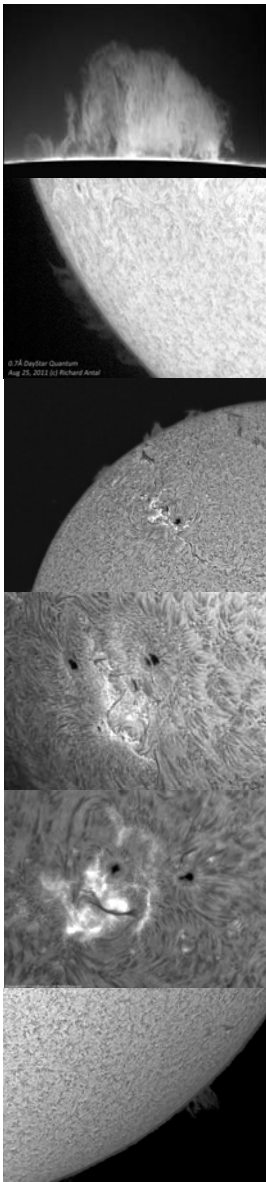


DAYSTAR FILTERS

New DayStar Filter Buyer's Guide

A guide to selection of body style and bandpass:

- All DayStar filters are rear-mounted and can be applied to your existing telescope.
- DayStar Filters need ~ F/30 light, so we need to alter your telescope's F/ratio in order to reach F/30 where your DayStar will operate correctly.
- Our 2 different models have different features that fit different users.
- Each model comes in your choice of Bandpasses (0.8 Ångstrom through 0.3 Ångstrom)



0.8Å filters are best for big, thick prominences.

Light from prominences can wing shift as it moves at high velocity towards or away from the earth. A wider filter captures light from that wing shifted light to see "all" of the prominence. Expect little or no surface detail.

0.7Å filters give great proms and a little surface.

The 0.7Å filter will give really good prominence views, but will also have start showing a little surface detail. In general, the 0.7Å filter is a prominence filter. Some surface features like spicule and filaments are visible.

0.6Å filters offer equally good proms and surface.

The 0.6Å filter is a really good mix between prominences and surface detail. Proms are a little narrower than the wider 0.8 and 0.7Å filters, but with little compromise. Similarly, surface contrast is only slightly less than a 0.5Å filter. Many beginners buy the 0.6Å filter and are happy with them forever afterwards.

0.5Å filters offer superior surface and less proms.

The 0.5Å filter is all about surface detail. By excluding more wing shifted light, contrast is enhanced on surface detail. The full feature set is visible with the 0.5Å like flares, emerging flux regions, Ellerman bombs, spicule, filaments, field transition arches and the chromospheric network. Prominences aren't as large, but they are still visible.

0.4Å filters shows the soft chromospheres and smaller proms.

The 0.4Å filter is a chromospheres filter. The image will have the soft appearance of a 'peach fuzz', different than any other bandpass. Subtle surface detail will be rich and full. Prominences start getting harder to see, as their fast moving wing shifted light is excluded.

0.3Å filters show pencil thin fine detail.

Because the 0.3Å filter excludes all off-band light, it will depict sharp detail in fine line contrast. The native wing shift that occurs on the sun will be more apparent with the 0.3Å and prominences will be very thin and fine-lined.

ION FILTER

The ION filter is our entry level DayStar Filter

It is designed for beginners who need an affordable option for h-alpha solar observing.



Features:

- The ION operates year-round in hot and cold climates.
- The ION is applied the same way as Quantum filters – on the rear of the telescope at ~F/30
- The ION is programmed at the factory to maintain a perfect 6562.8Å H alpha tuning.
- The knob has a center detent/stop position so users know where on-band is.
- A Yellow/Green LED light indicates power on; and on-band status.
- The ION can be tuned voluntarily up or down by 0.5Å with the knob.
- The ION can be used on any refractor or SCT at apertures up to 150mm.

Cost:

0.8 ångström ION Filter:	\$1800.00 USD
0.7 ångström ION Filter:	\$2100.00 USD
0.6 ångström ION Filter:	\$2700.00 USD
0.5 ångström ION Filter:	\$3350.00 USD
0.4 ångström ION Filter:	\$4000.00 USD
0.3 ångström ION Filter:	\$4950.00 USD

DayStar ION Filters and Quantum Filters Include:

Bandpass filter, standard Flat Q3GFTF front plate, standard Q3RFCTM rear plate, 110-240VAC power supply with international wall adapter set, 6 foot power extension cable



Adapter Plate Options:

- ION filters come with standardized plates used on Quantum filters.
- Front plates come standard with FEMALE T-thread receiver
Refractor owners use a flat front plate.
SCT owners will need the wedged front T-thread plate
- Rear plates are delivered with our combination plate;
2x24 (SCT) male thread with internal female T-thread.

