

Features of the Cam Follower

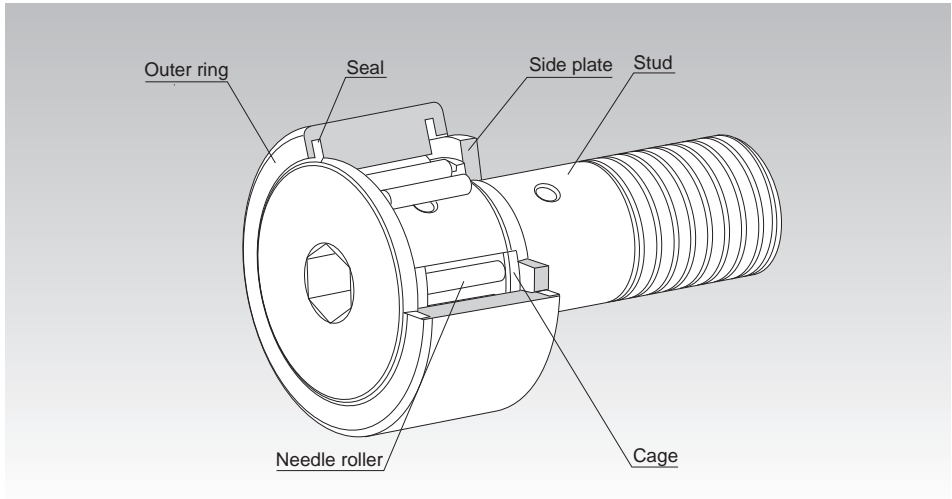


Fig.1 Structure of Cam Follower Model CF...UU-A

Structure and Features

The Cam Follower is a compact and highly rigid bearing with a shaft. It contains needle rollers and is used as a guide roller for cam mechanisms or straight motion.

Since its outer ring rotates while keeping direct contact with the mating surface, this product is thick-walled and designed to bear an impact load.

Inside the outer ring, needle rollers and a precision cage are incorporated. This prevents the product from skewing and achieves a superb rotation performance. And, as a result, the product is capable of easily withstanding high-speed rotation.

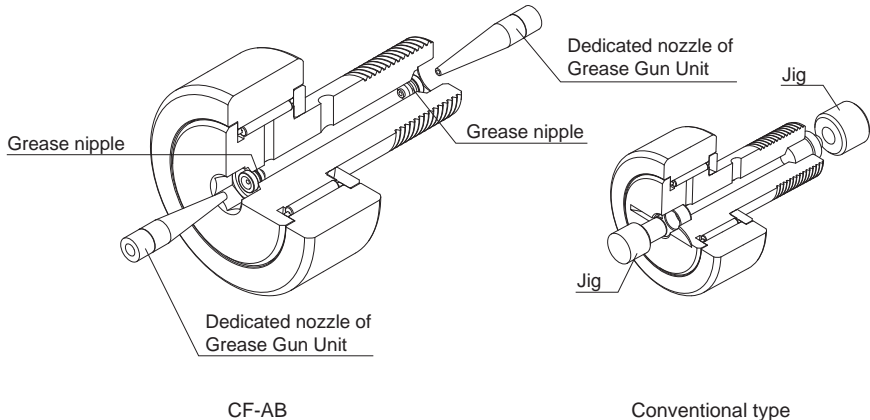
There are two types of the outer ring in shape: spherical and cylindrical. The spherical outer ring easily absorbs a distortion of the shaft center when the cam follower is installed and helps lighten a biased load.

The Cam Follower is used in a wide range of applications such as cam mechanisms of automatic machines, dedicated machines as well as carrier systems, conveyors, bookbinding machines, tool changers of machining centers, pallet changers, automatic coating machines, and sliding forks of automatic warehouses.

Cam Follower with Grease Nipple

With previous models it was necessary to fabricate a jig in order to install a plug or grease nipple. The Model CF-AB Cam Follower with grease nipples comes equipped with grease nipples on both sides, so it can be used immediately, without modification.

An Allen wrench can be used to anchor the stud from either the head or the threaded end, and it can be lubricated from either end as well. This ensures that there will be adequate space to install the unit and perform maintenance, improving work efficiency.



Cam Follower Containing Thrust Balls

Even a slight mounting error in a high speed cam mechanism operating in a harsh environment could cause abnormal wear to the thrust unit of the cam follower. In such a case, using Cam Follower Containing Thrust Balls model CFN will bring about a significant effect in increasing the durability.

Models CFN5 to 12 are standard-stock items. If desiring a size other than the standard items, contact THK.

Model CFN is capable of receiving a thrust load caused by a slight mounting error. However, it is necessary to minimize a component of thrust force, or prevent it from occurring, when designing the cam mechanism and installing the Cam Follower.

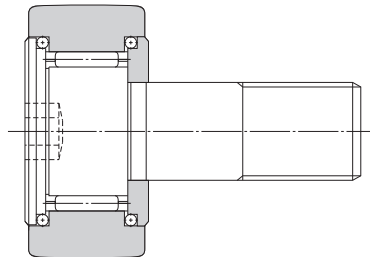


Fig.2

Types of the Cam Follower

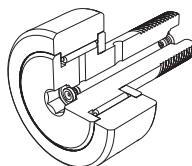
Types and Features

Cam Follower with Grease Nipple Model CF-AB

Specification Table⇒ **A19-16**

A hexagonal socket is provided on both stud ends, and a grease nipple for greasing is fitted to the inside. Therefore, lubrication and mounting from both directions is possible.

Stud diameter: 12–30 mm



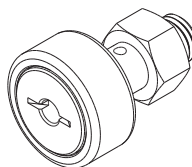
Model CF-AB

Popular Type Cam Follower Model CF

Specification Table⇒ **A19-18**

It is a popular type of Cam Follower provided with a driver groove on the head of the stud.

Stud diameter: 5–10 mm



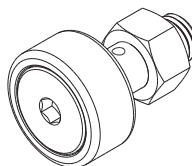
Model CF

Cam Follower with a Hexagon Socket Model CF-A

Specification Table⇒ **A19-20**

Since the stud head has a hexagon socket, this model can easily be installed using a hexagon wrench.

Stud diameter: 3–10 mm



Model CF-A

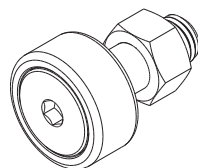
Eccentric Cam Follower Models CFH-AB, CFH-A

Specification Table⇒ **A19-22**

Because there is an eccentricity of 0.25 to 1.0 mm between the mounting shaft of the stud and the stud head, slight positioning adjustments can easily be made simply by rotating the stud. This eliminates the need to align the cam follower with the cam groove or perform precision machining on the mounting hole, greatly reducing the time and labor required for machining and assembly.

