

The smallest size C-Lube Cam Follower with 5mm stud diameter is newly added!

Cam Followers and Roller Followers

RoHS compliant

IJKO NIPPON THOMPSON CO., LTD.

CAT-5509.2

IJKO Cam Followers and Roller Followers

CAT-5509.2

Performance and quality substantiated by abundant actual operation results

by abundant actual

Reliable **IKO** Cam Followers and Roller Followers

Cam Followers and Roller Followers are bearings with a small coefficient of friction and excellent rotating performance designed for outer ring rotation, having a structure in which needle rollers are assembled in a thick outer ring. Guiding is performed while the external diameter surface of the outer ring is in direct contact with the mating track surface. In these bearings, the radial clearance is designed to be small to effectively increase the load area. Accordingly, the impact load is relieved, resulting in a stable long life. Many types of Cam Followers with a stud and Roller Followers with an assembled inner ring are available as a series. The customer can select the optimum bearing for every operating condition. These products are widely used in the cam mechanism and the linear motion portion of a transport system.



The mating track surface is also maintenance free.
 External lubricating part for Cam Followers **"C-Lube Unit"**
 Further applicable to a stud diameter of **5mm to 20mm**



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Cam Followers

Cam Followers Series

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Roller Followers

Roller Followers Series

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Cam Followers Series

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Roller Follower Series

Description

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Cam Followers Series

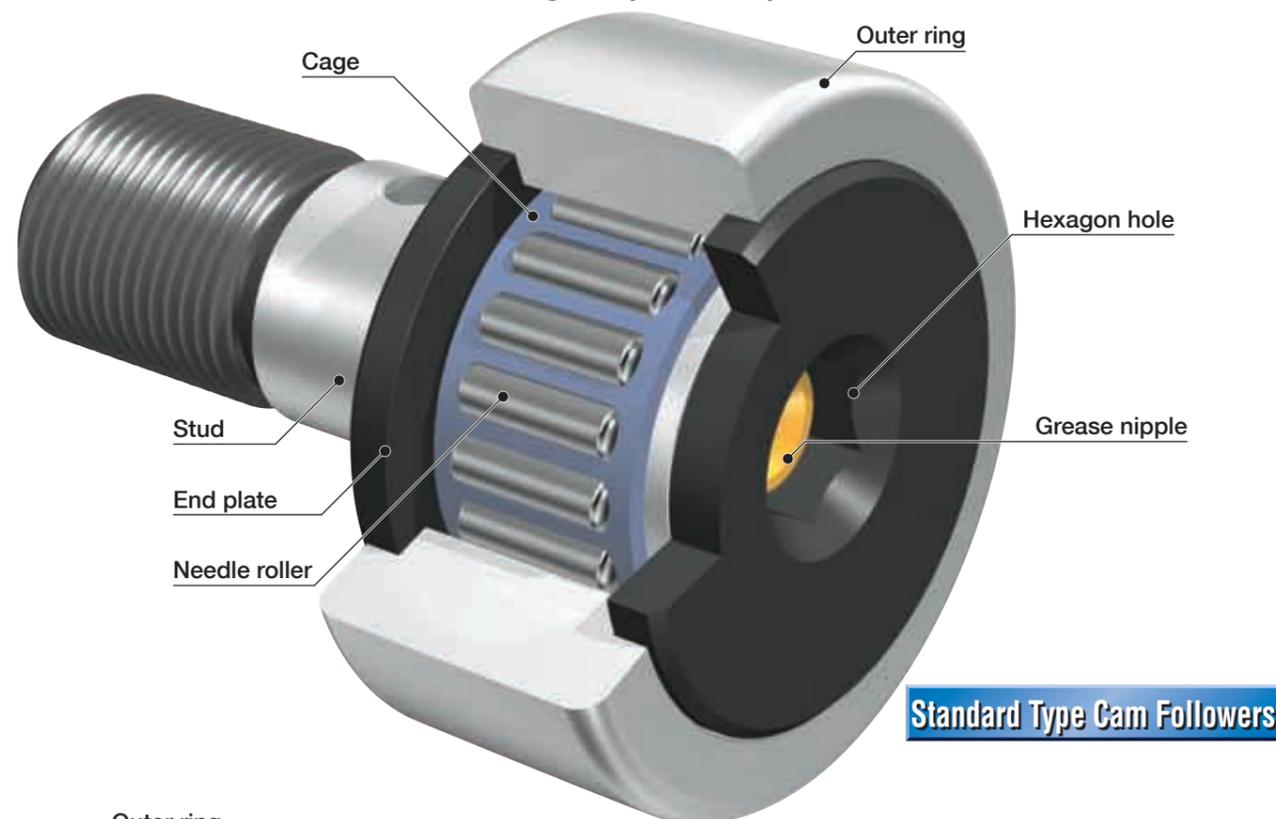
| Description | Dimension Tables |
|-------------------------------|----------------------------------|
| Advantage of Cam Followers | Miniature Type Cam Followers |
| Identification Number | Thrust Disk Type |
| Load Rating and Life | Miniature Cam Followers |
| Maximum Allowable Static Load | Standard Type Cam Followers |
| Accuracy | Thrust Disk Type Cam Followers |
| Clearance | C-Lube Cam Followers |
| Fit | Solid Eccentric Stud Type |
| Track Capacity | Cam Followers |
| Allowable Rotational Speed | Eccentric Type Cam Followers |
| Lubrication | Centralized Lubrication Type |
| Oil Hole | Cam Followers |
| Accessories | Easy Mounting Type Cam Followers |
| Optional Specification | Cylindrical Roller Cam Followers |
| Operating Temperature Range | Inch Series Cam Followers CR |
| Mounting | Inch Series Cam Followers CRH |
| Precaution for use | Ready-made Track for |
| C-Lube unit for Cam Followers | Cam Followers |

CF

IKO Cam Followers are bearings provided with a stud in which needle rollers are assembled in a thick outer ring, having a small coefficient of friction and excellent rotating performance designed for outer ring rotation. These products having high rigidity and accuracy are widely used for machine tools, industrial robots, electronic parts, OA devices as follower bearings for various cam mechanisms and guide rollers for linear motion.

The head of the stud is provided with a hexagon hole so that it can be surely tightened with a hex wrench.

Its IKO original lubrication structure permits a grease-up operation from the head of the stud, so this allows the user to make a system design freely without any limitation on the direction of lubrication.



Standard Type Cam Followers



Miniature Type Cam Followers

Variety and Originality

Cam Follower Series with reliability and actual operation results

The excellent features of **IKO** Cam Followers are presented below.

1 Full product lineup To page 7

The product lineup including the miniature type with very small dimensions, type provided with a thrust washer strong in an mounting error, and maintenance-free type with a prepacked solid lubricant is complete.

2 Abundant product specifications selectable for each application To page 13

The customer can select the optimum product specifications including material type, roller guide type, seal section structure, and external diameter surface of outer ring according to each application.

3 Provided with a hexagon hole that facilitates mounting To page 15

The head of the stud is provided with a hexagon hole and this permits easy mounting with a hex wrench.

4 **IKO** original structure that permits lubrication from the head of the stud To page 16

Grease-up can be performed from the head of the stud though the product is provided with a hexagon hole. The direction of lubrication is not limited.

5 C-Lube Unit for Cam Followers based on a new concept To page 17

C-Lube Unit to supply the lubricant to the external diameter surface of the outer ring and the track surface of Cam Followers. If this product is combined with Cam Followers, periodic lubrication on the track surface is not required and friction and abrasion can be reduced.

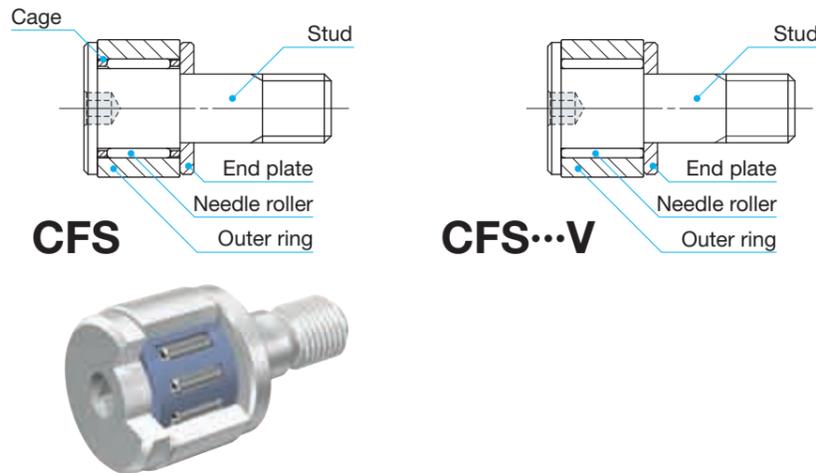
1 Full product lineup 1

Miniature Type Cam Followers

Stud diameter mm
2 to 6

CFS

In this bearing, very thin needle rollers are assembled in the outer ring. This product is designed as a compact type with a small external diameter of the outer ring for the stud diameter. The product is used in electronic parts, OA devices, miniature index devices, etc.



Selectable product specifications

| | | | |
|---------------------|-----------|--|------------------------|
| Material type | No symbol | | Carbon steel |
| | F | | Stainless steel |
| Roller guide type | No symbol | | Caged |
| | V | | Full complement |
| Seal structure | No symbol | | Shield type |
| | UU | | Sealed type |
| Shape of outer ring | No symbol | | Cylindrical outer ring |
| | R | | Crowned outer ring |

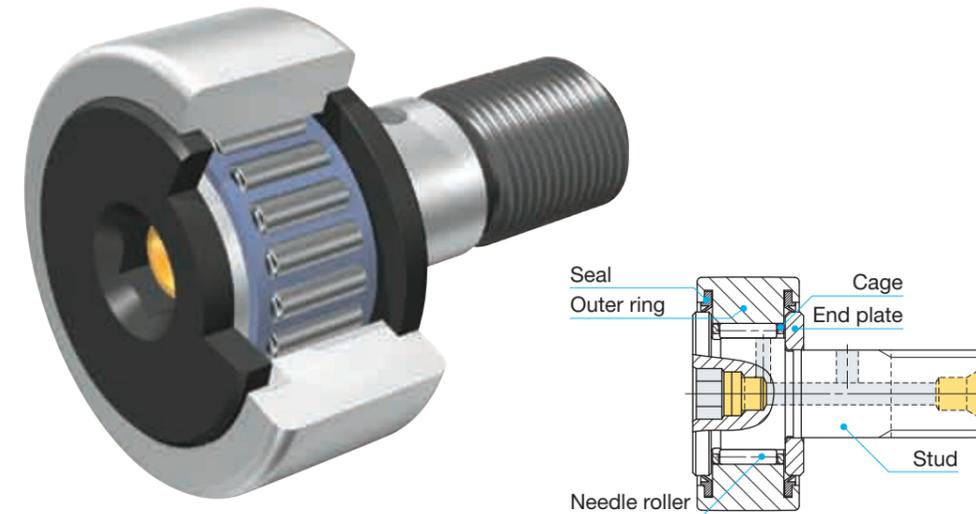
To page 31

Standard Type Cam Followers

Stud diameter mm
3 to 30

CF...B

This is a basic type of Cam Followers. The available size variation of stud diameter ranges from 3 mm min. to 30 mm max.



Selectable product specifications

| | | | |
|---------------------|-----------|--|------------------------|
| Material type | No symbol | | Carbon steel |
| | F | | Stainless steel |
| Roller guide type | No symbol | | Caged |
| | V | | Full complement |
| Seal structure | No symbol | | Shield type |
| | UU | | Sealed type |
| Shape of outer ring | No symbol | | Cylindrical outer ring |
| | R | | Crowned outer ring |

To page 35

Thrust Disk Type Miniature Cam Followers

Stud diameter mm
1.4 to 6

CFS...W

Miniature Type Cam Followers which is provided with a thrust disk made of special synthetic resin excellent in abrasion resistance and heat resistance. This product receives an axial load of the outer ring that is caused by mounting error to reduce friction and abrasion of the slide surface.

**The smallest in the world !
Cam Followers with such a small
stud diameter of 1.4mm !!**



CFS1.4WV with a stud diameter of 1.4 mm and a small external diameter of only 4 mm of the outer ring. The built-in thrust disk receives an axial load of the outer ring that is caused by mounting error.

Five features of CFS1.4WV

- The stud diameter is only $\phi 1.4\text{mm}$.
- The external diameter of the outer ring is only $\phi 4\text{mm}$.
- Provided with a hexagon hole that facilitates mounting
- Full complement type with a large load capacity
- Provided with a thrust disk that is strong in mounting error

Selectable product specifications

| | | | |
|---------------------|-----------|--|------------------------|
| Material type | No symbol | | Carbon steel |
| | F | | Stainless steel |
| Roller guide type | No symbol | | Caged |
| | V | | Full complement |
| Seal structure | No symbol | | Shield type |
| | UU | | Sealed type |
| Shape of outer ring | No symbol | | Cylindrical outer ring |
| | R | | Crowned outer ring |

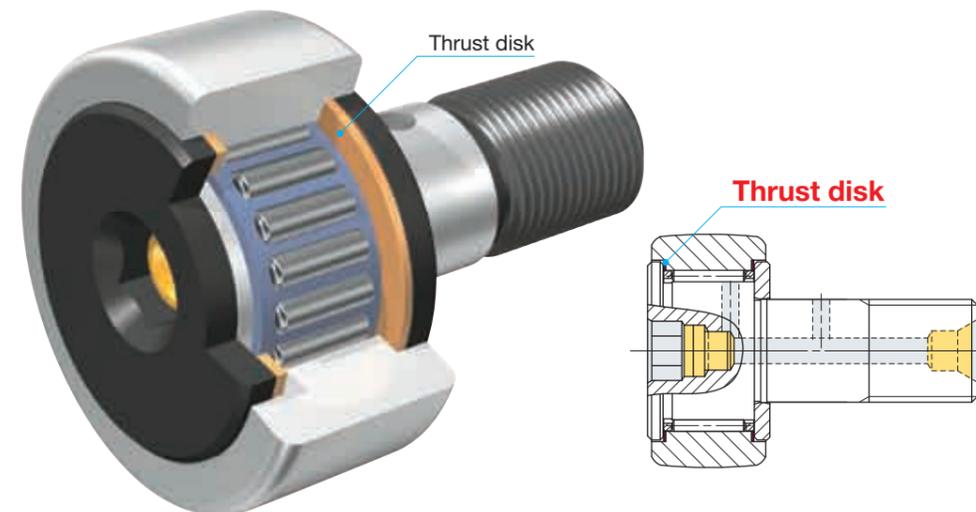
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Thrust Disk Type Cam Followers

Stud diameter mm
3 to 20

CF...WB

This product is provided with a thrust disk made of special synthetic resin excellent in abrasion resistance and heat resistance, so this thrust disk receives an axial load of the outer ring that is caused by mounting error to prevent the slide surface against friction and abrasion.



Selectable product specifications

| | | | |
|---------------------|-----------|--|------------------------|
| Material type | No symbol | | Carbon steel |
| | F | | Stainless steel |
| Roller guide type | No symbol | | Caged |
| | V | | Full complement |
| Seal structure | No symbol | | Shield type |
| | UU | | Sealed type |
| Shape of outer ring | No symbol | | Cylindrical outer ring |
| | R | | Crowned outer ring |

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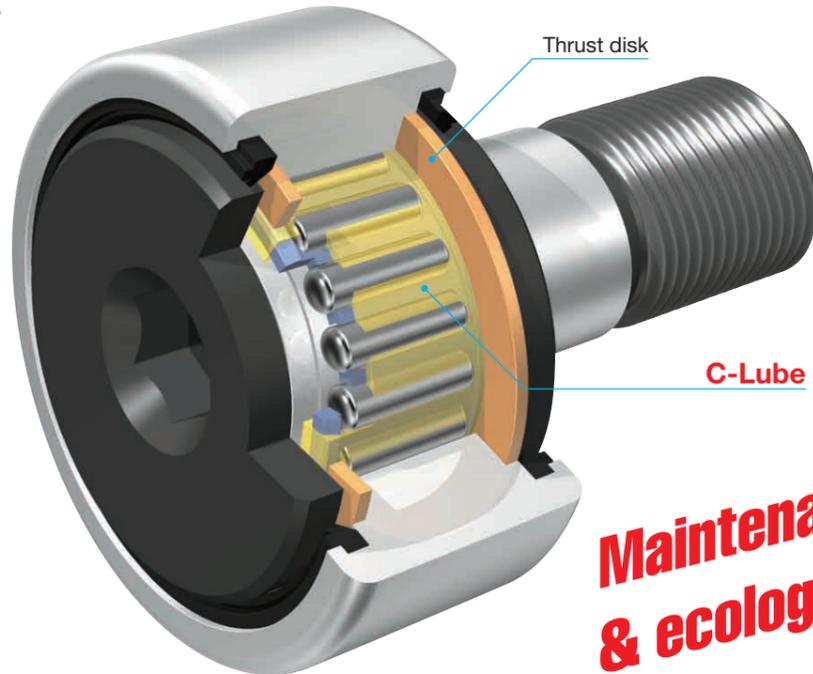
1 Full product lineup 2

C-Lube Cam Followers

Stud diameter mm
5 to 20

CF...WB.../SG

This is a maintenance-free product in which the thermosetting solid lubricant "C-Lube" is prepacked in the bearing clearance. "C-Lube" is a lubricant resulting from thermosetting a lot of lubricating oil and fine-particle ultra polymeric polyolefin. When the bearing rotates, a proper quantity of lubricant always oozes out onto the raceway from "C-Lube" to keep the lubricating performance of the bearing for a long time.



Selectable product specifications

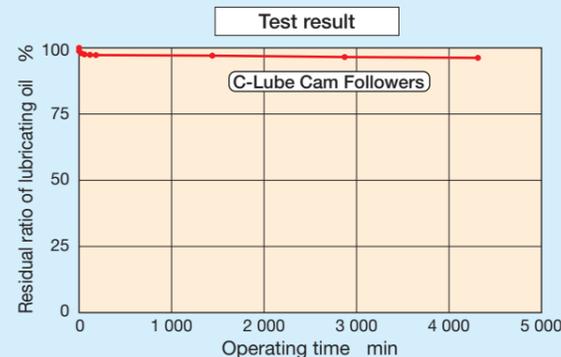
| | | |
|---------------------|-----------|------------------------|
| Material type | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



Maintenance-free & ecology

《Rotation endurance test》

| Test conditions | |
|-----------------------|--------------------------------------|
| Sample | CF10WBUUR/SG |
| Lubricating condition | C-Lube only without grease prepacked |
| Rotation speed | 1000 rpm |
| Ambient temperature | Room temperature |



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IKO A combination with C-Lube unit for Cam Followers is most suitable

A combination with "IKO C-Lube unit for Cam Followers" makes both inside of Cam Follower and track surface maintenance-free.



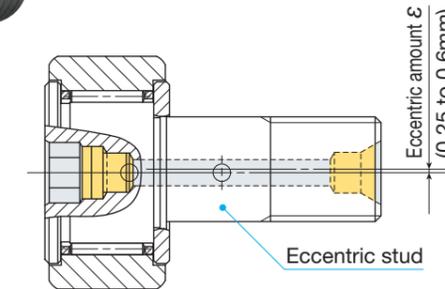
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Solid Eccentric Stud Type Cam Followers

Stud diameter mm
6 to 18

CFES...B

As the solid eccentric stud is rotated, the external diameters of the outer rings can be leveled when several pieces are used. The eccentric amount is 0.25 mm to 0.6 mm and this product can be mounted in the same mounting hole as the Standard Type Cam Followers.



Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Material type | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |

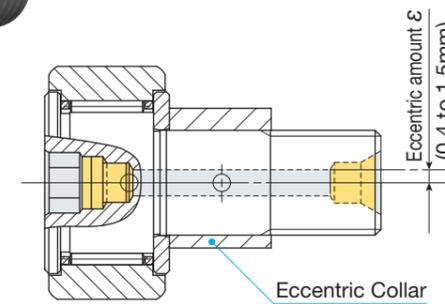
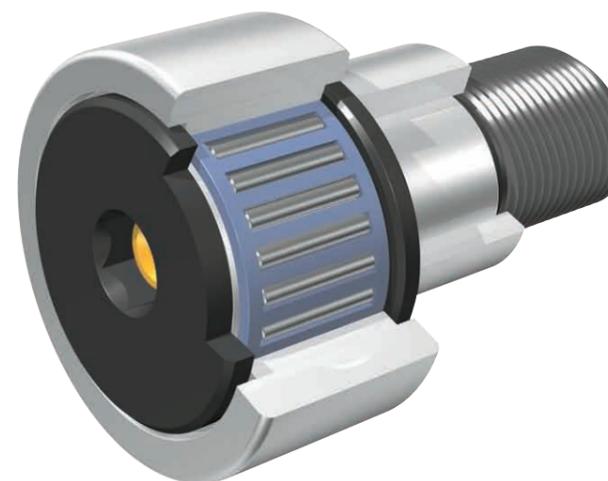
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Eccentric Type Cam Followers

Stud diameter mm
6 to 30

CFE...B

Because the eccentric collar is fixed on the stud, positioning in the radial direction for the mating track surface can be easily performed. The eccentric amount is 0.4 mm to 1.5 mm.



Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Material type | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |

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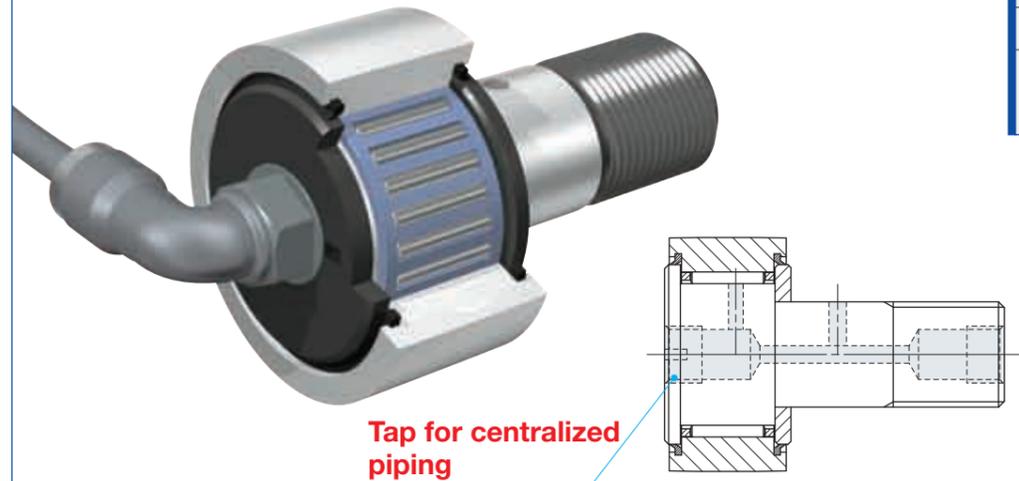
1 Full product lineup 3

Centralized Lubrication Type Cam Followers

Stud diameter mm
6 to 30

CF-RU1, CF-FU1

A tap hole for centralized piping is made on the head of the stud. This product is most suitable for a position requiring centralized lubrication piping.



Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Material type | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | FU1 | Cylindrical outer ring |
| | RU1 | Crowned outer ring |

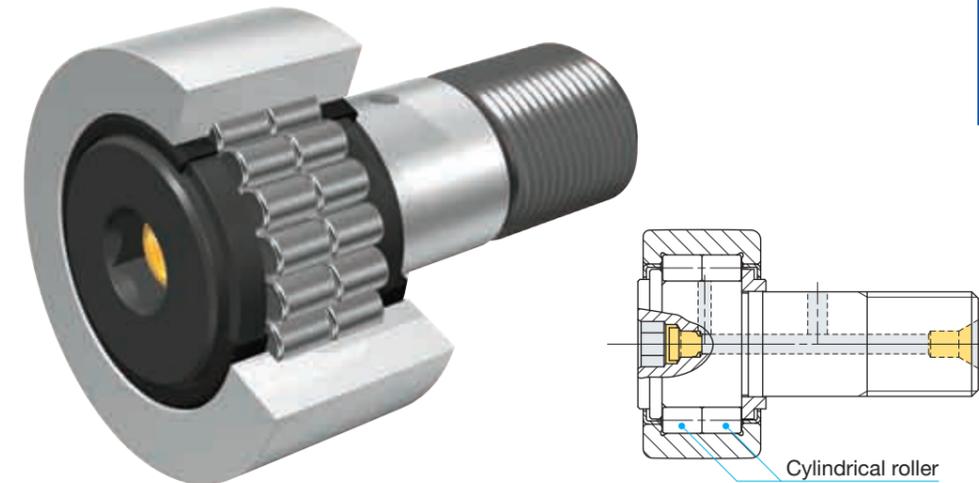
To page

Cylindrical Roller Cam Followers

Stud diameter mm
10 to 30

NUCF...B

This product is a full complement bearing in which cylindrical rollers are assembled on the outer ring in a multiple-row form, and can receive a large radial load and a certain level of axial load.



Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Material type | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Full complement |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |

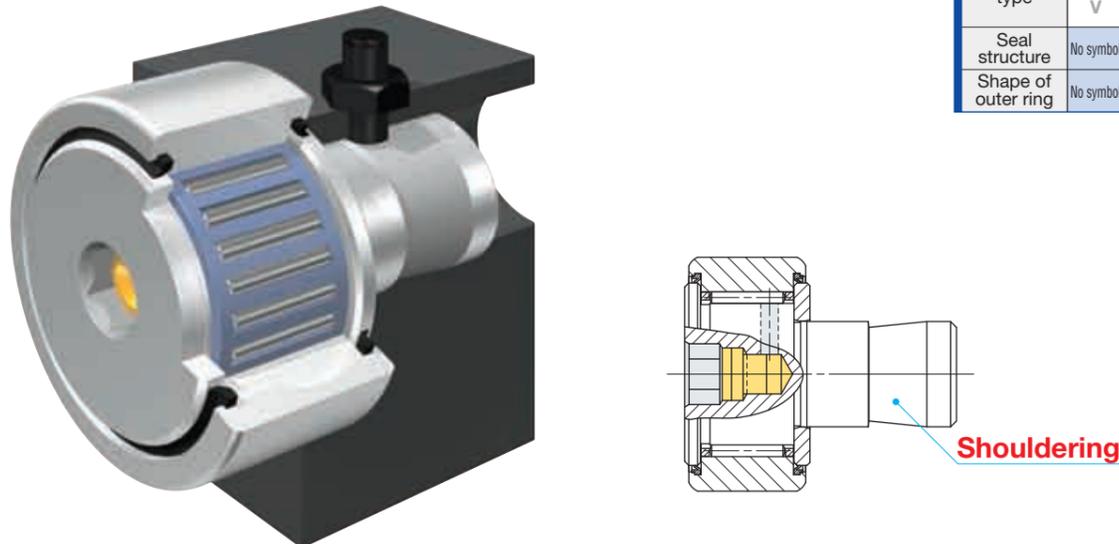
To page

Easy Mounting Type Cam Followers

Stud diameter mm
6 to 20

CF-SFU...B

Shouldering is already performed on the stud. This facilitates mounting to fix the shoulder portion with a set screw from the top surface. This product is most suitable for applications such as pallet changer.



Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Material type | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |

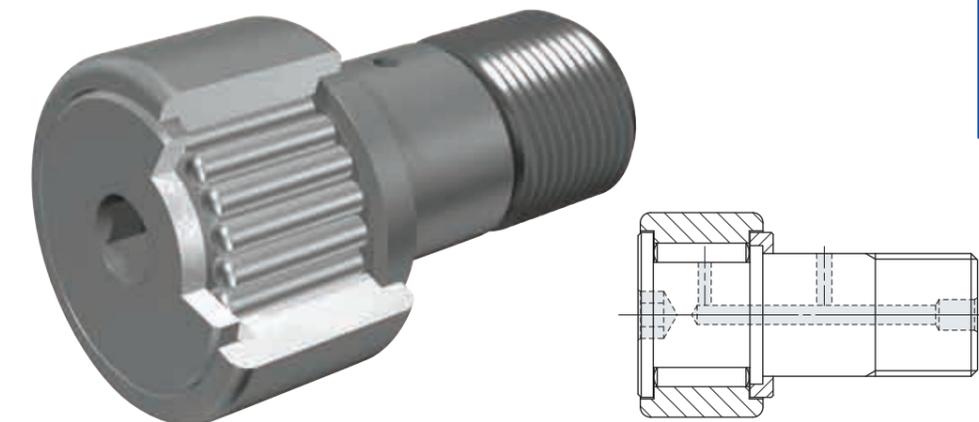
To page

Inch Series Cam Followers

Stud diameter mm
4.826 to 50.800

CR...B, CRH...B

The two types of Inch Series Cam Followers, CR and CRH, are lined up. The CRH type is applicable to a heavy load with a large rated load and has undergone black oxide film treatment.



Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Material type | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |

To page

2 Abundant product specifications that can be selected according to each application

Product system of IKO Hex Head Type Cam Followers

| Bearing type | Material type | Roller guide type | Seal section structure | Shape of the external diameter surface of outer ring | Model number | Stud diameter (mm) | Dimension table |
|--|----------------------|-------------------|------------------------|--|---------------|--------------------|-----------------|
| Miniature Type Cam Followers CFS | Carbon steel made | Caged | Shield type | Cylindrical outer ring | CFS | 2 - 6 | Page 31 |
| | | Full complement | Shield type | Cylindrical outer ring | CFS...V | 2 - 6 | Page 31 |
| | Stainless steel made | Caged | Shield type | Cylindrical outer ring | CFS...F | 2 - 6 | Page 31 |
| | | Full complement | Shield type | Cylindrical outer ring | CFS...FV | 2 - 6 | Page 31 |
| Thrust Disk Type Miniature Cam Followers CFS...W | Carbon steel made | Caged | Shield type | Cylindrical outer ring | CFS...W | 2 - 6 | Page 33 |
| | Stainless steel made | Caged | Shield type | Cylindrical outer ring | CFS...FW | 2 - 6 | Page 33 |
| Standard Type Cam Followers CF...B | Carbon steel made | Caged | Shield type | Crowned outer ring | CF...BR | 3 - 30 | Page 35 |
| | | | Shield type | Cylindrical outer ring | CF...B | 3 - 30 | Page 35 |
| | | | Sealed type | Crowned outer ring | CF...BUUR | 3 - 30 | Page 35 |
| | | Full complement | Shield type | Crowned outer ring | CF...VBR | 6 - 30 | Page 37 |
| | | | Shield type | Cylindrical outer ring | CF...VB | 6 - 30 | Page 37 |
| | | | Sealed type | Crowned outer ring | CF...VBUUR | 6 - 30 | Page 37 |
| | Stainless steel made | Caged | Shield type | Crowned outer ring | CF...FBR | 3 - 20 | Page 35 |
| | | | Shield type | Cylindrical outer ring | CF...FB | 3 - 5 | Page 35 |
| | | | Sealed type | Crowned outer ring | CF...FBUUR | 3 - 20 | Page 35 |
| | | Full complement | Shield type | Crowned outer ring | CF...FVBR | 6 - 30 | Page 37 |
| | | | Shield type | Cylindrical outer ring | CF...FVB | 6 - 30 | Page 37 |
| | | | Sealed type | Crowned outer ring | CF...FVBUUR | 6 - 30 | Page 37 |
| Thrust Disk Type Cam Followers CF...WB | Carbon steel made | Caged | Shield type | Crowned outer ring | CF...WBR | 3 - 20 | Page 39 |
| | | | Sealed type | Crowned outer ring | CF...WBUUR | 3 - 20 | Page 39 |
| | Stainless steel made | Caged | Shield type | Crowned outer ring | CF...FWBR | 3 - 5 | Page 39 |
| | | | Sealed type | Crowned outer ring | CF...FWBUUR | 3 - 5 | Page 39 |
| C-Lube Cam Followers CF...WB.../SG | Carbon steel made | Caged | Sealed type | Crowned outer ring | CF...WBUUR/SG | 5 - 20 | Page 41 |
| Solid Eccentric Stud Type Cam Followers CFES...B | Carbon steel made | Caged | Shield type | Crowned outer ring | CFES...BR | 6 - 18 | Page 43 |
| | | | | Cylindrical outer ring | CFES...B | 6 - 18 | Page 43 |
| | | | Sealed type | Crowned outer ring | CFES...BUUR | 6 - 18 | Page 43 |
| | | | | Cylindrical outer ring | CFES...BUU | 6 - 18 | Page 43 |
| Eccentric Type Cam Followers CFE...B | Carbon steel made | Caged | Shield type | Crowned outer ring | CFE...BR | 6 - 30 | Page 45 |
| | | | | Cylindrical outer ring | CFE...B | 6 - 30 | Page 45 |
| | | Full complement | Shield type | Crowned outer ring | CFE...BUUR | 6 - 30 | Page 45 |
| | | | | Cylindrical outer ring | CFE...BUU | 6 - 30 | Page 45 |
| | Stainless steel made | Caged | Shield type | Crowned outer ring | CFE...VBR | 6 - 30 | Page 47 |
| | | | | Cylindrical outer ring | CFE...VB | 6 - 30 | Page 47 |
| | | Full complement | Shield type | Crowned outer ring | CFE...VBUUR | 6 - 30 | Page 47 |
| | | | | Cylindrical outer ring | CFE...VBUU | 6 - 30 | Page 47 |
| Centralized Lubrication Type Cam Followers CF-RU1 CF-FU1 | Carbon steel made | Caged | Sealed type | Crowned outer ring | CF-RU1 | 6 - 30 | Page 49 |
| | | | | Cylindrical outer ring | CF-FU1 | 6 - 30 | Page 49 |
| Easy Mounting Type Cam Followers CF-SFU...B | Carbon steel made | Caged | Sealed type | Cylindrical outer ring | CF-SFU...B | 6 - 20 | Page 51 |
| Cylindrical Roller Cam Followers NUCF...B | Carbon steel made | Full complement | Shield type | Crowned outer ring | NUCF...BR | 10 - 30 | Page 53 |

* For the product system of Inch Series Cam Followers, refer to the dimension tables on page 55 to page 66.

Material type

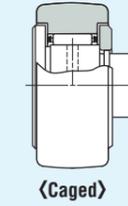
In addition to the carbon steel made type, the stainless steel made type is also available. The stainless steel made type is suitable for an environment and a clean room where oil should be avoided or water is scattered.



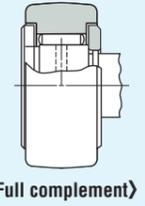
Roller guide type

The caged type has a small coefficient of friction and is suitable for high-speed rotation. The full complement type is suitable for low-speed rotation, rocking motion, and places to which a heavy load is applied.

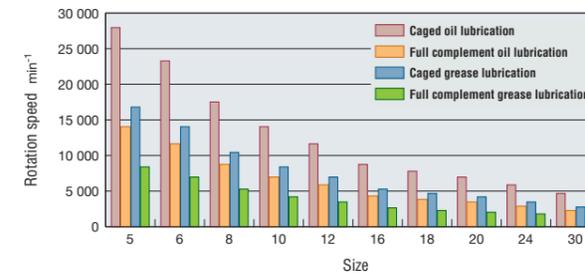
For a place with a high rotation speed



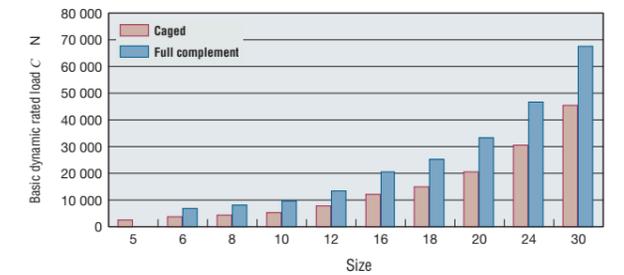
For low-speed rotation or heavy load



Comparison in maximum rotation speed



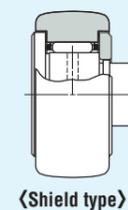
Comparison in dynamic rating load



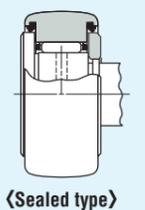
Seal section structure

The shield type reduces the clearance between the outer ring and stud collar section and between the outer ring and end plate, forming a labyrinth. The sealed type consists of seals to prevent foreign substances from entering.

For general applications



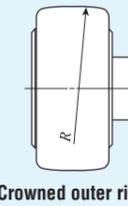
For dust prevention or grease leak prevention



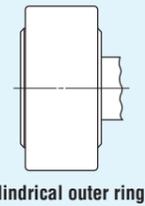
Shape of the external diameter surface of outer ring

The crowned outer ring is effective in relieving an end load due to mounting error. The cylindrical outer ring is suitable for the case where the actual load is large or the track surface is not so hard.

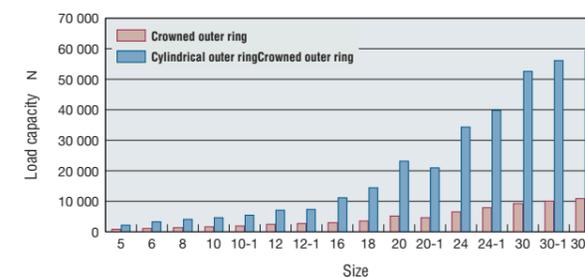
For relieving a mounting error



For a large actual load or an insufficient hardness of track surface



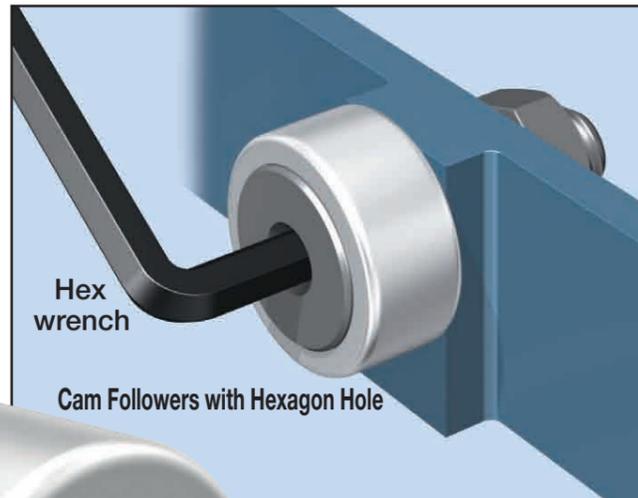
Comparison in track capacity



3 Hexagonal head type that can be easily mounted

Tightening can be surely performed on the head of the stud from the hexagon hole with a hex wrench. Mounting can also be performed easily to greatly improve the workability.

Stud tightening can be performed easily and surely with a hex wrench.



Series to which the hex head type is applicable

| Series name | Type | Stud diameter (mm) |
|--|-----------------|--------------------|
| Miniature Type Cam Followers | CFS | 2 to 6 |
| Thrust Disk Type Miniature Cam Followers | CFS...W | 1.4 to 6 |
| Standard Type Cam Followers | CF...B | 3 to 30 |
| Thrust Disk Type Cam Followers | CF...WB | 3 to 20 |
| C-Lube Cam Followers | CF...WB.../SG | 5 to 20 |
| Solid Eccentric Stud Type Cam Followers | CFES...B | 6 to 18 |
| Eccentric Type Cam Followers | CFE...B | 6 to 30 |
| Easy Mounting Type Cam Followers | CF-SFU...B | 6 to 20 |
| Cylindrical Roller Cam Followers | NUCF...B | 10 to 30 |
| Inch Series Cam Followers | CR...B, CRH...B | 4.826 to 50.800 |

* Centralized Lubrication Type Cam Followers have a screw driverslot.

4 IKO original structure that permits lubrication from the head of the stud

Original lubrication structure

Cam Followers with Hexagon Hole permit lubrication from the head of the stud.⁽¹⁾



3 Way

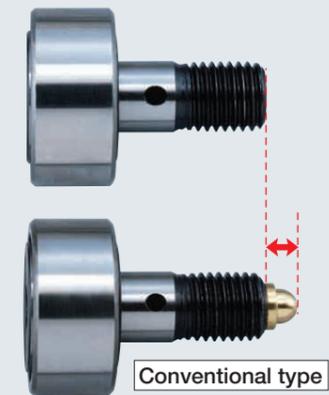
Stud dia. 12 to 30mm⁽²⁾



A grease nipple is incorporated in the hexagon hole.

Lubrication can be performed from any of 3 directions with the same external dimensions.

The nipple at the end of the stud is kindly designed so as to avoid any projection.

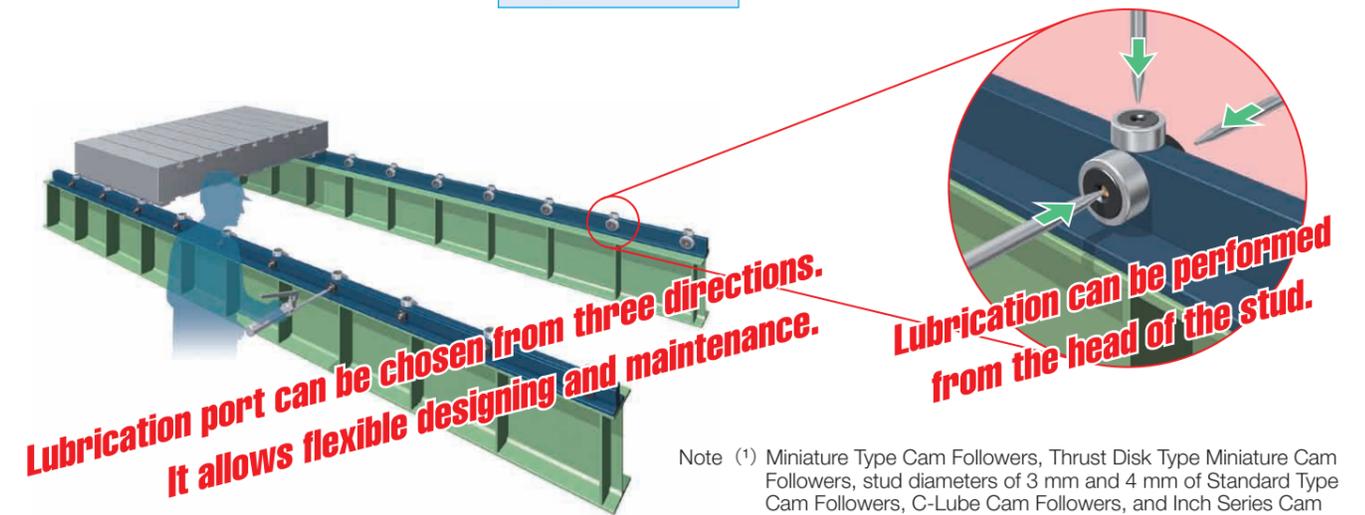
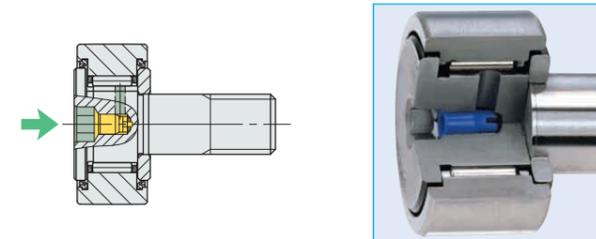


It is also unnecessary to select the cap or grease nipple according to the direction of lubrication.



1 Way

Stud dia. 5 to 10mm



Note (1) Miniature Type Cam Followers, Thrust Disk Type Miniature Cam Followers, stud diameters of 3 mm and 4 mm of Standard Type Cam Followers, C-Lube Cam Followers, and Inch Series Cam Followers are excepted.

