Deluxe Stargazer's 7 Piece Filter Set

#5590

Your new Orion Stargazer's 7-piece filter set will add versatility and viewing pleasure to your astronomy experience. This set contains a variable polarizing filter, a SkyGlow Broadband light-pollution filter, four color filters, and a plastic storage case. Please read these instructions thoroughly for proper use and care of the filters.

1. Attaching the Filters

Filters require a 1.25" telescope eyepiece that can accept threaded filters. Any Orion 1.25" eyepiece will work. Simply thread the filter into the eyepiece barrel until it is finger tight. You can "stack" filters by threading another filter into the bottom of the first. Use the filters photographically by threading them into eyepieces used in tele-extenders and universal camera adapters. Some cameras adapters and barlow lenses also have the proper threads to accept filters directly.

2. SkyGlow Broadband Light-Pollution Filter

The SkyGlow Broadband filter is useful in areas of moderate light pollution like nearby streetlights. It blocks the most common undesirable light pollution, while passing other desirable wavelengths such as Hydrogen Alpha, Hydrogen Beta, and Doubly Ionized Oxygen. It is designed for both visual and photographic use.

The Importance of Dark Adaptation

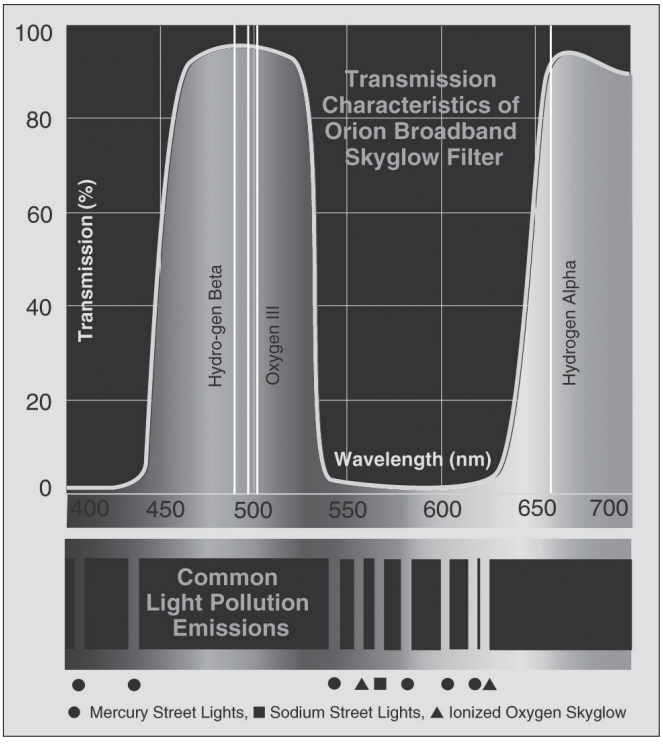
Allowing your eyes to dark-adapt is the key to getting the most from your SkyGlow filter. Allow your eyes to dark-adapt for about 20-30 minutes before you use the filter. Remember, the instant you glance at a bright object like a street lamp or bright flashlight bulb, your eyes lose their dark-adaptation. You have to wait another 20-30 minutes for it to return. Locate your telescope away from direct illumination by streetlights. Set up in the "shadows" of buildings and other objects.

What You Will See

The SkyGlow filter improves the contrast between sky and object but will not actually make the object brighter. Expect a very dark sky background and a somewhat dimmer but higher-contrast image. The filter performs best on emission and planetary nebulas like the Orion and Owl nebulas in winter, and the Lagoon and Dumbell nebulas in summer. Try these objects for your first uses of the filter. The SkyGlow filter has considerably less effect on galaxies and stars.

3. Variable Polarizing Filter

The variable polarizing filter reduces the amount of light entering your eyepiece from your telescope. You can dim the view when observing a bright object, such as the Moon or a planet (transmission: 40% to 1%). The variable polarizing Filter will not change the color of the object being viewed and will prevent eye fatigue and loss of night vision.



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Using the Polarizing Filter

Insert the eyepiece with the filter attached into the telescope and focus the image. If the image is too bright or too dark, then remove the eyepiece and rotate the knurled ring on the filter a small amount. Don't turn it too much, as the filter goes from its maximum light transmission to its minimum transmission in just a 1/4 turn of the ring. Re-insert the eyepiece and check the image again. Repeat this process until you have the level of brightness that you want.

Terrestrial Viewing

The Variable Polarizing filter can be used during the day to reduce sunlight glare from lakes, oceans, or window glass. Simply unthread the lower half from the upper half of the filter and thread either half into a 1.25" eyepiece. Once the eyepiece is returned to the telescope and focused, rotate it in the focuser to reduce glare. You will not be able to reduce overall brightness by using only one filter, but you will be surprised at how much control you have over reflected light.

4. Color Eyepiece Filters

The color filters will enhance your visual and photographic observation of the Moon and planets, allowing you to see greater contrast between planetary details of differing colors.

How They Work

Planetary surface details and atmospheric phenomena reflect sunlight as contrasting colors which we see as details on the disc of a planet. A color eyepiece filter absorbs a specific color of reflected light: for example, red. Absorbing red will reveal detail of a contrasting color, blue, in this example. This lightening of similar colors and darkening of contrasting colors enhances the detail that you see. Color filters do not actually increase the level of detail, they merely make it easier to see.

Color Filter Guide

#80A Medium Blue

30% Transmission

Enhances:

- contrast of some comet tails
- lunar surface detail (significantly)
- Martian polar caps and high clouds
- view of Venus and Mercury in orange twilight sky
- orange and purple belts and white ovals of Jupiter
- subtle shadings on Saturn

#25 Red

14% Transmission

Enhances:

- Martian surface detail in larger scopes
- contrast of Mercury against blue sky
- contrast and cloud definition of Venus
- bluish clouds of Saturn and Jupiter
- contrast of Saturn's rings

#58 Green

24% Transmission

Enhances:

- lunar surface detail
- contrast of Red Spot on Jupiter
- contrast of subtle red and blue hues
- melt lines around polar caps on Mars
- Venusian cloud patterns

#15 Deep Yellow

67% Transmission

Enhances:

- contrast of lunar surface
- polar caps and orange desert regions on Mars
- orange and red features on Saturn and Jupiter
- low-contrast cloud detail on Venus

5.Cleaning and Maintenance of the Filters

When not in use, the filters should be kept in their protective case. Given proper care and storage, the filters should last a lifetime. Should a filter need cleaning for any reason, use the following directions to clean the filter without damage.

Any quality optical lens cleaning tissue and optical lens cleaning fluid specifically designed for multi-coated optics can be used to clean the glass surfaces of your filter. Never use regular glass cleaner or cleaning fluid designed for eyeglasses.

Before cleaning with fluid and tissue, blow any loose particles off the surface with a blower bulb or compressed air. Then apply some cleaning fluid to a tissue, never directly on the optics. Wipe the glass gently in a circular motion, then remove any excess fluid with a fresh lens tissue. Oily fingerprints and smudges may be removed using this method. Use caution; rubbing too hard may scratch the glass.

One-Year Limited Warranty

This Orion product is warranted against defects in materials or workmanship for a period of one year from the date of purchase. This warranty is for the benefit of the original retail purchaser only. During this warranty period Orion Telescopes & Binoculars will repair or replace, at Orion's option, any warranted instrument that proves to be defective, provided it is returned postage paid. Proof of purchase (such as a copy of the original receipt) is required. This warranty is only valid in the country of purchase.

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