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IKO

New

Short Stud Type Cam Followers

CFC...B

Compact Cam Followers with
a newly developed mounting
structure!



NEW!

Small-diameter sizes added to
the series!



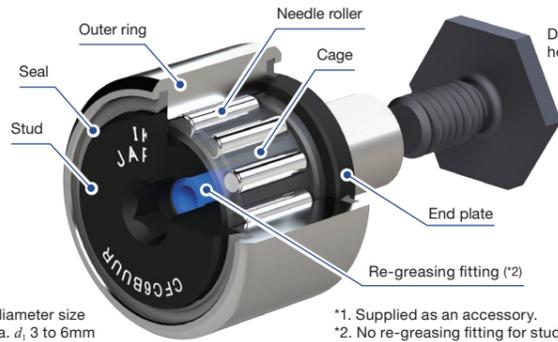
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ISO 9001 & 14001 Quality system registration certificate

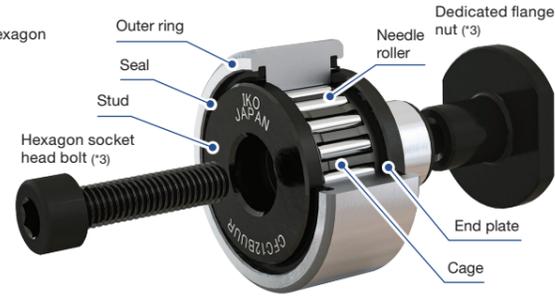
Small-diameter sizes added to the compact, lightweight Short Stud Type Cam Followers!

Some sizes can be relubricated.



Small-diameter size
Stud dia. d_1 3 to 6mm

*1. Supplied as an accessory.
*2. No re-greasing fitting for stud dia. d_1 3 to 4mm.



Stud dia. d_1 8 to 12mm

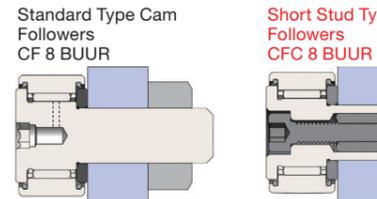
*3. Supplied as an accessory.

New lineup added to the Short Stud Type Cam Followers CFC-B. Extremely lightweight and compact, with sizes as small as stud dia. of 3mm. The performance of these new Cam Followers is equivalent to standard products⁴, so there is no need to reevaluate when switching from standard cam followers. Also, some sizes can be relubricated by the user, providing long-term use with suitable maintenance. Since CFC-B needs far less mounting space than conventional cam followers, it enables greater design freedom, improving production efficiency in a wide range of industries.

Stud diameter mm	Overall length (min.) mm		Overall length reduction ratio
	Standard Type Cam Followers CF-B	Short Stud Type Cam Followers CFC-B ⁵	
3	17	13.6	20%
4	20	15.7	22%
5	23	17.2	25%
6	28.2	21.9	22%
8	32.2	21.4	34%
10	36.2	24.9	31%
12	40.2	28.4	29%

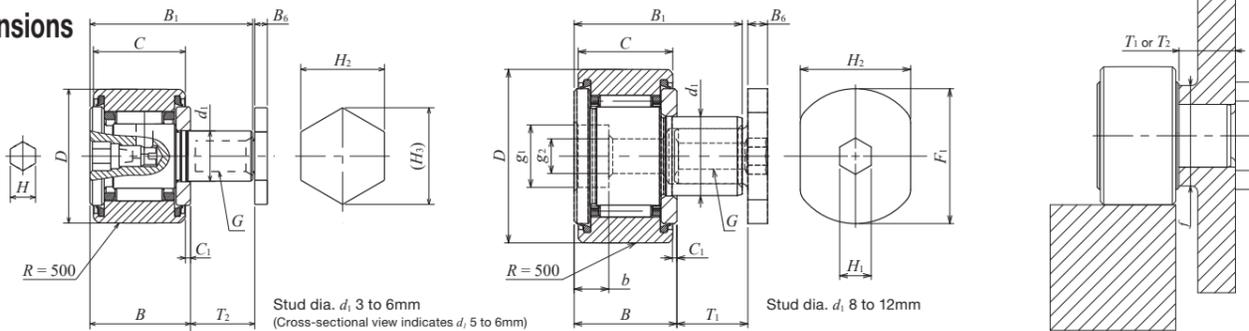
⁴. Indicates Standard Type Cam Followers CF-B.

⁵. Length when mounting member material thickness is set at the minimum value.



