

# FRA500

## User's Manual

### WARNING!!

DO NOT LOOK AT SUN THROUGH TELESCOPE.  
IT WILL CAUSE IRREVERSIBLE DAMAGE TO YOUR EYE.

www.askarlens.com

English

### Instructions for use

Sharpstar Optics introduces Askar FRA500 astrograph, which is the youngest among the well-known FRA-family, to our customers. Compared with its siblings, the 500mm-focal-length refractor has an aperture size of 90mm (f/5.6), so Askar FRA500 can better fit into the scenarios of deep-sky imaging than Askar FRA400. Besides, its more lightweight and compact than Askar FRA600, which makes it a great choice for out-door observation or astrophotography.

Askar FRA500 has inherited the legacies of superior FRA-series designing. It boasts a quintuplet air-spaced APO optical structure, a "three plus two" Petzval lens combination. The front lens group consists of three lenses (including two pieces of ED glass) for excellent correction of aberrations. The posterior group is composed of two lenses separated by small space which is able to provide fine sharpness across the whole image. You may barely detect any blurry star at the edge of the image. FRA500 supports an image circle of amazing 55mm, much larger than the standard 44mm full-frame image circle. Its special back-focus

design frees users from calculating confusing back-focus distance or rummaging around for a proper spacer. What you need to focus on is just to make your target stay in focus.

Askar FRA500 is typically a wonderful mix of pragmatism and aesthetics. The astrograph shows smooth lines and a sound layout of components. From the front, the Askar FRA500 has an impressive dew shield decorated with a classic bright-red bezel ring. The total length of FRA500 is 460mm when the dew shield is stretched out and 407mm when contracted back. At the tail end of the astrograph locates a 3.5" massively-built focuser with dual-speed hand knobs (twin knobs for coarse adjustment and one 1:10 fine adjustment knob), which is of great use in real observation or astrophotography. The astrograph wears smooth coating and is evenly finished. The graduation inside of the focuser is quite clear and easily readable. The focuser is tough and solid, and on the left side of it, there is a standard finder base with two silver thumb screws. So the FRA500 can piggyback carry finders, guiders or other potential astronomy accessories. Askar FRA500 comes also with a pair of sought-after tube rings. On the top of the tube rings attached a handle and at the bottom, there is an Askar Losmandy-style dovetail plate. The combination of milk-white main tube and dew shield

together with a high-gloss piano-black focuser makes the optical tube assembly calm and deep which is offset by the bright red decorative ring and tube rings.

The Askar FRA500 is 407mm long and weighs about 4.1kg, so it's quite convenient for users to carry around or mount on an EQ mount. It's particularly suitable for astronomy enthusiasts who frequently engage in long-distance trips or out-door astrophotography. Askar FRA500 together with the FRA-family is well received for large aperture, fast speed, delicate focusing system, unique optical design and the subsequently high-quality imaging results. Wish the Askar FRA500 be a loyal companion alongside your journey of astrophotography.

### Specification

Aperture size: 90mm

Focal length: 500mm

Focal ratio: f/5.6

Objective lens: Quintuplet air-spaced APO (including two ED glass)

Image circle: 55mm

Back focus: 85mm (from base of M48×0.75 thread on the conical extender to focal plane)

158mm (from base of M86×1 thread on the rotator to focal plane)

Total length: 460mm (407mm when the dew shield is contracted)

