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

Cam Followers and Roller Followers

RoHS compliant

IKO NIPPON THOMPSON CO., LTD.

CAT-5509.2

IKO Cam Followers and Roller Followers

CAT-5509.2

Performance and quality substantiated by abundant actual operation results

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 a 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***

To page 17

C-Lube Unit for Cam Followers

Cam Followers Series

Roller Followers Series

Index

Cam Followers Series

Description

Dimension Tables

Roller Follower Series

Description

Dimension Tables

Applications • Special Specifications • Miscellaneous Tables

Cam Followers Series

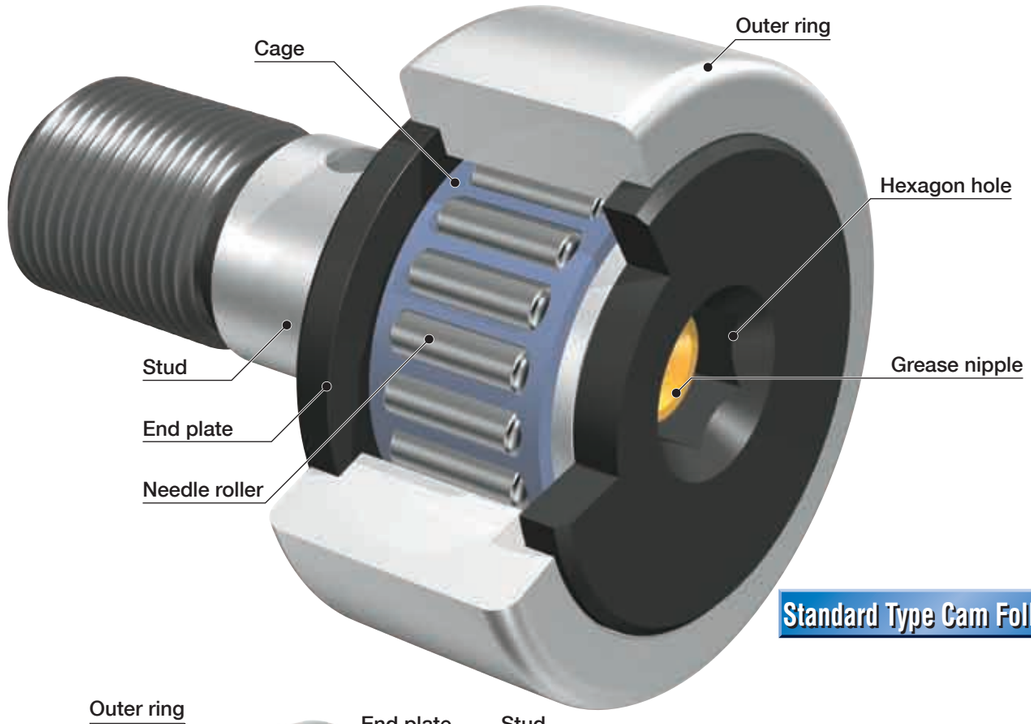
Description

Dimension Tables

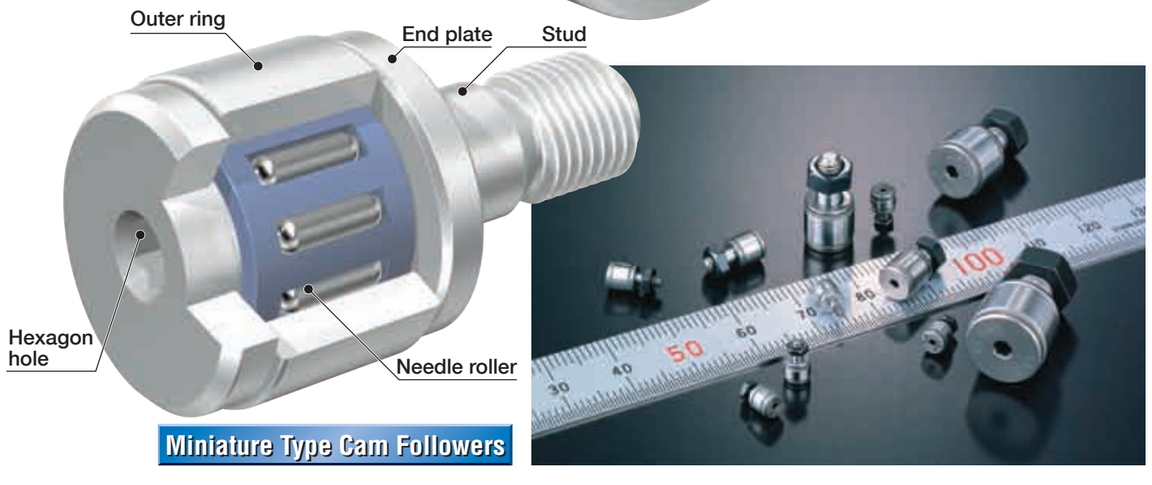
IKO Cam Followers RoHS compliant

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

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.

To page 7

2 Abundant product specifications selectable for each application

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.

To page 13

3 Provided with a hexagon hole that facilitates mounting

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

To page 15

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

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.

To page 16

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

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.

To page 17

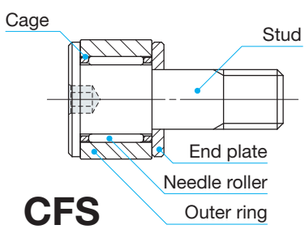
1 Full product lineup 1

Miniature Type Cam Followers

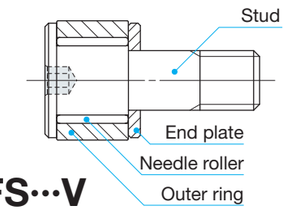
Stud diameter mm 2 to 6

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.



CFS



CFS···V

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

Thrust Disk Type Miniature Cam Followers

Stud diameter mm 1.4 to 6

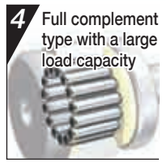
CFS···W

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



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

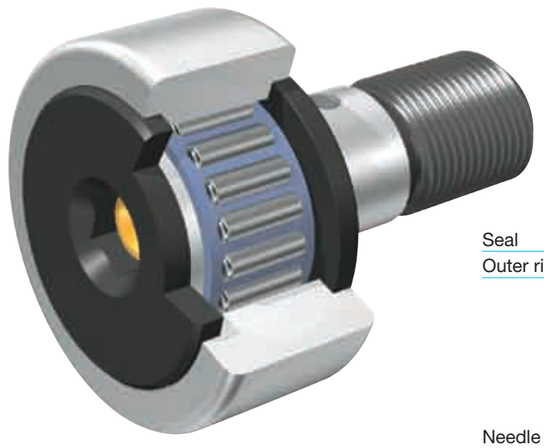
To page 33

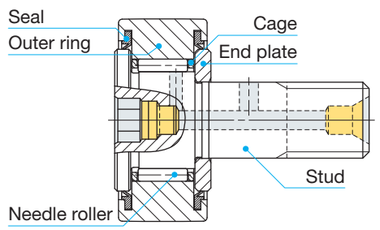
Standard Type Cam Followers

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

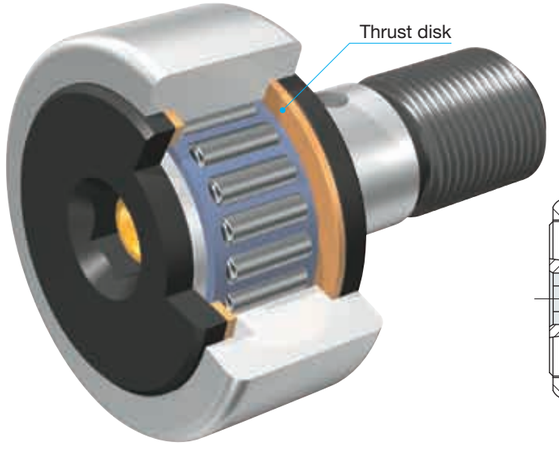
To page 35

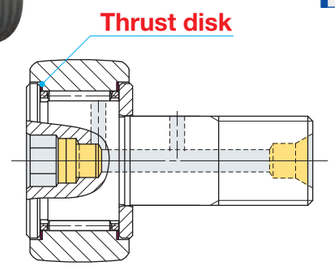
Thrust Disk Type Cam Followers

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

To page 39

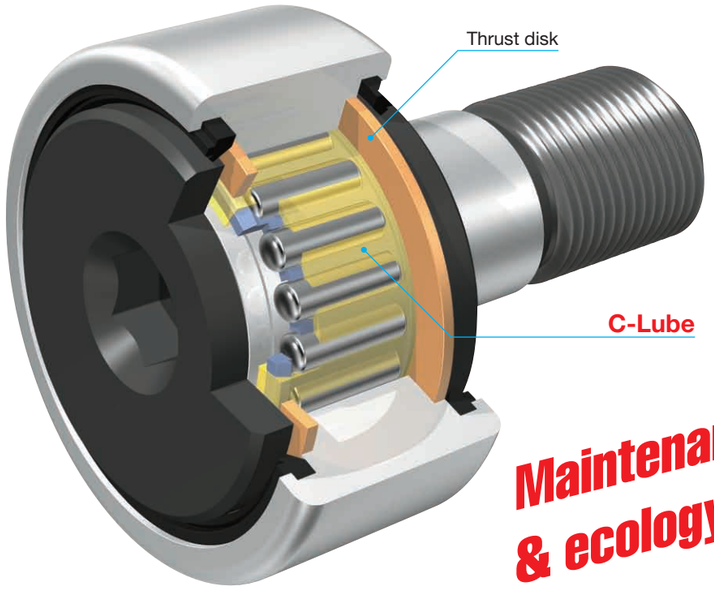
1 Full product lineup 2

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.



IKO C-Lube Maintenance-free®

Maintenance-free & ecology

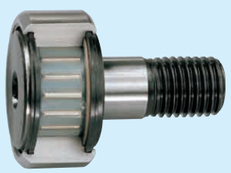
Selectable product specifications

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

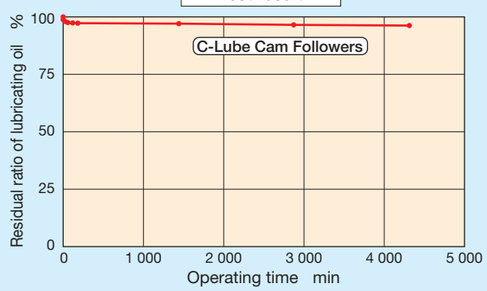
《Rotation endurance test》

Test conditions

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



Test result



To page 41

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.

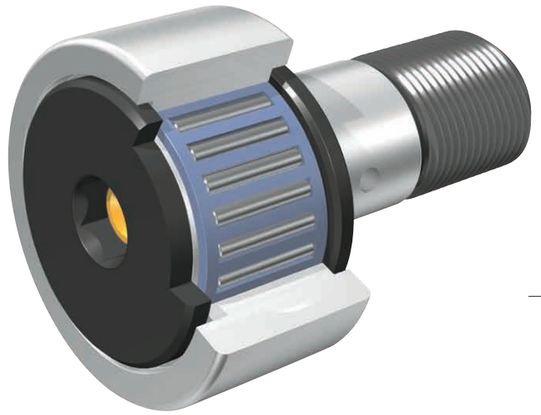
To page 17

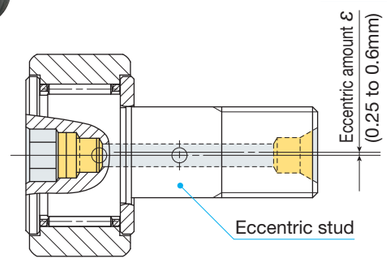
Solid Eccentric Stud Type Cam Followers

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

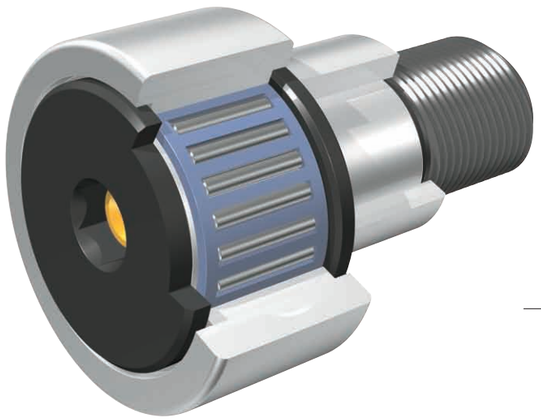
To page 43

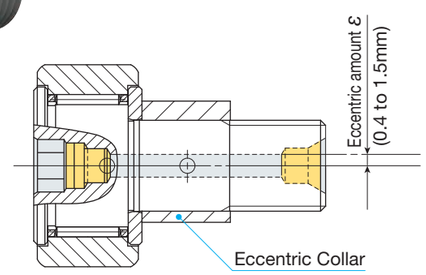
Eccentric Type Cam Followers

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

To page 45

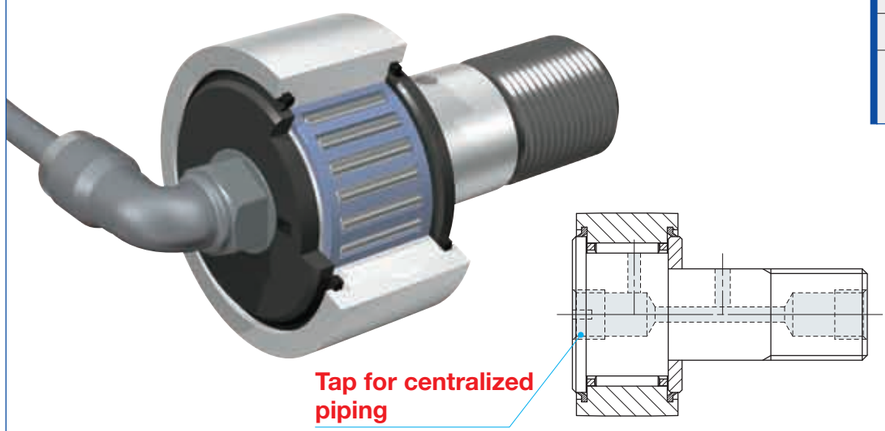
1 Full product lineup 3

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	Sealed type
Shape of outer ring	FU1	Cylindrical outer ring
	RU1	Crowned outer ring

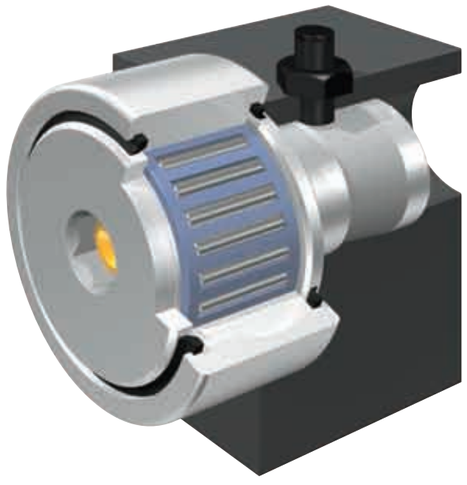
To page 49

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	Sealed type
Shape of outer ring	No symbol	Cylindrical outer ring

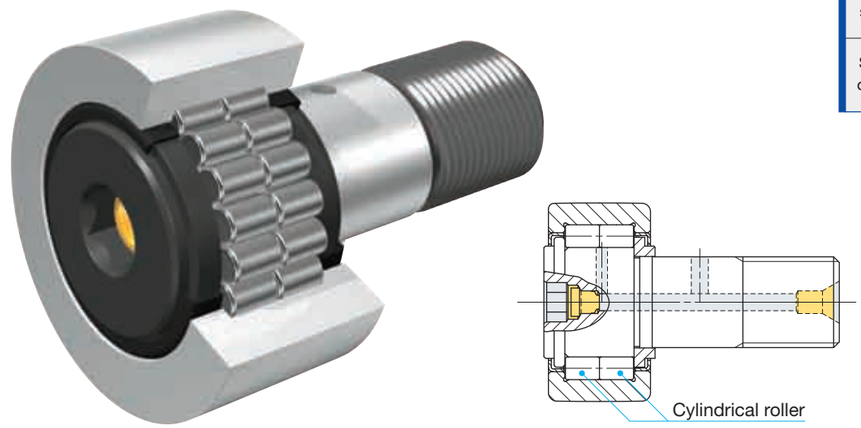
To page 51

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
Seal structure	No symbol	Shield type
	UU	Sealed type
Shape of outer ring	No symbol	Cylindrical outer ring
	R	Crowned outer ring

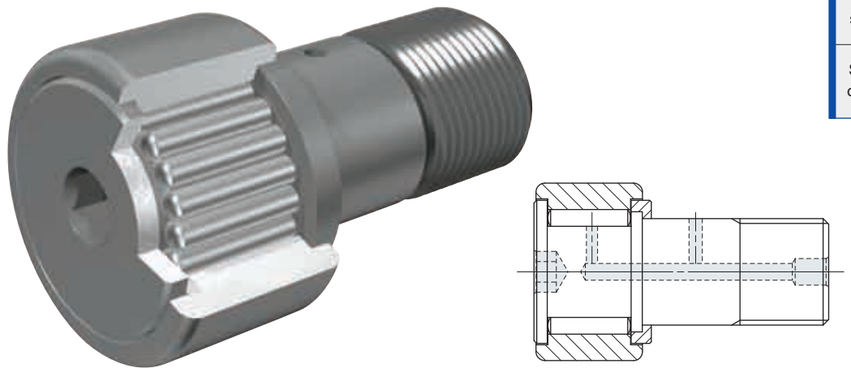
To page 53

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 55

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
		Full complement	Shield type	Cylindrical outer ring	CFS···WV	1.4	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
				Cylindrical outer ring	CF···B	3 – 30	Page 35
			Sealed type	Crowned outer ring	CF···BUUR	3 – 30	Page 35
				Cylindrical outer ring	CF···BUU	3 – 30	Page 35
		Full complement	Shield type	Crowned outer ring	CF···VBR	6 – 30	Page 37
				Cylindrical outer ring	CF···VB	6 – 30	Page 37
			Sealed type	Crowned outer ring	CF···VBUUR	6 – 30	Page 37
				Cylindrical outer ring	CF···VBUU	6 – 30	Page 37
	Stainless steel made	Caged	Shield type	Crowned outer ring	CF···FBR	3 – 20	Page 35
				Cylindrical outer ring	CF···FB	3 – 5	Page 35
			Sealed type	Crowned outer ring	CF···FBUUR	3 – 20	Page 35
				Cylindrical outer ring	CF···FBUU	3 – 5	Page 35
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
			Sealed type	Crowned outer ring	CFE···BUUR	6 – 30	Page 45
				Cylindrical outer ring	CFE···BUU	6 – 30	Page 45
		Full complement	Shield type	Crowned outer ring	CFE···VBR	6 – 30	Page 47
				Cylindrical outer ring	CFE···VB	6 – 30	Page 47
			Sealed 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

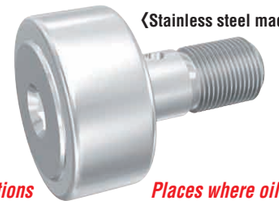
* For the product system of Inch Series Cam Followers, refer to the dimension tables on page 55 to page 66.

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.

〈Carbon steel made〉

For general applications



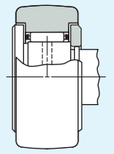
〈Stainless steel made〉

Places where oil should be avoided or water is scattered

Roller guide type

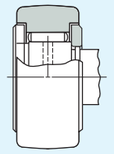
The caged type has a small coefficient of friction and is suitable for high-speed rotation.
The full complement type is suitable for low-speed rotation, rocking motion, and places to which a heavy load is applied.

