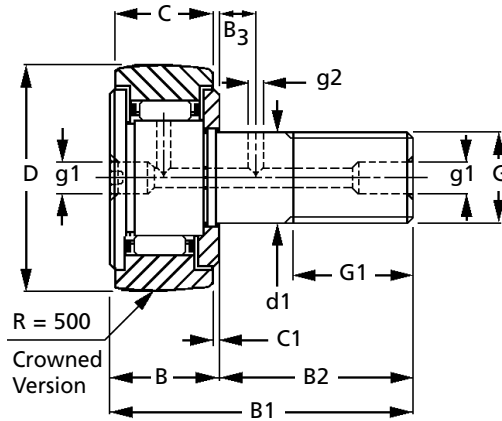
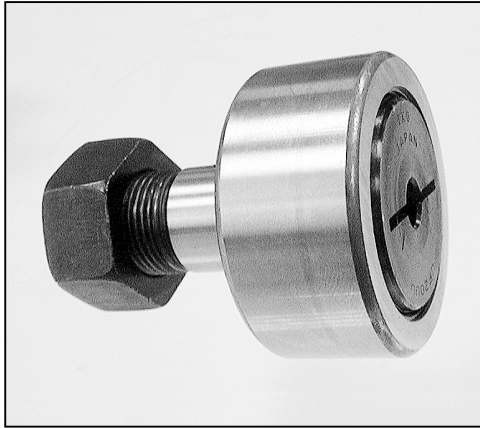


CF

# BEARINGS

## Standard Type Cam Followers Sealed Stud Diameter 3 - 30mm



Discounts: 20+ -8.5%

Part Number		Weight (Ref.) g	Mounting Dimension f Min. mm	Max. Tightening Torque N*m	Basic Dynamic Load Rating C N	Basic Static Load Rating C <sub>0</sub> N	Max. Allowable Load N
Crowned outer ring	Cylindrical outer ring						
-	CF3UU	4.3	6.8	0.29	1471	980	382
-	CF4UU	7.4	8.3	0.78	2059	1569	833
-	CF5UU	10.3	9.3	2.26	2549	2157	1372
CF6UUR	CF6UU	18.5	11.0	2.94	3628	3628	1961
CF8UUR	CF8UU	28.5	13.0	7.85	4216	4707	4609
CF10UUR	CF10UU	45.0	16.0	11.77	5393	6864	6864
CF10-1UUR	CF10-1UU	60.0	16.0	11.77	5393	6864	6864
CF12UUR	CF12UU	95.0	21.0	21.57	7943	9806	9806
CF12-1UUR	CF12-1UU	105.0	21.0	21.57	7943	9806	9806
CF16UUR	CF16UU	170.0	26.0	56.88	12062	18338	18338
CF18UUR	CF18UU	250.0	29.0	83.36	14709	25203	25203
CF20UUR	CF20UU	460.0	34.0	117.68	20692	34617	32165
CF20-1UUR	CF20-1UU	385.0	34.0	117.68	20692	34617	32165
CF24UUR	CF24UU	815.0	40.0	215.75	30498	52661	44620
CF24-1UUR	CF24-1UU	1140.0	40.0	215.75	30498	52661	44620
CF30UUR	CF30UU	1870.0	49.0	451.11	45404	85121	73647
CF30-1UUR	CF30-1UU	2030.0	49.0	451.11	45404	85121	73647
CF30-2UUR	CF30-2UU	2220.0	49.0	451.11	45404	85121	73647

Part Number		d1 (h7) Stud Dia. mm	D	C <sup>+0.00</sup> <sub>-0.12</sub>	G	G1	B max.	B1 max.	B2	B3	C1	g1	g2	r min(1)	Price Each 1- 19	
Crowned outer ring	Cylindrical outer ring														Crowned outer ring	Cylindrical outer ring
-	CF3UU	3	10	7	M3 x 0.50	5.0	8.0	17.0	9.0	-	0.5	-	-	0.2	-	£23.28
-	CF4UU	4	12	8	M4 x 0.70	6.0	9.0	20.0	11.0	-	0.5	-	-	0.3	-	£20.59
-	CF5UU	5	13	9	M5 x 0.80	7.5	10.0	23.0	13.0	-	0.5	*3.1	-	0.3	-	£19.38
CF6UUR	CF6UU	6	16	11	M6 x 1.00	8.0	12.2	28.2	16.0	-	0.6	*4.0	-	0.3	£19.34	£17.72
CF8UUR	CF8UU	8	19	11	M8 x 1.25	10.0	12.2	32.2	20.0	-	0.6	*4.0	-	0.3	£19.34	£17.97
CF10UUR	CF10UU	10	22	12	M10 x 1.25	12.0	13.2	36.2	23.0	-	0.6	*4.0	-	0.3	£19.75	£17.97
CF10-1UUR	CF10-1UU	10	26	12	M10 x 1.25	12.0	13.2	36.2	23.0	-	0.6	*4.0	-	0.3	£20.86	£19.34
CF12UUR	CF12UU	12	30	14	M12 x 1.50	13.0	15.2	40.2	25.0	6	0.6	6.0	3	0.6	£27.14	£22.58
CF12-1UUR	CF12-1UU	12	32	14	M12 x 1.50	13.0	15.2	40.2	25.0	6	0.6	6.0	3	0.6	£28.68	£23.99
CF16UUR	CF16UU	16	35	18	M16 x 1.50	17.0	19.6	52.1	32.5	8	0.8	6.0	3	1.0	£30.30	£25.23
CF18UUR	CF18UU	18	40	20	M18 x 1.50	19.0	21.6	58.1	36.5	8	0.8	6.0	3	1.0	£32.85	£30.30
CF20UUR	CF20UU	20	52	24	M20 x 1.50	21.0	25.6	66.1	40.5	9	0.8	8.0	4	1.0	£43.40	£40.11
CF20-1UUR	CF20-1UU	20	47	24	M20 x 1.50	21.0	25.6	66.1	40.5	9	0.8	8.0	4	1.0	£43.40	£38.74
CF24UUR	CF24UU	24	62	29	M24 x 1.50	25.0	30.6	80.1	49.5	11	0.8	8.0	4	1.0	£70.36	£64.95
CF24-1UUR	CF24-1UU	24	72	29	M24 x 1.50	25.0	30.6	80.1	49.5	11	0.8	8.0	4	1.0	£42.14	£68.95
CF30UUR	CF30UU	30	80	35	M30 x 1.50	32.0	37.0	100.0	63.0	15	1.0	8.0	4	1.0	£89.74	£84.30
CF30-1UUR	CF30-1UU	30	85	35	M30 x 1.50	32.0	37.0	100.0	63.0	15	1.0	8.0	4	1.0	£105.88	£97.57
CF30-2UUR	CF30-2UU	30	90	35	M30 x 1.50	32.0	37.0	100.0	63.0	15	1.0	8.0	4	1.0	£115.33	£108.05

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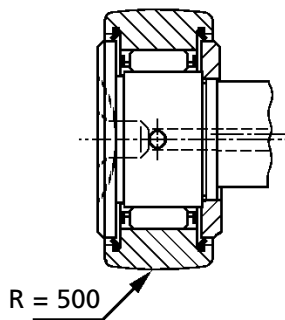
# BEARINGS

CF

## Standard Type Cam Followers Sealed

Stud Diameter 3 - 30mm

CF..UUR Type



CF..UU Type

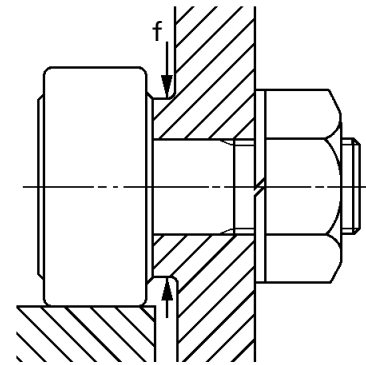
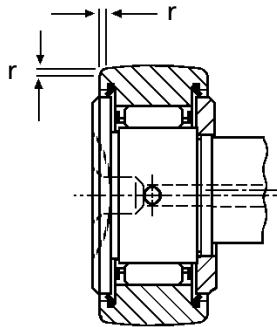


Table 1: Track Capacity

Type: metric series (§§) Cam Followers			
Part No.(§) With Crowned Outer Ring	Track Capacity N	Part No.(§) With Cylindrical Outer Ring	Track Capacity N
-	-	CF3	1372
-	-	CF4	1765
-	-	CF5	2255
CF6R	1078	CF6	3432
CF8R	1372	CF8	4020
CF10R	1569	CF10	4707
CF10-1R	2059	CF10-1	5491
CF12R	2451	CF12	7060
CF12-1R	2745	CF12-1	7453
CF16R	3040	CF16	11179
CF18R	3628	CF18	14415
CF20R	5197	CF20	23241
CF20-1R	4511	CF20-1	20986
CF24R	6570	CF24	34225
CF24-1R	8041	CF24-1	39815
CF30R	9218	CF30	52661
CF30-1R	10002	CF30-1	55995
CF30-2R	10787	CF30-2	59330

Table 2: Track Capacity Factor

Hardness HRC	Tensile Strength N/mm <sup>2</sup>	Track Capacity Factor	
		With Crowned Outer Ring	With Cylindrical Outer Ring
20	755	0.22	0.37
25	843	0.31	0.46
30	951	0.45	0.58
35	1078	0.65	0.75
38	1176	0.85	0.89
40	1245	1.00	1.00
42	1333	1.23	1.15
44	1431	1.52	1.32
46	1529	1.85	1.51
48	1637	2.27	1.73
50	1755	2.80	1.99
52	1882	3.46	2.29
54	2010	4.21	2.61
56	2147	5.13	2.97
58	2294	6.26	3.39

Track capacity is defined as the load which can be continuously applied on a Cam Follower placed on a steel track surface without causing deformation and indentation (dent) on the track surface. The track capacities shown in Table 1 are applicable when the hardness of the mating track surface differs from HRC40, the track capacity is obtained by multiplying the value with a track capacity factor shown in Table 2.

If lubrication between the outer ring and the mating track surface is insufficient, seizure and/or wear may occur depending on the application. Therefore, it is suggested that attention should be paid to both lubrication and surface roughness of the mating track especially in case of high speed rotation such as cam mechanisms.

**Allowable Rotational Speed** is affected by mounting and operating conditions. The  $d_1/n$  values in general operation under pure radial load are shown below for reference. It is recommended to use 1/10 of the table values in actual applications taking account of axial loads that may be applied.

