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Astromania SKU_AM_HDHF1025C

Astromania 1.25" High Precision Double Helical Focuser Instruction Manual

Model: SKU_AM_HDHF1025C

1. INTRODUCTION

The Astromania 1.25" High Precision Double Helical Focuser is engineered to provide extremely fine and accurate focusing for various astronomical instruments. It is particularly useful for applications requiring critical focus, such as astrophotography or high-magnification planetary observation, where standard focusers may lack the necessary precision. This focuser features a fixed orientation design, ensuring that attached accessories do not rotate during the focusing process, maintaining consistent image framing.

Exquisite Crafted Design

More convenient in the process of use and can extend the life cycle of the product.

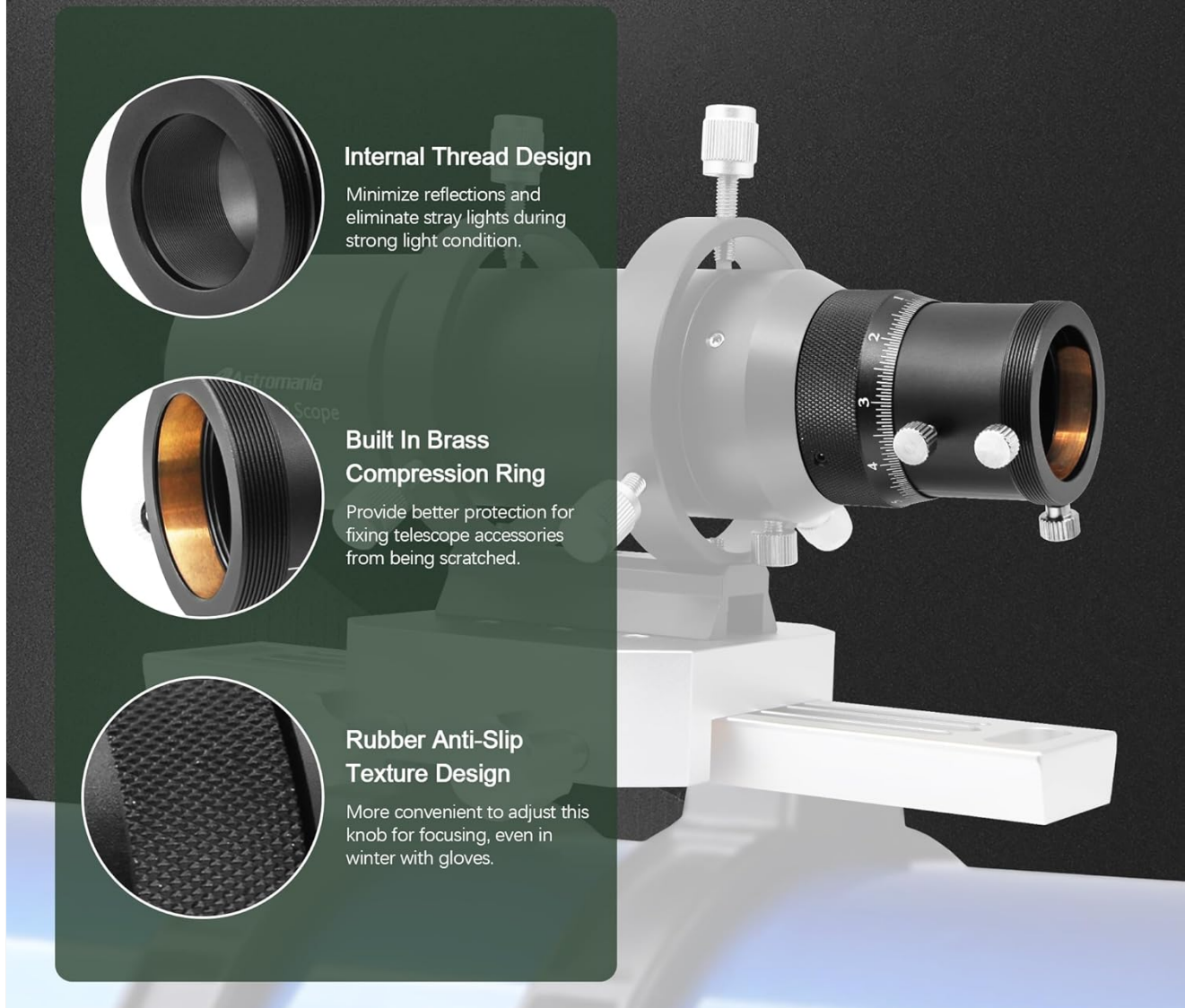


Image 1.1: The Astromania 1.25" High Precision Double Helical Focuser.