Net weight: 4.1kg

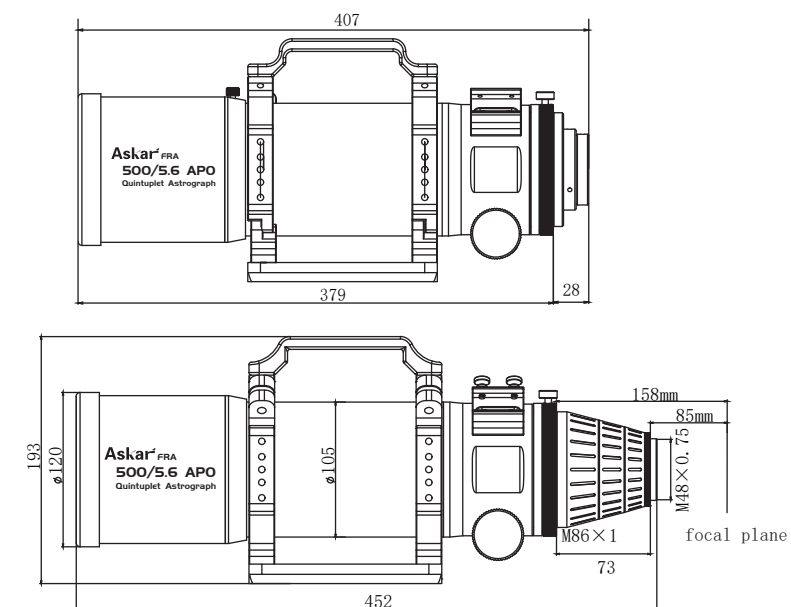
Gross weight: 5.2kg

Rear-end thread type: M86×1

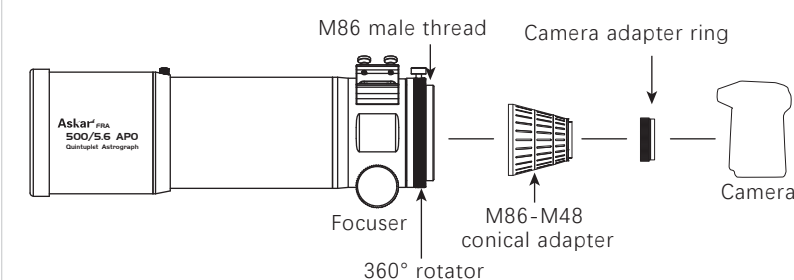
Conical adapter: M48×0.75

Package items: an FRA500 OTA, a pair of tube rings, a handle, an Askar Losmandy dovetail plate, a conical adapter, a manual, an alluminum case

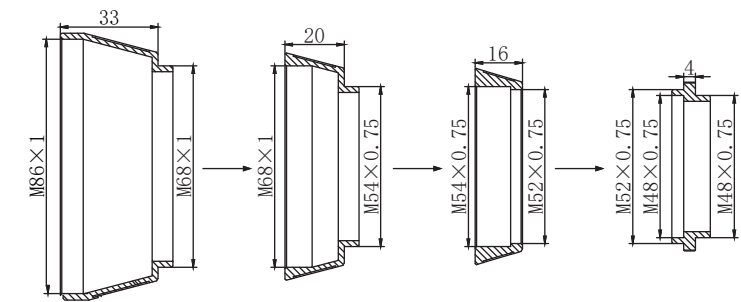
### Product Size Diagram



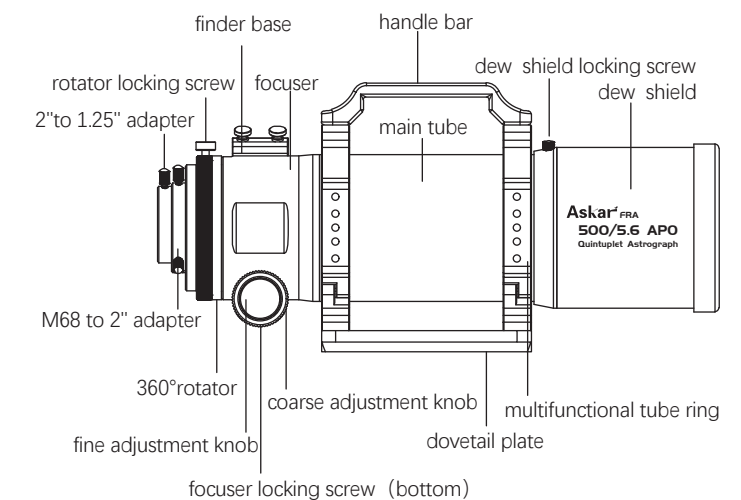
### Connection Diagram of Camera



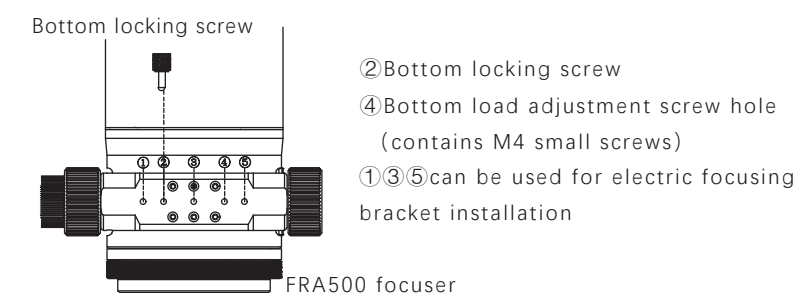
### Conical Adapter Diagram



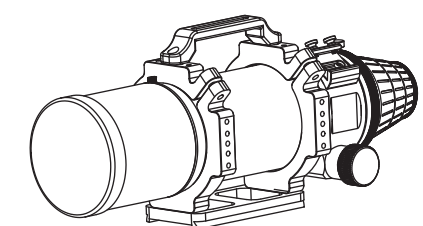
### Product Parts Diagram



### The Locking Screw Position Diagram



### Items in FRA500 Packaging



an FRA500 OTA, a pair of tube rings, a handle, an Askar Losmandy dovetail plate, a conical adapter, an alluminum case

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