

IKO

C-Lube Unit for Cam Followers

CL

See you again at
IKO Website
<http://www.ikont.co.jp/eg/>

*Easy Mounting
&
Easy Lubrication*

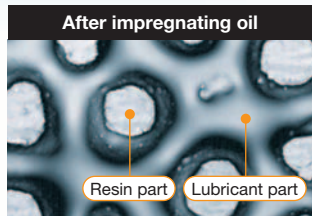
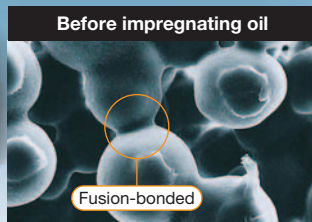
IKO C-Lube Unit for Cam Followers

C-Lube Unit CL is the lubrication-supporting equipment for the track surface and Cam Follower's outer ring to keep both surfaces free of maintenance.

C-Lube unit : CL

Capillary lubrication structure

Capillary system 株式会社 has developed is a new type lubrication. It is a porous resin Lube-body or plate with steel backing formed by sintering fine resin powder and impregnating a large amount of lubrication oil in its open pores. Capillary system always supplies proper amount of lubrication oil to the cylindrical rollers and lubrication condition of the raceway can be kept well for long period of time.



IKO C-Lube Cam Follower

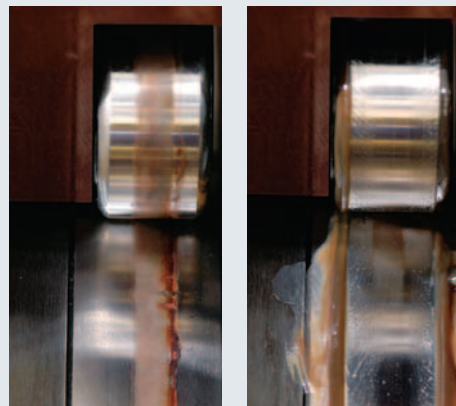
Cam Follower is not included in CL.



Problems

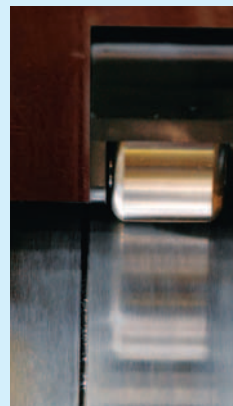
Wear caused by shortage of lubrication.

A sticky status caused by excessive grease.



Effect of using CL

These problems can be solved by adopting CL.



C-Lube Unit CL

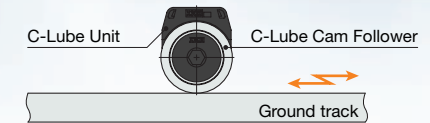
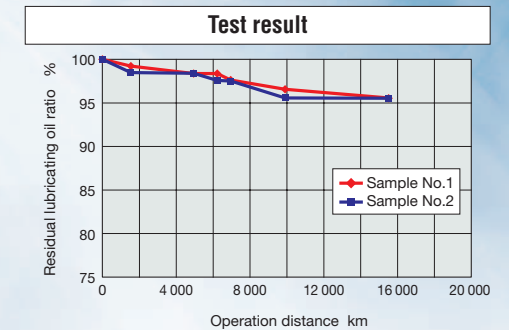
A proper quantity of lubricating oil is supplied onto the track surface without oil scattering causing no pollution to the surrounding environment, and oil consumption can be minimized.

Maintenance free, Cleanliness and Ecology

Result of durability test

Test condition (1)	
Sample	CL12 and CF12 WBUUR/SG (C-Lube Cam Follower)
Lubrication	Only by C-Lube, no pre-packed grease
Maximum speed	2000mm/s
Stroke length	300mm
Specification of track rail	Material: Alloy tool steel (Equivalent to D2 in AISI) Hardness: HRC58 or over Roughness: Rz 6.3 μm or less
Environment	Normal temperature

Note (1): Track surface : Ground
Re-confirmation is needed in other finishing surface.
Please consult 株式会社.



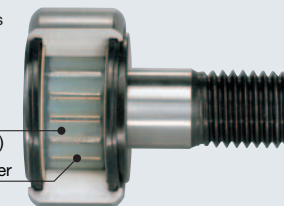
IKO C-Lube Unit for Cam Followers

C-Lube Unit CL is the lubrication-supporting equipment for the track surface of Cam Follower's outer ring. Full maintenance free for both inside and the outside of Cam Follower is possible when CL unit is assembled to C-Lube Cam Follower CF.../SG.

