

# BAADER D-ERF FILTER



## **CAUTION!**

**"Baader D-ERF Filters" are used only for H $\alpha$  solar observing together with telescopes which are equipped with a "Solar Spectrum" H $\alpha$  filter! Never directly look at the sun through a telescope which has only the D-ERF filter mounted as protective device. Severe eye damage may occur!**

The BAADER D-ERF filter is equipped with a proprietary IR-reflector coating. This additional 28-layer dielectric DWDM-coating delivers a beam of solemnly red light, only opening a spectral window of 85 nm HBW! This precaution has some very important effects:

- The IR reflective coating dramatically reduces the thermal energy that can reach through the telescope onto the Solar Spectrum filter. This prevents the Solar Spectrum filter from aging
- A dramatic reduction of heat stress within the telescope is occurring. This reduces seeing effects. Old style ERF-filters are transmitting all the energy in the IR, while absorbing the energy in the visual below 610 nm. The difference in heat buildup in a distance of 4" prior to focus between a regular ERF-filter and our D-ERF-filter is about 70 °C .
- There is no way anymore to damage the Solar Spectrum filter when using it in the wrong orientation. The Solar Spectrum filter itself has a blocker filter built into the front window, which at the same time performs as heat blocker. If the body of the unit is being connected to the telescope the wrong way around, all the IR-energy will right away enter into the elaborate stack of polarization filters and the etalon and – in the worst scenario – may melt the polarizers or boil up the immersion liquid inside.
- All these problems are completely absent with the use of our D-ERF pre-filter, because the light entering into the filter is "Cool".

## Usage:

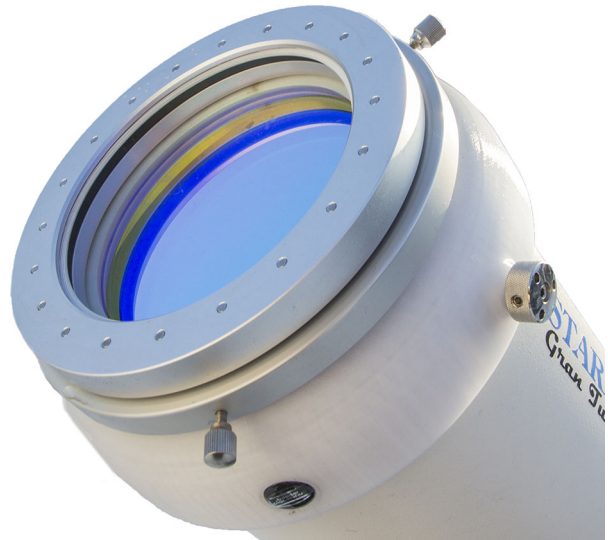
The D-ERF has to be mounted at the front end of the telescope.

**The filter is marked with an arrow  $\uparrow$  at it's edge.**

**When mounting the filter, make sure that this arrow points towards the sun!**

On some telescopes it is necessary to mount a mask in front of the D-ERF for reaching the f/30 focal ratio which is the optimum f ratio for Solar Spectrum H $\alpha$  filter

For more information on how to create an f/30 beam without sacrificing on your telescope's aperture (and resolution!) see the info on our telecentric beam correcting devices TZ-2, TZ-3 and TZ-4



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