Model CFH-AB: Equipped with grease nipple and hexagonal sockets; compatible with stud diameters of 12 to 30 mm.

Model CFH-A: Equipped with hexagonal sockets; compatible with stud diameters of 5 to 10 mm.



Model CFH-A

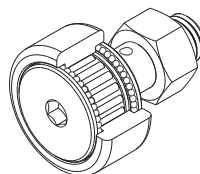
Cam Follower Containing Thrust Balls Model CFN-R-A

Specification Table⇒ **A19-26**

On the inside, this Cam Follower model is equipped with thrust-load ball bearings.

This effectively prevents friction and wear on the slip surface when a thrust load occurs due to faulty installation or the like.

Stud diameter: 5–12 mm



Model CFN-R-A

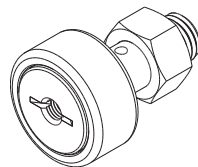
Cam Follower with a Tapped Hole for Greasing Model CFT

Specification Table⇒ **A19-28**

Basically the same as the popular type Cam Follower, this model is provided with tapped holes for piping on the stud head and the thread.

It is optimal for locations where an integrated piping for greasing is required.

Stud diameter: 6–30 mm



Model CFT

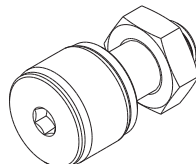
Outer-ring Compact-type Cam Follower Model CFS-A

Specification Table⇒ **A19-30**

This Cam Follower contains extremely fine needle rollers.

The outer ring external diameter is extremely small relative to the stud diameter, allowing a compact design.

Stud diameter: 2.5–6 mm



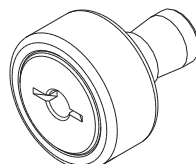
Model CFS-A

Easy-mount Cam Follower Model CF-SFU

Specification Table⇒ **A19-32**

For easy mounting, the stud is equipped with a slot enabling it to be secured with a screw. This greatly reduces the time and labor required for installation and is ideal for applications where there is no space to secure the stud with a nut.

Stud diameter: 6–20 mm



Model CF-SFU

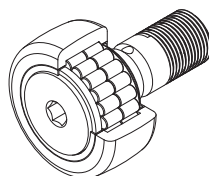
Model NUCF-AB Double-row Cylindrical-roller Cam Follower

Specification Table⇒ **A19-34**

This model, which employs a double row of cylindrical rollers, can accommodate high radial loads.

A hexagonal socket is provided on both stud ends, and a grease nipple for greasing is fitted to the inside. Therefore, lubrication and mounting from both directions is possible.

Stud diameter: 16–30 mm

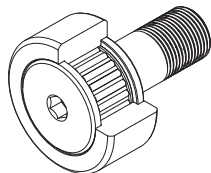


Model NUCF-AB

Options

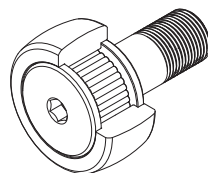
Note: Different features and options are available, depending on the model. For details, please refer to the dimension table for the product in question.

● Roller guide



With cage (No Symbol)

The caged format, which offers optimal lubrication conditions, is best for high-speed rotation.



Full rollers (V)

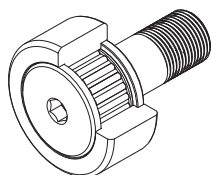
The full-complement roller format is best for low-speed rotation and heavy loads.
Note: Please make sure to follow the lubrication schedule.

● Type of material

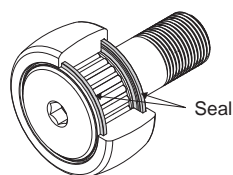
Carbon steel and stainless steel are available.

Stainless steel, which is more resistant to corrosion, is the best choice for use in clean rooms and other oil-free environments.

● With/without a seal



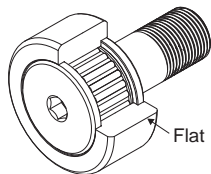
Without seal (No symbol)



With seal (UU)

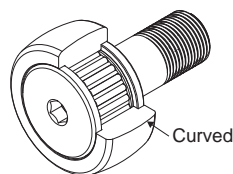
Equipped with a highly wear-resistant synthetic rubber seal to keep foreign matter out of the unit's interior.

● Outer ring outer surface configuration



Cylindrical outer ring (No Symbol)

This model offers an expansive area of contact between rolling surfaces and is therefore ideal for heavy loads and low-rigidity rolling surfaces.

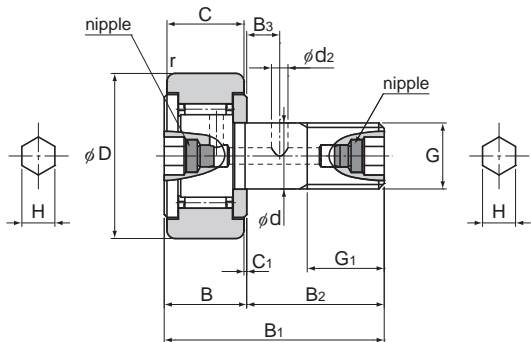


Spherical outer ring (R)

This helps alleviate the effects of an eccentric load in the event of adverse conditions around the outer ring and rolling surface.

Model CF-AB Cam Follower with Grease Nipple

Optional specifications		Symbol
Roller guide	With cage	No Symbol
	Full rollers	V
Material	Carbon steel	No Symbol
	Stainless steel	M
Seal	Without seal	No Symbol
	With seal	UU
Outer ring shape	Cylindrical outer ring	No Symbol
	Spherical outer ring	R



Stud diameter	Model No.	Main dimensions												
		Outer diameter	Outer ring width	Threaded			Overall length						Shoulder height f (Min.)	
d		D	C	G	G ₁	B	B ₁	B ₂	B ₃	C ₁	d ₂	H	r _{min}	
12	CF 12-AB	30	14	M12×1.5	13	15	40	25	6	0.6	3	6	0.6	20
12	CF 12-1-AB	32	14	M12×1.5	13	15	40	25	6	0.6	3	6	0.6	20
16	CF 16-AB	35	18	M16×1.5	17	19.5	52	32.5	8	0.8	3	6	0.6	24
18	CF 18-AB	40	20	M18×1.5	19	21.5	58	36.5	8	0.8	3	6	1	26
20	CF 20-AB	52	24	M20×1.5	21	25.5	66	40.5	9	0.8	4	8	1	36
20	CF 20-1-AB	47	24	M20×1.5	21	25.5	66	40.5	9	0.8	4	8	1	36
24	CF 24-AB	62	29	M24×1.5	25	30.5	80	49.5	11	0.8	4	8	1	40
24	CF 24-1-AB	72	29	M24×1.5	25	30.5	80	49.5	11	0.8	4	8	1	40
30	CF 30-AB	80	35	M30×1.5	32	37	100	63	15	1	4	8	1	46
30	CF 30-1-AB	85	35	M30×1.5	32	37	100	63	15	1	4	8	1	46
30	CF 30-2-AB	90	35	M30×1.5	32	37	100	63	15	1	4	8	1	46

Note) For information on accuracy standards, please refer to **A19-14**.