(2) For Eccentric Type Cam Followers, the stud screw diameter G shown in the dimension table is applied. For Easy Mounting Type Cam Followers, the 1-way type is applied to all the sizes.

(3) The grease nipple on the end face side of the stud is attached as an accessory.

5 C-Lube Unit for Cam Followers based on a new concept

IKO C-Lube Unit for Cam Followers



IKO C-Lube Unit for Cam Followers is a lubricating part to be mounted in Cam Followers. Periodic lubrication is not required because this product supplies the lubricating oil that is indispensable for the external diameter surface of the outer ring and track surface of Cam Followers.

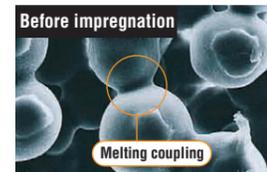


Lubrication onto the track surface is not required for a long time.

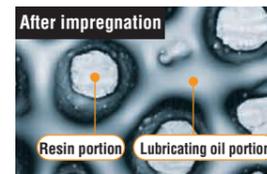


Capillary lubricator

This lubricator is made of the inter-porous sintered resin resulting from sintering and forming fine resin powder, and impregnates a large quantity of lubricating oil by using a capillary phenomenon to be caused in the internal space.



Resin particles are coupled by melting. There are many spaces.



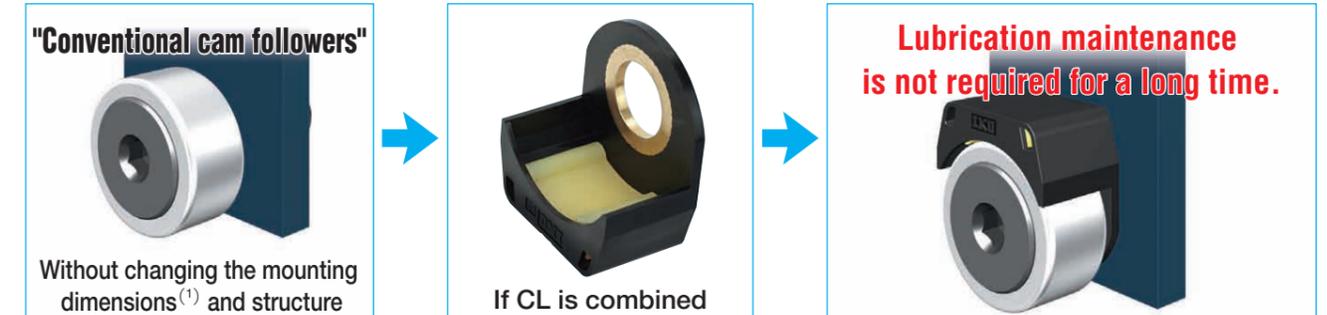
Lubricating oil is kept in the spaces of resin particles.



IKO C-Lube Cam Followers
Note Purchase this product separately from IKO C-Lube Unit.

Applications of IKO C-Lube Unit for Cam Followers CL

A long-time maintenance-free status of the track surface has been achieved.



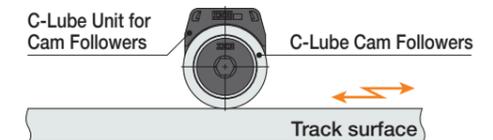
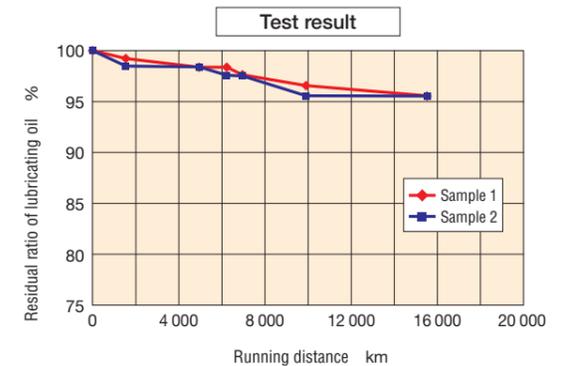
Note⁽¹⁾ Cam Followers are offset several mm in the axial direction according to the thickness of the CL resin cover.

The performance of CL has been substantiated by endurance test result.

《Endurance test》

| Test conditions ⁽²⁾ | |
|--------------------------------|--|
| Sample | CL12, C-Lube Unit for Cam Followers CF12 WBUUR/SG, C-Lube Cam Followers |
| Lubricating condition | C-Lube Unit only without prepacked grease |
| Maximum speed | 2000 mm/s |
| Stroke length | 300 mm |
| Track surface specifications | Material SKD11 Hardness HRC58 or more Surface roughness Rz: 6.3 μm or less |
| Ambient temperature | Room temperature |

Note ⁽²⁾ Endurance is checked by using the ground track surface. For operating in the other conditions, the customer is requested to make a check with its own machine.



Don't you have such a difficulty as shown below?

Lubrication maintenance for the track surface is not appropriate.
If a shortage of oil occurs, abrasion will be caused by reddish brown rust. If grease is too much, it will scatter and cause environmental pollution.



Reddish brown abrasion powder is generated.



The circumference is made sticky by grease.

This difficulty can be resolved by C-Lube Unit CL.

Lubricating oil will be continuously supplied for a long time.



This can prevent the ambient environment from being polluted.

A combination with IKO C-Lube Cam Followers is the most desirable.



Remark C-Lube Unit can be combined with Standard Type Cam Followers, Thrust Disk Type Cam Followers, C-Lube Cam Followers, Centralized Lubrication Type Cam Followers, or Cylindrical Roller Cam Followers.

Identification Number

Some examples of the identification number of Cam Followers are shown below. For applicable material symbol, roller guide method, seal structure and shape of outer ring outside surface, refer dimension table of each series.

Examples of identification number

| | | | | | | | | |
|-----------|-----|----|---|---|---|----|---|-----|
| Example 1 | CFS | 3 | F | V | | | | P6 |
| Example 2 | CF | 10 | | V | B | UU | R | |
| Example 3 | CF | 5 | F | W | B | UU | R | |
| Example 4 | CF | 8 | | W | B | UU | R | /SG |

| Model number | |
|---------------|---|
| CFS | Miniature Type Cam Follower |
| CFS...W | Thrust Disk Type Miniature Cam Follower |
| CF...B | Standard Type Cam Follower |
| CF...WB | Thrust Disk Type Cam Follower |
| CF...WB.../SG | C-Lube Cam Follower |
| CFES...B | Solid Eccentric Stud Type Cam Follower |
| CFE...B | Eccentric Type Cam Follower |
| CF-RU1 | Centralized Lubrication Type Cam Follower (With crowned outer ring) |
| CF-FU1 | Centralized Lubrication Type Cam Follower (With cylindrical outer ring) |
| CF-SFU...B | Easy Mounting Type Cam Follower |
| NUCF...B | Cylindrical Roller Cam Follower |
| CR...B | Inch series Cam Follower(With Hexagon socket) |
| CR | Inch series Cam Follower(With Screw driverslot) |
| CRH...B | Inch series Cam Follower(With Hexagon socket) |
| CRH | Inch series Cam Follower(With Screw driverslot) |

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

| Material | |
|-----------|------------------------|
| No symbol | High carbon steel made |
| F | Stainless steel made |

| Roller guide method ⁽¹⁾ | |
|------------------------------------|----------------------|
| No symbol | With cage type |
| V | Full complement type |

Note⁽¹⁾ Cylindrical Roller Cam Follower is Full complement type with "No Symbol".

| Seal structure ⁽¹⁾ | |
|-------------------------------|-------------|
| No symbol | Shield type |
| UU | Sealed type |

Note⁽¹⁾ Centralized Lubrication Type and Easy Mounting Type are sealed Type with "No Symbol".

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

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

Load Rating and Life

Basic dynamic load rating C

The basic dynamic load rating is defined as the constant radial load that 90% of a group of identical Cam Followers can be operated 1,000,000 revolutions individually under the same conditions free from any material damage caused by rolling fatigue.

Basic static load rating C_0

The basic static load rating is the static radial load constant in direction and magnitude that gives the contact stress shown at the center of the contact area of the rolling element and the raceway receiving the maximum load.

Bearing life

Basic rating life is calculated as following formula.

$$L_{10} = \left(\frac{C}{P_r}\right)^{10/3} \dots\dots\dots (1)$$

where, L_{10} : Basic rating life, 10^6 rev.
 C : Basic dynamic load rating, N
 P_r : Dynamic equivalent radial load, N

Accordingly, when the rotational speed per minute is given, the basic rating life is represented as the total service hours according to the following equations:

$$L_h = \frac{10^6 L_{10}}{60n} \dots\dots\dots (2)$$

where, L_h : Basic rating life represented by service hours, h
 n : Rotation speed, min^{-1}

Static Safety factor

The static safety factor f_s is defined as in the following equation and its general values are shown in Table 1.

$$f_s = \frac{C_0}{P_0} \dots\dots\dots (3)$$

where, C_0 : Basic static load rating, N
 P_0 : Static equivalent load, N

Table 1 Static safety factor

| Operating conditions of the bearing | f_s |
|--|------------|
| When high rotational accuracy is required | ≥ 3 |
| For ordinary operation conditions | ≥ 1.5 |
| For ordinary operation conditions not requiring very smooth rotation When there is almost no rotation | ≥ 1 |

Load factor

It is not unusual for the actual Cam Followers loads to exceed the calculated loads, due to vibration and shocks produced when operating the machine. The actual bearing load is obtained by multiplying the calculated load by the load factor shown in Table 2.

Table 2 Load Factor

| Operating conditions | f_w |
|---|-----------|
| Smooth operation without shocks | 1 ~ 1.2 |
| Ordinary operation | 1.2 ~ 1.5 |
| Operation subjected to vibration and shocks | 1.5 ~ 3 |

Maximum Allowable Static Load

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

Accuracy

The accuracy of Cam Followers is shown in Table 3, Table 4.1, Table 4.2 and Table 4.3. Cam Followers with special accuracy are also available. When they are required, please contact IKO.

Table 3 Tolerances

unit: μm

| Series | Metric CF series ⁽¹⁾ | | Inch series | |
|--------------------------------|---------------------------------|--------------------|------------------------|--------------------|
| | Miniature CFS series | Crowned outer ring | Cylindrical outer ring | Crowned outer ring |
| Dimensions and symbols | | | | |
| Outside dia. of outer ring D | See Table 4.1 | 0 - 50 | See Table 4.2 | 0 - 50 |
| Stud dia. d_1 | h6 | h7 | | + 25 0 |
| Width of outer ring C | 0 - 120 | 0 - 120 | | 0 - 130 |

Note⁽¹⁾ Also applicable to the entire Cam Followers except Miniature series and Inch series.

Table 4.1 Tolerances and allowable values of outer rings (Miniature CFS series)

unit: μm

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

Table 4.2 Tolerances and allowable values of outer rings (Metric CF series cylindrical outer rings)

unit: μm

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

Table 4.3 Tolerances and allowable values of outer rings (Inch series cylindrical outer ring)

unit: μm

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

Clearance

The radial internal clearances of Cam Followers are shown in Table 5.

Table 5 Radial internal clearance

unit: μm

| Identification number | | | | Radial internal clearance | |
|--------------------------------------|---------------------------------|----------------------------------|---------------------------|---------------------------|------|
| Miniature CFS series CFS, CFS...W | Metric CF series ⁽¹⁾ | Cylindrical Roller Cam Followers | Inch series | Min. | Max. |
| CFS1.4 ~ CFS5 | CF 3B ~ CF 5B | — | CR 8,CR 8-1,CRH 8-1,CRH 9 | 3 | 17 |
| CFS6 | CF 6B | — | CR10,CR10-1,CRH10-1,CRH11 | 5 | 20 |
| — | CF 8B ~ CF12-1B | — | CR12 ~ CR22,CRH12 ~ CRH22 | 5 | 25 |
| — | CF16B ~ CF20-1B | — | CR24 ~ CR36,CRH24 ~ CRH36 | 10 | 30 |
| — | CF24B ~ CF30-2B | — | CR48,CRH40 ~ CRH56 | 10 | 40 |
| — | — | — | CRH64 | 15 | 50 |
| — | — | NUCF10 B ~ NUCF24 B | — | 20 | 45 |
| — | — | NUCF24-1B ~ NUCF30-2B | — | 25 | 50 |

Note⁽¹⁾ Only representative types are shown in the table, but this table is applicable to the entire Cam Followers except Miniature series, Cylindrical Roller Cam Followers, and Inch series.

Fit

Tables 6 and 7 show recommended tolerances of mounting holes for Cam Follower studs. Since the Cam Follower is supported in a cantilever position, the mounting hole diameter should be prepared without play between the stud and the hole especially when heavy shock loads are applied.

Table 6 Recommended fit

| Type | Tolerance class of mounting hole for stud |
|---------------------------------|---|
| Miniature CFS series | H6 |
| Metric CF series ⁽¹⁾ | H7 |
| Inch series | F7 |

Note⁽¹⁾ Only representative types are shown in the table, but this table is applicable to the entire Cam Followers except Miniature series and Inch series.

Table 7 Dimensional tolerances of mounting hole

unit: μm

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

Track Capacity

Track capacity is defined as a load which can be continuously applied on a Cam Follower placed on a steel track surface without causing any deformation or indentation on the track surface when the outer ring of the Cam Follower makes contact with the mating track surface (plane). The track capacities shown in Tables 8.1, 8.2 and 8.3 are applicable when the hardness of the mating track surface is 40HRC (Tensile strength 1250N/mm²). When the hardness of the mating track surface differs from 40HRC, the track capacity is obtained by multiplying the value by the track capacity factor shown in Table 9.

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

Table 8.1 Track Capacity for Miniature Type Cam Follower CFS, CFS...W

| Identification number with cylindrical outer ring | Track capacity |
|---|----------------|
| CFS1.4 | 128 |
| CFS2 | 220 |
| CFS2.5 | 298 |
| CFS3 | 485 |
| CFS4 | 799 |
| CFS5 | 1 210 |
| CFS6 | 1 680 |

Table 8.2 Track capacity for Metric series Cam Follower⁽¹⁾

| Identification number With crowned outer ring | Track capacity | Identification number With cylindrical outer ring | Track capacity |
|---|----------------|---|----------------|
| CF 3 BR | 542 | CF 3 B | 1 360 |
| CF 4 BR | 712 | CF 4 B | 1 790 |
| CF 5 BR | 794 | CF 5 B | 2 210 |
| CF 6 BR | 1 040 | CF 6 B | 3 400 |
| CF 8 BR | 1 330 | CF 8 B | 4 040 |
| CF10 BR | 1 610 | CF10 B | 4 680 |
| CF10-1BR | 2 030 | CF10-1B | 5 530 |
| CF12 BR | 2 470 | CF12 B | 7 010 |
| CF12-1BR | 2 710 | CF12-1B | 7 480 |
| CF16 BR | 3 060 | CF16 B | 11 200 |
| CF18 BR | 3 660 | CF18 B | 14 500 |
| CF20 BR | 5 190 | CF20 B | 23 200 |
| CF20-1BR | 4 530 | CF20-1B | 21 000 |
| CF24 BR | 6 580 | CF24 B | 34 300 |
| CF24-1BR | 8 020 | CF24-1B | 39 800 |
| CF30 BR | 9 220 | CF30 B | 52 700 |
| CF30-1BR | 9 990 | CF30-1B | 56 000 |
| CF30-2BR | 10 800 | CF30-2B | 59 300 |

Note⁽¹⁾ This table is applicable to the entire Cam Followers except Miniature series and Inch series.

Table 8.3 Track capacity for Inch series Cam Followers

| Identification number With crowned outer ring | Track capacity | Identification number With cylindrical outer ring | Track capacity | Identification number With crowned outer ring | Track capacity | Identification number With cylindrical outer ring | Track capacity |
|---|----------------|---|----------------|---|----------------|---|----------------|
| CR 8 R | 770 | CR 8 | 2 140 | — | — | — | — |
| CR 8-1R | 770 | CR 8-1 | 2 360 | CRH 8-1R | 401 | CRH 8-1 | 2 360 |
| — | — | — | — | CRH 9 R | 469 | CRH 9 | 2 650 |
| CR10 R | 1 030 | CR10 | 3 210 | — | — | — | — |
| CR10-1R | 1 030 | CR10-1 | 3 480 | CRH10-1R | 579 | CRH10-1 | 3 480 |
| — | — | — | — | CRH11 R | 658 | CRH11 | 3 830 |
| CR12 R | 1 340 | CR12 | 4 500 | CRH12 R | 853 | CRH12 | 4 500 |
| CR14 R | 1 630 | CR14 | 5 250 | CRH14 R | 1 050 | CRH14 | 5 250 |
| CR16 R | 1 970 | CR16 | 7 280 | CRH16 R | 1 420 | CRH16 | 7 280 |
| CR18 R | 2 300 | CR18 | 7 710 | CRH18 R | 1 660 | CRH18 | 7 710 |
| CR20 R | 2 680 | CR20 | 10 700 | CRH20 R | 2 160 | CRH20 | 10 700 |
| CR22 R | 3 050 | CR22 | 11 800 | CRH22 R | 2 450 | CRH22 | 11 800 |
| CR24 R | 3 410 | CR24 | 15 400 | CRH24 R | 3 410 | CRH24 | 15 400 |
| CR26 R | 3 820 | CR26 | 16 700 | CRH26 R | 3 820 | CRH26 | 16 700 |
| CR28 R | 4 210 | CR28 | 21 000 | CRH28 R | 4 210 | CRH28 | 21 000 |
| CR30 R | 4 610 | CR30 | 22 500 | CRH30 R | 4 610 | CRH30 | 22 500 |
| CR32 R | 5 050 | CR32 | 30 900 | CRH32 R | 5 690 | CRH32 | 30 900 |
| CR36 R | 5 900 | CR36 | 34 700 | CRH36 R | 6 640 | CRH36 | 34 700 |
| — | — | — | — | CRH40 R | 8 970 | CRH40 | 45 000 |
| — | — | — | — | CRH44 R | 10 200 | CRH44 | 49 500 |
| — | — | CR48 | 64 300 | CRH48 R | 11 400 | CRH48 | 64 300 |
| — | — | — | — | CRH52 R | 12 700 | CRH52 | 69 600 |
| — | — | — | — | CRH56 R | 14 100 | CRH56 | 87 000 |
| — | — | — | — | CRH64 R | 16 800 | CRH64 | 113 000 |

Table 9 Track capacity factor

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

Allowable Rotational Speed

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

In case of C-Lube Cam Follower or with C-Lube unit, d_1n value is 10000 or less.

In case of C-Lube Cam Follower or with C-Lube unit with axial loads, d_1n value is 10000 or 1/10 of the values in Table 10, whichever smaller.

Table 10 d_1n values of Cam Followers⁽¹⁾

| Type | Lubricant | |
|----------------------------------|-----------|---------|
| | Grease | Oil |
| Caged type | 84 000 | 140 000 |
| Full complement type | 42 000 | 70 000 |
| Cylindrical Roller Cam Followers | 66 000 | 110 000 |

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

Lubrication

Grease-prepacked Cam Followers are shown in Table 11. The lubricating grease prepacked in these bearings is ALVANIA GREASE S2 (SHELL).

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

Table 11 Grease-prepacked Cam Followers

| Series | Type | With cage | | Full complement type |
|--|------------------------------|-------------|-------------|----------------------|
| | | Shield type | Sealed type | |
| Miniature series | CFS | ○ | — | ○ |
| | CFS...W | ○ | — | ○ |
| Metric series | CF...B | ○ | ○ | ○ |
| | CF...WB | | | |
| | CFES...B | × | — | ○ |
| | CFE...B | × | — | ○ |
| C-Lube Cam Followers | CF...WB.../SG ⁽²⁾ | — | × | — |
| Centralized Lubrication Type Cam Followers | CF - RU1 CF - FU1 | — | ○ | — |
| Easy Mounting Type Cam Followers | CF - SFU...B | — | ○ | — |
| Cylindrical Roller Cam Followers | NUCF...B | — | — | ○ |
| Inch series | CR...B | ○ | ○ | ○ |
| | CR | ○ | ○ | ○ |
| Inch series | CRH...B | — | — | ○ |
| | CRH | — | — | ○ |

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

⁽²⁾ This Cam Follower incorporates C-Lube which includes a large amount of lubricating oil.

Operating Temperature Range

The operating temperature range for IKO Cam Followers is $-20^{\circ}\text{C} \sim +120^{\circ}\text{C}$. Please pay attention as the types shown in table 20 have different range.

Table 20 Restricted Operating Temperature Range

| Type Size of stud dia. d_1 mm | Type | With cage | |
|--|---------------------------|--|--|
| | | Shield type | Sealed type |
| Miniature Type Cam Followers CFS Thrust Disk Type Miniature Cam Followers CFS...W | $d_1 = 2$ | $-20^{\circ}\text{C} \sim 110^{\circ}\text{C}^{(1)}$ | — |
| Standard Type Cam Followers CF...B Thrust Disk Type Cam Followers CF...WB | $d_1 = 3, 4$ $d_1 = 5$ | $-20^{\circ}\text{C} \sim 110^{\circ}\text{C}^{(1)}$ $-20^{\circ}\text{C} \sim 120^{\circ}\text{C}$ | $-20^{\circ}\text{C} \sim 80^{\circ}\text{C}$ $-20^{\circ}\text{C} \sim 80^{\circ}\text{C}$ |
| Stainless Steel Standard Type Cam Followers CF...FB Stainless Steel Thrust Disk Type Cam Followers CF...FWB | $3 \leq d_1 \leq 5$ | $-20^{\circ}\text{C} \sim 110^{\circ}\text{C}^{(1)}$ | $-20^{\circ}\text{C} \sim 80^{\circ}\text{C}$ |
| C-Lube Cam Followers CF...WB.../SG | $5 \leq d_1 \leq 20$ | — | $-15^{\circ}\text{C} \sim 80^{\circ}\text{C}^{(2)}$ |

Notes⁽¹⁾ 100 degree C in continuous operation.
⁽²⁾ 60 degree C or lower is recommended in long time.

Mounting

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

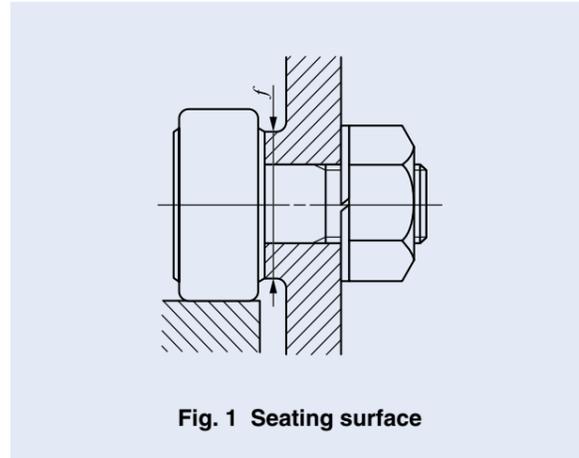


Fig. 1 Seating surface

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

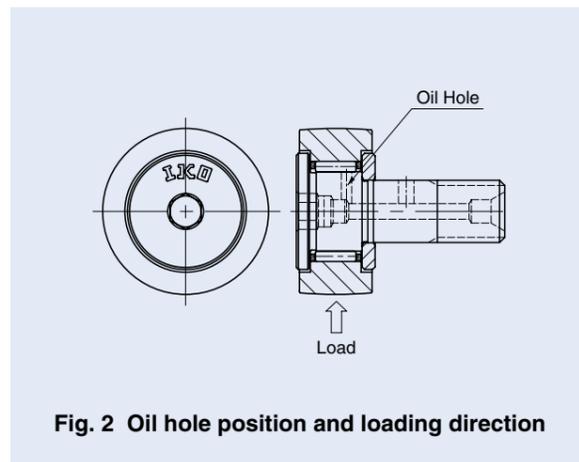


Fig. 2 Oil hole position and loading direction

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

④ Solid Eccentric Stud Type Cam Followers and Eccentric Type Cam Followers, are mounted in reference position where IKO mark on the head of stud is located as Fig. 3. The outer ring position can be adjusted appropriately by turning the stud with a screwdriver or hexagon bar wrench using the screwdriver slot or hexagon hole of the stud head. The stud is fixed with a nut and a spring washer, etc. The tightening torque should not exceed the values of maximum tightening torque shown in the table of dimensions.

When shock loads are applied and the adjusted eccentricity has to be ensured, it is recommended to make holes in the housing, stud and eccentric collar, and fix the stud with a dowel pin as shown in Fig. 4. However, when the stud diameter is less than 8 mm (Eccentric collar diameter 11 mm), it is difficult to make a hole in the stud because the stud is through-hardened.

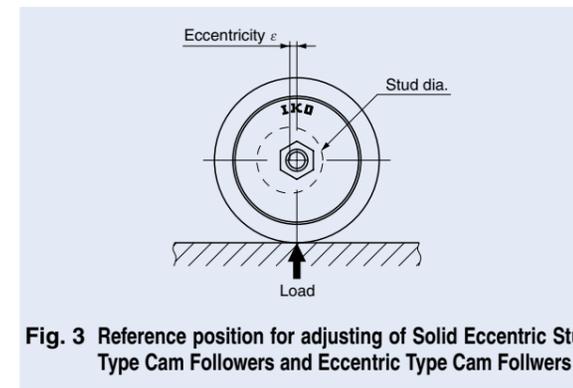


Fig. 3 Reference position for adjusting of Solid Eccentric Stud Type Cam Followers and Eccentric Type Cam Followers

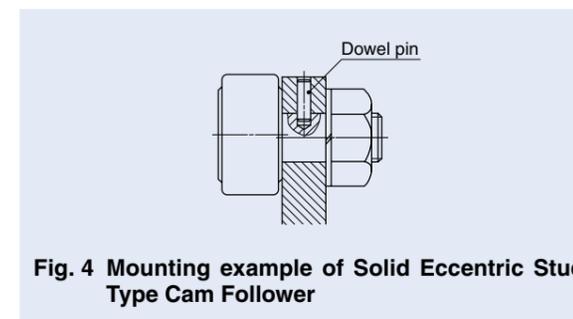


Fig. 4 Mounting example of Solid Eccentric Stud Type Cam Follower

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

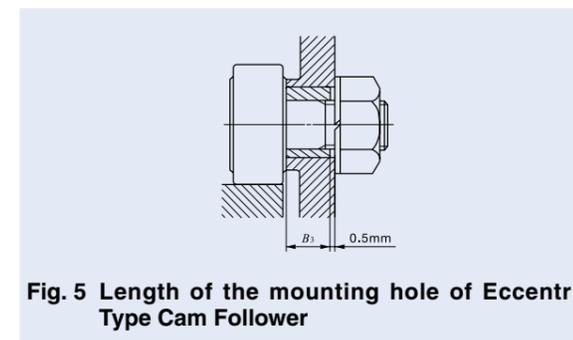


Fig. 5 Length of the mounting hole of Eccentric Type Cam Follower

⑥ Eccentric collar is available for Inch series Cam Followers. Cam Followers with Eccentric collars, CRE are also available. If required, please consult with IKO.

Table 21 Eccentric collars for Inch series Cam Followers

| Identical number of collar | Outer diameter of collar d_{ϵ} | Length of collar B_3 | Eccentricity ϵ | Stud dia. d | Applicable Cam Followers |
|----------------------------|---|----------------------------|-------------------------|----------------------------|--------------------------|
| EB 8 | 6.350 ($\frac{1}{4}$) | 6.350 ($\frac{1}{4}$) | 0.250 | 4.826 | CR 8 (V)(B)(R)(UU) |
| EB10 | 9.525 ($\frac{3}{8}$) | 9.525 ($\frac{3}{8}$) | 0.380 | 6.350 ($\frac{1}{4}$) | CR10 (V)(B)(R)(UU) |
| EB12 | 12.700 ($\frac{1}{2}$) | 12.700 ($\frac{1}{2}$) | 0.380 | 9.525 ($\frac{3}{8}$) | CR12 (V)(B)(R)(UU) |
| EB16 | 15.875 ($\frac{5}{8}$) | 15.875 ($\frac{5}{8}$) | 0.760 | 11.112 ($\frac{7}{16}$) | CR16 (V)(B)(R)(UU) |
| EB20 | 17.450 | 17.450 | 0.760 | 12.700 ($\frac{1}{2}$) | CR20 (V)(B)(R)(UU) |
| EB24 | 22.225 ($\frac{7}{8}$) | 22.225 ($\frac{7}{8}$) | 0.760 | 15.875 ($\frac{5}{8}$) | CR24 (V)(B)(R)(UU) |
| EB28 | 25.400 (1) | 25.400 (1) | 0.760 | 19.050 ($\frac{3}{4}$) | CR28 (V)(B)(R)(UU) |
| EB32 | 30.150 | 30.150 | 0.760 | 22.225 ($\frac{7}{8}$) | CR32 (V)(B)(R)(UU) |
| EB48 | 44.450 (1 $\frac{3}{4}$) | 44.450 (1 $\frac{3}{4}$) | 1.520 | 31.750 (1 $\frac{1}{4}$) | CR48 VUU |

⑦ For mounting Easy Mounting Type Cam Followers, it is recommended to fix the fixing screw from the upper side to the stepped portion of the stud. (See Fig. 6.)

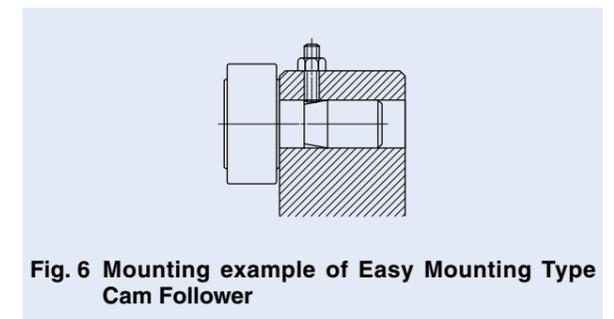


Fig. 6 Mounting example of Easy Mounting Type Cam Follower

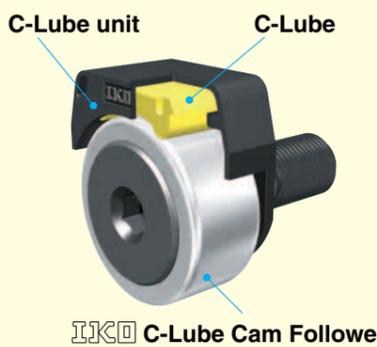
Precaution For Use

① Do not wash C-Lube Cam Follower with organic solvent and/or white kerosene, which have the ability of removing fat nor leave them in contact with the above agents.

② To ensure normal rotation of the C-Lube Cam Follower, apply a load of 1% or over of the dynamic load rating at use.

C-Lube Unit for Cam Followers

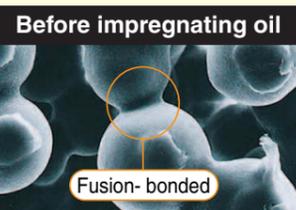
Structure of C-Lube Unit for Cam Followers



C-Lube unit **C-Lube**

IKO C-Lube Cam Follower

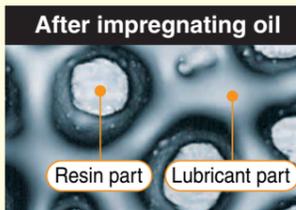
Magnified photos of C-Lube



Before impregnating oil

Fusion-bonded

Resin particles are strongly fusion bonded.



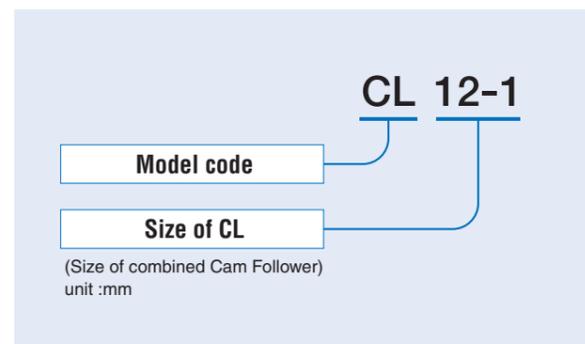
After impregnating oil

Resin part Lubricant part

Lubricant is retained in cavities amongst resin particles.

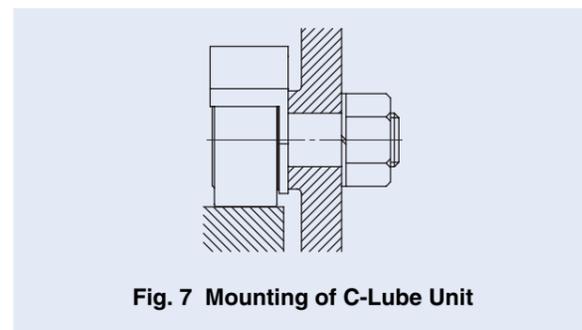
Identification number

The identification number example of IKO C-Lube Unit is shown below.



Mounting

① Set the C-Lube Unit perpendicularly to the center axis of Cam Follower and fix together with Cam Follower by tightening nut.



Allowable rotation speed

The rotation speed of IKO Cam Follower with C-Lube Unit should not exceed $d_1 n = 10,000$ for reference.

$$d_1 n = d_1 \times n$$

d_1 : Stud diameter of Cam Follower, mm
 n : Rotational speed, rpm

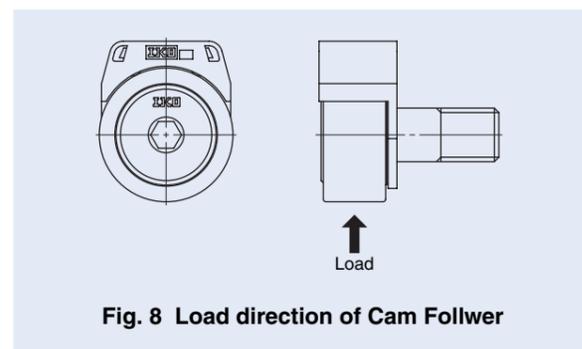
Minimum rotational angle

Lubricating oil is supplied to the whole external diameter surface of the outer ring. Accordingly, use the product in a condition in which the outer ring makes one or more turns.

Operating temperature

Allowable operating temperature range of IKO Cam Follower with C-Lube Unit is -15 to 80°C.

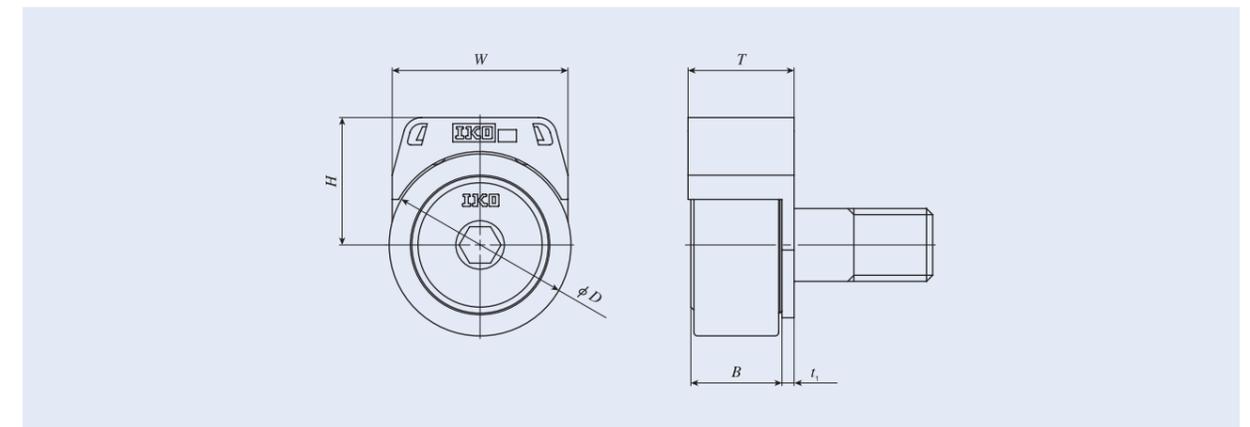
② Position of C-Lube Unit is adjustable. C-Lube Unit must be positioned avoiding loading direction.



③ When tightening the nut, the tightening torque should not be exceeded the value maximum tightening torque on dimension table.

④ In case loosening of the nut is predicted due to vibration, using lock nut, spring washer and other special washer are recommended.

Table 22 Dimensions of C-Lube Unit for Cam Followers



| Model number | Boundary Dimensions mm | | | | Applicable Cam Followers | | |
|----------------|------------------------|----------|----------|----------------------|-----------------------------|------------------------|------------------------|
| | <i>W</i> | <i>H</i> | <i>T</i> | <i>t₁</i> | Model number ⁽¹⁾ | Boundary Dimensions mm | |
| | | | | | | <i>D</i> | <i>B_{max}</i> |
| CL 5 | 12.4 | 10.7 | 12.1 | 1.5 | CF 5 B | 13 | 10 |
| CL 6 | 15.4 | 12.6 | 14 | 1.5 | CF 6 B | 16 | 12.2 |
| CL 8 | 18.4 | 14.2 | 14 | 1.5 | CF 8 B | 19 | 12.2 |
| CL 10 | 21 | 17 | 15.5 | 2 | CF 10 B | 22 | 13.2 |
| CL 10-1 | 21 | 19.2 | 15.5 | 2 | CF 10-1 B | 26 | 13.2 |
| CL 12 | 29 | 21 | 17.5 | 2 | CF 12 B | 30 | 15.2 |
| CL 12-1 | 29 | 22 | 17.5 | 2 | CF 12-1 B | 32 | 15.2 |
| CL 16 | 33.8 | 27.4 | 23.4 | 2.5 | CF 16 B | 35 | 19.6 |
| CL 18 | 38.8 | 30.4 | 25.4 | 2.5 | CF 18 B | 40 | 21.6 |
| CL 20 | 45.8 | 38.4 | 29.9 | 3 | CF 20 B | 52 | 25.6 |
| CL 20-1 | 45.8 | 35.4 | 29.9 | 3 | CF 20-1 B | 47 | 25.6 |

Note⁽¹⁾ Only representative types shown in the table, but also applicable to the same size of Metric series, with thrust disk type, centralized lubrication type, C-Lube Cam Followers and Cylindrical Roller Cam Followers. Combine with C-Lube Cam Followers is strongly recommended for full maintenance free.

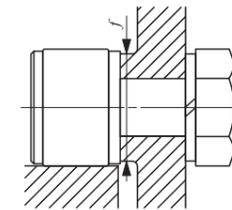
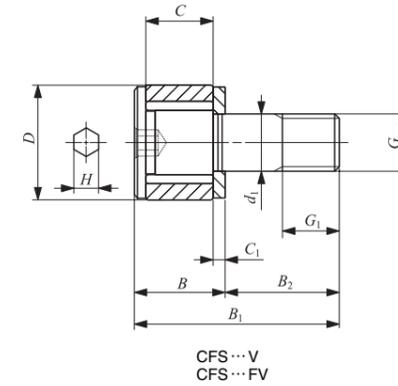
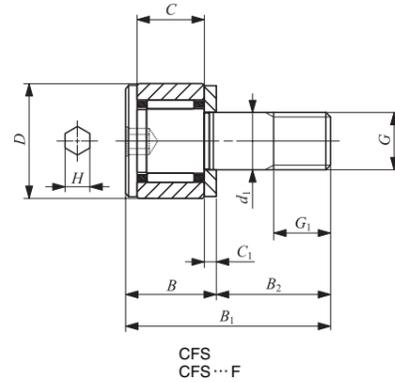
Precaution for use

- ① The maximum allowable load on IKO Cam Follower with C-Lube Unit is, 80% of the maximum allowable load of the needle bearing.
C-Lube Unit may be damaged and influenced to the smooth rotation and lubricating performance by excessive load.
- ② After assembling C-Lube Unit and Cam Followers in the machine, please confirm that C-Lube unit provides oil correctly to the track surface before actual operation.
- ③ Do not use in the environment which contamination of liquid and/or harmful foreign matter are expected.
- ④ Do not wash with organic solvent and/or white kerosene, which have the ability of removing fat nor leave them in contact with the above agents.
- ⑤ To ensure normal rotation of the Cam Follower, apply a load of 1% or over of the dynamic load rating at use.
Also, the outer ring needs to be rotate over a revolution to supply lubricant on entire outer diameter surface.
- ⑥ Replace with new C-Lube Unit when inside oil finishes completely. Re-lubrication is not possible.
- ⑦ Do not apply a load onto the C-Lube Unit directly.