$d_1 \cdot n$  Values where  $d_1$  = Stud Diameter (mm) and  $n$  = Number of Rotations per minute (Rpm)

Max  $d_1 \cdot n$  Values With cage Type = 84,000  $d_1/n$  (with grease lubricant); Full Complement Type = 42,000  $d_1/n$  (with grease lubricant)

### Material

Carbon Steel. Seals: Rubber

### Other Info.

Seals are a special synthetic rubber assembled in the outer ring.

Screwdriver slot for mounting only available while stocks last. New stocks will feature hexagon sockets.

Stud designed to fit H7 housing.

### Notes

(1) Minimum allowable value of chamfer "r"

\*=one oil hole prepared only in the flange head of stud.

(§) It is also applicable to Full complement type, with hexagon hole type and sealed type.

(§§) Only representative types are shown in the table, but applicable to all metric sizes.

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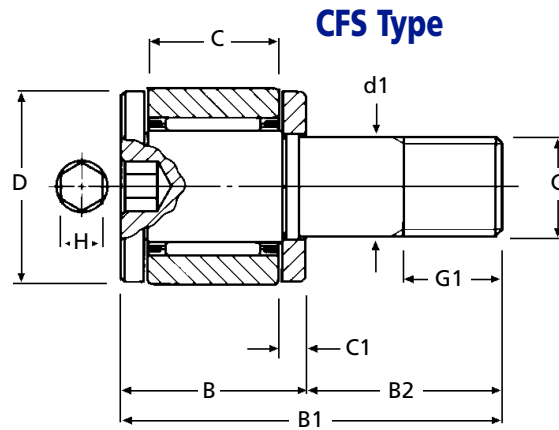
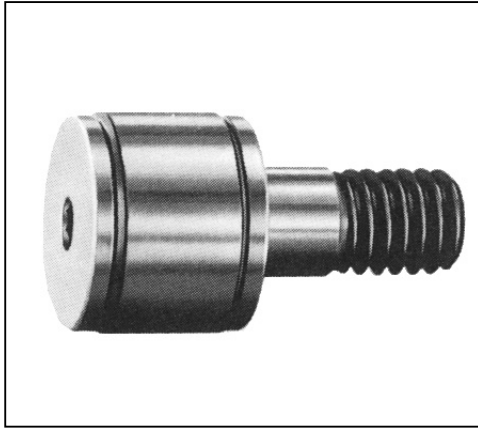
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**CFS**

# BEARINGS

## Miniature Type Cam Followers

Stud Diameter 2 - 6mm

**Discounts: 20+ -8.5%**

Part Number	Weight (Ref.) g	Mounting Dimension f Min. mm	Max. Tightening Torque N•cm	Basic Dynamic Load Rating CN	Basic Static Load Rating C <sub>0</sub> N	Max. Allowable Load N
<b>CAGED</b>						
CFS2	0.6	4.3	9.1	288	202	202
CFS2.5	1.0	4.8	18.7	428	351	351
CFS3	2.0	5.8	33.5	629	611	484
CFS4	4.0	7.7	77.7	1120	1120	919
CFS5	7.0	9.6	158.0	1570	1850	1570
CFS6	13.0	11.6	268.0	2090	2200	2150

<b>FULL COMPLEMENT</b>						
CFS2V	0.6	4.3	9.1	768	734	229
CFS2.5V	1.0	4.8	18.7	1000	1080	360
CFS3V	2.0	5.8	33.5	1420	1790	484
CFS4V	4.0	7.7	77.7	2370	3000	919
CFS5V	7.0	9.6	158.0	3180	4700	1570
CFS6V	13.0	11.6	268.0	4610	6250	2150

Part Number Caged Type	Full Complement Type	d1 (h7) Stud Dia. mm	D <sup>+0.000</sup> <sub>-0.008</sub>	C <sup>+0.00</sup> <sub>-0.12</sub>	G	G1	B	B1	B2	C1	H	Price Each 1 - 19	
												Caged Type	Full Complement Type
CFS2	CFS2V	2.0	4.5	2.5	M2.0 x 0.40	2.0	4.0	8.0	4	0.7	0.9	£51.13	£P.O.A
CFS2.5	CFS2.5V	2.5	5.0	3.0	M2.5 x 0.45	2.5	4.5	9.5	5	0.7	0.9	£46.50	£46.50
CFS3	CFS3V	3.0	6.0	4.0	M3.0 x 0.50	3.0	5.5	11.5	6	0.7	1.3	£35.95	£43.32
CFS4	CFS4V	4.0	8.0	5.0	M4.0 x 0.70	4.0	7.0	15.0	8	1.0	1.5	£35.95	£35.95
CFS5	CFS5V	5.0	10.0	6.0	M5.0 x 0.80	5.0	8.0	18.0	10	1.0	2.0	£34.89	£34.89
CFS6	CFS6V	6.0	12.0	7.0	M6.0 x 1.00	6.0	9.5	21.5	12	1.2	2.5	£31.65	£31.65

### Material

Carbon Steel (standard) all parts.

### Other Info.

Not Sealed.

Stud designed to fit H6 housing.

Stainless Steel (manufactured on request), add letter F to part number.

For example:

CFS3 would become CFS3F, and CFS3V would become CFS3FV.

Prices and delivery are by quotation.

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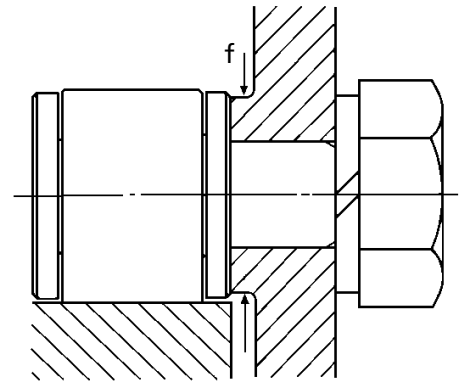
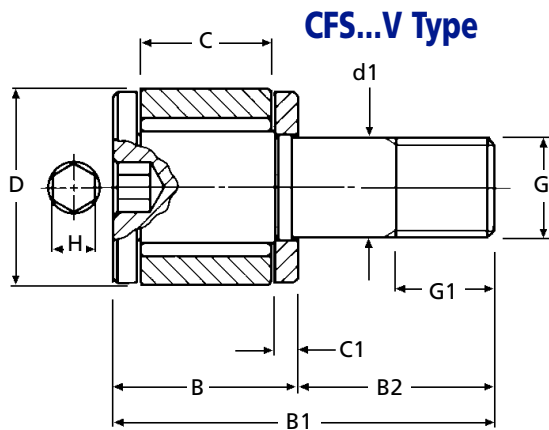
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# BEARINGS

CFS

## Miniature Type Cam Followers

Stud Diameter 2 - 6mm



**Table 1: Track Capacity**

Type: metric series (§§) Cam Followers			
Part No.(§) With Crowned Outer Ring	Track Capacity N	Part No.(§) With Cylindrical Outer Ring	Track Capacity N
-	-	CFS2	220
-	-	CFS2.5	298
-	-	CFS3	485
-	-	CFS4	799
-	-	CFS5	1210
-	-	CFS6	1680

**Table 2: 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	1080	0.65	0.75
38	1180	0.85	0.89
40	1250	1.00	1.00
42	1340	1.23	1.15
44	1435	1.52	1.32
46	1530	1.85	1.51
48	1635	2.27	1.73
50	1760	2.80	1.99
52	1880	3.46	2.29
54	2015	4.21	2.61
56	2150	5.13	2.97
58	2290	6.26	3.39

(§) It is also applicable to Full complement type, with hexagon hole type and sealed type.

(§§) Only representative types are shown in the table, but applicable to all metric sizes.

Track capacity is defined as the load which can be continuously applied on a Cam Follower placed on a steel track surface without causing deformation and indentation (dent) on the track surface. The track capacities shown in Table 1 are applicable when the hardness of the mating track surface differs from HRC40, the track capacity is obtained by multiplying the value with a track capacity factor shown in Table 2.

If lubrication between the outer ring and the mating track surface is insufficient, seizure and/or wear may occur depending on the application. Therefore, it is suggested that attention should be paid to both lubrication and surface roughness of the mating track especially in case of high speed rotation such as cam mechanisms.

**Allowable Rotational Speed** is affected by mounting and operating conditions. The  $d \cdot n$  values in general operation under pure radial load are shown below for reference. It is recommended to use 1/10 of the table values in actual applications taking account of axial loads that may be applied.

**$d \cdot n$  Values where  $d$  = Stud Diameter (mm) and  $n$  = Number of Rotations per minute (Rpm)**

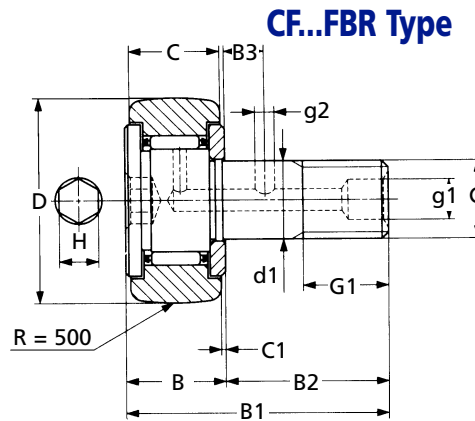
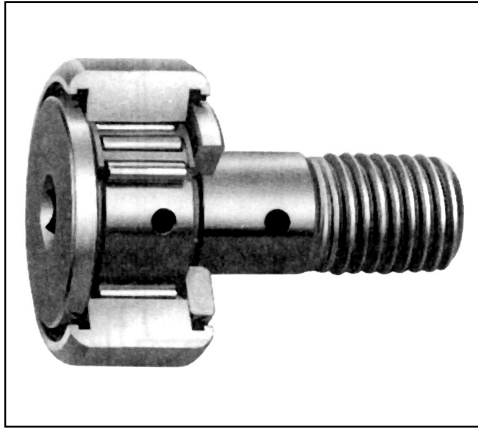
**Max  $d \cdot n$  Values** With cage Type = 84,000  $d \cdot n$  (with grease lubricant); Full Complement Type = 42,000  $d \cdot n$  (with grease lubricant)