Model number coding

CF12 V M UU R -AB

Model No.

Stud With Hexagonal Socket At Both Ends

No symbol: With cage

No Symbol : Cylindrical outer ring

V : Full-roller Type

R : Spherical outer ring

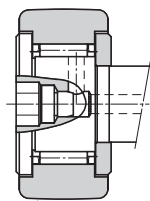
No symbol: Carbon steel

No symbol: Without seal

M : Stainless steel

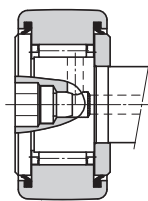
UU : With seal

Note) For accessories, see **A19-38**.



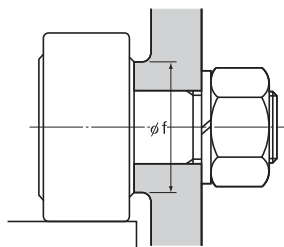
R500 (CF12 to CF18)
R1000 (CF20 or higher)

Model CF-R-AB



R500 (CF12 to CF18)
R1000 (CF20 or higher)

Model CF-UUR-AB



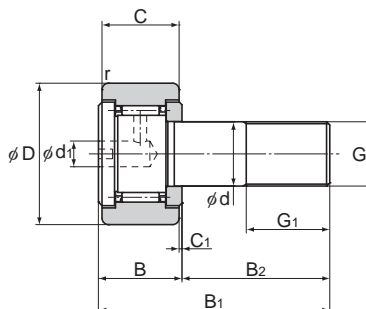
Unit: mm

	Basic Load Rating				Maximum permissible load F_0 kN	Track Load Capacity		Rotational speed limit *		Mass	
	With cage		Full rollers			Cylindrical outer ring kN	Spherical outer ring kN	With cage min^{-1}	Full rollers min^{-1}	With cage g	Full rollers g
	C kN	C_0 kN	C kN	C_0 kN							
	7.87	9.79	13.4	19.8	9.37	7.06	2.45	14000	5800	105	107
	7.87	9.79	13.4	19.8	9.37	7.45	2.74	14000	5800	115	117
	12	18.3	20.6	37.6	17.3	11.2	3.14	10000	4500	205	207
	14.7	25.2	25.2	51.3	26.1	14.4	3.72	8500	3800	295	300
	20.7	34.8	33.2	64.8	32.1	23.2	8.23	7000	3400	525	530
	20.7	34.8	33.2	64.8	32.1	21	7.15	7000	3400	450	455
	30.6	53.2	46.7	92.9	49.5	34.2	10.5	6500	2900	915	925
	30.6	53.2	46.7	92.9	49.5	39.8	12.9	6500	2900	1150	1160
	45.4	87.6	67.6	145	73.7	52.6	14.9	5000	2300	1880	1890
	45.4	87.6	67.6	145	73.7	56	16.1	5000	2300	1950	1960
	45.4	87.6	67.6	145	73.7	59.3	17.3	5000	2300	2000	2010

Note) The rotation speed limit value in the table (*) applies to models that have no seal and use grease lubrication. With those models using oil lubrication, up to 130% of this value is permitted. With those attached with seals, up to 70% of this value is permitted.

Model CF (Popular Type)

Optional specifications		Symbol
Roller guide	With cage	No Symbol
	Full rollers	V
Material	Carbon steel	No Symbol
	Stainless steel	M
Seal	Without seal	No Symbol
	With seal	UU
Outer ring shape	Cylindrical outer ring	No Symbol
	Spherical outer ring	R



Stud diameter	Model No.	Main dimensions										
		Outer diameter	Outer ring width	Threaded			Overall length					Shoulder height f (Min.)
d		D	C	G	G ₁	B	B ₁	B ₂	C ₁	d ₁	r _{min}	
5	CF 5	13	9	M5×0.8	7.5	10	23	13	0.5	3.1	0.3	9.7
6	CF 6	16	11	M6×1	8	12	28	16	0.6	4	0.3	11
8	CF 8	19	11	M8×1.25	10	12	32	20	0.6	4	0.3	13
10	CF 10	22	12	M10×1.25	12	13	36	23	0.6	4	0.3	15
10	CF 10-1	26	12	M10×1.25	12	13	36	23	0.6	4	0.3	15

Note) For information on accuracy standards, please refer to **A19-14**.

Model number coding

CF6 V M UU R -N

Model No.

No symbol: With cage
V : Full-roller Type

No symbol: Carbon steel
M : Stainless steel

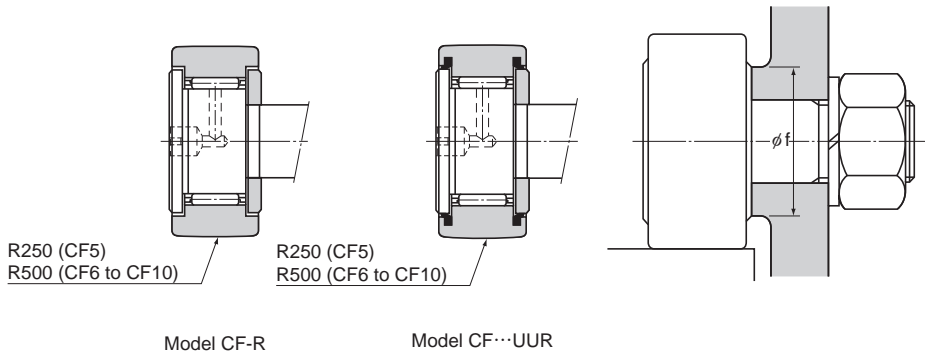
no symbol: without seal
UU : With seal

No symbol: No grease nipple

N : Dedicated grease nipple included (See **A19-39**)

No Symbol: Cylindrical outer ring
R : Spherical outer ring

Note) Full-roller Type is applicable for Stud Diameter 6 to 10.