For a place with a high rotation speed



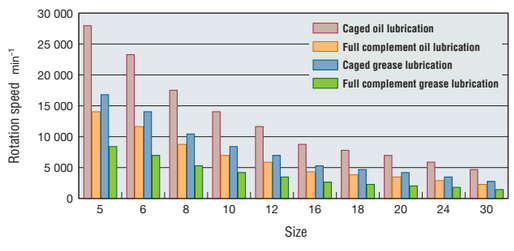
〈Caged〉

For low-speed rotation or heavy load

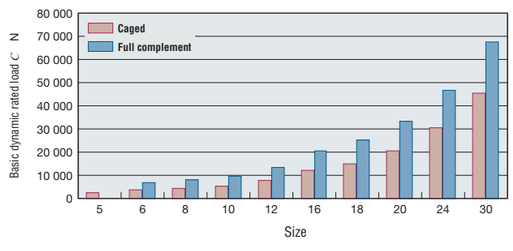


〈Full complement〉

Comparison in maximum rotation speed



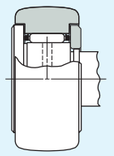
Comparison in dynamic rating load



Seal section structure

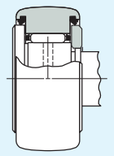
The shield type reduces the clearance between the outer ring and stud collar section and between the outer ring and end plate, forming a labyrinth.
The sealed type consists of seals to prevent foreign substances from entering.

For general applications



〈Shield type〉

For dust prevention or grease leak prevention

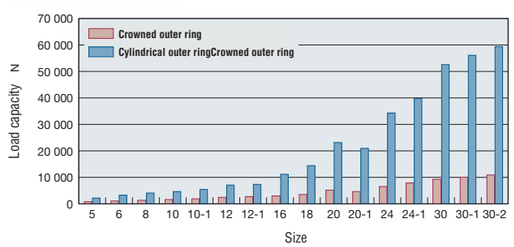


〈Sealed type〉

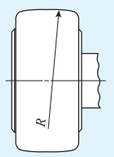
Shape of the external diameter surface of outer ring

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.

Comparison in track Capacity

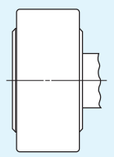


For relieving a mounting error



〈Crowned outer ring〉

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

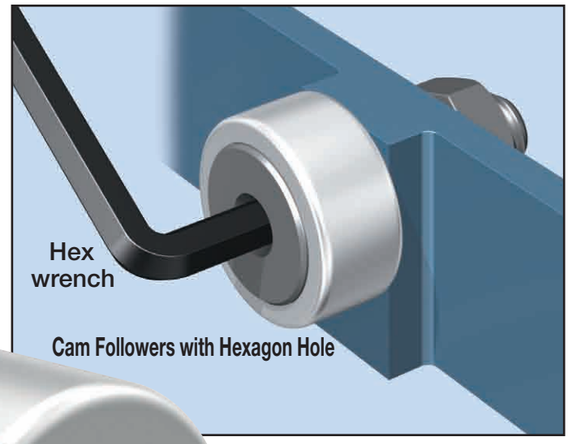


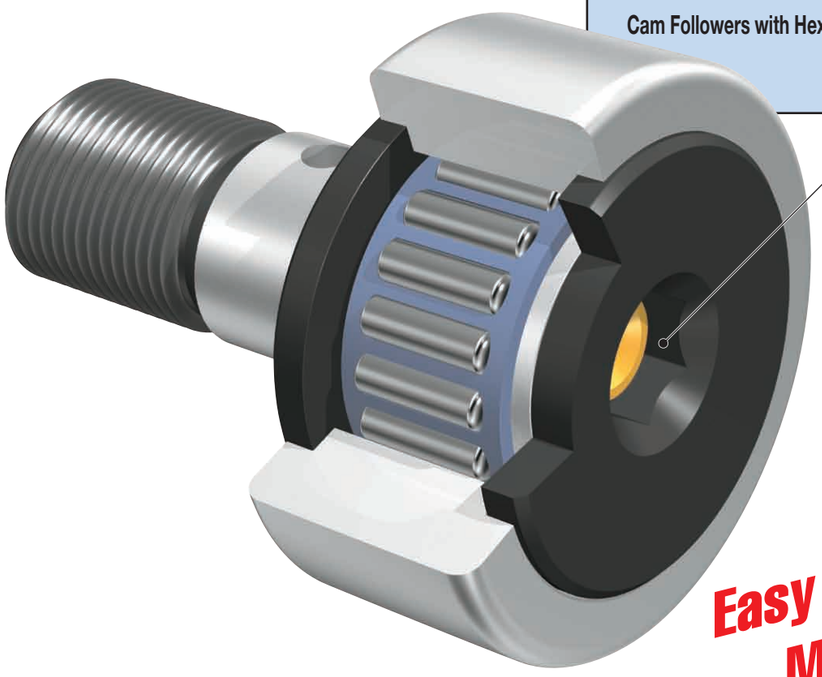
〈Cylindrical outer ring〉

❸ 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.





Easy Mounting

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.

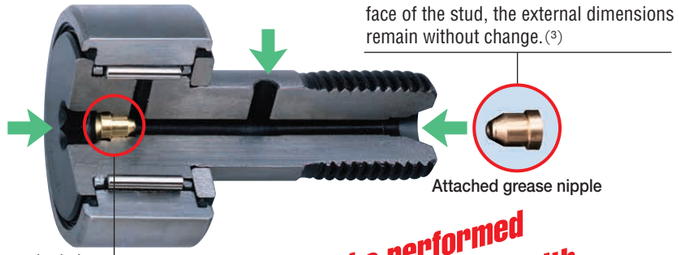
❹ IKO original structure that permits lubrication from the head of the stud

Original lubrication structure

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

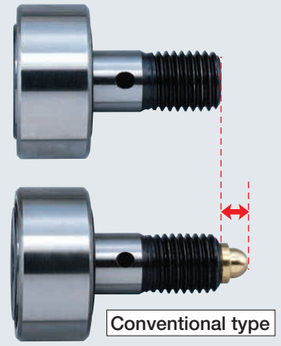
3 Way

Stud dia. **12** to **30mm**(2)



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

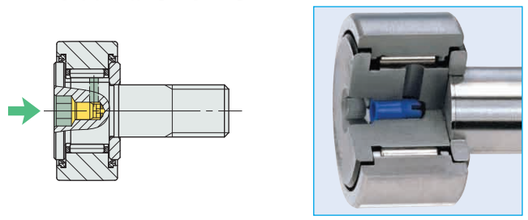
The nipple at the end of the stud is kindly designed so as to avoid any projection.

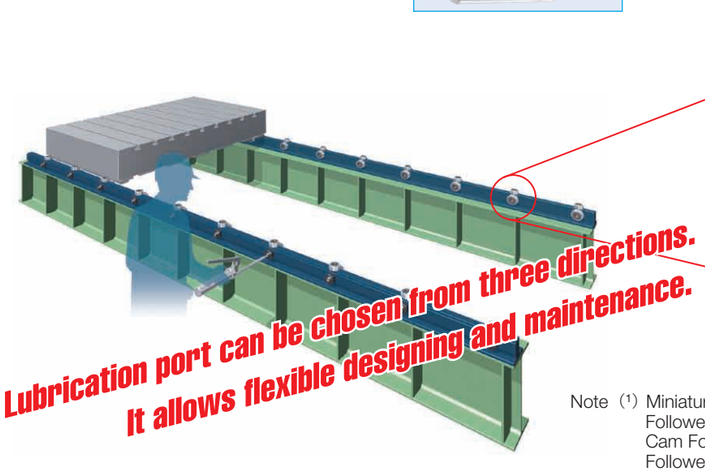


It is also unnecessary to select the cap or grease nipple according to the direction of lubrication.

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.

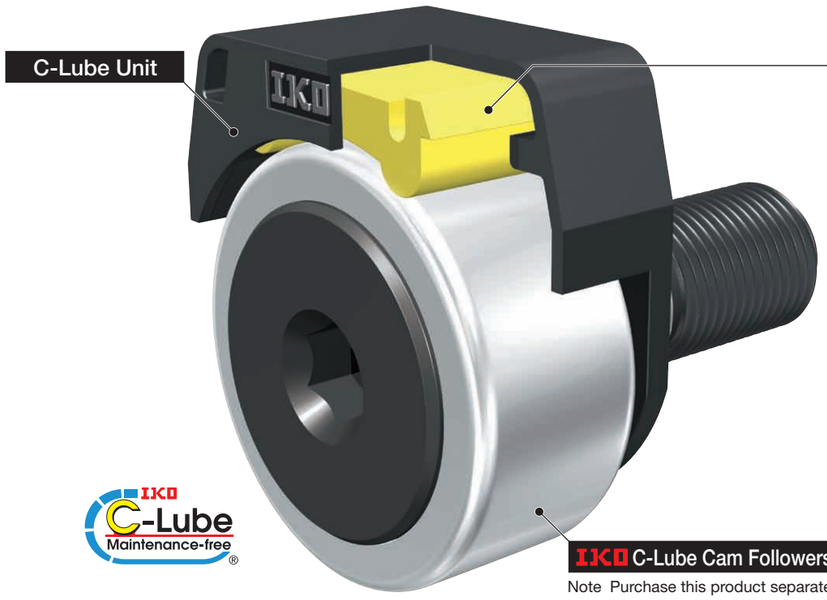
5 C-Lube Unit for Cam Followers based on a new concept

IKO C-Lube Unit for Cam Followers CL

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.

To page 29

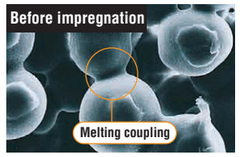
Lubrication onto the track surface is not required for a long time.



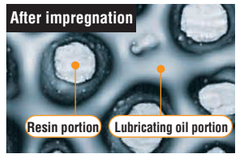
Note Purchase this product separately from IKO C-Lube Unit.

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.

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

Lubrication maintenance for the track surface is not appropriate.

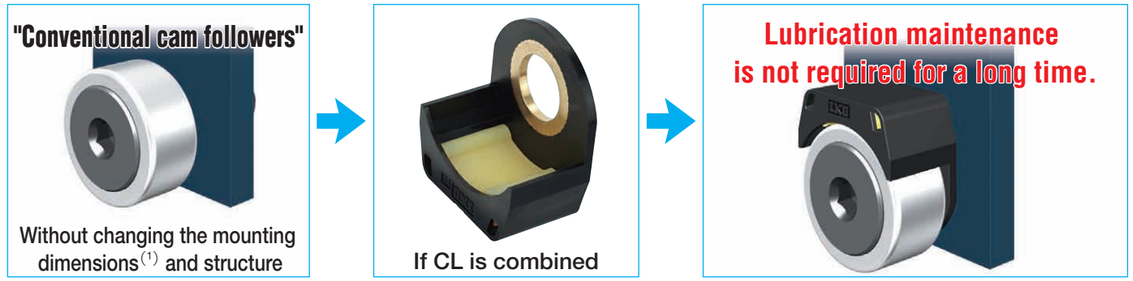
If a shortage of oil occurs, abrasion will be caused by reddish brown rust.

If grease is too much, it will scatter and cause environmental pollution.

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

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.

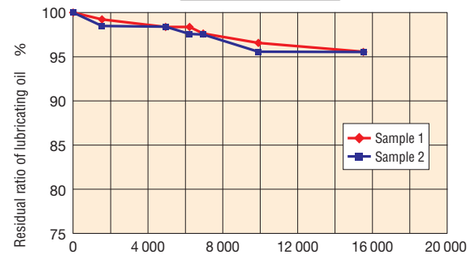
《Endurance test》

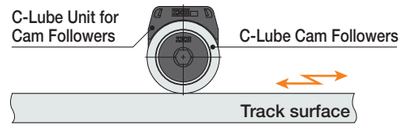
Test conditions(2)

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.

Test result





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

Full Maintenance Free

Solid lubrication provides long time operation free from re-lubrication.

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 Follwer is Full conplement 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 fomula.

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

where, L_{10} : Basic rating life, 10^6rev.
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:

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

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.

$$f_s=\frac{C_0}{P_{0r}} \quad \cdots\cdots(3)$$

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 lmited 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

Dimensions and symbols \ Series	Miniature CFS series	Metric CF series(1)		Inch series	
		Crowned outer ring	Cylindrical outer ring	Crowned outer ring	Cylindrical outer ring
Outside dia. of outer ring D	See Table 4.1	0 −50	See Table 4.2	0 −50	See Table 4.3
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

Δ_{Dmp} Single plane mean outside dia. deviation								K_{ea} 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		Δ_{Dmp} 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_{ea} 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		Δ_{Dmp} 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_{ea} 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

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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

unit: N

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)

unit: N

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

unit: N

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

unit: N

Hardness HRC	Tensile strength N/mm²	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

○ : With prepacked grease × : Without prepacked grease

Series \ Type / Size of stud dia. d_1(1) mm		With cage		Full complement type
		Shield type	Sealed type	
Miniature series	CFS	○	—	○
	CFS⋯W			
Metric series	CF⋯B, $d_1 \leqq 5$	○	○	—
	CF⋯WB, CFES⋯B, $6 \leqq d_1 \leqq 10$			○
	CFE⋯B, $12 \leqq d_1$	×		
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	—	—	○

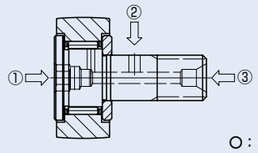
Notes(1) For Eccentric Type Cam Followers (CFE), thread diameter G shown in the table of dimensions is applicable.
(2) This Cam Follower incorporates C-Lube which includes a large amount of lubricating oil.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

Oil Hole

The position of oil hole is shown in Table 12. Re-greasing cannot be made for models without a oil hole.
Grease should be supplied gently with a straight type grease gun as specified by JIS B 9808:1991, which is applied carefully to the nipple head from the front.
When NPT type grease nipple on Table 18 or NPB type grease nipple on Table 16 is attached on stud end, it is possible to lubricate with a general grease gun from NPT or NPB type grease nipple without lubrication nozzle on Table 13.
Some type of Cam Followers that oil hole is not prepared on Table 12 cannot be lubricated.

Table 12 Position of oil hole

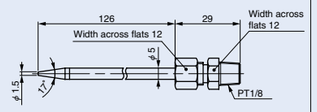
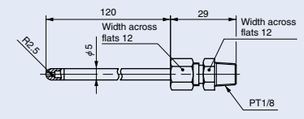
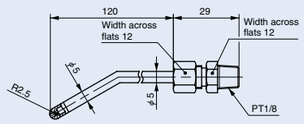
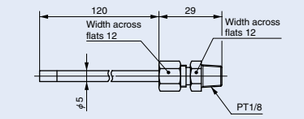
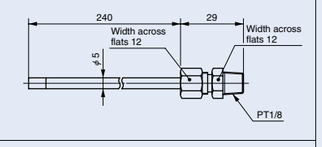
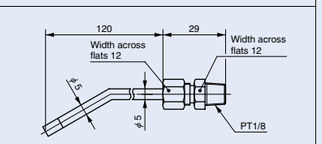
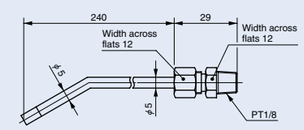


○ : Oil hole is prepared.

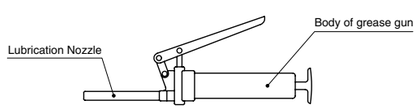
Series / Size of stud dia. d_1(1) mm	Position of oil hole	① Stud head	② Stud outside surface	③ Stud end
Miniature Type Cam Follower CFS Thrust Disk Type Miniature Cam Follower CFS…W		–	–	–
Standard Type Cam Follower CF…B Thrust Disk Type Cam Follower CF…WB	$d_1 \leqq 4$	–	–	–
Solid Eccentric Stud Type Cam Follower CFES…B Eccentric Type Cam Follower CFE…B	$5 \leqq d_1 \leqq 10$	○(2)	–	–
Cylindrical Roller Cam Follower NUCF…B	$10 < d_1$	○(3)	○	○
C-Lube Cam Follower	CF…WB…/SG	–	–	–
Centralized Lubrication Type Cam Follower(4) CF−RU1, CF−FU1	$d_1 \leqq 12$	○	–	–
	$12 < d_1$	○	○	○
Easy Mounting Type Cam Follower CF−SFU…B	$d_1 \leqq 10$	○(2)	–	–
	$10 < d_1$	○(5)	–	–
Inch series Cam Follower CR…B (With Hexagon socket)	$d_1 \leqq 6.35$	–	–	–
	$6.35 < d_1$	–	○	○
Inch series Cam Follower CR (With Screw driverslot)	$d_1 \leqq 6.35$	○	–	–
	$6.35 < d_1$	○	○	○
Inch series Cam Follower CRH…B (With Hexagon socket)	$d_1 \leqq 7.938$	–	–	–
	$7.938 < d_1$	–	○	○
Inch series Cam Follower CRH (With Screw driverslot)	$d_1 \leqq 7.938$	○	–	–
	$7.938 < d_1$	○	○	○

Notes(1) In case of Eccentric Type Cam Followers (CFE), thread diameter G shown in the table of dimensions is applicable in place of stud dia. and the oil hole on the outer surface of the stud cannot be used for lubrication.
(2) Re-lubrication can be made from the re-greasing fitting that is inserted into the hexagon hole.
(3) Grease nipple is incorporated in the hexagon hole. Re-greasing can be made from the stud head and the stud end by press fitting a supplied grease nipple into the stud end.
(4) Tapped holes for oil connectors are provided at the stud end and hole of the head.
(5) Re-greasing can be made from the grease nipple in the hexagon hole.

Table 13 Type and Dimension of Lubrication Nozzles

Type	Dimension	Applicable grease nipple and re-grease fitting
A-5126T		NPF4-1(1) NPF6-1(1) Re-grease fitting(1)
A-5120R		NPF4-1(1) NPF6-1(1)
B-5120R		
A-5120V		NPT4-1 NPT6-1 NPB2 NPB3 NPB3-1 NPB4
A-5240V		
B-5120V		
B-5240V		

Note(1) HSP-3(Yamada Corporation)can be used for them.
Remark The above nozzles can be atached on the standard grease gun shown below.
If required, please consule to IKO with type of lubrication Nozzle.



Accessories

Cam Follower accessories are shown in Table 14. Grease nipple dimensions are shown in Table 15. Dimensions of plug for unused oil hole and dimensions of plug inserter are shown in Table 17.