**CF-FB**

# BEARINGS

## Stainless Steel Cam Followers

Stud Diameter 3 - 20mm

**Discounts: 20+ -8.5%**

Part Number		Weight (Ref.) g	Mounting Dimension f Min. mm	Max. Tightening Torque N•m	Basic Dynamic Load Rating C N	Basic Static Load Rating Co N	Max. Allowable Load N
Shielded Type	Sealed Type						
CF3-FB	CF3-FBUU	4.3	6.8	0.29	1176	784	382
CF4-FB	CF4-FBUU	7.4	8.3	0.78	1667	1274	833
CF5-FB	CF5-FBUU	10.3	9.3	2.26	1961	1765	1274
CF6-FBR	CF6-FBUUR	18.5	11.0	2.94	2942	2942	1961
CF8-FBR	CF8-FBUUR	28.5	13.0	7.85	3334	3726	3726
CF10-FBR	CF10-FBUUR	45.0	16.0	11.77	4314	5491	5491
CF12-FBR	CF12-FBUUR	95.0	21.0	21.57	6374	7845	7845
CF16-FBR	CF16-FBUUR	170.0	26.0	56.88	9610	14709	14709
CF18-FBR	CF18-FBUUR	250.0	29.0	83.36	11767	20201	20201
CF20-FBR	CF20-FBUUR	460.0	34.0	117.68	16573	27654	27654

Part Number		d1 Stud Dia. mm	D	C	G	G1	B max.	B1 max.	B2	B3	C1	g1	g2	H	r min(1)	Price Each 1 - 19	
Shielded Type	Sealed Type															Shielded Type	Sealed Type
CF3-FB	CF3-FBUU	3	10	7	M3 x 0.50	5.0	8.0	17.0	9.0	-	0.5	-	-	2.0	0.2	£53.88	£62.43
CF4-FB	CF4-FBUU	4	12	8	M4 x 0.70	6.0	9.0	20.0	11.0	-	0.5	-	-	2.5	0.3	£47.92	£54.82
CF5-FB	CF5-FBUU	5	13	9	M5 x 0.80	7.5	10.0	23.0	13.0	-	0.5	-	-	3.0	0.3	£44.53	£51.31
CF6-FBR	CF6-FBUUR	6	16	11	M6 x 1.00	8.0	12.2	28.2	16.0	-	0.6	-	-	3.0	0.3	£38.09	£45.41
CF8-FBR	CF8-FBUUR	8	19	11	M8 x 1.25	10.0	12.2	32.2	20.0	-	0.6	-	-	4.0	0.3	£38.29	£46.68
CF10-FBR	CF10-FBUUR	10	22	12	M10 x 1.25	12.0	13.2	36.2	23.0	-	0.6	-	-	5.0	0.3	£40.90	£46.68
CF12-FBR	CF12-FBUUR	12	30	14	M12 x 1.50	13.0	15.2	40.2	25.0	6	0.6	6.0	3	6.0	0.6	£50.92	£58.44
CF16-FBR	CF16-FBUUR	16	35	18	M16 x 1.50	17.0	19.6	52.1	32.5	8	0.8	6.0	3	6.0	0.6	£63.11	£66.97
CF18-FBR	CF18-FBUUR	18	40	20	M18 x 1.50	19.0	21.6	58.1	36.5	8	0.8	6.0	3	8.0	1.0	£77.05	£81.81
CF20-FBR	CF20-FBUUR	20	52	24	M20 x 1.50	21.0	25.6	66.1	40.5	9	0.8	8.0	4	8.0	1.0	£105.93	£110.59

### Material

Stainless Steel similar to 440C.

### Other Info.

Sealed types have seals made of synthetic rubber.

Shielded types have stainless shields.

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# BEARINGS

CF-FB

## Stainless Steel Cam Followers

Stud Diameter 3 - 20mm

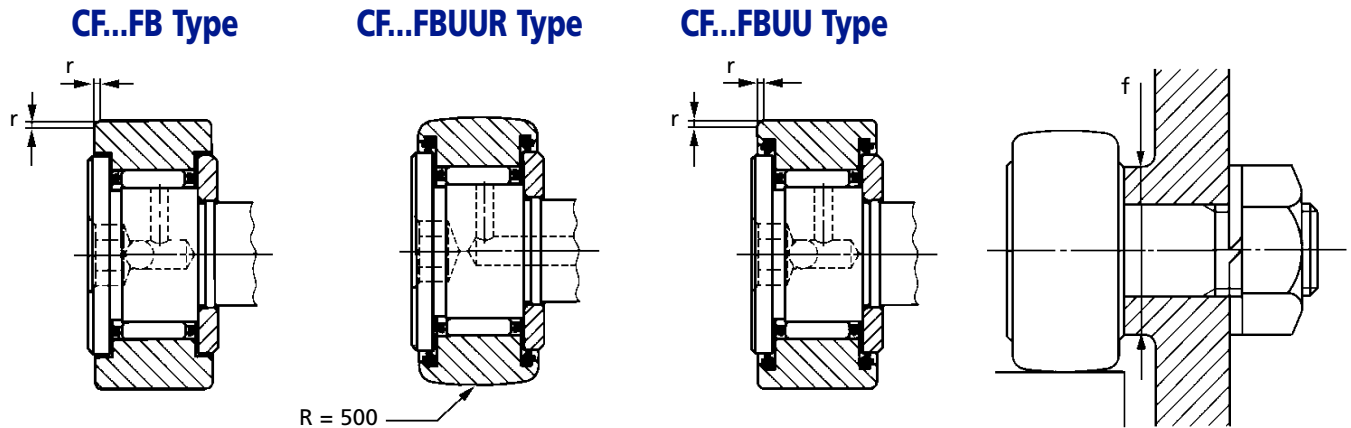


Table 1: Track Capacity

Type: metric series (§§) Cam Followers			
Part No.(§) With Crowned Outer Ring	Track Capacity N	Part No.(§) With Cylindrical Outer Ring	Track Capacity N
-	-	CF3-FB	1372
-	-	CF4-FB	1765
-	-	CF5-FB	2255
CF6-FBR	1078	-	-
CF8-FBR	1372	-	-
CF10-FBR	1569	-	-
CF12-FBR	2059	-	-
CF16-FBR	2451	-	-
CF18-FBR	3628	-	-
CF20-FBR	5197	-	-

Table 2: Track Capacity Factor

Hardness HRC	Tensile Strength N/mm <sup>2</sup>	Track Capacity Factor	
		With Crowned Outer Ring	With Cylindrical Outer Ring
20	755	0.22	0.37
25	843	0.31	0.46
30	951	0.45	0.58
35	1078	0.65	0.75
38	1176	0.85	0.89
40	1245	1.00	1.00
42	1333	1.23	1.15
44	1431	1.52	1.32
46	1529	1.85	1.51
48	1637	2.27	1.73
50	1755	2.80	1.99
52	1882	3.46	2.29
54	2010	4.21	2.61
56	2147	5.13	2.97
58	2294	6.26	3.39

Track capacity is defined as the load which can be continuously applied on a Cam Follower placed on a steel track surface without causing deformation and indentation (dent) on the track surface. The track capacities shown in Table 1 are applicable when the hardness of the mating track surface differs from HRC40, the track capacity is obtained by multiplying the value with a track capacity factor shown in Table 2.

If lubrication between the outer ring and the mating track surface is insufficient, seizure and/or wear may occur depending on the application. Therefore, it is suggested that attention should be paid to both lubrication and surface roughness of the mating track especially in case of high speed rotation such as cam mechanisms.

**Allowable Rotational Speed** is affected by mounting and operating conditions. The  $d_1 \cdot n$  values in general operation under pure radial load are shown below for reference. It is recommended to use 1/10 of the table values in actual applications taking account of axial loads that may be applied.

$d_1 \cdot n$  Values where  $d_1$  = Stud Diameter (mm) and  $n$  = Number of Rotations per minute (Rpm)

**Max  $d_1 \cdot n$  Values** With cage Type = 84,000  $d_1 \cdot n$  (with grease lubricant); Full Complement Type = 42,000  $d_1 \cdot n$  (with grease lubricant)

### Notes

(1) Minimum allowable value of chamfer "r"

(§) It is also applicable to Full complement type, with hexagon hole type and sealed type.

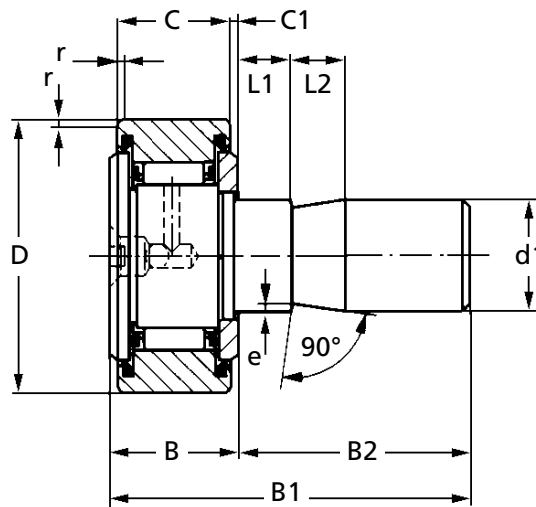
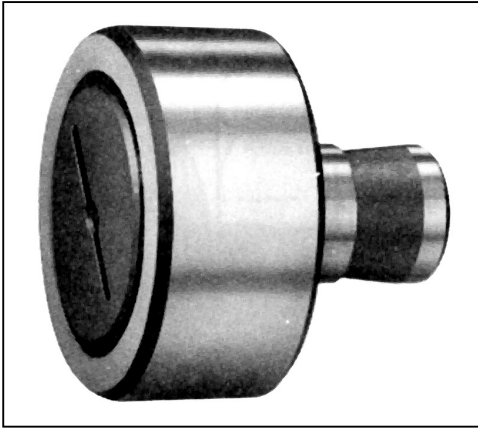
(§§) Only representative types are shown in the table, but applicable to all metric sizes.