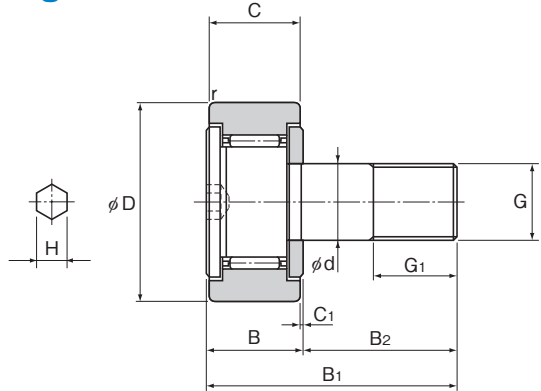


	Basic load rating				Maximum permissible load F ₀ kN	Track load capacity		Rotational speed limit *		Mass	
	With cage		Full rollers			Cylindrical outer ring kN	Spherical outer ring kN	With cage min ⁻¹	Full rollers min ⁻¹	With cage g	Full rollers g
	C kN	C ₀ kN	C kN	C ₀ kN							
	3.14	2.77	—	—	1.42	2.25	0.53	29000	—	10.5	—
	3.59	3.58	6.94	8.5	2.11	3.43	1.08	25000	11000	18.5	19
	4.17	4.65	8.13	11.2	4.73	4.02	1.37	20000	8700	28.5	29
	5.33	6.78	9.42	14.3	5.81	4.7	1.67	17000	7200	45	46
	5.33	6.78	9.42	14.3	5.81	5.49	2.06	17000	7200	60	61

Note) The rotation speed limit value in the table (*) applies to models that have no seal and use grease lubrication. With those models using oil lubrication, up to 130% of this value is permitted. With those attached with seals, up to 70% of this value is permitted.

Cam Follower with Hexagon Socket Model CF-A

Optional specifications		Symbol
Roller guide	With cage	No Symbol
	Full rollers	V
Material	Carbon steel	No Symbol
	Stainless steel	M
Seal	Without seal	No Symbol
	With seal	UU
Outer ring shape	Cylindrical outer ring	No Symbol
	Spherical outer ring	R



Stud diameter	Model No.	Main dimensions										
		Outer diameter	Outer ring width	Threaded			Overall length					Shoulder height f (Min.)
d		D	C	G	G ₁	B	B ₁	B ₂	C ₁	H*	r _{min}	
3	CF 3-A	10	7	M3×0.5	5	8	17	9	0.5	2 (1.5)	0.2	6.8
4	CF 4-A	12	8	M4×0.7	6	9	20	11	0.5	2.5 (2)	0.3	8.6
5	CF 5-A	13	9	M5×0.8	7.5	10	23	13	0.5	3 (2.5)	0.3	9.7
6	CF 6-A	16	11	M6×1	8	12	28	16	0.6	3	0.3	11
8	CF 8-A	19	11	M8×1.25	10	12	32	20	0.6	4	0.3	13
10	CF 10-A	22	12	M10×1.25	12	13	36	23	0.6	5	0.3	15
10	CF 10-1-A	26	12	M10×1.25	12	13	36	23	0.6	5	0.3	15

Note) For information on accuracy standards, please refer to **A19-14**.
Those models do not have a greasing hole and cannot be replenished with grease.

Model number coding

CF10 V M UU R -A N

Model No.

No symbol: With cage
V : Full-roller Type

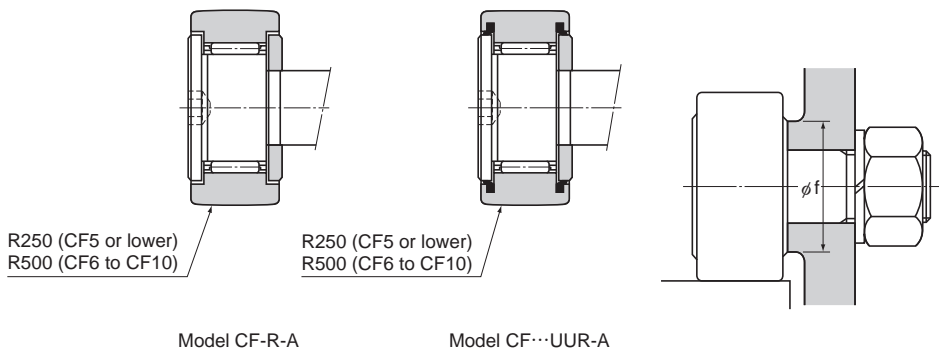
No symbol: Carbon steel
M : Stainless steel

no symbol: without seal
UU : With seal

No Symbol: Cylindrical outer ring
R : Spherical outer ring

No symbol: No grease nipple
N : Dedicated grease nipple included (see **A19-39**)
Stud head with a hexagon socket

Note) Full-roller Type is applicable for Stud Diameter 6 to 10.



Unit: mm

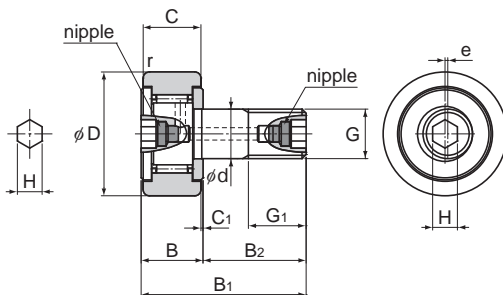
	Basic load rating				Maximum permissible load F_0 kN	Track load capacity		Rotational speed limit *		Mass	
	With cage		Full rollers			Cylindrical outer ring kN	Spherical outer ring kN	With cage min^{-1}	Full rollers min^{-1}	With cage g	Full rollers g
	C kN	C_0 kN	C kN	C_0 kN							
	1.47	1.18	—	—	0.36	1.37	0.37	47000	—	4.5	—
	2.06	2.05	—	—	0.78	1.76	0.47	37000	—	7.5	—
	3.14	2.77	—	—	1.42	2.25	0.53	29000	—	10.5	—
	3.59	3.58	6.94	8.5	2.11	3.43	1.08	25000	11000	18.5	19
	4.17	4.65	8.13	11.2	4.73	4.02	1.37	20000	8700	28.5	29
	5.33	6.78	9.42	14.3	5.81	4.7	1.67	17000	7200	45	46
	5.33	6.78	9.42	14.3	5.81	5.49	2.06	17000	7200	60	61

Note1) ★ indicates that the dimensions in the parentheses in this row apply to stainless steel types.

The rotation speed limit value in the table (*) applies to models that have no seal and use grease lubrication. With those models using oil lubrication, up to 130% of this value is permitted. With those attached with seals, up to 70% of this value is permitted.

