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› uxcell HK1010 Drawn Cup Needle Roller Bearings User Manual

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Model: HK1010

1. INTRODUCTION

This user manual provides essential information for the proper use, installation, and maintenance of uxcell HK1010 Drawn Cup Needle Roller Bearings. These bearings are designed for applications requiring high load capacity within a compact radial space.

Needle roller bearings are characterized by their thin, long cylindrical rollers, which allow for a small cross-section while maintaining significant load-carrying capabilities. The HK1010 model is pre-lubricated and offers good running properties, making it suitable for various industrial and mechanical applications where radial mounting space is restricted.

2. PRODUCT OVERVIEW

The uxcell HK1010 Drawn Cup Needle Roller Bearings are supplied in a pack of 10, ensuring availability for multiple applications or replacements.



Image: A pack of 10 uxcell HK1010 Drawn Cup Needle Roller Bearings, showcasing their uniform metallic appearance and internal needle rollers.

2.1. Dimensions

The HK1010 bearings feature precise dimensions for optimal fit and performance:

- **Bore Diameter (Fw):** 10mm
- **Outer Diameter (D):** 14mm
- **Width (C):** 10mm



Image: A visual representation of the HK1010 bearing with its key dimensions labeled: 14mm outer diameter, 10mm width, and 10mm bore diameter.

2.2. Material Composition

These bearings are constructed from durable materials to ensure longevity and performance:

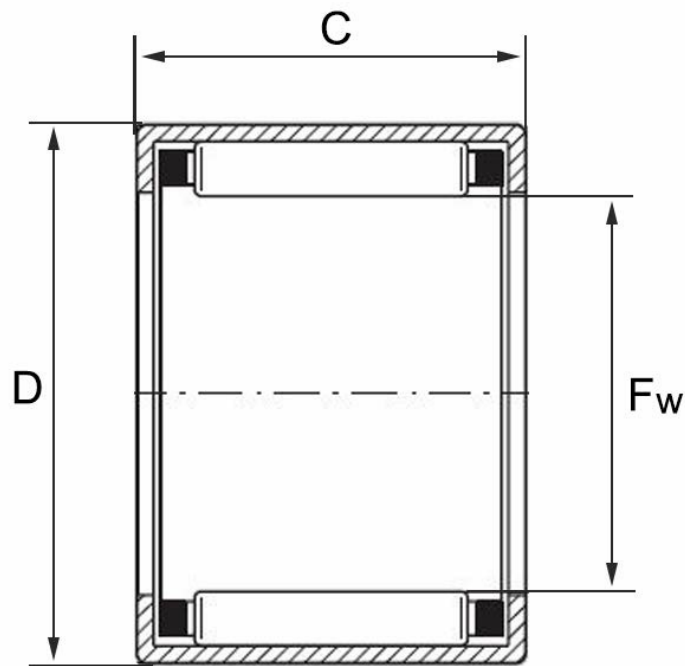
- **Drawn Cup:** ST14 Steel
- **Cage:** ST13 Steel
- **Needle Rollers:** GCr15 (Chromium Steel)



Image: An exploded view or cutaway diagram of the HK1010 bearing, highlighting the different material components: ST14 Steel for the drawn cup, ST13 Steel for the cage, and GCr15 Chromium Steel for the needle rollers.

2.3. Technical Drawing

For detailed engineering and installation planning, refer to the HK Series technical drawing:



HK Series

Image: A schematic technical drawing of an HK Series bearing, illustrating the cross-sectional view with labeled dimensions F_w (bore diameter), D (outer diameter), and C (width).

3. SETUP AND INSTALLATION

Proper installation is crucial for the optimal performance and lifespan of drawn cup needle roller bearings. These bearings are designed for press-fit installation into a housing bore.

3.1. Preparation

- Ensure the housing bore is clean, free of burrs, and within specified tolerances for a proper interference fit.
- Verify that the shaft or pin surface is clean and has the appropriate hardness and surface finish for the needle rollers.
- As the bearings are pre-lubricated, no initial lubrication is typically required before installation.