IKO Miniature Type Cam Followers With Hexagon Hole

Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



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

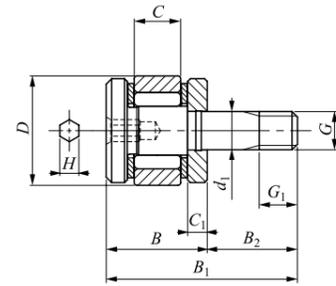
- Remarks1. No oil hole is provided.
2. Provided with prepacked grease.
3. A nut is supplied with the stud.

| B ₁ | B ₂ | C ₁ | H | Mounting dimension f Min. mm | Maximum tightening torque N-cm | Basic load rating | | Maximum allowable static load N |
|----------------|----------------|----------------|-----|---------------------------------------|-----------------------------------|-------------------------------------|---|------------------------------------|
| | | | | | | Basic dynamic load rating C N | Basic static load rating C ₀ N | |
| 8 | 4 | 0.7 | 0.9 | 4.3 | 9.1 | 288 | 202 | 202 |
| | | | | | | 768 | 734 | 229 |
| 9.5 | 5 | 0.7 | 0.9 | 4.8 | 18.7 | 230 | 161 | 161 |
| | | | | | | 614 | 587 | 229 |
| 11.5 | 6 | 0.7 | 1.3 | 5.8 | 33.5 | 428 | 351 | 351 |
| | | | | | | 1 000 | 1 080 | 360 |
| 15 | 8 | 1.0 | 1.5 | 7.7 | 77.7 | 342 | 281 | 281 |
| | | | | | | 800 | 862 | 360 |
| 18 | 10 | 1.0 | 2 | 9.6 | 158 | 629 | 611 | 484 |
| | | | | | | 1 420 | 1 790 | 484 |
| 21.5 | 12 | 1.2 | 2.5 | 11.6 | 268 | 504 | 488 | 484 |
| | | | | | | 1 140 | 1 430 | 484 |
| 21.5 | 12 | 1.2 | 2.5 | 11.6 | 268 | 1 120 | 1 120 | 919 |
| | | | | | | 2 370 | 3 000 | 919 |
| 21.5 | 12 | 1.2 | 2.5 | 11.6 | 268 | 897 | 894 | 894 |
| | | | | | | 1 900 | 2 400 | 919 |
| 21.5 | 12 | 1.2 | 2.5 | 11.6 | 268 | 1 570 | 1 850 | 1 570 |
| | | | | | | 3 180 | 4 700 | 1 570 |
| 21.5 | 12 | 1.2 | 2.5 | 11.6 | 268 | 1 250 | 1 480 | 1 480 |
| | | | | | | 2 540 | 3 760 | 1 570 |
| 21.5 | 12 | 1.2 | 2.5 | 11.6 | 268 | 2 090 | 2 200 | 2 150 |
| | | | | | | 4 610 | 6 250 | 2 150 |
| 21.5 | 12 | 1.2 | 2.5 | 11.6 | 268 | 1 670 | 1 760 | 1 760 |
| | | | | | | 3 690 | 5 000 | 2 150 |

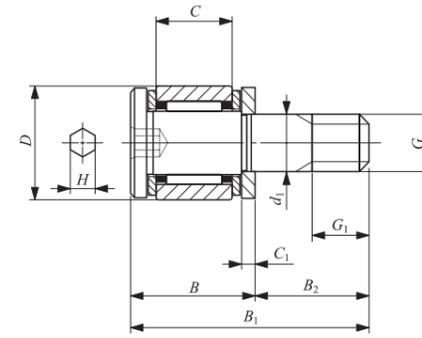
IKO Thrust Disk Type Miniature Cam Followers With Hexagon Hole

Selectable product specifications

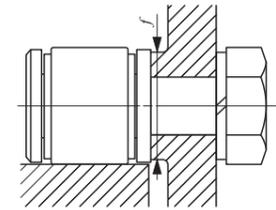
| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



CFS1.4 WV



CFS... W
CFS...FW



| Stud dia. mm | Identification number | | Mass (Ref.) g | Boundary dimensions mm | | | | | |
|-----------------|-----------------------|-------------------|---------------------|------------------------|-----|----------------|-------------|----------------|------|
| | With cage | Full complement | | D | C | d ₁ | G | G ₁ | B |
| 1.4 | — | CFS 1.4 WV | 0.35 | 4 | 1.7 | 1.4 | M1.4 × 0.3 | 1.4 | 3.7 |
| 2 | CFS 2 W | — | 0.6 | 4.5 | 2.5 | 2 | M2 × 0.4 | 2 | 4.5 |
| | CFS 2 FW | — | | | | | | | |
| 2.5 | CFS 2.5 W | — | 1 | 5 | 3 | 2.5 | M2.5 × 0.45 | 2.5 | 5 |
| | CFS 2.5 FW | — | | | | | | | |
| 3 | CFS 3 W | — | 2 | 6 | 4 | 3 | M3 × 0.5 | 3 | 6.5 |
| | CFS 3 FW | — | | | | | | | |
| 4 | CFS 4 W | — | 4 | 8 | 5 | 4 | M4 × 0.7 | 4 | 8 |
| | CFS 4 FW | — | | | | | | | |
| 5 | CFS 5 W | — | 7 | 10 | 6 | 5 | M5 × 0.8 | 5 | 9 |
| | CFS 5 FW | — | | | | | | | |
| 6 | CFS 6 W | — | 13 | 12 | 7 | 6 | M6 × 1 | 6 | 10.5 |
| | CFS 6 FW | — | | | | | | | |

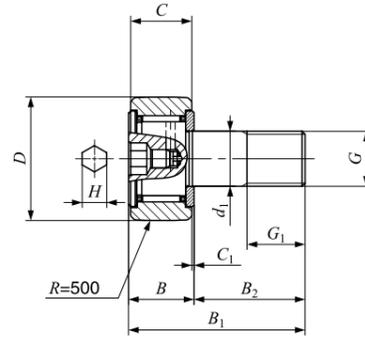
- Remarks1. No oil hole is provided.
2. Provided with prepacked grease.
3. A nut is supplied with the stud.

| B ₁ | B ₂ | C ₁ | H | Mounting dimension f Min. mm | Maximum tightening torque N-cm | Basic load rating | | Maximum allowable static load N |
|----------------|----------------|----------------|-----|---------------------------------------|---|--|--|--|
| | | | | | | Basic dynamic load rating C N | Basic static load rating C ₀ N | |
| 7 | 3.3 | 0.7 | 0.9 | 3.8 | 3.0 | 481 | 385 | 105 |
| 8.5 | 4 | 0.7 | 0.9 | 4.3 | 9.1 | 288 | 202 | 194 |
| | | | | | | 230 | 161 | 161 |
| 10 | 5 | 0.7 | 0.9 | 4.8 | 18.7 | 428 | 351 | 313 |
| | | | | | | 342 | 281 | 281 |
| 12.5 | 6 | 0.7 | 1.3 | 5.8 | 33.5 | 629 | 611 | 399 |
| | | | | | | 504 | 488 | 399 |
| 16 | 8 | 1.0 | 1.5 | 7.7 | 77.7 | 1120 | 1120 | 785 |
| | | | | | | 897 | 894 | 785 |
| 19 | 10 | 1.0 | 2 | 9.6 | 158 | 1570 | 1850 | 1370 |
| | | | | | | 1250 | 1480 | 1370 |
| 22.5 | 12 | 1.2 | 2.5 | 11.6 | 268 | 2090 | 2200 | 1920 |
| | | | | | | 1670 | 1760 | 1760 |

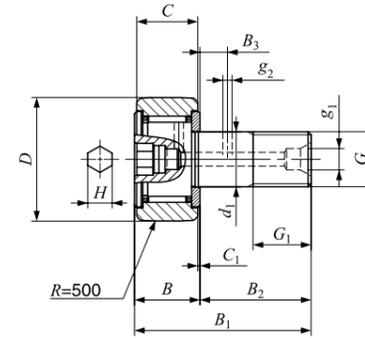
IKO Standard Type Cam Followers With Cage/With Hexagon Hole

Selectable product specifications

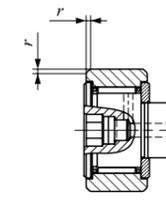
| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



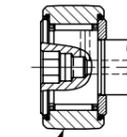
CF...-F)BR
Stud dia d_1 3 to 10mm



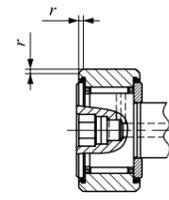
CF...-F)BR
Stud dia d_1 12 to 30mm



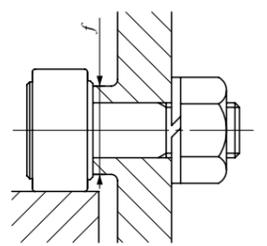
CF...-F)B



CF...-F)BUUR



CF...-F)BUU



| Stud dia. mm | Identification number | | | | Mass (Ref.) g | Boundary dimensions mm | | | | |
|-----------------|-------------------------|-----------------------------|-------------------------|-----------------------------|---------------------|------------------------|----|-------|------------|-------|
| | Shield type | | Sealed type | | | D | C | d_1 | G | G_1 |
| | With crowned outer ring | With cylindrical outer ring | With crowned outer ring | With cylindrical outer ring | | | | | | |
| 3 | CF 3 BR | CF 3 B | CF 3 BUUR | CF 3 BUU | 4.3 | 10 | 7 | 3 | M 3 × 0.5 | 5 |
| | CF 3 FBR | CF 3 FB | CF 3 FBUUR | CF 3 FBUU | 4.3 | 10 | 7 | 3 | M 3 × 0.5 | 5 |
| 4 | CF 4 BR | CF 4 B | CF 4 BUUR | CF 4 BUU | 7.4 | 12 | 8 | 4 | M 4 × 0.7 | 6 |
| | CF 4 FBR | CF 4 FB | CF 4 FBUUR | CF 4 FBUU | 7.4 | 12 | 8 | 4 | M 4 × 0.7 | 6 |
| 5 | CF 5 BR | CF 5 B | CF 5 BUUR | CF 5 BUU | 10.3 | 13 | 9 | 5 | M 5 × 0.8 | 7.5 |
| | CF 5 FBR | CF 5 FB | CF 5 FBUUR | CF 5 FBUU | 10.3 | 13 | 9 | 5 | M 5 × 0.8 | 7.5 |
| 6 | CF 6 BR | CF 6 B | CF 6 BUUR | CF 6 BUU | 18.5 | 16 | 11 | 6 | M 6 × 1 | 8 |
| | CF 6 FBR | — | CF 6 FBUUR | — | 18.5 | 16 | 11 | 6 | M 6 × 1 | 8 |
| 8 | CF 8 BR | CF 8 B | CF 8 BUUR | CF 8 BUU | 28.5 | 19 | 11 | 8 | M 8 × 1.25 | 10 |
| | CF 8 BRM | CF 8 BM | CF 8 BUURM | CF 8 BUUM | 28.5 | 19 | 11 | 8 | M 8 × 1 | 10 |
| | CF 8 FBR | — | CF 8 FBUUR | — | 28.5 | 19 | 11 | 8 | M 8 × 1.25 | 10 |
| 10 | CF 10 BR | CF 10 B | CF 10 BUUR | CF 10 BUU | 45 | 22 | 12 | 10 | M10 × 1.25 | 12 |
| | CF 10 BRM | CF 10 BM | CF 10 BUURM | CF 10 BUUM | 45 | 22 | 12 | 10 | M10 × 1 | 12 |
| | CF 10 FBR | — | CF 10 FBUUR | — | 45 | 22 | 12 | 10 | M10 × 1.25 | 12 |
| | CF 10-1 BR | CF 10-1 B | CF 10-1 BUUR | CF 10-1 BUU | 60 | 26 | 12 | 10 | M10 × 1.25 | 12 |
| | CF 10-1 BRM | CF 10-1 BM | CF 10-1 BUURM | CF 10-1 BUUM | 60 | 26 | 12 | 10 | M10 × 1 | 12 |
| 12 | CF 12 BR | CF 12 B | CF 12 BUUR | CF 12 BUU | 95 | 30 | 14 | 12 | M12 × 1.5 | 13 |
| | CF 12 FBR | — | CF 12 FBUUR | — | 95 | 30 | 14 | 12 | M12 × 1.5 | 13 |
| | CF 12-1 BR | CF 12-1 B | CF 12-1 BUUR | CF 12-1 BUU | 105 | 32 | 14 | 12 | M12 × 1.5 | 13 |
| 16 | CF 16 BR | CF 16 B | CF 16 BUUR | CF 16 BUU | 170 | 35 | 18 | 16 | M16 × 1.5 | 17 |
| | CF 16 FBR | — | CF 16 FBUUR | — | 170 | 35 | 18 | 16 | M16 × 1.5 | 17 |
| 18 | CF 18 BR | CF 18 B | CF 18 BUUR | CF 18 BUU | 250 | 40 | 20 | 18 | M18 × 1.5 | 19 |
| | CF 18 FBR | — | CF 18 FBUUR | — | 250 | 40 | 20 | 18 | M18 × 1.5 | 19 |
| 20 | CF 20 BR | CF 20 B | CF 20 BUUR | CF 20 BUU | 460 | 52 | 24 | 20 | M20 × 1.5 | 21 |
| | CF 20 FBR | — | CF 20 FBUUR | — | 460 | 52 | 24 | 20 | M20 × 1.5 | 21 |
| | CF 20-1 BR | CF 20-1 B | CF 20-1 BUUR | CF 20-1 BUU | 385 | 47 | 24 | 20 | M20 × 1.5 | 21 |
| 24 | CF 24 BR | CF 24 B | CF 24 BUUR | CF 24 BUU | 815 | 62 | 29 | 24 | M24 × 1.5 | 25 |
| | CF 24-1 BR | CF 24-1 B | CF 24-1 BUUR | CF 24-1 BUU | 1 140 | 72 | 29 | 24 | M24 × 1.5 | 25 |
| 30 | CF 30 BR | CF 30 B | CF 30 BUUR | CF 30 BUU | 1 870 | 80 | 35 | 30 | M30 × 1.5 | 32 |
| | CF 30-1 BR | CF 30-1 B | CF 30-1 BUUR | CF 30-1 BUU | 2 030 | 85 | 35 | 30 | M30 × 1.5 | 32 |
| | CF 30-2 BR | CF 30-2 B | CF 30-2 BUUR | CF 30-2 BUU | 2 220 | 90 | 35 | 30 | M30 × 1.5 | 32 |

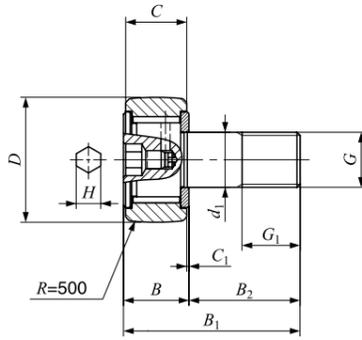
- Note(1) Minimum allowable value of chamfer dimension r
- Remarks1. Models with a stud diameter d_1 of 4 mm or less have no oil hole. For models with a stud dia. 5 to 10mm, oil hole (re-greasing fitting) is provided at the head. Other models are provided with an oil hole (grease nipple) at the head and an oil hole each on the outside surface and end surface of the stud.
2. Shield type models with a stud diameter d_1 of 10mm or less and the sealed type models are provided with prepacked grease. Other models are not provided with prepacked grease. Perform proper lubrication for use.
3. A nut is supplied with the stud.

| Boundary dimensions mm | | | | | | | | | | Mounting dimension 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 |
|------------------------|---------|-------|-------|-------|-------|-------|-----|--------------------|---------|--------------------------------------|----------------------------------|---------------------------------------|--|------------------------------------|
| B | B_1 | B_2 | B_3 | C_1 | g_1 | g_2 | H | $r_{s \min}^{(1)}$ | Min. mm | | | | | |
| 8 | 17 | 9 | — | 0.5 | — | — | 2 | 0.2 | 6.8 | 0.34 | 1 500 | 1 020 | 384 | |
| 8 | 17 | 9 | — | 0.5 | — | — | 2 | 0.2 | 6.8 | 0.34 | 1 200 | 813 | 384 | |
| 9 | 20 | 11 | — | 0.5 | — | — | 2.5 | 0.3 | 8.3 | 0.78 | 2 070 | 1 590 | 834 | |
| 9 | 20 | 11 | — | 0.5 | — | — | 2.5 | 0.3 | 8.3 | 0.78 | 1 650 | 1 270 | 834 | |
| 10 | 23 | 13 | — | 0.5 | — | — | 3 | 0.3 | 9.3 | 1.6 | 2 520 | 2 140 | 1 260 | |
| 10 | 23 | 13 | — | 0.5 | — | — | 3 | 0.3 | 9.3 | 1.6 | 1 930 | 1 730 | 1 260 | |
| 12.2max | 28.2max | 16 | — | 0.6 | — | — | 3 | 0.3 | 11 | 2.7 | 3 660 | 3 650 | 1 950 | |
| 12.2max | 28.2max | 16 | — | 0.6 | — | — | 3 | — | 11 | 2.7 | 2 930 | 2 920 | 1 950 | |
| 12.2max | 32.2max | 20 | — | 0.6 | — | — | 4 | 0.3 | 13 | 6.5 | 4 250 | 4 740 | 4 620 | |
| 12.2max | 32.2max | 20 | — | 0.6 | — | — | 4 | 0.3 | 13 | 7.1 | 4 250 | 4 740 | 4 620 | |
| 12.2max | 32.2max | 20 | — | 0.6 | — | — | 4 | — | 13 | 6.5 | 3 400 | 3 790 | 3 790 | |
| 13.2max | 36.2max | 23 | — | 0.6 | — | — | 4 | 0.3 | 16 | 13.8 | 5 430 | 6 890 | 6 890 | |
| 13.2max | 36.2max | 23 | — | 0.6 | — | — | 4 | 0.3 | 16 | 14.7 | 5 430 | 6 890 | 6 890 | |
| 13.2max | 36.2max | 23 | — | 0.6 | — | — | 4 | — | 16 | 13.8 | 4 340 | 5 510 | 5 510 | |
| 13.2max | 36.2max | 23 | — | 0.6 | — | — | 5 | 0.3 | 16 | 13.8 | 5 430 | 6 890 | 6 890 | |
| 13.2max | 36.2max | 23 | — | 0.6 | — | — | 4 | 0.3 | 16 | 14.7 | 5 430 | 6 890 | 6 890 | |
| 15.2max | 40.2max | 25 | 6 | 0.6 | 4 | 3 | 6 | 0.6 | 21 | 21.9 | 7 910 | 9 790 | 9 790 | |
| 15.2max | 40.2max | 25 | 6 | 0.6 | 4 | 3 | 6 | — | 21 | 21.9 | 6 330 | 7 830 | 7 830 | |
| 15.2max | 40.2max | 25 | 6 | 0.6 | 4 | 3 | 6 | 0.6 | 21 | 21.9 | 7 910 | 9 790 | 9 790 | |
| 19.6max | 52.1max | 32.5 | 8 | 0.8 | 4 | 3 | 6 | 0.6 | 26 | 58.5 | 12 000 | 18 300 | 18 300 | |
| 19.6max | 52.1max | 32.5 | 8 | 0.8 | 4 | 3 | 6 | — | 26 | 58.5 | 9 620 | 14 700 | 14 700 | |
| 21.6max | 58.1max | 36.5 | 8 | 0.8 | 6 | 3 | 8 | 1 | 29 | 86.2 | 14 800 | 25 200 | 25 200 | |
| 21.6max | 58.1max | 36.5 | 8 | 0.8 | 6 | 3 | 8 | — | 29 | 86.2 | 11 800 | 20 200 | 20 200 | |
| 25.6max | 66.1max | 40.5 | 9 | 0.8 | 6 | 4 | 8 | 1 | 34 | 119 | 20 700 | 34 600 | 34 600 | |
| 25.6max | 66.1max | 40.5 | 9 | 0.8 | 6 | 4 | 8 | — | 34 | 119 | 16 500 | 27 700 | 27 700 | |
| 25.6max | 66.1max | 40.5 | 9 | 0.8 | 6 | 4 | 8 | 1 | 34 | 119 | 20 700 | 34 600 | 34 600 | |
| 30.6max | 80.1max | 49.5 | 11 | 0.8 | 6 | 4 | 12 | 1 | 40 | 215 | 30 500 | 52 600 | 52 000 | |
| 30.6max | 80.1max | 49.5 | 11 | 0.8 | 6 | 4 | 12 | 1 | 40 | 215 | 30 500 | 52 600 | 52 000 | |
| 37 max | 100 max | 63 | 15 | 1 | 6 | 4 | 17 | 1 | 49 | 438 | 45 400 | 85 100 | 85 100 | |
| 37 max | 100 max | 63 | 15 | 1 | 6 | 4 | 17 | 1 | 49 | 438 | 45 400 | 85 100 | 85 100 | |
| 37 max | 100 max | 63 | 15 | 1 | 6 | 4 | 17 | 1 | 49 | 438 | 45 400 | 85 100 | 85 100 | |

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

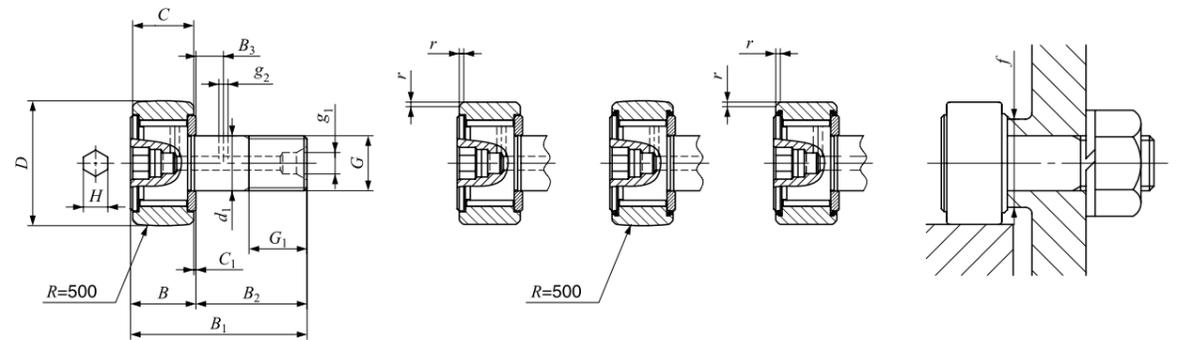
Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



CF...VBR

Stud dia d_1 6 to 10mm



CF...VBR

Stud dia d_1 12 to 30mm

CF...VB

CF...VBUUR

CF...VBUU

| Stud dia. mm | Identification number | | | | Mass (Ref.) g | D | C | d_1 |
|-----------------|-------------------------|-----------------------------|-------------------------|-----------------------------|---------------------|----|----|-------|
| | Shield type | | Sealed type | | | | | |
| | With crowned outer ring | With cylindrical outer ring | With crowned outer ring | With cylindrical outer ring | | | | |
| 6 | CF 6 VBR | CF 6 VB | CF 6 VBUUR | CF 6 VBUU | 19 | 16 | 11 | 6 |
| | CF 6 VBRM | CF 6 VBM | CF 6 VBUURM | CF 6 VBUUM | | | | |
| 8 | CF 8 VBR | CF 8 VB | CF 8 VBUUR | CF 8 VBUU | 29 | 19 | 11 | 8 |
| | CF 8 VBRM | CF 8 VBM | CF 8 VBUURM | CF 8 VBUUM | | | | |
| 10 | CF 10 VBR | CF 10 VB | CF 10 VBUUR | CF 10 VBUU | 46 | 22 | 12 | 10 |
| | CF 10 VBRM | CF 10 VBM | CF 10 VBUURM | CF 10 VBUUM | | | | |
| | CF 10-1 VBR | CF 10-1 VB | CF 10-1 VBUUR | CF 10-1 VBUU | | | | |
| | CF 10-1 VBRM | CF 10-1 VBM | CF 10-1 VBUURM | CF 10-1 VBUUM | | | | |
| 12 | CF 12 VBR | CF 12 VB | CF 12 VBUUR | CF 12 VBUU | 97 | 30 | 14 | 12 |
| | CF 12-1 VBR | CF 12-1 VB | CF 12-1 VBUUR | CF 12-1 VBUU | | | | |
| 16 | CF 16 VBR | CF 16 VB | CF 16 VBUUR | CF 16 VBUU | 173 | 35 | 18 | 16 |
| 18 | CF 18 VBR | CF 18 VB | CF 18 VBUUR | CF 18 VBUU | 255 | 40 | 20 | 18 |
| 20 | CF 20 VBR | CF 20 VB | CF 20 VBUUR | CF 20 VBUU | 465 | 52 | 24 | 20 |
| | CF 20-1 VBR | CF 20-1 VB | CF 20-1 VBUUR | CF 20-1 VBUU | | | | |
| 24 | CF 24 VBR | CF 24 VB | CF 24 VBUUR | CF 24 VBUU | 820 | 62 | 29 | 24 |
| | CF 24-1 VBR | CF 24-1 VB | CF 24-1 VBUUR | CF 24-1 VBUU | | | | |
| 30 | CF 30 VBR | CF 30 VB | CF 30 VBUUR | CF 30 VBUU | 1 870 | 80 | 35 | 30 |
| | CF 30-1 VBR | CF 30-1 VB | CF 30-1 VBUUR | CF 30-1 VBUU | | | | |
| | CF 30-2 VBR | CF 30-2 VB | CF 30-2 VBUUR | CF 30-2 VBUU | | | | |

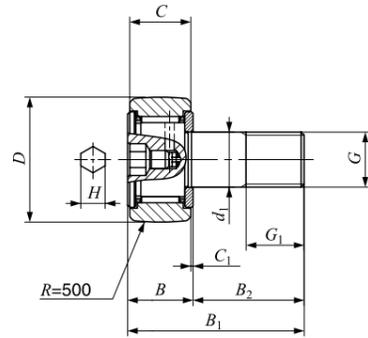
Note(1) Minimum allowable value of chamfer dimension r
 Remarks1. Models with a stud diameter d_1 of 10 mm or less have an oil hole (re-greasing fitting) at the head. Other models are provided with an oil hole (grease nipple) at the head and an oil hole each on the outside surface and end surface of the stud.
 2. Provided with prepacked grease.
 3. A nut is supplied with the stud.

| Boundary dimensions mm | | | | | | | | | | | Mounting dimension 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 |
|------------------------|-------|------------|--------------|-------|-------|-------|-------|-------|-----|--------------------|--------------------------------------|----------------------------------|---------------------------------------|--|------------------------------------|
| G | G_1 | B max | B_1 max | B_2 | B_3 | C_1 | g_1 | g_2 | H | $r_{s \min}^{(1)}$ | | | | | |
| M 6 × 1 | 8 | 12.2 | 28.2 | 16 | — | 0.6 | — | — | 3 | 0.3 | 11 | 2.7 | 6 980 | 8 500 | 1 950 |
| M 8 × 1.25 | 10 | 12.2 | 32.2 | 20 | — | 0.6 | — | — | 4 | 0.3 | 13 | 6.5 | 8 170 | 11 200 | 4 620 |
| M 8 × 1 | 10 | 12.2 | 32.2 | 20 | — | 0.6 | — | — | 4 | 0.3 | 13 | 7.1 | 8 170 | 11 200 | 4 620 |
| M10 × 1.25 | 12 | 13.2 | 36.2 | 23 | — | 0.6 | — | — | 4 | 0.3 | 16 | 13.8 | 9 570 | 14 500 | 8 650 |
| M10 × 1 | 12 | 13.2 | 36.2 | 23 | — | 0.6 | — | — | 4 | 0.3 | 16 | 14.7 | 9 570 | 14 500 | 8 650 |
| M10 × 1.25 | 12 | 13.2 | 36.2 | 23 | — | 0.6 | — | — | 4 | 0.3 | 16 | 13.8 | 9 570 | 14 500 | 8 650 |
| M10 × 1 | 12 | 13.2 | 36.2 | 23 | — | 0.6 | — | — | 4 | 0.3 | 16 | 14.7 | 9 570 | 14 500 | 8 650 |
| M12 × 1.5 | 13 | 15.2 | 40.2 | 25 | 6 | 0.6 | 4 | 3 | 6 | 0.6 | 21 | 21.9 | 13 500 | 19 700 | 13 200 |
| M12 × 1.5 | 13 | 15.2 | 40.2 | 25 | 6 | 0.6 | 4 | 3 | 6 | 0.6 | 21 | 21.9 | 13 500 | 19 700 | 13 200 |
| M16 × 1.5 | 17 | 19.6 | 52.1 | 32.5 | 8 | 0.8 | 4 | 3 | 6 | 0.6 | 26 | 58.5 | 20 700 | 37 600 | 23 200 |
| M18 × 1.5 | 19 | 21.6 | 58.1 | 36.5 | 8 | 0.8 | 6 | 3 | 8 | 1 | 29 | 86.2 | 25 300 | 51 300 | 31 100 |
| M20 × 1.5 | 21 | 25.6 | 66.1 | 40.5 | 9 | 0.8 | 6 | 4 | 8 | 1 | 34 | 119 | 33 200 | 64 500 | 37 500 |
| M20 × 1.5 | 21 | 25.6 | 66.1 | 40.5 | 9 | 0.8 | 6 | 4 | 8 | 1 | 34 | 119 | 33 200 | 64 500 | 37 500 |
| M24 × 1.5 | 25 | 30.6 | 80.1 | 49.5 | 11 | 0.8 | 6 | 4 | 12 | 1 | 40 | 215 | 46 600 | 92 000 | 52 000 |
| M24 × 1.5 | 25 | 30.6 | 80.1 | 49.5 | 11 | 0.8 | 6 | 4 | 12 | 1 | 40 | 215 | 46 600 | 92 000 | 52 000 |
| M30 × 1.5 | 32 | 37 | 100 | 63 | 15 | 1 | 6 | 4 | 17 | 1 | 49 | 438 | 67 700 | 144 000 | 85 900 |
| M30 × 1.5 | 32 | 37 | 100 | 63 | 15 | 1 | 6 | 4 | 17 | 1 | 49 | 438 | 67 700 | 144 000 | 85 900 |
| M30 × 1.5 | 32 | 37 | 100 | 63 | 15 | 1 | 6 | 4 | 17 | 1 | 49 | 438 | 67 700 | 144 000 | 85 900 |

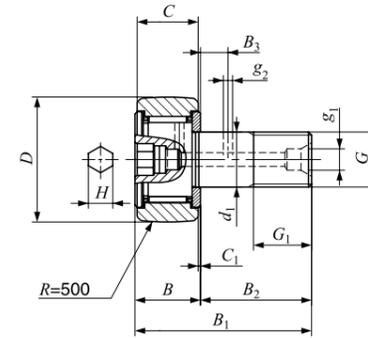
IKO Thrust Disk Type Cam Followers With Cage/With Hexagon Hole

Selectable product specifications

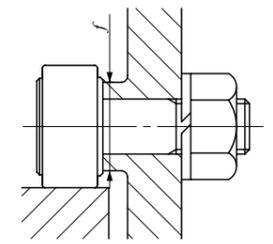
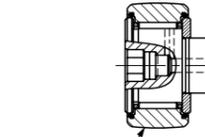
| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



CF...WBR
Stud dia d_1 3 to 10mm



CF...WBR
Stud dia d_1 12 to 20mm



CF...(F)WBUUR

| Stud dia. mm | Identification number | | Mass (Ref.) g | Boundary dimensions mm | | | | |
|-----------------|-----------------------|---------------|---------------------|------------------------|----|-------|----------|-------|
| | Shield type | Sealed type | | D | C | d_1 | G | G_1 |
| 3 | CF 3 WBR | CF 3 WBUUR | 4.3 | 10 | 7 | 3 | M 3×0.5 | 5 |
| | CF 3 FWBR | CF 3 FWBUUR | 4.3 | 10 | 7 | 3 | M 3×0.5 | 5 |
| 4 | CF 4 WBR | CF 4 WBUUR | 7.4 | 12 | 8 | 4 | M 4×0.7 | 6 |
| | CF 4 FWBR | CF 4 FWBUUR | 7.4 | 12 | 8 | 4 | M 4×0.7 | 6 |
| 5 | CF 5 WBR | CF 5 WBUUR | 10.3 | 13 | 9 | 5 | M 5×0.8 | 7.5 |
| | CF 5 FWBR | CF 5 FWBUUR | 10.3 | 13 | 9 | 5 | M 5×0.8 | 7.5 |
| 6 | CF 6 WBR | CF 6 WBUUR | 18.5 | 16 | 11 | 6 | M 6×1 | 8 |
| 8 | CF 8 WBR | CF 8 WBUUR | 28.5 | 19 | 11 | 8 | M 8×1.25 | 10 |
| 10 | CF 10 WBR | CF 10 WBUUR | 45 | 22 | 12 | 10 | M10×1.25 | 12 |
| | CF 10-1 WBR | CF 10-1 WBUUR | 60 | 26 | 12 | 10 | M10×1.25 | 12 |
| 12 | CF 12 WBR | CF 12 WBUUR | 95 | 30 | 14 | 12 | M12×1.5 | 13 |
| | CF 12-1 WBR | CF 12-1 WBUUR | 105 | 32 | 14 | 12 | M12×1.5 | 13 |
| 16 | CF 16 WBR | CF 16 WBUUR | 170 | 35 | 18 | 16 | M16×1.5 | 17 |
| 18 | CF 18 WBR | CF 18 WBUUR | 250 | 40 | 20 | 18 | M18×1.5 | 19 |
| 20 | CF 20 WBR | CF 20 WBUUR | 460 | 52 | 24 | 20 | M20×1.5 | 21 |
| | CF 20-1 WBR | CF 20-1 WBUUR | 385 | 47 | 24 | 20 | M20×1.5 | 21 |

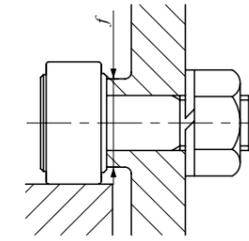
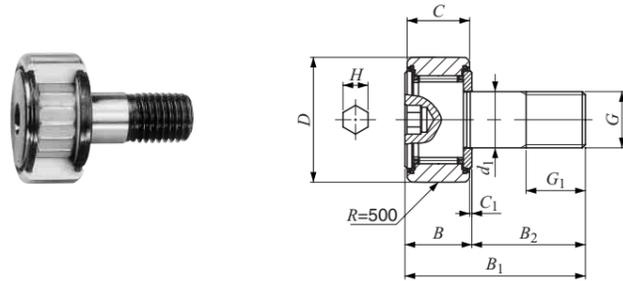
- Remarks1. Models with a stud diameter d_1 of 4 mm or less have no oil hole. For Models with a stud dia. 5 to 10 mm, oil hole (re-greasing fitting) is provided at the head. Other models are provided with an oil hole (grease nipple) at the head and an oil hole each on the outside surface and end surface of the stud.
2. Shield type models with a stud diameter d_1 of 10 mm or less and the sealed type models are provided with prepacked grease. Other models are not provided with prepacked grease. Perform proper lubrication for use.
3. A nut is supplied with the stud.

| B | B_1 | B_2 | B_3 | C_1 | g_1 | g_2 | H | Mounting dimension 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 |
|---------|---------|-------|-------|-------|-------|-------|-----|--------------------------------------|----------------------------------|-------------------------------------|--|------------------------------------|
| 8 | 17 | 9 | — | 0.5 | — | — | 2 | 6.8 | 0.34 | 1 500 | 1 020 | 384 |
| 8 | 17 | 9 | — | 0.5 | — | — | 2 | 6.8 | 0.34 | 1 200 | 813 | 384 |
| 9 | 20 | 11 | — | 0.5 | — | — | 2.5 | 8.3 | 0.78 | 2 070 | 1 590 | 834 |
| 9 | 20 | 11 | — | 0.5 | — | — | 2.5 | 8.3 | 0.78 | 1 650 | 1 270 | 834 |
| 10 | 23 | 13 | — | 0.5 | — | — | 3 | 9.3 | 1.6 | 2 520 | 2 140 | 1 260 |
| 10 | 23 | 13 | — | 0.5 | — | — | 3 | 9.3 | 1.6 | 1 930 | 1 730 | 1 260 |
| 12.2max | 28.2max | 16 | — | 0.6 | — | — | 3 | 11 | 2.7 | 3 660 | 3 650 | 1 950 |
| 12.2max | 32.2max | 20 | — | 0.6 | — | — | 4 | 13 | 6.5 | 4 250 | 4 740 | 4 620 |
| 13.2max | 36.2max | 23 | — | 0.6 | — | — | 4 | 16 | 13.8 | 5 430 | 6 890 | 6 890 |
| 13.2max | 36.2max | 23 | — | 0.6 | — | — | 4 | 16 | 13.8 | 5 430 | 6 890 | 6 890 |
| 15.2max | 40.2max | 25 | 6 | 0.6 | 4 | 3 | 6 | 21 | 21.9 | 7 910 | 9 790 | 9 790 |
| 15.2max | 40.2max | 25 | 6 | 0.6 | 4 | 3 | 6 | 21 | 21.9 | 7 910 | 9 790 | 9 790 |
| 19.6max | 52.1max | 32.5 | 8 | 0.8 | 4 | 3 | 6 | 26 | 58.5 | 12 000 | 18 300 | 18 300 |
| 21.6max | 58.1max | 36.5 | 8 | 0.8 | 6 | 3 | 8 | 29 | 86.2 | 14 800 | 25 200 | 25 200 |
| 25.6max | 66.1max | 40.5 | 9 | 0.8 | 6 | 4 | 8 | 34 | 119 | 20 700 | 34 600 | 34 600 |
| 25.6max | 66.1max | 40.5 | 9 | 0.8 | 6 | 4 | 8 | 34 | 119 | 20 700 | 34 600 | 34 600 |

IKO C-Lube Cam Followers With Cage/With Hexagon Hole

Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



| Stud dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | | | | |
|-----------------|-----------------------|---------------------|------------------------|----|----------------|------------|----------------|----------|----------------|
| | | | D | C | d ₁ | G | G ₁ | B | B ₁ |
| 5 | CF 5 WBUUR/SG | 10.3 | 13 | 9 | 5 | M 5 × 0.8 | 7.5 | 10 | 23 |
| 6 | CF 6 WBUUR/SG | 18.5 | 16 | 11 | 6 | M 6 × 1 | 8 | 12.2 max | 28.2 max |
| 8 | CF 8 WBUUR/SG | 28.5 | 19 | 11 | 8 | M 8 × 1.25 | 10 | 12.2 max | 32.2 max |
| 10 | CF 10 WBUUR/SG | 45 | 22 | 12 | 10 | M10 × 1.25 | 12 | 13.2 max | 36.2 max |
| | CF 10-1 WBUUR/SG | 60 | 26 | 12 | 10 | M10 × 1.25 | 12 | 13.2 max | 36.2 max |
| 12 | CF 12 WBUUR/SG | 95 | 30 | 14 | 12 | M12 × 1.5 | 13 | 15.2 max | 40.2 max |
| | CF 12-1 WBUUR/SG | 105 | 32 | 14 | 12 | M12 × 1.5 | 13 | 15.2 max | 40.2 max |
| 16 | CF 16 WBUUR/SG | 170 | 35 | 18 | 16 | M16 × 1.5 | 17 | 19.6 max | 52.1 max |
| 18 | CF 18 WBUUR/SG | 250 | 40 | 20 | 18 | M18 × 1.5 | 19 | 21.6 max | 58.1 max |
| 20 | CF 20 WBUUR/SG | 460 | 52 | 24 | 20 | M20 × 1.5 | 21 | 25.6 max | 66.1 max |
| | CF 20-1 WBUUR/SG | 385 | 47 | 24 | 20 | M20 × 1.5 | 21 | 25.6 max | 66.1 max |

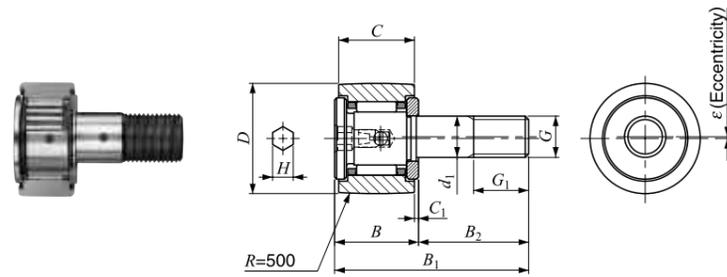
- Remarks1. Please do not Wash with organic solvent and/or white kerosene which have the ability to remove fat.
 2. To ensure normal rotation of the bearing, apply a load of 1% or more of the basic dynamic load rating at use.
 3. The operating temperature range is -15~+80°C. Continuous operating temperature is +60°C or less.
 4. Regreasing is not possible as the bearing internal space is filled with thermosetting solid-type lubricant C-Lube.
 5. A nut is supplied with the stud.

| B ₂ | C ₁ | H | Mounting dimension 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 |
|----------------|----------------|---|---------------------------------------|----------------------------------|-------------------------------------|---|------------------------------------|
| | | | | | | | |
| 16 | 0.6 | 3 | 11 | 2.7 | 3 660 | 3 650 | 1 950 |
| 20 | 0.6 | 4 | 13 | 6.5 | 4 250 | 4 740 | 4 620 |
| 23 | 0.6 | 4 | 16 | 13.8 | 5 430 | 6 890 | 6 890 |
| | | | | | | | |
| 25 | 0.6 | 6 | 21 | 21.9 | 7 910 | 9 790 | 9 790 |
| | | | | | | | |
| 32.5 | 0.8 | 6 | 26 | 58.5 | 12 000 | 18 300 | 18 300 |
| 36.5 | 0.8 | 8 | 29 | 86.2 | 14 800 | 25 200 | 25 200 |
| 40.5 | 0.8 | 8 | 34 | 119 | 20 700 | 34 600 | 34 600 |
| | | | | | | | |

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

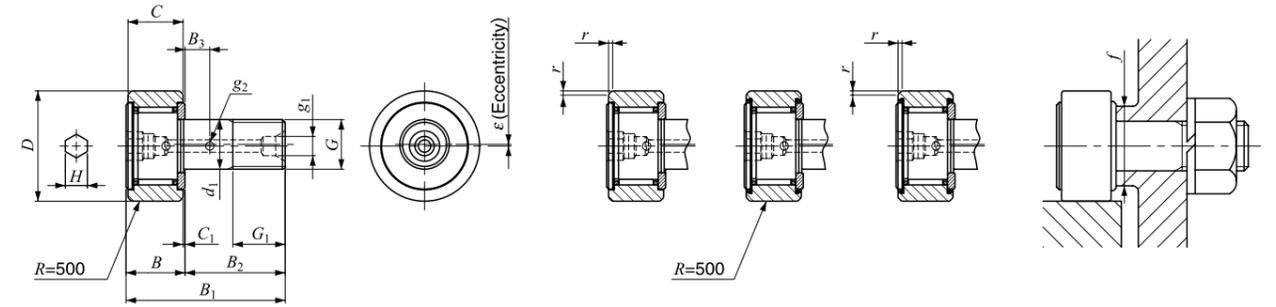
Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



CFES...BR

Stud dia d_1 6 to 10mm



CFES...B

Stud dia d_1 12 to 18mm

CFES...B

CFES...BUUR

CFES...BUU

| Stud dia. mm | Identification number | | | | Mass (Ref.) g | D | C | d_1 |
|-----------------|-------------------------|-----------------------------|-------------------------|-----------------------------|---------------------|----|----|-------|
| | Shield type | | Sealed type | | | | | |
| | With crowned outer ring | With cylindrical outer ring | With crowned outer ring | With cylindrical outer ring | | | | |
| 6 | CFES 6 BR | CFES 6 B | CFES 6 BUUR | CFES 6 BUU | 18.5 | 16 | 11 | 6 |
| 8 | CFES 8 BR | CFES 8 B | CFES 8 BUUR | CFES 8 BUU | 28.5 | 19 | 11 | 8 |
| 10 | CFES 10 BR | CFES 10 B | CFES 10 BUUR | CFES 10 BUU | 45 | 22 | 12 | 10 |
| | CFES 10-1 BR | CFES 10-1 B | CFES 10-1 BUUR | CFES 10-1 BUU | 60 | 26 | 12 | 10 |
| 12 | CFES 12 BR | CFES 12 B | CFES 12 BUUR | CFES 12 BUU | 95 | 30 | 14 | 12 |
| | CFES 12-1 BR | CFES 12-1 B | CFES 12-1 BUUR | CFES 12-1 BUU | 105 | 32 | 14 | 12 |
| 16 | CFES 16 BR | CFES 16 B | CFES 16 BUUR | CFES 16 BUU | 170 | 35 | 18 | 16 |
| 18 | CFES 18 BR | CFES 18 B | CFES 18 BUUR | CFES 18 BUU | 250 | 40 | 20 | 18 |

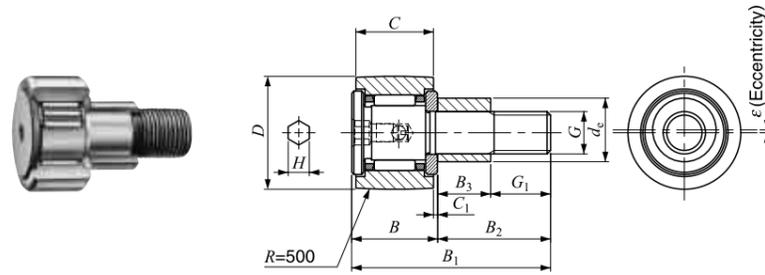
- Note(1) Minimum allowable value of chamfer dimension r
- Remarks 1. Models with a stud diameter d_1 of 10 mm or less have an oil hole (re-greasing fitting) at the head. Other models are provided with an oil hole (grease nipple) at the head and an oil hole each on the outside surface and end surface of the stud.
2. Shield type models with a stud diameter d_1 of 10 mm or less and the sealed type models are provided with prepacked grease. Other models are not provided with prepacked grease. Perform proper lubrication for use.
3. A nut is supplied with the stud.