Considerations:

- When wing shifted, the ION knob does not show precise Center Wavelength readout.
- The ION has smaller, 20mm clear aperture glass than Quantum filters; so on telescopes larger than 75mm aperture, the full light cone of the solar disk won't pass, so the view will be cropped. 75mm and under can still view full disk



Hydrogen Alpha Filter

The Quantum is our top-end Hydrogen Alpha Filter

It is designed for advanced observers, universities and observers who need not compromise.



Features:

- The Quantum has a full clear aperture of 38mm which allows a full solar disk light cone to pass in up to 150mm aperture.
- The Quantum operates year-round in hot and cold climates.
- The Quantum filter is applied on the rear of the telescope at ~F/30
- The Quantum is programmed at the factory to maintain a perfect 6562.8Å H alpha tuning.
- The LCD Readout displays the actual wavelength being transmitted.
- A Yellow/Green LED light indicates power on; and on-band status.
- The Quantum can be tuned voluntarily up or down with Red and Blue buttons.
- A data port offers remote computer control operation of the Quantum
- The ION can be used on any refractor or SCT at apertures up to 150mm.

Cost:

SE Grade Quantum Filters

0.7 ångström Quantum SE Filter	\$3500.00 USD
0.6 ångström Quantum SE Filter	\$4800.00 USD
0.5 ångström Quantum SE Filter	\$6000.00 USD
0.4 ångström Quantum SE Filter	\$7400.00 USD
0.3 ångström Quantum SE Filter	\$9000.00 USD

PE Grade Quantum Filters

0.8 ångström Quantum PE Filter	\$4625.00 USD
0.7 ångström Quantum PE Filter	\$6000.00 USD
0.6 ångström Quantum PE Filter	\$7000.00 USD
0.5 ångström Quantum PE Filter	\$9000.00 USD
0.4 ångström Quantum PE Filter	\$11000.00 USD
0.3 ångström Quantum PE Filter	\$14000.00 USD



Adapter Plate Options:

- Quantum filters come with standardized plates used on ION filters.
- Front plates come standard with FEMALE T-thread receiver
Refractor owners use a flat front plate.
SCT owners will need the wedged front T-thread plate
- Rear plates are delivered with our combination plate;
2x24 (SCT) male thread with internal female T-thread.

Considerations:

- Quantum Filters are available in a choice of SE grade or PE Grade
PE (professional Grade) filters offer superior uniformity required for scientific observation and consistent density uniformity for imaging. Additional build time and qualification testing is required for PE grade filters.

Application:

Energy rejection filters are required to prevent overheating of your telescope.

Mounted on the dew shield, colored glass ERF's are the most common energy rejection option.

ERF filters are sold by clear apertures and are custom manufactured for your telescope.

The ERF cell can also be made to accomplish the F/30 beam needed for the DayStar Filter.



Aperture:	63mm	80mm	90mm	100mm	114mm	125mm	150mm
Cost:	\$350.00	\$400.00	\$450.00	\$505.00	\$600.00	\$750.00	\$900.00
SCT:	LX-200 8"	LX-200 10"	C-11	LX-200 12"	LX-200 14"	LX-200 16"	
Refractor:	Any 60mm	Any 80mm	Any 90mm	Any 100mm	Any 115mm	Any 125mm	Any 150mm

A less expensive UV/IR energy rejection filter is an option for REFRACTOR owners. When UV/IR Cut filter is used for energy reflection, it must be threaded onto the element which first encounters concentrated light. If the telescope has near-focus elements which prohibit introduction of the UV/IR Cut Filter before them, then a UV/IR ERF cannot be used.

Owners have a choice of aperture reduction or using a barlow to change the focal ratio to ~F/30

- Refractor owners usually use full aperture with a Tele Vue Powermate Barlow.
- SCT owners usually reduce their aperture due to the central obstruction.

F/15 Refractors need a 2X Powermate
 F/11-F/12 Refractors need a 2.5X Powermate
 F/7-F/8 Refractors need a 4X Powermate
 F/5.5 and F/6 Refractors need a 5X powermate (the 5X Powermate suffers vignetting)