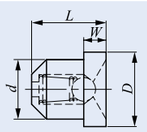
Table 14 Accessories

○ : Attached

Series / Size of stud dia. d_1(1) mm / Accessories		Grease nipple	Plug	Nut	Spring washer
Miniature Type Cam Follower CFS Thrust Disk Type Miniature Cam Follower CFS…W		–	–	○	–
Standard Type Cam Follower CF…B Thrust Disk Type Cam Follower CF…WB	$d_1 \leqq 10$	–	–	○	–
Solid Eccentric Stud Type Cam Follower CFES…B Cylindrical Roller Cam Follower NUCF…B	$12 \leqq d_1$	○	–	○	–
C-Lube Cam Follower CF…WB…/SG		–	–	○	–
Eccentric Type Cam Follower CFE…B	$d_1 \leqq 10$	–	–	○	○
	$12 \leqq d_1$	○	–	○	○
Centralized Lubrication Type Cam Follower CF−RU1、CF−FU1		–	–	○	–
Easy Mounting Type Cam Follower CF−SFU…B		–	–	–	–
Inch series Cam Follower CR…B	$d_1 \leqq 6.35$	–	–	○	–
(With Hexagon socket)	$9.525 \leqq d_1$	○	○	○	–
Inch series Cam Follower CR (With Screw driverslot)		○	○	○	–
Inch series Cam Follower CRH…B	$d_1 \leqq 7.938$	–	–	○	–
(With Hexagon socket)	$11.112 \leqq d_1$	○	○	○	–
Inch series Cam Follower CRH (With Screw driverslot)		○	○	○	–

Note(1) For Eccentric Type Cam Follower CFE, thead diameter G is applied.

Table 15 Dimensions of grease nipple for standerd Cam Follwer(1)



Code number	Dimensions mm				Size of stud dia. d_1(2)
	d	D	L	W	mm
NPF4-1	4	5	5	1.5	12～16
NPF6-1	6	7	8	2	18～30

Notes(1) This table is applicable except Inch series.
(2) For Eccentric Type Cam Follower CFE, thead diameter G is applied.

Table 16 Dimensions of Grease nipple for Inch series

Code number	Dimensions mm						Applicable Cam Followers
	d	D	D_1	L	L_1	W	
NPB2	3.18	7.5	6	9	5.5	1.5	CR8～CR10-1、CRH8-1～CRH11
NPB3	4.76	7.5	6	10	5.5	1.5	CR12～CR22、CRH12～CRH22
NPB3-1	4.76	7.5	6	12.5	5.5	1.55	CR24～CR36、CRH24～CRH44
NPB4	6.35	8.5	6	13	6	2	CR48、CRH48～CRH64

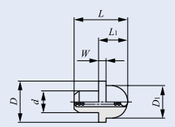
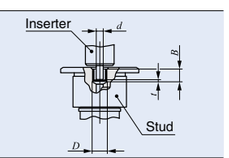


Table 17 Dimensions of plug for Inch series

Code number	Dimensions of plug mm			Dimension of inserter mm	Applicable Cam Followers
	D	t	B	$d\ {}^{0}_{-0.1}$	
USB2F	3.18	0.3	3.3	2.3	CR8～CR10-1
USB3F	4.76	0.4	4.3	3.7	CR12～CR36、CRH12～CRH44
USB4F	6.35	0.5	4.8	5.2	CR48、CRH48～CRH64

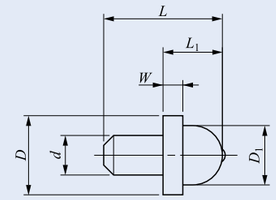


Optional Specification

NPT type grease nipple in Table 18 can be attached instead of standard accessories by direction. With NPT type grease nipple, it is possible to lubricate with a general grease gun (JIS B 9808:1991) without lubrication nozzle on Table 13. If required, please order with supplemental code, "/NP" at the end of identification number.

Example of Identification Number.
CF 12 BUUR／NP

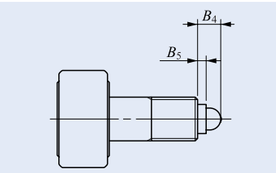
Table 18 Dimension of NPT type grease nipple.



Code number	Dimension of grease nipple mm						Size of stud dia. d_1(1)
	d	D	D_1	L	L_1	W	mm
NPT4-1	4	8	6	12	6	2	12～16
NPT6-1	6	8	6	14	8	4	18～30

Note(1) For Eccentric Type Cam Follower CFE, thead diameter G is applied.

Table 19 Dimension of assembled NPT type grease nipple.



Code number	Dimension mm		Size of stud dia. d_1(1)
	B_4	B_5	mm
NPT4-1	6	2	12～16
NPT6-1	6	2	18～30

Note(1) For Eccentric Type Cam Follower CFE, thead diameter G is applied.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

Operating Temperature Range

The operating temperature range for IKO Cam Followers is -20˚C～+120˚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		With cage	
		Shield type	Sealed type
Miniature Type Cam Followers CFS Thrust Disk Type Miniature Cam Followers CFS…W	$d_1=2$	−20℃～110℃(1)	–
Standard Type Cam Followers CF…B	$d_1=3, 4$	−20℃～110℃(1)	−20℃～80℃
Thrust Disk Type Cam Followers CF…WB	$d_1=5$	−20℃～120℃	−20℃～80℃
Stainless Steel Standard Type Cam Followers CF…FB Stainless Steel Thrust Disk Type Cam Followers CF…FWB	$3 \leqq d_1 \leqq 5$	−20℃～110℃(1)	−20℃～80℃
C-Lube Cam Followers CF…WB…/SG	$5 \leqq d_1 \leqq 20$	–	−15℃～80℃(2)

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

Mounting

❶Make 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.

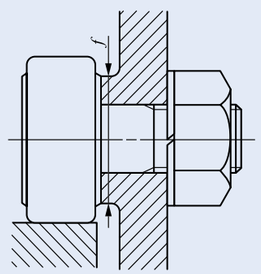


Fig. 1 Seating surface

❷The 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.

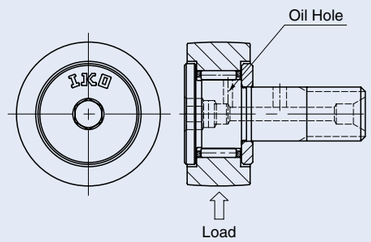


Fig. 2 Oil hole position and loading direction

❸When 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.

❹Solid 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.

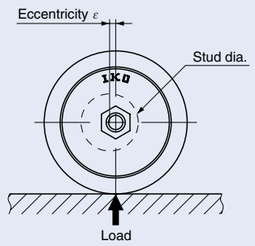


Fig. 3 Reference position for adjusting of Solid Eccentric Stud Type Cam Followers and Eccentric Type Cam Follwers

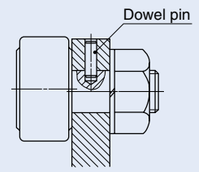


Fig. 4 Mounting example of Solid Eccentric Stud Type Cam Follower

❺In 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.)

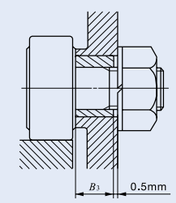
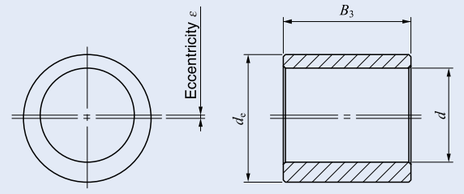


Fig. 5 Length of the mounting hole of Eccentric Type Cam Follower

❻Eccentric callor 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



unit: mm

Identifical number of collar	Outer diameter of collar de	Length of collar B_3	Eccentricity ε	Stud dia. d	Applicable Cam Followers
EB 8	6.350 (1/4)	6.350 (1/4)	0.250	4.826	CR 8 CR 8-1 (V)(B)(R)(UU)
EB10	9.525 (3/8)	9.525 (3/8)	0.380	6.350 (1/4)	CR10 CR10-1 (V)(B)(R)(UU)
EB12	12.700 (1/2)	12.700 (1/2)	0.380	9.525 (3/8)	CR12 CR14 (V)(B)(R)(UU)
EB16	15.875 (5/8)	15.875 (5/8)	0.760	11.112 (7/16)	CR16 CR18 (V)(B)(R)(UU)
EB20	17.450	17.450	0.760	12.700 (1/2)	CR20 CR22 (V)(B)(R)(UU)
EB24	22.225 (7/8)	22.225 (7/8)	0.760	15.875 (5/8)	CR24 CR26 (V)(B)(R)(UU)
EB28	25.400 (1)	25.400 (1)	0.760	19.050 (3/4)	CR28 CR30 (V)(B)(R)(UU)
EB32	30.150	30.150	0.760	22.225 (7/8)	CR32 CR36 (V)(B)(R)(UU)
EB48	44.450 (1 3/4)	44.450 (1 3/4)	1.520	31.750 (1 1/4)	CR48 VUU

❼For 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.)

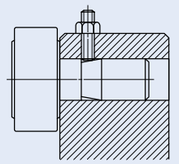


Fig. 6 Mounting example of Easy Mounting Type Cam Follower

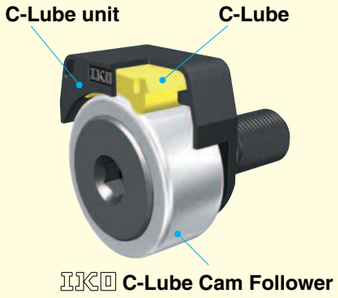
Precaution For Use

❶Do 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.

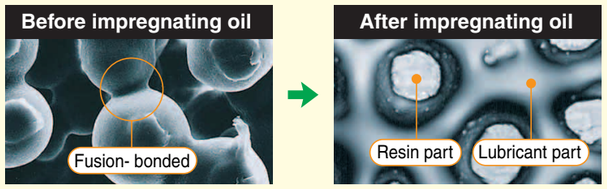
❷To ensure normal rotation of the C-Lube Cam Follower, apply a load of 1% or over of the dynamic load rating at use.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

Structure of C-Lube Unit for Cam Followers



Magnified photos of C-Lube

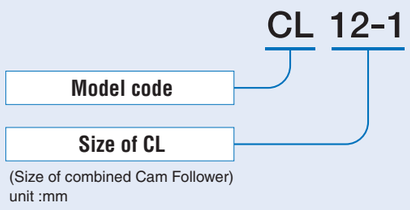


Resin particles are strongly fusion bonded.

Lubricant is retained in cavities amongst resin particles.

Identification number

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



Allowable rotation speed

The rotation speed of IKO Cam Follower with C-Lube Unit should not exceeded d_1n=10,000 for reference.

$d_1n=d_1 \times n$

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.

Mounting

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

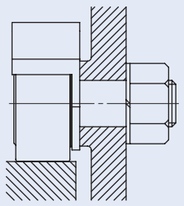


Fig. 7 Mounting of C-Lube Unit

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

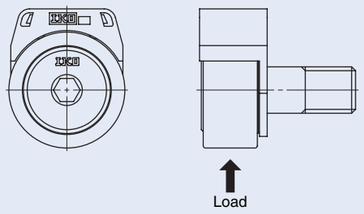
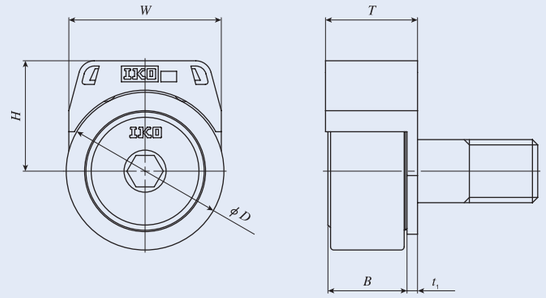


Fig. 8 Load direction of Cam Follwer

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

❹In 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		
	W	H	T	t_1	Model number(1)	Boundary Dimensions mm D	B max
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

❶The 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 roatation and lubricating performance by excessive load.

❷After assemling 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.

❸Do not use in the environment which contamination of liquid and/or harmful foreign matter are expected.

❹Do 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.

❺To 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.

❻Replace with new C-Lube Unit when inside oil finishes completely. Re-lubrication is not possible.

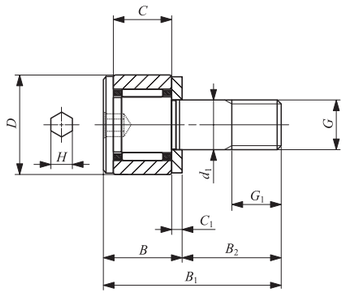
❼Do not apply a load onto the C-Lube Unit directly.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

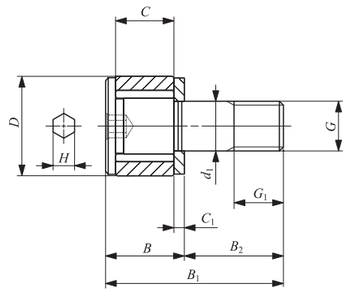
IKO Miniature Type Cam Followers With Hexagon Hole

Selectable product specifications

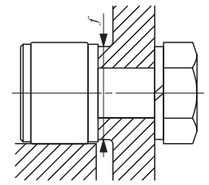
Material	No symbol	Carbon steel
	F	Stainless steel
Roller guide type	No symbol	Caged
	V	Full complement
Seal structure	No symbol	Shield type
	UU	Sealed type
Shape of outer ring	No symbol	Cylindrical outer ring
	R	Crowned outer ring



CFS
CFS···F



CFS···V
CFS···FV



Stud dia.	Identification number		Mass (Ref.)	Boundary dimensions mm					
	With cage	Full complement		D	C	d_1	G	G_1	B
mm			g						
2	CFS 2	—	0.6	4.5	2.5	2	M2 ×0.4	2	4
	—	CFS 2 V							
	CFS 2 F	—							
	—	CFS 2 FV							
2.5	CFS 2.5	—	1	5	3	2.5	M2.5 ×0.45	2.5	4.5
	—	CFS 2.5 V							
	CFS 2.5 F	—							
	—	CFS 2.5 FV							
3	CFS 3	—	2	6	4	3	M3 ×0.5	3	5.5
	—	CFS 3 V							
	CFS 3 F	—							
	—	CFS 3 FV							
4	CFS 4	—	4	8	5	4	M4 ×0.7	4	7
	—	CFS 4 V							
	CFS 4 F	—							
	—	CFS 4 FV							
5	CFS 5	—	7	10	6	5	M5 ×0.8	5	8
	—	CFS 5 V							
	CFS 5 F	—							
	—	CFS 5 FV							
6	CFS 6	—	13	12	7	6	M6 ×1	6	9.5
	—	CFS 6 V							
	CFS 6 F	—							
	—	CFS 6 FV							

B_1	B_2	C_1	H	Mounting dimension f Min. mm	Maximum tightening torque N-cm	Basic dynamic load rating C N	Basic static load rating C_0 N	Maximum allowable static load N
8	4	0.7	0.9	4.3	9.1	288 768	202 734	202 229
						230 614	161 587	161 229
9.5	5	0.7	0.9	4.8	18.7	428 1 000	351 1 080	351 360
						342 800	281 862	281 360
11.5	6	0.7	1.3	5.8	33.5	629 1 420	611 1 790	484 484
						504 1 140	488 1 430	484 484
15	8	1.0	1.5	7.7	77.7	1 120 2 370	1 120 3 000	919 919
						897 1 900	894 2 400	894 919
18	10	1.0	2	9.6	158	1 570 3 180	1 850 4 700	1 570 1 570
						1 250 2 540	1 480 3 760	1 480 1 570
21.5	12	1.2	2.5	11.6	268	2 090 4 610	2 200 6 250	2 150 2 150
						1 670 3 690	1 760 5 000	1 760 2 150

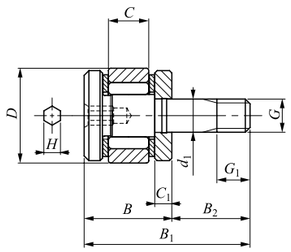
Remarks1. No oil hole is provided.
2. Provided with prepacked grease.
3. A nut is supplied with the stud.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

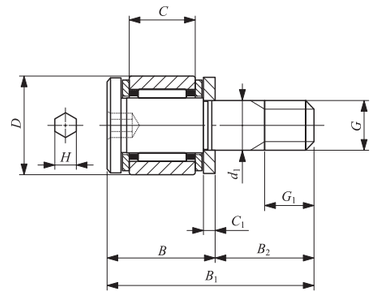
IKO Thrust Disk Type Miniature Cam Followers With Hexagon Hole

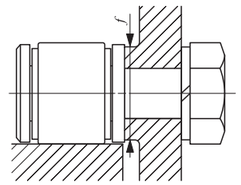
Selectable product specifications

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: With cage	Identification number: Full complement	Mass (Ref.) g	Boundary dimensions mm: 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	—							

B_1	B_2	C_1	H	Mounting dimension f Min. mm	Maximum tightening torque N-cm	Basic dynamic load rating C N	Basic static load rating C_0 N	Maximum allowable static load 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

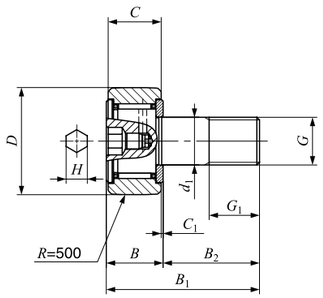
Remarks1. No oil hole is provided.
2. Provided with prepacked grease.
3. A nut is supplied with the stud.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

IKO Standard Type Cam Followers With Cage/With Hexagon Hole

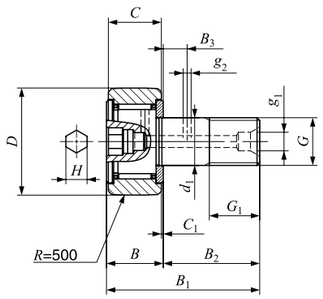
Selectable product specifications

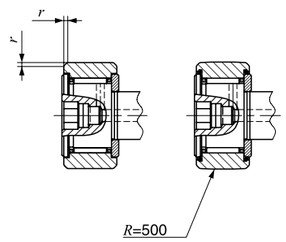
Material	No symbol	Carbon steel
	F	Stainless steel
Roller guide type	No symbol	Caged
	V	Full complement
Seal structure	No symbol	Shield type
	UU	Sealed type
Shape of outer ring	No symbol	Cylindrical outer ring
	R	Crowned outer ring

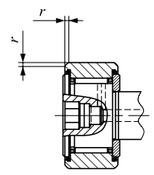


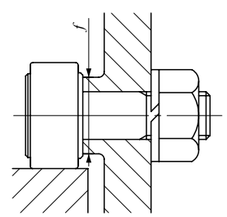
CF···(F)BR

Stud dia d_1 3 to 10mm









CF···(F)BR CF···(F)B CF···(F)BUUR CF···(F)BUU

Stud dia d_1 12 to 30mm

Stud dia. mm	Identification number: Shield type, With crowned outer ring	Identification number: Shield type, With cylindrical outer ring	Identification number: Sealed type, With crowned outer ring	Identification number: Sealed type, With cylindrical outer ring	Mass (Ref.) g	D	C	d_1	G	G_1
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

Boundary dimensions mm: B	B_1	B_2	B_3	C_1	g_1	g_2	H	$r_{s\,min}$ (1)	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	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

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.