| Boundary dimensions mm | | | | | | | | | | | | | Mounting dimension 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 |
|------------------------|-------|------------|--------------|-------|-------|-------|-------|-------|-----|--------------------------|----------------------------|----|--------------------------------------|----------------------------------|---------------------------------------|--|------------------------------------|
| G | G_1 | B max | B_1 max | B_2 | B_3 | C_1 | g_1 | g_2 | H | r_s min ⁽¹⁾ | Eccentricity ϵ | | | | | | |
| M 6 × 1 | 8 | 12.2 | 28.2 | 16 | — | 0.6 | — | — | 3 | 0.3 | 0.25 | 11 | 2.7 | 3 660 | 3 650 | 1 980 | |
| M 8 × 1.25 | 10 | 12.2 | 32.2 | 20 | — | 0.6 | — | — | 4 | 0.3 | 0.25 | 13 | 6.5 | 4 250 | 4 740 | 4 670 | |
| M10 × 1.25 | 12 | 13.2 | 36.2 | 23 | — | 0.6 | — | — | 4 | 0.3 | 0.3 | 16 | 13.8 | 5 430 | 6 890 | 6 890 | |
| | 12 | 13.2 | 36.2 | 23 | — | 0.6 | — | — | 4 | 0.3 | 0.3 | 16 | 13.8 | 5 430 | 6 890 | 6 890 | |
| M12 × 1.5 | 13 | 15.2 | 40.2 | 25 | 6 | 0.6 | 4 | 3 | 6 | 0.6 | 0.4 | 21 | 21.9 | 7 910 | 9 790 | 9 790 | |
| | 13 | 15.2 | 40.2 | 25 | 6 | 0.6 | 4 | 3 | 6 | 0.6 | 0.4 | 21 | 21.9 | 7 910 | 9 790 | 9 790 | |
| M16 × 1.5 | 17 | 19.6 | 52.1 | 32.5 | 8 | 0.8 | 4 | 3 | 6 | 0.6 | 0.5 | 26 | 58.5 | 12 000 | 18 300 | 18 300 | |
| M18 × 1.5 | 19 | 21.6 | 58.1 | 36.5 | 8 | 0.8 | 6 | 3 | 8 | 1 | 0.6 | 29 | 86.2 | 14 800 | 25 200 | 25 200 | |

IKO Eccentric Type Cam Followers With Cage/With Hexagon Hole

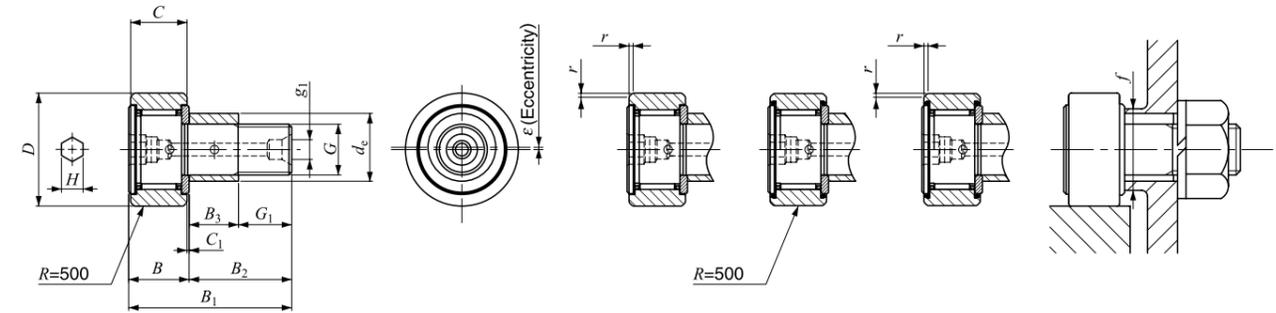
Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



CFE...BR

Outside diameter of eccentric collar d_e 9 to 13mm



CFE...BR

CFE...B

CFE...BUUR

CFE...BUU

Outside diameter of eccentric collar d_e 16 to 41mm

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

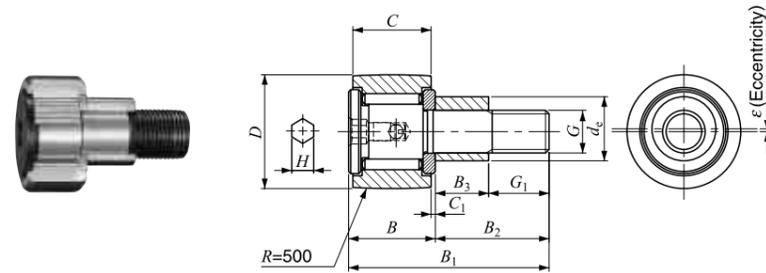
- Note(1) Minimum allowable value of chamfer dimension r
- Remarks1. Models with a thread diameter G of 10 mm or less have an oil hole (re-greasing fitting) at the head. Other models are provided with an oil hole (grease nipple) at the head and an oil hole on the end surface of the stud.
2. Shield type models with a stud thread diameter G of 10 mm or less and the sealed type models are provided with prepacked grease. Other models are not provided with prepacked grease. Perform proper lubrication for use.
3. A nut is supplied with the stud.

| Boundary dimensions mm | | | | | | | | | | | Eccentricity ϵ | Mounting dimension f Min. mm | Maximum tightening torque N-m | Basic dynamic load rating C N | Basic static load rating C_0 N | Maximum allowable static load N |
|------------------------|-------|-----------|-------------|-------|-------|-------|-------|-----|-------------------|------------|----------------------------|--------------------------------------|----------------------------------|---------------------------------------|--|------------------------------------|
| G | B_3 | B_{max} | B_1_{max} | B_2 | C_1 | g_1 | G_1 | H | $r_{s min}^{(1)}$ | ϵ | | | | | | |
| M 6 × 1 | 7.5 | 12.2 | 28.2 | 16 | 0.6 | — | 8.5 | 3 | 0.3 | 0.4 | 11 | 2.7 | 3 660 | 3 650 | 1 950 | |
| M 8 × 1.25 | 9.5 | 12.2 | 32.2 | 20 | 0.6 | — | 10.5 | 4 | 0.3 | 0.4 | 13 | 6.5 | 4 250 | 4 740 | 4 620 | |
| M10 × 1.25 | 10.5 | 13.2 | 36.2 | 23 | 0.6 | — | 12.5 | 4 | 0.3 | 0.4 | 16 | 13.8 | 5 430 | 6 890 | 6 890 | |
| | 10.5 | 13.2 | 36.2 | 23 | 0.6 | — | 12.5 | 4 | 0.3 | 0.4 | 16 | 13.8 | 5 430 | 6 890 | 6 890 | |
| M12 × 1.5 | 11.5 | 15.2 | 40.2 | 25 | 0.6 | 4 | 13.5 | 6 | 0.6 | 0.8 | 21 | 21.9 | 7 910 | 9 790 | 9 790 | |
| | 11.5 | 15.2 | 40.2 | 25 | 0.6 | 4 | 13.5 | 6 | 0.6 | 0.8 | 21 | 21.9 | 7 910 | 9 790 | 9 790 | |
| M16 × 1.5 | 15.5 | 19.6 | 52.1 | 32.5 | 0.8 | 4 | 17 | 6 | 0.6 | 0.8 | 26 | 58.5 | 12 000 | 18 300 | 18 300 | |
| M18 × 1.5 | 17.5 | 21.6 | 58.1 | 36.5 | 0.8 | 6 | 19 | 8 | 1 | 0.8 | 29 | 86.2 | 14 800 | 25 200 | 25 200 | |
| M20 × 1.5 | 19.5 | 25.6 | 66.1 | 40.5 | 0.8 | 6 | 21 | 8 | 1 | 0.8 | 34 | 119 | 20 700 | 34 600 | 34 600 | |
| | 19.5 | 25.6 | 66.1 | 40.5 | 0.8 | 6 | 21 | 8 | 1 | 0.8 | 34 | 119 | 20 700 | 34 600 | 34 600 | |
| M24 × 1.5 | 25.5 | 30.6 | 80.1 | 49.5 | 0.8 | 6 | 24 | 12 | 1 | 0.8 | 40 | 215 | 30 500 | 52 600 | 52 000 | |
| | 25.5 | 30.6 | 80.1 | 49.5 | 0.8 | 6 | 24 | 12 | 1 | 0.8 | 40 | 215 | 30 500 | 52 600 | 52 000 | |
| M30 × 1.5 | 32.5 | 37 | 100 | 63 | 1 | 6 | 30.5 | 17 | 1 | 1.5 | 49 | 438 | 45 400 | 85 100 | 85 100 | |
| | 32.5 | 37 | 100 | 63 | 1 | 6 | 30.5 | 17 | 1 | 1.5 | 49 | 438 | 45 400 | 85 100 | 85 100 | |
| | 32.5 | 37 | 100 | 63 | 1 | 6 | 30.5 | 17 | 1 | 1.5 | 49 | 438 | 45 400 | 85 100 | 85 100 | |

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

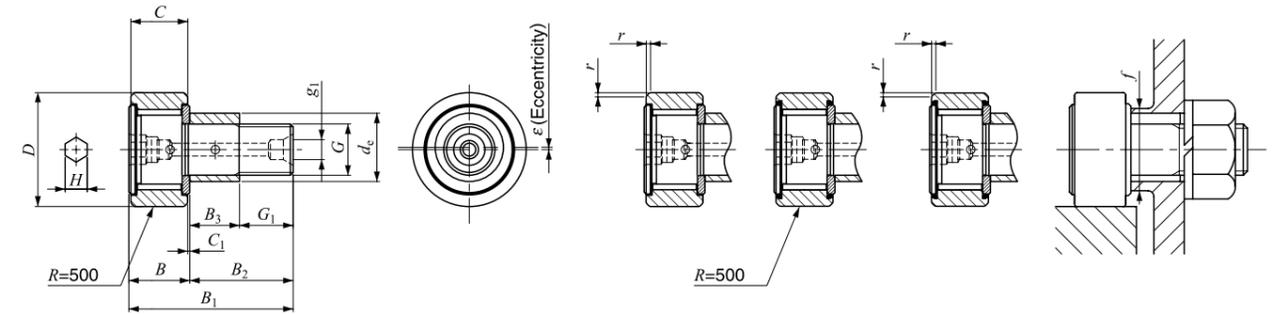
Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



CFE...VBR

Outside diameter of eccentric collar d_e 9 to 13mm



CFE...VBR

CFE...VB

CFE...VBUUR

CFE...VBUU

Outside diameter of eccentric collar d_e 16 to 41mm

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

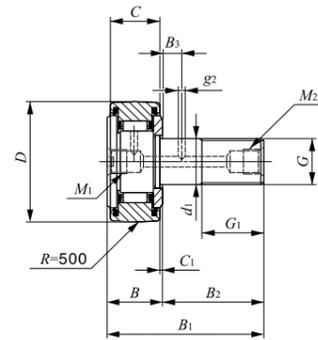
- Note(1) Minimum allowable value of chamfer dimension r
- Remarks1. Models with a thread diameter G of 10 mm or less have an oil hole (re-greasing fitting) at the head. Other models are provided with an oil hole (grease nipple) at the head and an oil hole on the end surface of the stud.
2. Provided with prepacked grease.
 3. A nut is supplied with the stud.

| Boundary dimensions mm | | | | | | | | | | | Eccentricity ϵ | Mounting dimension f Min. mm | Maximum tightening torque N-m | Basic dynamic load rating C N | Basic static load rating C_0 N | Maximum allowable static load N |
|------------------------|-------|------------|--------------|-------|-------|-------|-------|-----|--------------------|------------|----------------------------|--------------------------------------|----------------------------------|---------------------------------------|--|------------------------------------|
| G | B_3 | B max | B_1 max | B_2 | C_1 | g_1 | G_1 | H | $r_{s \min}^{(1)}$ | ϵ | | | | | | |
| M 6 × 1 | 7.5 | 12.2 | 28.2 | 16 | 0.6 | — | 8.5 | 3 | 0.3 | 0.4 | 11 | 2.7 | 6 980 | 8 500 | 1 950 | |
| M 8 × 1.25 | 9.5 | 12.2 | 32.2 | 20 | 0.6 | — | 10.5 | 4 | 0.3 | 0.4 | 13 | 6.5 | 8 170 | 11 200 | 4 620 | |
| M10 × 1.25 | 10.5 | 13.2 | 36.2 | 23 | 0.6 | — | 12.5 | 4 | 0.3 | 0.4 | 16 | 13.8 | 9 570 | 14 500 | 8 650 | |
| | 10.5 | 13.2 | 36.2 | 23 | 0.6 | — | 12.5 | 4 | 0.3 | 0.4 | 16 | 13.8 | 9 570 | 14 500 | 8 650 | |
| M12 × 1.5 | 11.5 | 15.2 | 40.2 | 25 | 0.6 | 4 | 13.5 | 6 | 0.6 | 0.8 | 21 | 21.9 | 13 500 | 19 700 | 13 200 | |
| | 11.5 | 15.2 | 40.2 | 25 | 0.6 | 4 | 13.5 | 6 | 0.6 | 0.8 | 21 | 21.9 | 13 500 | 19 700 | 13 200 | |
| M16 × 1.5 | 15.5 | 19.6 | 52.1 | 32.5 | 0.8 | 4 | 17 | 6 | 0.6 | 0.8 | 26 | 58.5 | 20 700 | 37 600 | 23 200 | |
| M18 × 1.5 | 17.5 | 21.6 | 58.1 | 36.5 | 0.8 | 6 | 19 | 8 | 1 | 0.8 | 29 | 86.2 | 25 300 | 51 300 | 31 100 | |
| M20 × 1.5 | 19.5 | 25.6 | 66.1 | 40.5 | 0.8 | 6 | 21 | 8 | 1 | 0.8 | 34 | 119 | 33 200 | 64 500 | 37 500 | |
| | 19.5 | 25.6 | 66.1 | 40.5 | 0.8 | 6 | 21 | 8 | 1 | 0.8 | 34 | 119 | 33 200 | 64 500 | 37 500 | |
| M24 × 1.5 | 25.5 | 30.6 | 80.1 | 49.5 | 0.8 | 6 | 24 | 12 | 1 | 0.8 | 40 | 215 | 46 600 | 92 000 | 52 000 | |
| | 25.5 | 30.6 | 80.1 | 49.5 | 0.8 | 6 | 24 | 12 | 1 | 0.8 | 40 | 215 | 46 600 | 92 000 | 52 000 | |
| M30 × 1.5 | 32.5 | 37 | 100 | 63 | 1 | 6 | 30.5 | 17 | 1 | 1.5 | 49 | 438 | 67 700 | 144 000 | 85 900 | |
| | 32.5 | 37 | 100 | 63 | 1 | 6 | 30.5 | 17 | 1 | 1.5 | 49 | 438 | 67 700 | 144 000 | 85 900 | |
| | 32.5 | 37 | 100 | 63 | 1 | 6 | 30.5 | 17 | 1 | 1.5 | 49 | 438 | 67 700 | 144 000 | 85 900 | |

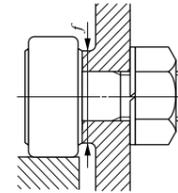
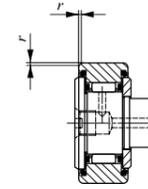
IKO Centralized Lubrication Type Cam Followers With Cage/With Screwdriver Slot

Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | FU1 | Cylindrical outer ring |
| Shape of outer ring | FU1 | Cylindrical outer ring |
| | RU1 | Crowned outer ring |



CF-RU1



CF-FU1

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

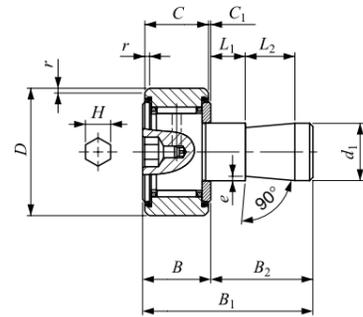
Note(1) Minimum allowable value of chamfer dimension *r*
 Remarks1. Models with a stud diameter *d*₁ of 12 mm or less are provided with a lubrication tapped hole on the stud head only. Other models are provided with one lubrication tapped hole each on the head and end surface of the stud.
 2. Provided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

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

IKO Easy Mounting Type Cam Followers With Cage/With Hexagon Hole

Selectable product specifications

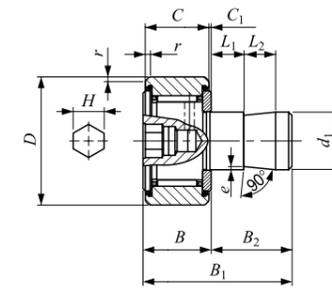
| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| Shape of outer ring | No symbol | Cylindrical outer ring |



Stud dia d_1 6~10mm

| Stud dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | | | | | |
|-----------------|-----------------------|---------------------|------------------------|-----|-------|-----------|------------|-------|-------|-------|
| | | | D | C | d_1 | B_{max} | B_{1max} | B_2 | C_1 | L_1 |
| 6 | CF-SFU- 6 B | 19.5 | 16 | 11 | 6 | 12.2 | 32 | 19.8 | 0.6 | 5 |
| 8 | CF-SFU- 8 B | 29 | 19 | 11 | 8 | 12.2 | 32 | 19.8 | 0.6 | 5 |
| 10 | CF-SFU- 10 B | 44 | 22 | 12 | 10 | 13.2 | 33 | 19.8 | 0.6 | 5 |
| | CF-SFU- 10-1 B | 59 | 26 | 12 | 10 | 13.2 | 33 | 19.8 | 0.6 | 5 |
| 12 | CF-SFU- 12 B | 94 | 30 | 14 | 12 | 15.2 | 35 | 19.8 | 0.6 | 5 |
| | CF-SFU- 12-1 B | 104 | 32 | 14 | 12 | 15.2 | 35 | 19.8 | 0.6 | 5 |
| 16 | CF-SFU- 16 B | 164 | 35 | 18 | 16 | 19.6 | 44.5 | 24.9 | 0.8 | 10 |
| 18 | CF-SFU- 18 B | 235 | 40 | 20 | 18 | 21.6 | 46.5 | 24.9 | 0.8 | 10 |
| 20 | CF-SFU- 20 B | 435 | 52 | 24 | 20 | 25.6 | 50.5 | 24.9 | 0.8 | 10 |
| | CF-SFU- 20-1 B | 360 | 47 | 24 | 20 | 25.6 | 50.5 | 24.9 | 0.8 | 10 |

Note(1) Minimum allowable value of chamfer dimension r
 Remarks1. Models with a stud diameter d_1 of 10 mm or less have an oil hole (re-greasing fitting) at the head. Other models are provided with an oil hole (grease nipple) at the head.
 2. Provided with prepacked grease.



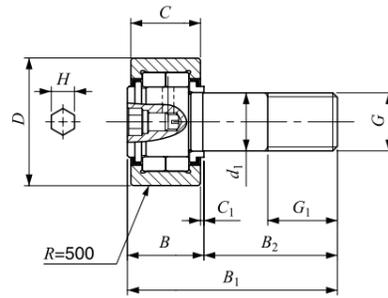
Stud dia d_1 12~20mm

| L_2 | H | e | $r_{s min}^{(1)}$ | Mounting dimensions mm | | | | | Basic dynamic load rating C N | Basic static load rating C_0 N | Maximum allowable static load N |
|-------|-----|-----|-------------------|------------------------|-------------|-------------|-------------|---------------|---------------------------------------|--|------------------------------------|
| | | | | D_1 | Tolerance | t Min. | f Min. | h (Ref.) | | | |
| 10 | 3 | 0.3 | 0.3 | 6 | +0.012 0 | 20 | 11 | 10 | 3 660 | 3 650 | 1 950 |
| 10 | 4 | 0.5 | 0.3 | 8 | +0.015 0 | 20 | 13 | 10 | 4 250 | 4 740 | 4 620 |
| 10 | 4 | 0.5 | 0.3 | 10 | | 20 | 16 | 10 | 5 430 | 6 890 | 6 890 |
| 10 | 4 | 0.5 | 0.3 | 10 | +0.018 0 | 20 | 16 | 10 | 5 430 | 6 890 | 6 890 |
| 10 | 6 | 1 | 0.6 | 12 | | 20 | 21 | 10 | 7 910 | 9 790 | 9 790 |
| 10 | 6 | 1 | 0.6 | 12 | +0.018 0 | 20 | 21 | 10 | 7 910 | 9 790 | 9 790 |
| 10 | 6 | 1 | 0.6 | 16 | | 25 | 26 | 15 | 12 000 | 18 300 | 18 300 |
| 10 | 8 | 1 | 1 | 18 | +0.021 0 | 25 | 29 | 15 | 14 800 | 25 200 | 25 200 |
| 10 | 8 | 1 | 1 | 20 | | 25 | 34 | 15 | 20 700 | 34 600 | 34 600 |
| 10 | 8 | 1 | 1 | 20 | +0.021 0 | 25 | 34 | 15 | 20 700 | 34 600 | 34 600 |
| 10 | 8 | 1 | 1 | 20 | | 25 | 34 | 15 | 20 700 | 34 600 | 34 600 |

IKO Cylindrical Roller Cam Followers Full Complement Type/With Hexagon Hole

Selectable product specifications

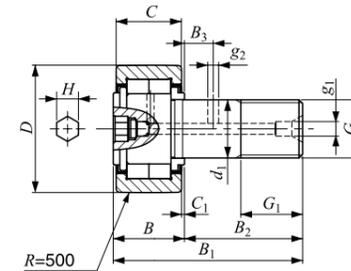
| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | UU | Sealed type |
| Seal structure | No symbol | Full complement |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



Stud dia d_1 10mm

| Stud dia. mm | Identification number | Mass (Ref.) g | Boundary dimensions mm | | | | | | | |
|-----------------|-----------------------|---------------------|------------------------|----|-------|------------|-------|----------|--------------|-------|
| | | | D | C | d_1 | G | G_1 | B max | B_1 max | B_2 |
| 10 | NUCF 10 BR | 44 | 22 | 12 | 10 | M10 × 1.25 | 12 | 13.2 | 36.2 | 23 |
| | NUCF 10-1 BR | 58 | 26 | 12 | 10 | M10 × 1.25 | 12 | 13.2 | 36.2 | 23 |
| 12 | NUCF 12 BR | 86 | 30 | 14 | 12 | M12 × 1.5 | 13 | 15.2 | 40.2 | 25 |
| | NUCF 12-1 BR | 97 | 32 | 14 | 12 | M12 × 1.5 | 13 | 15.2 | 40.2 | 25 |
| 16 | NUCF 16 BR | 167 | 35 | 18 | 16 | M16 × 1.5 | 17 | 19.6 | 52.1 | 32.5 |
| 18 | NUCF 18 BR | 244 | 40 | 20 | 18 | M18 × 1.5 | 19 | 21.6 | 58.1 | 36.5 |
| 20 | NUCF 20 BR | 457 | 52 | 24 | 20 | M20 × 1.5 | 21 | 25.6 | 66.1 | 40.5 |
| | NUCF 20-1 BR | 384 | 47 | 24 | 20 | M20 × 1.5 | 21 | 25.6 | 66.1 | 40.5 |
| 24 | NUCF 24 BR | 789 | 62 | 29 | 24 | M24 × 1.5 | 25 | 30.6 | 80.1 | 49.5 |
| | NUCF 24-1 BR | 1 020 | 72 | 29 | 24 | M24 × 1.5 | 25 | 30.6 | 80.1 | 49.5 |
| 30 | NUCF 30 BR | 1 600 | 80 | 35 | 30 | M30 × 1.5 | 32 | 37 | 100 | 63 |
| | NUCF 30-2 BR | 1 970 | 90 | 35 | 30 | M30 × 1.5 | 32 | 37 | 100 | 63 |

Remarks1. Model with a stud diameter d_1 of 10 mm is provided with an oil hole (re-greasing fitting) on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.
 2. Provided with prepacked grease.
 3. A nut is supplied with the stud.



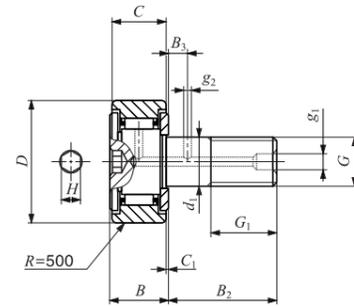
Stud dia d_1 12 to 30mm

| B_3 | C_1 | g_1 | g_2 | H | Mounting dimension | Maximum tightening torque | Basic dynamic load rating C | Basic static load rating C_0 | Maximum allowable static load |
|-------|-------|-------|-------|----|--------------------|---------------------------|-----------------------------|--------------------------------|-------------------------------|
| | | | | | f Min. mm | | | | |
| — | 0.6 | — | — | 4 | 12 | 13.8 | 10 400 | 11 500 | 5 300 |
| — | 0.6 | — | — | 4 | 12 | 13.8 | 10 400 | 11 500 | 9 210 |
| 6 | 0.6 | 4 | 3 | 6 | 17 | 21.9 | 14 000 | 13 400 | 5 650 |
| 6 | 0.6 | 4 | 3 | 6 | 17 | 21.9 | 14 000 | 13 400 | 9 040 |
| 8 | 0.8 | 4 | 3 | 6 | 20 | 58.5 | 23 400 | 27 300 | 11 800 |
| 8 | 0.8 | 6 | 3 | 8 | 22 | 86.2 | 25 200 | 30 900 | 20 300 |
| 9 | 0.8 | 6 | 4 | 8 | 31 | 119 | 43 100 | 58 100 | 30 000 |
| 9 | 0.8 | 6 | 4 | 8 | 27 | 119 | 38 900 | 49 000 | 27 200 |
| 11 | 0.8 | 6 | 4 | 12 | 38 | 215 | 58 200 | 75 300 | 35 200 |
| 11 | 0.8 | 6 | 4 | 12 | 44 | 215 | 63 900 | 88 800 | 57 000 |
| 15 | 1 | 6 | 4 | 17 | 45 | 438 | 90 300 | 121 000 | 98 300 |
| 15 | 1 | 6 | 4 | 17 | 45 | 438 | 90 300 | 121 000 | 98 300 |

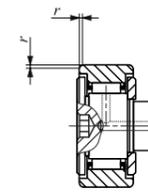
IKO Inch Series Cam Followers With Cage/With Hexagon Hole

Selectable product specifications

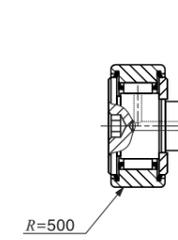
| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



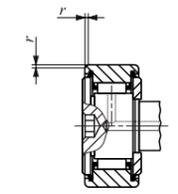
CR...BR



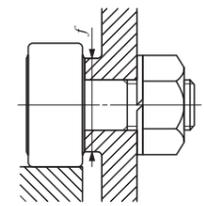
CR...B



CR...BUUR



CR...BUU



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

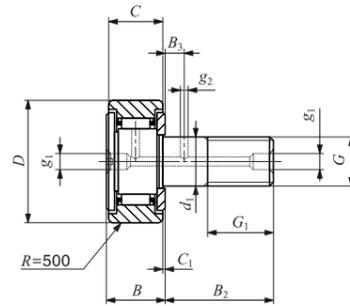
- Remarks1. Models with a stud diameter d_1 of 6.35 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.
 2. Provided with prepacked grease.
 3. Eccentric Type Inch Series Cam Followers, CRE are also available. If required, please consult to IKO.
 4. A nut is supplied with the stud.

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

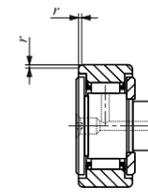
IKO Inch Series Cam Followers With Cage/With Screwdriver slot

Selectable product specifications

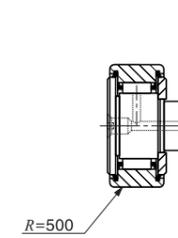
| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



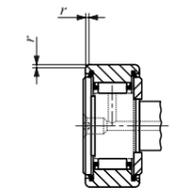
CR...R



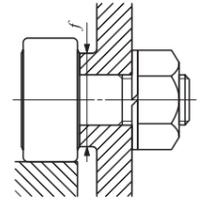
CR



CR...UUR



CR...UU



| Stud dia. mm (inch) | Identification number | | | | Mass (Ref.) g | Boundary dimensions mm(inch) | | | | | Mounting dimension f mm(inch) | Maximum tightening torque N-m | Basic dynamic load rating C N | Basic static load rating C ₀ N |
|---------------------------|----------------------------|--------------------------------|----------------------------|--------------------------------|---------------------|------------------------------|------------------|-----------------|-----------|----------------|-------------------------------------|--|--|--|
| | Shield type | | Sealed type | | | D | C | d ₁ | G UNF | G ₁ | | | | |
| | With crowned outer ring | With cylindrical outer ring | With crowned outer ring | With cylindrical outer ring | | | | | | | | | | |
| 4.826 | CR 8 R | CR 8 | CR 8 UUR | CR 8 UU | 9 | 12.700 (1/2) | 8.731 (11/32) | 4.826 | No.10-32 | 6.350 (1/4) | 8.334 (21/64) | 1.4 | 2 520 | 2 140 |
| | CR 8-1 R | CR 8-1 | CR 8-1 UUR | CR 8-1 UU | 10 | 12.700 (1/2) | 9.525 (3/8) | 4.826 | No.10-32 | 6.350 (1/4) | | | | |
| 6.350 (1/4) | CR 10 R | CR 10 | CR 10 UUR | CR 10 UU | 19 | 15.875 (5/8) | 10.319 (13/32) | 6.350 (1/4) | 1/4 - 28 | 7.938 (5/16) | 11.509 (29/64) | 3.4 | 3 650 | 3 670 |
| | CR 10-1 R | CR 10-1 | CR 10-1 UUR | CR 10-1 UU | 21 | 15.875 (5/8) | 11.112 (7/16) | 6.350 (1/4) | 1/4 - 28 | 7.938 (5/16) | | | | |
| 9.525 (3/8) | CR 12 R | CR 12 | CR 12 UUR | CR 12 UU | 35 | 19.050 (3/4) | 12.700 (1/2) | 9.525 (3/8) | 3/8 - 24 | 9.525 (3/8) | 13.494 (17/32) | 10.8 | 4 420 | 5 110 |
| | CR 14 R | CR 14 | CR 14 UUR | CR 14 UU | 46 | 22.225 (7/8) | 12.700 (1/2) | 9.525 (3/8) | 3/8 - 24 | 9.525 (3/8) | | | | |
| 11.112 (7/16) | CR 16 R | CR 16 | CR 16 UUR | CR 16 UU | 73 | 25.400 (1) | 15.875 (5/8) | 11.112 (7/16) | 7/16 - 20 | 12.700 (1/2) | 17.859 (45/64) | 17.4 | 8 810 | 10 800 |
| | CR 18 R | CR 18 | CR 18 UUR | CR 18 UU | 88 | 28.575 (1 1/8) | 15.875 (5/8) | 11.112 (7/16) | 7/16 - 20 | 12.700 (1/2) | | | | |
| 12.700 (1/2) | CR 20 R | CR 20 | CR 20 UUR | CR 20 UU | 132 | 31.750 (1 1/4) | 19.050 (3/4) | 12.700 (1/2) | 1/2 - 20 | 15.875 (5/8) | 21.828 (55/64) | 27.7 | 14 200 | 16 000 |
| | CR 22 R | CR 22 | CR 22 UUR | CR 22 UU | 157 | 34.925 (1 3/8) | 19.050 (3/4) | 12.700 (1/2) | 1/2 - 20 | 15.875 (5/8) | | | | |
| 15.875 (5/8) | CR 24 R | CR 24 | CR 24 UUR | CR 24 UU | 225 | 38.100 (1 1/2) | 22.225 (7/8) | 15.875 (5/8) | 5/8 - 18 | 19.050 (3/4) | 26.196 (1 1/64) | 55.7 | 18 600 | 24 300 |
| | CR 26 R | CR 26 | CR 26 UUR | CR 26 UU | 260 | 41.275 (1 5/8) | 22.225 (7/8) | 15.875 (5/8) | 5/8 - 18 | 19.050 (3/4) | | | | |
| 19.050 (3/4) | CR 28 R | CR 28 | CR 28 UUR | CR 28 UU | 365 | 44.450 (1 3/4) | 25.400 (1) | 19.050 (3/4) | 3/4 - 16 | 22.225 (7/8) | 32.543 (1 1/32) | 100 | 25 100 | 38 200 |
| | CR 30 R | CR 30 | CR 30 UUR | CR 30 UU | 410 | 47.625 (1 7/8) | 25.400 (1) | 19.050 (3/4) | 3/4 - 16 | 22.225 (7/8) | | | | |
| 22.225 (7/8) | CR 32 R | CR 32 | CR 32 UUR | CR 32 UU | 615 | 50.800 (2) | 31.750 (1 1/4) | 22.225 (7/8) | 7/8 - 14 | 25.400 (1) | 37.306 (1 15/32) | 162 | 32 500 | 63 900 |
| | CR 36 R | CR 36 | CR 36 UUR | CR 36 UU | 750 | 57.150 (2 1/4) | 31.750 (1 1/4) | 22.225 (7/8) | 7/8 - 14 | 25.400 (1) | | | | |

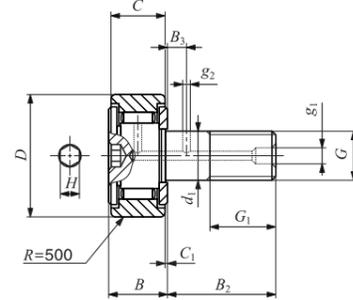
- Remarks1. Models with a stud diameter d_1 of 6.35 mm or less (marked *) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.
 2. Provided with prepacked grease.
 3. Eccentric Type Inch Series Cam Followers, CRE are also available. If required, please consult to IKO.
 4. A nut is supplied with the stud.

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

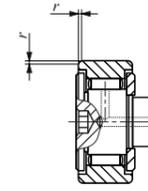
IKO Inch Series Cam Followers Full Complement Type/With Hexagon Hole

Selectable product specifications

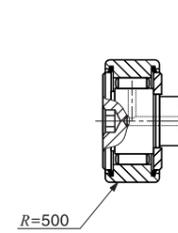
| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



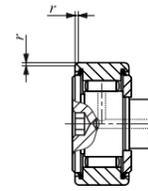
CR...VBR



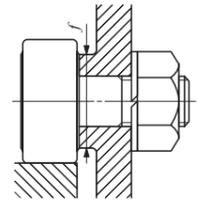
CR...VB



CR...VBUUR



CR...VBUU



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

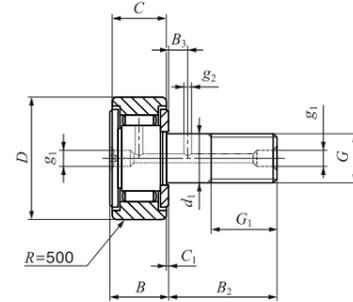
- Remarks1. Models with a stud diameter d_1 of 6.35 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.
 2. Provided with prepacked grease.
 3. Eccentric Type Inch Series Cam Followers, CRE are also available. If required, please consult to IKO.
 4. A nut is supplied with the stud.

| Boundary dimensions mm(inch) | | | | | | | | Mounting dimension f Min. mm(inch) | Maximum tightening torque N-m | Basic dynamic load rating C N | Basic static load rating C ₀ N |
|------------------------------|-----------------|----------------|----------------|----------------|----------------|----------------|---------------|---|----------------------------------|-------------------------------------|---|
| B max | B ₂ | B ₃ | C ₁ | g ₁ | g ₂ | H | r | | | | |
| 10.2(0.40) | 12.700(1/2) | — (—) | 0.794(1/32) | — (—) | — (—) | 3.175(1/8) | 0.397(1/64) | 8.334(21/64) | 1.4 | 4 260 | 4 750 |
| 10.9(0.43) | 15.875(5/8) | — (—) | 0.794(1/32) | — (—) | — (—) | 3.175(1/8) | 0.397(1/64) | 8.334(21/64) | 1.4 | 4 710 | 5 410 |
| 11.8(0.46) | 15.875(5/8) | — (—) | 0.794(1/32) | — (—) | — (—) | 3.175(1/8) | 0.397(1/64) | 11.509(29/64) | 3.4 | 5 830 | 7 660 |
| 12.5(0.49) | 19.050(3/4) | — (—) | 0.794(1/32) | — (—) | — (—) | 3.175(1/8) | 0.397(1/64) | 11.509(29/64) | 3.4 | 6 340 | 8 530 |
| 14.2(0.56) | 22.225(7/8) | 6.350(1/4) | 0.794(1/32) | 4.762(3/16) | 2.381(3/32) | 4.762(3/16) | 0.794(1/32) | 13.494(17/32) | 10.8 | 8 710 | 12 300 |
| 14.2(0.56) | 22.225(7/8) | 6.350(1/4) | 0.794(1/32) | 4.762(3/16) | 2.381(3/32) | 4.762(3/16) | 0.794(1/32) | 15.081(19/32) | 10.8 | 8 710 | 12 300 |
| 17.3(0.68) | 25.400(1) | 6.350(1/4) | 0.794(1/32) | 4.762(3/16) | 3.175(1/8) | 6.350(1/4) | 1.191(3/64) | 17.859(45/64) | 17.4 | 13 100 | 22 700 |
| 17.3(0.68) | 25.400(1) | 6.350(1/4) | 0.794(1/32) | 4.762(3/16) | 3.175(1/8) | 6.350(1/4) | 1.588(1/16) | 19.050(3/4) | 17.4 | 13 100 | 22 700 |
| 20.4(0.80) | 31.750(1 1/4) | 7.938(5/16) | 0.794(1/32) | 4.762(3/16) | 3.175(1/8) | 6.350(1/4) | 1.588(1/16) | 21.828(55/64) | 27.7 | 23 600 | 31 700 |
| 20.4(0.80) | 31.750(1 1/4) | 7.938(5/16) | 0.794(1/32) | 4.762(3/16) | 3.175(1/8) | 6.350(1/4) | 1.588(1/16) | 21.828(55/64) | 27.7 | 23 600 | 31 700 |
| 23.6(0.93) | 38.100(1 1/2) | 9.525(3/8) | 0.794(1/32) | 4.762(3/16) | 3.969(5/32) | 7.938(5/16) | 1.588(1/16) | 26.196(1 1/64) | 55.7 | 28 200 | 40 100 |
| 23.6(0.93) | 38.100(1 1/2) | 9.525(3/8) | 0.794(1/32) | 4.762(3/16) | 3.969(5/32) | 7.938(5/16) | 1.588(1/16) | 26.196(1 1/64) | 55.7 | 28 200 | 40 100 |
| 26.8(1.06) | 44.450(1 3/4) | 11.112(7/16) | 0.794(1/32) | 4.762(3/16) | 3.969(5/32) | 7.938(5/16) | 1.588(1/16) | 32.543(1 9/32) | 100 | 35 300 | 55 600 |
| 26.8(1.06) | 44.450(1 3/4) | 11.112(7/16) | 0.794(1/32) | 4.762(3/16) | 3.969(5/32) | 7.938(5/16) | 1.588(1/16) | 32.543(1 9/32) | 100 | 35 300 | 55 600 |
| 33.5(1.32) | 50.800(2) | 12.700(1/2) | 0.794(1/32) | 4.762(3/16) | 4.762(3/16) | 11.112(7/16) | 1.588(1/16) | 37.306(1 13/32) | 162 | 45 700 | 80 600 |
| 33.5(1.32) | 50.800(2) | 12.700(1/2) | 0.794(1/32) | 4.762(3/16) | 4.762(3/16) | 11.112(7/16) | 1.588(1/16) | 37.306(1 13/32) | 162 | 45 700 | 80 600 |

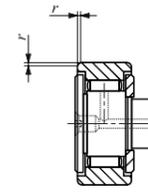
IKO Inch Series Cam Followers Full Complement Type/With Screwdriver Slot

Selectable product specifications

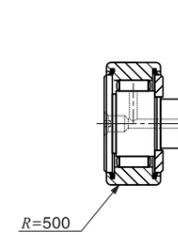
| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



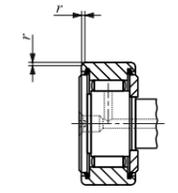
CR...VR



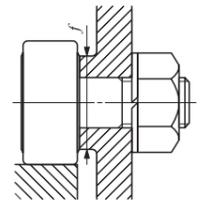
CR...V



CR...VUUR



CR...VUU



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

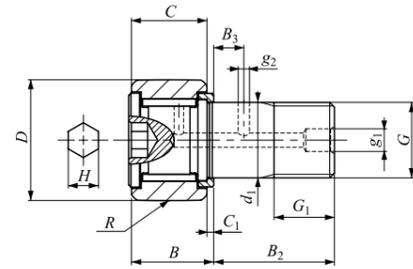
Remarks1. Models with a stud diameter d_1 of 6.35 mm or less (marked *) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.
 2. Provided with prepacked grease.
 3. Eccentric Type Inch Series Cam Followers, CRE are also available. If required, please consult to IKO.