Eccentric Cam Follower with Grease Nipple Model CFH-AB

Optional specifications		Symbol
Roller guide	With cage	No Symbol
	Full rollers	V
Material	Carbon steel	No Symbol
	Stainless steel	M
Seal	Without seal	No Symbol
	With seal	UU
Outer ring shape	Cylindrical outer ring	No Symbol
	Spherical outer ring	R



Stud diameter d	Model No.	Main dimensions											
		Outer diameter D	Outer ring width C	Threaded G	G_1	B	B_1	B_2	C_1	Runout e	H	r_{min}	Shoulder height f (Min.)
12	CFH 12-AB	30	14	M12×1.5	13	15	40	25	0.6	0.4	6	0.6	20
12	CFH 12-1-AB	32	14	M12×1.5	13	15	40	25	0.6	0.4	6	0.6	20
16	CFH 16-AB	35	18	M16×1.5	17	19.5	52	32.5	0.8	0.5	6	0.6	24
18	CFH 18-AB	40	20	M18×1.5	19	21.5	58	36.5	0.8	0.6	6	1	26
20	CFH 20-AB	52	24	M20×1.5	21	25.5	66	40.5	0.8	0.7	8	1	36
20	CFH 20-1-AB	47	24	M20×1.5	21	25.5	66	40.5	0.8	0.7	8	1	36
24	CFH 24-AB	62	29	M24×1.5	25	30.5	80	49.5	0.8	0.8	8	1	40
24	CFH 24-1-AB	72	29	M24×1.5	25	30.5	80	49.5	0.8	0.8	8	1	40
30	CFH 30-AB	80	35	M30×1.5	32	37	100	63	1	1	8	1	46
30	CFH 30-1-AB	85	35	M30×1.5	32	37	100	63	1	1	8	1	46
30	CFH 30-2-AB	90	35	M30×1.5	32	37	100	63	1	1	8	1	46

Note) For information on accuracy standards, please refer to **A19-14**.

Model number coding

CFH12 V M UU R -AB

Model No.

No symbol: With cage
V : Full-roller Type

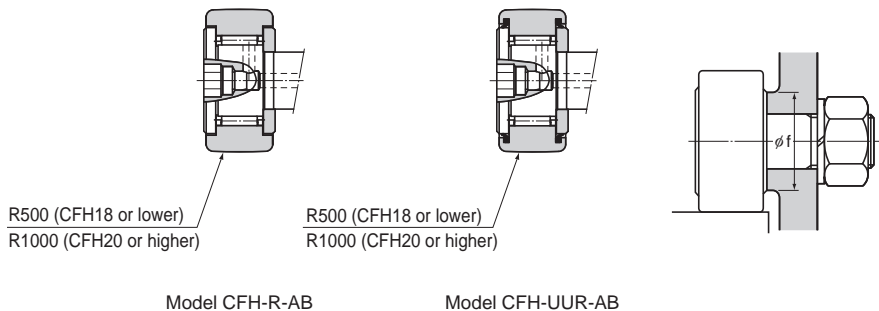
No symbol: Carbon steel
M : Stainless steel

No symbol: Without seal
UU : With seal

Stud With Hexagonal Socket At Both Ends

No Symbol : Cylindrical outer ring
R : Spherical outer ring

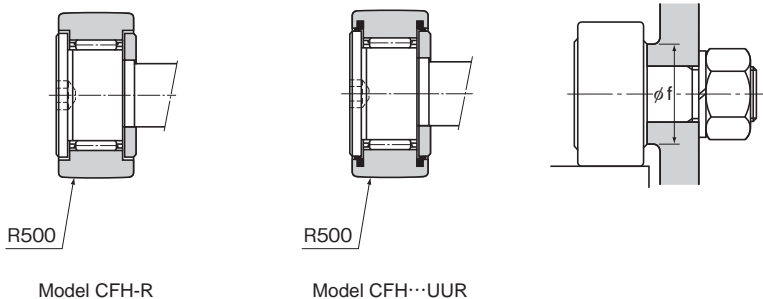
Note) For accessories, see **A19-38**.



Unit: mm

	Basic Load Rating				Maximum permissible load F_0 kN	Track load capacity		Rotational speed limit [*]		Mass	
	With cage		Full rollers			Cylindrical outer ring kN	Spherical outer ring kN	With cage min^{-1}	Full rollers min^{-1}	With cage g	Full rollers g
	C kN	C_0 kN	C kN	C_0 kN							
	7.87	9.79	13.4	19.8	9.37	7.06	2.45	14000	5800	105	107
	7.87	9.79	13.4	19.8	9.37	7.45	2.74	14000	5800	115	117
	12	18.3	20.6	37.6	17.3	11.2	3.14	10000	4500	205	207
	14.7	25.2	25.2	51.3	26.1	14.4	3.72	8500	3800	295	300
	20.7	34.8	33.2	64.8	32.1	23.2	8.23	7000	3400	525	530
	20.7	34.8	33.2	64.8	32.1	21	7.15	7000	3400	450	455
	30.6	53.2	46.7	92.9	49.5	34.2	10.5	6500	2900	915	925
	30.6	53.2	46.7	92.9	49.5	39.8	12.9	6500	2900	1150	1160
	45.4	87.6	67.6	145	73.7	52.6	14.9	5000	2300	1880	1890
	45.4	87.6	67.6	145	73.7	56	16.1	5000	2300	1950	1960
	45.4	87.6	67.6	145	73.7	59.3	17.3	5000	2300	2000	2010

Note) The rotation speed limit value in the table (*) applies to models that have no seal and use grease lubrication. With those models using oil lubrication, up to 130% of this value is permitted. With those attached with seals, up to 70% of this value is permitted.



Unit: mm

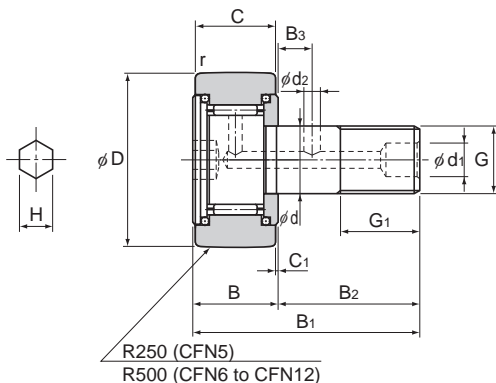
	Basic load rating				Maximum permissible load F_0 kN	Track load capacity		Rotational speed limit *		Mass	
	With cage		Full rollers			Cylindrical outer ring kN	Spherical outer ring kN	With cage min^{-1}	Full rollers min^{-1}	With cage g	Full rollers g
	C kN	C_0 kN	C kN	C_0 kN							
	3.14	2.77	—	—	1.42	2.25	0.53	29000	—	10.5	—
	3.59	3.58	6.94	8.5	2.11	3.43	1.08	25000	11000	18.5	19
	4.17	4.65	8.13	11.2	4.73	4.02	1.37	20000	8700	28.5	29
	5.33	6.78	9.42	14.3	5.81	4.7	1.67	17000	7200	45	46
	5.33	6.78	9.42	14.3	5.81	5.49	2.06	17000	7200	60	61

Note1) ○: Model CFH5M-A is available only in carbon steel.