2. PRODUCT FEATURES

- **High Precision Focusing:** Equipped with a 0.05mm adjustment scale and a 10mm focusing stroke for extremely fine focus control.
- **Fixed Orientation:** Designed to prevent rotation of mounted cameras or eyepieces during focusing, preserving the field of view and guide star alignment.
- **Durable Construction:** Manufactured from full metal with robust black anodized aluminum, ensuring longevity and smooth operation.
- **Internal Thread Design:** Minimizes internal reflections and eliminates stray light, enhancing image contrast.
- **Built-in Brass Compression Ring:** Provides secure and gentle holding for telescope accessories, preventing scratches.
- **Rubber Anti-Slip Texture:** The focusing knob features a textured grip for convenient adjustment, even in cold conditions or when wearing gloves.

Knob & Screw Function Introduction

Clear understanding of functions of knob & screw will significantly enhance your operation of helical focuser, making focusing process more efficient.

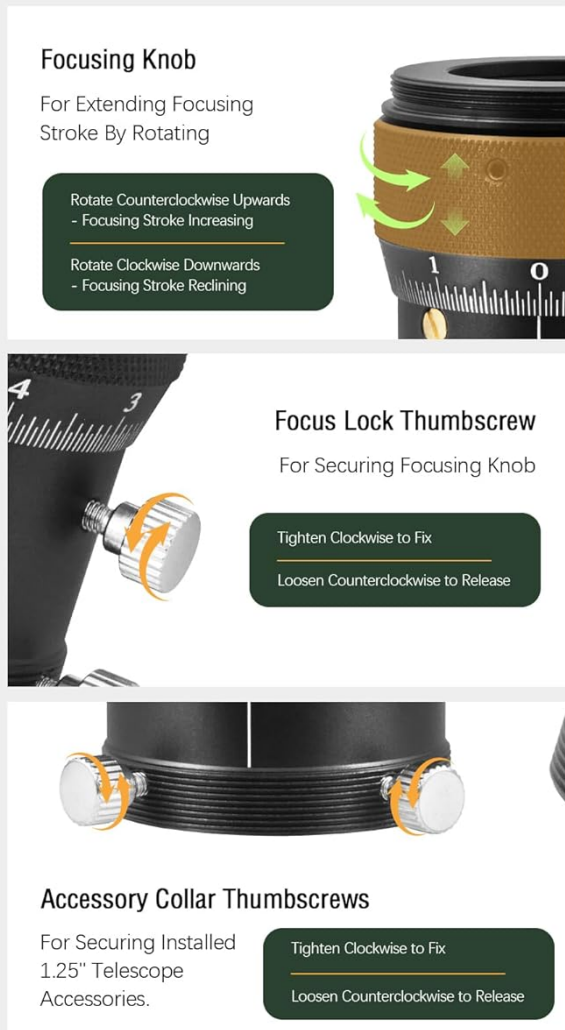


Image 2.1: Key design features including internal threading, brass compression ring, and anti-slip texture.

3. SETUP AND INSTALLATION

This focuser is designed for versatile integration with various telescope setups. Follow these steps for proper installation:

- 1. Connecting to a Telescope/Finder/Guidescope:** The focuser features an M31x0.5 male thread on one side for connection. An included M31x0.5 female to M42x0.75 male thread adapter allows for connection to M42x0.75 male threads.
- 2. Upgrading an R&P Focuser:** To upgrade a rack-and-pinion (R&P) focuser, ensure your R&P focuser has an M42x0.75 male thread. You may need an additional Astromania M42x0.75 Female to M42x0.75 Female Thread Telescope Adapter (9mm, ASIN: B01NCS8RW6) to connect the helical focuser to the R&P focuser.
- 3. Installing 1.25" Accessories:** The other side of the helical focuser includes a 1.25 inch accessory collar with an M42x0.75 male T-thread flange. Use the accessory collar thumbscrews to secure 1.25 inch eyepieces or a StarShoot AutoGuider.
- 4. Connecting a Camera for Astrophotography:** For astrophotography, a camera can be attached using a T-ring (M42x0.75 male thread). Ensure any eyepiece securing screws are removed prior to attaching the camera with a T-ring.

Double Connecting Options

Eyepiece connecting end includes 1.25 inch tube diameter and M42x0.75 male thread for naked-eye observation or astrophotography.