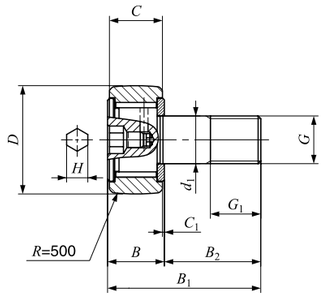
3. A nut is supplied with the stud.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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

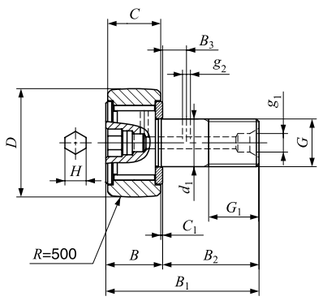
Selectable product specifications

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

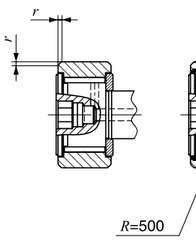


CF⋯VBR

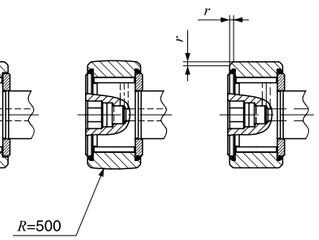
Stud dia d_1 6 to 10mm



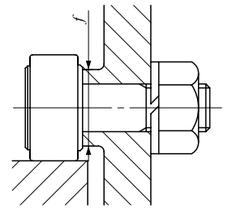
CF⋯VBR



CF⋯VB



CF⋯VBUUR



CF⋯VBUU

Stud dia d_1 12 to 30mm

Stud dia. mm	Identification number: Shield type, With crowned outer ring	Identification number: Shield type, With cylindrical outer ring	Identification number: Sealed type, With crowned outer ring	Identification number: Sealed type, With cylindrical outer ring	Mass (Ref.) g	D	C	d_1
6	CF 6 VBR	CF 6 VB	CF 6 VBUUR	CF 6 VBUU	19	16	11	6
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	29	19	11	8
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	46	22	12	10
	CF 10-1 VBR	CF 10-1 VB	CF 10-1 VBUUR	CF 10-1 VBUU	61	26	12	10
	CF 10-1 VBRM	CF 10-1 VBM	CF 10-1 VBUURM	CF 10-1 VBUUM	61	26	12	10
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	107	32	14	12
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	390	47	24	20
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	1 140	72	29	24
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	2 030	85	35	30
	CF 30-2 VBR	CF 30-2 VB	CF 30-2 VBUUR	CF 30-2 VBUU	2 220	90	35	30

Boundary dimensions mm: G	G_1	B max	B_1 max	B_2	B_3	C_1	g_1	g_2	H	$r_{s\,min}$ (1)	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
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

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.

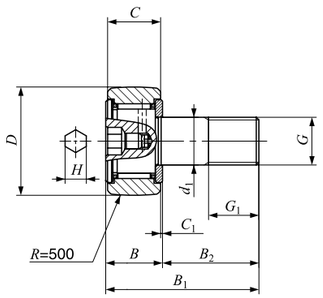
3. A nut is supplied with the stud.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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

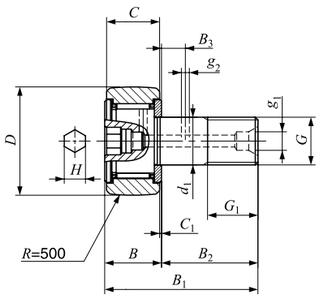
Selectable product specifications

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



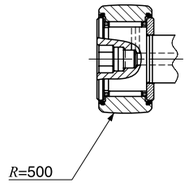
CF···(F)WBR

Stud dia d_1 3 to 10mm

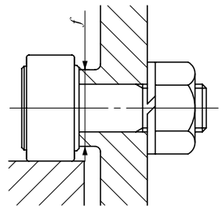


CF···WBR

Stud dia d_1 12 to 20mm



CF···(F)WBUUR



Stud dia. mm	Identification number: Shield type	Identification number: Sealed type	Mass (Ref.) g	Boundary dimensions mm: 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

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

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.

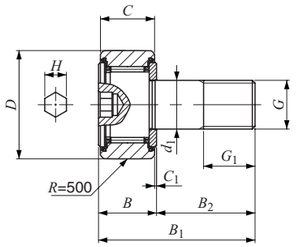
3. A nut is supplied with the stud.

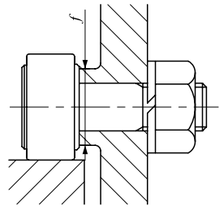
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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	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
5	**CF 5 WBUUR/SG**	10.3	13	9	5	M 5 ×0.8	7.5	10	23	13	0.5	3	9.3	1.6	2 520	2 140	1 260
6	**CF 6 WBUUR/SG**	18.5	16	11	6	M 6 ×1	8	12.2 max	28.2 max	16	0.6	3	11	2.7	3 660	3 650	1 950
8	**CF 8 WBUUR/SG**	28.5	19	11	8	M 8 ×1.25	10	12.2 max	32.2 max	20	0.6	4	13	6.5	4 250	4 740	4 620
10	**CF 10 WBUUR/SG**	45	22	12	10	M10 ×1.25	12	13.2 max	36.2 max	23	0.6	4	16	13.8	5 430	6 890	6 890
	CF 10-1 WBUUR/SG	60	26	12	10	M10 ×1.25	12	13.2 max	36.2 max	23	0.6	4	16	13.8	5 430	6 890	6 890
12	**CF 12 WBUUR/SG**	95	30	14	12	M12 ×1.5	13	15.2 max	40.2 max	25	0.6	6	21	21.9	7 910	9 790	9 790
	CF 12-1 WBUUR/SG	105	32	14	12	M12 ×1.5	13	15.2 max	40.2 max	25	0.6	6	21	21.9	7 910	9 790	9 790
16	**CF 16 WBUUR/SG**	170	35	18	16	M16 ×1.5	17	19.6 max	52.1 max	32.5	0.8	6	26	58.5	12 000	18 300	18 300
18	**CF 18 WBUUR/SG**	250	40	20	18	M18 ×1.5	19	21.6 max	58.1 max	36.5	0.8	8	29	86.2	14 800	25 200	25 200
20	**CF 20 WBUUR/SG**	460	52	24	20	M20 ×1.5	21	25.6 max	66.1 max	40.5	0.8	8	34	119	20 700	34 600	34 600
	CF 20-1 WBUUR/SG	385	47	24	20	M20 ×1.5	21	25.6 max	66.1 max	40.5	0.8	8	34	119	20 700	34 600	34 600

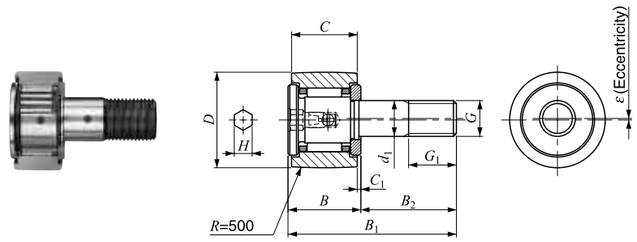
Remarks1. Please do not Wash with organic solvent and/or white kerosene which have the ability to remove fat.
2. To ensure normal rotation of the bearing, apply a load of 1% or more of the basic dynamic load rating at use.
3. The operating temperature range is -15～+80°C. Continuous operating temperature 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.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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

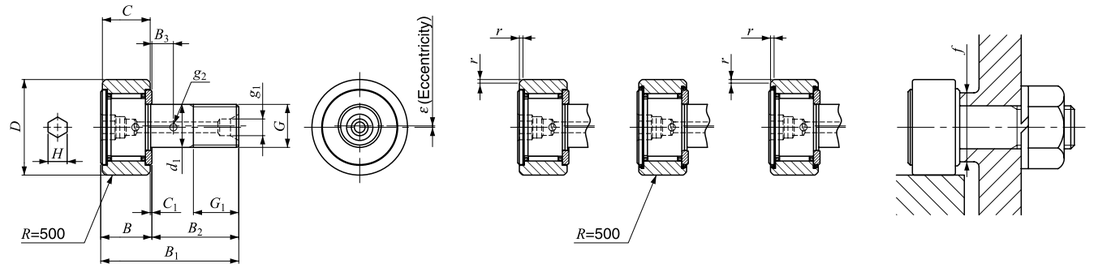
Selectable product specifications

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···BR CFES···B CFES···BUUR CFES···BUU

Stud dia d_1 12 to 18mm

Stud dia. mm	Identification number: Shield type, With crowned outer ring	Shield type, With cylindrical outer ring	Sealed type, With crowned outer ring	Sealed type, With cylindrical outer ring	Mass (Ref.) g	D	C	d_1
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

Boundary dimensions mm 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	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
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
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
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
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
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

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. 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.

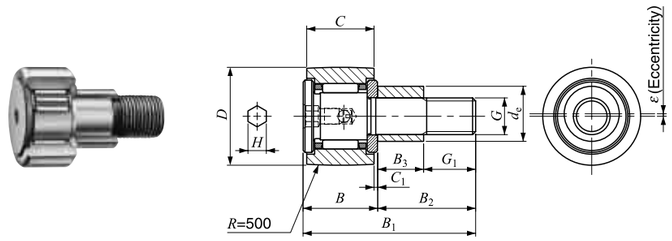
3. A nut is supplied with the stud.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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

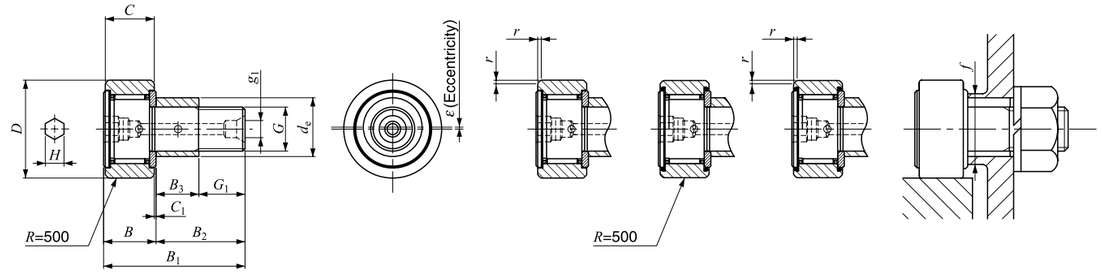
Outside diameter of eccentric collar	Identification number				Mass (Ref.)			
	Shield type		Sealed type					
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring				
mm					g	D	C	d_e
9	CFE 6 BR	CFE 6 B	CFE 6 BUUR	CFE 6 BUU	20.5	16	11	9
11	CFE 8 BR	CFE 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.



CFE···BR CFE···B CFE···BUUR CFE···BUU

Outside diameter of eccentric collar d_e 16 to 41mm

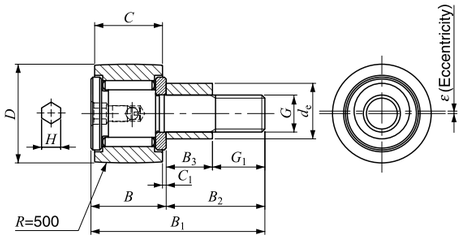
Boundary dimensions mm										Eccentricity	Mounting dimension	Maximum tightening torque	Basic dynamic load rating	Basic static load rating	Maximum allowable static load
G	B_3	B max	B_1 max	B_2	C_1	g_1	G_1	H	$r_{s\,min}$ (1)	ε	f Min.		C	C_0	
											mm	N-m	N	N	N
M 6×1	7.5	12.2	28.2	16	0.6	–	8.5	3	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
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
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
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
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
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
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
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
M30×1.5	32.5	37	100	63	1	6	30.5	17	1	1.5	49	438	45 400	85 100	85 100
M30×1.5	32.5	37	100	63	1	6	30.5	17	1	1.5	49	438	45 400	85 100	85 100
M30×1.5	32.5	37	100	63	1	6	30.5	17	1	1.5	49	438	45 400	85 100	85 100

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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

Selectable product specifications

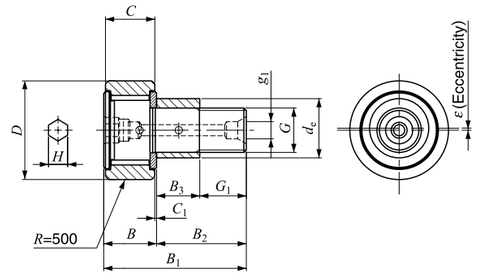
Material	No symbol	Carbon steel
	F	Stainless steel
Roller guide type	No symbol	Caged
	V	Full complement
Seal structure	No symbol	Shield type
	UU	Sealed type
Shape of outer ring	No symbol	Cylindrical outer ring
	R	Crowned outer ring



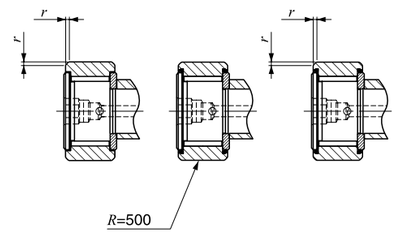
CFE···VBR

Outside diameter of eccentric collar d_e 9 to 13mm

Outside diameter of eccentric collar	Identification number				Mass (Ref.)			
	Shield type		Sealed type					
	With crowned outer ring	With cylindrical outer ring	With crowned outer ring	With cylindrical outer ring		D	C	d_e
mm					g			
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

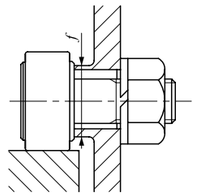


CFE···VBR



CFE···VB

CFE···VBUUR



CFE···VBUU

Outside diameter of eccentric collar d_e 16 to 41mm

Boundary dimensions mm											Eccentricity	Mounting dimension	Maximum tightening torque	Basic dynamic load rating	Basic static load rating	Maximum allowable static load
G	B_3	B max	B_1 max	B_2	C_1	g_1	G_1	H	$r_{s\,min}$ (1)		ε	f Min.		C	C_0	
												mm	N-m	N	N	N
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
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
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
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
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
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
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
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
M30×1.5	32.5	37	100	63	1	6	30.5	17	1		1.5	49	438	67 700	144 000	85 900
M30×1.5	32.5	37	100	63	1	6	30.5	17	1		1.5	49	438	67 700	144 000	85 900
M30×1.5	32.5	37	100	63	1	6	30.5	17	1		1.5	49	438	67 700	144 000	85 900

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.

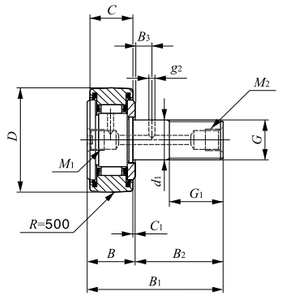
3. A nut is supplied with the stud.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

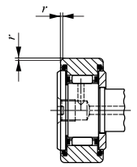
IKO Centralized Lubrication Type Cam Followers With Cage/With Screwdriver Slot

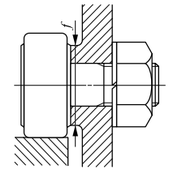
Selectable product specifications

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



CF-RU1





CF-FU1

Stud dia. mm	Identification number: With crowned outer ring	Identification number: With cylindrical outer ring	Mass (Ref.) g	Boundary dimensions mm: 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-FU1-10	45	22	12	10	M10×1.25	12
	CF-RU1-10-1	CF-FU1-10-1	60	26	12	10	M10×1.25	12
12	CF-RU1-12	CF-FU1-12	95	30	14	12	M12×1.5	13
	CF-RU1-12-1	CF-FU1-12-1	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-FU1-20	460	52	24	20	M20×1.5	21
	CF-RU1-20-1	CF-FU1-20-1	385	47	24	20	M20×1.5	21
24	CF-RU1-24	CF-FU1-24	815	62	29	24	M24×1.5	25
	CF-RU1-24-1	CF-FU1-24-1	1 140	72	29	24	M24×1.5	25
30	CF-RU1-30	CF-FU1-30	1 870	80	35	30	M30×1.5	32
	CF-RU1-30-1	CF-FU1-30-1	2 030	85	35	30	M30×1.5	32
	CF-RU1-30-2	CF-FU1-30-2	2 220	90	35	30	M30×1.5	32

B max	B_1 max	B_2	B_3	C_1	g_2	M_1	M_2	$r_{s\,min}$ (1)	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
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

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.

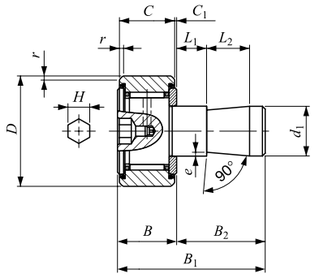
3. A nut is supplied with the stud.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

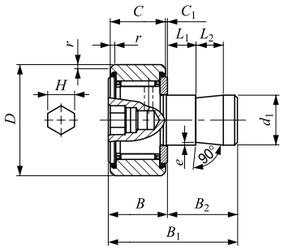
IKO Easy Mounting Type Cam Followers With Cage/With Hexagon Hole

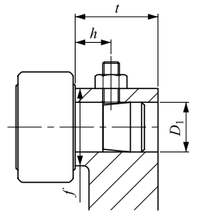
Selectable product specifications

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 d_1 12～20mm

Stud dia. mm	Identification number	Mass (Ref.) g	Boundary dimensions mm								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	C	d_1	B max	B_1 max	B_2	C_1	L_1					D_1	Tolerance	t Min.	f Min.	h (Ref.)			
6	**CF-SFU- 6 B**	19.5	16	11	6	12.2	32	19.8	0.6	5	10	3	0.3	0.3	6	+0.012 0	20	11	10	3 660	3 650	1 950
8	**CF-SFU- 8 B**	29	19	11	8	12.2	32	19.8	0.6	5	10	4	0.5	0.3	8	+0.015 0	20	13	10	4 250	4 740	4 620
10	**CF-SFU- 10 B**	44	22	12	10	13.2	33	19.8	0.6	5	10	4	0.5	0.3	10		20	16	10	5 430	6 890	6 890
	CF-SFU- 10-1 B	59	26	12	10	13.2	33	19.8	0.6	5	10	4	0.5	0.3	10		20	16	10	5 430	6 890	6 890
12	**CF-SFU- 12 B**	94	30	14	12	15.2	35	19.8	0.6	5	10	6	1	0.6	12		20	21	10	7 910	9 790	9 790
	CF-SFU- 12-1 B	104	32	14	12	15.2	35	19.8	0.6	5	10	6	1	0.6	12	+0.018 0	20	21	10	7 910	9 790	9 790
16	**CF-SFU- 16 B**	164	35	18	16	19.6	44.5	24.9	0.8	10	10	6	1	0.6	16		25	26	15	12 000	18 300	18 300
18	**CF-SFU- 18 B**	235	40	20	18	21.6	46.5	24.9	0.8	10	10	8	1	1	18		25	29	15	14 800	25 200	25 200
20	**CF-SFU- 20 B**	435	52	24	20	25.6	50.5	24.9	0.8	10	10	8	1	1	20	+0.021 0	25	34	15	20 700	34 600	34 600
	CF-SFU- 20-1 B	360	47	24	20	25.6	50.5	24.9	0.8	10	10	8	1	1	20		25	34	15	20 700	34 600	34 600

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.

