$	$B_2$	$B_3$	$C_1$	$g_1$							H	$r_{s min}$ (3)	Crowned outer ring	Cylindrical outer ring
	Crowned outer ring	Cylindrical outer ring	Crowned outer ring	Cylindrical outer ring		$r$	$\epsilon$																			
13	CFKRE 22 R	CFKRE 22	CFKRE 22 UUR	CFKRE 22 UU	47	22	12	13	M10X1.0	12	13.2	36.2	23	10	0.6	3	5	0.3	0.5	16	13.0	5 430	6 890	6 890	1 610	4 680
	CFKRE 26 R	CFKRE 26	CFKRE 26 UUR	CFKRE 26 UU	62	26	12	13	M10X1.0	12	13.2	36.2	23	10	0.6	3	5	0.3	0.5	16	13.0	5 430	6 890	6 890	2 030	5 530
15	CFKRE 30 R	CFKRE 30	CFKRE 30 UUR	CFKRE 30 UU	100	30	14	15	M12X1.5	13	15.2	40.2	25	11	0.6	4	6	0.6	0.5	21	21.9	7 910	9 790	9 790	2 470	7 010
	CFKRE 32 R	CFKRE 32	CFKRE 32 UUR	CFKRE 32 UU	110	32	14	15	M12X1.5	13	15.2	40.2	25	11	0.6	4	6	0.6	0.5	21	21.9	7 910	9 790	9 790	2 710	7 480
20	CFKRE 35 R	CFKRE 35	CFKRE 35 UUR	CFKRE 35 UU	177	35	18	20	M16X1.5	17	19.6	52.1	32.5	14	0.8	4	8	0.6	1	26	58.5	12 000	18 300	18 300	3 060	11 200
22	CFKRE 40 R	CFKRE 40	CFKRE 40 UUR	CFKRE 40 UU	264	40	20	22	M18X1.5	19	21.6	58.1	36.5	16	0.8	6	8	1	1	29	86.2	14 800	25 200	25 200	3 660	14 500
24	CFKRE 47 R	CFKRE 47	CFKRE 47 UUR	CFKRE 47 UU	397	47	24	24	M20X1.5	21	25.6	66.1	40.5	18	0.8	6	10	1	1	34	119	20 700	34 600	34 600	4 530	21 000
	CFKRE 52 R	CFKRE 52	CFKRE 52 UUR	CFKRE 52 UU	472	52	24	24	M20X1.5	21	25.6	66.1	40.5	18	0.8	6	10	1	1	34	119	20 700	34 600	34 600	5 190	23 200
28	CFKRE 62 R	CFKRE 62	CFKRE 62 UUR	CFKRE 62 UU	823	62	29	28	M24X1.5	25	30.6	80.1	49.5	22	0.8	6	14	1	1	40	215	30 500	52 600	52 000	6 580	34 300
	CFKRE 72 R	CFKRE 72	CFKRE 72 UUR	CFKRE 72 UU	1150	72	29	28	M24X1.5	25	30.6	80.1	49.5	22	0.8	6	14	1	1	40	215	30 500	52 600	52 000	8 020	39 800
35	CFKRE 80 R	CFKRE 80	CFKRE 80 UUR	CFKRE 80 UU	1920	80	35	35	M30X1.5	32	37	100	63	29	1	6	14	1	1.5	49	438	45 400	85 100	85 100	9 220	52 700
	CFKRE 85 R	CFKRE 85	CFKRE 85 UUR	CFKRE 85 UU	2080	85	35	35	M30X1.5	32	37	100	63	29	1	6	14	1	1.5	49	438	45 400	85 100	85 100	9 990	56 000
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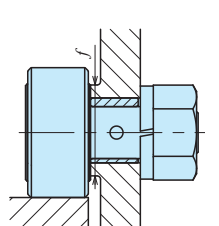
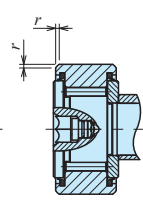
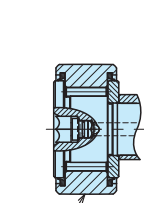
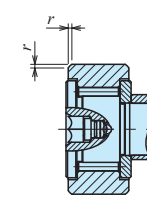
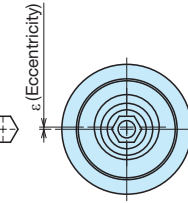
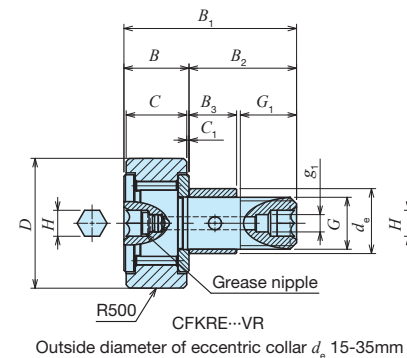
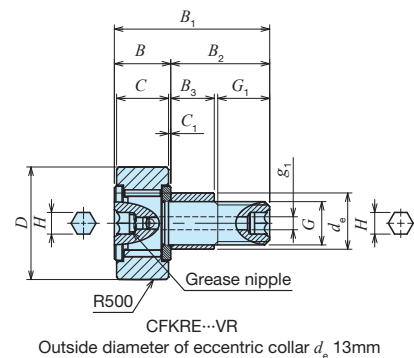
Note (1) The identification number indicates the outer ring outside diameter. Note (2) Minimum allowable value of chamfer dimension  $r$ . Note (3) Value when the mating surface hardness is 40HRC.