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

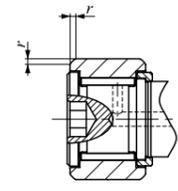
IKO Inch Series Heavy Duty Cam Followers Full Complement Type/With Hexagon Hole

Selectable product specifications

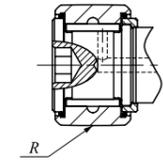
| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



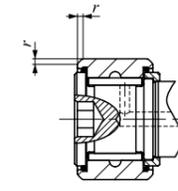
CRH...VBR



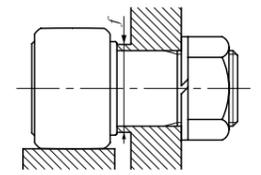
CRH...VB



CRH...VBUUR



CRH...VBUU



| Stud dia. mm (inch) | Identification number | | | | Mass (Ref.) g | D | C | d ₁ | G UNF | G ₁ |
|---------------------------|----------------------------|--------------------------------|----------------------------|--------------------------------|---------------------|----------------|----------------|----------------|-------------|----------------|
| | Shield type | | Sealed type | | | | | | | |
| | With crowned outer ring | With cylindrical outer ring | With crowned outer ring | With cylindrical outer ring | | | | | | |
| 6.350 (1/4) | CRH 8-1 VBR | CRH 8-1 VB | CRH 8-1 VBUUR | CRH 8-1 VBUU | 12 | 12.700 (1/2) | 9.525 (3/8) | 6.350 (1/4) | 1/4-28 | 6.350 (1/4) |
| | CRH 9 VBR | CRH 9 VB | CRH 9 VBUUR | CRH 9 VBUU | 15 | 14.288 (5/8) | 9.525 (3/8) | 6.350 (1/4) | 1/4-28 | 6.350 (1/4) |
| 7.938 (5/16) | CRH 10-1 VBR | CRH 10-1 VB | CRH 10-1 VBUUR | CRH 10-1 VBUU | 23 | 15.875 (5/8) | 11.112 (7/16) | 7.938 (5/16) | 5/16-24 | 7.938 (5/16) |
| | CRH 11 VBR | CRH 11 VB | CRH 11 VBUUR | CRH 11 VBUU | 27 | 17.462 (11/16) | 11.112 (7/16) | 7.938 (5/16) | 5/16-24 | 7.938 (5/16) |
| 11.112 (7/16) | CRH 12 VBR | CRH 12 VB | CRH 12 VBUUR | CRH 12 VBUU | 39 | 19.050 (3/4) | 12.700 (1/2) | 11.112 (7/16) | 7/16-20 | 9.525 (3/8) |
| | CRH 14 VBR | CRH 14 VB | CRH 14 VBUUR | CRH 14 VBUU | 49 | 22.225 (7/8) | 12.700 (1/2) | 11.112 (7/16) | 7/16-20 | 9.525 (3/8) |
| 15.875 (5/8) | CRH 16 VBR | CRH 16 VB | CRH 16 VBUUR | CRH 16 VBUU | 93 | 25.400 (1) | 15.875 (5/8) | 15.875 (5/8) | 5/8-18 | 12.700 (1/2) |
| | CRH 18 VBR | CRH 18 VB | CRH 18 VBUUR | CRH 18 VBUU | 109 | 28.575 (1 1/8) | 15.875 (5/8) | 15.875 (5/8) | 5/8-18 | 12.700 (1/2) |
| 19.050 (3/4) | CRH 20 VBR | CRH 20 VB | CRH 20 VBUUR | CRH 20 VBUU | 176 | 31.750 (1 1/4) | 19.050 (3/4) | 19.050 (3/4) | 3/4-16 | 15.875 (5/8) |
| | CRH 22 VBR | CRH 22 VB | CRH 22 VBUUR | CRH 22 VBUU | 200 | 34.925 (1 3/8) | 19.050 (3/4) | 19.050 (3/4) | 3/4-16 | 15.875 (5/8) |
| 22.225 (7/8) | CRH 24 VBR | CRH 24 VB | CRH 24 VBUUR | CRH 24 VBUU | 296 | 38.100 (1 1/2) | 22.225 (7/8) | 22.225 (7/8) | 7/8-14 | 19.050 (3/4) |
| | CRH 26 VBR | CRH 26 VB | CRH 26 VBUUR | CRH 26 VBUU | 329 | 41.275 (1 5/8) | 22.225 (7/8) | 22.225 (7/8) | 7/8-14 | 19.050 (3/4) |
| 25.400 (1) | CRH 28 VBR | CRH 28 VB | CRH 28 VBUUR | CRH 28 VBUU | 463 | 44.450 (1 3/4) | 25.400 (1) | 25.400 (1) | 1-14 UNS | 22.225 (7/8) |
| | CRH 30 VBR | CRH 30 VB | CRH 30 VBUUR | CRH 30 VBUU | 508 | 47.625 (1 7/8) | 25.400 (1) | 25.400 (1) | 1-14 UNS | 22.225 (7/8) |
| 28.575 (1 1/8) | CRH 32 VBR | CRH 32 VB | CRH 32 VBUUR | CRH 32 VBUU | 722 | 50.800 (2) | 31.750 (1 1/4) | 28.575 (1 1/8) | 1 1/8-12 | 25.400 (1) |
| | CRH 36 VBR | CRH 36 VB | CRH 36 VBUUR | CRH 36 VBUU | 858 | 57.150 (2 1/4) | 31.750 (1 1/4) | 28.575 (1 1/8) | 1 1/8-12 | 25.400 (1) |
| 31.750 (1 1/4) | CRH 40 VBR | CRH 40 VB | CRH 40 VBUUR | CRH 40 VBUU | 1 260 | 63.500 (2 1/2) | 38.100 (1 1/2) | 31.750 (1 1/4) | 1 1/4-12 | 28.575 (1 1/8) |
| | CRH 44 VBR | CRH 44 VB | CRH 44 VBUUR | CRH 44 VBUU | 1 460 | 69.850 (2 3/4) | 38.100 (1 1/2) | 31.750 (1 1/4) | 1 1/4-12 | 28.575 (1 1/8) |
| 38.100 (1 1/2) | CRH 48 VBR | CRH 48 VB | CRH 48 VBUUR | CRH 48 VBUU | 2 100 | 76.200 (3) | 44.450 (1 3/4) | 38.100 (1 1/2) | 1 1/2-12 | 31.750 (1 1/4) |
| | CRH 52 VBR | CRH 52 VB | CRH 52 VBUUR | CRH 52 VBUU | 2 380 | 82.550 (3 1/4) | 44.450 (1 3/4) | 38.100 (1 1/2) | 1 1/2-12 | 31.750 (1 1/4) |
| 44.450 (1 3/4) | CRH 56 VBR | CRH 56 VB | CRH 56 VBUUR | CRH 56 VBUU | 3 240 | 88.900 (3 1/2) | 50.800 (2) | 44.450 (1 3/4) | 1 3/4-12 UN | 34.925 (1 3/8) |
| 50.800 (2) | CRH 64 VBR | CRH 64 VB | CRH 64 VBUUR | CRH 64 VBUU | 4 960 | 101.600 (4) | 57.150 (2 1/4) | 50.800 (2) | 2-12 UN | 38.100 (1 1/2) |

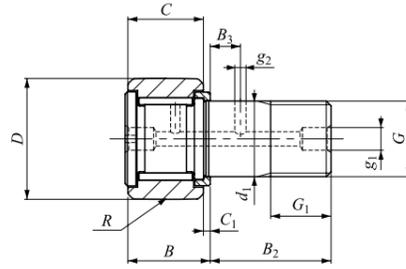
Remarks1. Models with a stud diameter d₁ of 7.938 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.
 2. Provided with prepacked grease.
 3. A nut is supplied with the stud.

| Boundary dimensions mm(inch) | | | | | | | | | Mounting dimension f Min. mm(inch) | Maximum tightening torque N-m | Basic dynamic load rating C N | Basic static load rating C ₀ N |
|------------------------------|----------------|----------------|----------------|----------------|----------------|--------------|---------|-------------|--|--|--|--|
| B max | B ₂ | B ₃ | C ₁ | g ₁ | g ₂ | H | R | r | | | | |
| 11.1(0.44) | 15.875(5/8) | — (-) | 0.794(1/2) | — (-) | — (-) | 3.175(1/8) | 180(7) | 0.397(1/64) | 8.334(1/6) | 3.4 | 4 710 | 5 410 |
| 11.1(0.44) | 15.875(5/8) | — (-) | 0.794(1/2) | — (-) | — (-) | 3.175(1/8) | 180(7) | 0.397(1/64) | 8.334(1/6) | 3.4 | 4 710 | 5 410 |
| 12.8(0.50) | 19.050(3/4) | — (-) | 0.794(1/2) | — (-) | — (-) | 3.175(1/8) | 200(8) | 0.397(1/64) | 11.112(7/16) | 6.8 | 6 340 | 8 530 |
| 12.8(0.50) | 19.050(3/4) | — (-) | 0.794(1/2) | — (-) | — (-) | 3.175(1/8) | 200(8) | 0.397(1/64) | 11.112(7/16) | 6.8 | 6 340 | 8 530 |
| 14.6(0.57) | 22.225(7/8) | 6.350(1/4) | 0.794(1/2) | 4.762(3/16) | 2.381(3/32) | 4.762(3/16) | 250(10) | 0.794(1/32) | 13.494(1/2) | 17.6 | 8 710 | 12 300 |
| 14.6(0.57) | 22.225(7/8) | 6.350(1/4) | 0.794(1/2) | 4.762(3/16) | 2.381(3/32) | 4.762(3/16) | 250(10) | 0.794(1/32) | 13.494(1/2) | 17.6 | 8 710 | 12 300 |
| 17.9(0.70) | 25.400(1) | 6.350(1/4) | 1.588(1/8) | 4.762(3/16) | 2.381(3/32) | 6.350(1/4) | 300(12) | 1.191(1/64) | 18.256(3/2) | 57.8 | 13 100 | 22 700 |
| 17.9(0.70) | 25.400(1) | 6.350(1/4) | 1.588(1/8) | 4.762(3/16) | 2.381(3/32) | 6.350(1/4) | 300(12) | 1.588(1/16) | 18.256(3/2) | 57.8 | 13 100 | 22 700 |
| 21.0(0.83) | 31.750(1 1/4) | 7.938(5/16) | 1.588(1/8) | 4.762(3/16) | 2.381(3/32) | 6.350(1/4) | 360(14) | 1.588(1/16) | 24.209(9/16) | 103 | 23 600 | 31 700 |
| 21.0(0.83) | 31.750(1 1/4) | 7.938(5/16) | 1.588(1/8) | 4.762(3/16) | 2.381(3/32) | 6.350(1/4) | 360(14) | 1.588(1/16) | 24.209(9/16) | 103 | 23 600 | 31 700 |
| 24.3(0.96) | 38.100(1 1/2) | 9.525(3/8) | 1.588(1/8) | 4.762(3/16) | 2.381(3/32) | 7.938(5/16) | 500(20) | 1.588(1/16) | 26.988(1 1/16) | 162 | 28 200 | 40 100 |
| 24.3(0.96) | 38.100(1 1/2) | 9.525(3/8) | 1.588(1/8) | 4.762(3/16) | 2.381(3/32) | 7.938(5/16) | 500(20) | 1.588(1/16) | 26.988(1 1/16) | 162 | 28 200 | 40 100 |
| 27.4(1.08) | 44.450(1 3/4) | 11.112(7/16) | 1.588(1/8) | 4.762(3/16) | 2.381(3/32) | 7.938(5/16) | 500(20) | 1.588(1/16) | 32.941(1 1/16) | 258 | 35 300 | 55 600 |
| 27.4(1.08) | 44.450(1 3/4) | 11.112(7/16) | 1.588(1/8) | 4.762(3/16) | 2.381(3/32) | 7.938(5/16) | 500(20) | 1.588(1/16) | 32.941(1 1/16) | 258 | 35 300 | 55 600 |
| 34.2(1.35) | 50.800(2) | 12.700(1/2) | 1.588(1/8) | 4.762(3/16) | 3.175(1/8) | 11.112(7/16) | 600(24) | 1.588(1/16) | 37.306(1 1/2) | 356 | 45 700 | 80 600 |
| 34.2(1.35) | 50.800(2) | 12.700(1/2) | 1.588(1/8) | 4.762(3/16) | 3.175(1/8) | 11.112(7/16) | 600(24) | 1.588(1/16) | 37.306(1 1/2) | 356 | 45 700 | 80 600 |
| 40.0(1.57) | 57.150(2 1/4) | 14.288(5/8) | 1.588(1/8) | 4.762(3/16) | 3.175(1/8) | 12.700(1/2) | 760(30) | 2.381(3/32) | 40.878(1 3/8) | 500 | 61 400 | 116 000 |
| 40.0(1.57) | 57.150(2 1/4) | 14.288(5/8) | 1.588(1/8) | 4.762(3/16) | 3.175(1/8) | 12.700(1/2) | 760(30) | 2.381(3/32) | 40.878(1 3/8) | 500 | 61 400 | 116 000 |
| 46.4(1.83) | 63.500(2 1/2) | 15.875(5/8) | 1.588(1/8) | 6.350(1/4) | 3.175(1/8) | 19.050(3/4) | 760(30) | 2.381(3/32) | 51.991(2 1/16) | 892 | 77 600 | 172 000 |
| 46.4(1.83) | 63.500(2 1/2) | 15.875(5/8) | 1.588(1/8) | 6.350(1/4) | 3.175(1/8) | 19.050(3/4) | 760(30) | 2.381(3/32) | 51.991(2 1/16) | 892 | 77 600 | 172 000 |
| 52.8(2.08) | 69.850(2 3/4) | 17.462(11/16) | 1.588(1/8) | 6.350(1/4) | 3.175(1/8) | 19.050(3/4) | 760(30) | 2.381(3/32) | 59.928(2 3/16) | 1 450 | 111 000 | 239 000 |
| 59.4(2.34) | 88.900(3 1/2) | 19.050(3/4) | 1.588(1/8) | 6.350(1/4) | 3.175(1/8) | 19.050(3/4) | 760(30) | 2.381(3/32) | 64.691(2 5/16) | 2 190 | 142 000 | 317 000 |

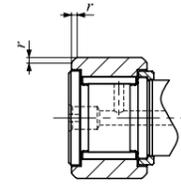
IKO Inch Series Heavy Duty Cam Followers Full Complement Type/With Hexagon Hole

Selectable product specifications

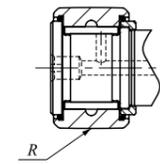
| | | |
|---------------------|-----------|------------------------|
| Material | No symbol | Carbon steel |
| | F | Stainless steel |
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



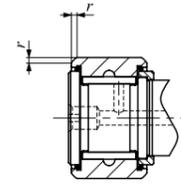
CRH...VR



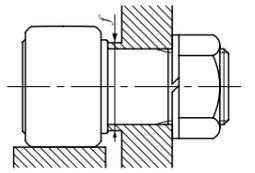
CRH...V



CRH...VUUR



CRH...VUU



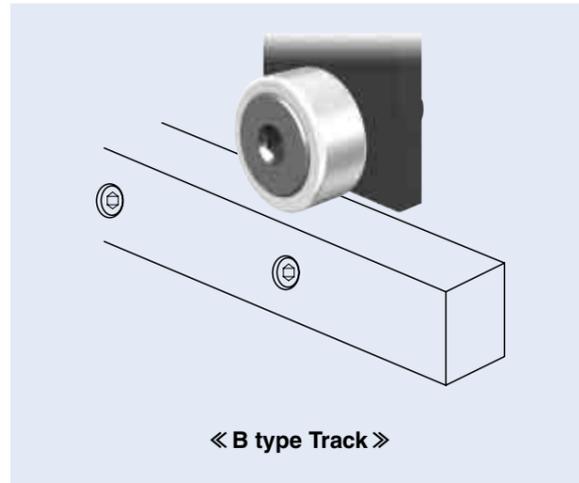
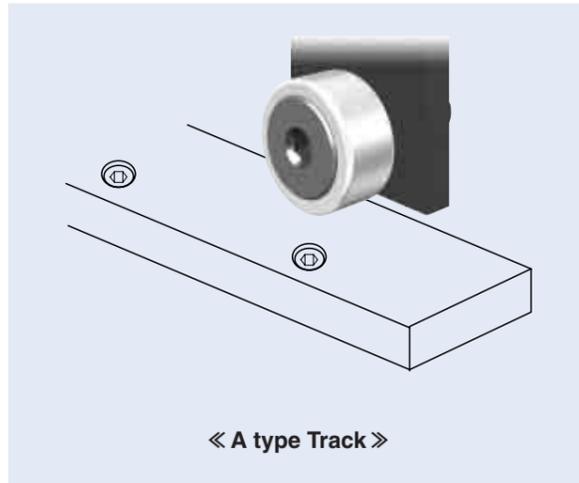
| Stud dia. mm (inch) | Identification number | | | | Mass (Ref.) g | D | C | d ₁ | G UNF | G ₁ |
|---------------------------|----------------------------|--------------------------------|----------------------------|--------------------------------|---------------------|----------------|----------------|----------------|-------------|----------------|
| | Shield type | | Sealed type | | | | | | | |
| | With crowned outer ring | With cylindrical outer ring | With crowned outer ring | With cylindrical outer ring | | | | | | |
| 6.350 (1/4) | CRH 8-1 VR | CRH 8-1 V | CRH 8-1 VUUR | CRH 8-1 VUU | 12 | 12.700 (1/2) | 9.525 (3/8) | 6.350 (1/4) | 1/4-28 | 6.350 (1/4) |
| | CRH 9 VR | CRH 9 V | CRH 9 VUUR | CRH 9 VUU | 15 | 14.288 (9/16) | 9.525 (3/8) | 6.350 (1/4) | 1/4-28 | 6.350 (1/4) |
| 7.938 (5/16) | CRH 10-1 VR | CRH 10-1 V | CRH 10-1 VUUR | CRH 10-1 VUU | 23 | 15.875 (5/8) | 11.112 (7/16) | 7.938 (5/16) | 5/16-24 | 7.938 (5/16) |
| | CRH 11 VR | CRH 11 V | CRH 11 VUUR | CRH 11 VUU | 27 | 17.462 (11/16) | 11.112 (7/16) | 7.938 (5/16) | 5/16-24 | 7.938 (5/16) |
| 11.112 (7/16) | CRH 12 VR | CRH 12 V | CRH 12 VUUR | CRH 12 VUU | 39 | 19.050 (3/4) | 12.700 (1/2) | 11.112 (7/16) | 7/16-20 | 9.525 (3/8) |
| | CRH 14 VR | CRH 14 V | CRH 14 VUUR | CRH 14 VUU | 49 | 22.225 (7/8) | 12.700 (1/2) | 11.112 (7/16) | 7/16-20 | 9.525 (3/8) |
| 15.875 (5/8) | CRH 16 VR | CRH 16 V | CRH 16 VUUR | CRH 16 VUU | 93 | 25.400 (1) | 15.875 (5/8) | 15.875 (5/8) | 5/8-18 | 12.700 (1/2) |
| | CRH 18 VR | CRH 18 V | CRH 18 VUUR | CRH 18 VUU | 109 | 28.575 (1 1/8) | 15.875 (5/8) | 15.875 (5/8) | 5/8-18 | 12.700 (1/2) |
| 19.050 (3/4) | CRH 20 VR | CRH 20 V | CRH 20 VUUR | CRH 20 VUU | 176 | 31.750 (1 1/4) | 19.050 (3/4) | 19.050 (3/4) | 3/4-16 | 15.875 (5/8) |
| | CRH 22 VR | CRH 22 V | CRH 22 VUUR | CRH 22 VUU | 200 | 34.925 (1 3/8) | 19.050 (3/4) | 19.050 (3/4) | 3/4-16 | 15.875 (5/8) |
| 22.225 (7/8) | CRH 24 VR | CRH 24 V | CRH 24 VUUR | CRH 24 VUU | 296 | 38.100 (1 1/2) | 22.225 (7/8) | 22.225 (7/8) | 7/8-14 | 19.050 (3/4) |
| | CRH 26 VR | CRH 26 V | CRH 26 VUUR | CRH 26 VUU | 329 | 41.275 (1 5/8) | 22.225 (7/8) | 22.225 (7/8) | 7/8-14 | 19.050 (3/4) |
| 25.400 (1) | CRH 28 VR | CRH 28 V | CRH 28 VUUR | CRH 28 VUU | 463 | 44.450 (1 3/4) | 25.400 (1) | 25.400 (1) | 1-14 UNS | 22.225 (7/8) |
| | CRH 30 VR | CRH 30 V | CRH 30 VUUR | CRH 30 VUU | 508 | 47.625 (1 7/8) | 25.400 (1) | 25.400 (1) | 1-14 UNS | 22.225 (7/8) |
| 28.575 (1 1/8) | CRH 32 VR | CRH 32 V | CRH 32 VUUR | CRH 32 VUU | 722 | 50.800 (2) | 31.750 (1 1/4) | 28.575 (1 1/8) | 1 1/8-12 | 25.400 (1) |
| | CRH 36 VR | CRH 36 V | CRH 36 VUUR | CRH 36 VUU | 858 | 57.150 (2 1/4) | 31.750 (1 1/4) | 28.575 (1 1/8) | 1 1/8-12 | 25.400 (1) |
| 31.750 (1 1/4) | CRH 40 VR | CRH 40 V | CRH 40 VUUR | CRH 40 VUU | 1 260 | 63.500 (2 1/2) | 38.100 (1 1/2) | 31.750 (1 1/4) | 1 1/4-12 | 28.575 (1 1/8) |
| | CRH 44 VR | CRH 44 V | CRH 44 VUUR | CRH 44 VUU | 1 460 | 69.850 (2 3/4) | 38.100 (1 1/2) | 31.750 (1 1/4) | 1 1/4-12 | 28.575 (1 1/8) |
| 38.100 (1 1/2) | CRH 48 VR | CRH 48 V | CRH 48 VUUR | CRH 48 VUU | 2 100 | 76.200 (3) | 44.450 (1 3/4) | 38.100 (1 1/2) | 1 1/2-12 | 31.750 (1 1/4) |
| | CRH 52 VR | CRH 52 V | CRH 52 VUUR | CRH 52 VUU | 2 380 | 82.550 (3 1/4) | 44.450 (1 3/4) | 38.100 (1 1/2) | 1 1/2-12 | 31.750 (1 1/4) |
| 44.450 (1 3/4) | CRH 56 VR | CRH 56 V | CRH 56 VUUR | CRH 56 VUU | 3 240 | 88.900 (3 1/2) | 50.800 (2) | 44.450 (1 3/4) | 1 3/4-12 UN | 34.925 (1 3/8) |
| | CRH 64 VR | CRH 64 V | CRH 64 VUUR | CRH 64 VUU | 4 960 | 101.600 (4) | 57.150 (2 1/4) | 50.800 (2) | 2-12 UN | 38.100 (1 1/2) |

Remarks1. Models with a stud diameter d_1 of 7.938 mm or less (marked *) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.
 2. Provided with prepacked grease.
 3. A nut is supplied with the stud.

| Boundary dimensions mm(inch) | | | | | | | | Mounting dimension f Min. mm(inch) | Maximum tightening torque N-m | Basic dynamic load rating C N | Basic static load rating C ₀ N |
|------------------------------|----------------|----------------|----------------|----------------|----------------|---------|-------------|---|--|--|--|
| B max | B ₂ | B ₃ | C ₁ | g ₁ | g ₂ | R | r | | | | |
| 11.1(0.44) | 15.875(5/8) | — (—) | 0.794(1/32) | *3.175(1/8) | — (—) | 180(7) | 0.397(1/64) | 8.334(21/64) | 3.4 | 4 710 | 5 410 |
| 11.1(0.44) | 15.875(5/8) | — (—) | 0.794(1/32) | *3.175(1/8) | — (—) | 180(7) | 0.397(1/64) | 8.334(21/64) | 3.4 | 4 710 | 5 410 |
| 12.8(0.50) | 19.050(3/4) | — (—) | 0.794(1/32) | *3.175(1/8) | — (—) | 200(8) | 0.397(1/64) | 11.112(7/16) | 6.8 | 6 340 | 8 530 |
| 12.8(0.50) | 19.050(3/4) | — (—) | 0.794(1/32) | *3.175(1/8) | — (—) | 200(8) | 0.397(1/64) | 11.112(7/16) | 6.8 | 6 340 | 8 530 |
| 14.6(0.57) | 22.225(7/8) | 6.350(1/4) | 0.794(1/32) | 4.762(3/16) | 2.381(3/32) | 250(10) | 0.794(1/32) | 13.494(17/32) | 17.6 | 8 710 | 12 300 |
| 14.6(0.57) | 22.225(7/8) | 6.350(1/4) | 0.794(1/32) | 4.762(3/16) | 2.381(3/32) | 250(10) | 0.794(1/32) | 13.494(17/32) | 17.6 | 8 710 | 12 300 |
| 17.9(0.70) | 25.400(1) | 6.350(1/4) | 1.588(1/16) | 4.762(3/16) | 2.381(3/32) | 300(12) | 1.191(3/64) | 18.256(23/32) | 57.8 | 13 100 | 22 700 |
| 17.9(0.70) | 25.400(1) | 6.350(1/4) | 1.588(1/16) | 4.762(3/16) | 2.381(3/32) | 300(12) | 1.588(1/16) | 18.256(23/32) | 57.8 | 13 100 | 22 700 |
| 21.0(0.83) | 31.750(1 1/4) | 7.938(5/16) | 1.588(1/16) | 4.762(3/16) | 2.381(3/32) | 360(14) | 1.588(1/16) | 24.209(61/64) | 103 | 23 600 | 31 700 |
| 21.0(0.83) | 31.750(1 1/4) | 7.938(5/16) | 1.588(1/16) | 4.762(3/16) | 2.381(3/32) | 360(14) | 1.588(1/16) | 24.209(61/64) | 103 | 23 600 | 31 700 |
| 24.3(0.96) | 38.100(1 1/2) | 9.525(3/8) | 1.588(1/16) | 4.762(3/16) | 2.381(3/32) | 500(20) | 1.588(1/16) | 26.988(1 1/16) | 162 | 28 200 | 40 100 |
| 24.3(0.96) | 38.100(1 1/2) | 9.525(3/8) | 1.588(1/16) | 4.762(3/16) | 2.381(3/32) | 500(20) | 1.588(1/16) | 26.988(1 1/16) | 162 | 28 200 | 40 100 |
| 27.4(1.08) | 44.450(1 3/4) | 11.112(7/16) | 1.588(1/16) | 4.762(3/16) | 2.381(3/32) | 500(20) | 1.588(1/16) | 32.941(1 15/64) | 258 | 35 300 | 55 600 |
| 27.4(1.08) | 44.450(1 3/4) | 11.112(7/16) | 1.588(1/16) | 4.762(3/16) | 2.381(3/32) | 500(20) | 1.588(1/16) | 32.941(1 15/64) | 258 | 35 300 | 55 600 |
| 34.2(1.35) | 50.800(2) | 12.700(1/2) | 1.588(1/16) | 4.762(3/16) | 3.175(1/8) | 600(24) | 1.588(1/16) | 37.306(1 15/32) | 356 | 45 700 | 80 600 |
| 34.2(1.35) | 50.800(2) | 12.700(1/2) | 1.588(1/16) | 4.762(3/16) | 3.175(1/8) | 600(24) | 1.588(1/16) | 37.306(1 15/32) | 356 | 45 700 | 80 600 |
| 40.0(1.57) | 57.150(2 1/4) | 14.288(9/16) | 1.588(1/16) | 4.762(3/16) | 3.175(1/8) | 760(30) | 2.381(3/32) | 40.878(1 39/64) | 500 | 61 400 | 116 000 |
| 40.0(1.57) | 57.150(2 1/4) | 14.288(9/16) | 1.588(1/16) | 4.762(3/16) | 3.175(1/8) | 760(30) | 2.381(3/32) | 40.878(1 39/64) | 500 | 61 400 | 116 000 |
| 46.4(1.83) | 63.500(2 1/2) | 15.875(5/8) | 1.588(1/16) | 6.350(1/4) | 3.175(1/8) | 760(30) | 2.381(3/32) | 51.991(2 3/64) | 892 | 77 600 | 172 000 |
| 46.4(1.83) | 63.500(2 1/2) | 15.875(5/8) | 1.588(1/16) | 6.350(1/4) | 3.175(1/8) | 760(30) | 2.381(3/32) | 51.991(2 3/64) | 892 | 77 600 | 172 000 |
| 52.8(2.08) | 69.850(2 3/4) | 17.462(11/16) | 1.588(1/16) | 6.350(1/4) | 3.175(1/8) | 760(30) | 2.381(3/32) | 59.928(2 23/64) | 1 450 | 111 000 | 239 000 |
| 59.4(2.34) | 88.900(3 1/2) | 19.050(3/4) | 1.588(1/16) | 6.350(1/4) | 3.175(1/8) | 760(30) | 2.381(3/32) | 64.691(2 35/64) | 2 190 | 142 000 | 317 000 |

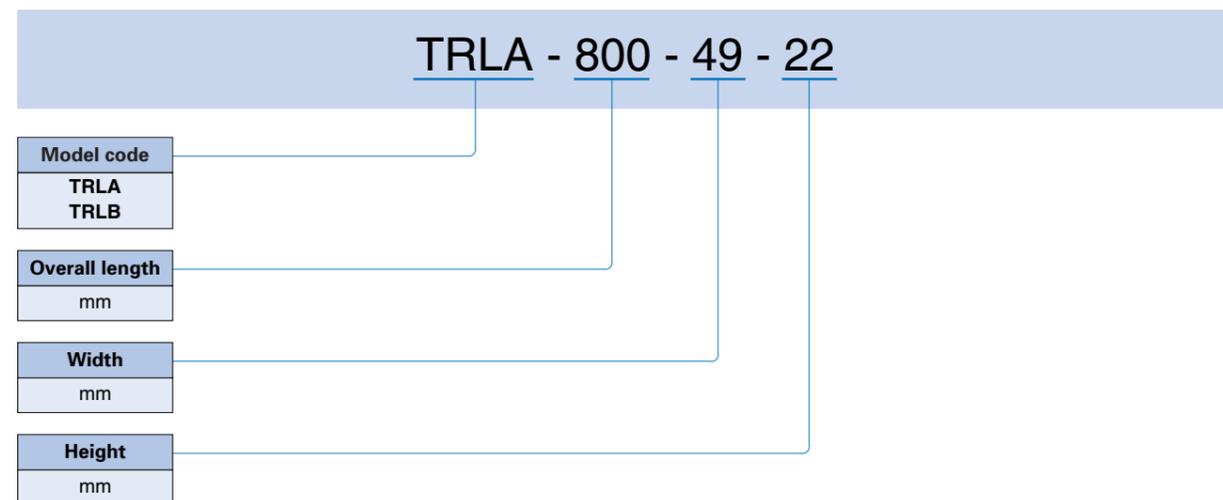
Ready-made Track for Cam Followers

The accuracy of the track, which an outer ring of Cam Followers contacts, greatly influences to the running performance of Cam Followers and equipments. Ready-made Track for Cam Followers is a high precision track, which was designed to achieve the original performance of Cam Followers. It can be easily installed with fixing bolts. Depending on mounting direction, two forms of A type and the B type can be selectable.



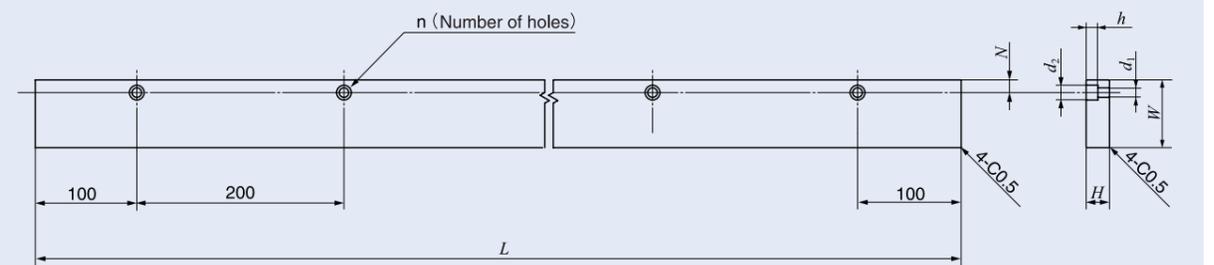
Identification Number

An example of identification number is shown below.



Dimensions

« A type Track »

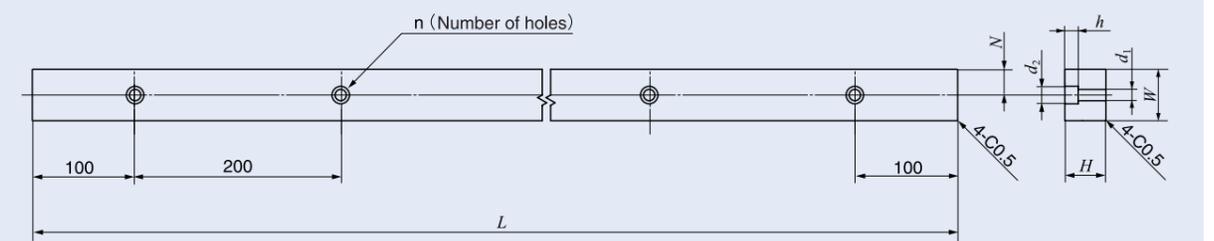


Material : SKS3 or equivalent
Surface hardness : HRC40 or more

| Identification number | Nominal dimensions mm | | | | | | |
|-----------------------|-----------------------|-----|-----|-----|-------|-------|-----|
| | $L(n)$ | W | H | N | d_1 | d_2 | h |
| TRLA- 600-40-22 | 600(3) | 40 | 22 | 12 | 9 | 14 | 11 |
| TRLA- 600-49-22 | | 49 | | | | | |
| TRLA- 600-64-22 | | 64 | | | | | |
| TRLA- 800-40-22 | 800(4) | 40 | | | | | |
| TRLA- 800-49-22 | | 49 | | | | | |
| TRLA- 800-64-22 | | 64 | | | | | |
| TRLA-1000-40-22 | 1000(5) | 40 | | | | | |
| TRLA-1000-49-22 | | 49 | | | | | |
| TRLA-1000-64-22 | | 64 | | | | | |

Remark : When a special track with different dimensions, please consult with

« B type Track »



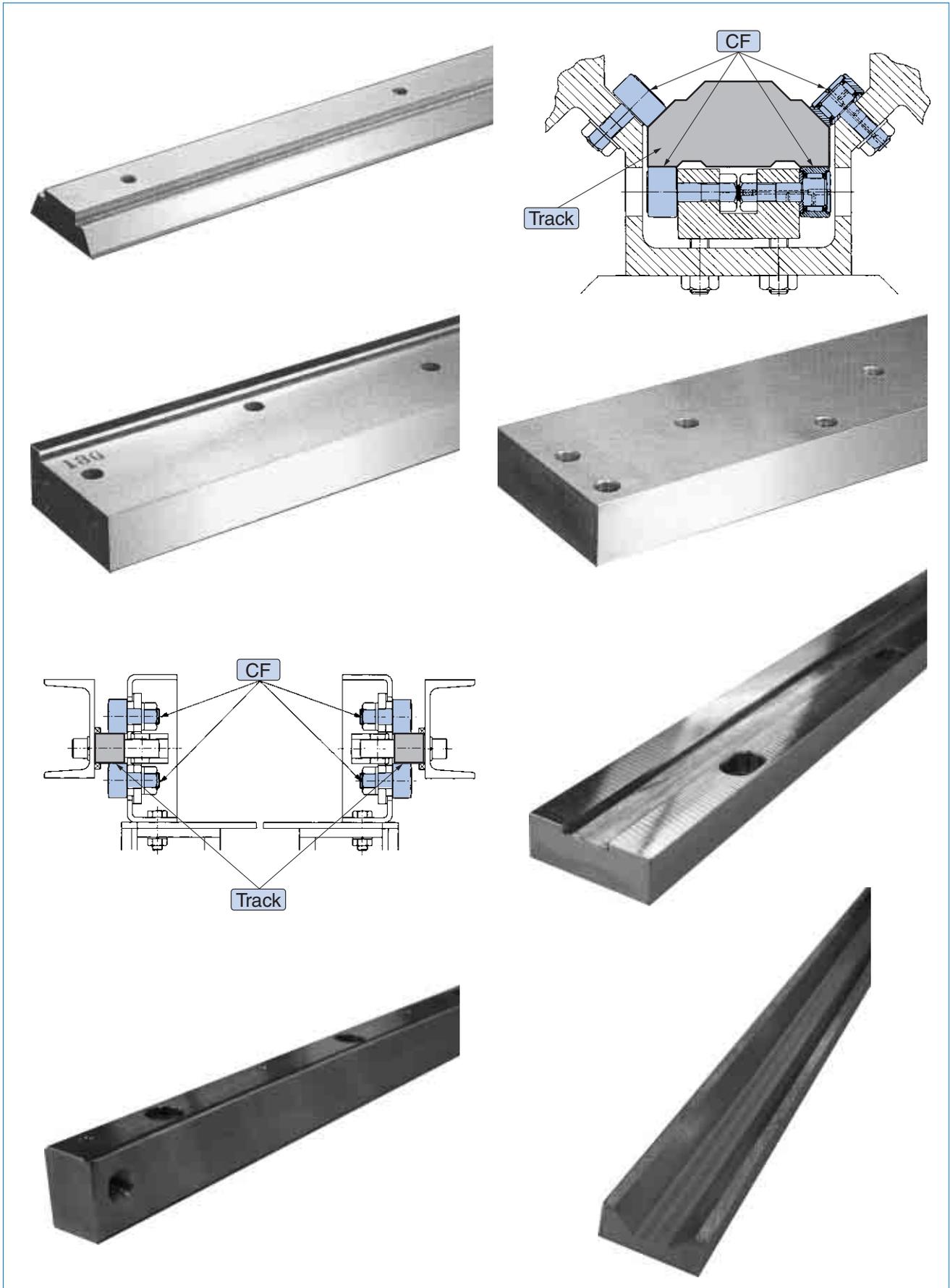
Material : SKS3 or equivalent
Surface hardness : HRC40 or more

| Identification number | Nominal dimensions mm | | | | | | |
|-----------------------|-----------------------|-----|-----|-----|-------|-------|-----|
| | $L(n)$ | W | H | N | d_1 | d_2 | h |
| TRLB- 600-34-22 | 600(3) | 34 | 22 | 17 | 9 | 14 | 11 |
| TRLB- 600-50-40 | | 50 | 40 | 25 | 11 | 17 | 13 |
| TRLB- 800-34-22 | 800(4) | 34 | 22 | 17 | 9 | 14 | 11 |
| TRLB- 800-50-40 | | 50 | 40 | 25 | 11 | 17 | 13 |
| TRLB-1000-34-22 | 1000(5) | 34 | 22 | 17 | 9 | 14 | 11 |
| TRLB-1000-50-40 | | 50 | 40 | 25 | 11 | 17 | 13 |

Remark : When a special track with different dimensions, please consult with

Application Example

Application examples of special track for Cam Followers are shown as below.
When a special track with different dimensions, please consult with **IKO**.



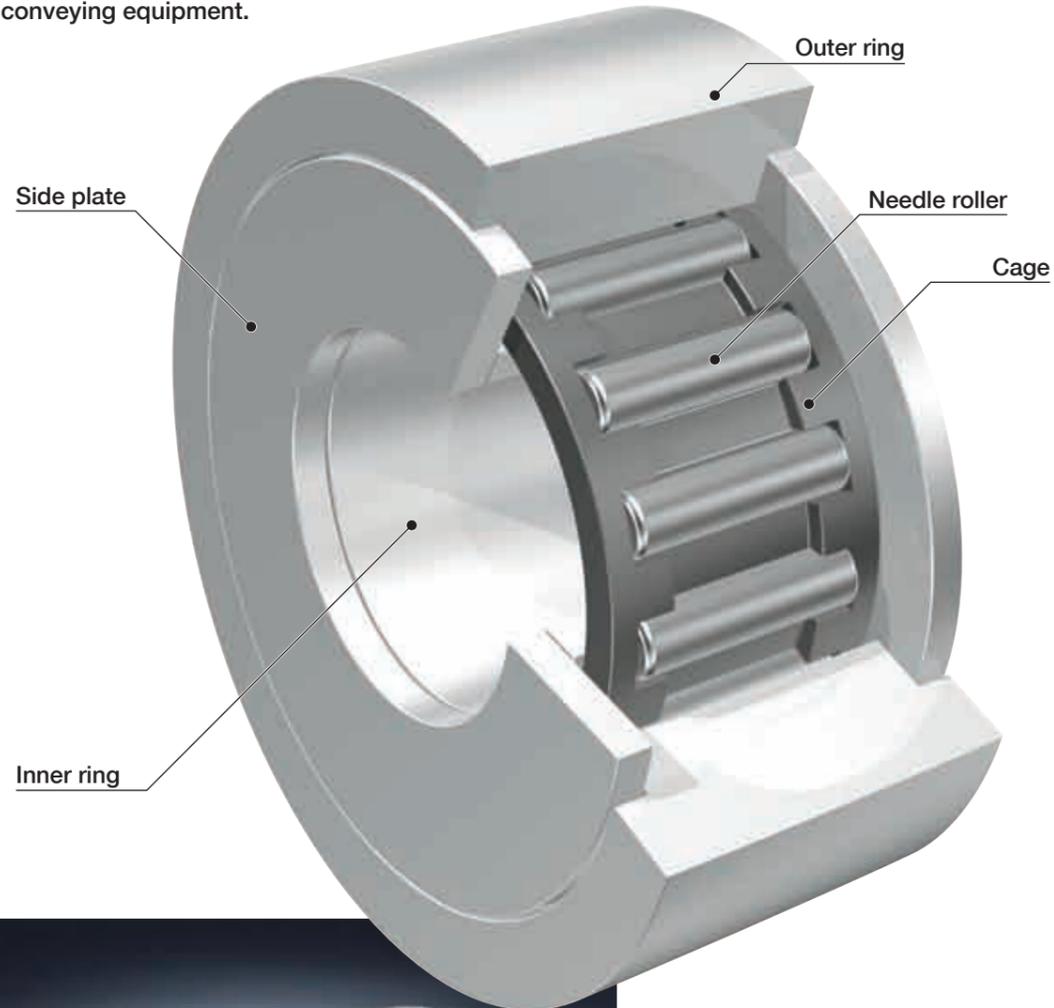


Roller Follower Series

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IKO Roller Followers RoHS compliant

IKO Roller Followers are bearings designed for outer ring rotation, in which needle rollers are incorporated in a thick walled outer ring. Roller Followers include separable and non-separable types. These bearings are available in a variety of types to suit almost any kind of application. They are widely used for cam mechanisms and for linear motions of conveying equipment.



Roller Followers

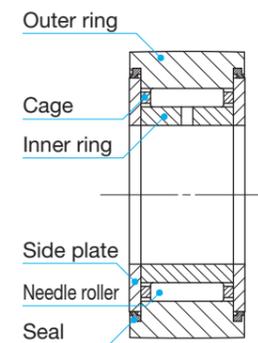


Roller Follower Series with reliability and actual operation results

Separable Roller Followers

NAST

Combining an outer ring, inner ring and Needle Roller Cage, which can be separated from one another, assembles these bearings. Thus, handling is easy. Oil lubrication is also easy, making them suitable for high-speed rotations. There are two types: type without inner ring RNAS and type with inner ring NAST.



Selectable product specifications

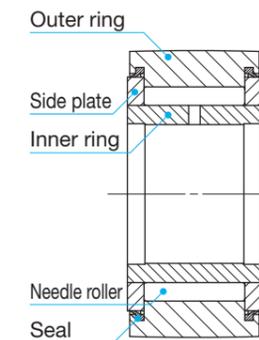
| | | | |
|---------------------|-----------|--|------------------------|
| Roller guide type | No symbol | | Caged |
| | V | | Full complement |
| Seal structure | No symbol | | Open type |
| | ZZ | | Shield type |
| | ZZUU | | Sealed type |
| Shape of outer ring | No symbol | | Cylindrical outer ring |
| | R | | Crowned outer ring |

To page

Non-Separable Roller Followers

NART

These non-separable type bearings have side plates fixed on both sides of the inner ring, and include the caged type and the full complement type.



Selectable product specifications

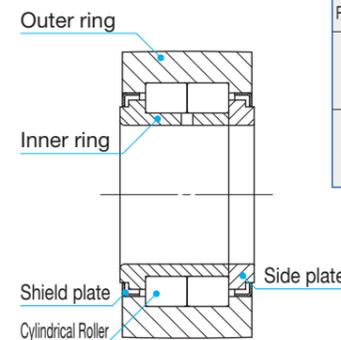
| | | | |
|---------------------|-----------|--|------------------------|
| Roller guide type | No symbol | | Caged |
| | V | | Full complement |
| Seal structure | No symbol | | Shield type |
| | UU | | Sealed type |
| Shape of outer ring | No symbol | | Cylindrical outer ring |
| | R | | Crowned outer ring |

To page

Cylindrical Roller Followers

NURT

These full complement type bearings incorporate cylindrical rollers in the outer ring in two rows and can withstand large radial loads and some axial loads.



Selectable product specifications

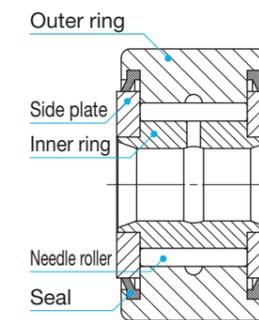
| | | | |
|---------------------|-----------|--|------------------------|
| Roller guide type | No symbol | | Full complement |
| Seal structure | No symbol | | Shield type |
| | UU | | Sealed type |
| Shape of outer ring | No symbol | | Cylindrical outer ring |
| | R | | Crowned outer ring |

To page

Non-Separable Roller Followers, Inch Series

CRY

CRY type is Inch Series of NART series, which has large load capacity, coated with black oxide film treatment.



Selectable product specifications

| | | | |
|---------------------|-----------|--|------------------------|
| Roller guide type | No symbol | | Caged |
| | V | | Full complement |
| Seal structure | No symbol | | Shield type |
| | UU | | Sealed type |
| Shape of outer ring | No symbol | | Cylindrical outer ring |
| | R | | Crowned outer ring |

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Identification Number

Some examples of the identification number of Roller Followers are shown below. For applicable roller guide method, seal structure and shape of outer ring outside surface, refer dimension table of each series.

| Examples of identification number | | | | |
|-----------------------------------|------|----|------|---|
| Example 1 | NAST | 10 | ZZUU | R |
| Example 2 | NART | 10 | V UU | R |
| Example 3 | NURT | 15 | | R |
| Example 4 | CRY | 12 | V UU | R |

| Model code | | | |
|---------------|-------|-------------------------------|--------------------|
| Metric series | RNAST | Separable Roller Follower | Without inner ring |
| | NAST | | With inner ring |
| | NART | Non-separable Roller Follower | |
| | NURT | Cylindrical Roller Follower | |
| Inch series | CRY | Non-separable Roller Follower | |

| Size |
|---|
| The size indicates the bore diameter of the inner ring. (unit: mm) In the inch series, the outer ring outside diameter is indicated in units of 1/16 inch. |

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

| Seal structure (Separable Roller Follower) | |
|--|-------------|
| No symbol | Open type |
| ZZ | Shield type |
| ZZUU | Sealed type |

| Seal structure (Other Roller Follower) | |
|--|-------------|
| No symbol | Shield type |
| UU | Sealed type |

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

Load Rating and Life

Basic dynamic load rating C

The basic dynamic load rating is defined as the constant radial load that 90% of a group of identical Roller Followers can be operated 1,000,000 revolutions individually under the same conditions free from any material damage caused by rolling fatigue.