34% reduced (*5)
For stud dia. 8mm

Dimensions



Stud dia. d_1 3 to 6mm
(Cross-sectional view indicates d_1 5 to 6mm)

Stud dia. d_1 8 to 12mm

Detailed specifications

Accuracy

Name	Tolerance	unit: μm
Outside dia. of outer ring D	-50 to 0	
Stud diameter d_1	3 mm	-10 to 0
	4, 5, 6 mm	-12 to 0
	8, 10 mm	-15 to 0
	12 mm	-18 to 0
Width of outer ring C	-120 to 0	

Allowable rotational speed

For $d_1 n$ value with only pure radial load applied, use the maximum value or lower as a guideline. Under actual operating conditions, use the recommended $d_1 n$ values or lower as a guideline in consideration of the effect of axial loads.

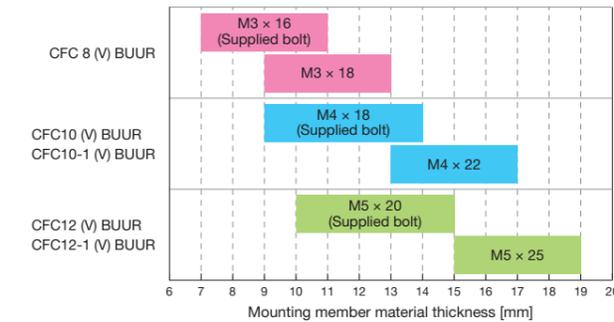
Model of bearing	Maximum value	Recommended value
With cage	84 000	8 400
Full complement	42 000	4 200

$d_1 n$ value = $d_1 \times n$ Here, d_1 : stud dia. mm n : rotation speed min⁻¹

Selecting the hexagon socket head bolt for mounting

For Short Stud Cam Followers of stud dia. 8mm or more, the cam follower mounting member material thickness range (T dimension in the dimension table) is determined by the hexagon socket head bolt length. When the designed mounting member material exceeds the tolerance range of the bolt supplied, the customer should prepare a hexagon socket head bolt (strength division 12.9) as indicated in the table below.

When considering mounting member material with thickness outside the range in the table below, please contact IKO.



Radial internal clearance

Identification number	Radial internal clearance	
	Min.	Maximum
CFC 3 to CFC 5	3	17
CFC 6	5	20
CFC 8 to CFC 12-1	5	25

Recommended fits

Since the Cam Follower is supported in a cantilever position, the mounting hole diameter should be prepared without allowance between the stud and the hole especially when heavy shock loads are applied.

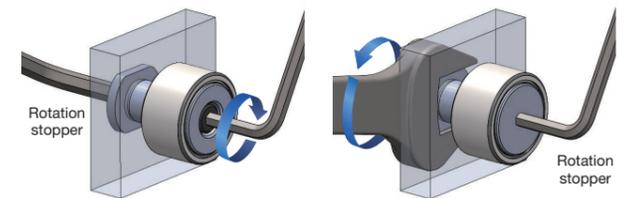
Stud diameter	Tolerance class of mounting hole dia. H7
3 mm	0 to +10
4, 5, 6 mm	0 to +12
8, 10 mm	0 to +15
12 mm	0 to +18

Operating Temperature Range

Operating temperature range of Short Stud Type Cam Followers is -20°C to 120°C. However, the range is -20°C to 80°C for products with stud dia. 3 to 5mm.

Mounting

When mounting Short Stud Type Cam Followers with stud dia. 8mm or more, fix the dedicated flange nut as shown in Figure (1) below, and then tighten the hexagon socket head bolt by rotating with a hex wrench. When mounting Short Stud Type Cam Followers with stud dia. 6mm or less, fix the stud as shown in Figure (2), and then tighten the dedicated hexagon head bolt by rotating with a wrench. Short Stud Type Cam Followers with stud dia. 5 to 6mm have oil holes in the stud. The IKO mark on the flange head of the stud indicates the position of the oil hole on the raceway. When mounting, avoid locating the oil hole within the loading zone.