Note2) The rotation speed limit value in the table (*) applies to models that have no seal and use grease lubrication. With those models using oil lubrication, up to 130% of this value is permitted. With those attached with seals, up to 70% of this value is permitted.

Cam Follower Containing Thrust Balls Model CFN-R-A

Optional specifications		Symbol
Roller guide	With cage	No Symbol
Material	Carbon steel	No Symbol
Seal	Without seal	No Symbol
Outer ring shape	Spherical outer ring	R



Stud diameter d	Model No. Spherical outer ring	Main									
		Outer diameter D	Outer ring width C	Threaded G	G ₁	B	Overall length B ₁ B ₂		B ₃	C ₁	d ₁
5	CFN 5R-A	13	9	M5×0.8	7.5	10	23	13	—	0.5	—*
6	CFN 6R-A	16	11	M6×1	8	12	28	16	—	0.6	—*
8	CFN 8R-A	19	11	M8×1.25	10	12	32	20	—	0.6	—*
10	CFN 10R-A	22	12	M10×1.25	12	13	36	23	—	0.6	—*
12	CFN 12R-A	30	14	M12×1.5	13	15	40	25	6	0.6	6

Note) For information on accuracy standards, please refer to **A19-14**.

Those models marked with "*" do not have a greasing hole and cannot be replenished with grease.

Model number coding

CFN12 R -A N

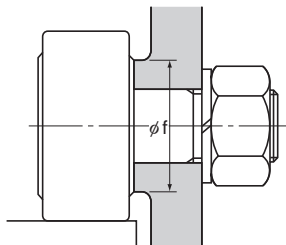
Model No.

R : Spherical outer ring

No Symbol : No grease nipple

N : Dedicated grease nipple included (See **A19-39**)

Stud head with a hexagon socket



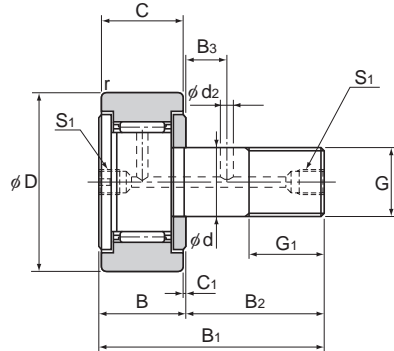
Unit: mm

dimensions					Basic load rating		Permissible thrust load	Maximum permissible load F_0	Track load capacity	Rotational speed limit *	Mass
d_2	H	r_{\min}	Shoulder height f (Min.)	C kN	C_0 kN	N					
—*	3	0.3	10	3.14	2.77	160	1.42	0.53	29000	10.5	
—*	3	0.3	12	3.59	3.58	250	2.11	1.08	25000	18.5	
—*	4	0.3	14	4.17	4.65	290	4.73	1.37	20000	28.5	
—*	5	0.3	16.5	5.33	6.78	400	5.81	1.67	17000	45	
3	6	0.6	21.5	7.87	9.79	680	9.37	2.45	14000	105	

Note) The rotation speed limit value in the table (*) applies to models using grease lubrication. With those models using oil lubrication, up to 130% of this value is permitted.

Cam Follower with Tapped Greasing Hole Model CFT

Optional specifications		Symbol
Roller guide	With cage	No Symbol
	Full rollers	V
Material	Carbon steel	No Symbol
	Stainless steel	M
Seal	Without seal	No Symbol
	With seal	UU
Outer ring shape	Cylindrical outer ring	No Symbol
	Spherical outer ring	R



Stud diameter	Model No.	Main dimensions												
		Outer diameter	Outer ring width	Threaded			Overall length						Shoulder height	
d		D	C	G	G ₁	B	B ₁	B ₂	B ₃	C ₁	S ₁	d ₂	r _{min}	f (Min.)
6	CFT 6	16	11	M6×1	8	12	28	16	—	0.6	M6×0.75*	—	0.3	11
8	CFT 8	19	11	M8×1.25	10	12	32	20	—	0.6	M6×0.75*	—	0.3	13
10	CFT 10	22	12	M10×1.25	12	13	36	23	—	0.6	M6×0.75*	—	0.3	15
10	CFT 10-1	26	12	M10×1.25	12	13	36	23	—	0.6	M6×0.75*	—	0.3	15
12	CFT 12	30	14	M12×1.5	13	15	40	25	6	0.6	M6×0.75	3	0.6	20
12	CFT 12-1	32	14	M12×1.5	13	15	40	25	6	0.6	M6×0.75	3	0.6	20
16	CFT 16	35	18	M16×1.5	17	19.5	52	32.5	8	0.8	PT 1/8	3	0.6	24
18	CFT 18	40	20	M18×1.5	19	21.5	58	36.5	8	0.8	PT 1/8	3	1	26
20	CFT 20	52	24	M20×1.5	21	25.5	66	40.5	9	0.8	PT 1/8	4	1	36
20	CFT 20-1	47	24	M20×1.5	21	25.5	66	40.5	9	0.8	PT 1/8	4	1	36
24	CFT 24	62	29	M24×1.5	25	30.5	80	49.5	11	0.8	PT 1/8	4	1	40
24	CFT 24-1	72	29	M24×1.5	25	30.5	80	49.5	11	0.8	PT 1/8	4	1	40
30	CFT 30	80	35	M30×1.5	32	37	100	63	15	1	PT 1/8	4	1	46
30	CFT 30-1	85	35	M30×1.5	32	37	100	63	15	1	PT 1/8	4	1	46
30	CFT 30-2	90	35	M30×1.5	32	37	100	63	15	1	PT 1/8	4	1	46

Note) For information on accuracy standards, please refer to **A19-14**.
Those models marked with "*" have a greasing hole only on the head.

Model number coding

CFT30-1 V M UU R -N

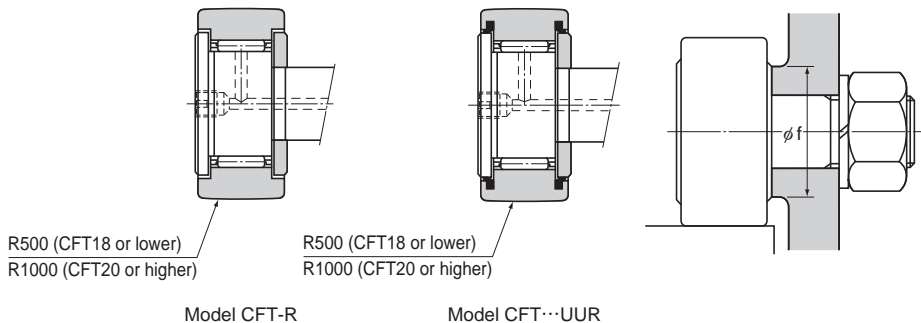
Model No.

