

## Manual

### White Light Herschel Wedge / Solar Wedge

Congratulations and thank you on your purchase of a Lunt Solar Systems Herschel Wedge / Solar Wedge! The Lunt Solar Systems are a new generation of solar viewing instruments utilizing the most current technologies to provide the highest quality contrast and resolution in their class.

#### **Safety Precautions:**

The Lunt Herschel Wedge / Solar Wedge is manufactured with the highest of optical tolerances in order to provide sharp high contrast images of Sunspots and areas of Granulation.

The Lunt Solar Wedge contains a glass prism, which has been polished to exact standards. The back surface of the wedge has been coated with a hard dielectric multilayer coating in order to remove any back ghosting from the system.

Those who are familiar with the tolerances required for the manufacture of the etalon internal to Lunt Solar Systems H-alpha products will appreciate just how precise the first surface prism is. The uncoated first surface provides for a pure white light image.

The Lunt Solar Wedge contains no user serviceable parts and should NEVER be disassembled. Doing so will void all warranties, could certainly damage the precision glass prism, and may render the instrument dangerous for further use.

The Lunt Solar Wedge is an Optical instrument, and like all optical instruments it needs to be handled accordingly. The instrument should be stored in a dry environment to prevent moisture build up on the glass surfaces. The instrument should never be subjected to sudden shock from being dropped or mishandled.

As with ALL Solar Instruments you should inspect the system prior to use for damage to the optics. Never use a Solar Filter that indicates any sign of damage. If you are unsure, return the instrument to the dealer for evaluation.

As with ALL Solar Instruments you should NEVER leave the system un-attended. Although you may have familiarity to the workings of the system, others do not. Interchanging of parts from a curious bystander could potentially cause harm to them and yourself. Solar Filters only provide 100% safe viewing when used correctly.

Inside the Lunt Solar Wedge is a ND3.0 filter (Neutral Density Filter) installed. This ND3.0 filter allows for safe viewing thru the instrument.

#### **Never use the Lunt Wedge without the ND3.0 filter installed.**

However, additional filters may also be required to reduce the brightness to a comfortable/desired level dependant on the focal length and aperture of your scope. Herschel Wedge and ND3.0 filter together provide the necessary safety, but most visual users will require a additional filter. We recommend a additional polarizing filter.

Never place a filter in the front nose tube of the Lunt Herschel Wedge. The Wedge accepts 100% of the Sun's spectrum thru the nose of the instrument; this includes ALL Infra-Red (heat). Placing an accessory in this light path may cause irreversible heat damage to the accessory including cracking or breaking.

#### **The Lunt White Light Solar Wedge should ONLY be used on Refracting Telescopes up to 150mm aperture.**

Do not use the Lunt Wedge on mirror-based systems. Mirror based systems can be severely damaged due to the concentrated heat load to the secondary mirrors. In addition, the Lunt Wedge may overheat due to the heat captured by these typically large aperture systems. When using telescopes with more than 150mm aperture, we can not guarantee the safety.

### **General Information:**

Thank you for reading and understanding the Safety Precautions.

The Lunt White Light Solar Wedge provides superior White Light views of the Sun.

The Lunt Wedge is designed to replace the standard diagonal at the rear end of your refracting telescope. The difference between the Wedge and a normal front mounted filter is that the filtering takes place just before the eyepiece or camera. This will provide a better contrast and sharpness of the solar image.

The Lunt Wedge contains a fully integrated heat trap. The heat is allowed to pass thru the prism and is directed to the rear end of the Wedge. At the rear of the Wedge you will note a red disk. This disk serves to absorb the heat and prevent internal reflection of the residual light. The fins act to pull cooler air thru the rear part of the system as the heat sink heats up. This convection will keep the heat sink from getting too hot.

- Never place anything over the rear of the Wedge that will prevent the flow of air around the heat sink.
- The heat sink is designed to accept the heat load of the system and may get hot. Do NOT touch the heat sink.
- Do NOT place the Wedge back into its case until the heat sink has cooled.
- Do NOT remove the heat sink from the Solar Wedge.

### **To Use:**

Place the Lunt White Light Wedge into the rear end of the refracting telescope PRIOR to pointing at the Sun. This will prevent the focused rays thru the refractor burning you or your clothes while trying to install the instrument.

Additional (optional) filter can be threaded into the used eyepiece. Remember: Never place ANY filter or accessory into the telescope-side nose tube of the Lunt Wedge. The heat load at that point will damage the filter.

**The configuration must always be:**

**Telescope > Herschel Wedge with ND3.0 filter > optional filter (for example polarizing filter) > Eyepiece**

The Lunt Wedge is designed to direct all heat to the back of the housing. This area may get hot.

Point the Telescope at the Sun and align.

Per se the Lunt Wedge is now ready for observing or imaging the sun. But we recommend the use of a polarizing filter in order to bring the brightness of the image to a comfortable level. Simply turning the eyepiece with the polarizing filter will adjust the brightness.

When imaging the Sun thru the Lunt 2" Wedge you must attach an 2" adapter to the imaging device, or also a 1.25" adapter while using the 1.25" Herschel Wedge. Do NOT attempt to remove the eyepiece holder from the Herschel Wedge, this will take away the needed ND3.0 filter and could damage the glass prism assembly.

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