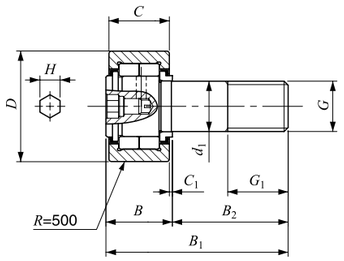
2. Provided with prepacked grease.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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

Selectable product specifications

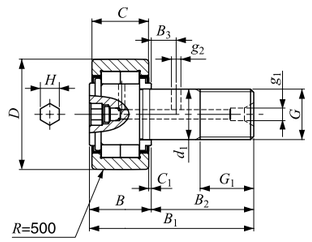
Material	No symbol	Carbon steel
	F	Stainless steel
Roller guide type	No symbol	Caged
Seal structure	No symbol	Full complement
	UU	Sealed type
Shape of outer ring	No symbol	Cylindrical outer ring
	R	Crowned outer ring

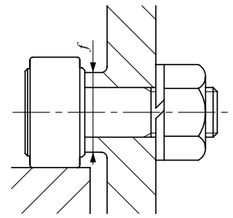


Stud dia d_1 10mm

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

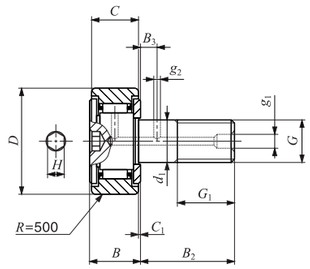
B_3	C_1	g_1	g_2	H	Mounting dimension f Min. mm	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C_0 N	Maximum allowable static load N
—	0.6	—	—	4	12	13.8	10 400	11 500	5 300
—	0.6	—	—	4	12	13.8	10 400	11 500	9 210
6	0.6	4	3	6	17	21.9	14 000	13 400	5 650
6	0.6	4	3	6	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

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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



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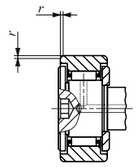

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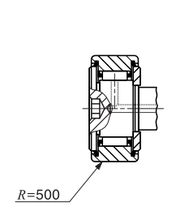

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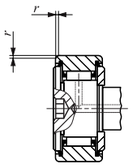

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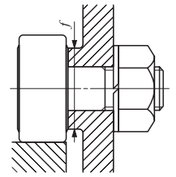


Stud dia. mm (inch)	Identification number: Shield type, With crowned outer ring	Shield type, With cylindrical outer ring	Sealed type, With crowned outer ring	Sealed type, With cylindrical outer ring	Mass (Ref.) g	D	C	d_1	G UNF	G_1
4.826	CR 8 BR	CR 8 B	CR 8 BUUR	CR 8 BUU	9	12.700 (1/2)	8.731 (11/32)	4.826	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)

Boundary dimensions mm(inch)

B max	B_2	B_3	C_1	g_1	g_2	H	r	Mounting dimension f Min. mm(inch)	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C_0 N
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 3/64)	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 3/64)	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 9/32)	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 9/32)	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

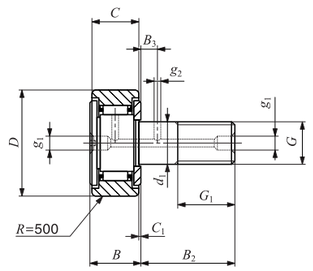
Remarks1. Models with a stud diameter d_1 of 6.35 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.
2. Provided with prepacked grease.
3. Eccentric Type Inch Series Cam Followers, CRE are also available. If required, please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

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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



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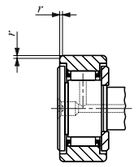

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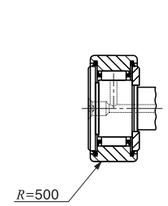

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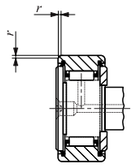

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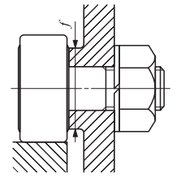


Stud dia. mm (inch)	Identification number Shield type With crowned outer ring	Shield type With cylindrical outer ring	Sealed type With crowned outer ring	Sealed type With cylindrical outer ring	Mass (Ref.) g	D	C	d_1	G UNF	G_1
4.826	CR 8 R	CR 8	CR 8 UUR	CR 8 UU	9	12.700 (1/2)	8.731 (11/32)	4.826	No.10-32	6.350 (1/4)
	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)
	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)
	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)
	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)
	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)
	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)
	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)
	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)

Boundary dimensions mm(inch)

B max	B_2	B_3	C_1	g_1	g_2	r	Mounting dimension f Min. mm(inch)	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C_0 N
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)	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 3/64)	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 3/64)	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 9/32)	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 9/32)	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

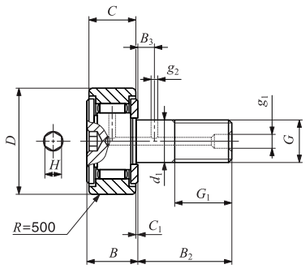
Remarks1. Models with a stud diameter d_1 of 6.35 mm or less (marked *) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.
2. Provided with prepacked grease.
3. Eccentric Type Inch Series Cam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

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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



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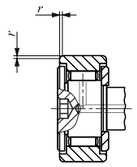

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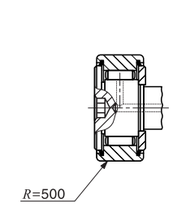

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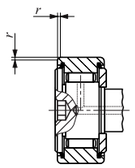
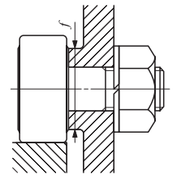


CR···VBUU



Stud dia. mm (inch)	Identification number: Shield type, With crowned outer ring	Shield type, With cylindrical outer ring	Sealed type, With crowned outer ring	Sealed type, With cylindrical outer ring	Mass (Ref.) g	D	C	d_1	G UNF	G_1
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)

Boundary dimensions mm(inch)

B max	B_2	B_3	C_1	g_1	g_2	H	r	Mounting dimension f Min. mm(inch)	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C_0 N
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 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(5/32)	7.938(5/16)	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(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 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)	11.112(7/16)	1.588(1/16)	37.306(1 15/32)	162	45 700	80 600

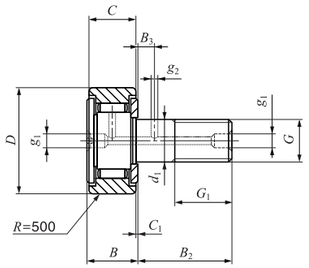
Remarks1. Models with a stud diameter d_1 of 6.35 mm or less have no oil hole. Other models are provided with one oil hole each on the outside surface and end surface of the stud.
2. Provided with prepacked grease.
3. Eccentric Type Inch Series Cam Followers, CRE are also available. If required, please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

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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



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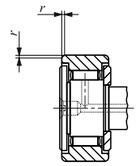

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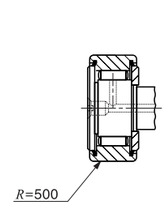

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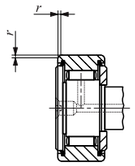

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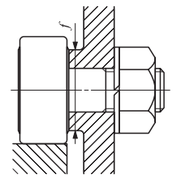


Stud dia. mm (inch)	Identification number Shield type With crowned outer ring	Shield type With cylindrical outer ring	Sealed type With crowned outer ring	Sealed type With cylindrical outer ring	Mass (Ref.) g	D	C	d_1	G UNF	G_1
4.826	CR 8 VR	CR 8 V	CR 8 VUUR	CR 8 VUU	9	12.700(1/2)	8.731(11/32)	4.826	No.10-32	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)

Boundary dimensions mm(inch)

B max	B_2	B_3	C_1	g_1	g_2	r	Mounting dimension f Min. mm(inch)	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C_0 N
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(5/32)	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(5/32)	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(5/32)	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)	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)	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

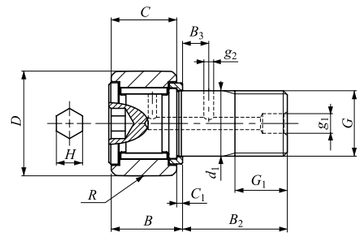
Remarks1. Models with a stud diameter d_1 of 6.35 mm or less (marked *) are provided with an oil hole on the stud head only. Other models are provided with one oil hole each on the head, outside surface and end surface of the stud.
2. Provided with prepacked grease.
3. Eccentric Type Inch Series Cam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

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

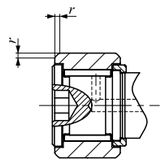
IKO Inch Series Heavy Duty Cam Followers Full Complement Type/With Hexagon Hole

Selectable product specifications

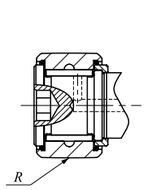
Material	No symbol	Carbon steel
	F	Stainless steel
Roller guide type	No symbol	Caged
	V	Full complement
Seal structure	No symbol	Shield type
	UU	Sealed type
Shape of outer ring	No symbol	Cylindrical outer ring
	R	Crowned outer ring



CRH···VBR



CRH···VB



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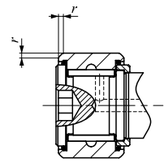
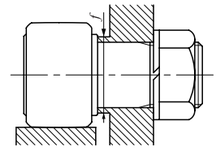


CRH···VBUU



Stud dia. mm (inch)	Identification number Shield type With crowned outer ring	Shield type With cylindrical outer ring	Sealed type With crowned outer ring	Sealed type With cylindrical outer ring	Mass (Ref.) g	D	C	d_1	G UNF	G_1
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 (9/16)	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 3/4-12UN	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 d_1 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.

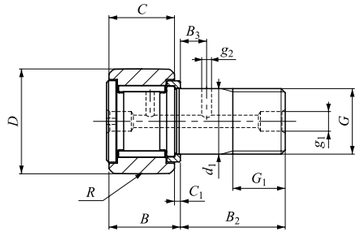
Boundary dimensions mm(inch) B max	B_2	B_3	C_1	g_1	g_2	H	R	r	Mounting dimension f Min. mm(inch)	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C_0 N
11.1(0.44)	15.875 (5/8)	— (—)	0.794 (1/32)	— (—)	— (—)	3.175 (1/8)	180 (7)	0.397 (1/64)	8.334 (21/64)	3.4	4 710	5 410
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)	4.762 (3/16)	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)	4.762 (3/16)	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)	6.350 (1/4)	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)	6.350 (1/4)	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)	6.350 (1/4)	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)	6.350 (1/4)	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)	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 (1/16)	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 (1/16)	4.762 (3/16)	2.381 (3/32)	7.938 (5/16)	500(20)	1.588 (1/16)	32.941 (1 19/64)	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)	7.938 (5/16)	500(20)	1.588 (1/16)	32.941 (1 19/64)	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)	11.112 (7/16)	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)	11.112 (7/16)	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)	12.700 (1/2)	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)	12.700 (1/2)	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)	19.050 (3/4)	760(30)	2.381 (3/32)	51.991 (2 3/4)	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)	19.050 (3/4)	760(30)	2.381 (3/32)	51.991 (2 3/4)	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)	19.050 (3/4)	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)	19.050 (3/4)	760(30)	2.381 (3/32)	64.691 (2 35/64)	2 190	142 000	317 000

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

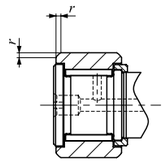
IKO Inch Series Heavy Duty Cam Followers Full Complement Type/With Hexagon Hole

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



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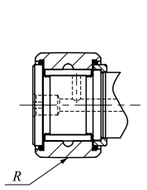

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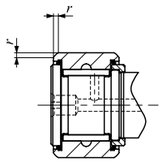

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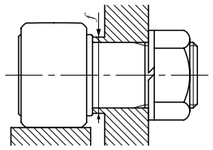


Stud dia. mm (inch)	Identification number: Shield type, With crowned outer ring	Shield type, With cylindrical outer ring	Sealed type, With crowned outer ring	Sealed type, With cylindrical outer ring	Mass (Ref.) g	D	C	d_1	G UNF	G_1
6.350 (1/4)	CRH 8-1 VR	CRH 8-1 V	CRH 8-1 VUUR	CRH 8-1 VUU	12	12.700 (1/2)	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)
50.800 (2)	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)

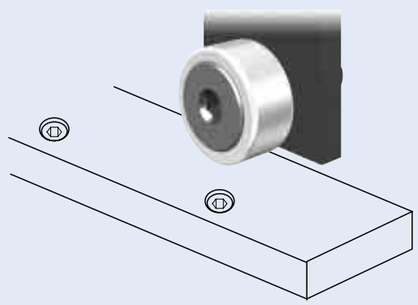
Boundary dimensions mm(inch) B max	B_2	B_3	C_1	g_1	g_2	R	r	Mounting dimension f Min. mm(inch)	Maximum tightening torque N-m	Basic dynamic load rating C N	Basic static load rating C_0 N
11.1(0.44)	15.875(5/8)	— (—)	0.794(1/32)	*3.175(1/8)	— (—)	180(7)	0.397(1/64)	8.334(21/64)	3.4	4 710	5 410
11.1(0.44)	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 13/64)	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 13/64)	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 3/4)	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 3/4)	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

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.

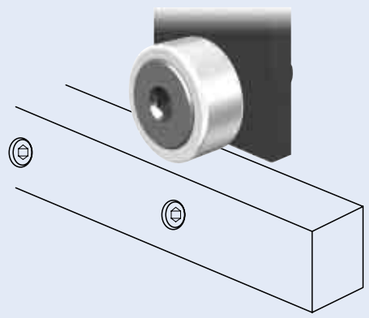
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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.



≪A type Track≫



≪B type Track≫

❶Identification Number

An example of identification number is shown below.

TRLA - 800 - 49 - 22

Model code
TRLA TRLB

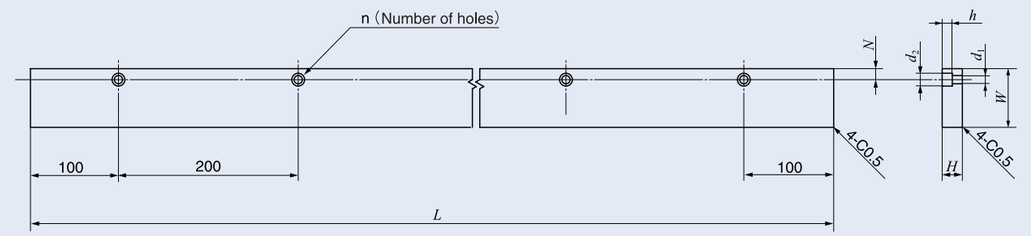
Overall length
mm

Width
mm

Height
mm

❷Dimensions

≪A type Track≫

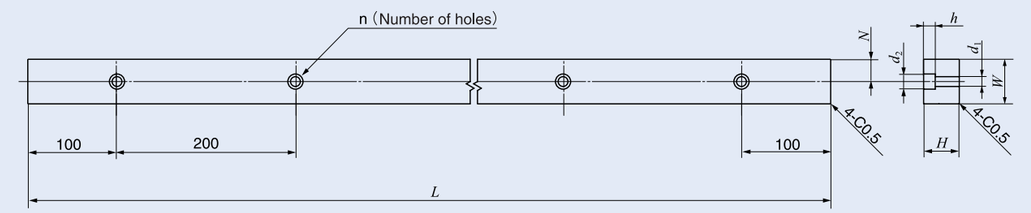


Material：SKS3 or equivalent
Surface hardness：HRC40 or more

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 IKO.

≪B type Track≫



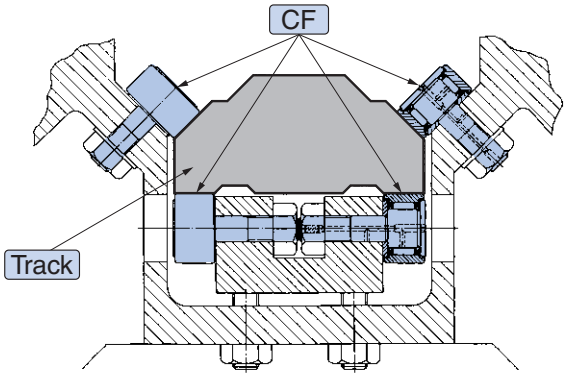
Material：SKS3 or equivalent
Surface hardness：HRC40 or more

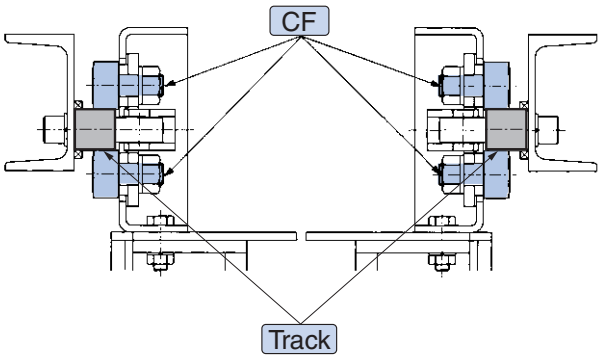
Identification number	Nominal dimensions mm						
	L(n)	W	H	N	d_1	d_2	h
TRLB- 600-34-22	600(3)	34	22	17	9	14	11
TRLB- 600-50-40		50	40	25	11	17	13
TRLB- 800-34-22	800(4)	34	22	17	9	14	11
TRLB- 800-50-40		50	40	25	11	17	13
TRLB-1000-34-22	1000(5)	34	22	17	9	14	11
TRLB-1000-50-40		50	40	25	11	17	13

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

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.





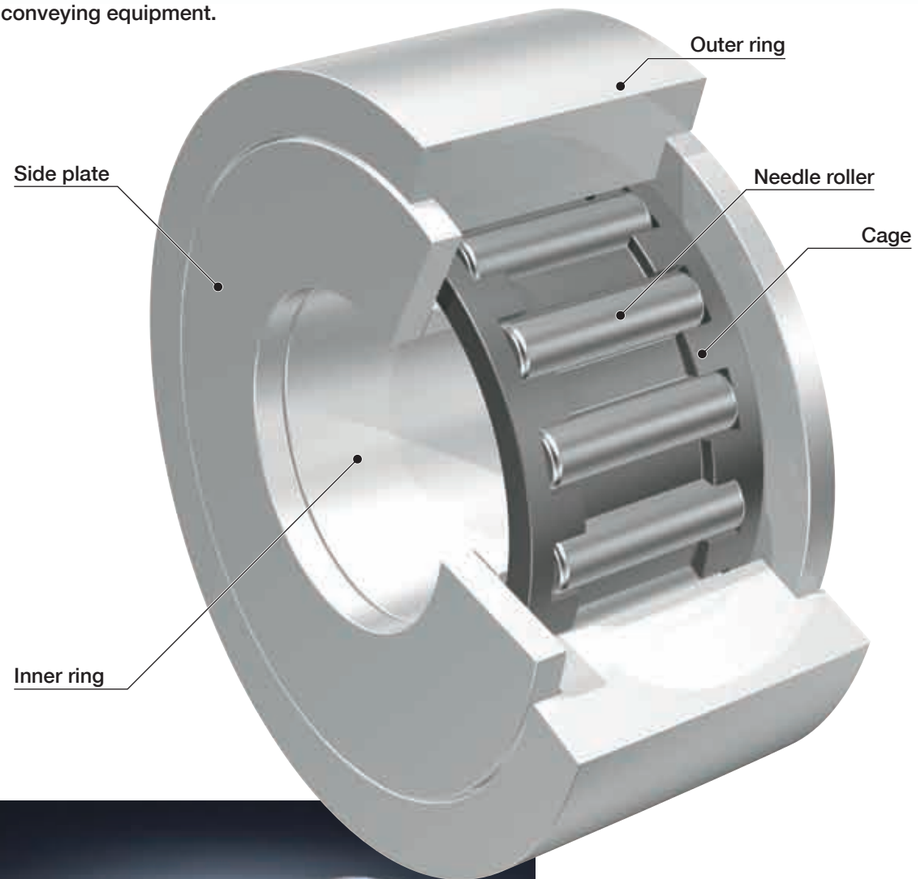
Roller Follower Series

Description

Dimension Tables

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.



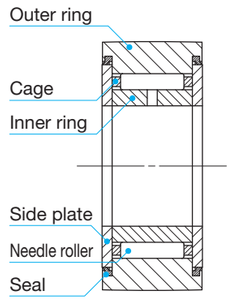
Roller Followers

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 RNAST and type with inner ring NAST.



