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AEDNX HSR15B1UU

User Manual

AEDNX THK HSR15B1UU Linear Block Guide Rail Carriage Slider Bearing

Model: HSR15B1UU | Brand: AEDNX

1. Product Overview

The AEDNX THK HSR15B1UU Linear Block Guide is designed for precise linear motion control in various industrial applications, including CNC machines, 3D printers, and automation systems. It features balls rolling in four rows of raceways, precision-ground on both the LM rail and the LM block. Endplates within the LM block facilitate ball circulation, and retainer plates prevent balls from falling out even when the LM rail is removed (except for models HSR 8, 10, and 12).

Each row of balls is positioned at a 45° contact angle, ensuring that rated loads applied to the LM block are uniformly distributed across four directions: radial, reverse radial, and lateral. This design allows the LM Guide to be used in all orientations. Furthermore, the LM block can accommodate a balanced preload, which enhances rigidity in all four directions while maintaining a consistent, low friction coefficient. The low sectional height and high rigidity design of this LM block contribute to highly accurate and stable straight motion.



Figure 1: Top view of the AEDNX THK HSR15B1UU Linear Block Guide, showing the mounting holes and surface finish.

2. What's in the Box

Upon opening the package, you should find the following item:

- A Linear Block HSR15B



Figure 2: The HSR15B1UU Linear Block Guide as typically packaged, showing the product and its box.

3. Setup and Installation

Proper installation is crucial for the optimal performance and longevity of your linear guide. Follow these steps carefully:

1. **Step 1: Preparation and Cleaning**
   Before mounting the linear guides, thoroughly clean all rough edges and remove any contaminating objects from the mounting surface. Datum lines of linear guides are typically coated with antirust. Brush off this antirust with a suitable cleanser before positioning. Spraying a low coherence grease can help preserve the datum plane.
2. **Step 2: Initial Placement**
   Place the linear guide onto the base. Secure it gently with a drive screw or other appropriate appliances, ensuring it sits properly and aligns with the datum line. **Important:** Before tightening, examine the adjustment of the screw

holes. Forcefully tightening screws when misaligned can lead to unaligned screw holes, affecting accuracy and quality due to offset.

3. **Step 3: Fastening Bolts**
   Sequentially fasten the bolts to stabilize the rail. Gently push the track against the datum line to improve the connection between them.
4. **Step 4: Torque Tightening**
   Using a torque wrench, tighten the bolts. Begin tightening from the center of the rail and proceed outwards towards both edges.
5. **Step 5: Auxiliary Rail and Slides**
   Repeat similar steps for installing any auxiliary rails. Then, install the slides onto the rail independently. At this stage, ensure all adornments, such as lubricant fittings, grease fittings, and seals, are gathered and ready for installation. Delaying this step may make it difficult to install these components later due to limited space.
6. **Step 6: Table Placement**
   Smoothly locate the table onto the slides on both the main and subsidiary rails.
7. **Step 7: Final Table Securing**
   Tighten the perpendicular thrust screw to settle the table. Subsequently, attach the table screws in the correct sequence.



Figure 3: Internal view of the linear block, illustrating the four rows of recirculating ball bearings that enable smooth motion.

4. Operation

Once properly installed, the AEDNX THK HSR15B1UU Linear Block Guide provides highly accurate and stable straight motion. The design ensures low friction and high rigidity, making it suitable for applications requiring precise linear movement under various load conditions. Ensure that the system is not subjected to loads exceeding its rated capacity and that the operating environment is free from excessive dust or corrosive agents that could impair performance.



Figure 4: Bottom view of the linear block, showing the mounting interface and structural details.

5. Maintenance

Regular maintenance is essential to ensure the long-term performance and reliability of your linear guide:

- **Cleaning:** Periodically inspect the linear guide for dust, debris, or contaminants. Clean the raceways and block surfaces using a lint-free cloth and a suitable, non-corrosive cleaning agent.
- **Lubrication:** Apply appropriate low coherence grease or lubricant to the linear block's lubrication points as recommended by the manufacturer or based on your application's operating conditions. Proper lubrication reduces friction and prevents wear.
- **Inspection:** Regularly check for any signs of wear, damage, or loose fasteners. Address any issues promptly to prevent further damage.



Figure 5: Side view of the linear block, highlighting the grease fitting for lubrication.

6. Troubleshooting

If you encounter issues with your linear guide, consider the following common troubleshooting steps:

- **Stiffness or Increased Friction:** Check for proper lubrication. Ensure the mounting bolts are not overtightened, which can cause distortion. Inspect for any foreign particles in the raceways.
- **Noise or Vibration:** Verify that all components are securely fastened. Check for adequate lubrication. Excessive noise might indicate wear or misalignment.
- **Reduced Accuracy:** Re-check the alignment of the linear guide and the mounting surface. Ensure the base is rigid and free from deformation.

- **Ball Fall-out:** This should not occur with this model (HSR15B1UU) due to retainer plates, unless the unit is severely damaged or is one of the HSR 8, 10, or 12 models. If balls are falling out, the unit may require replacement.

For persistent issues, contact the manufacturer or seller for further assistance.

7. Specifications

Feature	Detail
ASIN	B0DNZV7Q85
Manufacturer	AEDNX
Item Model Number	HSR15B1UU
Product Dimensions	2.23 x 1.85 x 0.76 inches
Item Weight	7.05 ounces
Date First Available	November 25, 2024

8. Warranty and Support

For information regarding warranty coverage, terms, and conditions, please refer to the documentation provided with your purchase or contact the seller, Linear Systems Automation (Seller ID: A889OJTYLUZJK), directly. For technical support or inquiries, please reach out to the manufacturer, AEDNX.

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