No symbol: With cage
V : Full-roller Type

No symbol: Carbon steel
M : Stainless steel

No symbol: Without seal
UU : With seal

No Symbol : No grease nipple
N : Dedicated grease nipple included (See **A19-39**)
No Symbol: Cylindrical outer ring
R : Spherical outer ring



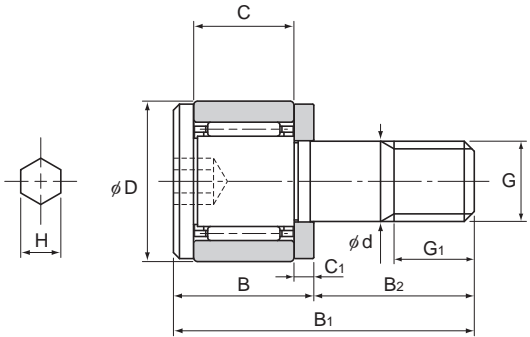
Unit: mm

	Basic load rating				Maximum permissible load F_0 kN	Track load capacity		Rotational speed limit *		Mass	
	With cage		Full rollers			Cylindrical outer ring kN	Spherical outer ring kN	With cage min^{-1}	Full rollers min^{-1}	With cage g	Full rollers g
	C kN	C_0 kN	C kN	C_0 kN							
	3.59	3.58	6.94	8.5	2.11	3.43	1.08	25000	11000	18.5	19
	4.17	4.65	8.13	11.2	4.73	4.02	1.37	20000	8700	28.5	29
	5.33	6.78	9.42	14.3	5.81	4.7	1.67	17000	7200	45	46
	5.33	6.78	9.42	14.3	5.81	5.49	2.06	17000	7200	60	61
	7.87	9.79	13.4	19.8	9.37	7.06	2.45	14000	5800	105	107
	7.87	9.79	13.4	19.8	9.37	7.45	2.74	14000	5800	115	117
	12	18.3	20.6	37.6	17.3	11.2	3.14	10000	4500	205	207
	14.7	25.2	25.2	51.3	26.1	14.4	3.72	8500	3800	295	300
	20.7	34.8	33.2	64.8	32.1	23.2	8.23	7000	3400	525	530
	20.7	34.8	33.2	64.8	32.1	21	7.15	7000	3400	450	455
	30.6	53.2	46.7	92.9	49.5	34.2	10.5	6500	2900	915	925
	30.6	53.2	46.7	92.9	49.5	39.8	12.9	6500	2900	1150	1160
	45.4	87.6	67.6	145	73.7	52.6	14.9	5000	2300	1880	1890
	45.4	87.6	67.6	145	73.7	56	16.1	5000	2300	1950	1960
	45.4	87.6	67.6	145	73.7	59.3	17.3	5000	2300	2000	2010

Note) The rotation speed limit value in the table (*) applies to models that have no seal and use grease lubrication. With those models using oil lubrication, up to 130% of this value is permitted. With those attached with seals, up to 70% of this value is permitted.

Outer-ring Compact-type Cam Follower Model CFS-A

Optional specifications		Symbol
Roller guide	With cage	No Symbol
	Full rollers	V
Material	Carbon steel	No Symbol
	Stainless steel	M
Seal	Without seal	No Symbol
Outer ring shape	Cylindrical outer ring	No Symbol



Stud diameter	Model No.	Main dimensions									
		Outer diameter	Outer ring width	Threaded			Overall length				Shoulder height
d		D	C	G	G ₁	B	B ₁	B ₂	C ₁	H	f (Min.)
2.5	CFS 2.5-A	5	3	M2.5×0.45	2.5	4.5	9.5	5	0.7	0.9	4.8
3	CFS 3-A	6	4	M3×0.5	3	5.5	11.5	6	0.7	1.5	5.8
4	CFS 4-A	8	5	M4×0.7	4	7	15	8	1	2	7.7
5	CFS 5-A	10	6	M5×0.8	5	8	18	10	1	2.5	9.6
6	CFS 6-A	12	7	M6×1.0	6	9.5	21.5	12	1.2	3	11.6

Note) For information on accuracy standards, please refer to **A19-14**.

Model number coding

CFS3 V M -A

Model No.

No symbol: With cage

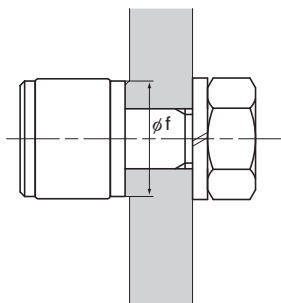
V : Full-roller Type

No symbol: Carbon steel

M : Stainless steel

Stud head with a hexagon socket

Note) Model CFS is only compatible with cylindrical outer ring types without seals and with stud head hexagon sockets.



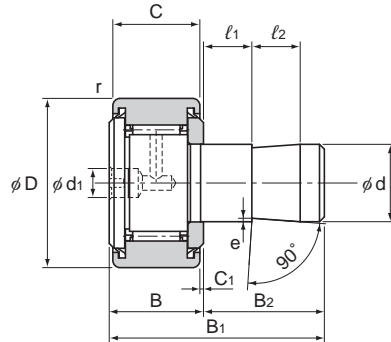
Unit: mm

	Basic load rating				Maximum permissible load F_0 kN	Track load capacity Cylindrical outer ring kN	Mass	
	With cage		Full rollers				With cage	Full rollers
	C kN	C_0 kN	C kN	C_0 kN		g	g	
	0.41	0.335	1	1.08	0.26	0.3	1	1
	0.63	0.61	1.37	1.77	0.36	0.48	2	2
	1.08	1.08	2.35	3.04	0.78	0.77	4	4
	1.57	1.86	3.14	4.71	1.42	1.18	7	7
	2.06	2.16	4.61	6.27	2.11	1.54	13	13

* Since model CFS does not have a greasing hole, it cannot be replenished with grease.

Easy-mount Cam Follower Model CF-SFU

Optional specifications		Symbol
Roller guide	With cage	No Symbol
Material	Carbon steel	No Symbol
Seal	With seal	No Symbol
Outer ring shape	Cylindrical outer ring	No Symbol
	Spherical outer ring	R



Stud diameter	Model No.	Main dimensions										
		Outer diameter	Outer ring width		Overall length							
d		D	C	B	B ₁	B ₂	C ₁	l ₁	l ₂	d ₁	r _{smn}	e
6	CF-SFU-6	16	11	12	32	20	0.6	5	10	4	0.3	0.3
8	CF-SFU-8	19	11	12	32	20	0.6	5	10	4	0.3	0.5
10	CF-SFU-10	22	12	13	33	20	0.6	5	10	4	0.3	0.5
10	CF-SFU-10-1	26	12	13	33	20	0.6	5	10	4	0.3	0.5
12	CF-SFU-12	30	14	15	35	20	0.6	5	10	6	0.6	1
12	CF-SFU-12-1	32	14	15	35	20	0.6	5	10	6	0.6	1
16	CF-SFU-16	35	18	19.5	44.5	25	0.8	10	10	6	0.6	1
18	CF-SFU-18	40	20	21.5	46.5	25	0.8	10	10	6	1	1
20	CF-SFU-20	52	24	25.5	50.5	25	0.8	10	10	8	1	1
20	CF-SFU-20-1	47	24	25.5	50.5	25	0.8	10	10	8	1	1

Note) For information on accuracy standards, please refer to **A19-14**.