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

C-Lube (Solid lubrication)

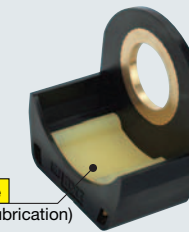
Needle roller



IKO C-Lube Cam Follower CF.../SG

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C-Lube (Solid lubrication)



IKO C-Lube Unit for Cam Follower CL

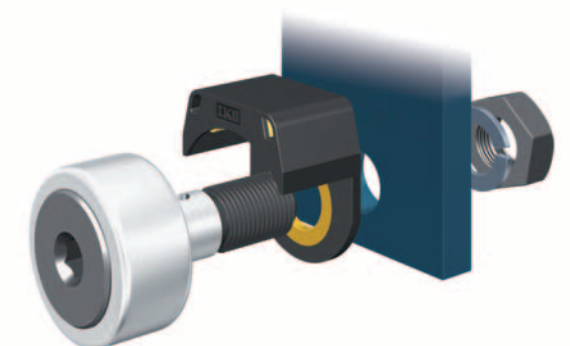
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Full Maintenance Free

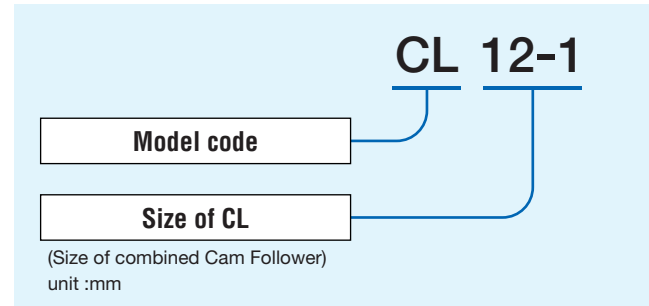
Easy installation

- C-Lube can be installed by only placing it on the stud of Cam Follower. No additional work to the customer's system is required.
- Just clean track surface with clean cloth and remove foreign particles and dirt.
- High grade of lubricant oil is fully impregnated in C-Lube Unit, and it can be used even other machining oil is existed around.



Identification number

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



For use

Maximum allowable static load

The maximum allowable load on IKO Cam Follower with C-Lube Unit is, in some cases, limited by the bending strength and shear strength of the C-Lube Unit instead of the load rating of needle bearing part. In order to safety operation, the maximum allowable static load is specified by the limitations of those strengths.

Operation check

After assembling C-Lube Unit and Cam Followers in the machine, please confirm that C-Lube unit provides oil correctly to the track surface before actual operation.

Allowable rotation speed

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

$$d_n = d_s \times n$$

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

Minimum rotational angle

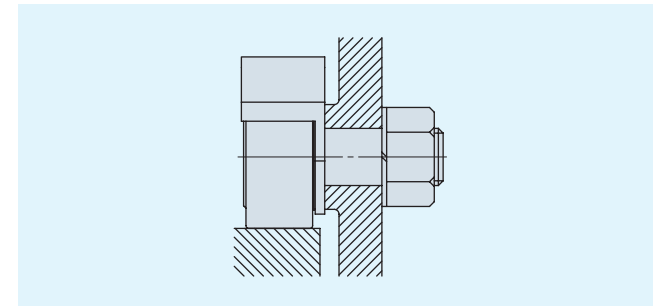
Lubricating oil is supplied to the whole external diameter surface of the outer ring. Accordingly, use the product in a condition in which the outer ring makes one or more turns.

Operating temperature

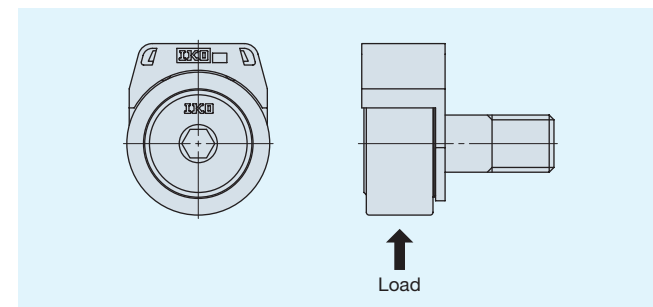
Allowable operating temperature range of IKO Cam Follower with C-Lube Unit is -15 to 80°C.

Mounting

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



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

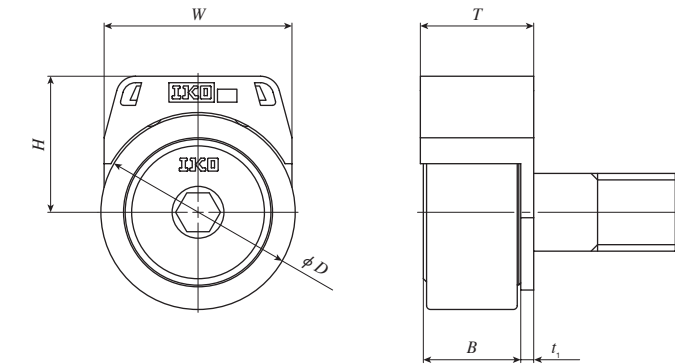


3 When tightening the nut, the tightening torque should not be exceeded the value maximum tightening torque on dimension table. In case loosening of the nut is predicted due to vibration, using lock nut, spring washer and other special washer are recommended.