Selectable product specifications

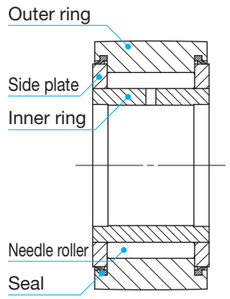
Roller guide type	No symbol	Caged
	V	Full complement
Seal structure	No symbol	Open type
	ZZ	Shield type
	ZZUU	Sealed type
Shape of outer ring	No symbol	Cylindrical outer ring
	R	Crowned outer ring

To page 79

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

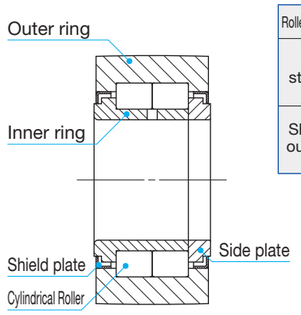
Roller guide type	No symbol	Caged
	V	Full complement
Seal structure	No symbol	Shield type
	UU	Sealed type
Shape of outer ring	No symbol	Cylindrical outer ring
	R	Crowned outer ring

To page 83

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

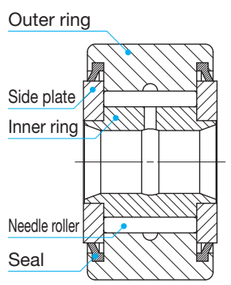
Roller guide type	No symbol	Full complement
Seal structure	No symbol	Shield type
	UU	Sealed type
Shape of outer ring	No symbol	Cylindrical outer ring
	R	Crowned outer ring

To page 85

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

To page 87

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 out side 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 fomula.

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

where, L_{10} : Basic rating life, 10^6rev.
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:

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

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.

$$f_s = \frac{C_0}{P_{0r}} \quad \cdots\cdots(3)$$

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.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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: Crowned outer ring	Metric series: Cylindrical outer ring	Inch series: Crowned outer ring	Inch series: Cylindrical outer ring
Bore dia. of inner ring d	$d \leqq 19.05$	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	h12	–	+ 130 − 250	
	Cylindrical Roller Follower		h12		
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		Δ_{dmp} 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		Δ_{Dmp} Single plane mean outside dia. deviation		V_{Dsp} Outside dia. variation in a single radial plane	V_{Dmp} Mean outside dia. variation	K_{ea} 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		Δ_{Dmp} Single plane mean outside dia. deviation		V_{Dsp} Bore dia. variation in a single radial plane	V_{Dmp} Mean Bore dia. variation	K_{ea} 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 $F_{ws\,min}$

unit: μm

F_w Nominal roller set bore diameter mm		$\Delta_{Fws\,min}$ 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		
Separable Roller Followers	Non-separable Roller Followers	Cylindrical Roller Followers	Non-separable Roller Followers	Min.	Max.
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.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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)

unit: N

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)

unit: N

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

unit: N

Hardness HRC	Tensile strength N/mm²	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 $= d \times n$
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

❶In 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.)
❷When 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.)
❸When 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.
❹In 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.)
❺In Non-separable Roller Followers, the side plates are press-fitted. Therefore, when mounting the Roller Followers, do not push the side plates.

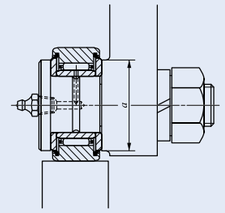


Fig. 1 Mating seating dimension "a"

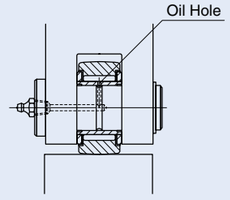


Fig. 2 Position of oil hole and load direction

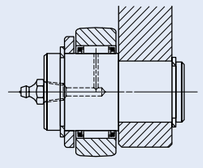


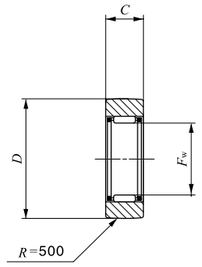
Fig. 3 Mounting example of Roller Follower without inner ring

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

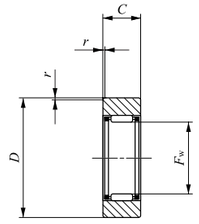
IKO Separable Roller Followers, Open Type With Cage/Without Inner Ring

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



RNAST···R



RNAST

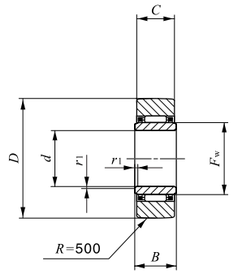
Shaft dia. mm	Identification number Open type: Crowned outer ring	Identification number Open type: Cylindrical outer ring	Mass (Ref.) g	Boundary dimensions mm: F_w	D	C	$r_{s\,min}$ (1)	Basic dynamic load rating C N	Basic static load rating C_0 N
7	RNAST 5 R	RNAST 5	8.9	7	16	7.8	0.3	2 710	2 390
10	RNAST 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.

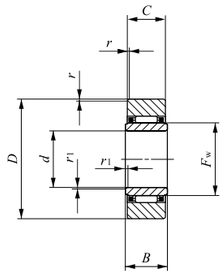
IKO Separable Roller Followers, Open Type With Cage/With Inner Ring

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 Open type: Crowned outer ring	Identification number Open type: Cylindrical outer ring	Mass (Ref.) g	Boundary dimensions mm: d	D	B	C	$r_{s\,min}$ (1)	$r_{1s\,min}$ (1)	F_w	Basic dynamic load rating C N	Basic static load rating C_0 N	Assembled inner 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

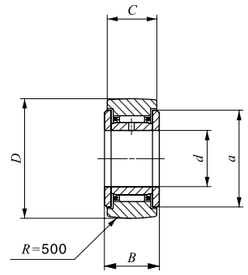
Note(1) Minimum allowable value of chamfer dimension r or r_1
Remarks1. No oil hole is provided.
2. Not provided with prepacked grease. Perform proper lubrication for use.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

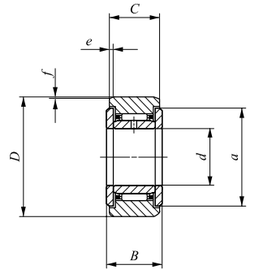
IKO Separable Roller Followers, Shield Type With Cage/With Inner Ring
IKO Separable Roller Followers, Sealed Type With Cage/With Inner Ring

Selectable product specifications

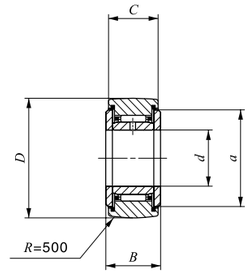
Roller guide type	No symbol	Caged
	V	Full complement
Seal structure	No symbol	Open type
	ZZ	Shield type
	ZZUU	Sealed type
Shape of outer ring	No symbol	Cylindrical outer ring
	R	Crowned outer ring



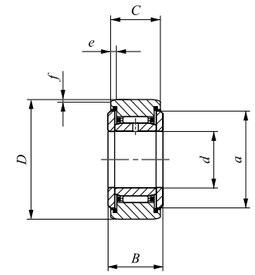
NAST···ZZR



NAST···ZZ



NAST···ZZUUR



NAST···ZZUU

Shaft dia. mm	Identification number: Shield type, Crowned outer ring	Identification number: Shield type, Cylindrical outer ring	Identification number: Sealed type, Crowned outer ring	Identification number: Sealed type, Cylindrical outer ring	Mass (Ref.) g
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.

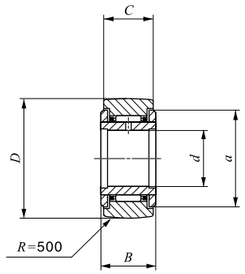
Boundary dimensions mm: d	D	B	C	a	e	f	Basic dynamic load rating C N	Basic static load rating C_0 N
6	19	14	13.8	14	2.5	0.8	4 160	4 550
8	24	14	13.8	17.5	2.5	0.8	5 650	5 890
10	30	16	15.8	23.5	2.5	0.8	9 790	9 680
12	32	16	15.8	25.5	2.5	0.8	10 500	10 900
15	35	16	15.8	29	2.5	0.8	12 400	14 300
17	40	20	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

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

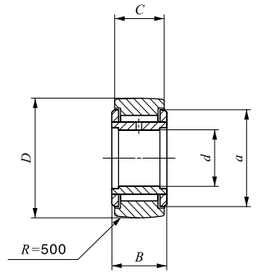
IKO Non-separable Roller Followers With Cage/With Inner Ring Full Complement Type/With Inner Ring

Selectable product specifications

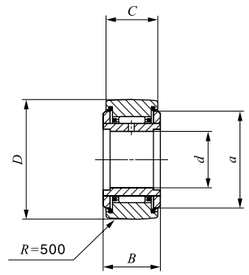
Roller guide type	No symbol	Caged
	V	Full complement
Seal structure	No symbol	Shield type
	UU	Sealed type
Shape of outer ring	No symbol	Cylindrical outer ring
	R	Crowned outer ring



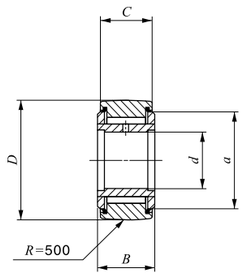
NART···R



NART···VR



NART···UUR



NART···VUUR

Shaft dia. mm	Identification number: Shield type Crowned outer ring — With cage	Shield type Crowned outer ring — Full complement	Sealed type Crowned outer ring — With cage	Sealed type Crowned outer ring — Full complement	Mass (Ref.) g
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

Boundary dimensions mm d	D	B	C	a	Basic dynamic load rating C N	Basic static load rating C_0 N	Maximum allowable static load N
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

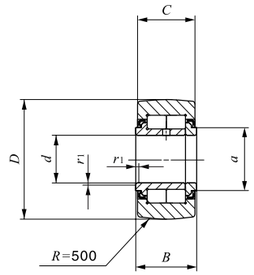
Remarks1. The inner ring has an oil hole.
2. The sealed type is provided with prepacked grease. The shield type is not provided with prepacked grease. Perform proper lubrication for use.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

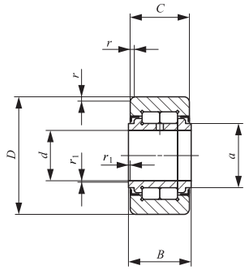
IKO Cylindrical Roller Followers Full Complement Type/With Inner Ring

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: Crowned outer ring	Identification number: Cylindrical outer ring	Mass (Ref.) g	Boundary dimensions mm: d	D	B	C	a	(1) $r_{s\,min}$	(1) $r_{1s\,min}$	Basic dynamic load rating C N	Basic static load rating C_0 N	Maximum allowable static load N
15	NURT 15 R	NURT 15	100	15	35	19	18	20	0.6	0.3	23 400	27 300	11 800
	NURT 15-1 R	NURT 15-1	160	15	42	19	18	20	0.6	0.3	23 400	27 300	27 300
17	NURT 17 R	NURT 17	147	17	40	21	20	22	1	0.3	25 200	30 900	20 300
	NURT 17-1 R	NURT 17-1	222	17	47	21	20	22	1	0.3	25 200	30 900	30 900
20	NURT 20 R	NURT 20	245	20	47	25	24	27	1	0.3	38 900	49 000	27 200
	NURT 20-1 R	NURT 20-1	321	20	52	25	24	27	1	0.3	38 900	49 000	49 000
25	NURT 25 R	NURT 25	281	25	52	25	24	31	1	0.3	43 100	58 100	30 000
	NURT 25-1 R	NURT 25-1	450	25	62	25	24	31	1	0.3	43 100	58 100	58 100
30	NURT 30 R	NURT 30	466	30	62	29	28	38	1	0.3	58 200	75 300	35 200
	NURT 30-1 R	NURT 30-1	697	30	72	29	28	38	1	0.3	58 200	75 300	75 300
35	NURT 35 R	NURT 35	630	35	72	29	28	44	1	0.6	63 900	88 800	57 000
	NURT 35-1 R	NURT 35-1	840	35	80	29	28	44	1	0.6	63 900	88 800	88 800
40	NURT 40 R	NURT 40	817	40	80	32	30	49	1	0.6	86 500	122 000	75 300
	NURT 40-1 R	NURT 40-1	1 130	40	90	32	30	49	1	0.6	86 500	122 000	122 000
45	NURT 45 R	NURT 45	883	45	85	32	30	53	1	0.6	91 500	135 000	78 700
	NURT 45-1 R	NURT 45-1	1 400	45	100	32	30	53	1	0.6	91 500	135 000	135 000
50	NURT 50 R	NURT 50	950	50	90	32	30	58	1	0.6	96 300	148 000	82 100
	NURT 50-1 R	NURT 50-1	1 690	50	110	32	30	58	1	0.6	96 300	148 000	148 000

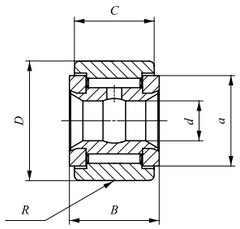
Note(1) Minimum allowable value of chamfer dimension r or r_1
Remarks1. The inner ring has an oil hole.
2. Provided with prepacked grease.

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

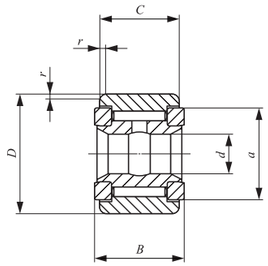
IKO Non-separable Roller Followers, Inch Series Full Complement Type /With Inner Ring

Selectable product specifications

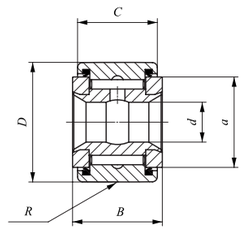
Roller guide type	No symbol	Caged
	V	Full complement
Seal structure	No symbol	Shield type
	UU	Sealed type
Shape of outer ring	No symbol	Cylindrical outer ring
	R	Crowned outer ring



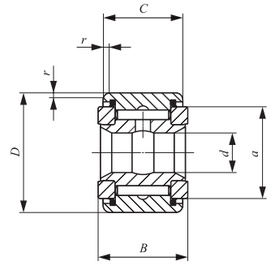
CRY…VR



CRY…V



CRY…VUUR



CRY…VUU

Stud dia. mm (inch)	Identification number: Shield type, Crowned outer ring	Shield type, Cylindrical outer ring	Sealed type, Crowned outer ring	Sealed type, Cylindrical outer ring	Mass (Ref.) g	Boundary dimensions mm(inch): d	D	B	C
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: Push fit Min.	Push fit Max.	Drive fit Min.	Drive fit Max.	Press fit Min.	Press fit Max.	Basic dynamic load rating C N	Basic static load rating C_0 N
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 (3/64)	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

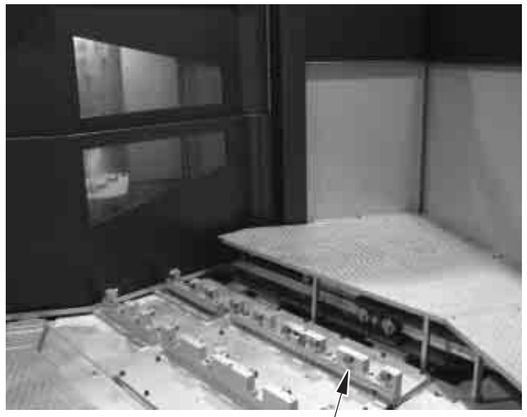
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