Basic static load rating C_0

The basic static load rating is the static radial load constant in direction and magnitude that gives the contact stress shown at the center of the contact area of the rolling element and the raceway receiving the maximum load.

Bearing life

Basic rating life is calculated as following formula.

$$L_{10} = \left(\frac{C}{P_r}\right)^{10/3} \dots\dots\dots (1)$$

where, L_{10} : Basic rating life, 10^6 rev.
 C : Basic dynamic load rating, N
 P_r : Dynamic equivalent radial load, N

Accordingly, when the rotational speed per minute is given, the basic rating life is represented as the total service hours according to the following equations:

$$L_h = \frac{10^6 L_{10}}{60n} \dots\dots\dots (2)$$

where, L_h : Basic rating life represented by service hours, h
 n : Rotation speed, min^{-1}

Static Safety factor

The static safety factor f_s is defined as in the following equation and its general values are shown in Table 1.

$$f_s = \frac{C_0}{P_0} \dots\dots\dots (3)$$

where, C_0 : Basic static load rating, N
 P_0 : Static equivalent load, N

Table 1 Static safety factor

| Operating conditions of the bearing | f_s |
|--|------------|
| When high rotational accuracy is required | ≥ 3 |
| For ordinary operation conditions | ≥ 1.5 |
| For ordinary operation conditions not requiring very smooth rotation When there is almost no rotation | ≥ 1 |

Load factor

It is not unusual for the actual Roller Followers loads to exceed the calculated loads, due to vibration and shocks produced when operating the machine. The actual bearing load is obtained by multiplying the calculated load by the load factor shown in Table 2.

Table 2 Load Factor

| Operating conditions | f_w |
|---|-----------|
| Smooth operation without shocks | 1 ~ 1.2 |
| Ordinary operation | 1.2 ~ 1.5 |
| Operation subjected to vibration and shocks | 1.5 ~ 3 |

Maximum Allowable Static Load

The load that is applicable to Roller Followers is, in some cases, determined by the strength of the outer ring rather than by the load rating of the needle roller bearing. Therefore, the maximum allowable load that is limited by the strength of outer ring is specified.

Accuracy

Dimensional accuracy and rotational accuracy of Roller Followers are based on Tables 3, 4.1, 4.2 and 5. Tolerances for the smallest single roller set bore diameter of Separable Roller Followers are shown in Table 5. Roller Followers with special accuracy can also be manufactured. Please contact IKO.

Table 3 Tolerances

unit: μm

| Dimensions and symbols | Series | | Metric series | | Inch series | |
|--------------------------------|-------------------------------|--|--------------------|------------------------|--------------------|------------------------|
| | | | Crowned outer ring | Cylindrical outer ring | Crowned outer ring | Cylindrical outer ring |
| Bore dia. of inner ring d | $d \leq 19.05$ | | See Table 4.1 | | + 5 - 10 | + 5 - 10 |
| | $19.05 < d$ | | | | + 2 - 12 | |
| Outside dia. of outer ring D | | | 0 - 50 | See Table 4.2 | 0 - 50 | See Table 4.3 |
| Width of outer ring C | | | 0 - 120 | | 0 - 130 | |
| Width of inner ring B | Separable Roller Follower | | 0 - 120 | | - | |
| Width of bearing B | Non-separable Roller Follower | | - | | + 130 | |
| | Cylindrical Roller Follower | | h12 | | - 250 | |
| Roller set bore dia. F_w | Separable Roller Follower | | See Table 5. | | - | |

Table 4.1 Tolerances and allowable values of inner rings (Metric series)

unit: μm

| d Nominal bore dia. mm | | Δd_{mp} Single plane mean bore dia. deviation | | V_{dsp} Bore dia. variation in a single radial plane | V_{dmp} Mean bore dia. variation | K_{ia} Radial runout of assembled bearing inner ring | V_{Bs} Width variation |
|--------------------------------|-------|---|------|--|--|---|-----------------------------|
| Over | Incl. | High | Low | (Max.) | (Max.) | (Max.) | (Max.) |
| 2.5 | 10 | 0 | - 8 | 10 | 6 | 10 | 15 |
| 10 | 18 | 0 | - 8 | 10 | 6 | 10 | 20 |
| 18 | 30 | 0 | - 10 | 13 | 8 | 13 | 20 |
| 30 | 50 | 0 | - 12 | 15 | 9 | 15 | 20 |

Table 4.2 Tolerances and allowable values of outer rings (Metric series with Cylindrical outer ring)

unit: μm

| D Nominal outside dia. of outer ring mm | | ΔD_{mp} Single plane mean outside dia. deviation | | V_{Dsp} Outside dia. variation in a single radial plane | V_{Dmp} Mean outside dia. variation | K_{ca} Radial runout of assembled bearing outer ring | V_{Cs} Width variation |
|---|-------|--|------|--|---|---|---|
| Over | Incl. | High | Low | (Max.) | (Max.) | (Max.) | (Max.) |
| 6 | 18 | 0 | - 8 | 10 | 6 | 15 | Same as the tolerance values of V_{Bs} for d of the inner of the same bearing |
| 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 4.3 Tolerances and allowable values of outer ring (Inch series cylindrical outer ring)

unit: μm

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

Table 5 Tolerances of smallest single roller set bore diameter $F_{ws \text{ min}}$

unit: μm

| F_w Nominal roller set bore diameter mm | | $\Delta F_{ws \text{ min}}$ Deviation of smallest single roller set bore diameter | |
|---|-------|---|------|
| Over | Incl. | High | Low |
| 6 | 10 | + 22 | + 13 |
| 10 | 18 | + 27 | + 16 |
| 18 | 30 | + 33 | + 20 |
| 30 | 50 | + 41 | + 25 |
| 50 | 80 | + 49 | + 30 |

Fit

Roller Followers are generally used under the loading conditions in which the load direction is fixed in relation to the inner ring and rotates in relation to the outer ring. The recommended fits for shafts are shown in Table 6. Those for the inch series are shown in the dimension table.

Table 6 Recommended fit (Metric series)

| Type | Tolerance class of shaft | |
|--------------------------------|--------------------------|--------|
| Separable Roller Followers | without inner ring | k5, k6 |
| | with inner ring | g6, h6 |
| Non-separable Roller Followers | | |
| Cylindrical Roller Followers | | |

Clearance

Radial internal clearances of Roller Followers are based on Table 7.

Table 7 Radial internal clearance

unit: μm

| Identification number ⁽¹⁾ | | | | Radial internal clearance | |
|--------------------------------------|--------------------------------|------------------------------|--------------------------------|---------------------------|------|
| Metric series | | | Inch series | Min. | Max. |
| Separable Roller Followers | Non-separable Roller Followers | Cylindrical Roller Followers | Non-separable Roller Followers | | |
| NAST 6R | NART 5R | - | - | 5 | 20 |
| NAST 8R ~ NAST12R | NART 6R ~ NART12R | - | - | 5 | 25 |
| NAST15R ~ NAST25R | NART15R ~ NART20R | - | - | 10 | 30 |
| NAST30R ~ NAST40R | NART25R ~ NART40R | - | - | 10 | 40 |
| NAST45R, NAST50R | NART45R, NART50R | - | - | 15 | 50 |
| - | - | NURT15R ~ NURT30-1R | - | 20 | 45 |
| - | - | NURT35R ~ NURT40-1R | - | 25 | 50 |
| - | - | NURT45R ~ NURT50-1R | - | 30 | 60 |
| - | - | - | CRY12R ~ CRY56R | 35 | 60 |
| - | - | - | CRY64R | 45 | 70 |

Note⁽¹⁾ Also applicable to the full complement type, cylindrical outer ring type, shield type and sealed type.

Track Capacity

Track capacity is defined as the load that can be continuously applied on a Roller Follower placed on a steel track surface without causing deformation and indentation on the track surface when the outer ring of the Roller Follower makes contact with the mating track surface (plane). The track capacities shown in Tables 8.1 and 8.2 are applicable when the hardness of the mating track surface is 40HRC (Tensile strength 1250N/mm²). When the hardness of the mating track surface differs from 40HRC, the track capacity is

obtained by multiplying the value by the track capacity factor shown in Table 9. If lubrication between the outer ring and the mating track surface is insufficient, seizure and/or wear may occur depending on the application. Therefore, pay attention to lubrication and surface roughness of the mating track especially in the case of high-speed rotation such as for cam mechanisms.

Table 8.1 Track capacity (Metric series)

| Roller Followers with crowned outer ring | | | | Roller Followers with cylindrical outer ring | | | | | |
|--|--------------------------------|------------------------------|----------------|--|----------------|--------------------------------------|----------------|-----------------------|----------------|
| Identification number ⁽¹⁾ | | | Track capacity | Identification number | Track capacity | Identification number ⁽²⁾ | Track capacity | Identification number | Track capacity |
| Separable Roller Followers | Non-separable Roller Followers | Cylindrical Roller Followers | | | | | | | |
| RNAST 5R | NART 5R | — | 1 040 | RNAST 5 | 2 310 | — | — | — | — |
| (R)NAST 6R | NART 6R | — | 1 330 | (R)NAST 6 | 3 550 | NAST 6ZZ | 3 550 | — | — |
| (R)NAST 8R | NART 8R | — | 1 850 | (R)NAST 8 | 3 980 | NAST 8ZZ | 4 490 | — | — |
| (R)NAST10R | NART10R | — | 2 470 | (R)NAST10 | 5 610 | NAST10ZZ | 6 890 | — | — |
| (R)NAST12R | NART12R | — | 2 710 | (R)NAST12 | 5 990 | NAST12ZZ | 7 350 | — | — |
| (R)NAST15R | NART15R | NURT15 R | 3 060 | (R)NAST15 | 6 550 | NAST15ZZ | 8 030 | NURT 15 | 11 500 |
| — | — | NURT15-1R | 3 910 | — | — | — | — | NURT 15-1 | 13 700 |
| (R)NAST17R | NART17R | NURT17 R | 3 660 | (R)NAST17 | 10 900 | NAST17ZZ | 11 700 | NURT 17 | 13 600 |
| — | — | NURT17-1R | 4 530 | — | — | — | — | NURT 17-1 | 16 000 |
| (R)NAST20R | NART20R | NURT20 R | 4 530 | (R)NAST20 | 12 800 | NAST20ZZ | 13 800 | NURT 20 | 20 000 |
| — | — | NURT20-1R | 5 190 | — | — | — | — | NURT 20-1 | 22 100 |
| (R)NAST25R | NART25R | NURT25 R | 5 190 | (R)NAST25 | 14 100 | NAST25ZZ | 15 300 | NURT 25 | 22 100 |
| — | — | NURT25-1R | 6 580 | — | — | — | — | NURT 25-1 | 26 400 |
| (R)NAST30R | NART30R | NURT30 R | 6 580 | (R)NAST30 | 22 100 | NAST30ZZ | 22 100 | NURT 30 | 31 600 |
| — | — | NURT30-1R | 8 020 | — | — | — | — | NURT 30-1 | 36 700 |
| (R)NAST35R | NART35R | NURT35 R | 8 020 | (R)NAST35 | 25 700 | NAST35ZZ | 25 700 | NURT 35 | 36 700 |
| — | — | NURT35-1R | 9 220 | — | — | — | — | NURT 35-1 | 40 800 |
| (R)NAST40R | NART40R | NURT40 R | 9 220 | (R)NAST40 | 26 900 | NAST40ZZ | 30 300 | NURT 40 | 44 200 |
| — | — | NURT40-1R | 10 800 | — | — | — | — | NURT 40-1 | 49 700 |
| (R)NAST45R | NART45R | NURT45 R | 9 990 | (R)NAST45 | 28 500 | NAST45ZZ | 32 200 | NURT 45 | 47 000 |
| — | — | NURT45-1R | 12 400 | — | — | — | — | NURT 45-1 | 55 300 |
| (R)NAST50R | NART50R | NURT50 R | 10 800 | (R)NAST50 | 30 200 | NAST50ZZ | 34 000 | NURT 50 | 49 700 |
| — | — | NURT50-1R | 14 000 | — | — | — | — | NURT 50-1 | 60 800 |

Notes⁽¹⁾ Also applicable to the full complement type, shield type, and sealed type.
⁽²⁾ Also applicable to the sealed type.

Table 8.2 Track capacity (Inch series)

| Crowned outer ring | | Cylindrical outer ring | |
|--------------------------------------|----------------|--------------------------------------|----------------|
| Identification number ⁽¹⁾ | Track capacity | Identification number ⁽¹⁾ | Track capacity |
| CRY12 R | 853 | CRY12 | 4 490 |
| CRY14 R | 1 050 | CRY14 | 5 240 |
| CRY16 R | 1 420 | CRY16 | 7 270 |
| CRY18 R | 1 660 | CRY18 | 7 700 |
| CRY20 R | 2 160 | CRY20 | 10 700 |
| CRY22 R | 2 450 | CRY22 | 11 800 |
| CRY24 R | 3 410 | CRY24 | 15 400 |
| CRY26 R | 3 820 | CRY26 | 16 700 |
| CRY28 R | 4 210 | CRY28 | 21 000 |
| CRY30 R | 4 610 | CRY30 | 22 500 |
| CRY32 R | 5 690 | CRY32 | 30 800 |
| CRY36 R | 6 640 | CRY36 | 34 700 |
| CRY40 R | 8 970 | CRY40 | 44 900 |
| CRY44 R | 10 200 | CRY44 | 49 400 |
| CRY48 R | 11 400 | CRY48 | 64 300 |
| CRY52 R | 12 700 | CRY52 | 69 600 |
| CRY56 R | 14 100 | CRY56 | 87 000 |
| CRY64 R | 16 800 | CRY64 | 113 000 |

Note⁽¹⁾ Also applicable to the sealed type.

Table 9 Track capacity factor

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

Allowable Rotational Speed

The allowable rotational speed of Roller Followers is affected by mounting and operating conditions. For reference, Table 10 shows *dn* values when only pure radial loads are applied. Under actual operating conditions, the recommended *dn* value is 1/10 of the value shown in the table in consideration of the axial loads that may act on the bearing.

Table 10 *dn* values of Roller Followers⁽¹⁾

| Type | Lubricant | Grease | Oil |
|-----------------------------|-----------|--------|---------|
| Caged type | | 84 000 | 140 000 |
| Full complement type | | 42 000 | 70 000 |
| Cylindrical Roller Follower | | 72 000 | 120 000 |

Note⁽¹⁾ *dn* value = *d* × *n*
 where, *d* : Bore diameter of bearing mm
n : Rotational speed rpm

Lubrication

In Sealed Type Roller Followers, Cylindrical Roller Followers and Inch series Roller Followers, ALVANIA GREASE S2 (SHELL) is prepacked as the lubricating grease. For Roller Followers without prepacked grease, grease or oil should be supplied through the oil hole of the inner ring for use. If they are used without lubrication, wear of rolling contact surfaces may take place, leading to a short bearing life.

Oil Hole

Open Type Separable Roller Followers have no oil hole. Inner rings of other types of Metric series Roller Followers have an oil hole. Inch series inner rings have an oil groove and an oil hole.

Mounting

- In case of shield and sealed types, match the side surface correctly to the mating seating surface indicated by the dimension *a* shown in the dimension table, and fix them. (See Fig. 1.)
- When mounting Roller Followers, pay special attention to avoid locating the oil hole of the inner ring within the loading zone. This may lead to a short bearing life. (See Fig. 2.)
- When mounting Sealed Type Separable Roller Followers, do not cause the side plates to come off. If they come off, set them again in place taking care to avoid damaging the seal lips.

- In case of Roller Followers without an inner ring, the shaft requires heat treatment and grinding finish. The recommended surface hardness of the shaft is 58 ~ 64HRC, and the recommended roughness of the shaft is 0.2 μmR_a or less.

Also, the outer ring and cage are guided by side surfaces of the mounting parts. Therefore, it is recommended that the side surfaces of the mounting parts be finished by grinding or at least by machining. (See Fig. 3.)

- In Non-separable Roller Followers, the side plates are press-fitted. Therefore, when mounting the Roller Followers, do not push the side plates.

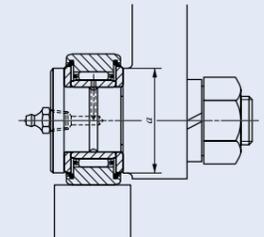


Fig. 1 Mating seating dimension "a"

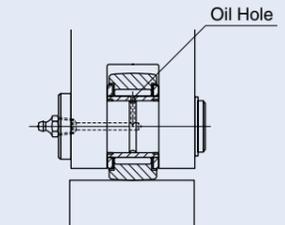


Fig. 2 Position of oil hole and load direction

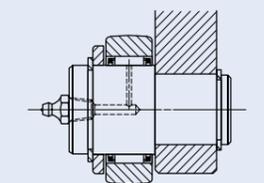
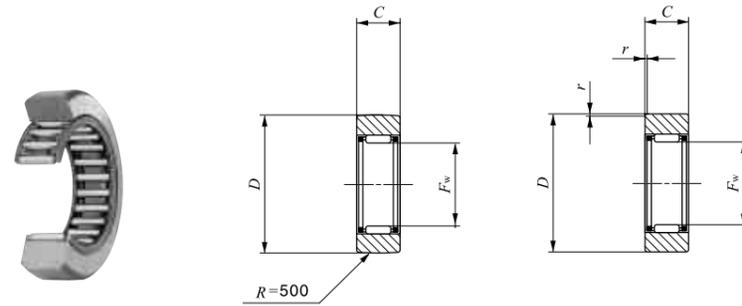


Fig. 3 Mounting example of Roller Follower without inner ring

IKO Separable Roller Followers, Open Type With Cage/Without Inner Ring

Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Open type |
| | ZZ | Shield type |
| | ZZUU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



RNAS...R

RNAST

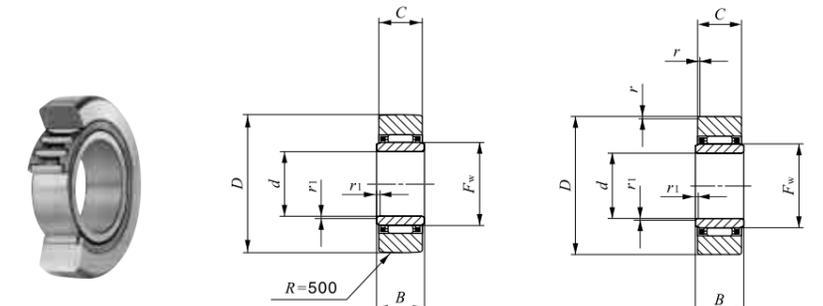
| Shaft dia. mm | Identification number | | Mass (Ref.) g | Boundary dimensions mm | | | | Basic dynamic load rating C N | Basic static load rating C ₀ N |
|------------------|-----------------------|------------------------|---------------------|------------------------|----|------|--|--|--|
| | Open type | | | F _w | D | C | r ⁽¹⁾ r _{s min} | | |
| | Crowned outer ring | Cylindrical outer ring | | | | | | | |
| 7 | RNAST 5 R | RNAST 5 | 8.9 | 7 | 16 | 7.8 | 0.3 | 2 710 | 2 390 |
| 10 | RNAST 6 R | RNAST 6 | 13.9 | 10 | 19 | 9.8 | 0.3 | 4 160 | 4 550 |
| 12 | RNAST 8 R | RNAST 8 | 23.5 | 12 | 24 | 9.8 | 0.6 | 5 650 | 5 890 |
| 14 | RNAST 10 R | RNAST 10 | 42.5 | 14 | 30 | 11.8 | 1 | 9 790 | 9 680 |
| 16 | RNAST 12 R | RNAST 12 | 49.5 | 16 | 32 | 11.8 | 1 | 10 500 | 10 900 |
| 20 | RNAST 15 R | RNAST 15 | 50 | 20 | 35 | 11.8 | 1 | 12 400 | 14 300 |
| 22 | RNAST 17 R | RNAST 17 | 90 | 22 | 40 | 15.8 | 1 | 17 600 | 20 900 |
| 25 | RNAST 20 R | RNAST 20 | 135 | 25 | 47 | 15.8 | 1 | 19 400 | 24 500 |
| 30 | RNAST 25 R | RNAST 25 | 152 | 30 | 52 | 15.8 | 1 | 20 800 | 28 400 |
| 38 | RNAST 30 R | RNAST 30 | 255 | 38 | 62 | 19.8 | 1 | 30 500 | 45 400 |
| 42 | RNAST 35 R | RNAST 35 | 375 | 42 | 72 | 19.8 | 1 | 32 400 | 50 600 |
| 50 | RNAST 40 R | RNAST 40 | 420 | 50 | 80 | 19.8 | 1.5 | 35 900 | 61 100 |
| 55 | RNAST 45 R | RNAST 45 | 460 | 55 | 85 | 19.8 | 1.5 | 37 400 | 66 400 |
| 60 | RNAST 50 R | RNAST 50 | 500 | 60 | 90 | 19.8 | 1.5 | 38 900 | 71 700 |

Note(1) Minimum allowable value of chamfer dimension r
 Remarks1. No oil hole is provided.
 2. Not provided with prepacked grease. Perform proper lubrication for use.

IKO Separable Roller Followers, Open Type With Cage/With Inner Ring

Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Open type |
| | ZZ | Shield type |
| | ZZUU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



NAST...R

NAST

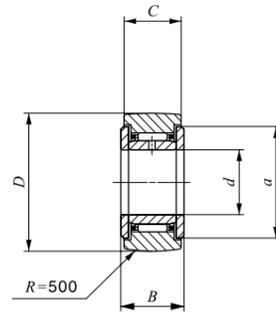
| Shaft dia. mm | Identification number | | Mass (Ref.) g | Boundary dimensions mm | | | | | | | Basic dynamic load rating C N | Basic static load rating C ₀ N | Assembled inner ring |
|------------------|-----------------------|------------------------|---------------------|------------------------|----|----|------|--|---|----------------|--|--|-------------------------|
| | Open type | | | d | D | B | C | r ⁽¹⁾ r _{s min} | r ⁽¹⁾ r _{1s min} | F _w | | | |
| | Crowned outer ring | Cylindrical outer ring | | | | | | | | | | | |
| 6 | NAST 6 R | NAST 6 | 17.8 | 6 | 19 | 10 | 9.8 | 0.3 | 0.3 | 10 | 4 160 | 4 550 | LRT 61010 S |
| 8 | NAST 8 R | NAST 8 | 28 | 8 | 24 | 10 | 9.8 | 0.6 | 0.3 | 12 | 5 650 | 5 890 | LRT 81210 S |
| 10 | NAST 10 R | NAST 10 | 49.5 | 10 | 30 | 12 | 11.8 | 1 | 0.3 | 14 | 9 790 | 9 680 | LRT 101412 S |
| 12 | NAST 12 R | NAST 12 | 58 | 12 | 32 | 12 | 11.8 | 1 | 0.3 | 16 | 10 500 | 10 900 | LRT 121612 S |
| 15 | NAST 15 R | NAST 15 | 62 | 15 | 35 | 12 | 11.8 | 1 | 0.3 | 20 | 12 400 | 14 300 | LRT 152012 S |
| 17 | NAST 17 R | NAST 17 | 109 | 17 | 40 | 16 | 15.8 | 1 | 0.3 | 22 | 17 600 | 20 900 | LRT 172216 S |
| 20 | NAST 20 R | NAST 20 | 157 | 20 | 47 | 16 | 15.8 | 1 | 0.3 | 25 | 19 400 | 24 500 | LRT 202516 S |
| 25 | NAST 25 R | NAST 25 | 180 | 25 | 52 | 16 | 15.8 | 1 | 0.3 | 30 | 20 800 | 28 400 | LRT 253016 S |
| 30 | NAST 30 R | NAST 30 | 320 | 30 | 62 | 20 | 19.8 | 1 | 0.6 | 38 | 30 500 | 45 400 | LRT 303820 S |
| 35 | NAST 35 R | NAST 35 | 440 | 35 | 72 | 20 | 19.8 | 1 | 0.6 | 42 | 32 400 | 50 600 | LRT 354220 S |
| 40 | NAST 40 R | NAST 40 | 530 | 40 | 80 | 20 | 19.8 | 1.5 | 1 | 50 | 35 900 | 61 100 | LRT 405020 S |
| 45 | NAST 45 R | NAST 45 | 580 | 45 | 85 | 20 | 19.8 | 1.5 | 1 | 55 | 37 400 | 66 400 | LRT 455520 S |
| 50 | NAST 50 R | NAST 50 | 635 | 50 | 90 | 20 | 19.8 | 1.5 | 1 | 60 | 38 900 | 71 700 | LRT 506020 S |

Note(1) Minimum allowable value of chamfer dimension r or r₁
 Remarks1. No oil hole is provided.
 2. Not provided with prepacked grease. Perform proper lubrication for use.

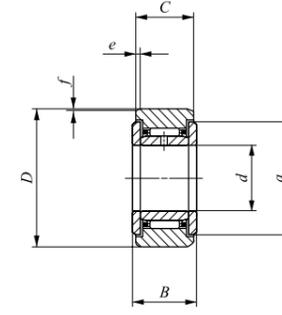
IKO Separable Roller Followers, Shield Type With Cage/With Inner Ring
IKO Separable Roller Followers, Sealed Type With Cage/With Inner Ring

Selectable product specifications

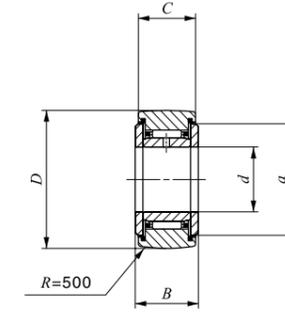
| | | |
|---------------------|-----------|------------------------|
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Open type |
| | ZZ | Shield type |
| | ZZUU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



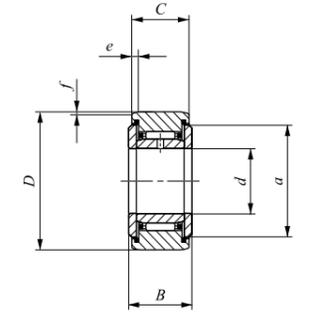
NAST...ZZR



NAST...ZZ



NAST...ZZUUR



NAST...ZZUU

| Shaft dia. mm | Identification number | | | | Mass (Ref.) g |
|------------------|-----------------------|------------------------|--------------------|------------------------|---------------------|
| | Shield type | | Sealed type | | |
| | Crowned outer ring | Cylindrical outer ring | Crowned outer ring | Cylindrical outer ring | |
| 6 | NAST 6 ZZR | NAST 6 ZZ | NAST 6 ZZUUR | NAST 6 ZZUU | 24.5 |
| 8 | NAST 8 ZZR | NAST 8 ZZ | NAST 8 ZZUUR | NAST 8 ZZUU | 39 |
| 10 | NAST 10 ZZR | NAST 10 ZZ | NAST 10 ZZUUR | NAST 10 ZZUU | 65 |
| 12 | NAST 12 ZZR | NAST 12 ZZ | NAST 12 ZZUUR | NAST 12 ZZUU | 75 |
| 15 | NAST 15 ZZR | NAST 15 ZZ | NAST 15 ZZUUR | NAST 15 ZZUU | 83 |
| 17 | NAST 17 ZZR | NAST 17 ZZ | NAST 17 ZZUUR | NAST 17 ZZUU | 135 |
| 20 | NAST 20 ZZR | NAST 20 ZZ | NAST 20 ZZUUR | NAST 20 ZZUU | 195 |
| 25 | NAST 25 ZZR | NAST 25 ZZ | NAST 25 ZZUUR | NAST 25 ZZUU | 225 |
| 30 | NAST 30 ZZR | NAST 30 ZZ | NAST 30 ZZUUR | NAST 30 ZZUU | 400 |
| 35 | NAST 35 ZZR | NAST 35 ZZ | NAST 35 ZZUUR | NAST 35 ZZUU | 550 |
| 40 | NAST 40 ZZR | NAST 40 ZZ | NAST 40 ZZUUR | NAST 40 ZZUU | 710 |
| 45 | NAST 45 ZZR | NAST 45 ZZ | NAST 45 ZZUUR | NAST 45 ZZUU | 760 |
| 50 | NAST 50 ZZR | NAST 50 ZZ | NAST 50 ZZUUR | NAST 50 ZZUU | 830 |

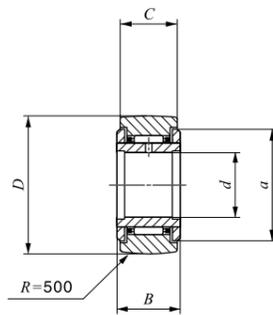
Remarks1. The inner ring has an oil hole.
 2. The sealed type is provided with prepacked grease. The shield type is not provided with prepacked grease. Perform proper lubrication for use.

| Boundary dimensions mm | | | | | | | Basic dynamic load rating C N | Basic static load rating C ₀ N |
|------------------------|----|----|------|------|-----|-----|--|--|
| d | D | B | C | a | e | f | | |
| 6 | 19 | 14 | 13.8 | 14 | 2.5 | 0.8 | 4 160 | 4 550 |
| 8 | 24 | 14 | 13.8 | 17.5 | 2.5 | 0.8 | 5 650 | 5 890 |
| 10 | 30 | 16 | 15.8 | 23.5 | 2.5 | 0.8 | 9 790 | 9 680 |
| 12 | 32 | 16 | 15.8 | 25.5 | 2.5 | 0.8 | 10 500 | 10 900 |
| 15 | 35 | 16 | 15.8 | 29 | 2.5 | 0.8 | 12 400 | 14 300 |
| 17 | 40 | 20 | 19.8 | 32.5 | 3 | 1 | 17 600 | 20 900 |
| 20 | 47 | 20 | 19.8 | 38 | 3 | 1 | 19 400 | 24 500 |
| 25 | 52 | 20 | 19.8 | 43 | 3 | 1 | 20 800 | 28 400 |
| 30 | 62 | 25 | 24.8 | 50.5 | 4 | 1.2 | 30 500 | 45 400 |
| 35 | 72 | 25 | 24.8 | 53.5 | 4 | 1.2 | 32 400 | 50 600 |
| 40 | 80 | 26 | 25.8 | 61.5 | 4 | 1.2 | 35 900 | 61 100 |
| 45 | 85 | 26 | 25.8 | 66.5 | 4 | 1.2 | 37 400 | 66 400 |
| 50 | 90 | 26 | 25.8 | 76 | 4 | 1.2 | 38 900 | 71 700 |

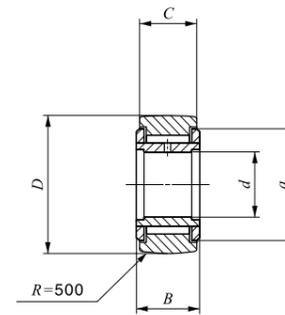
IKO Non-separable Roller Followers With Cage/With Inner Ring
Full Complement Type/With Inner Ring

Selectable product specifications

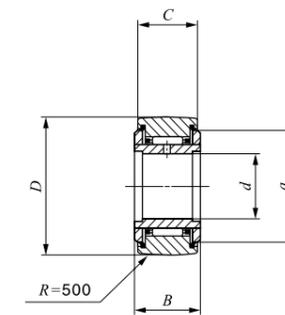
| | | |
|---------------------|-----------|------------------------|
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



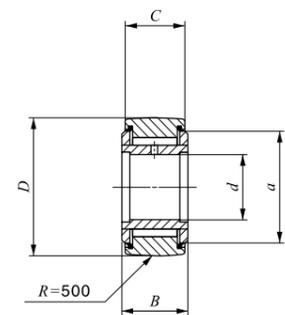
NART...R



NART...VR



NART...UUR



NART...VUUR

| Shaft dia. mm | Identification number | | | | Mass (Ref.) g |
|------------------|-----------------------------------|-----------------|-----------------------------------|-----------------|---------------------|
| | Shield type Crowned outer ring | | Sealed type Crowned outer ring | | |
| | With cage | Full complement | With cage | Full complement | |
| 5 | NART 5 R | — | NART 5 UUR | — | 14.5 |
| | — | NART 5 VR | — | NART 5 VUUR | 15.1 |
| 6 | NART 6 R | — | NART 6 UUR | — | 20.5 |
| | — | NART 6 VR | — | NART 6 VUUR | 21.5 |
| 8 | NART 8 R | — | NART 8 UUR | — | 41.5 |
| | — | NART 8 VR | — | NART 8 VUUR | 42.5 |
| 10 | NART 10 R | — | NART 10 UUR | — | 64.5 |
| | — | NART 10 VR | — | NART 10 VUUR | 66.5 |
| 12 | NART 12 R | — | NART 12 UUR | — | 71 |
| | — | NART 12 VR | — | NART 12 VUUR | 73 |
| 15 | NART 15 R | — | NART 15 UUR | — | 102 |
| | — | NART 15 VR | — | NART 15 VUUR | 106 |
| 17 | NART 17 R | — | NART 17 UUR | — | 149 |
| | — | NART 17 VR | — | NART 17 VUUR | 155 |
| 20 | NART 20 R | — | NART 20 UUR | — | 250 |
| | — | NART 20 VR | — | NART 20 VUUR | 255 |
| 25 | NART 25 R | — | NART 25 UUR | — | 285 |
| | — | NART 25 VR | — | NART 25 VUUR | 295 |
| 30 | NART 30 R | — | NART 30 UUR | — | 470 |
| | — | NART 30 VR | — | NART 30 VUUR | 485 |
| 35 | NART 35 R | — | NART 35 UUR | — | 640 |
| | — | NART 35 VR | — | NART 35 VUUR | 655 |
| 40 | NART 40 R | — | NART 40 UUR | — | 845 |
| | — | NART 40 VR | — | NART 40 VUUR | 865 |
| 45 | NART 45 R | — | NART 45 UUR | — | 915 |
| | — | NART 45 VR | — | NART 45 VUUR | 935 |
| 50 | NART 50 R | — | NART 50 UUR | — | 980 |
| | — | NART 50 VR | — | NART 50 VUUR | 1 010 |

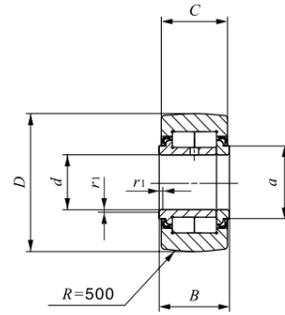
Remarks1. The inner ring has an oil hole.
2. The sealed type is provided with prepacked grease. The shield type is not provided with prepacked grease. Perform proper lubrication for use.

| Boundary dimensions mm | | | | | Basic dynamic load rating C N | Basic static load rating C ₀ N | Maximum allowable static load N |
|------------------------|----|----|----|------|--|--|--|
| d | D | B | C | a | | | |
| 5 | 16 | 12 | 11 | 12 | 3 650 | 3 680 | 3 680 |
| 5 | 16 | 12 | 11 | 12 | 6 810 | 8 370 | 7 310 |
| 6 | 19 | 12 | 11 | 14 | 4 250 | 4 740 | 4 740 |
| 6 | 19 | 12 | 11 | 14 | 7 690 | 10 300 | 10 300 |
| 8 | 24 | 15 | 14 | 17.5 | 5 640 | 5 900 | 5 900 |
| 8 | 24 | 15 | 14 | 17.5 | 11 800 | 15 600 | 15 600 |
| 10 | 30 | 15 | 14 | 23.5 | 8 030 | 7 540 | 7 540 |
| 10 | 30 | 15 | 14 | 23.5 | 15 600 | 18 100 | 17 500 |
| 12 | 32 | 15 | 14 | 25.5 | 8 580 | 8 470 | 8 470 |
| 12 | 32 | 15 | 14 | 25.5 | 16 800 | 20 500 | 18 600 |
| 15 | 35 | 19 | 18 | 29 | 13 700 | 16 400 | 16 400 |
| 15 | 35 | 19 | 18 | 29 | 25 200 | 36 400 | 24 000 |
| 17 | 40 | 21 | 20 | 32.5 | 17 600 | 21 000 | 21 000 |
| 17 | 40 | 21 | 20 | 32.5 | 32 000 | 46 300 | 33 100 |
| 20 | 47 | 25 | 24 | 38 | 23 000 | 30 700 | 30 700 |
| 20 | 47 | 25 | 24 | 38 | 41 600 | 67 300 | 67 300 |
| 25 | 52 | 25 | 24 | 43 | 24 700 | 35 400 | 35 400 |
| 25 | 52 | 25 | 24 | 43 | 45 500 | 79 100 | 79 100 |
| 30 | 62 | 29 | 28 | 50.5 | 33 600 | 51 400 | 51 400 |
| 30 | 62 | 29 | 28 | 50.5 | 59 900 | 110 000 | 92 500 |
| 35 | 72 | 29 | 28 | 53.5 | 35 700 | 57 400 | 57 400 |
| 35 | 72 | 29 | 28 | 53.5 | 63 100 | 121 000 | 121 000 |
| 40 | 80 | 32 | 30 | 61.5 | 44 900 | 81 500 | 81 500 |
| 40 | 80 | 32 | 30 | 61.5 | 76 300 | 164 000 | 164 000 |
| 45 | 85 | 32 | 30 | 66.5 | 46 800 | 88 600 | 88 600 |
| 45 | 85 | 32 | 30 | 66.5 | 80 300 | 181 000 | 181 000 |
| 50 | 90 | 32 | 30 | 76 | 48 600 | 95 600 | 95 600 |
| 50 | 90 | 32 | 30 | 76 | 84 300 | 198 000 | 198 000 |

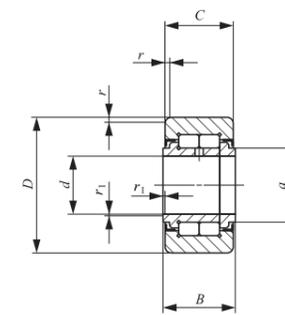
IKO Cylindrical Roller Followers Full Complement Type/With Inner Ring

Selectable product specifications

| | | |
|---------------------|-----------|------------------------|
| Roller guide type | No symbol | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



NURT...R



NURT

| Shaft dia. mm | Identification number | | Mass (Ref.) g | Boundary dimensions mm | | | | |
|------------------|-----------------------|------------------------|---------------------|------------------------|----------|----------|----------|----------|
| | Crowned outer ring | Cylindrical outer ring | | <i>d</i> | <i>D</i> | <i>B</i> | <i>C</i> | <i>a</i> |
| 15 | NURT 15 R | NURT 15 | 100 | 15 | 35 | 19 | 18 | 20 |
| | NURT 15-1 R | NURT 15-1 | 160 | 15 | 42 | 19 | 18 | 20 |
| 17 | NURT 17 R | NURT 17 | 147 | 17 | 40 | 21 | 20 | 22 |
| | NURT 17-1 R | NURT 17-1 | 222 | 17 | 47 | 21 | 20 | 22 |
| 20 | NURT 20 R | NURT 20 | 245 | 20 | 47 | 25 | 24 | 27 |
| | NURT 20-1 R | NURT 20-1 | 321 | 20 | 52 | 25 | 24 | 27 |
| 25 | NURT 25 R | NURT 25 | 281 | 25 | 52 | 25 | 24 | 31 |
| | NURT 25-1 R | NURT 25-1 | 450 | 25 | 62 | 25 | 24 | 31 |
| 30 | NURT 30 R | NURT 30 | 466 | 30 | 62 | 29 | 28 | 38 |
| | NURT 30-1 R | NURT 30-1 | 697 | 30 | 72 | 29 | 28 | 38 |
| 35 | NURT 35 R | NURT 35 | 630 | 35 | 72 | 29 | 28 | 44 |
| | NURT 35-1 R | NURT 35-1 | 840 | 35 | 80 | 29 | 28 | 44 |
| 40 | NURT 40 R | NURT 40 | 817 | 40 | 80 | 32 | 30 | 49 |
| | NURT 40-1 R | NURT 40-1 | 1 130 | 40 | 90 | 32 | 30 | 49 |
| 45 | NURT 45 R | NURT 45 | 883 | 45 | 85 | 32 | 30 | 53 |
| | NURT 45-1 R | NURT 45-1 | 1 400 | 45 | 100 | 32 | 30 | 53 |
| 50 | NURT 50 R | NURT 50 | 950 | 50 | 90 | 32 | 30 | 58 |
| | NURT 50-1 R | NURT 50-1 | 1 690 | 50 | 110 | 32 | 30 | 58 |

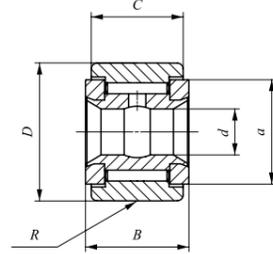
Note(1) Minimum allowable value of chamfer dimension *r* or *r*₁
 Remarks1. The inner ring has an oil hole.
 2. Provided with prepacked grease.

| ⁽¹⁾ <i>r</i> _{s min} | ⁽¹⁾ <i>r</i> _{1s min} | Basic dynamic load rating <i>C</i> | Basic static load rating <i>C</i> ₀ | Maximum allowable static load |
|---|--|--|--|-------------------------------------|
| | | N | N | N |
| 0.6 | 0.3 | 23 400 | 27 300 | 11 800 |
| 0.6 | 0.3 | 23 400 | 27 300 | 27 300 |
| 1 | 0.3 | 25 200 | 30 900 | 20 300 |
| 1 | 0.3 | 25 200 | 30 900 | 30 900 |
| 1 | 0.3 | 38 900 | 49 000 | 27 200 |
| 1 | 0.3 | 38 900 | 49 000 | 49 000 |
| 1 | 0.3 | 43 100 | 58 100 | 30 000 |
| 1 | 0.3 | 43 100 | 58 100 | 58 100 |
| 1 | 0.3 | 58 200 | 75 300 | 35 200 |
| 1 | 0.3 | 58 200 | 75 300 | 75 300 |
| 1 | 0.6 | 63 900 | 88 800 | 57 000 |
| 1 | 0.6 | 63 900 | 88 800 | 88 800 |
| 1 | 0.6 | 86 500 | 122 000 | 75 300 |
| 1 | 0.6 | 86 500 | 122 000 | 122 000 |
| 1 | 0.6 | 91 500 | 135 000 | 78 700 |
| 1 | 0.6 | 91 500 | 135 000 | 135 000 |
| 1 | 0.6 | 96 300 | 148 000 | 82 100 |
| 1 | 0.6 | 96 300 | 148 000 | 148 000 |

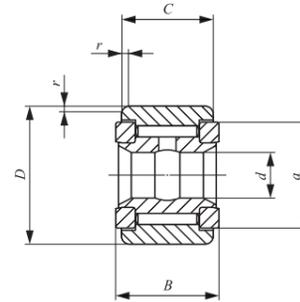
IKO Non-separable Roller Followers, Inch Series Full Complement Type /With Inner Ring