3.2. Installation Procedure

1. Use an appropriate installation tool (e.g., a press or a soft-faced hammer with a suitable sleeve) to press the

bearing into the housing bore.

2. Apply force evenly to the end face of the drawn cup to prevent deformation. Do not strike the inner ring or needle rollers directly.
3. Ensure the bearing is seated squarely and fully within the housing.
4. After installation, check for smooth rotation and proper alignment.

4. OPERATING PRINCIPLES

Drawn cup needle roller bearings are designed to accommodate radial loads. Their compact design makes them ideal for applications where space is limited, but high load capacity is still required.

- **High Load Capacity:** The large number of needle rollers provides a high contact area, distributing the load effectively and allowing for significant load-carrying capacity despite their small cross-section.
- **Stiffness:** The design contributes to high stiffness, which is beneficial in applications requiring precise positioning and minimal deflection.
- **Compact Design:** The thin-walled drawn outer cup and small diameter rollers result in a very compact radial dimension, enabling downsizing of assemblies.
- **Pre-Lubricated:** The bearings come pre-lubricated, ensuring good running properties from the start and reducing the need for immediate external lubrication in many applications.

5. MAINTENANCE

While uxcell HK1010 bearings are pre-lubricated and designed for durability, proper maintenance practices can extend their service life.

5.1. Lubrication

These bearings are pre-lubricated. For most applications, additional lubrication may not be necessary for the initial service period. However, in demanding environments or for extended service life, periodic re-lubrication with a suitable bearing grease or oil may be required. Consult application-specific guidelines for lubrication intervals.

5.2. Inspection

Regularly inspect the bearings and surrounding components for signs of wear, damage, or contamination. Look for:

- Unusual noise or vibration during operation.
- Excessive heat generation.
- Visible signs of corrosion, pitting, or spalling on the bearing surfaces.
- Leakage of lubricant or ingress of contaminants.

Address any issues promptly to prevent further damage to the bearing or the machinery.

6. TROUBLESHOOTING

If you encounter issues with your HK1010 bearings, consider the following common problems and potential solutions:

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Excessive Noise/Vibration	Improper installation, insufficient lubrication, contamination, bearing damage, misalignment.	Re-check installation, add lubrication, clean/replace, replace bearing, correct alignment.
Overheating	Insufficient lubrication, excessive load, improper fit (too tight), misalignment.	Add lubrication, reduce load, check fit tolerances, correct alignment.
Premature Wear	Contamination, inadequate lubrication, excessive load, vibration, improper material hardness of mating components.	Ensure clean environment, re-lubricate, reduce load, dampen vibration, verify shaft/pin material.
Bearing Seizure	Severe lack of lubrication, extreme overload, severe contamination, excessive heat.	Replace bearing, identify and correct root cause (lubrication system, load, environment).

If issues persist after attempting these solutions, it may indicate a need for professional assessment or replacement of the bearing.

7. SPECIFICATIONS

Attribute	Detail
Model Number	HK1010 (a18070500ux0428)
Bearing Type	Drawn Cup Needle Roller Bearing
Bore Diameter (Fw)	10 mm
Outer Diameter (D)	14 mm
Width (C)	10 mm
Material	Alloy Steel (ST14 Steel Drawn Cup, ST13 Steel Cage, GCr15 Needle Roller)
Package Dimensions	3.5 x 2.36 x 0.67 inches
Item Weight	0.63 ounces (for the pack)
Manufacturer	uxcell
ASIN	B07GC8GXWG

8. WARRANTY INFORMATION

Specific warranty details for uxcell HK1010 Drawn Cup Needle Roller Bearings are typically provided at the point of purchase or through the authorized seller. Please retain your proof of purchase for any warranty claims. For general warranty policies or further information, please refer to the official uxcell brand store or contact their customer service.

9. SUPPORT

For additional support, technical inquiries, or product information regarding uxcell products, please visit the official uxcell brand store or contact their customer service department.

uxcell Official Store: <https://www.amazon.com/stores/uxcell/page/9C5CFA37-6CB6-400F-AA4A-658A763458C5>

