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## Askar 61EDPHIII full frame flattener

# Askar 61EDPHIII Full Frame Flattener Instruction Manual

Model: 61EDPHIII Full Frame Flattener

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## 1. INTRODUCTION

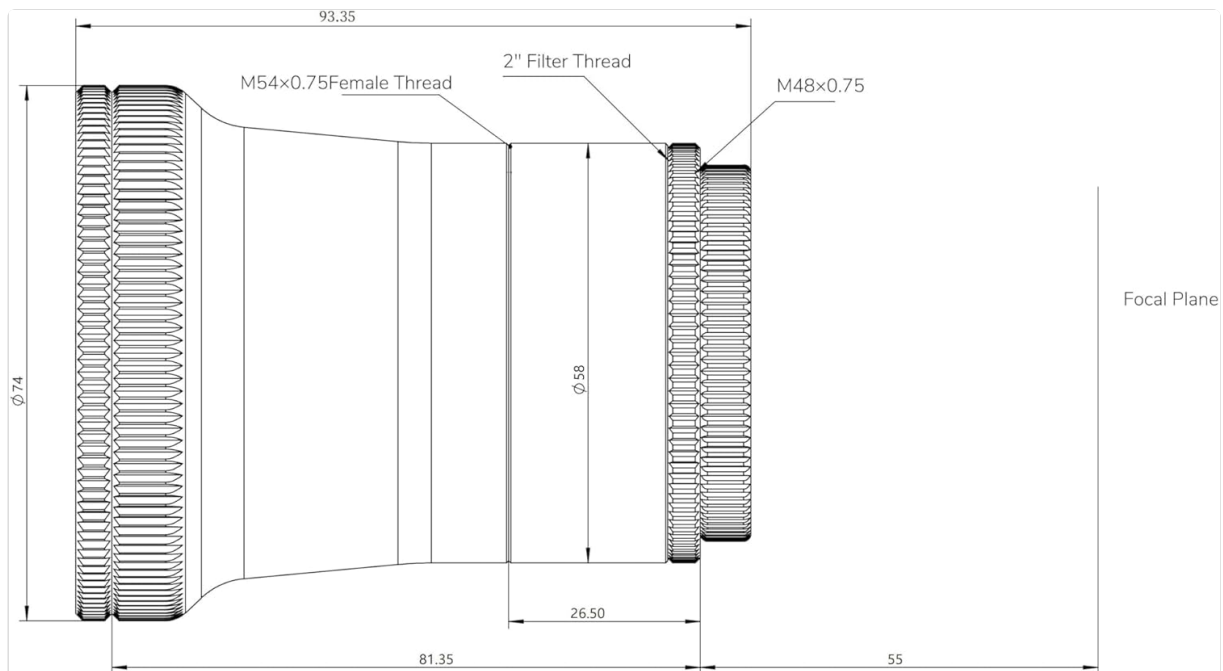
This manual provides instructions for the proper setup, operation, and maintenance of your Askar 61EDPHIII Full Frame Flattener. This accessory is designed to correct field curvature, ensuring sharp, flat images across the entire field of view when used with the Askar 61EDPHIII telescope, particularly beneficial for astrophotography with full-frame cameras.

Please read this manual thoroughly before using the product to ensure optimal performance and longevity.

## 2. SETUP

### 2.1 Unpacking and Component Identification

Carefully remove all components from the packaging. Verify that all parts are present and undamaged. The main components include the flattener unit and protective caps.



**Figure 2.1:** The Askar 61EDPHIII telescope with the full-frame flattener attached. The flattener is the black cylindrical component connected to the rear of the telescope, extending towards the right.

## 2.2 Attaching the Flattener to the Telescope

1. Ensure your Askar 61EDPHIII telescope is securely mounted and stable.
2. Remove the protective caps from both ends of the flattener and the rear of the telescope's focuser.
3. Carefully thread the flattener onto the focuser of the Askar 61EDPHIII telescope. Ensure it is aligned properly to avoid cross-threading.
4. Tighten the flattener securely by hand until snug. Do not overtighten.



**Figure 2.2:** A closer view of the Askar 61EDPHIII flattener connected to the telescope, showing the red and white telescope body and the black flattener unit.

## 2.3 Connecting a Camera

The flattener features an M48x0.75 thread for camera connection. You will need an appropriate camera adapter (T-ring) for your specific camera model.