Selectable product specifications

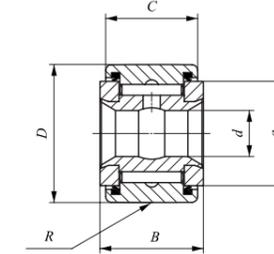
| | | |
|---------------------|-----------|------------------------|
| Roller guide type | No symbol | Caged |
| | V | Full complement |
| Seal structure | No symbol | Shield type |
| | UU | Sealed type |
| Shape of outer ring | No symbol | Cylindrical outer ring |
| | R | Crowned outer ring |



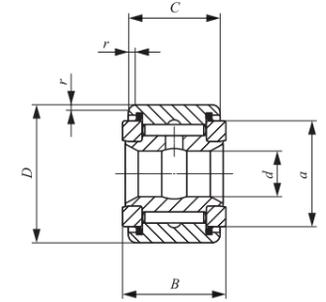
CRY...VR



CRY...V



CRY...VUUR



CRY...VUU

| Stud dia. mm (inch) | Identification number | | | | Mass (Ref.) g | Boundary dimensions mm(inch) | | | |
|---------------------------|-----------------------|------------------------|--------------------|------------------------|---------------------|------------------------------|----------------|----------------|----------------|
| | Shield type | | Sealed type | | | d | D | B | C |
| | Crowned outer ring | Cylindrical outer ring | Crowned outer ring | Cylindrical outer ring | | | | | |
| 6.350 (1/4) | CRY 12 VR | CRY 12 V | CRY 12 VUUR | CRY 12 VUU | 27 | 6.350 (1/4) | 19.050 (3/4) | 14.288(0.5625) | 12.700 (1/2) |
| | CRY 14 VR | CRY 14 V | CRY 14 VUUR | CRY 14 VUU | 36 | 6.350 (1/4) | 22.225 (7/8) | 14.288(0.5625) | 12.700 (1/2) |
| 7.938 (5/16) | CRY 16 VR | CRY 16 V | CRY 16 VUUR | CRY 16 VUU | 68 | 7.938 (5/16) | 25.400 (1) | 17.463(0.6875) | 15.875 (5/8) |
| | CRY 18 VR | CRY 18 V | CRY 18 VUUR | CRY 18 VUU | 77 | 7.938 (5/16) | 28.575 (1 1/8) | 17.463(0.6875) | 15.875 (5/8) |
| 9.525 (3/8) | CRY 20 VR | CRY 20 V | CRY 20 VUUR | CRY 20 VUU | 109 | 9.525 (3/8) | 31.750 (1 1/4) | 20.638(0.8125) | 19.050 (3/4) |
| | CRY 22 VR | CRY 22 V | CRY 22 VUUR | CRY 22 VUU | 136 | 9.525 (3/8) | 34.925 (1 3/8) | 20.638(0.8125) | 19.050 (3/4) |
| 11.112 (7/16) | CRY 24 VR | CRY 24 V | CRY 24 VUUR | CRY 24 VUU | 186 | 11.112 (7/16) | 38.100 (1 1/2) | 23.813(0.9375) | 22.225 (7/8) |
| | CRY 26 VR | CRY 26 V | CRY 26 VUUR | CRY 26 VUU | 227 | 11.112 (7/16) | 41.275 (1 5/8) | 23.813(0.9375) | 22.225 (7/8) |
| 12.700 (1/2) | CRY 28 VR | CRY 28 V | CRY 28 VUUR | CRY 28 VUU | 290 | 12.700 (1/2) | 44.450 (1 3/4) | 26.988(1.0625) | 25.400 (1) |
| | CRY 30 VR | CRY 30 V | CRY 30 VUUR | CRY 30 VUU | 363 | 12.700 (1/2) | 47.625 (1 7/8) | 26.988(1.0625) | 25.400 (1) |
| 15.875 (5/8) | CRY 32 VR | CRY 32 V | CRY 32 VUUR | CRY 32 VUU | 476 | 15.875 (5/8) | 50.800 (2) | 33.338(1.3125) | 31.750 (1 1/4) |
| | CRY 36 VR | CRY 36 V | CRY 36 VUUR | CRY 36 VUU | 599 | 15.875 (5/8) | 57.150 (2 1/4) | 33.338(1.3125) | 31.750 (1 1/4) |
| 19.050 (3/4) | CRY 40 VR | CRY 40 V | CRY 40 VUUR | CRY 40 VUU | 816 | 19.050 (3/4) | 63.500 (2 1/2) | 39.688(1.5625) | 38.100 (1 1/2) |
| | CRY 44 VR | CRY 44 V | CRY 44 VUUR | CRY 44 VUU | 1 020 | 19.050 (3/4) | 69.850 (2 3/4) | 39.688(1.5625) | 38.100 (1 1/2) |
| 25.400 (1) | CRY 48 VR | CRY 48 V | CRY 48 VUUR | CRY 48 VUU | 1 410 | 25.400 (1) | 76.200 (3) | 46.038(1.8125) | 44.450 (1 3/4) |
| | CRY 52 VR | CRY 52 V | CRY 52 VUUR | CRY 52 VUU | 1 640 | 25.400 (1) | 82.550 (3 1/4) | 46.038(1.8125) | 44.450 (1 3/4) |
| 28.575 (1 1/8) | CRY 56 VR | CRY 56 V | CRY 56 VUUR | CRY 56 VUU | 2 250 | 28.575 (1 1/8) | 88.900 (3 1/2) | 52.388(2.0625) | 50.800 (2) |
| 31.750 (1 1/4) | CRY 64 VR | CRY 64 V | CRY 64 VUUR | CRY 64 VUU | 3 200 | 31.750 (1 1/4) | 101.600 (4) | 58.738(2.3125) | 57.150 (2 1/4) |

Remarks1. The inner ring has an oil groove and an oil hole.
2. Provided with prepacked grease.

| a | R | r | Shaft dia. mm | | | | | | Basic dynamic load rating C | Basic static load rating C ₀ |
|-------------|----------|--------------|---------------|--------|-----------|--------|-----------|--------|-----------------------------------|---|
| | | | Push fit | | Drive fit | | Press fit | | | |
| | | | Min. | Max. | Min. | Max. | Min. | Max. | | |
| 14.4(0.567) | 250 (10) | 0.794 (1/32) | 6.332 | 6.342 | 6.348 | 6.358 | 6.353 | 6.363 | 8 710 | 12 300 |
| 14.4(0.567) | 250 (10) | 0.794 (1/32) | 6.332 | 6.342 | 6.348 | 6.358 | 6.353 | 6.363 | 8 710 | 12 300 |
| 19.6(0.772) | 300 (12) | 1.191 (1/16) | 7.920 | 7.930 | 7.935 | 7.945 | 7.940 | 7.950 | 13 100 | 22 700 |
| 19.6(0.772) | 300 (12) | 1.588 (1/16) | 7.920 | 7.930 | 7.935 | 7.945 | 7.940 | 7.950 | 13 100 | 22 700 |
| 25.0(0.984) | 360 (14) | 1.588 (1/16) | 9.507 | 9.517 | 9.523 | 9.533 | 9.528 | 9.538 | 23 600 | 31 700 |
| 25.0(0.984) | 360 (14) | 1.588 (1/16) | 9.507 | 9.517 | 9.523 | 9.533 | 9.528 | 9.538 | 23 600 | 31 700 |
| 28.8(1.134) | 500 (20) | 1.588 (1/16) | 11.095 | 11.105 | 11.110 | 11.120 | 11.115 | 11.125 | 28 200 | 40 100 |
| 28.8(1.134) | 500 (20) | 1.588 (1/16) | 11.095 | 11.105 | 11.110 | 11.120 | 11.115 | 11.125 | 28 200 | 40 100 |
| 32.7(1.287) | 500 (20) | 1.588 (1/16) | 12.682 | 12.692 | 12.698 | 12.708 | 12.708 | 12.718 | 35 300 | 55 600 |
| 32.7(1.287) | 500 (20) | 1.588 (1/16) | 12.682 | 12.692 | 12.698 | 12.708 | 12.708 | 12.718 | 35 300 | 55 600 |
| 36.0(1.417) | 600 (24) | 1.588 (1/16) | 15.857 | 15.867 | 15.873 | 15.883 | 15.883 | 15.893 | 45 700 | 80 600 |
| 36.0(1.417) | 600 (24) | 1.588 (1/16) | 15.857 | 15.867 | 15.873 | 15.883 | 15.883 | 15.893 | 45 700 | 80 600 |
| 43.3(1.705) | 760 (30) | 2.381 (3/32) | 19.032 | 19.042 | 19.048 | 19.058 | 19.058 | 19.068 | 61 400 | 116 000 |
| 43.3(1.705) | 760 (30) | 2.381 (3/32) | 19.032 | 19.042 | 19.048 | 19.058 | 19.058 | 19.068 | 61 400 | 116 000 |
| 54.0(2.125) | 760 (30) | 2.381 (3/32) | 25.377 | 25.390 | 25.397 | 25.410 | 25.408 | 25.420 | 77 600 | 172 000 |
| 54.0(2.125) | 760 (30) | 2.381 (3/32) | 25.377 | 25.390 | 25.397 | 25.410 | 25.408 | 25.420 | 77 600 | 172 000 |
| 61.9(2.437) | 760 (30) | 2.381 (3/32) | 28.522 | 28.565 | 28.572 | 28.585 | 28.583 | 28.595 | 111 000 | 239 000 |
| 71.0(2.797) | 760 (30) | 2.381 (3/32) | 31.727 | 31.740 | 31.747 | 31.760 | 31.758 | 31.770 | 142 000 | 317 000 |

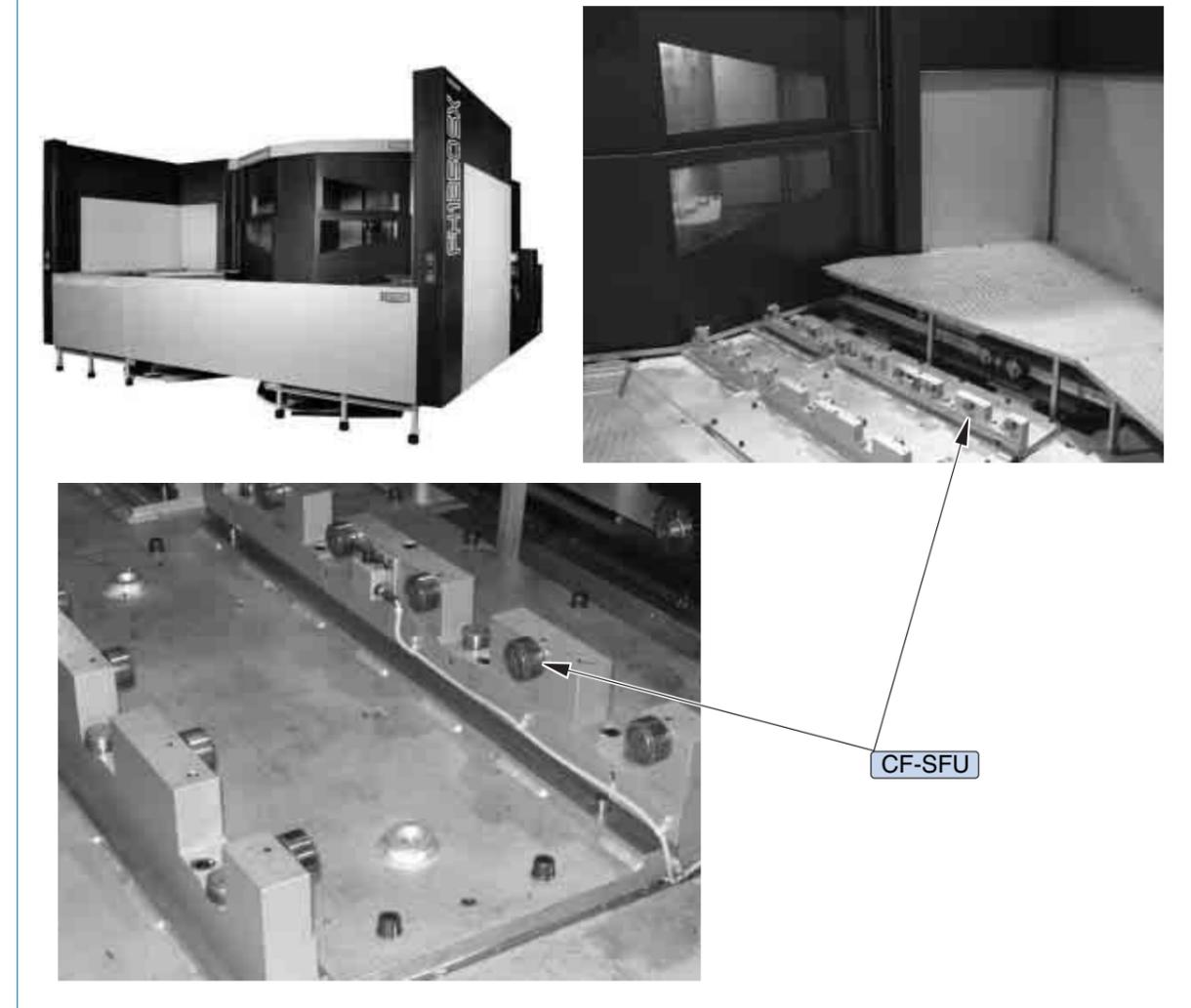
**APPLICATIONS
SPECIAL SPECIFICATIONS
MISCELLANEOUS TABLES**

| | |
|------------------------------|-----|
| Applications | 91 |
| Special Specifications | 99 |
| Miscellaneous Tables | 101 |

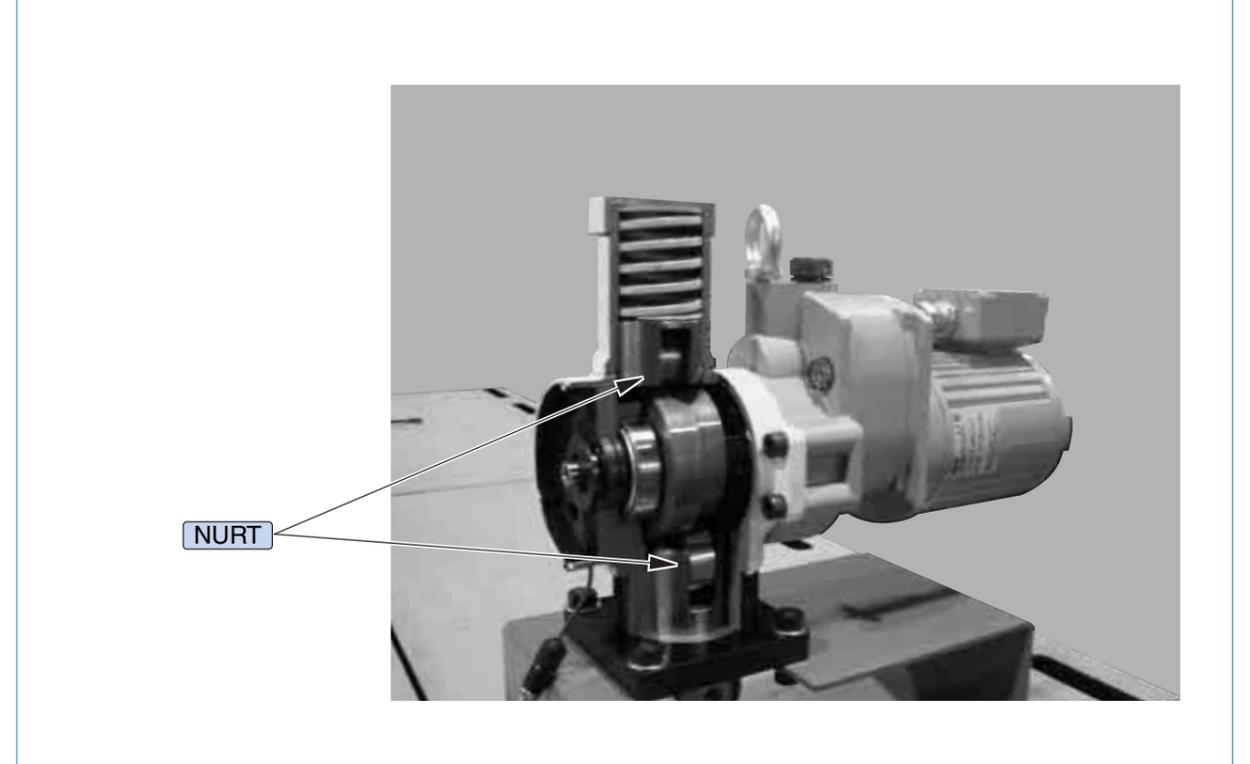
Applications

Machine Tools

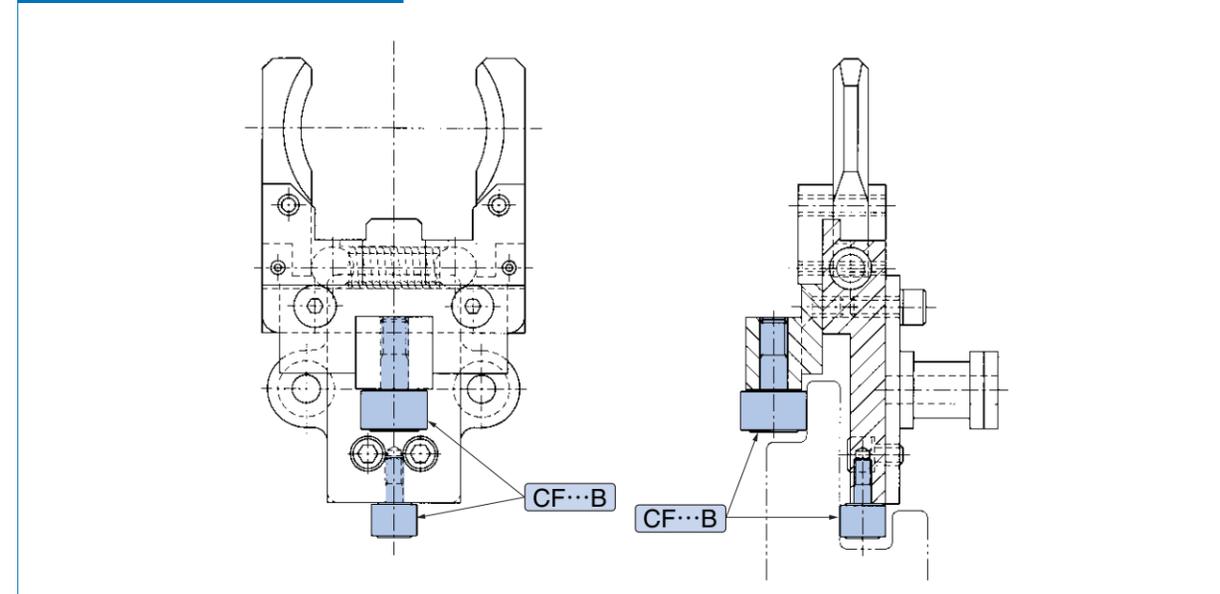
Palette changer



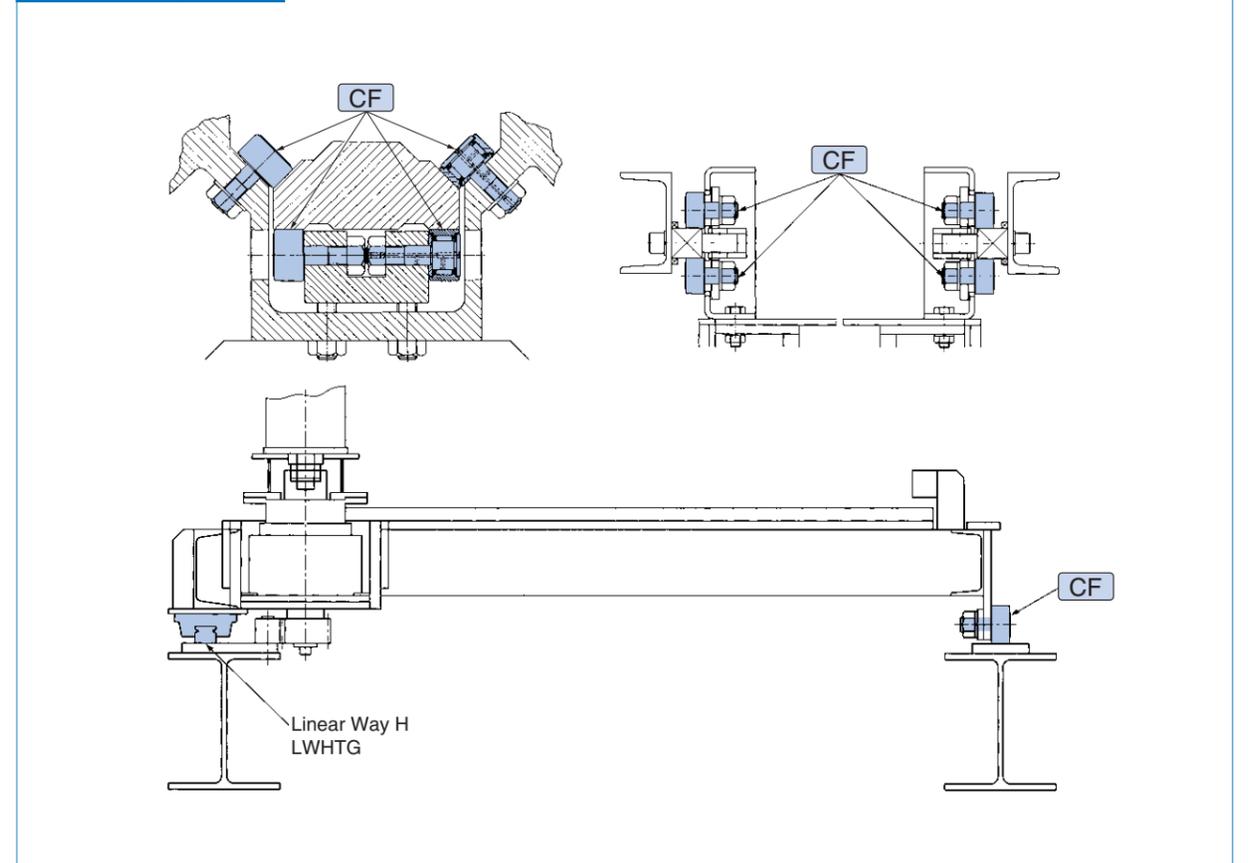
Tool clamp



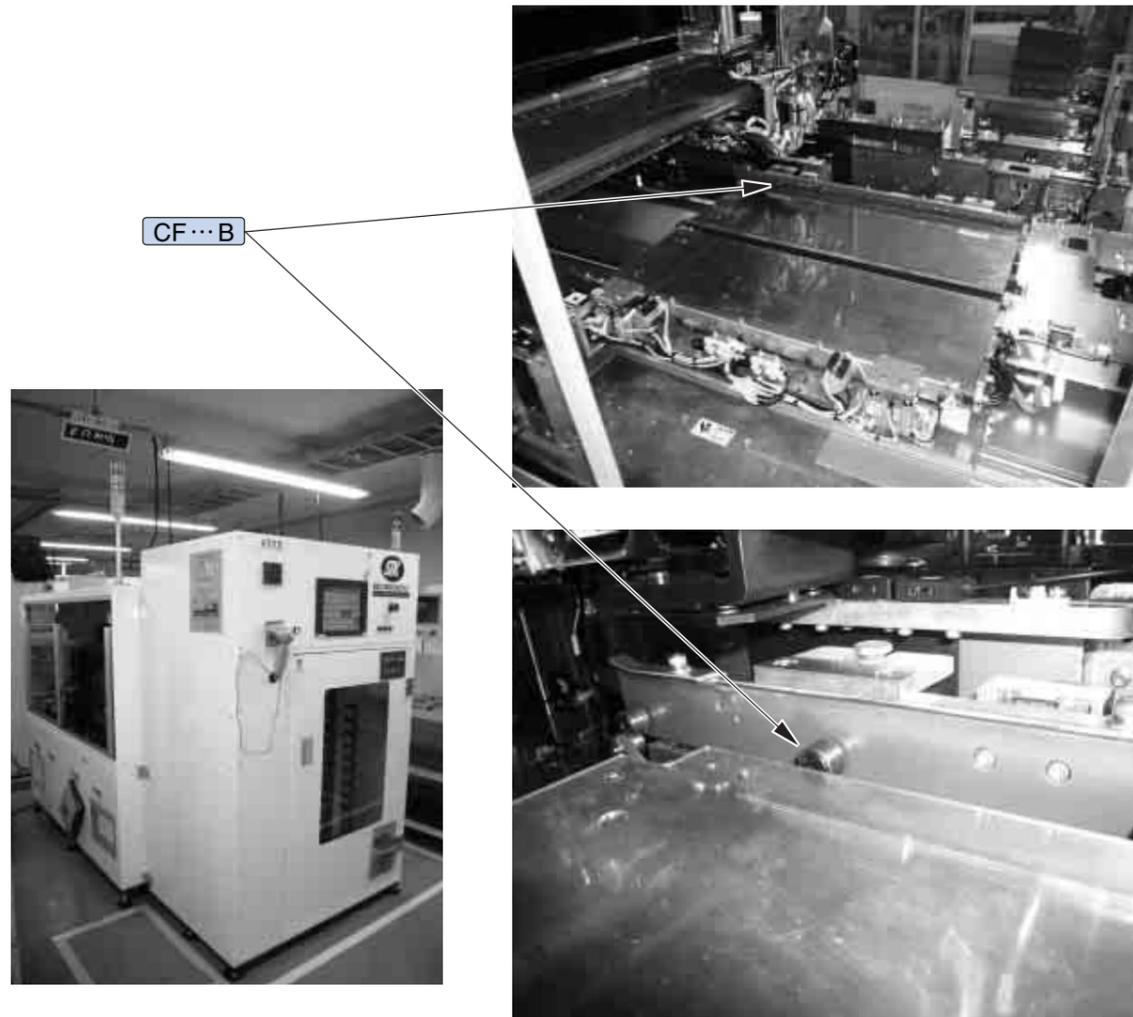
Automatic Tool Changer



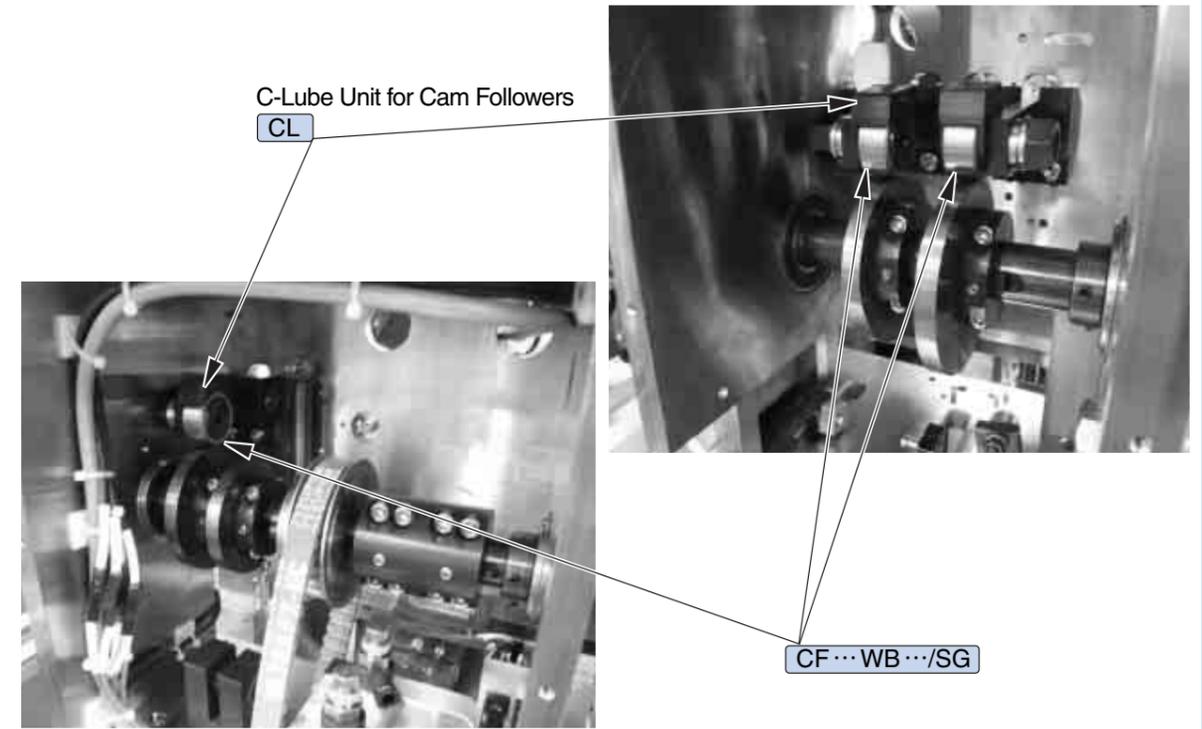
Transfer System



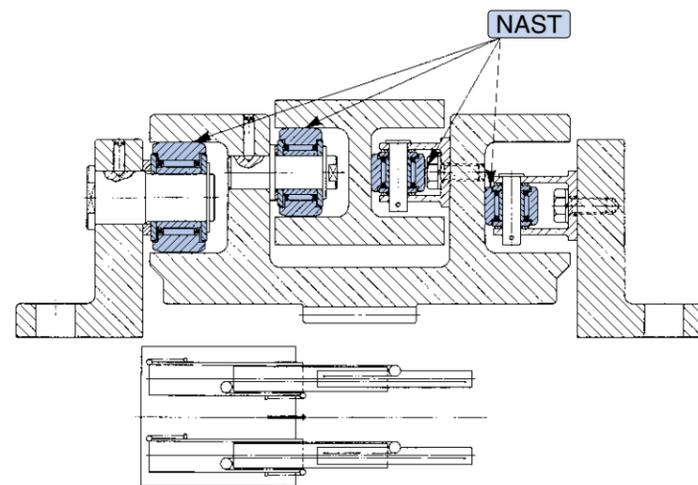
Transfer System in Semiconductor manufacturing Equipment



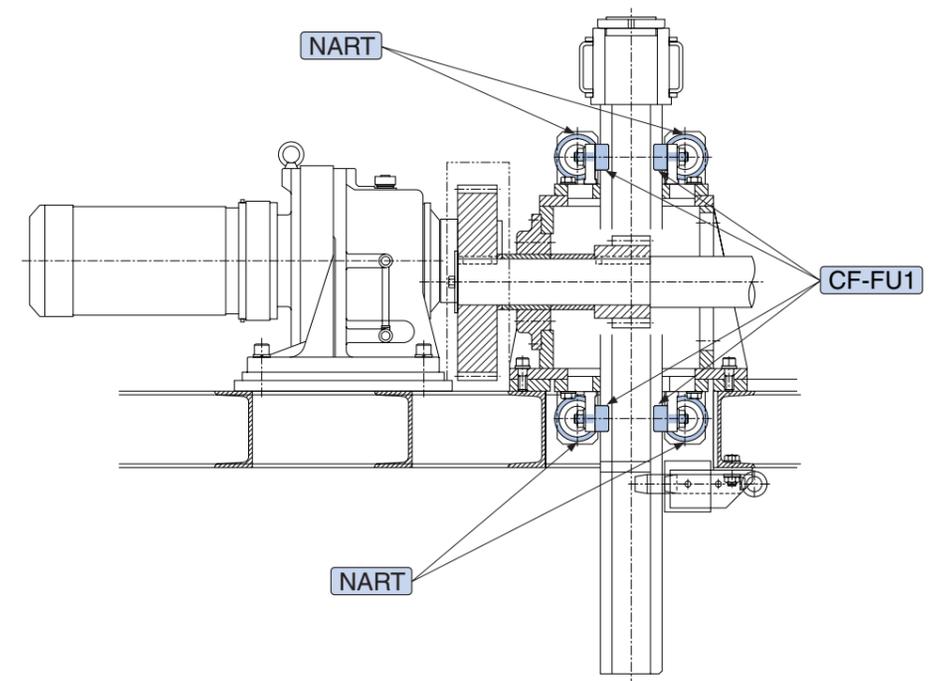
Cam mechanism in Connector Manufacturing Equipment



