Orion EF Eyepieces

Never look directly at the sun with this optic! Serious permanent eye damage, including blindness, can occur.



Introduction

Congratulations on your purchase of an Orion EF eyepiece. Orion EF eyepieces are designed to provide sharp, high contrast views with a wide apparent field of view and comfortable eye relief. They are well suited for observing a wide range of celestial objects, including the Moon, planets, star clusters, nebulae, and galaxies.

Each EF eyepiece features fully multi-coated and edge-blackened optics to improve light transmission and reduce internal reflections. The design provides a flat, well corrected field of view, allowing stars and other objects to remain sharp across much of the field. The generous eye relief makes these eyepieces comfortable to use during extended observing sessions.

Orion EF eyepieces are available in several focal lengths, allowing observers to select the magnification that best matches their telescope and observing targets.

Compatibility

Orion EF eyepieces are equipped with a standard 1.25” barrel and will fit any telescope that accepts 1.25” eyepieces. This includes most refractors, reflectors, and catadioptric telescopes.

The barrel is threaded to accept standard 1.25” telescope filters.

Using the Eyepiece

To install the eyepiece, loosen the thumbscrew on your telescope’s focuser or star diagonal. Insert the eyepiece barrel fully into the focuser or diagonal and tighten the thumbscrew until the eyepiece is held securely in place.

After the eyepiece is installed, point the telescope at your observing target and adjust the telescope’s focuser until the image appears sharp. When switching between eyepieces, you may need to slightly adjust the focus to obtain the sharpest image.

The eyepiece utilizes a “Twist Up” eyecup, which allows an adjustable eye cup height for comfortable viewing

Choosing the Right Magnification

The magnification provided by an eyepiece depends on the focal length of the telescope and the focal length of the eyepiece.

To determine magnification, divide the focal length of the telescope by the focal length of the eyepiece.

For example, a telescope with a focal length of 1000 mm used with a 10 mm eyepiece will provide 100x magnification.

Eyepieces with longer focal lengths provide lower magnification, a wider field of view, and brighter images. These are useful for locating objects and observing large targets such as star clusters and nebulae.

Eyepieces with shorter focal lengths produce higher magnification and are often used for viewing the Moon, planets, and double stars.

Using Filters

Orion EF eyepieces are threaded to accept standard 1.25” telescope filters. To install a filter, thread it onto the bottom of the eyepiece barrel before inserting the eyepiece into the telescope.

Filters can enhance the visibility of certain details depending on the object being observed. For example, a Moon filter can reduce glare when observing the Moon, while color filters can improve contrast when observing planets.

Using a Barlow Lens

A Barlow lens increases the effective magnification of an eyepiece. When an eyepiece is used with a 2x Barlow lens, the magnification produced by that eyepiece is doubled.

Barlow lenses are useful when higher magnifications are desired without requiring additional eyepieces. They are commonly used when observing the Moon and planets.

Care and Storage

When not in use, keep the eyepiece capped to protect the lenses from dust and debris. Store the eyepiece in a clean, dry place such as an eyepiece case or protective container.

If the eyepiece has been used in damp conditions, allow it to dry before placing it in a closed case. Long term storage in a humid environment can lead to mold growth on optical surfaces, which may damage the coatings.

Cleaning

The lenses of your Orion EF eyepiece are coated with optical coatings designed to improve image brightness and contrast. These coatings can be damaged if cleaned improperly.

Avoid touching the lens surfaces with your fingers. If cleaning becomes necessary, first remove loose dust with a blower bulb or compressed air.

If additional cleaning is required, use lens cleaning tissue and fluid specifically designed for coated optical surfaces. Apply the cleaning fluid to the tissue, not directly to the lens. Gently wipe the lens surface using light pressure and a circular motion, then remove any remaining fluid with a clean, dry tissue.

Do not use household cleaners, paper products, or fluids intended for eyeglasses, as these may damage the optical coatings.

Specifications

Barrel size:	1.25”
Filter threads:	Standard 1.25”
Optical coatings:	Fully multi-coated Edge blackened

Focal lengths, apparent field of view, eye relief:
(Sold separately)

- -8 mm: 60° AFOV, 10 mm eye relief
- -12 mm: 60° AFOV, 15 mm eye relief
- -16 mm: 65° AFOV, 18 mm eye relief
- -19 mm: 65° AFOV, 18.5 mm eye relief
- -27 mm: 53° AFOV, 23 mm eye relief

Orion StarGuard 2 Year Warranty

Visit telescope.com for more information about the Orion StarGuard 2 Year Warranty.