**CF-SFU**

# BEARINGS

## Easy Mounting Type Cam Followers

Stud Diameter 6 - 20mm

**Discounts: 20+ -8.5%**

Part Number	Weight (Ref.) g	Mounting Dimension f Min. mm	Basic Dynamic Load Rating C N	Basic Static Load Rating Co N	Max. Allowable Load N
CF-SFU-6	19.5	11	3628	3628	1961
CF-SFU-8	29.0	13	4216	4707	4609
CF-SFU-10	44.0	16	5393	6864	6864
CF-SFU-10-1	59.0	16	5393	6864	6864
CF-SFU-12	94.0	21	7943	9806	9806
CF-SFU-12-1	104.0	21	7943	9806	9806
CF-SFU-16	164.0	26	12062	18338	18338
CF-SFU-18	235.0	29	14709	25203	25203
CF-SFU-20	435.0	34	20692	34617	32165
CF-SFU-20-1	360.0	34	20692	34617	32165

Part Number	d1 Stud Dia. mm	d1 Tolerance	D	C	t (min.)	h (min.)	B max.	B1 max.	B2	C1	L1	L2	e	r min(1)	Price Each 1 - 19
CF-SFU-6	6	+0.012/0	16	11	20	10	12.2	32.0	19.8	0.6	5	10	0.3	0.3	£31.69
CF-SFU-8	8	+0.015/0	19	11	20	10	12.2	32.0	19.8	0.6	5	10	0.5	0.3	£32.17
CF-SFU-10	10	+0.015/0	22	12	20	10	13.2	33.0	19.8	0.6	5	10	0.5	0.3	£34.28
CF-SFU-10-1	10	+0.015/0	26	12	20	10	13.2	33.0	19.8	0.6	5	10	0.5	0.3	£35.73
CF-SFU-12	12	+0.018/0	30	14	20	10	15.2	35.0	19.8	0.6	5	10	1.0	0.6	£43.43
CF-SFU-12-1	12	+0.018/0	32	14	20	10	15.2	35.0	19.8	0.6	5	10	1.0	0.6	£45.03
CF-SFU-16	16	+0.018/0	35	18	25	15	19.6	44.5	24.9	0.8	10	10	1.0	0.6	£41.23
CF-SFU-18	18	+0.018/0	40	20	25	15	21.6	46.5	24.9	0.8	10	10	1.0	1.0	£48.34
CF-SFU-20	20	+0.021/0	52	24	25	15	25.6	50.5	24.9	0.8	10	10	1.0	1.0	£66.02
CF-SFU-20-1	20	+0.021/0	47	24	25	15	25.6	50.5	24.9	0.8	10	10	1.0	1.0	£57.25

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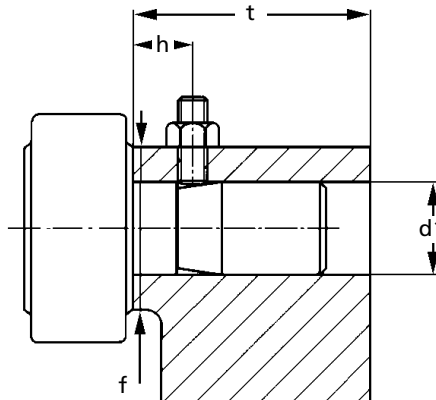
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# BEARINGS

CF-SFU

## Easy Mounting Type Cam Followers

Stud Diameter 6 - 20mm



**Table 1: Track Capacity**

Type: metric series (§§) Cam Followers			
Part No.(§) With Crowned Outer Ring	Track Capacity N	Part No.(§) With Cylindrical Outer Ring	Track Capacity N
-	-	CF-SFU-6	3432
-	-	CF-SFU-8	4020
-	-	CF-SFU-10	4707
-	-	CF-SFU-10-1	5491
-	-	CF-SFU-12	7060
-	-	CF-SFU-12-1	7453
-	-	CF-SFU-16	11179
-	-	CF-SFU-18	14415
-	-	CF-SFU-20	23241
-	-	CF-SFU-20-1	20986

**Table 2: Track Capacity Factor**

Hardness HRC	Tensile Strength N/mm <sup>2</sup>	Track Capacity Factor	
		With Crowned Outer Ring	With Cylindrical Outer Ring
20	755	0.22	0.37
25	843	0.31	0.46
30	951	0.45	0.58
35	1078	0.65	0.75
38	1176	0.85	0.89
40	1245	1.00	1.00
42	1333	1.23	1.15
44	1431	1.52	1.32
46	1529	1.85	1.51
48	1637	2.27	1.73
50	1755	2.80	1.99
52	1882	3.46	2.29
54	2010	4.21	2.61
56	2147	5.13	2.97
58	2294	6.26	3.39

Track capacity is defined as the load which can be continuously applied on a Cam Follower placed on a steel track surface without causing deformation and indentation (dent) on the track surface. The track capacities shown in Table 1 are applicable when the hardness of the mating track surface differs from HRC40, the track capacity is obtained by multiplying the value with a track capacity factor shown in Table 2.

If lubrication between the outer ring and the mating track surface is insufficient, seizure and/or wear may occur depending on the application. Therefore, it is suggested that attention should be paid to both lubrication and surface roughness of the mating track especially in case of high speed rotation such as cam mechanisms.

**Allowable Rotational Speed** is affected by mounting and operating conditions. The  $d_1 \cdot n$  values in general operation under pure radial load are shown below for reference. It is recommended to use 1/10 of the table values in actual applications taking account of axial loads that may be applied.

**$d_1 \cdot n$  Values where  $d_1$  = Stud Diameter (mm) and  $n$  = Number of Rotations per minute (Rpm)**

**Max  $d_1 \cdot n$  Values** With cage Type = 84,000  $d_1 \cdot n$  (with grease lubricant); Full Complement Type = 42,000  $d_1 \cdot n$  (with grease lubricant)

### Material

Carbon Steel. **Seals:** special synthetic rubber assembled in the outer ring.

### Other Info.

Screwdriver slot for mounting only available while stocks last. New stocks will feature hexagon sockets.

### Notes

(1) Minimum allowable value of chamfer "r".

(§) It is also applicable to Full complement type, with hexagon hole type and sealed type.

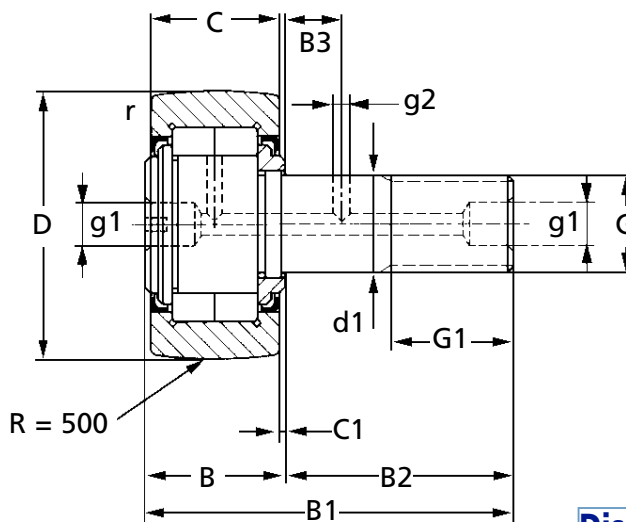
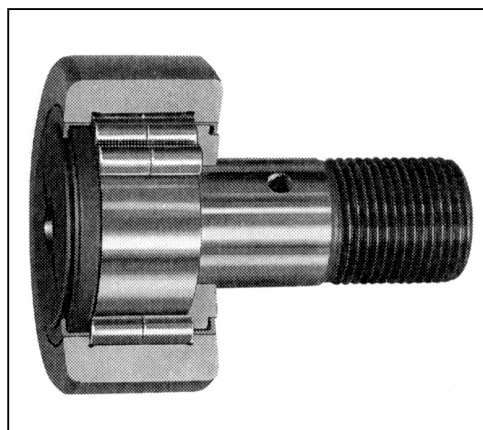
(§§) Only representative types are shown in the table, but applicable to all metric sizes.

**NUCF-R**

# BEARINGS

## Heavy Duty Type Cam Followers

Stud Diameter 10 - 30mm

**Discounts: 20+ -8.5%**

Part Number	Weight (Ref.) g	Mounting Dimension f Min. mm	Max. Tightening Torque N·m	Basic Dynamic Load Rating C N	Basic Static Load Rating C <sub>s</sub> N	Max. Allowable Load N
NUCF-10R	44	12	11.77	10395	11473	6864
NUCF-10-1R	58	12	11.77	10395	11473	7943
NUCF-12R	86	17	21.57	13925	13435	7256
NUCF-12-1R	97	17	21.57	13925	13435	9806
NUCF-16R	167	20	56.88	23339	27262	15984
NUCF-18R	244	22	83.36	25203	30989	21966
NUCF-20R	457	31	117.68	43051	58251	34813
NUCF-20-1R	384	27	117.68	38932	49033	32852
NUCF-24R	789	38	215.75	58153	75217	45600
NUCF-24-1R	1020	44	215.75	63939	88848	59820
NUCF-30R	1600	45	451.11	90319	120621	94634
NUCF-30-2R	1970	45	451.11	90319	120621	117679

Part Number	d1 Stud Dia. mm	D	C	G	G1	B max.	B1 max.	B2	B3	C1	g1	g2	r min(1)	Price Each 1 - 19
NUCF-10R	10	22	12	M10 x 1.25	12	13.2	36.2	23.0	-	0.6	*4	-	0.3	£41.19
NUCF-10-1R	10	26	12	M10 x 1.25	12	13.2	36.2	23.0	-	0.6	*4	-	0.3	£43.56
NUCF-12R	12	30	14	M12 x 1.50	13	15.2	40.2	25.0	6	0.6	6	3	0.6	£38.74
NUCF-12-1R	12	32	14	M12 x 1.50	13	15.2	40.2	25.0	6	0.6	6	3	0.6	£40.83
NUCF-16R	16	35	18	M16 x 1.50	17	19.6	52.1	32.5	8	0.8	6	3	0.6	£44.37
NUCF-18R	18	40	20	M18 x 1.50	19	21.6	58.1	36.5	8	0.8	6	3	1.0	£52.36
NUCF-20R	20	52	24	M20 x 1.50	21	25.6	66.1	40.5	9	0.8	8	4	1.0	£59.58
NUCF-20-1R	20	47	24	M20 x 1.50	21	25.6	66.1	40.5	9	0.8	8	4	1.0	£59.58
NUCF-24R	24	62	29	M24 x 1.50	25	30.6	80.1	49.5	11	0.8	8	4	1.0	£92.37
NUCF-24-1R	24	72	29	M24 x 1.50	25	30.6	80.1	49.5	11	0.8	8	4	1.0	£97.10
NUCF-30R	30	80	35	M30 x 1.50	32	37.0	100.0	63.0	15	1.0	8	4	1.0	£122.02
NUCF-30-2R	30	90	35	M30 x 1.50	32	37.0	100.0	63.0	15	1.0	8	4	1.0	£138.56

