



# SUNDANCER II

Telecentric System TZ-4S

## Moving the blocking filter from the TZ-3S of the SunDancer II H-alpha-Filter into the TZ-4S



In the optical construction of the SunDancer II H-alpha filter, the front-mounted, hard-sputtered and highly age-resistant  $\frac{1}{2}$ " diameter block filter in the TZ-3S represents a considerable value. For this reason, this important filter must be installed each time the optional TZ-4S is used instead of the pre-installed TZ-3S. When you purchase the TZ-4S, you will also find a 3D-printed small tool together with the product, which is used to loosen the filter ring in the TZ-3S of the SunDancer II and to then be able to secure the 2 nm block filter in the corresponding place in the TZ-4S in the same way.

Please note that the 2 nm block filter is mandatory for operating the SunDancer II H-alpha filter with both the TZ-3S and the TZ-4S. If you work without this important protective filter, you would literally "fry" the large etalon (a crystal) as well as all polarizers in the SunDancer H-alpha filter. The inevitable total repair would not be covered by any warranty.



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To use the TZ-4S with the Baader SunDancer II H-alpha filter # 1363056, the 2 nm blocking filter from the original TZ-3S must be moved to the TZ-4S. To do this, proceed as follows:

1. Separate the telecentric system (TZ-3S) from the upper housing which contains the H-alpha etalon (recognisable by the micrometer screw on the side) by unscrewing the T-2 threaded connection as shown in the picture. Place this upper part of the unit in such a way that no dust can get into the housing from below.



Img. 1: Unscrew the TZ-3S from the SunDancer II H-alpha-filter.

Make sure that the T-2-reducer ring is inside of the H-alpha-Filter and not on the telecentric.

- Please note:** Once you have unscrewed the TZ-3S telecentric, you should then see a T-2 male thread (with 42 mm diameter) on top of it. In rare cases, however, it may happen that the T-2 adapter ring loosens from the lower end of the upper housing, where it is just below of the tilting device of the actual H-alpha filter. In this case, simply screw it back into the H-alpha filter so that you can see the two holes for an adjustable pin type face wrench.
2. Unscrew the ring that holds the filter in the 1¼" nose piece of the TZ-3S, likewise the ring in the TZ-4S. To do so, place the small tool ③ that comes with the TZ-4S from above onto the ring, so that it fits into the kerfs of the ring, but does not scratch the blocking filter (as shown in picture 2). This way, you can unscrew the rings from both telecentric systems.
  3. Remove the two rings ① and the blocking filter ②, and place them on a soft surface (like paper or a soft Kleenex tissue).
  4. Now put the blocking filter into the recess in the TZ-4S. It doesn't matter which side is up. If it falls at an angle into the recess, poke it gently with a cotton bud or a toothpick – do not use force; if it gets stuck, a conchoidal fracture may occur.



Image 2: Remove the ring by placing the small tool ③ from above on the ring. This way, it can't touch the filter itself.



Img 3: The TZ-3S (left), in front of it holding ring and blocking filter. To the right the TZ-4S with holding ring and the tool for loosening the holding ring.



The kerfs of the holding ring must be visible. Do not overtighten it.

5. Place the holding ring in such a way on top of the blocking filter that the small kerfs are visible (c.f. image 4), and tighten it hand-tight with the small tool **3**. Grip it at its smaller shaft to avoid too much pressure.
6. Finally screw the TZ-4S onto the filter unit of the SunDancer II, and put the dust caps on the TZ-3S.



SunDancer II H-alpha-filter with TZ-4S and blocking filter, besides the original TZ-3S, now without blocking filter.



Before each use of the SunDancer II H-alpha filter, always make sure that you are indeed using the telecentric with the 2 nm block filter.

Only the SunDancer II H-alpha-filter # 1363056 can be used on telescopes with up to 80 mm aperture without an additional D-ERF front filter.

With all other SolarSpectrum filters, a larger block filter is already built directly into the H-alpha Etalon filter housing. Therefore, for these SolarSpectrum filters, you always need a D-ERF filter in front of the telescope, but you can then work without the separate 2 nm block filter of the TZ-3S if you want to operate such a SolarSpectrum filter with a TZ-3S or TZ-4S.

[www.baader-planetarium.com](http://www.baader-planetarium.com)

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