

SOLAR SPECTRUM

ADVANCED GRADE FILTER

The Advanced Solar Observer (ASO) and Research Grade filters are high quality, narrow and ultranarrow bandpass filters for observing the solar chromosphere. The ASO is for the advanced amateur or college level observer. The Research Grade is for when the highest uniformity and ultra narrow filter are required.

The filters are based on 38mm optics and have a 32 clear aperture (C.A.). The filters are mounted in a precision Thermoelectric controlled oven (TEC). The advantage of the TEC oven is that it has the ability to regulate the temperature, or wavelength, of the filter by either heating or cooling as needed. Telescopes with 60mm or larger apertures have to contend with the extra energy that the sun is adding to the filter. With a standard oven, the



controller only operates to the heating set point. Above the set point the controller is simply off. The extra energy from the sun will drive the band pass into the red wing and off of the H-alpha absorption line. The temperature controller will accept a wide range of input voltages: 85 – 265 volts A.C. This will allow it to be used almost anywhere in the world.

Advanced Solar Observer (ASO) and Research Grade filters are designed for use with telescopes with f25 or longer that are equipped with an energy reduction filter (ERF). These ultra-narrow filters will work poorly with Barlow lens systems. They are more suited to off-axis telescopes with the right wedge plate, or Telecentric systems. Research grade Filters are available in 46 mm clear aperture on special demand.

ASO filters are grouped into four bandwidths, all of which are capable of observing broad band features like prominences and flares, but are narrow enough to observe the solar chromosphere.

Deciding which bandpass to choose depends on what your primary interests are. The broader filter (0.8) is a good choice for general viewing; with this filter you have the capability of seeing the active areas and filaments on the solar disk.

The midrange filter (6.5) will give you more contrast on the disk, but still allows superior views of prominences.

The narrower filter (0.5) will give you even higher contrast on the solar disk features while allowing the fine structure in the prominences to be observed.

The ultra-narrow filters (0.3) and under will give views of the sun which were previously only available to the professional observer. At bandwidths under 0.3, the prominences will become three-dimensional and features that were barely visible at 0.5 ang. will show large amount of detail.

Research Grade filters with their ultra-narrow bandwidths and high uniformity will meet the requirements of the serious researcher.

SOLAR OBSERVER Series 1 & 1.5



Solar Observer series (SO) are narrow bandpass solar filters with the amateur solar astronomer in mind. These filters will provide excellent H-alpha viewing of the sun's chromosphere. The SO is housed in a low voltage temperature controlled TEC oven with tuning. The oven operates at 12 volts D.C. A cable is provided with the filter that allows the use of a 12-volt car battery for field use. It also comes with a power supply with a wide range of input voltages: 85 – 265 volts AC, and 12volt D.C. output. This will allow the filter to be used almost anywhere in the world. These filters have a 19mm clear aperture

(C.A.). The SO is designed for telescopes with apertures of 60mm or less. The telescope will need to be used at F/25 or longer. At this F.L., the solar image will fit nicely through the filter. The SO is also a good choice for video and CCD cameras, where only a small area of the field is being use.

SO 1.5 has a 25mm clear aperture (C.A.). This filter will allow view full disk of the sun with scopes up to 3.5" at F/30. The filters are grouped into three bandwidths, all of which are capable of observing broad band features like prominences and flares, but are narrow enough to observe the solar chromosphere. Deciding which bandpass to choose depends on what your primary interests are. The broader filter (.65ang) is a good choice for general viewing; with this filter you have the capability of seeing the active areas and filaments on the solar disk.

The narrow filter (0.5ang) will give you more contrast on the disk, but still allow superior views of prominences.

The ultra narrow filters (0.3ang) and under, is for when the maximum contrast is desired for the solar disk features. The prominences will become three dimensional as they arch over the limb. These bandwidths were previously only available to the professional observer.

List Prices:

Advanced Solar Observer Filter (32 mm clear aperture)

245 9228	0.80 ± 0.05 Angström	€ 4.090,-
245 9227	0.65 ± 0.05 Angström	€ 4.790,-
245 9226	0.50 ± 0.05 Angström	€ 6.290,-
245 9225	0.30 ± 0.05 Angström	€ 7.050,-

Research Grade Filter (32 mm clear aperture / av. in Ø 46 mm on sep.request)

245 9237	0.50 ± 0.05 Angström	€ 7.890,-
245 9236	0.30 ± 0.05 Angström	€ 8.990,-
245 9235	0.20 ± 0.05 Angström	€ 9.990,-
245 9231	0.50 ± 0.05 Angström / 46mm, 2"	€ 12.000,-

Solar Observer Ser.1 (19 mm clear aperture)

245 9217	0.65 ± 0.05 Angström	€ 2.340,-
245 9216	0.50 ± 0.05 Angström	€ 2.845,-
245 9215	0.30 ± 0.05 Angström	€ 3.850,-

Solar Observer Ser.1,5 (25 mm clear aperture)

245 9220	0.65 ± 0.05 Angström	€ 2.995,-
245 9219	0.50 ± 0.05 Angström	€ 3.545,-
245 9218	0.30 ± 0.05 Angström	€ 4.650,-

Custom made Filters

(available for any WL from 380nm to 700nm)

245 9238	Calzium K-Linefilter 396nm	pls ask
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COOL- and DIELECTRIC-ERF-Filters and Frames

245 9241	Ø 70mm	€ 195,-
245 9242D	Ø 90mm	€ 365,-
245 9243D	Ø 110mm	€ 475,-
245 9244D	Ø 135mm	€ 745,-
245 9245D	Ø 160mm	€ 965,-
245 9246D	Ø 180mm	€ 1.395,-
245 9248	Frame for D-ERF Filter 70/90/110	€ 250,-
245 9249	Frame for D-ERF Filter 135/160	€ 300,-
245 9250	Frame for D-ERF Filter 180	€ 360,-

Telezentric Lenssystems

245 9255	TZ-2, T-2 thread both sides	€ 325,-
245 9256	TZ-4, T-2 thread both sides	€ 325,-

245 9258 M68 set of connectors and spacer rings for TZ und FFC € 225,-

NOTE: M68 set-price only available together with purchase of any Baader TZ-System of FFC!

Accessories:

245 9259	2" Solar-Telecompressor 0.7x	€ 195,-
245 9300	Solar Diafragm 13mm - 113mm	€ 275,-
295 9279	Solarprotection Shield T-2	€ 34,-
295 9280	Solarprotection Shield 2"	€ 35,-
295 9281	Solarprotection Shield M68	€ 36,-
295 8240	Universal Flange 2"	€ 29,-
295 8242	Reducer 2"a/T-2i (1mm optical length)	€ 17,-

Products, pricing and specifications may be changed without notice or obligation.



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