APPLICATIONS
SPECIAL SPECIFICATIONS
MISCELLANEOUS TABLES

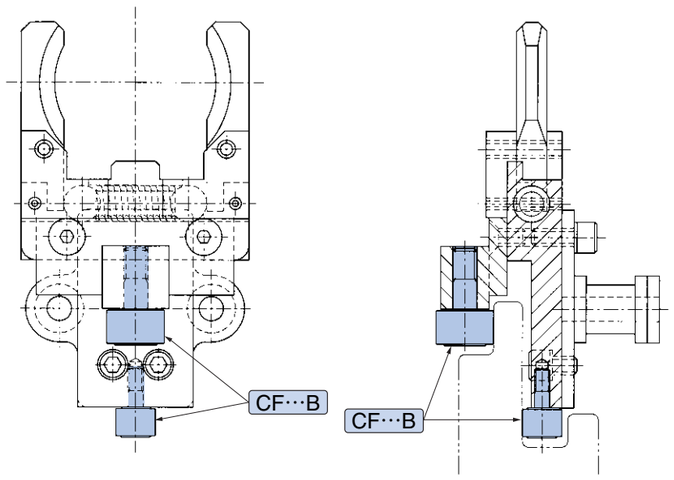
Applications

Machine Tools

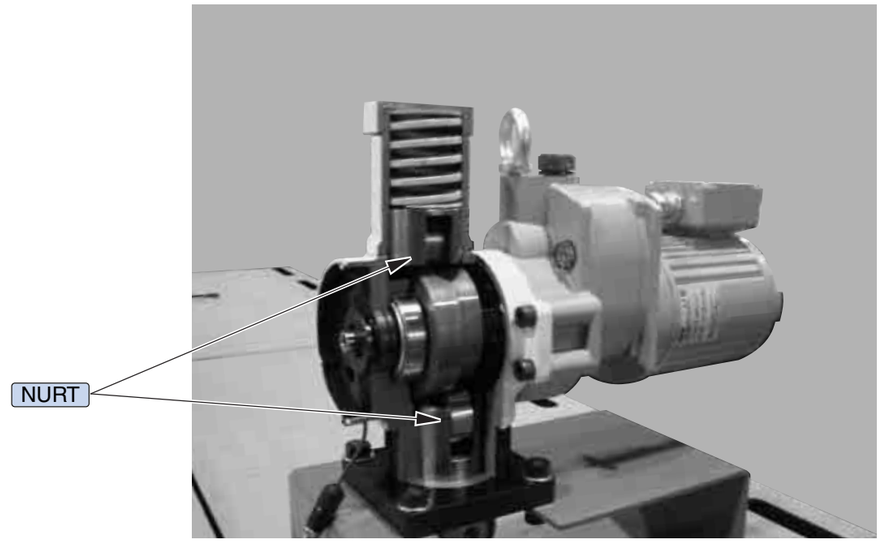
Palette changer



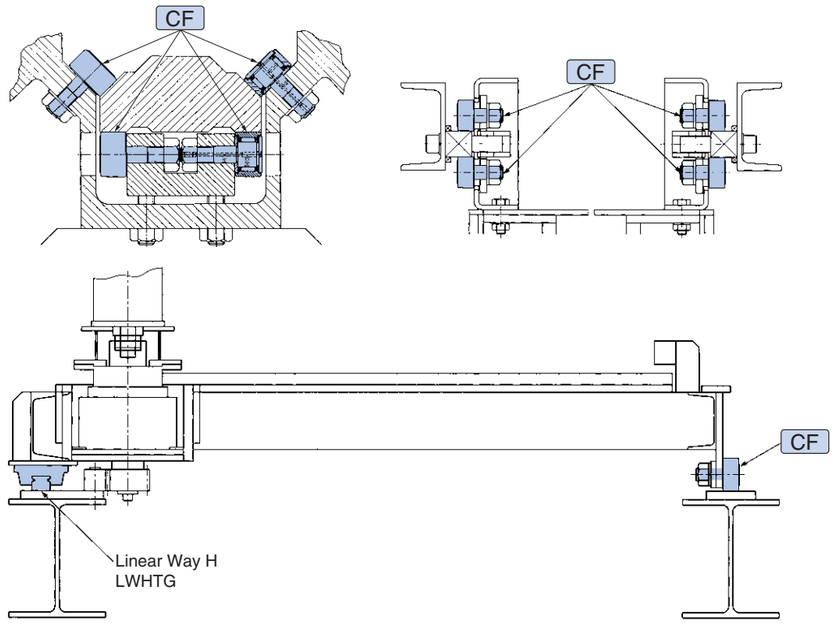
Automatic Tool Changer



Tool clamp

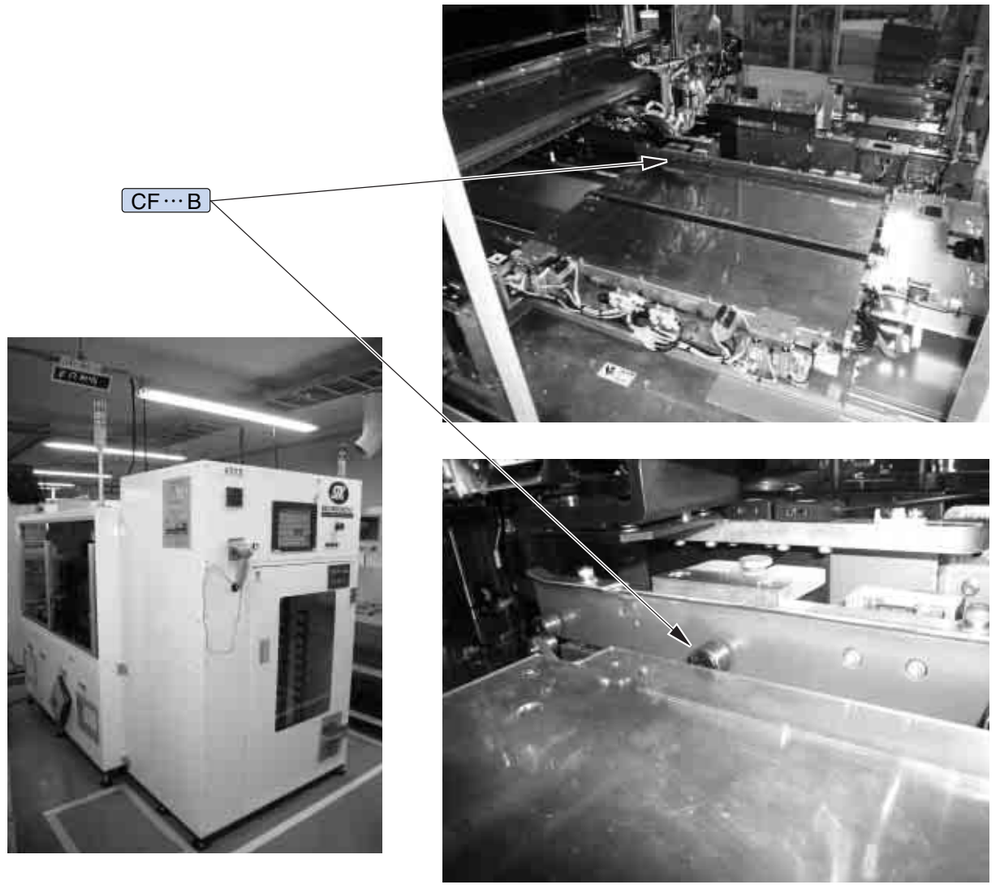


Transfer System

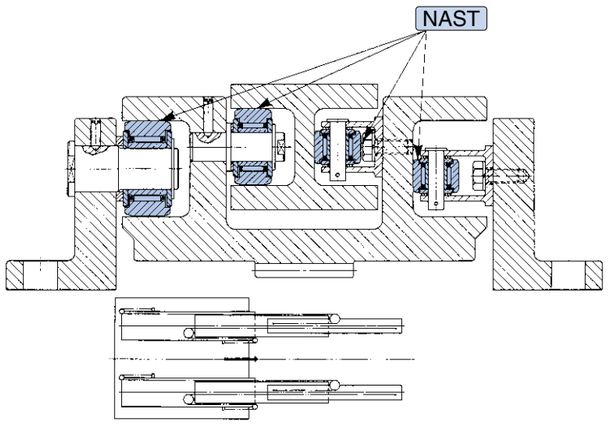


1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

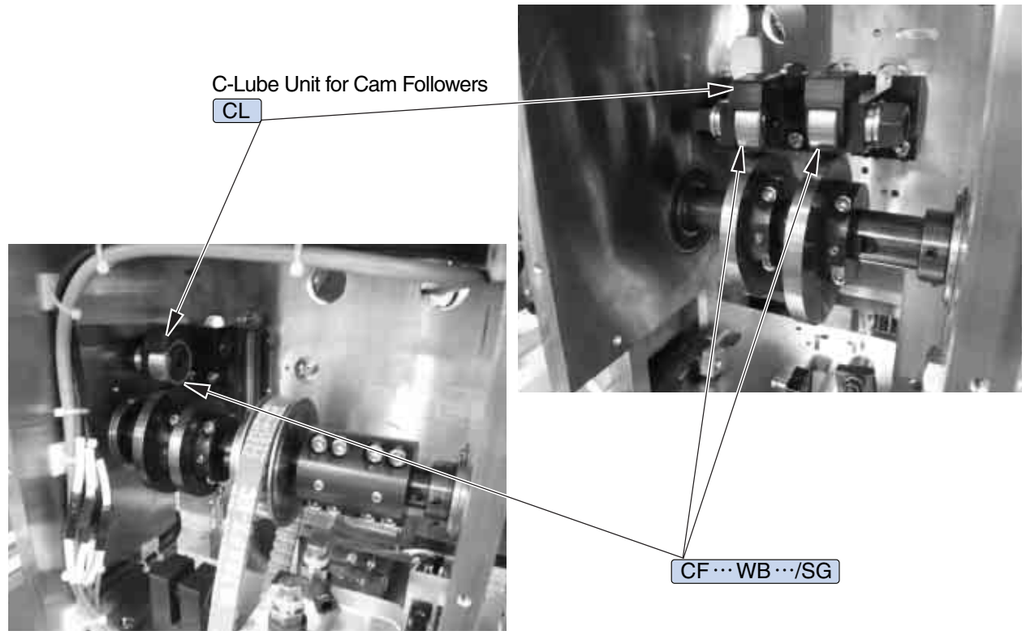
Transfer System in Semiconductor manufacturing Equipment



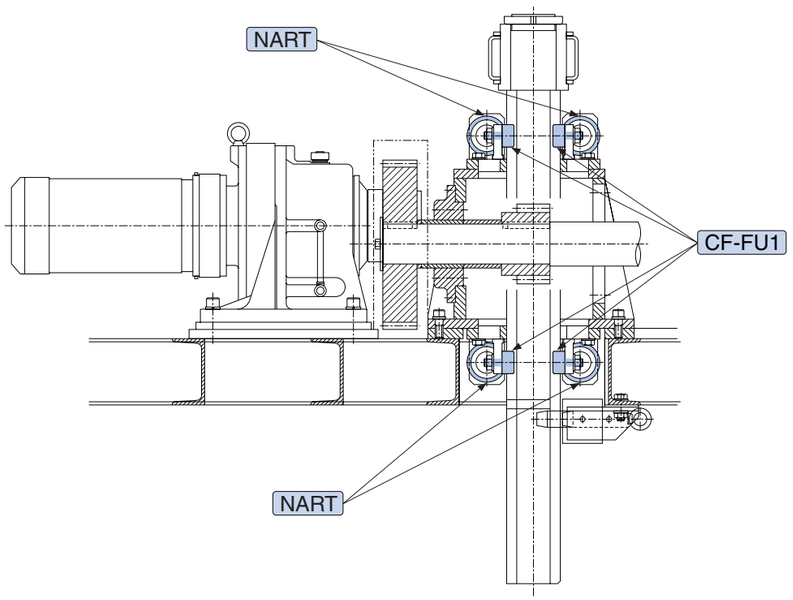
Shuttle fork



Cam mechanism in Connector Manufacturing Equipment

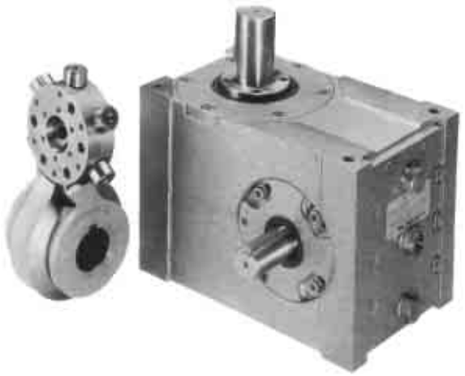


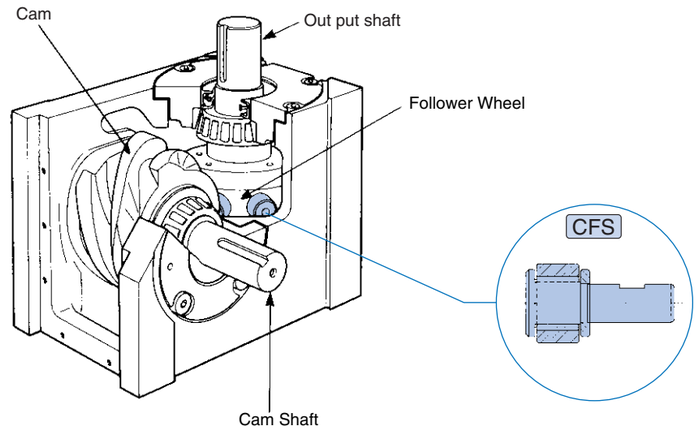
Elevator of manufacturing line



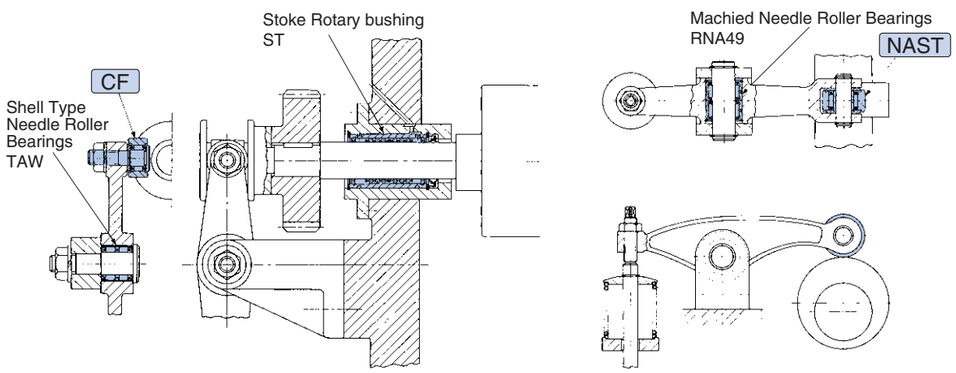
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

Indexer

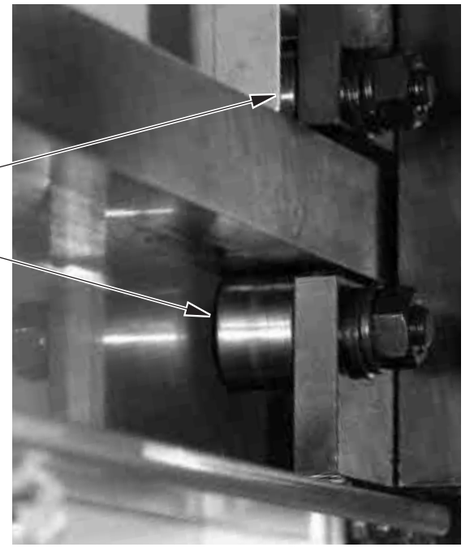




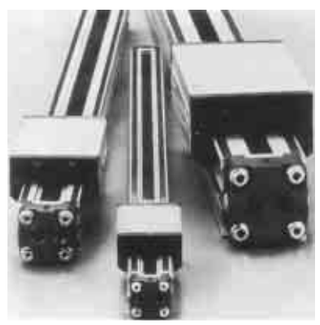
Cam mechanis in Printing machine

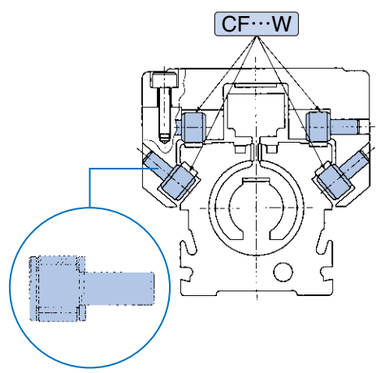


Guide in Assembling machine



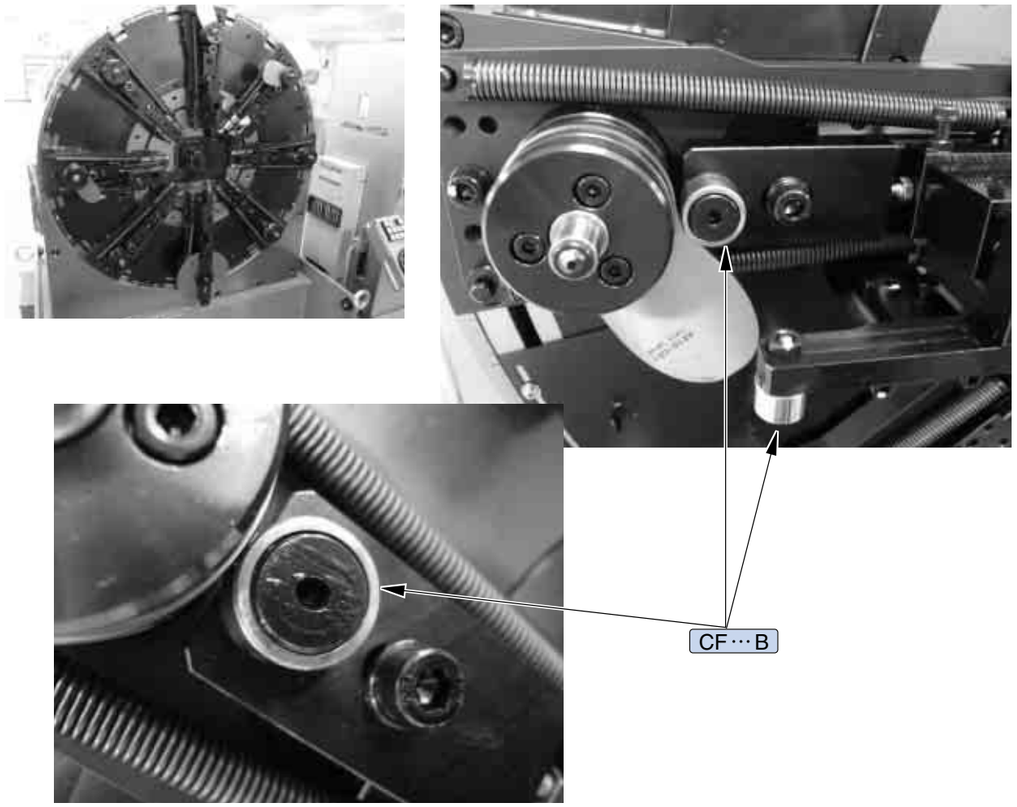
Rodless Cylinder



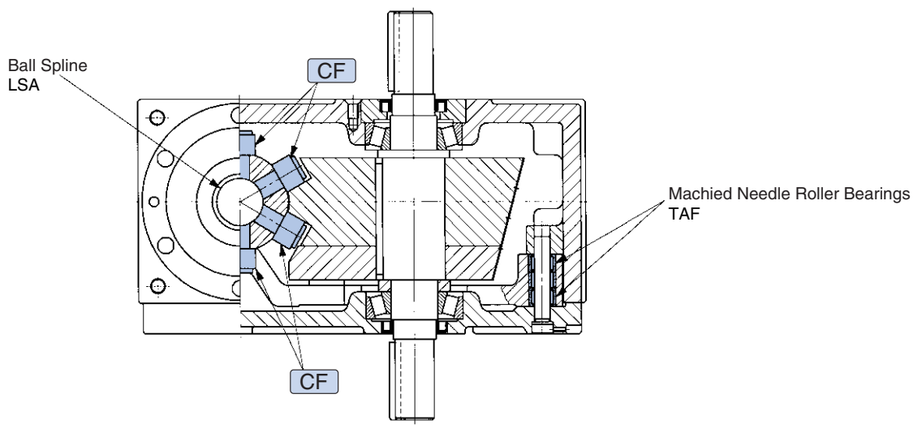


1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

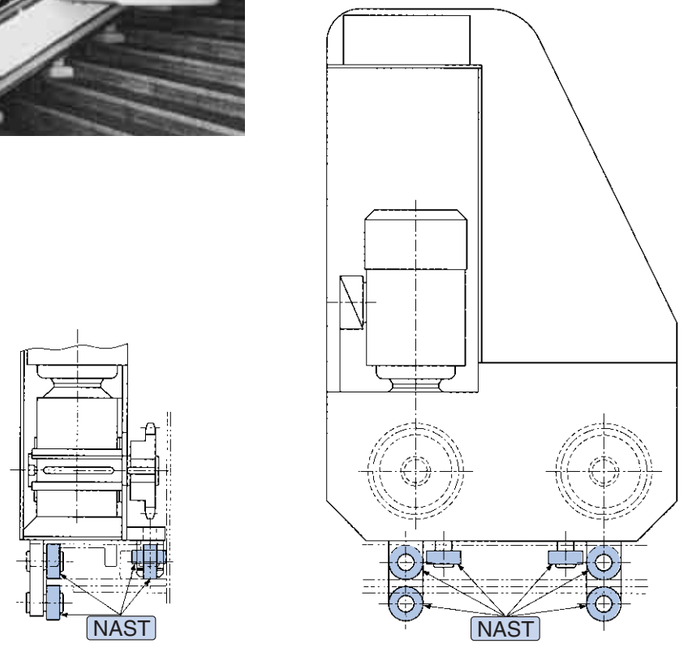
Cam meachanism in Manufacturing Equipment



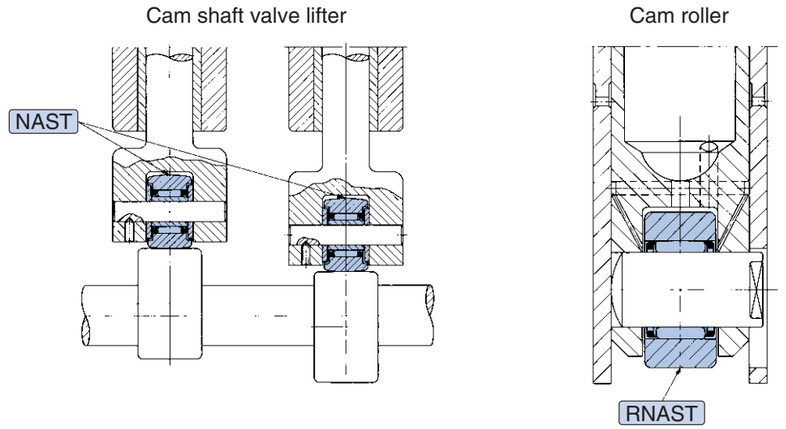
Pick & Place Unit



Lift for stairs



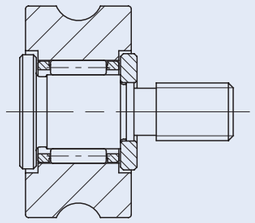
Diesel Engine



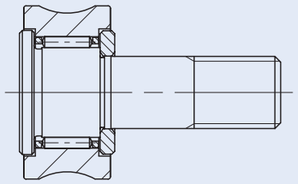
1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