Suitable For 1.25
Inch Eyepiece

1.25 Inch Tube
Diameter

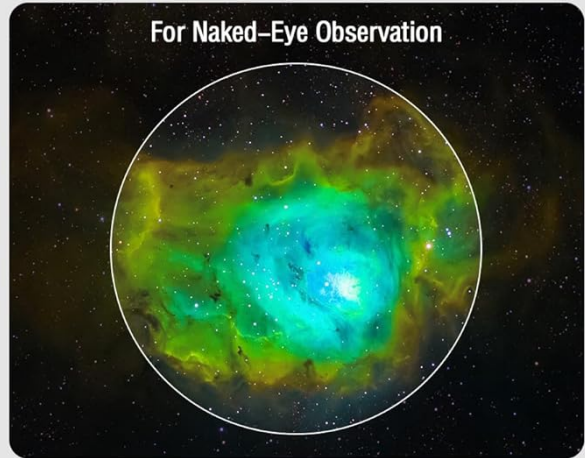


Suitable For Camera
with T-ring

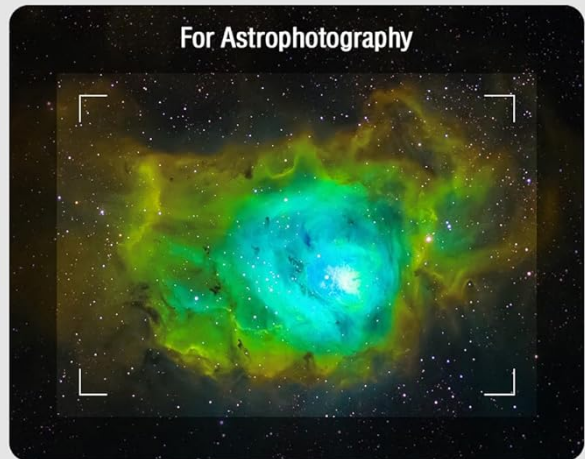
M42x0.75 Male thread



For Naked-Eye Observation



For Astrophotography

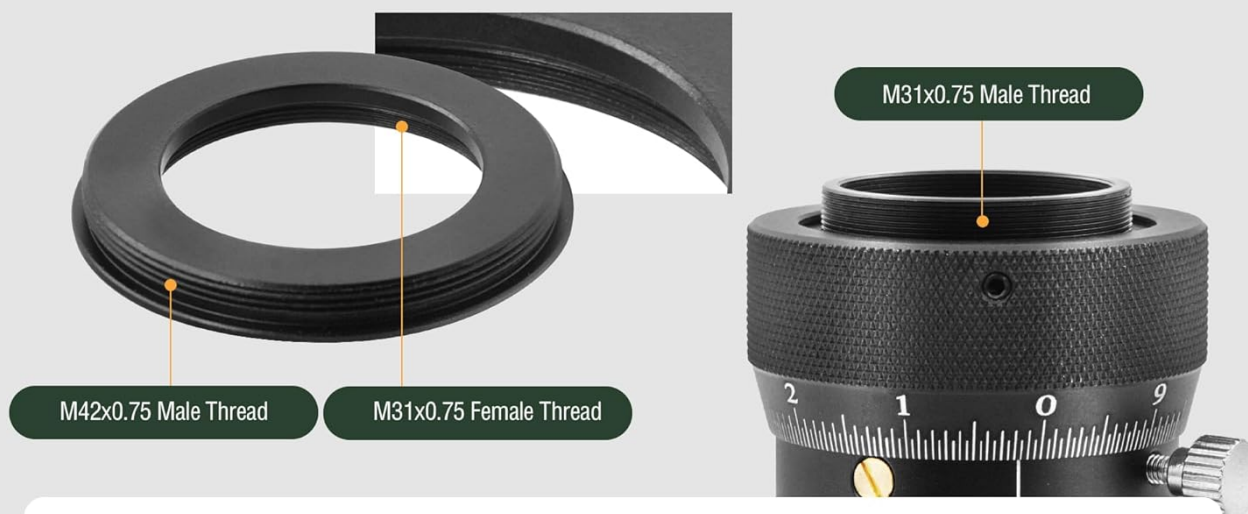


Please Attention: Necessary to remove two eyepiece securing screws prior to attaching the camera with T-ring (Not Included) for astrophotography.

Image 3.1: Dual connection options for 1.25 inch eyepieces and cameras with T-rings.