1. Attach your camera's T-ring adapter to the M48x0.75 thread on the rear of the flattener.
2. Mount your camera body onto the T-ring adapter.
3. Ensure all connections are secure to prevent accidental detachment.



Figure 2.3: The Askar 61EDPHIII flattener with a camera (represented by a red cylindrical component) attached to its rear, ready for astrophotography.

### 3. OPERATION

#### 3.1 Back Focus Adjustment

Achieving the correct back focus is crucial for optimal performance of the full-frame flattener. The recommended back focus for the Askar 61EDPHIII flattener is 55mm from the rear M48 thread to the camera sensor.

- Measure the distance from your camera's sensor to the front face of its T-ring adapter.
- Subtract this measurement from 55mm to determine the required spacing.
- Use appropriate M48 extension tubes (not included) between the flattener and your camera's T-ring to achieve the precise 55mm back focus.
- Small adjustments (e.g., 1-2mm) may be necessary to fine-tune the field flatness based on your specific camera and setup.



Figure 3.1: A technical diagram illustrating the dimensions and thread types of the flattener, including M54x0.75 female thread, 2"

## 3.2 Focusing

Once the flattener and camera are attached, use the telescope's focuser to achieve sharp focus. The flattener itself does not have focusing capabilities; it works in conjunction with the telescope's primary focuser.

- Point the telescope at a bright star.
- Use a focusing mask (e.g., Bahtinov mask) and your camera's live view or capture software to achieve precise focus.
- Verify focus across the entire field of view to confirm correct back focus.

## 4. MAINTENANCE

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### 4.1 Cleaning the Optics

Keep the optical surfaces of the flattener clean to ensure optimal image quality. Only clean the lenses when necessary.

1. Use a blower brush to remove loose dust particles.
2. For stubborn smudges or fingerprints, apply a small amount of optical cleaning fluid to a clean, lint-free optical cloth or lens tissue.
3. Gently wipe the lens surface in a circular motion from the center outwards. Avoid excessive pressure.
4. Never use abrasive materials or household cleaners on optical surfaces.

### 4.2 General Care and Storage

- Always replace protective caps when the flattener is not in use.
- Store the flattener in a clean, dry environment, away from extreme temperatures and humidity.
- Avoid dropping or subjecting the unit to strong impacts.

## 5. TROUBLESHOOTING

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### 5.1 Common Issues and Solutions

| Issue  | Possible Cause  | Solution  |
|--|---|---|
| Stars appear elongated or distorted at the edges of the image. | Incorrect back focus distance.                                | Verify and adjust the back focus distance to precisely 55mm from the flattener's M48 thread to the camera sensor.   |
| Vignetting (darkening) at the corners of the image.            | Incorrect spacing, camera sensor size, or adapter issues.     | Ensure correct back focus. Check if your camera sensor is larger than the flattener's designed corrected field. Inspect adapters for internal obstructions. |
| Difficulty achieving sharp focus.                              | Flattener not securely attached, or telescope focuser issues. | Ensure the flattener is tightly threaded. Check the telescope's focuser for smooth operation and proper tension.  |

## 6. SPECIFICATIONS

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Key specifications for the Askar 61EDPHIII Full Frame Flattener:

- **Model:** 61EDPHIII Full Frame Flattener
- **Compatible Telescope:** Askar 61EDPHIII
- **Back Focus:** 55mm (from M48 thread to camera sensor)
- **Camera Connection:** M48x0.75 thread
- **Filter Thread:** 2" (M48) filter thread inside
- **Flattener Length:** Approximately 81.35mm (excluding back focus distance)
- **Maximum Diameter:** Approximately 74mm

*Note:* The product dimensions (4.41"D x 4.02"W x 4.8"H) and item weight (0.4 Kilograms) listed in the product details refer to the Askar 61EDPHIII telescope unit, not solely the flattener accessory.

## 7. WARRANTY AND SUPPORT

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### 7.1 Warranty Information

Askar products typically come with a limited warranty covering manufacturing defects. For specific warranty terms, duration, and claim procedures, please refer to the official Askar website or contact your authorized dealer. Keep your proof of purchase for warranty claims.

### 7.2 Customer Support

If you encounter any issues or have questions regarding your Askar 61EDPHIII Full Frame Flattener that are not addressed in this manual, please contact Askar customer support or your retailer for assistance.

- **Manufacturer Website:** Visit the Askar Store on Amazon (for general product information)
- **Seller Contact:** SHARPSTAR OPTICS (via Amazon's seller contact feature)