

ASTRO-TECH

Field Flattener and Reducer/Field Flattener V3 Tech Sheet

ASTRO-TECH AT115EDT, AT130EDT, AT130EDX



AT115EDT, AT130EDT, AT130EDX Dedicated 0.8x Reducer/Field Flattener

The AT115EDT and AT130EDT/EDX reducer/field flatteners are designed to shorten the focal length and speed up the f ratio. These particular models are a 0.8x reducer making your AT115EDT 644mm and f/5.6 when attached while the AT130EDT/EDX 728mm and f/5.6. The camera side of the adapter is 48mm t-threads. So make sure t-ring is correctly sized. Backspacing is industry standard 55mm.

AT115EDT and AT130EDT/EDX Dedicated Field Flattener

The AT115EDT and AT130EDT/EDX field flattener is designed to specifically to work their respective telescope. They will keep the native focal length of the instrument intact while flattening the field. The threading on the telescope side is 92mm. The camera side of the field flattener is 48mm t-threads so make sure you have the correct t-ring. Backspacing is an industry standard 55mm.

These V3 reducer/field flatteners and field flatteners are designed to work with the 3.2" focuser models of the AT115EDT, AT130EDT and AT130EDX. The field flattener or the reducer/field flattener threads onto the camera angle adjuster that is attached to your focuser. Unthread the cone that is attached to the 2" eyepiece/accessory holder at the end of your focuser from the camera angle adjuster. Then simply thread your reducer/field flattener, or field flattener, right into your camera angle adjuster.

If you need to remove the 2" eyepiece holder it is held in place to the cone shaped adapter of the CAA by three allen screws. Just use an allen wrench to loosen these screws and unthread the adapter. It might be a bit snug after you loosen the screws, but it will unthread once it gets over the "bites" left by the screws.



Backspacing (also called back focus distance) for a telescope refers to the distance from the last optical surface of the telescope, or in this case, a focal reducer/field flattener to the imaging sensor. This measurement is crucial for astrophotography and ensures that the optical system delivers sharp, properly focused images.

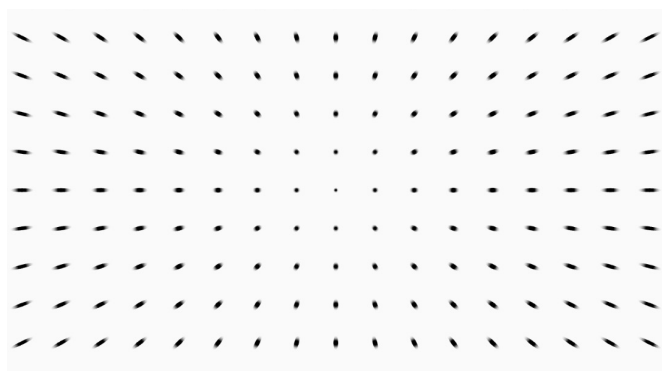
Why is Backspacing Important?

It Ensures Proper Focus – If the camera sensor is too close or too far from the optimal back focus distance, stars may appear distorted or out of focus. Field flatteners or focal reducers/field flatteners, require a precise back focus distance to achieve sharp stars across as much of the field as possible.

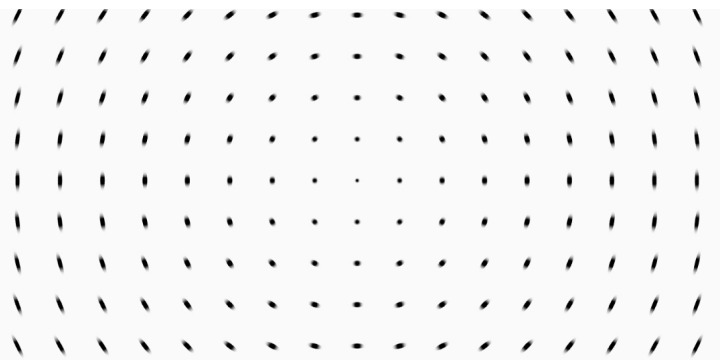
Our Backspacing Requirements:

Our flatteners or reducer/field flatteners require 55mm of back focus. Most modern imaging cameras come with the proper extensions to reach 55mm out of the box. However, if you add other components in your imaging train, like a filter wheel for example, you will have to do some math to make sure you are able to get to the proper 55mm. If using a DSLR with a T-ring, most T-rings are designed to provide a 55mm back focus when attached to the camera. Small adjustments (fractions of a millimeter) can sometimes make a significant difference in image quality. Also, falling temperatures or optical manufacturing tolerances can make minor differences in proper backspacing. So you may require 54mm of backspacing or even 57mm of backspacing. At times it can become a little extra trial and error to get it dialed in.

Common Star Patterns That Needs Some Backspacing Adjustment



If your stars are radiating out, then you need to add some spacers as your sensor is too close.



If your stars are bowing out, then you need to take some spacers out as your sensor is too far away.