Special specifications

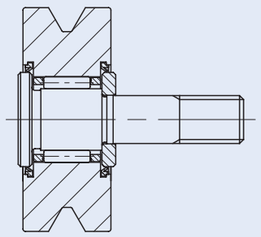
Groove on outer ring



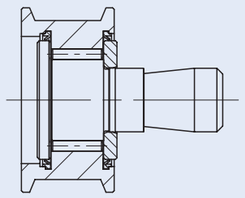
Groove on outer ring



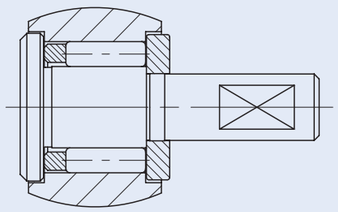
Groove for Pulley on outer ring



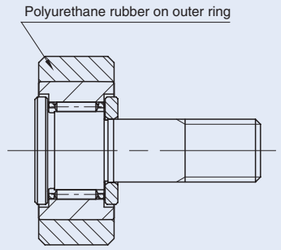
Groove for Pulley on outer ring



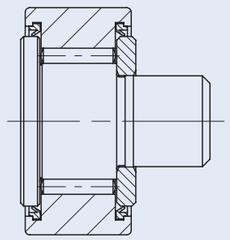
Spherical outer ring



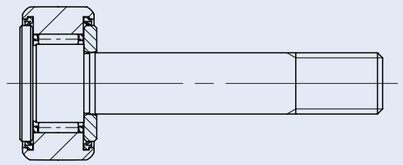
Polyurethane rubber on outer ring



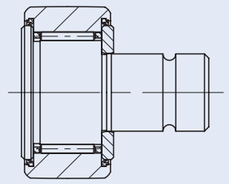
Short stud



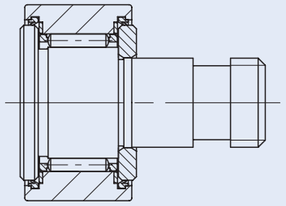
Long stud



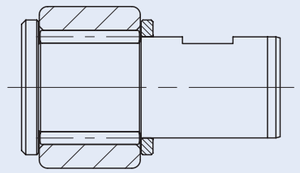
Stud with groove



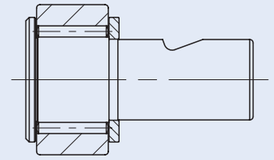
Stud with groove



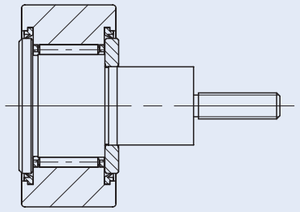
D-cut on stud



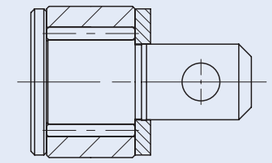
V-cut on stud



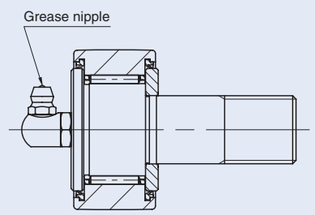
Stud with Tapped machine end



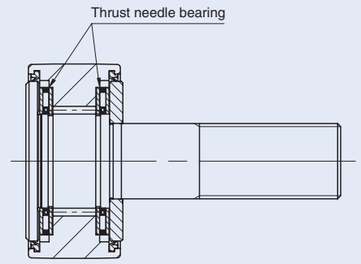
Stud with hole



With grease nipple



With thrust needle bearing incorporated



1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

Miscellaneous Tables

Conversion Table of Units

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

Item / System of units	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	$kgf\cdot s^2/m$	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 Minute Second	° ′ ″	π /180 π /10 800 π /648 000	Radian	rad
Length	Meter Micronmeter Angstrom X-ray unit Nautical mile	m μ Å n mile	1 10^{-6} 10^{-10} $\approx 1.002\ 08\times10^{-13}$ 1852	Meter	m
Area	Square meter Are Hectare	m^2 a ha	1 10^2 10^4	Square meter	m^2
Volume	Cubic meter Liter	m^3 l, L	1 10^{-3}	Cubic meter	m^3
Mass	Kilogram Ton Atomic mass unit	kg t u	1 10^3 $\approx 1.660\ 57\times10^{-27}$	Kilogram	kg
Time	Second Minute Hour Day	s min h d	1 60 3 600 86 400	Second	s
Velocity	Meter per second Knot	m/s kn	1 1 852/3 600	Meter per second	m/s
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 G	m/s^2 G	1 9.806 65	Meter per square second	m/s^2
Force	Kilogram force Ton force Dyne	kgf tf dyn	9.806 65 9 806.65 10^{-5}	Newton	N
Moment of force	Kilogram force-meter	kgf·m	9.806 65	Newton-meter	N·m
Stress and pressure	Kilogram force per square meter Kilogram force per square centimeter Kilogram force per square millimeter	kgf/m^2 kgf/cm^2 kgf/mm^2	9.806 65 $9.806\ 65\times10^4$ $9.806\ 65\times10^6$	Pascal	Pa

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	$kgf\cdot s/m^2$	m^2/s	—	—	—

Item	Unit name	Symbol	Conversion rate into SI	SI unit name	Symbol
Pressure	Hydro-column meter Mercurial column millimeter Torr Atmosphere Bar	mH_2O mmHg Torr atm bar	9 806.65 101 325/760 101 325/760 101 325 10^5	Pascal	Pa
Energy	Erg IT calorie Kilogram force - meter Kilowatt hour Horse power hour (French) Electron volt	erg cal_{IT} kgf·m kW·h PS·h eV	10^{-7} 4.186 8 9.806 65 3.600×10^6 $\approx 2.647\ 79\times10^6$ $\approx 1.602\ 19\times10^{-19}$	Joule	J
Power	Watt Horse power (French) Kilogram force -meter per second	W PS kgf·m/s	1 ≈735.5 9.806 65	Watt	W
Viscosity	Poise Centipoise Kilogram force-second per square meter	P cP $kgf\cdot s/m^2$	10^{-1} 10^{-3} 9.806 65	Pascal-second	Pa·s
Kinematic viscosity	Stokes Centistokes	St cSt	10^{-4} 10^{-6}	Square meter per second	m^2/s
Temperature	Degree	°C	+273.15	Kelvin	K
Radioactivity Exposure dose Absorbed dose Dose equivalent	Curie Roentgen Rad Rem	Ci R rad rem	3.7×10^{10} 2.58×10^{-4} 10^{-2} 10^{-2}	Becquerel Coulomb per kilogram Gray Sievert	Bq C/kg Gy Sv
Magnetic flux	Maxwell	Mx	10^{-8}	Weber	Wb
Magnetic flux density	Gamma Gauss	γ Gs	10^{-9} 10^{-4}	Tesla	T
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

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

Miscellaneous Tables

● Hardness Conversion Table (Reference)

Rockwell C scale hardness Load 1471N HRC	Vickers' hardness HV	Brinell hardness Standard ball	Brinell hardness Tungsten carbide ball	Rockwell hardness A scale Load 588.4N Diamond circular cone	Rockwell hardness B scale Load 980.7N 1/16" ball	Shore hardness HS
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 Standard ball	Brinell hardness Tungsten carbide ball	Rockwell hardness A scale Load 588.4N Diamond circular cone	Rockwell hardness B scale Load 980.7N 1/16" ball	Shore hardness HS
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

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

● Torrance of Shaft dia.

Nominal Diameter mm		b12		c12		d6		e6		e12		f5		f6		g5	
Over	Incl.	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
—	3	−140	− 240	− 60	− 160	− 20	− 26	− 14	− 20	− 14	−114	− 6	−10	− 6	− 12	− 2	− 6
3	6	−140	− 260	− 70	− 190	− 30	− 38	− 20	− 28	− 20	−140	−10	−15	−10	− 18	− 4	− 9
6	10	−150	− 300	− 80	− 230	− 40	− 49	− 25	− 34	− 25	−175	−13	−19	−13	− 22	− 5	−11
10	18	−150	− 330	− 95	− 275	− 50	− 61	− 32	− 43	− 32	−212	−16	−24	−16	− 27	− 6	−14
18	30	−160	− 370	−110	− 320	− 65	− 78	− 40	− 53	− 40	−250	−20	−29	−20	− 33	− 7	−16
30	40	−170	− 420	−120	− 370	− 80	− 96	− 50	− 66	− 50	−300	−25	−36	−25	− 41	− 9	−20
40	50	−180	− 430	−130	− 380												
50	65	−190	− 490	−140	− 440	−100	−119	− 60	− 79	− 60	−360	−30	−43	−30	− 49	−10	−23
65	80	−200	− 500	−150	− 450												
80	100	−220	− 570	−170	− 520	−120	−142	− 72	− 94	− 72	−422	−36	−51	−36	− 58	−12	−27
100	120	−240	− 590	−180	− 530												
120	140	−260	− 660	−200	− 600	−145	−170	− 85	−110	− 85	−485	−43	−61	−43	− 68	−14	−32
140	160	−280	− 680	−210	− 610												
160	180	−310	− 710	−230	− 630												
180	200	−340	− 800	−240	− 700	−170	−199	−100	−129	−100	−560	−50	−70	−50	− 79	−15	−35
200	225	−380	− 840	−260	− 720												
225	250	−420	− 880	−280	− 740												
250	280	−480	−1000	−300	− 820	−190	−222	−110	−142	−110	−630	−56	−79	−56	− 88	−17	−40
280	315	−540	−1060	−330	− 850												
315	355	−600	−1170	−360	− 930	−210	−246	−125	−161	−125	−695	−62	−87	−62	− 98	−18	−43
355	400	−680	−1250	−400	− 970												
400	450	−760	−1390	−440	−1070	−230	−270	−135	−175	−135	−765	−68	−95	−68	−108	−20	−47
450	500	−840	−1470	−480	−1110												

unit: μm

g6		h5		h6		h7		h8		h9		h10		h11		Nominal Diameter mm	
High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	Over	Incl.
− 2	− 8	0	− 4	0	− 6	0	−10	0	−14	0	− 25	0	− 40	0	− 60	—	3
− 4	−12	0	− 5	0	− 8	0	−12	0	−18	0	− 30	0	− 48	0	− 75	3	6
− 5	−14	0	− 6	0	− 9	0	−15	0	−22	0	− 36	0	− 58	0	− 90	6	10
− 6	−17	0	− 8	0	−11	0	−18	0	−27	0	− 43	0	− 70	0	−110	10	18
− 7	−20	0	− 9	0	−13	0	−21	0	−33	0	− 52	0	− 84	0	−130	18	30
− 9	−25	0	−11	0	−16	0	−25	0	−39	0	− 62	0	−100	0	−160	30	40
																40	50
−10	−29	0	−13	0	−19	0	−30	0	−46	0	− 74	0	−120	0	−190	50	65
																65	80
−12	−34	0	−15	0	−22	0	−35	0	−54	0	− 87	0	−140	0	−220	80	100
																100	120
−14	−39	0	−18	0	−25	0	−40	0	−63	0	−100	0	−160	0	−250	120	140
																140	160
																160	180
−15	−44	0	−20	0	−29	0	−46	0	−72	0	−115	0	−185	0	−290	180	200
																200	225
																225	250
−17	−49	0	−23	0	−32	0	−52	0	−81	0	−130	0	−210	0	−320	250	280
																280	315
−18	−54	0	−25	0	−36	0	−57	0	−89	0	−140	0	−230	0	−360	315	355
																355	400
−20	−60	0	−27	0	−40	0	−63	0	−97	0	−155	0	−250	0	−400	400	450
																450	500

unit: μm

h12		h13		js5		j5		js6		j6		j7		k5		Nominal Diameter mm	
High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	Over	Incl.
0	−100	0	−140	+ 2	− 2	+2	− 2	+ 3	− 3	+ 4	− 2	+ 6	− 4	+ 4	0	—	3
0	−120	0	−180	+ 2.5	− 2.5	+3	− 2	+ 4	− 4	+ 6	− 2	+ 8	− 4	+ 6	+1	3	6
0	−150	0	−220	+ 3	− 3	+4	− 2	+ 4.5	− 4.5	+ 7	− 2	+10	− 5	+ 7	+1	6	10
0	−180	0	−270	+ 4	− 4	+5	− 3	+ 5.5	− 5.5	+ 8	− 3	+12	− 6	+ 9	+1	10	18
0	−210	0	−330	+ 4.5	− 4.5	+5	− 4	+ 6.5	− 6.5	+ 9	− 4	+13	− 8	+11	+2	18	30
0	−250	0	−390	+ 5.5	− 5.5	+6	− 5	+ 8	− 8	+11	− 5	+15	−10	+13	+2	30	40
																40	50
0	−300	0	−460	+ 6.5	− 6.5	+6	− 7	+ 9.5	− 9.5	+12	− 7	+18	−12	+15	+2	50	65
																65	80
0	−350	0	−540	+ 7.5	− 7.5	+6	− 9	+11	−11	+13	− 9	+20	−15	+18	+3	80	100
																100	120
0	−400	0	−630	+ 9	− 9	+7	−11	+12.5	−12.5	+14	−11	+22	−18	+21	+3	120	140
																140	160
																160	180
0	−460	0	−720	+10	−10	+7	−13	+14.5	−14.5	+16	−13	+25	−21	+24	+4	180	200
																200	225
																225	250
0	−520	0	−810	+11.5	−11.5	+7	−16	+16	−16	+16	−16	+26	−26	+27	+4	250	280
																280	315
0	−570	0	−890	+12.5	−12.5	+7	−18	+18	−18	+18	−18	+29	−28	+29	+4	315	355
																355	400
0	−630	0	−970	+13.5	−13.5	+7	−20	+20	−20	+20	−20	+31	−32	+32	+5	400	450
																450	500

k6		m5		m6		n5		n6		p6		Nominal Diameter mm	
High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	Over	Incl.
+ 6	0	+ 6	+ 2	+ 8	+ 2	+ 8	+ 4	+10	+ 4	+ 12	+ 6	—	3
+ 9	+1	+ 9	+ 4	+12	+ 4	+13	+ 8	+16	+ 8	+ 20	+12	3	6
+10	+1	+12	+ 6	+15	+ 6	+16	+10	+19	+10	+ 24	+15	6	10
+12	+1	+15	+ 7	+18	+ 7	+20	+12	+23	+12	+ 29	+18	10	18
+15	+2	+17	+ 8	+21	+ 8	+24	+15	+28	+15	+ 35	+22	18	30
+18	+2	+20	+ 9	+25	+ 9	+28	+17	+33	+17	+ 42	+26	30	40
												40	50
+21	+2	+24	+11	+30	+11	+33	+20	+39	+20	+ 51	+32	50	65
												65	80
+25	+3	+28	+13	+35	+13	+38	+23	+45	+23	+ 59	+37	80	100
												100	120
+28	+3	+33	+15	+40	+15	+45	+27	+52	+27	+ 68	+43	120	140
												140	160
												160	180
+33	+4	+37	+17	+46	+17	+51	+31	+60	+31	+ 79	+50	180	200
												200	225
												225	250
+36	+4	+43	+20	+52	+20	+57	+34	+66	+34	+ 88	+56	250	280
												280	315
+40	+4	+46	+21	+57	+21	+62	+37	+73	+37	+ 98	+62	315	355
												355	400
+45	+5	+50	+23	+63	+23	+67	+40	+80	+40	+108	+68	400	450
												450	500

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

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	High	Low	High	Low	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

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
						− 32	− 62	− 48	− 78	65	80
−10	−45	−30	−52	−24	− 59	− 38	− 73	− 58	− 93	80	100
						− 41	− 76	− 66	− 101	100	120
−12	−52	−36	−61	−28	− 68	− 48	− 88	− 77	−117	120	140
						− 50	− 90	− 85	−125	140	160
						− 53	− 93	− 93	−133	160	180
−14	−60	−41	−70	−33	− 79	− 60	−106	−105	−151	180	200
						− 63	−109	−113	−159	200	225
						− 67	−113	−123	−169	225	250
−14	−66	−47	−79	−36	− 88	− 74	−126	−138	−190	250	280
						− 78	−130	−150	−202	280	315
−16	−73	−51	−87	−41	− 98	− 87	−144	−169	−226	315	355
						− 93	−150	−187	−244	355	400
−17	−80	−55	−95	−45	−108	−103	−166	−209	−272	400	450
						−109	−172	−229	−292	450	500

1N=0.102kgf=0.2248lbs.
1mm=0.03937inch

Environment-friendly IKO C-Lube Bearings Minimizing Lubricant Requirement

What is your trouble?

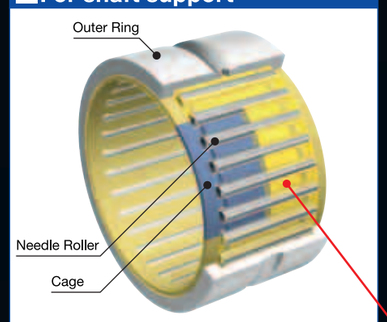
1. *Hard access to lubricating?*
2. *Machines and work places are dirty with lubricant?*
3. *Lubricating tools and instruments occupy the working places?*
4. *Having problems keeping up with lubrication maintenance schedule?*

Find solutions with IKO

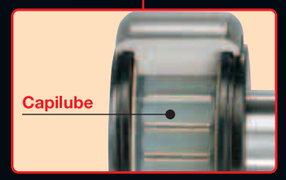
"C-Lube bearings" are IKO's unique maintenance free bearing products with thermosetting solid lubricant (Capilube) pre-packed in the bearing space.
As the bearing rotates, the lubricating oil oozes out onto needle rollers and raceways in proper quantity keeping the lubrication performance for a long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

IKO Clean Lubrication C-Lube Friendly to Maintenance Gentle to the Earth

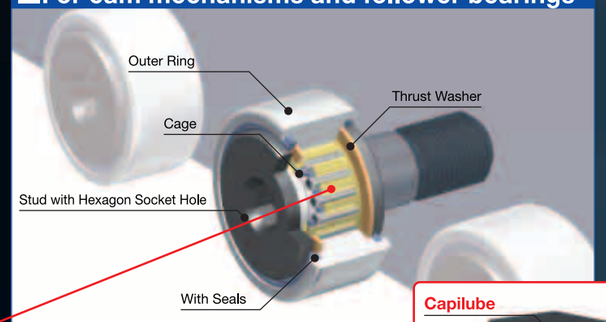
For shaft support



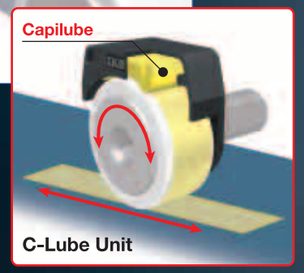
C-Lube Machined Type Needle Roller Bearing



For cam mechanisms and follower bearings



C-Lube Cam Followers



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”

New Jersey, U.S.A

Illinois, U.S.A

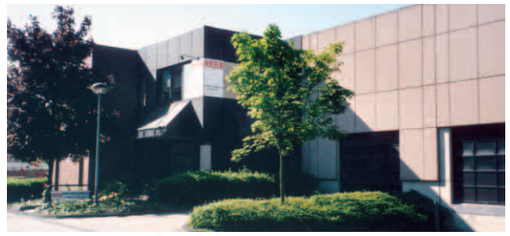
California, U.S.A

Silicon Valley, U.S.A

Georgia, U.S.A

Texas, U.S.A

The Netherlands



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Printed in Japan