(1) For stud dia. 8mm or more, tighten the hexagon socket head bolt

(2) For stud dia. 6mm or less, tighten the dedicated hexagon head bolt

Roller guide method	Stud diameter mm	Identification number	Mass (Ref.) g	Boundary dimensions mm																	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	
				D	C	d_1	B	B_1	C_1	T_1 ⁽¹⁾	T_2	B_6 max	G	b	g_1	g_2	H	H_1	H_2	F_1							H_3
With cage (high carbon steel)	3	CFC 3 BUUR	4.2	10	7	3	8	12	0.5	-	4.2 to 4.8	1.4	M2 x 0.4	-	-	-	2	-	5.5	-	6	6.8	0.49	1 500	1 020	384	542
	4	CFC 4 BUUR	7	12	8	4	9	14	0.5	-	5.2 to 6.3	1.5	M2.5 x 0.45	-	-	-	2.5	-	7	-	7.7	8.3	0.97	2 070	1 590	834	712
	5	CFC 5 BUUR	9.5	13	9	5	10	15.2	0.5	-	5.6 to 6.5	1.6	M3 x 0.5	-	-	-	3	-	8	-	8.8	9.3	1.7	2 520	2 140	1 260	794
	6	CFC 6 BUUR	17.9	16	11	6	12.2 max	19.6	0.6	-	8.1 to 9.9	1.6	M4 x 0.7	-	-	-	3	-	10	-	11.1	11	4	3 660	3 650	1 950	1 040
	8	CFC 8 BUUR	27	19	11	8	12.2 max	18.3	0.6	7 to 11(13)	-	2.2	M3 x 0.5	3.3	6.4	3.3	-	3	12	13.9	-	13	1.7	4 250	4 740	3 860	1 330
	10	CFC 10 BUUR	42	22	12	10	13.2 max	21.3	0.6	9 to 14(17)	-	2.7	M4 x 0.7	4.4	7.9	4.4	-	4	14	17.1	-	16	4.0	5 430	6 890	6 890	1 610
Full complement (high carbon steel)	6	CFC 6 VBUUR	18.3	16	11	6	12.2 max	19.6	0.6	-	8.1 to 9.9	1.6	M4 x 0.7	-	-	-	3	-	10	-	11.1	11	4	6 980	8 500	1 950	1 040
	8	CFC 8 VBUUR	28	19	11	8	12.2 max	18.3	0.6	7 to 11(13)	-	2.2	M3 x 0.5	3.3	6.4	3.3	-	3	12	13.9	-	13	1.7	8 170	11 200	3 860	1 330
	10	CFC 10 VBUUR	43	22	12	10	13.2 max	21.3	0.6	9 to 14(17)	-	2.7	M4 x 0.7	4.4	7.9	4.4	-	4	14	17.1	-	16	4.0	9 570	14 500	7 060	1 610
	10	CFC 10-1 VBUUR	57	26	12	10	13.2 max	21.3	0.6	9 to 14(17)	-	2.7	M4 x 0.7	4.4	7.9	4.4	-	4	14	17.1	-	16	4.0	9 570	14 500	7 060	2 030
	12	CFC 12 VBUUR	90	30	14	12	15.2 max	24.3	0.6	10 to 15(19)	-	3.2	M5 x 0.8	5.4	9.4	5.4	-	5	19	22.4	-	21	7.9	13 500	19 700	11 300	2 470
	12	CFC 12-1 VBUUR	100	32	14	12	15.2 max	24.3	0.6	10 to 15(19)	-	3.2	M5 x 0.8	5.4	9.4	5.4	-	5	19	22.4	-	21	7.9	13 500	19 700	11 300	2 710

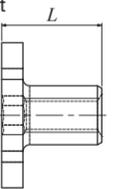
Notes: (1) This is the mounting range possible with the supplied bolt. Regarding the dimensions in parentheses, the customer should use a separate hexagon socket head bolt (strength division 12.9). (2) Value when the mating member material (steel/flat) hardness is 40HRC.

Remarks 1. Re-lubrication is possible for Short Stud Type Cam Followers with stud dia. 5 to 6mm. For other sizes, re-lubrication is not possible due to the product structure. If the environment requires re-lubrication for sizes with stud diameter of 8mm or more, use Standard Type Cam Followers. 2. Shell Lubricants Japan K.K. ALVANIA GREASE S2 is prepacked.

Remarks 3. Accessories supplied include a dedicated hexagon head bolt for products with stud dia. 3 to 6mm and a hexagon socket head bolt and dedicated flange nut for products with stud dia. 8mm or more.

1N = 0.102 kgf

Overall length of dedicated flange nut or dedicated hexagon head bolt



Stud diameter mm	L max mm
3	5.1
4	6
5	6.4
6	8.6
8	9.2
10	12
12	13.6

Note: Depending on the mounting method, the space indicated above is required behind the mounting member material.