Dimension Table

C-Lube Unit for Cam Follower

CL



Model number	Boundary dimensions mm				Applicable Cam Followers			Maximum ⁽²⁾ allowable static load N
	W	H	T	t ₁	Model number ⁽¹⁾	Boundary dimensions mm D B _{max}		
CL 6	15.4	12.6	14	1.5	CF 6 B	16 12.2	1 560	
CL 8	18.4	14.2	14	1.5	CF 8 B	19 12.2	3 700	
CL 10	21	17	15.5	2	CF 10 B	22 13.2	5 510	
CL 10-1	21	19.2	15.5	2	CF 10-1 B	26 13.2	5 510	
CL 12	29	21	17.5	2	CF 12 B	30 15.2	7 830	
CL 12-1	29	22	17.5	2	CF 12-1 B	32 15.2	7 830	

Note (1): Only representative types shown in the table, but also applicable to the same size of standard type, with thrust washer type, centralized lubrication type, C-Lube maintenance free type and heavy duty type. Combine with C-Lube Cam Follower is strongly recommended for full maintenance free.

(2): Actual load should be not exceeded these values.

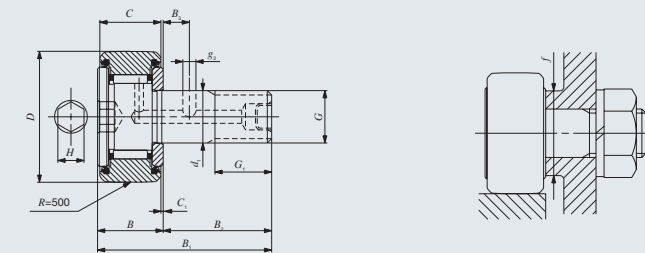
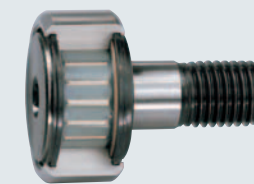
Precaution



- Do not use in the environment which contamination of liquid and/or harmful foreign matter are expected.
- Do not wash with organic solvent and/or white kerosene, which have the ability of removing fat nor leave them in contact with the above agents.
- To ensure normal rotation of the Cam Follower, apply a load of 1% or over of the dynamic load rating at use.
- Replace with new C-Lube Unit when inside oil finishes completely. Re-lubrication is not possible.
- Do not apply a load onto the C-Lube Unit directly.

Dimension of C-Lube Cam Followers

(Refer CAT-5943 in detail)



Stud dia. mm	Model number	Mass (Ref.) g	Boundary dimensions mm											Mounting dimension f Min. mm	Maximum tightening torque N·m	Basic dynamic load rating C N	Basic static load rating C _s N	Maximum allowable static load N	
			D	C	d ₁	G	G ₁	B _{max}	B _{1max}	B ₂	B ₃	C ₁	s ₂						H
6	CF 6 WBUUR/SG	18.5	16	11	6	M 6 × 1	8	12.2	28.2	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	32.2	20	-	0.6	-	4	13	6.5	4 250	4 740	4 620
10	CF10 WBUUR/SG	45	22	12	10	M10 × 1.25	12	13.2	36.2	23	-	0.6	-	4	16	13.8	5 430	6 890	6 890
	CF10-1 WBUUR/SG	60	26	12	10	M10 × 1.25	12	13.2	36.2	23	-	0.6	-	4	16	13.8	5 430	6 890	6 890
12	CF12 WBUUR/SG	95	30	14	12	M12 × 1.5	13	15.2	40.2	25	6	0.6	3	6	21	21.9	7 910	9 790	9 790
	CF12-1 WBUUR/SG	105	32	14	12	M12 × 1.5	13	15.2	40.2	25	6	0.6	3	6	21	21.9	7 910	9 790	9 790

Maintenance Free Specification

C-Lube integrated in IKO Needle Bearing Series.

IKO Maintenance Free Series

C-Lube Bearing

C-Lube Bearing is a rotational bearing that is prepacked with a thermosetting solid lubricant known as "C-Lube" in its bearing cavity. A large amount of lubricant and fine particles of ultra high molecular weight polyolefin resin are solidified by heat treatment to fill the inner cavity of the bearing. As the bearing rotates, the lubricant seeps out in suitable amount onto the raceway. This allows, maintaining proper lubrication for a long period of time. C-Lube Bearings are a great solution for those hard to reach spots on machines and equipment that never seemed to get lubricant when they need it. C-Lube Bearings also reduce man-hours needed for troublesome lubrication control.



C-Lube Cam Follower
CF.../SG



Machined type • Shell type C-Lube Bearing
※ Applicable to caged type only

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Recognizing that conservation of the global environment is the top-priority challenge for the world's population, IKO will conduct its activities with consideration of the environment as a corporate social responsibility, reduce its negative impact on the environment, and help foster a rich global environment.

**ISO 9001 & 14001 Quality system
registration certificate**



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