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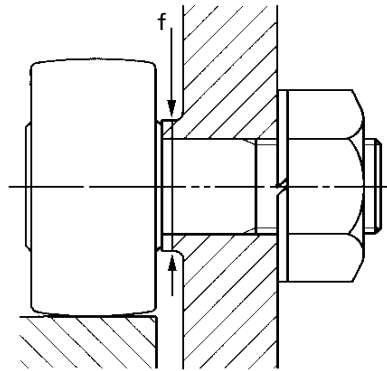
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# BEARINGS

NUCF-R

## Heavy Duty Type Cam Followers

Stud Diameter 10 - 30mm



**Table 1: Track Capacity**

Type: metric series (§§) Cam Followers			
Part No.(§) With Crowned Outer Ring	Track Capacity N	Part No.(§) With Cylindrical Outer Ring	Track Capacity N
NUCF-10R	1569	-	-
NUCF-10-1R	2059	-	-
NUCF-12R	2451	-	-
NUCF-12-1R	2745	-	-
NUCF-16R	3040	-	-
NUCF-18R	3628	-	-
NUCF-20R	5197	-	-
NUCF-20-1R	4511	-	-
NUCF-24R	6570	-	-
NUCF-24-1R	8041	-	-
NUCF-30R	9218	-	-
NUCF-30-2R	10787	-	-

**Table 2: Track Capacity Factor**

Hardness HRC	Tensile Strength N/mm <sup>2</sup>	Track Capacity Factor	
		With Crowned Outer Ring	With Cylindrical Outer Ring
20	755	0.22	0.37
25	843	0.31	0.46
30	951	0.45	0.58
35	1078	0.65	0.75
38	1176	0.85	0.89
40	1245	1.00	1.00
42	1333	1.23	1.15
44	1431	1.52	1.32
46	1529	1.85	1.51
48	1637	2.27	1.73
50	1755	2.80	1.99
52	1882	3.46	2.29
54	2010	4.21	2.61
56	2147	5.13	2.97
58	2294	6.26	3.39

Track capacity is defined as the load which can be continuously applied on a Cam Follower placed on a steel track surface without causing deformation and indentation (dent) on the track surface. The track capacities shown in Table 1 are applicable when the hardness of the mating track surface differs from HRC40, the track capacity is obtained by multiplying the value with a track capacity factor shown in Table 2.

If lubrication between the outer ring and the mating track surface is insufficient, seizure and/or wear may occur depending on the application. Therefore, it is suggested that attention should be paid to both lubrication and surface roughness of the mating track especially in case of high speed rotation such as cam mechanisms.

**Allowable Rotational Speed** is affected by mounting and operating conditions. The  $d \cdot n$  values in general operation under pure radial load are shown below for reference. It is recommended to use 1/10 of the table values in actual applications taking account of axial loads that may be applied.

**$d_1 \cdot n$  Values where  $d_1$  = Stud Diameter (mm) and  $n$  = Number of Rotations per minute (Rpm)**

**Max  $d_1 \cdot n$  Values** With cage Type = 84,000  $d_1 \cdot n$  (with grease lubricant); Full Complement Type = 42,000  $d_1 \cdot n$  (with grease lubricant)

### Material

Carbon Steel all parts.

### Notes

(1) Minimum allowable value of chamfer "r".

\*=one oil hole prepared only in the flange head of stud.

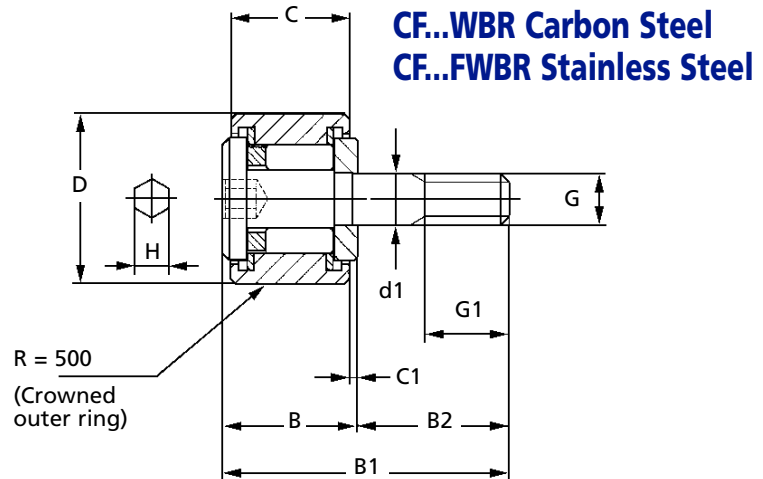
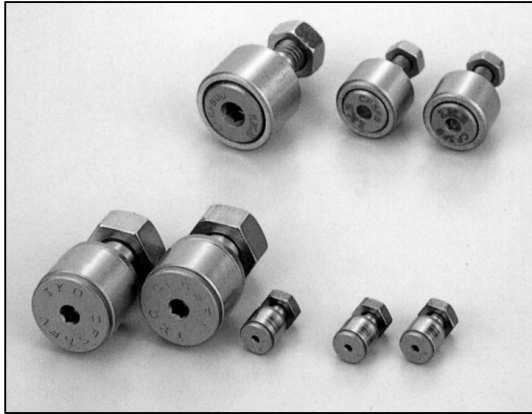
(§) It is also applicable to Full complement type, with hexagon hole type and sealed type.

(§§) Only representative types are shown in the table, but applicable to all metric sizes.

**CF-WB**  
**CF-FWB**

# BEARINGS

## Thrust Disc Type Cam Followers with Hexagon Hole Stud Diameter 3 - 5mm



**Discounts: 20+ -8.5%**

Shield type	Sealed type	Weight (Ref.) g	Mounting Dimension f Min. mm	Max. Tightening Torque Nm	Basic Dynamic Load Rating C N	Basic Static Load Rating Co N	Max. Allowable Load N
CF3WBR	CF3WBUUR	4.3	6.8	0.34	1500	1320	384
CF3FWBR	CF3FWBUUR	4.3	6.8	0.34	1200	813	384
CF4WBR	CF4WBUUR	7.4	8.3	0.78	2070	1590	834
CF4FWBR	CF4FWBUUR	7.4	8.3	0.78	1650	1270	834
CF5WBR	CF5WBUUR	10.3	9.3	1.60	2520	2140	1260
CF5FWBR	CF5FWBUUR	10.3	9.3	1.60	1930	1730	1260

Part Number	d1 (h7) Stud Dia. mm	D	C	G	G1	B max.	B1 max.	B2	C1	H	Price Each 1- 19 Shield type	Sealed type	
CF3WBR	CF3WBUUR	3	10	7	M3 x 0.5	5.0	8	17	9	0.5	2.0	£19.13	£23.01
CF3FWBR	CF3FWBUUR	3	10	7	M3 x 0.5	5.0	8	17	9	0.5	2.0	£39.74	£46.08
CF4WBR	CF4WBUUR	4	12	8	M4 x 0.7	6.0	9	20	11	0.5	2.5	£17.17	£20.41
CF4FWBR	CF4FWBUUR	4	12	8	M4 x 0.7	6.0	9	20	11	0.5	2.5	£35.52	£40.72
CF5WBR	CF5WBUUR	5	13	9	M5 x 0.8	7.5	10	23	13	0.5	3.0	£16.02	£19.27
CF5FWBR	CF5FWBUUR	5	13	9	M5 x 0.8	7.5	10	23	13	0.5	3.0	£33.08	£38.28

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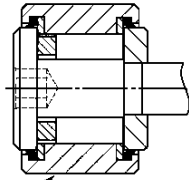
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# BEARINGS

CF-WB  
CF-FWB

## Thrust Disc Type Cam Followers with Hexagon Hole Stud Diameter 3 - 5mm

CF...WBUUR Carbon Steel  
CF...FWBUUR Stainless Steel



R = 500  
(Crowned outer ring)

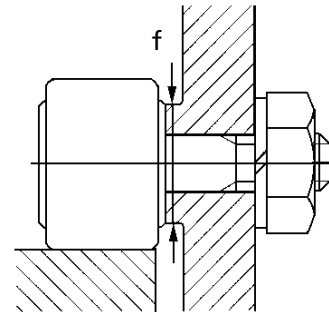


Table 1: Track Capacity

Type: metric series (§§) Cam Followers			
Part No.(§) With Crowned Outer Ring	Track Capacity N	Part No.(§) With Cylindrical Outer Ring	Track Capacity N
CF3R	542	CF3	1360
CF4R	712	CF4	1790
CF5R	794	CF5	2210
-	-	CFS2	220
-	-	CFS2.5	298
-	-	CFS3	485
-	-	CFS4	799
-	-	CFS5	1210
-	-	CFS6	1680

Table 2: Track Capacity Factor

Hardness HRC	Tensile Strength N/mm <sup>2</sup>	Track Capacity Factor With Crowned Outer Ring
20	760	0.22
25	840	0.31
30	950	0.45
35	1080	0.65
38	1180	0.85
40	1250	1.00
42	1340	1.23
44	1435	1.52
46	1530	1.85
48	1635	2.27
50	1760	2.80
52	1880	3.46
54	2015	4.21
56	2150	5.13
58	2290	6.26

Track capacity is defined as the load which can be continuously applied on a Cam Follower placed on a steel track surface without causing deformation and indentation (dent) on the track surface. The track capacities shown in Table 1 are applicable when the hardness of the mating track surface differs from HRC40 (Tensile strength 1250N/mm<sup>2</sup>). When the hardness of the mating track surface differs from HRC40, the track capacity is obtained by multiplying the value with a track capacity factor shown in Table 2.

If lubrication between the outer ring and the mating track surface is insufficient, seizure and/or wear may occur depending on the application. Therefore, it is needed to pay attention to lubrication and surface roughness of the mating track especially in case of high speed rotation such as cam mechanisms.

**Allowable Rotational Speed** is affected by mounting and operating conditions. The  $d_1 \cdot n$  values in general operation under pure radial load are shown below for reference. It is recommended to use 1/10 of the table values in actual applications taking account of axial loads that may be applied.

$d_1 \cdot n$  Values where  $d_1$  = Stud Diameter (mm) and  $n$  = Number of Rotations per minute (Rpm)

Max  $d_1 \cdot n$  Values With cage Type = 84,000  $d_1 \cdot n$  (with grease lubricant); Full Complement Type = 42,000  $d_1 \cdot n$  (with grease lubricant)

### Material

CF...WBR, CF...WBUUR: High Carbon Steel

CF...FWBR, CF...FWBUUR: Stainless Steel

Seals: Synthetic Rubber

### Other Info.

Stud designed to fit H7 housing.