Shuttle fork

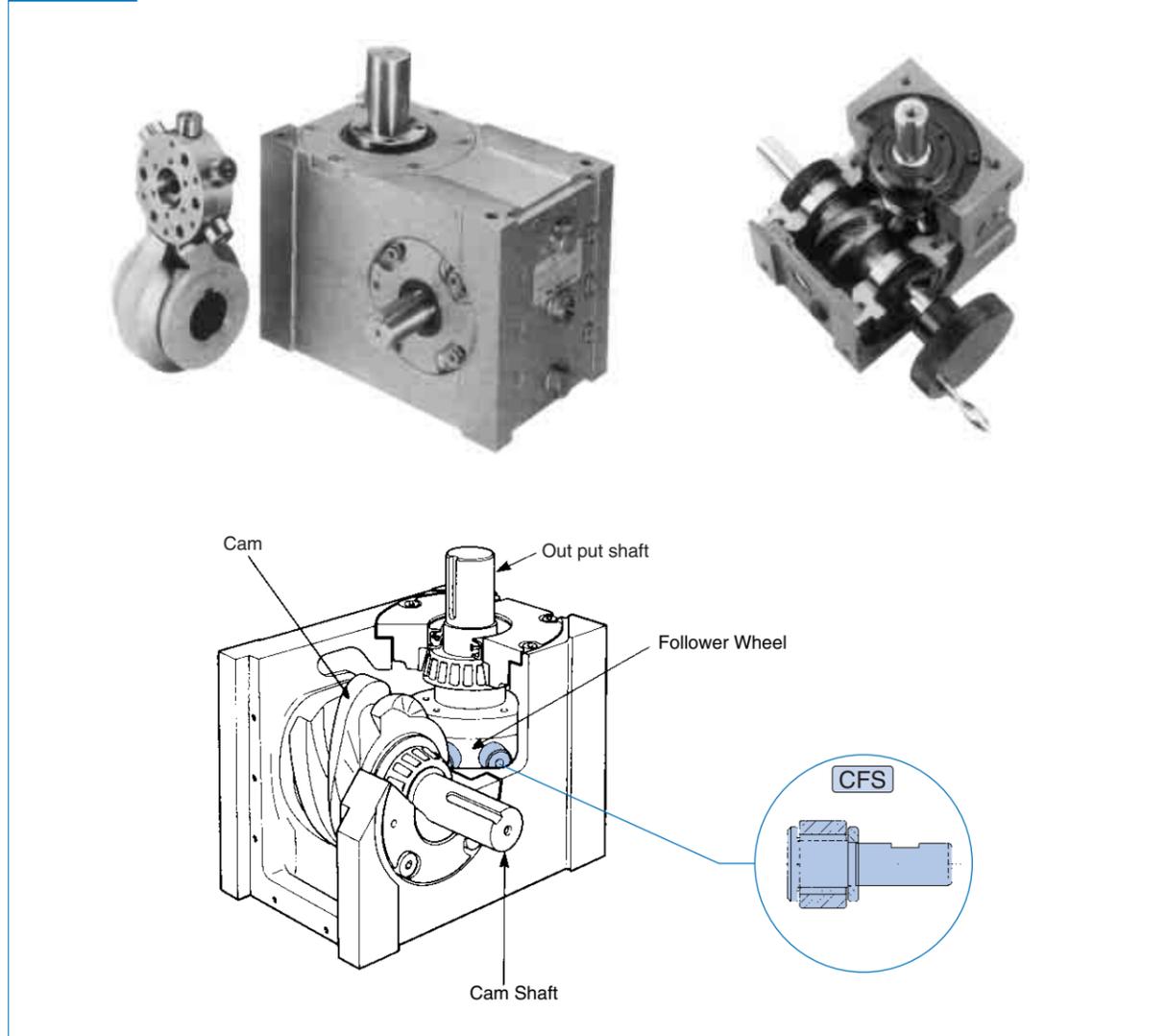


Elevator of manufacturing line

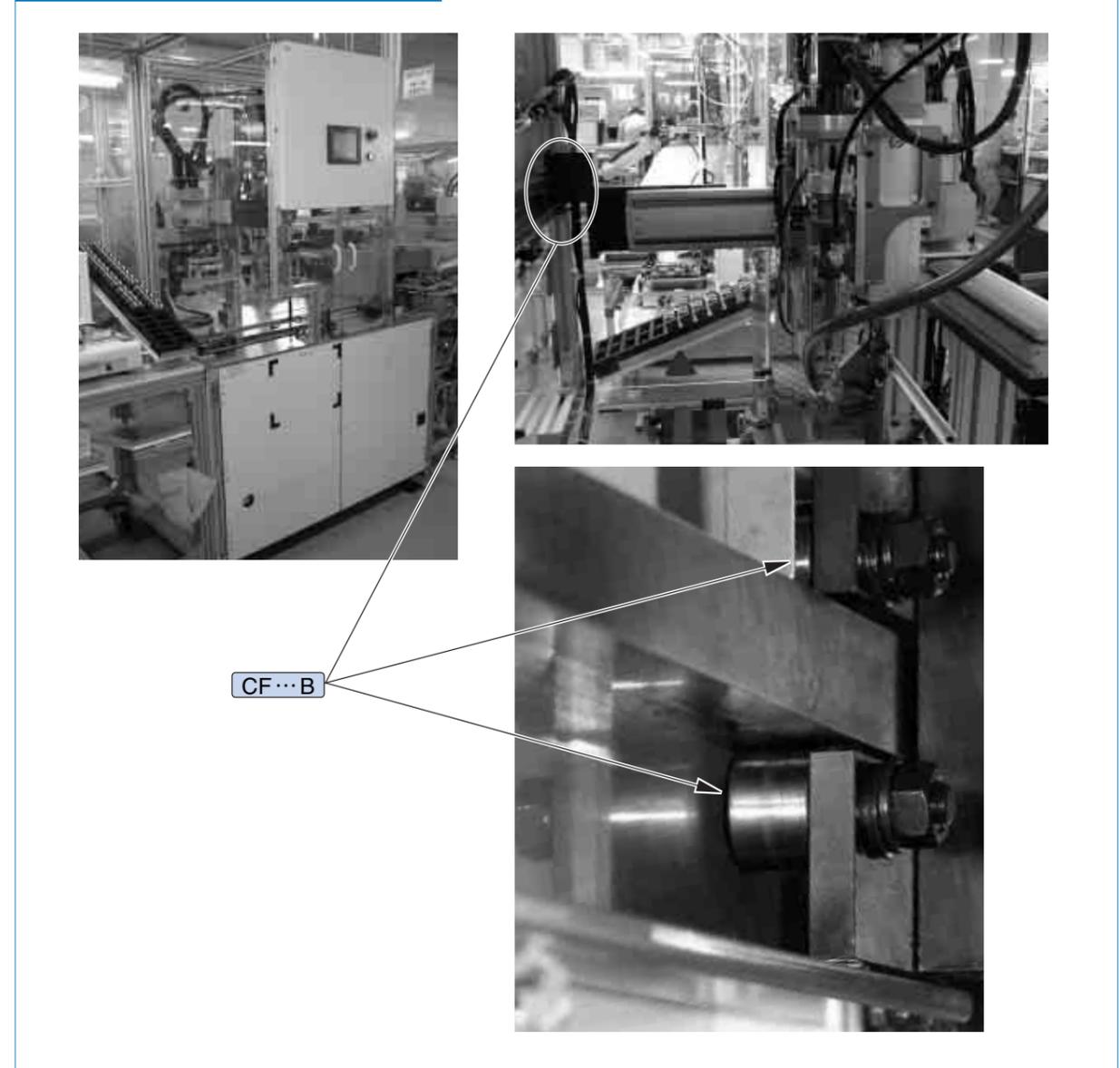


Applications

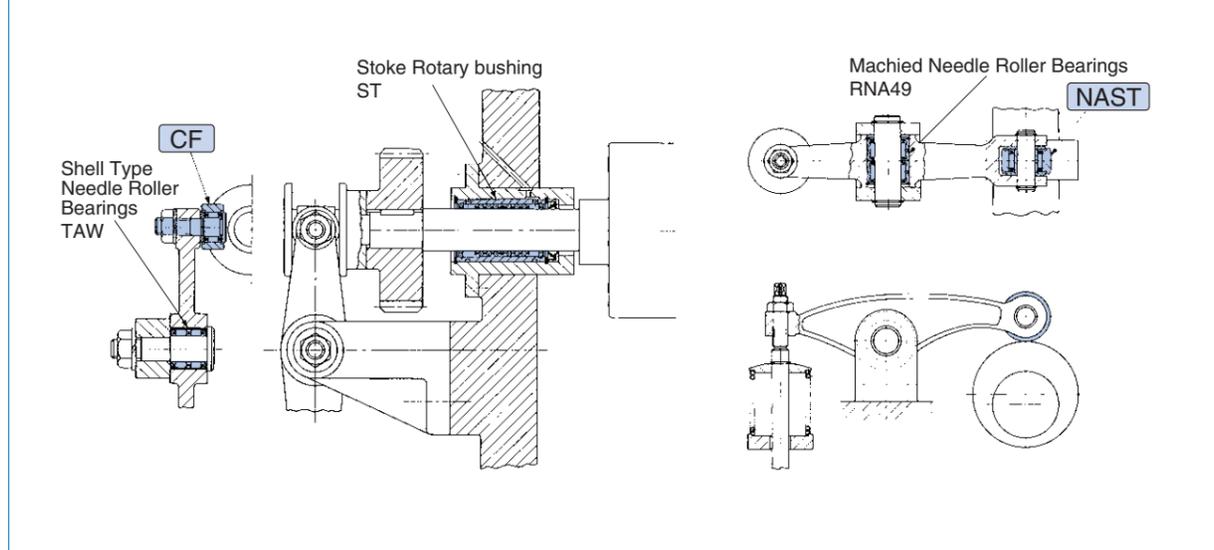
Indexer



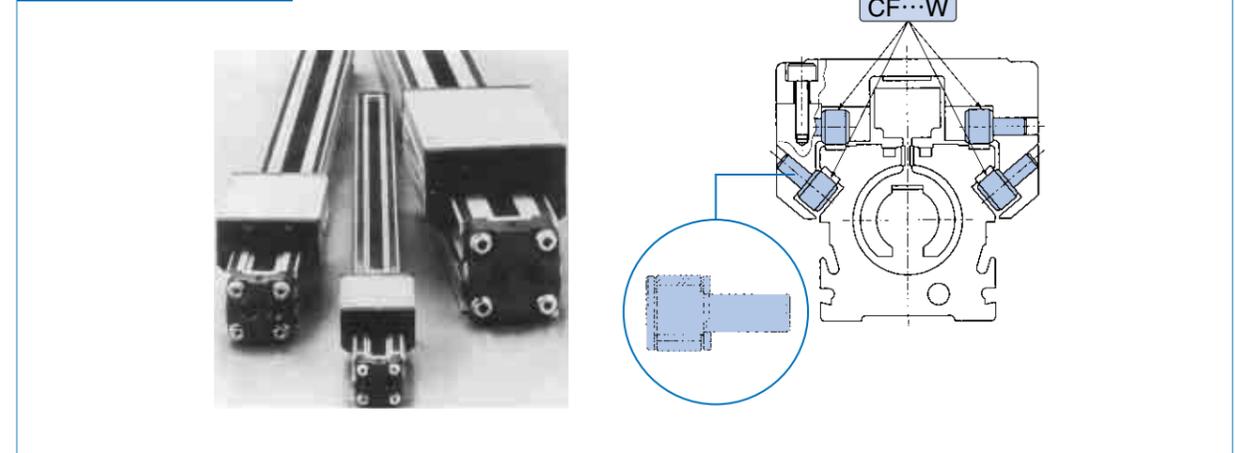
Guide in Assembling machine



Cam mechanis in Printing machine

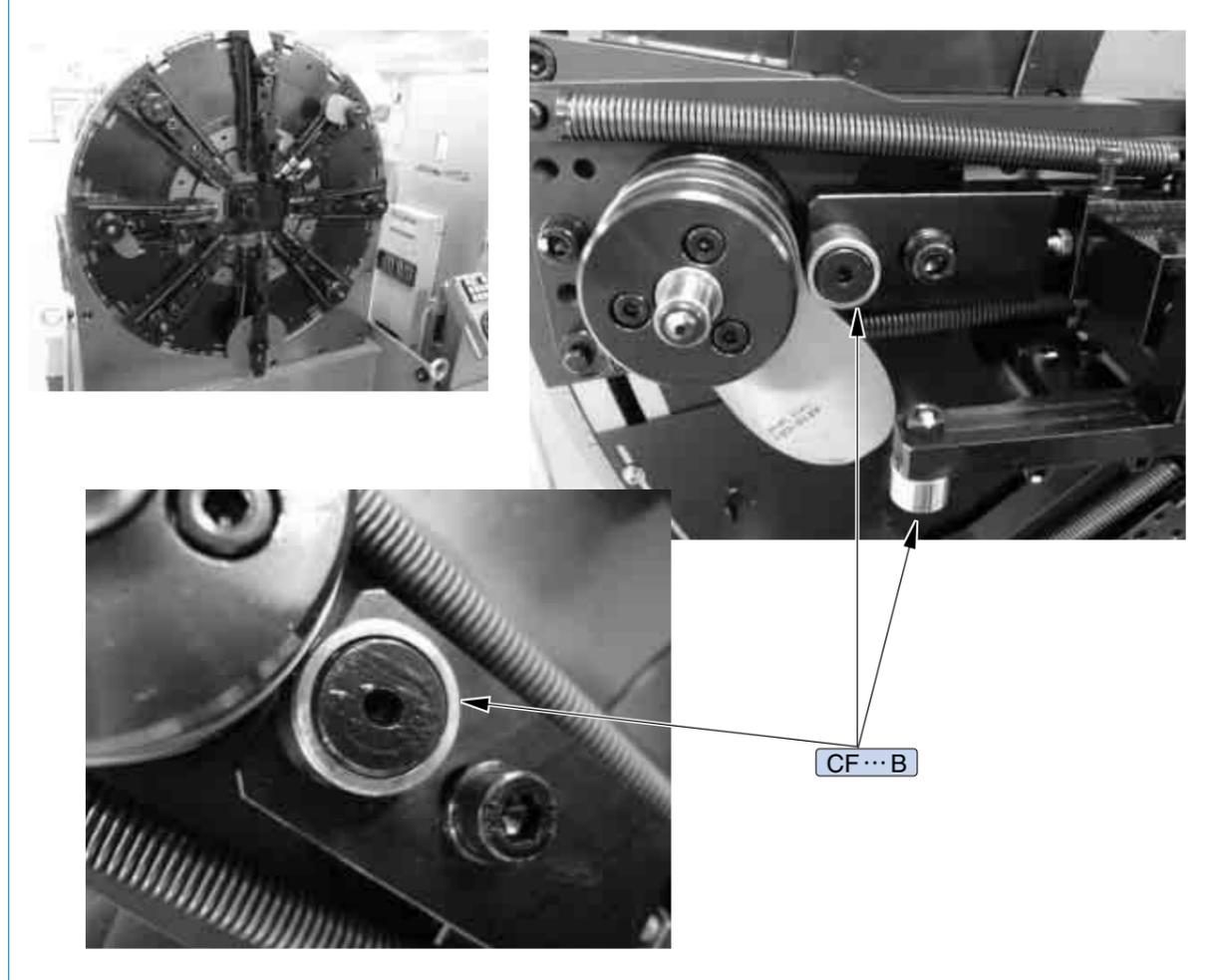


Rodless Cylinder

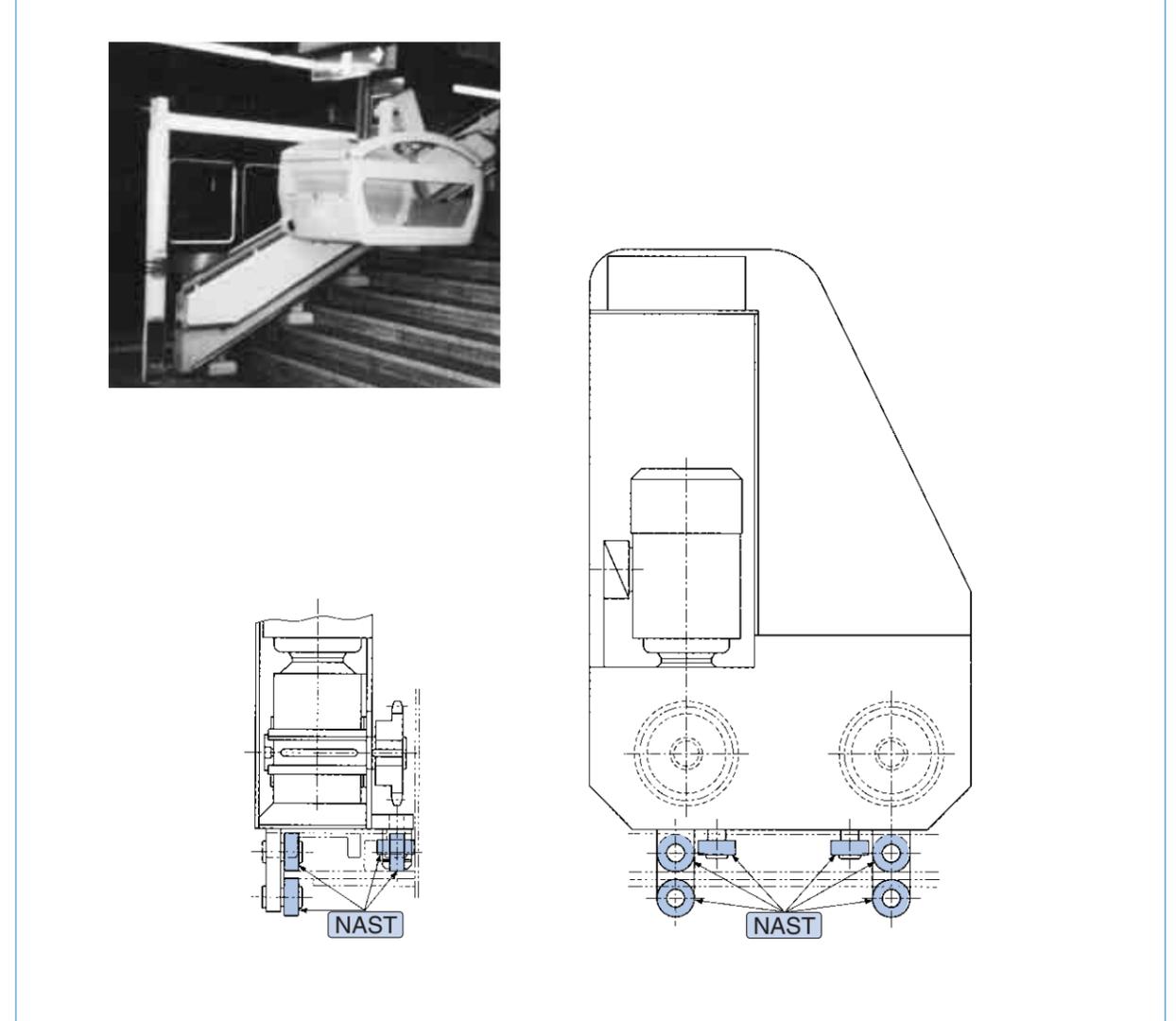


Applications

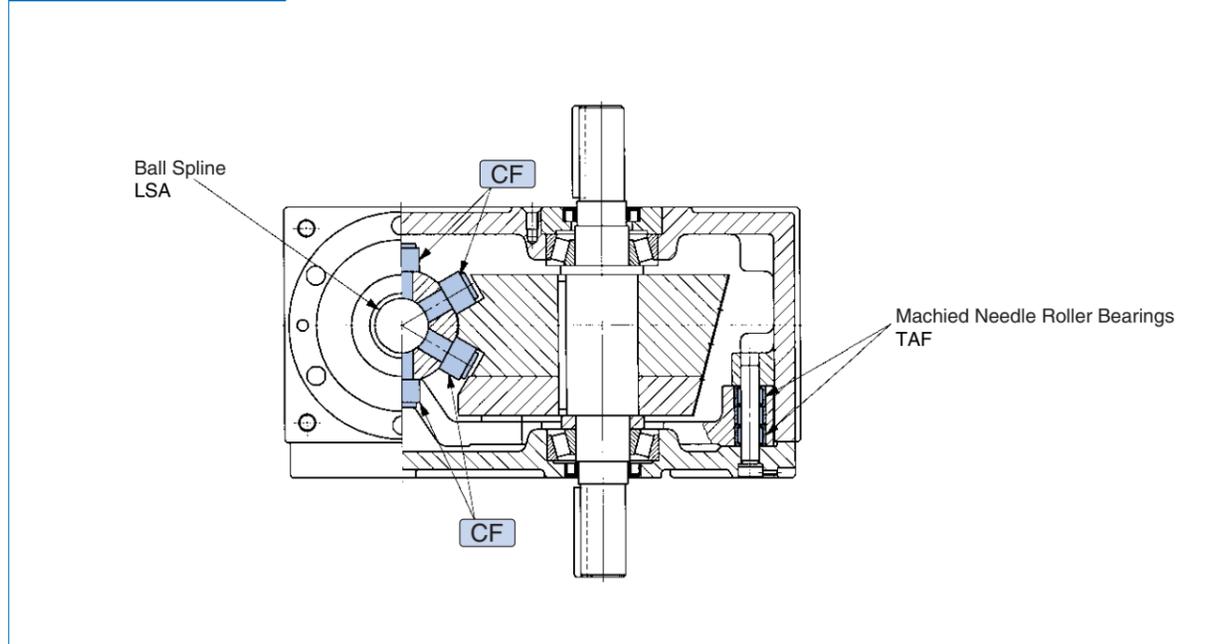
Cam mechanism in Manufacturing Equipment



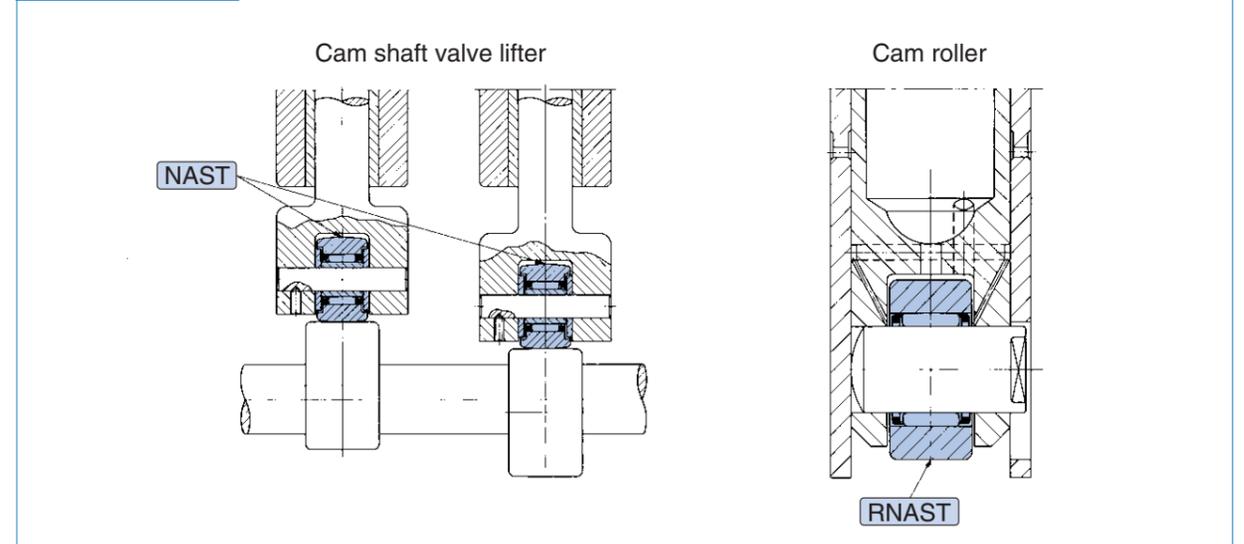
Lift for stairs



Pick & Place Unit

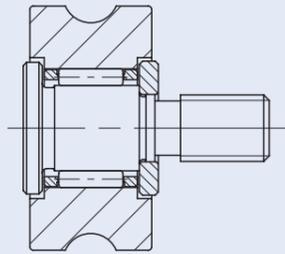


Diesel Engine

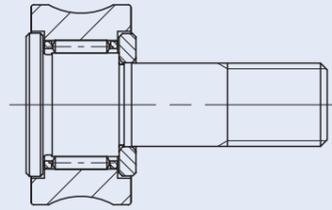


Special specifications

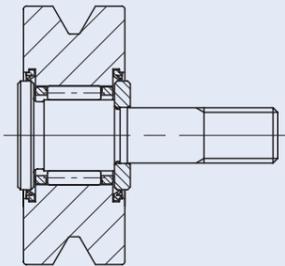
Groove on outer ring



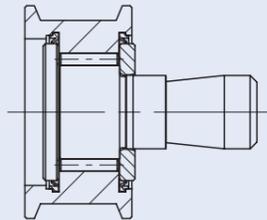
Groove on outer ring



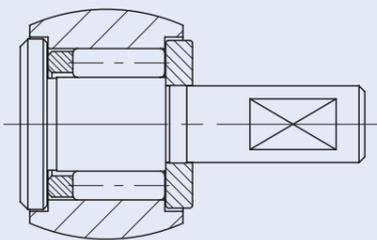
Groove for Pulley on outer ring



Groove for Pulley on outer ring

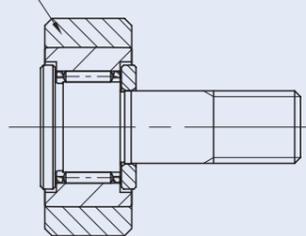


Spherical outer ring

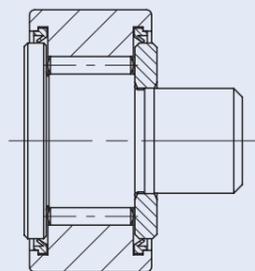


Polyurethane rubber on outer ring

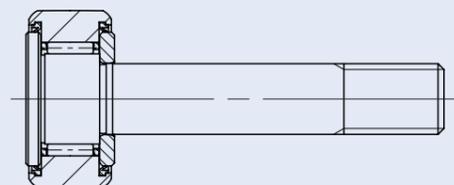
Polyurethane rubber on outer ring



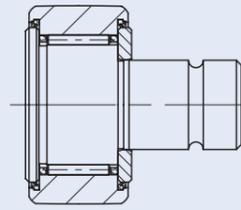
Short stud



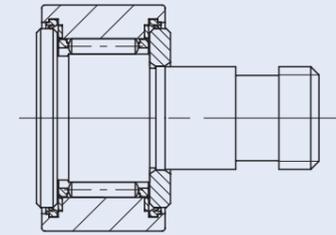
Long stud



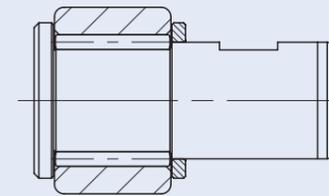
Stud with groove



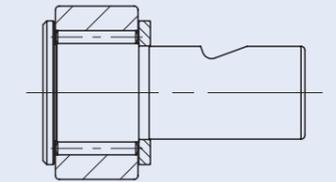
Stud with groove



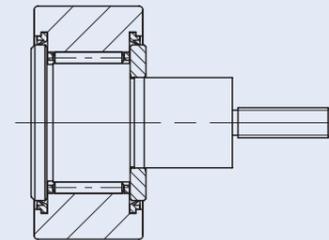
D-cut on stud



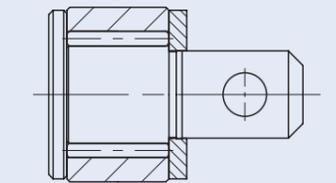
V-cut on stud



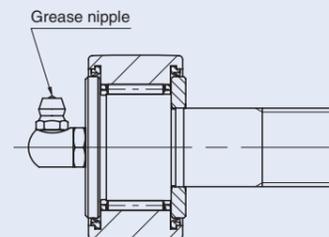
Stud with Tapped machine end



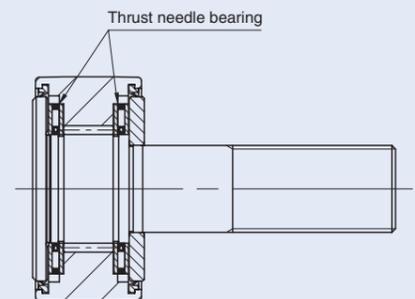
Stud with hole



With grease nipple



With thrust needle bearing incorporated



Miscellaneous Tables

● Conversion Table of Units

Comparison table between SI units (system of international units), CGS units and gravitational system of units

| System of units \ Item | Length | Mass | Time | Acceleration | Force | Stress | Pressure |
|------------------------|--------|-----------------------|------|------------------|-------|---------------------|---------------------|
| SI units | m | kg | s | m/s ² | N | Pa | Pa |
| CGS units | cm | g | s | Gal | dyn | dyn/cm ² | dyn/cm ² |
| Grav. units | m | kgf·s ² /m | s | m/s ² | kgf | kgf/m ² | kgf/m ² |

Conversion rates into SI units

| Item | Unit name | Symbol | Conversion rate into SI | SI unit name | Symbol |
|---|--------------------------------------|---------------------|-------------------------------------|-------------------------|------------------|
| Angle | Degree | ° | $\pi / 180$ | Radian | rad |
| | Minute | ' | $\pi / 10\ 800$ | | |
| | Second | " | $\pi / 648\ 000$ | | |
| Length | Meter | m | 1 | Meter | m |
| | Micrometer | μ | 10 ⁻⁶ | | |
| | Angstrom | Å | 10 ⁻¹⁰ | | |
| | X-ray unit | | $\approx 1.002\ 08 \times 10^{-13}$ | | |
| | Nautical mile | n mile | 1852 | | |
| Area | Square meter | m ² | 1 | Square meter | m ² |
| | Are | a | 10 ² | | |
| | Hectare | ha | 10 ⁴ | | |
| Volume | Cubic meter | m ³ | 1 | Cubic meter | m ³ |
| | Liter | l, L | 10 ⁻³ | | |
| Mass | Kilogram | kg | 1 | Kilogram | kg |
| | Ton | t | 10 ³ | | |
| | Atomic mass unit | u | $\approx 1.660\ 57 \times 10^{-27}$ | | |
| Time | Second | s | 1 | Second | s |
| | Minute | min | 60 | | |
| | Hour | h | 3 600 | | |
| | Day | d | 86 400 | | |
| Velocity | Meter per second | m/s | 1 | Meter per second | m/s |
| | Knot | kn | 1 852/3 600 | | |
| Frequency and number of oscillations per time | Cycle | s ⁻¹ | 1 | Hertz | Hz |
| Rotation speed | Rotation per minute | rpm | 1/60 | Per second | s ⁻¹ |
| Angular velocity | Radian per second | rad/s | 1 | Radian per second | rad/s |
| Acceleration | Meter per square second | m/s ² | 1 | Meter per square second | m/s ² |
| | G | G | 9.806 65 | | |
| Force | Kilogram force | kgf | 9.806 65 | Newton | N |
| | Ton force | tf | 9 806.65 | | |
| | Dyne | dyn | 10 ⁻⁵ | | |
| Moment of force | Kilogram force-meter | kgf·m | 9.806 65 | Newton-meter | N·m |
| Stress and pressure | Kilogram force per square meter | kgf/m ² | 9.806 65 | Pascal | Pa |
| | Kilogram force per square centimeter | kgf/cm ² | $9.806\ 65 \times 10^4$ | | |
| | Kilogram force per square millimeter | kgf/mm ² | $9.806\ 65 \times 10^6$ | | |

| Energy | Power | Temperature | Viscosity | Kinematic viscosity | Magnetic flux | Magnetic flux density | Magnetic field intensity |
|--------|---------|-------------|----------------------|---------------------|---------------|-----------------------|--------------------------|
| J | W | K | Pa·s | m ² /s | Wb | T | A/m |
| erg | erg/s | °C | P | St | Mx | Gs | Oe |
| kgf·m | kgf·m/s | °C | kgf·s/m ² | m ² /s | — | — | — |

| Item | Unit name | Symbol | Conversion rate into SI | SI unit name | Symbol |
|-------------------------------|--|-------------------------------------|---------------------------------|-------------------------|-------------------|
| Pressure | Hydro-column meter | mH ₂ O | 9 806.65 | Pascal | Pa |
| | Mercurial column millimeter | mmHg | 101 325/760 | | |
| | Torr | Torr | 101 325/760 | | |
| | Atmosphere | atm | 101 325 | | |
| | Bar | bar | 10 ⁵ | | |
| Energy | Erg | erg | 10 ⁻⁷ | Joule | J |
| | IT calorie | cal _{IT} | 4.186 8 | | |
| | Kilogram force - meter | kgf·m | 9.806 65 | | |
| | Kilowatt hour | kW·h | 3.600×10^6 | | |
| | Horse power hour (French) | PS·h | $\approx 2.647\ 79 \times 10^6$ | | |
| Electron volt | eV | $\approx 1.602\ 19 \times 10^{-19}$ | | | |
| Power | Watt | W | 1 | Watt | W |
| | Horse power (French) | PS | ≈ 735.5 | | |
| | Kilogram force -meter per second | kgf·m/s | 9.806 65 | | |
| Viscosity | Poise | P | 10 ⁻¹ | Pascal-second | Pa·s |
| | Centipoise | cP | 10 ⁻³ | | |
| | Kilogram force-second per square meter | kgf·s/m ² | 9.806 65 | | |
| Kinematic viscosity | Stokes | St | 10 ⁻⁴ | Square meter per second | m ² /s |
| | Centistokes | cSt | 10 ⁻⁶ | | |
| Temperature | Degree | °C | +273.15 | Kelvin | K |
| Radioactivity | Curie | Ci | 3.7×10^{10} | Becquerel | Bq |
| | Exposure dose | Roentgen | 2.58×10^{-4} | | |
| | Absorbed dose | Rad | 10 ⁻² | | |
| | Dose equivalent | Rem | 10 ⁻² | | |
| Magnetic flux | Maxwell | Mx | 10 ⁻⁸ | Weber | Wb |
| Magnetic flux density | Gamma | γ | 10 ⁻⁹ | Tesla | T |
| | Gauss | Gs | 10 ⁻⁴ | | |
| Magnetic field intensity | Oersted | Oe | $10^3/4\ \pi$ | Ampere per meter | A/m |
| Quantity of electricity | Coulomb | C | 1 | Coulomb | C |
| Electric potential difference | Volt | V | 1 | Volt | V |
| Electrostatic capacity | Farad | F | 1 | Farad | F |
| (Electric) resistance | Ohm | Ω | 1 | Ohm | Ω |
| (Electric) conductance | Siemens | S | 1 | Siemens | S |
| Inductance | Henry | H | 1 | Henry | H |
| Current | Ampere | A | 1 | Ampere | A |

Miscellaneous Tables

● Hardness Conversion Table (Reference)

| Rockwell C scale hardness Load 1471N HRC | Vickers' hardness HV | Brinell hardness | | Rockwell hardness | | Shore hardness HS |
|--|-------------------------|------------------|-----------------------|---|--------------------------------------|----------------------|
| | | Standard ball | Tungsten carbide ball | A scale Load 588.4N Diamond circular cone | B scale Load 980.7N 1/16" ball | |
| 68 | 940 | — | — | 85.6 | — | 97 |
| 67 | 900 | — | — | 85.0 | — | 95 |
| 66 | 865 | — | — | 84.5 | — | 92 |
| 65 | 832 | — | (739) | 83.9 | — | 91 |
| 64 | 800 | — | (722) | 83.4 | — | 88 |
| 63 | 772 | — | (705) | 82.8 | — | 87 |
| 62 | 746 | — | (688) | 82.3 | — | 85 |
| 61 | 720 | — | (670) | 81.8 | — | 83 |
| 60 | 697 | — | (654) | 81.2 | — | 81 |
| 59 | 674 | — | (634) | 80.7 | — | 80 |
| 58 | 653 | — | 615 | 80.1 | — | 78 |
| 57 | 633 | — | 595 | 79.6 | — | 76 |
| 56 | 613 | — | 577 | 79.0 | — | 75 |
| 55 | 595 | — | 560 | 78.5 | — | 74 |
| 54 | 577 | — | 543 | 78.0 | — | 72 |
| 53 | 560 | — | 525 | 77.4 | — | 71 |
| 52 | 544 | (500) | 512 | 76.8 | — | 69 |
| 51 | 528 | (487) | 496 | 76.3 | — | 68 |
| 50 | 513 | (475) | 481 | 75.9 | — | 67 |
| 49 | 498 | (464) | 469 | 75.2 | — | 66 |
| 48 | 484 | 451 | 455 | 74.7 | — | 64 |
| 47 | 471 | 442 | 443 | 74.1 | — | 63 |
| 46 | 458 | 432 | 432 | 73.6 | — | 62 |
| 45 | 446 | 421 | 421 | 73.1 | — | 60 |
| 44 | 434 | 409 | 409 | 72.5 | — | 58 |
| 43 | 423 | 400 | 400 | 72.0 | — | 57 |
| 42 | 412 | 390 | 390 | 71.5 | — | 56 |
| 41 | 402 | 381 | 381 | 70.9 | — | 55 |
| 40 | 392 | 371 | 371 | 70.4 | — | 54 |
| 39 | 382 | 362 | 362 | 69.9 | — | 52 |

| Rockwell C scale hardness Load 1471N HRC | Vickers' hardness HV | Brinell hardness | | Rockwell hardness | | Shore hardness HS |
|--|-------------------------|------------------|-----------------------|---|--------------------------------------|----------------------|
| | | Standard ball | Tungsten carbide ball | A scale Load 588.4N Diamond circular cone | B scale Load 980.7N 1/16" ball | |
| 38 | 372 | 353 | 353 | 69.4 | — | 51 |
| 37 | 363 | 344 | 344 | 68.9 | — | 50 |
| 36 | 354 | 336 | 336 | 68.4 | (109.0) | 49 |
| 35 | 345 | 327 | 327 | 67.9 | (108.5) | 48 |
| 34 | 336 | 319 | 319 | 67.4 | (108.0) | 47 |
| 33 | 327 | 311 | 311 | 66.8 | (107.5) | 46 |
| 32 | 318 | 301 | 301 | 66.3 | (107.0) | 44 |
| 31 | 310 | 294 | 294 | 65.8 | (106.0) | 43 |
| 30 | 302 | 286 | 286 | 65.3 | (105.5) | 42 |
| 29 | 294 | 279 | 279 | 64.7 | (104.5) | 41 |
| 28 | 286 | 271 | 271 | 64.3 | (104.0) | 41 |
| 27 | 279 | 264 | 264 | 63.8 | (103.0) | 40 |
| 26 | 272 | 258 | 258 | 63.3 | (102.5) | 38 |
| 25 | 266 | 253 | 253 | 62.8 | (101.5) | 38 |
| 24 | 260 | 247 | 247 | 62.4 | (101.0) | 37 |
| 23 | 254 | 243 | 243 | 62.0 | 100.0 | 36 |
| 22 | 248 | 237 | 237 | 61.5 | 99.0 | 35 |
| 21 | 243 | 231 | 231 | 61.0 | 98.5 | 35 |
| 20 | 238 | 226 | 226 | 60.5 | 97.8 | 34 |
| (18) | 230 | 219 | 219 | — | 96.7 | 33 |
| (16) | 222 | 212 | 212 | — | 95.5 | 32 |
| (14) | 213 | 203 | 203 | — | 93.9 | 31 |
| (12) | 204 | 194 | 194 | — | 92.3 | 29 |
| (10) | 196 | 187 | 187 | — | 90.7 | 28 |
| (8) | 188 | 179 | 179 | — | 89.5 | 27 |
| (6) | 180 | 171 | 171 | — | 87.1 | 26 |
| (4) | 173 | 165 | 165 | — | 85.5 | 25 |
| (2) | 166 | 158 | 158 | — | 83.5 | 24 |
| (0) | 160 | 152 | 152 | — | 81.7 | 24 |

Miscellaneous Tables

● Tolerance of Housing Bore Diameter

| Nominal Diameter mm | | B12 | | E7 | | E11 | | E12 | | F6 | | F7 | | G6 | | G7 | |
|---------------------|-------|-------|------|------|------|------|------|------|------|------|-----|------|-----|------|-----|------|-----|
| Over | Incl. | High | Low | High | Low | High | Low | High | Low | High | Low | High | Low | High | Low | High | Low |
| — | 3 | +240 | +140 | +24 | +14 | +74 | +14 | +114 | +14 | +12 | +6 | +16 | +6 | +8 | +2 | +12 | +2 |
| 3 | 6 | +260 | +140 | +32 | +20 | +95 | +20 | +140 | +20 | +18 | +10 | +22 | +10 | +12 | +4 | +16 | +4 |
| 6 | 10 | +300 | +150 | +40 | +25 | +115 | +25 | +175 | +25 | +22 | +13 | +28 | +13 | +14 | +5 | +20 | +5 |
| 10 | 18 | +330 | +150 | +50 | +32 | +142 | +32 | +212 | +32 | +27 | +16 | +34 | +16 | +17 | +6 | +24 | +6 |
| 18 | 30 | +370 | +160 | +61 | +40 | +170 | +40 | +250 | +40 | +33 | +20 | +41 | +20 | +20 | +7 | +28 | +7 |
| 30 | 40 | +420 | +170 | +75 | +50 | +210 | +50 | +300 | +50 | +41 | +25 | +50 | +25 | +25 | +9 | +34 | +9 |
| 40 | 50 | +430 | +180 | | | | | | | | | | | | | | |
| 50 | 65 | +490 | +190 | +90 | +60 | +250 | +60 | +360 | +60 | +49 | +30 | +60 | +30 | +29 | +10 | +40 | +10 |
| 65 | 80 | +500 | +200 | | | | | | | | | | | | | | |
| 80 | 100 | +570 | +220 | +107 | +72 | +292 | +72 | +422 | +72 | +58 | +36 | +71 | +36 | +34 | +12 | +47 | +12 |
| 100 | 120 | +590 | +240 | | | | | | | | | | | | | | |
| 120 | 140 | +660 | +260 | +125 | +85 | +335 | +85 | +485 | +85 | +68 | +43 | +83 | +43 | +39 | +14 | +54 | +14 |
| 140 | 160 | +680 | +280 | | | | | | | | | | | | | | |
| 160 | 180 | +710 | +310 | | | | | | | | | | | | | | |
| 180 | 200 | +800 | +340 | +146 | +100 | +390 | +100 | +560 | +100 | +79 | +50 | +96 | +50 | +44 | +15 | +61 | +15 |
| 200 | 225 | +840 | +380 | | | | | | | | | | | | | | |
| 225 | 250 | +880 | +420 | | | | | | | | | | | | | | |
| 250 | 280 | +1000 | +480 | +162 | +110 | +430 | +110 | +630 | +110 | +88 | +56 | +108 | +56 | +49 | +17 | +69 | +17 |
| 280 | 315 | +1060 | +540 | | | | | | | | | | | | | | |
| 315 | 355 | +1170 | +600 | +182 | +125 | +485 | +125 | +695 | +125 | +98 | +62 | +119 | +62 | +54 | +18 | +75 | +18 |
| 355 | 400 | +1250 | +680 | | | | | | | | | | | | | | |
| 400 | 450 | +1390 | +760 | +198 | +135 | +535 | +135 | +765 | +135 | +108 | +68 | +131 | +68 | +60 | +20 | +83 | +20 |
| 450 | 500 | +1470 | +840 | | | | | | | | | | | | | | |

unit: μm

| H6 | | H7 | | H8 | | H9 | | H10 | | H11 | | JS6 | | J6 | | Nominal Diameter mm | |
|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|-------|-------|------|-----|---------------------|-------|
| High | Low | High | Low | High | Low | Over | Incl. |
| +6 | 0 | +10 | 0 | +14 | 0 | +25 | 0 | +40 | 0 | +60 | 0 | +3 | -3 | +2 | -4 | — | 3 |
| +8 | 0 | +12 | 0 | +18 | 0 | +30 | 0 | +48 | 0 | +75 | 0 | +4 | -4 | +5 | -3 | 3 | 6 |
| +9 | 0 | +15 | 0 | +22 | 0 | +36 | 0 | +58 | 0 | +90 | 0 | +4.5 | -4.5 | +5 | -4 | 6 | 10 |
| +11 | 0 | +18 | 0 | +27 | 0 | +43 | 0 | +70 | 0 | +110 | 0 | +5.5 | -5.5 | +6 | -5 | 10 | 18 |
| +13 | 0 | +21 | 0 | +33 | 0 | +52 | 0 | +84 | 0 | +130 | 0 | +6.5 | -6.5 | +8 | -5 | 18 | 30 |
| +16 | 0 | +25 | 0 | +39 | 0 | +62 | 0 | +100 | 0 | +160 | 0 | +8 | -8 | +10 | -6 | 30 | 40 |
| | | | | | | | | | | | | | | | | 40 | 50 |
| +19 | 0 | +30 | 0 | +46 | 0 | +74 | 0 | +120 | 0 | +190 | 0 | +9.5 | -9.5 | +13 | -6 | 50 | 65 |
| | | | | | | | | | | | | | | | | 65 | 80 |
| +22 | 0 | +35 | 0 | +54 | 0 | +87 | 0 | +140 | 0 | +220 | 0 | +11 | -11 | +16 | -6 | 80 | 100 |
| | | | | | | | | | | | | | | | | 100 | 120 |
| +25 | 0 | +40 | 0 | +63 | 0 | +100 | 0 | +160 | 0 | +250 | 0 | +12.5 | -12.5 | +18 | -7 | 120 | 140 |
| | | | | | | | | | | | | | | | | 140 | 160 |
| | | | | | | | | | | | | | | | | 160 | 180 |
| +29 | 0 | +46 | 0 | +72 | 0 | +115 | 0 | +185 | 0 | +290 | 0 | +14.5 | -14.5 | +22 | -7 | 180 | 200 |
| | | | | | | | | | | | | | | | | 200 | 225 |
| | | | | | | | | | | | | | | | | 225 | 250 |
| +32 | 0 | +52 | 0 | +81 | 0 | +130 | 0 | +210 | 0 | +320 | 0 | +16 | -16 | +25 | -7 | 250 | 280 |
| | | | | | | | | | | | | | | | | 280 | 315 |
| +36 | 0 | +57 | 0 | +89 | 0 | +140 | 0 | +230 | 0 | +360 | 0 | +18 | -18 | +29 | -7 | 315 | 355 |
| | | | | | | | | | | | | | | | | 355 | 400 |
| +40 | 0 | +63 | 0 | +97 | 0 | +155 | 0 | +250 | 0 | +400 | 0 | +20 | -20 | +33 | -7 | 400 | 450 |
| | | | | | | | | | | | | | | | | 450 | 500 |

| Nominal Diameter mm | | JS7 | | J7 | | K5 | | K6 | | K7 | | M6 | | M7 | | N6 | |
|---------------------|-------|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|
| Over | Incl. | High | Low |
| — | 3 | +5 | -5 | +4 | -6 | 0 | -4 | 0 | -6 | 0 | -10 | -2 | -8 | -2 | -12 | -4 | -10 |
| 3 | 6 | +6 | -6 | +6 | -6 | 0 | -5 | +2 | -6 | +3 | -9 | -1 | -9 | 0 | -12 | -5 | -13 |
| 6 | 10 | +7 | -7 | +8 | -7 | +1 | -5 | +2 | -7 | +5 | -10 | -3 | -12 | 0 | -15 | -7 | -16 |
| 10 | 18 | +9 | -9 | +10 | -8 | +2 | -6 | +2 | -9 | +6 | -12 | -4 | -15 | 0 | -18 | -9 | -20 |
| 18 | 30 | +10 | -10 | +12 | -9 | +1 | -8 | +2 | -11 | +6 | -15 | -4 | -17 | 0 | -21 | -11 | -24 |
| 30 | 40 | +12 | -12 | +14 | -11 | +2 | -9 | +3 | -13 | +7 | -18 | -4 | -20 | 0 | -25 | -12 | -28 |
| 40 | 50 | | | | | | | | | | | | | | | | |
| 50 | 65 | +15 | -15 | +18 | -12 | +3 | -10 | +4 | -15 | +9 | -21 | -5 | -24 | 0 | -30 | -14 | -33 |
| 65 | 80 | | | | | | | | | | | | | | | | |
| 80 | 100 | +17 | -17 | +22 | -13 | +2 | -13 | +4 | -18 | +10 | -25 | -6 | -28 | 0 | -35 | -16 | -38 |
| 100 | 120 | | | | | | | | | | | | | | | | |
| 120 | 140 | +20 | -20 | +26 | -14 | +3 | -15 | +4 | -21 | +12 | -28 | -8 | -33 | 0 | -40 | -20 | -45 |
| 140 | 160 | | | | | | | | | | | | | | | | |
| 160 | 180 | | | | | | | | | | | | | | | | |
| 180 | 200 | +23 | -23 | +30 | -16 | +2 | -18 | +5 | -24 | +13 | -33 | -8 | -37 | 0 | -46 | -22 | -51 |
| 200 | 225 | | | | | | | | | | | | | | | | |
| 225 | 250 | | | | | | | | | | | | | | | | |
| 250 | 280 | +26 | -26 | +36 | -16 | +3 | -20 | +5 | -27 | +16 | -36 | -9 | -41 | 0 | -52 | -25 | -57 |
| 280 | 315 | | | | | | | | | | | | | | | | |
| 315 | 355 | +28 | -28 | +39 | -18 | +3 | -22 | +7 | -29 | +17 | -40 | -10 | -46 | 0 | -57 | -26 | -62 |
| 355 | 400 | | | | | | | | | | | | | | | | |
| 400 | 450 | +31 | -31 | +43 | -20 | +2 | -25 | +8 | -32 | +18 | -45 | -10 | -50 | 0 | -63 | -27 | -67 |
| 450 | 500 | | | | | | | | | | | | | | | | |

unit: μm

| N7 | | P6 | | P7 | | R7 | | S7 | | Nominal Diameter mm | |
|------|-----|------|-----|------|------|------|------|------|------|---------------------|-------|
| High | Low | High | Low | High | Low | High | Low | High | Low | Over | Incl. |
| -4 | -14 | -6 | -12 | -6 | -16 | -10 | -20 | -14 | -24 | — | 3 |
| -4 | -16 | -9 | -17 | -8 | -20 | -11 | -23 | -15 | -27 | 3 | 6 |
| -4 | -19 | -12 | -21 | -9 | -24 | -13 | -28 | -17 | -32 | 6 | 10 |
| -5 | -23 | -15 | -26 | -11 | -29 | -16 | -34 | -21 | -39 | 10 | 18 |
| -7 | -28 | -18 | -31 | -14 | -35 | -20 | -41 | -27 | -48 | 18 | 30 |
| -8 | -33 | -21 | -37 | -17 | -42 | -25 | -50 | -34 | -59 | 30 | 40 |
| | | | | | | | | | | 40 | 50 |
| -9 | -39 | -26 | -45 | -21 | -51 | -30 | -60 | -42 | -72 | 50 | 65 |
| | | | | | | | | | | 65 | 80 |
| -10 | -45 | -30 | -52 | -24 | -59 | -38 | -73 | -58 | -93 | 80 | 100 |
| | | | | | | | | | | 100 | 120 |
| -12 | -52 | -36 | -61 | -28 | -68 | -48 | -88 | -77 | -117 | 120 | 140 |
| | | | | | | | | | | 140 | 160 |
| | | | | | | | | | | 160 | 180 |
| -14 | -60 | -41 | -70 | -33 | -79 | -60 | -106 | -105 | -151 | 180 | 200 |
| | | | | | | | | | | 200 | 225 |
| | | | | | | | | | | 225 | 250 |
| -14 | -66 | -47 | -79 | -36 | -88 | -74 | -126 | -138 | -190 | 250 | 280 |
| | | | | | | | | | | 280 | 315 |
| -16 | -73 | -51 | -87 | -41 | -98 | -87 | -144 | -169 | -226 | 315 | 355 |
| | | | | | | | | | | 355 | 400 |
| -17 | -80 | -55 | -95 | -45 | -108 | -103 | -166 | -209 | -272 | 400 | 450 |
| | | | | | | | | | | 450 | 500 |

Environment-friendly **IKO** C-Lube Bearings Minimizing Lubricant Requirement



What is your trouble?

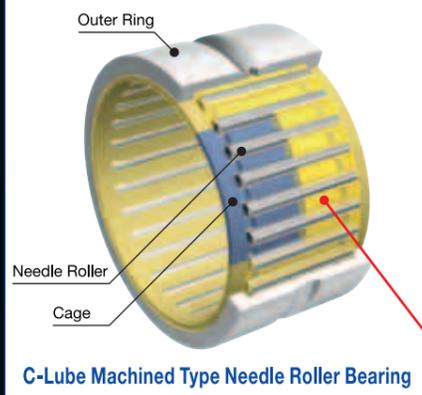
- 1 *Hard access to lubricating?*
- 2 *Machines and work places are dirty with lubricant?*
- 3 *Lubricating tools and instruments occupy the working places?*
- 4 *Having problems keeping up with lubrication maintenance schedule?*

Find solutions with **IKO**

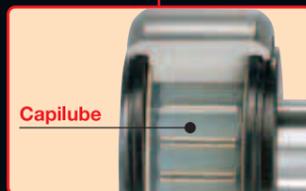
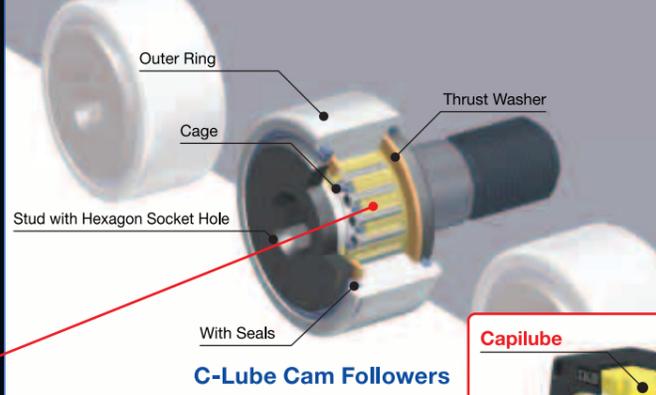
"C-Lube bearings" are **IKO's** unique maintenance free bearing products with thermosetting solid lubricant (Capilube) pre-packed in the bearing space. As the bearing rotates, the lubricating oil oozes out onto needle rollers and raceways in proper quantity keeping the lubrication performance for a long period of time.



For shaft support



For cam mechanisms and follower bearings



IKO Maintenance Free C-Lube Bearing

CAT-57165

Maintenance work can be reduced greatly

Requires no periodical lubrication and increases the productivity.

Minimizes the amount of lubricant and contributes to the earth environment

Contributes to the earth environment and reduces the running cost.

Suppresses machine designing and device costs

Working spaces can be utilized.



Main entrance of Gifu plant



Show room "IKO TODAY"



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