Telescope Connecting End Description

Achieve to mount this helical focuser on telescope by suitable telescope adapter.



Here is a connection for your reference

【Note that telescope chosen here has a focuser with M42x0.75 male thread】



Image 3.2: Telescope connecting end showing M31x0.5 male thread and the M42x0.75 adapter.

Image 3.3: The focuser's minimum length of 46mm and maximum length of 56mm, demonstrating its stroke range.

Video 3.1: This video demonstrates the Astromania helical focuser as a solution for telescopes or telephoto lenses that have sluggish or imprecise focusing mechanisms.

4. OPERATION

Operating the helical focuser involves adjusting the focusing knob and securing your accessories.

- Focusing Knob:** Rotate the main focusing knob to extend or retract the focuser. Rotating counter-clockwise increases the focusing stroke (extends), while rotating clockwise decreases the focusing stroke (retracts). The integrated scale allows for precise adjustments and repeatable focus positions.
- Focus Lock Thumbscrew:** Once the desired focus is achieved, tighten the small focus lock thumbscrew to secure the focusing knob in position. This prevents accidental changes to the focus setting.
- Accessory Collar Thumbscrews:** After inserting a 1.25" eyepiece or other accessory into the accessory collar, tighten the two accessory collar thumbscrews to hold the item firmly in place.



Robust Black Anodized Aluminium

Excellent aluminium construction with precisely CNC-machined, giving this product a refined and smooth appearance and more resistant.



Aluminum Alloy Material

Image 4.1: Introduction to the functions of the focusing knob, focus lock thumbscrew, and accessory collar thumbscrews.



Image 4.2: Demonstrates the precise focusing capability with a 0.05mm adjustment accuracy and 10mm focusing stroke, showing the difference between out-of-focus and in-focus images.

5. MAINTENANCE

To ensure the longevity and optimal performance of your Astromania Helical Focuser, follow these maintenance guidelines:

- **Cleaning:** Use a soft, lint-free cloth to gently wipe the exterior of the focuser. Avoid abrasive materials or harsh chemicals that could damage the anodized finish.
- **Dust Removal:** Use a blower brush or compressed air (with caution) to remove dust from threads and moving parts. Do not attempt to disassemble the focuser for cleaning unless you are experienced with optical equipment.
- **Storage:** Store the focuser in a clean, dry environment, preferably in its original packaging or a protective case, when not in use. Avoid extreme temperatures and humidity.
- **Lubrication:** The focuser is factory-lubricated. Do not apply additional lubricants unless specifically instructed by Astromania support, as this may attract dust or interfere with its precision mechanism.

6. TROUBLESHOOTING

If you encounter issues with your helical focuser, consider the following common solutions:

- **Difficulty Achieving Focus:** Ensure all connections to the telescope and accessories are secure. Verify that the focuser is within its 10mm stroke range. Check if the focus lock thumbscrew is fully loosened before attempting to adjust focus.
- **Loose Accessories:** Tighten the accessory collar thumbscrews firmly but gently to secure eyepieces or cameras. Avoid over-tightening, which could damage the accessory.
- **Stiff Focusing Knob:** In cold weather, metal components can become stiffer. Operate the focuser gently. If stiffness persists, ensure no debris is obstructing the mechanism. Do not force the knob.
- **Image Rotation:** This focuser is designed for fixed orientation. If you experience image rotation, ensure the focuser itself is securely mounted and not rotating within its connection point to the telescope.

If these steps do not resolve the issue, please contact Astromania customer support for further assistance.

7. SPECIFICATIONS

| Feature | Specification |
|----------------------------|---|
| Product Dimensions | 1.81 x 2.32 x 1.81 inches |
| Item Weight | 3.2 ounces |
| Item Model Number | SKU_AM_HDHF1025C |
| Brand | Astromania |
| Eye Piece Lens Description | Helical |
| Focus Type | Fixed Focus |
| Compatible Devices | Auto Guider, Eyepiece, Telescope |
| Focal Length Description | 9 millimeters (referring to adapter length) |
| Accuracy | 0.05mm |
| Focusing Stroke | 10mm |
| Minimum Length | 46mm |
| Longest Length | 56mm |
| Primary Mirror Interfaces | M31X0.5 or M42X0.75 |

8. WARRANTY AND SUPPORT

Astromania products are manufactured to high standards. For information regarding warranty coverage, technical support, or service, please refer to the official Astromania website or contact their customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.

You can visit the Astromania Store for more information: [Astromania Optics Store](#)