### Notes

(§) Only representative types are shown in the table, but applicable to all types.

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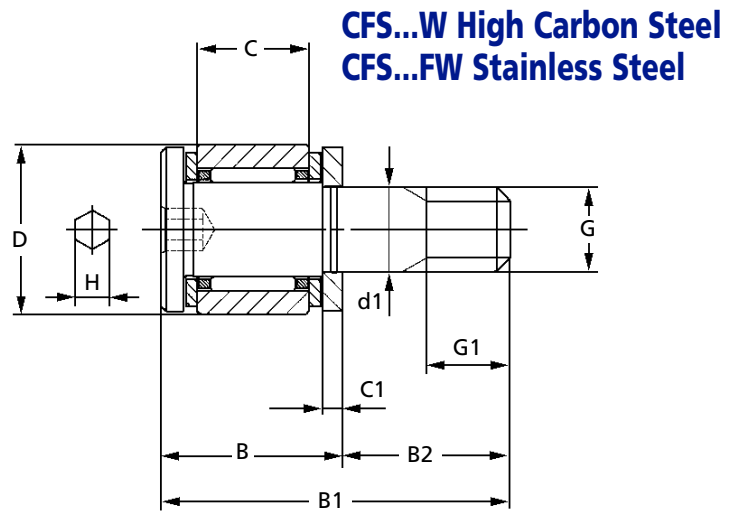
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**CFS-W**  
**CFS-FW**

# BEARINGS

## Thrust Disc Type Miniature Cam Followers

Stud Diameter 2 - 6mm



**Discounts: 20+ -8.5%**

Part Number	Weight (Ref.) g	Mounting Dimension f Min. mm	Max. Tightening Torque N•m	Basic Dynamic Load Rating C N	Basic Static Load Rating Co N	Max. Allowable Load N
<b>CARBON STEEL</b>						
CFS2W	0.6	4.3	9.1	288	202	194
CFS2.5W	1.0	4.8	18.7	428	351	313
CFS3W	2.0	5.8	33.5	629	611	399
CFS4W	4.0	7.7	77.7	1120	1120	785
CFS5W	7.0	9.6	158.0	1570	1850	1370
CFS6W	13.0	11.6	268.0	2090	2200	1920

<b>STAINLESS STEEL</b>						
CFS2FW	0.6	4.3	9.1	230	161	161
CFS2.5FW	1.0	4.8	18.7	342	281	281
CFS3FW	2.0	5.8	33.5	504	488	399
CFS4FW	4.0	7.7	77.7	897	894	785
CFS5FW	7.0	9.6	158.0	1250	1480	1370
CFS6FW	13.0	11.6	268.0	1670	1760	1760

Part Number		d1 (h7) Stud Dia. mm	D	C	G	G1	B max.	B1 max.	B2	C1	H	Price Each 1 - 19	
Carbon Steel	Stainless Steel											Carbon Steel	Stainless Steel
CFS2W	CFS2FW	2.0	4.5	2.5	M2.0 x 0.40	2.0	4.5	8.5	4	0.7	0.9	£45.28	£67.16
CFS2.5W	CFS2.5FW	2.5	5.0	3.0	M2.5 x 0.45	2.5	5.0	10.0	5	0.7	0.9	£43.86	£65.40
CFS3W	CFS3FW	3.0	6.0	4.0	M3.0 x 0.50	3.0	6.5	12.5	6	0.7	1.3	£41.00	£61.04
CFS4W	CFS4FW	4.0	8.0	5.0	M4.0 x 0.70	4.0	8.0	16.0	8	1.0	1.5	£34.07	£50.65
CFS5W	CFS5FW	5.0	10.0	6.0	M5.0 x 0.80	5.0	9.0	19.0	10	1.0	2.0	£33.08	£49.00
CFS6W	CFS6FW	6.0	12.0	7.0	M6.0 x 1.00	6.0	10.5	22.5	12	1.2	2.5	£30.17	£44.61

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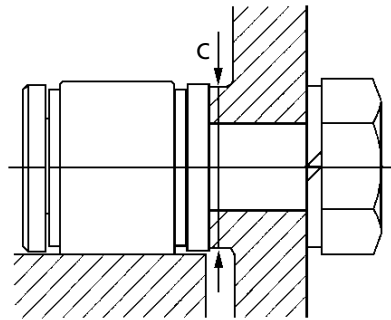
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# BEARINGS

**CFS-W**  
**CFS-FW**

## Thrust Disc Type Miniature Cam Followers

Stud Diameter 2 - 6mm



**Table 1: Track Capacity**

Type: metric series (§§) Cam Followers			
Part No.(§) With Crowned Outer Ring	Track Capacity N	Part No.(§) With Cylindrical Outer Ring	Track Capacity N
CF3R	542	CF3	1360
CF4R	712	CF4	1790
CF5R	794	CF5	2210
-	-	CFS2	220
-	-	CFS2.5	298
-	-	CFS3	485
-	-	CFS4	799
-	-	CFS5	1210
-	-	CFS6	1680

**Table 2: 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	1080	0.65	0.75
38	1180	0.85	0.89
40	1250	1.00	1.00
42	1340	1.23	1.15
44	1435	1.52	1.32
46	1530	1.85	1.51
48	1635	2.27	1.73
50	1760	2.80	1.99
52	1880	3.46	2.29
54	2015	4.21	2.61
56	2150	5.13	2.97
58	2290	6.26	3.39

Track capacity is defined as the load which can be continuously applied on a Cam Follower placed on a steel track surface without causing deformation and indentation (dent) on the track surface. The track capacities shown in Table 1 are applicable when the hardness of the mating track surface differs from HRC40 (Tensile strength 1250N/mm<sup>2</sup>). When the hardness of the mating track surface differs from HRC40, the track capacity is obtained by multiplying the value with a track capacity factor shown in Table 2.

If lubrication between the outer ring and the mating track surface is insufficient, seizure and/or wear may occur depending on the application. Therefore, it is needed to pay attention to lubrication and surface roughness of the mating track especially in case of high speed rotation such as cam mechanisms.

**Allowable Rotational Speed** is affected by mounting and operating conditions. The  $d_1 \cdot n$  values in general operation under pure radial load are shown below for reference. It is recommended to use 1/10 of the table values in actual applications taking account of axial loads that may be applied.

**$d_1 \cdot n$  Values where  $d_1$  = Stud Diameter (mm) and  $n$  = Number of Rotations per minute (Rpm)**

**Max  $d_1 \cdot n$  Values** With cage Type = 84,000  $d_1 \cdot n$  (with grease lubricant); Full Complement Type = 42,000  $d_1 \cdot n$  (with grease lubricant)

### Material

CFS...W - High Carbon Steel all parts.

CFS...FW - Stainless Steel (hard similar to 440C) all parts.

### Other Info.

Stud designed to fit H7 housing.

### Notes

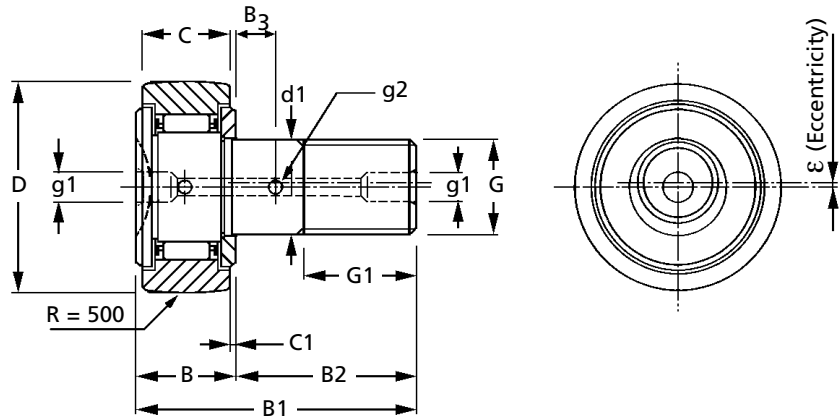
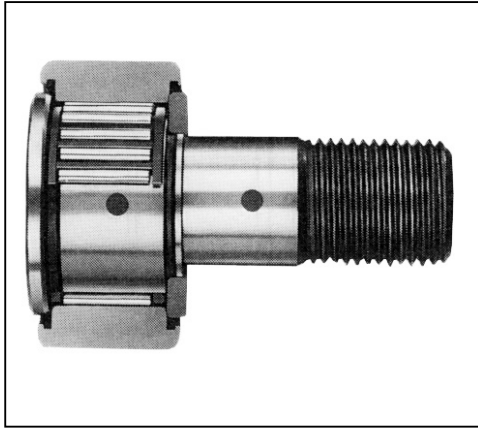
(§) Only representative types are shown in the table, but applicable to all types.

**CFES**

# BEARINGS

## Solid Eccentric Stud Type Cam Followers Sealed

Stud Diameter 6 - 18mm

**Discounts: 20+ -8.5%**

Part Number	Weight (Ref.) g	Mounting Dimension f Min. mm	Max. Tightening Torque N•m	Basic Dynamic Load Rating C N	Basic Static Load Rating Co N	Max. Allowable Load N
<b>CROWNED OUTER RING</b>						
CFES6UUR	18.5	11	0.3	370	370	200
CFES8UUR	28.5	13	0.8	430	480	470
CFES10UUR	45.0	16	1.2	550	700	700
CFES10-1UUR	60.0	16	1.2	550	700	700
CFES12UUR	95.0	21	2.2	810	1000	1000
CFES12-1UUR	105.0	21	2.2	810	1000	1000
CFES16UUR	170.0	26	5.8	1230	1870	1870
<b>CYLINDRICAL OUTER RING</b>						
CFES18UU	250.0	29	8.5	1500	2570	2570

Part Number	Crowned outer ring	Cylindrical outer ring	d1 (h7) Stud Dia. mm	D	C <sup>+0.00/-0.12</sup>	G	G1	B max.	B1 max.	B2	B3	C1	g1	g2	r min(1)	Eccentricity ε	Price Each 1 - 19	
																	Crowned outer ring	Cylindrical outer ring
CFES6UUR	-	-	6	16	11	M6 x 1.00	8	12.2	28.2	16.0	-	0.6	*4	-	0.3	0.25	£26.54	-
CFES8UUR	-	-	8	19	11	M8 x 1.25	10	12.2	32.2	20.0	-	0.6	*4	-	0.3	0.25	£27.54	-
CFES10UUR	-	-	10	22	12	M10 x 1.25	12	13.2	36.2	23.0	-	0.6	*4	-	0.3	0.30	£31.32	-
CFES10-1UUR	-	-	10	26	12	M10 x 1.25	12	13.2	36.2	23.0	-	0.6	*4	-	0.3	0.30	£31.17	-
CFES12UUR	-	-	12	30	14	M12 x 1.50	13	15.2	40.2	25.0	6	0.6	6	3	0.6	0.40	£34.32	-
CFES12-1UUR	-	-	12	32	14	M12 x 1.50	13	15.2	40.2	25.0	6	0.6	6	3	0.6	0.40	£30.58	-
CFES16UUR	-	-	16	35	18	M16 x 1.50	17	19.6	52.1	32.5	8	0.8	6	3	0.6	0.50	£35.19	-
-	CFES18UU	-	18	40	20	M18 x 1.50	19	21.6	58.1	36.5	8	0.8	6	3	1.0	0.60	-	£35.19

### Material

Carbon Steel. **Seals:** Rubber.