Remark Grease is pre-packed if the eccentric collar outer diameter  $d_6$  of the shield type is 13 mm or less or if the seal structure is the sealed type. Other models are not provided with pre-packed grease. Perform proper lubrication for use.

1N = 0.102 kgf

# Eccentric Type Cam Followers / Full Complement

Type of material	No symbol	High carbon steel
	F	Stainless steel
Roller guide method	No symbol	With cage
	V	Full complement
Seal structure	No symbol	Shield type
	UU	Sealed type
Shape of outer ring outside surface	No symbol	Cylindrical outer ring
	R	Crowned outer ring



Outside diameter of eccentric collar mm	Identification number (1)				Mass (Ref.) g	Boundary dimensions mm											Eccentricity $\epsilon$	Mounting related dimensions $f$ Min. mm	Maximum tightening torque N·m	Basic dynamic load rating C N	Basic static load rating $C_0$ N	Maximum allowable static load N	Track capacity (2) N			
	Shield type		Sealed type			D	C	$d_6$	G	$G_1$	$B_{max}$	$B_1_{max}$	$B_2$	$B_3$	$C_1$	$g_1$							H	$r_{s min}$ (3)	Crowned outer ring	Cylindrical outer ring
	Crowned outer ring	Cylindrical outer ring	Crowned outer ring	Cylindrical outer ring		$r$	$\epsilon$																			
13	CFKRE 22 VR	CFKRE 22 V	CFKRE 22 VUUR	CFKRE 22 VUU	48	22	12	13	M10X1.0	12	13.2	36.2	23	10	0.6	3	5	0.3	0.5	16	13.0	9 570	14 500	7 920	1 610	4 680
	CFKRE 26 VR	CFKRE 26 V	CFKRE 26 VUUR	CFKRE 26 VUU	63	26	12	13	M10X1.0	12	13.2	36.2	23	10	0.6	3	5	0.3	0.5	16	13.0	9 570	14 500	7 920	2 030	5 530
15	CFKRE 30 VR	CFKRE 30 V	CFKRE 30 VUUR	CFKRE 30 VUU	101	30	14	15	M12X1.5	13	15.2	40.2	25	11	0.6	4	6	0.6	0.5	21	21.9	13 500	19 700	13 200	2 470	7 010
	CFKRE 32 VR	CFKRE 32 V	CFKRE 32 VUUR	CFKRE 32 VUU	111	32	14	15	M12X1.5	13	15.2	40.2	25	11	0.6	4	6	0.6	0.5	21	21.9	13 500	19 700	13 200	2 710	7 480
20	CFKRE 35 VR	CFKRE 35 V	CFKRE 35 VUUR	CFKRE 35 VUU	180	35	18	20	M16X1.5	17	19.6	52.1	32.5	14	0.8	4	8	0.6	1	26	58.5	20 700	37 600	23 200	3 060	11 200
22	CFKRE 40 VR	CFKRE 40 V	CFKRE 40 VUUR	CFKRE 40 VUU	269	40	20	22	M18X1.5	19	21.6	58.1	36.5	16	0.8	6	8	1	1	29	86.2	25 300	51 300	31 100	3 660	14 500
24	CFKRE 47 VR	CFKRE 47 V	CFKRE 47 VUUR	CFKRE 47 VUU	402	47	24	24	M20X1.5	21	25.6	66.1	40.5	18	0.8	6	10	1	1	34	119	33 200	64 500	37 500	4 530	21 000
	CFKRE 52 VR	CFKRE 52 V	CFKRE 52 VUUR	CFKRE 52 VUU	477	52	24	24	M20X1.5	21	25.6	66.1	40.5	18	0.8	6	10	1	1	34	119	33 200	64 500	37 500	5 190	23 200
28	CFKRE 62 VR	CFKRE 62 V	CFKRE 62 VUUR	CFKRE 62 VUU	828	62	29	28	M24X1.5	25	30.6	80.1	49.5	22	0.8	6	14	1	1	40	215	46 600	92 000	52 000	6 580	34 300
	CFKRE 72 VR	CFKRE 72 V	CFKRE 72 VUUR	CFKRE 72 VUU	1150	72	29	28	M24X1.5	25	30.6	80.1	49.5	22	0.8	6	14	1	1	40	215	46 600	92 000	52 000	8 020	39 800
35	CFKRE 80 VR	CFKRE 80 V	CFKRE 80 VUUR	CFKRE 80 VUU	1920	80	35	35	M30X1.5	32	37	100	63	29	1	6	14	1	1.5	49	438	67 700	144 000	85 900	9 220	52 700
	CFKRE 85 VR	CFKRE 85 V	CFKRE 85 VUUR	CFKRE 85 VUU	2080	85	35	35	M30X1.5	32	37	100	63	29	1	6	14	1	1.5	49	438	67 700	144 000	85 900	9 990	56 000
	CFKRE 90 VR	CFKRE 90 V	CFKRE 90 VUUR	CFKRE 90 VUU	2270	90	35	35	M30X1.5	32	37	100	63	29	1	6	14	1	1.5	49	438	67 700	144 000	85 900	10 800	59 300

Note (1) The identification number indicates the outer ring outside diameter. Note (2) Minimum allowable value of chamfer dimension  $r$ . Note (3) Value when the mating surface hardness is 40HRC.

Remark Provided with prepacked grease.

1N = 0.102 kgf