Model number coding

CF-SFU-6 R -N

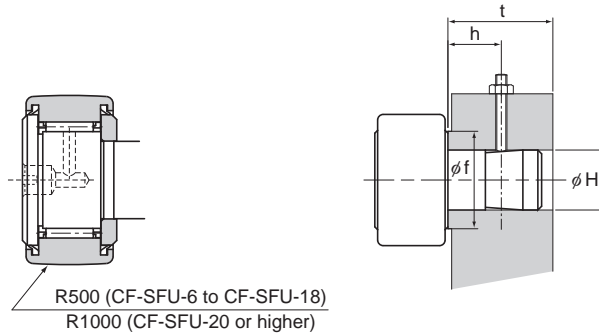
Model No.

No Symbol : Cylindrical outer ring
R : Spherical outer ring

No Symbol : No grease nipple

N : Dedicated grease nipple included (See **A19-39**)

Note) Model CF-SFU is fitted with UU seals even where no UU symbol is used.



Model CF-SFU...R

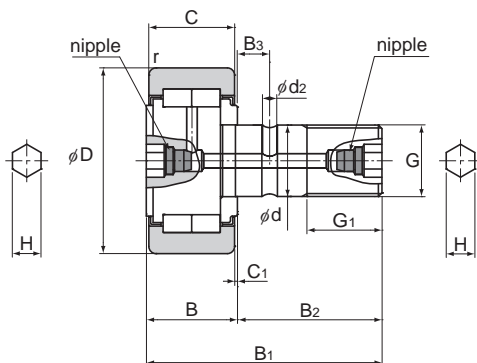
Unit: mm

	Mounting dimensions				Basic load rating		Maximum permissible load F_0 kN	Track load capacity		Rotational speed limit *	Mass
	Mounting dimension H Tolerance H7	t (Min.)	Shoulder height f (Min.)	h (reference value)	With cage			Cylindrical outer ring kN	Spherical outer ring kN	With cage min^{-1}	With cage g
					C kN	C_0 kN					
	6	20	11	10	3.59	3.58	2.11	3.43	1.08	17500	19
	8	20	13	10	4.17	4.65	4.73	4.02	1.37	14000	28.5
	10	20	15	10	5.33	6.78	5.81	4.7	1.67	11900	43
	10	20	15	10	5.33	6.78	5.81	5.49	2.06	11900	58.5
	12	20	20	10	7.87	9.79	9.37	7.06	2.45	9800	93
	12	20	20	10	7.87	9.79	9.37	7.45	2.74	9800	103
	16	25	24	15	12	18.3	17.3	11.2	3.14	7000	163.5
	18	25	26	15	14.7	25.2	26.1	14.4	3.72	5950	235
	20	25	36	15	20.7	34.8	32.1	23.2	8.23	4900	436
	20	25	36	15	20.7	34.8	32.1	21	7.15	4900	361

Note) *The rotational speed limit applies to models with grease lubrication and seals.
Model CF-SFU is delivered with a stopper plug fitted.

Double-row Cylindrical-roller Cam Follower Model NUCF-AB

Optional specifications		Symbol
Roller guide	Full rollers	No Symbol
Material	Carbon steel	No Symbol
Seal	Without seal	No Symbol
Outer ring shape	Cylindrical outer ring	No Symbol
	Spherical outer ring	R



Stud diameter	Model No.	Main dimensions												
		Outer diameter	Outer ring width	Threaded			Overall length						Shoulder height	
d		D	C	G	G ₁	B	B ₁	B ₂	B ₃	C ₁	d ₂	H	r _{min}	f (Min.)
16	NUCF 16-AB	35	18	M16×1.5	17	19.5	52	32.5	7.8	0.8	3	6	0.6	20
18	NUCF 18-AB	40	20	M18×1.5	19	21.5	58	36.5	8	0.8	3	6	1	22
20	NUCF 20-AB	52	24	M20×1.5	21	25.5	66	40.5	9	0.8	4	8	1	31
20	NUCF 20-1-AB	47	24	M20×1.5	21	25.5	66	40.5	9	0.8	4	8	1	27
24	NUCF 24-AB	62	28	M24×1.5	25	30.5	80	49.5	11	1.3	4	8	1	38
24	NUCF 24-1-AB	72	28	M24×1.5	25	30.5	80	49.5	11	1.3	4	8	1.1	44
30	NUCF 30-AB	80	35	M30×1.5	32	37	100	63	15	1	4	8	1.1	47
30	NUCF 30-2-AB	90	35	M30×1.5	32	37	100	63	15	1	4	8	1.1	47

Note) For information on accuracy standards, please refer to **A19-14**.

Model number coding

NUCF16 R -AB

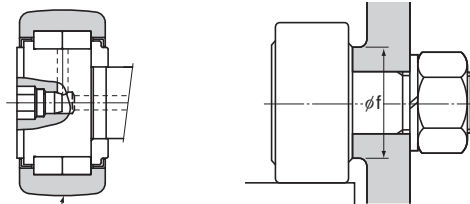
Model No.

AB: Stud With Hexagonal Socket At Both Ends

No Symbol: Cylindrical outer ring

R : Spherical outer ring

Note) For accessories, see **A19-38**.



R500 (NUCF18 or lower)
R1000 (NUCF20 or higher)

Unit: mm

	Basic load rating		Maximum permissible load	Track load capacity		Rotational speed limit	Mass
				Cylindrical outer ring	Spherical outer ring		
	C kN	C ₀ kN	F ₀ kN	kN	kN	min ⁻¹	g
	23.4	27.2	11.5	11.2	3.14	5200	200
	25.2	30.9	21.2	14.4	3.72	4700	295
	43	58.1	27.1	23.2	8.23	3300	515
	38.9	48.9	24.8	21	7.15	3800	445
	57.6	74.3	34.3	32.9	10.5	2800	885
	63.3	87.5	49.5	38.2	12.9	2300	1120
	94.8	135	73.7	52.6	14.9	2100	1840
	94.8	135	73.7	59.3	17.3	2100	2200