### Other Info.

Seals are a special synthetic rubber assembled in the outer ring.

Screwdriver slot for mounting.

Stud designed to fit H7 housing.

### Notes

(1) Minimum allowable value of chamfer "r"

\* = one oil hole prepared only in the flange head of stud.

(§) It is also applicable to Full complement type, with hexagon hole type and sealed type.

(§§) Only representative types are shown in the table, but applicable to all metric sizes.

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**ondrives**

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Product information updated 1st April 2011 and subject to change. Please contact Sales for the latest prices and availability.

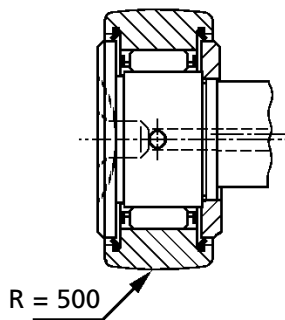
# BEARINGS

CFES

## Solid Eccentric Stud Type Cam Followers Sealed

Stud Diameter 6 - 18mm

CFES...UUR Type



CFES...UU Type

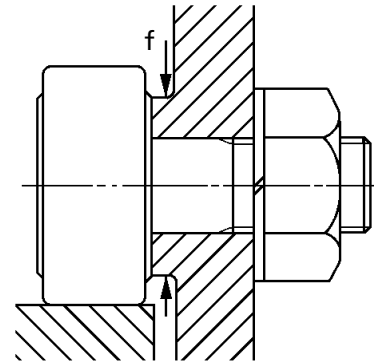
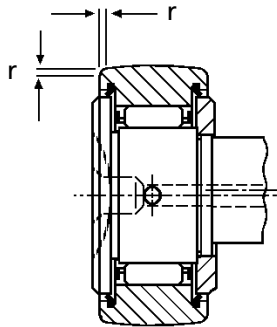


Table 1: Track Capacity

Type: metric series (§§) Cam Followers			
Part No.(§) With Crowned Outer Ring	Track Capacity N	Part No.(§) With Cylindrical Outer Ring	Track Capacity N
CFES6R	110	-	-
CFES8R	140	-	-
CFES10R	160	-	-
CFES10-1R	210	-	-
CFES12R	250	-	-
CFES12-1R	280	-	-
CFES16R	310	-	-
-	-	CFES18	1470

Table 2: Track Capacity Factor

Hardness HRC	Tensile Strength N/mm <sup>2</sup>	Track Capacity Factor	
		With Crowned Outer Ring	With Cylindrical Outer Ring
20	77	0.22	0.37
25	86	0.31	0.46
30	97	0.45	0.58
35	110	0.65	0.75
38	120	0.85	0.89
40	127	1.00	1.00
42	136	1.23	1.15
44	146	1.52	1.32
46	156	1.85	1.51
48	167	2.27	1.73
50	179	2.80	1.99
52	192	3.46	2.29
54	205	4.21	2.61
56	219	5.13	2.97
58	234	6.26	3.39

Track capacity is defined as the load which can be continuously applied on a Cam Follower placed on a steel track surface without causing deformation and indentation (dent) on the track surface. The track capacities shown in Table 1 are applicable when the hardness of the mating track surface differs from HRC40, the track capacity is obtained by multiplying the value with a track capacity factor shown in Table 2.

If lubrication between the outer ring and the mating track surface is insufficient, seizure and/or wear may occur depending on the application. Therefore, it is suggested that attention should be paid to both lubrication and surface roughness of the mating track especially in case of high speed rotation such as cam mechanisms.

**Allowable Rotational Speed** is affected by mounting and operating conditions. The  $d \cdot n$  values in general operation under pure radial load are shown below for reference. It is recommended to use 1/10 of the table values in actual applications taking account of axial loads that may be applied.

**$d \cdot n$  Values where  $d1 =$  Stud Diameter (mm) and  $n =$  Number of Rotations per minute (Rpm)**

**Max  $d \cdot n$  Values** With cage Type = 84,000  $d \cdot n$  (with grease lubricant); Full Complement Type = 42,000  $d \cdot n$  (with grease lubricant)

# BEARINGS

## Cam Followers

### Accuracy

**Table 1: Tolerances**

Series	Metric Series (1)		Miniature Series	Inch Series	
	Crowned Outer Ring	Cylindrical Outer Ring		Crowned Outer Ring	Cylindrical Outer Ring
Outside dia. of outer ring	0 -120	See Table 2.	See Table 3.	0 -50	0 -25
Stud dia. d1	h7		h6	+25 0	
Width of outer ring C	0 -120		0 -120	0 -130	

(1): Also applicable to NUCF series.

**Table 2: Accuracy of Outer Ring**

D Nominal outside dia. of outer ring mm		$\Delta D_{mp}$ Single plane mean outside dia. deviation		VDp Outside dia. variation in a single radial plane (max.)	VDmp Mean outside dia. variation (max.)	Kea 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: Accuracy of Outer Ring (Miniature Type Cam Followers)**

$\Delta D_{mp}$ Single plane mean outside dia. deviation								Kea Radial runout of assembled bearing outer ring (Max.)			
Class 0 high		Class 6 high		Class 5 high		Class 4 high		Class 0	Class 6	Class 5	Class 4
low	low	low	low	low	low	low	low				
0	-8	0	-7	0	-5	0	-4	15	8	5	4

**Table 4: Radial Internal Clearance**

Identification Number (1)					Radial Internal Clearance	
Metric Series (2)	Heavy Duty Type Cam Followers	Miniature Type Cam Followers	Inch Series	Super Duty Type Cam Followers	Min.	Max.
CF 3~5	-	CFS2.5~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

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

(2): Only representative types are shown in the table, but applicable to all metric series.

# BEARINGS

## Cam Followers

Pre-Packed Grease

Grease-prepacked Cam Followers and allowable temperature range are shown in Table 5. A good quality lithium soap based grease is prepacked. For Cam Followers without prepacked grease, grease should be packed through the oil hole in the stud before use. If they are used without grease, wear of rolling parts may take place, leading to short bearing life.

**Table 5: Grease Prepacked Cam Followers and Allowable Temperature Range**

Series	Stud dia. $d_1^{(1)}$ mm	Types		With Cage				Full Complement Type
		Shield Type		Sealed Type		With Hexagon Hole		
		Standard	With Hexagon Hole	Standard	With Hexagon Hole			
Metric Series Cam Followers	3, 4	CF	-20°C~+110°C	-20°C~+110°C	-20°C~+80°C	-20°C~+80°C	-	
		CF..F	-20°C~+120°C	-20°C~+120°C <sup>(2)</sup>	-20°C~+120°C	-20°C~+120°C	-	
	CFES	Grease is not prepacked.	-20°C~+120°C	Grease is not prepacked.	-20°C~+120°C	-20°C~+120°C	-20°C~+120°C	
	CF..W		-20°C~+120°C		-20°C~+120°C	-20°C~+120°C		
	12~30	CF-RU1, CF-FU1	-	-	-20°C~+120°C	-	-	
CF-SFU	-	-	-20°C~+120°C	-	-	-		
Inch Series	NUCF	-	-	-	-	-	-20°C~+120°C	
		CFS	-	-20°C~+120°C	-	-	-20°C~+120°C	
		CR	-20°C~+120°C	-	-20°C~+120°C	-	-20°C~+120°C	
		CRH	-	-	-	-	-20°C~+120°C	

(1): For Eccentric Type Cam Followers (CFE), thread dia. G shown in the dimension table is applicable in place of stud dia.

(2): Allowable temperature range of Stainless Steel Made Cam Followers is -20°C~+110°C.

THE CHNICAL

# BEARINGS

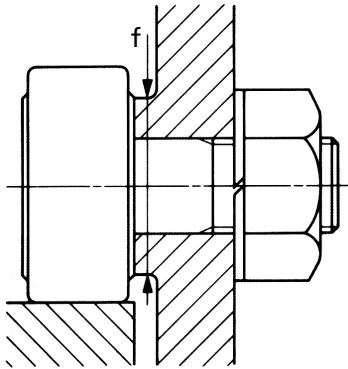
## Cam Followers Mounting

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- 1 Make the centre axis of 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 dimension tables. (See Fig.1). Then fix the Cam Follower with the nut. DO NOT hit the flange head of Cam Followers directly by a hammer, etc. It may lead to bearing failures such as irregular rotation and cracking.
- 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. It may lead to short bearing life. (Refer to Fig.2). The hole located in the middle part of the stud perpendicular to the stud centre axis is used for greasing or locking.
- 3 When tightening the nut, the tightening torque should not exceed the values shown in the dimension tables. If the tightening torque is too large, it is possible that the threaded portion of the stud will be broken. When there are possibilities of loosening, a special nut such as a lock nut, a spring washer or a 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 by turning the stud using a screwdriver or hexagon bar wrench as appropriate. The stud is fixed by a nut and a spring-washer, etc. The tightening torque should not exceed the values of maximum tightening torque shown in the dimension tables.  
When shock loads are applied and the adjusted eccentric amount 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. (Refer to Fig.3). However, when the stud diameter is less than 8mm (Eccentric collar dia. 11mm), it is difficult to make a hole in the stud because the stud is through-hardened.
- 5 In the case of Eccentric Type Cam Followers, the length of the mounting hole should be no more than 0.5mm longer than the dimension B3 (Eccentric collar width) shown in the dimension table. (Refer to Fig.4).
- 6 For mounting the Easy Mounting Type Cam Followers, it is recommended to fix the screw from the upper side to the stepped portion of the stud. (Refer to Fig.5).

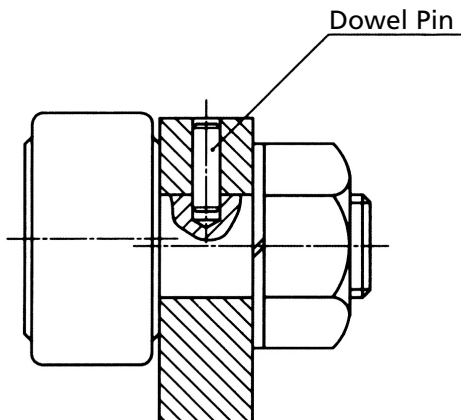
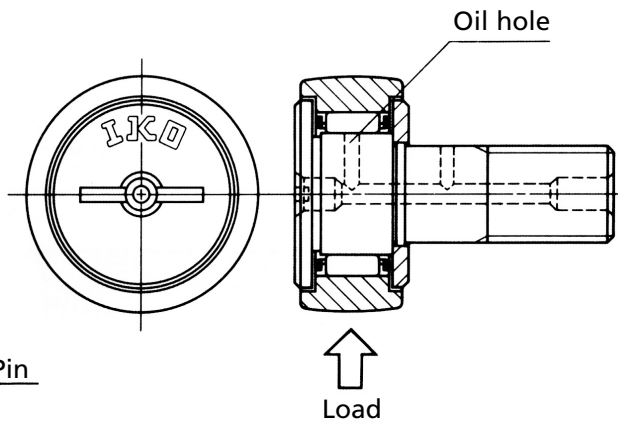
# BEARINGS

## Cam Followers Mounting



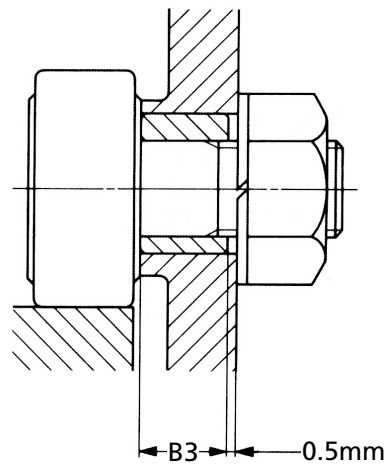
**Fig. 1:** Height of seating surface "f"

**Fig. 2:** Oil hole position and loading direction

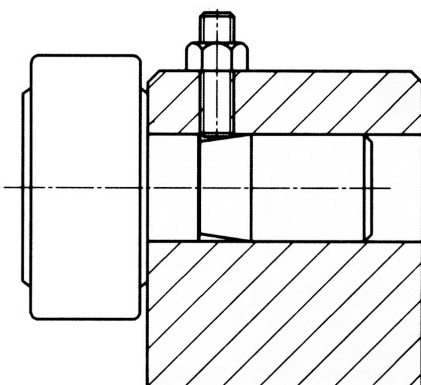


**Fig. 3:** Mounting example of Solid Eccentric Stud Type Cam Follower

**Fig. 4:** Mounting example of Eccentric Type Cam Follower



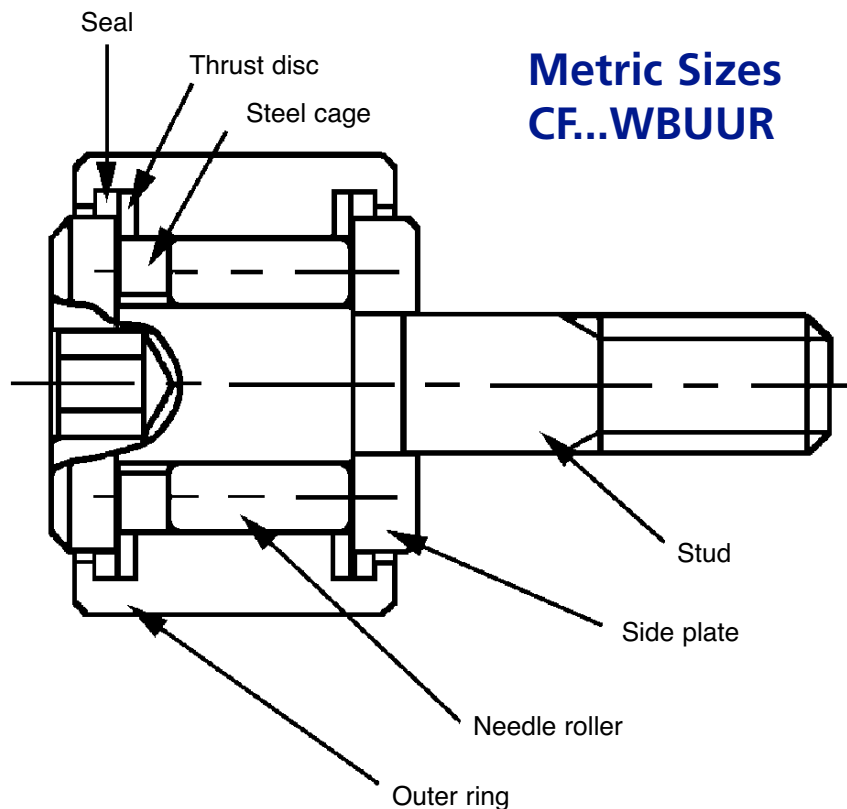
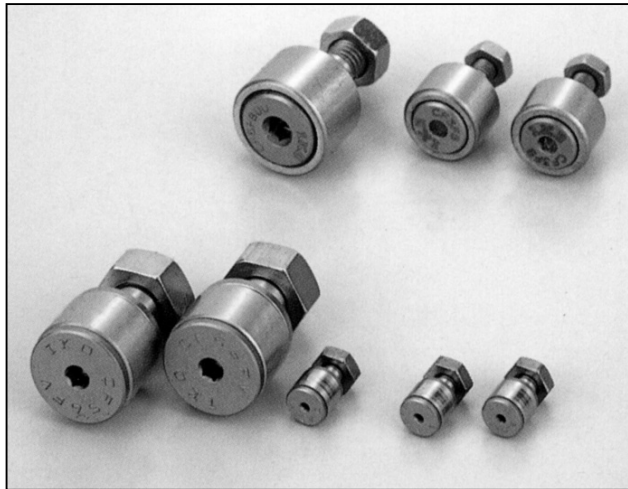
**Fig. 5:** Mounting example of Easy Mounting Type Cam Follower



TECHNICAL

# BEARINGS

## Thrust Disc Type Cam Followers



These are small sizes of metric series cam followers. Wide variations in size and shape are available.

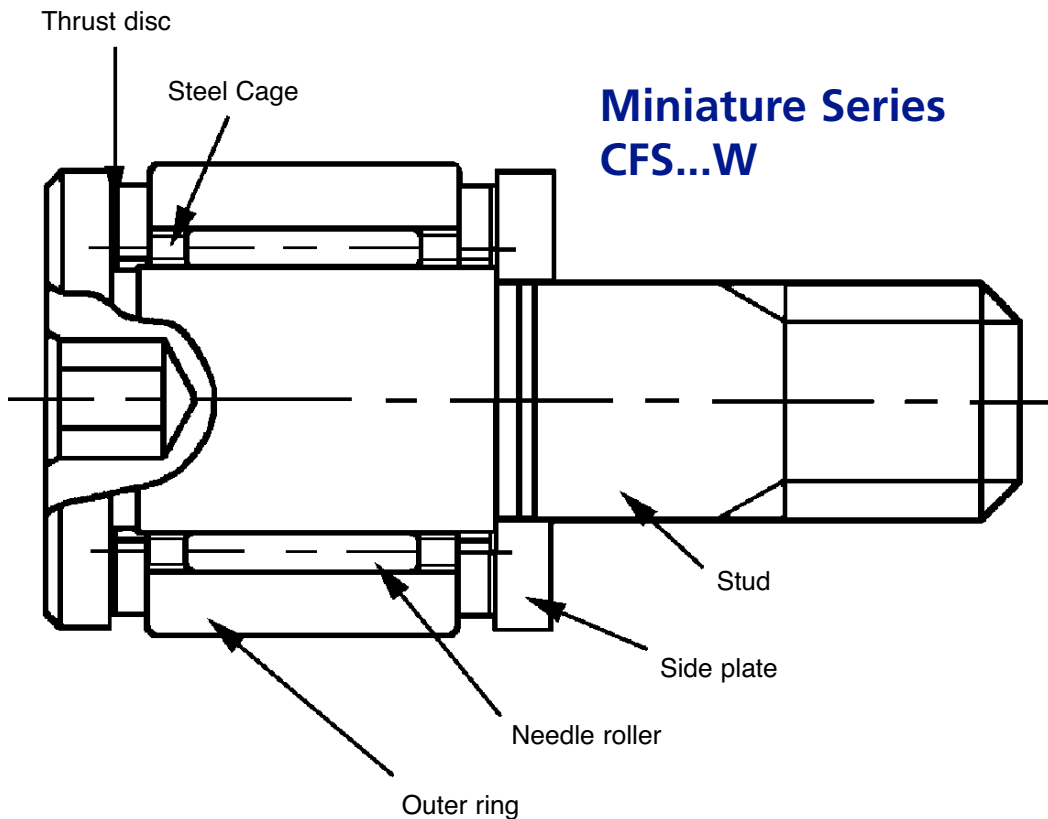
Thrust Disc Type Cam Followers have special resin thrust discs superior in wear and heat resistance assembled between the sliding surfaces of outer ring shoulders, stud head and side plate.

# BEARINGS

## Thrust Disc Type Cam Followers

Minicam series are compactly designed cam followers with the stud diameter 2 to 6mm and the outer ring outside diameter 4.5 to 13mm. They are suitable for use as follower bearings in lightly loaded high precision cam mechanisms and linear motion mechanisms, and used widely in applications such as electric parts manufacturing and inspection equipment, precision measuring instruments, and OA equipment.

Thrust disc type cam followers reduce wear and heat generation due to axial loads caused by misalignment, etc. Stainless steel made cam followers are highly resistant to corrosion, and best suited for use at places where oil cannot be used, in environments exposed to water splashes or in clean rooms.



These are compactly designed bearings, incorporating very thin needle rollers in an outer ring with a smaller outside diameter compared to the standard type with the same stud size. They are used in electronic devices, OA equipment, small-size index devices, etc.

Thrust Disc Type Cam Followers have special resin thrust discs superior in wear and heat resistance assembled between the sliding surfaces of outer ring shoulders, stud head and side plate.