Askar

FMA180

使用说明书

User's Manual

警告
WARNING!!

请不要通过本望远镜直接观察太阳，这样做可能导致瞬间失明，请购买专用太阳观测滤镜或滤膜，来获得最安全的观测指导。通过寻星镜，也可以造成眼睛的严重损害。请让孩子白天远离望远镜。

NEVER VIEW THE SUN THROUGH THE TELESCOPE. THIS WILL CAUSE INSTANT BLINDNESS TO THE EYE. PLEASE PURCHASE A SPECIAL SOLAR OBSERVATION FILTER FOR THE SAFEST OBSERVATION GUIDANCE. THROUGH THE FINDERSCOPE WILL ALSO CAUSE SERIOUS DAMAGE TO THE EYE. PLEASE KEEP CHILDREN AWAY FROM THE SCOPE DURING THE DAY.

欢迎使用ASKAR FMA180
www.askarlens.com

中文版（简体）

使用产品前请仔细阅读本使用说明书。

ASKAR FMA180 主镜采用三片式全分离 APO 设计，其中两片为ED（超低色散）玻璃，使得色差控制非常优异，为高质量的拍摄与观测奠定了基础。

ASKAR FMA180减焦镜采用三片式分离设计，与主镜搭配使用使得拍摄影像清晰锐利，特别是针对天文摄影而优化，是其拿手的强项，再也不用担心像场中星点各种像差问题，是专业星空摄影的好伙伴。

ASKAR FMA180口径40MM，焦比F5.5，焦距220mm，采用专用F4.5全副减焦镜后，变成一款焦距180MM F4.5的专业APO摄影镜头，无论是景物摄影还是天体摄影，都将呈现良好的品质。

对于传统天文摄影来说，使用市售望远镜焦距很难做到２００MM以下，此范围内的选择只能是一般相机镜头，而由于相机镜头并未针对天体摄影经行优化，拍摄效果差强人意。

FMA180的出现打破了以往的常规，使得在拍摄深空广域时，也能像其他长焦段一样有非常好的星点品质表现。

FMA180小巧玲珑，总长145mm，镜筒本体重量才395g，所以除了摄影观测外，还非常适合作为一款高质量寻星镜和导星镜使用。

所以我们在标准套装里配备了两个抱箍以及寻星镜支架，可以非常方便的连接到市面上的寻星镜基座中，使用方便简单。另外寻星镜支架也可分成两部分，其中鸠尾板部分可单独使用，连接有标准相机螺纹的三脚架及其他云台，鸠尾板标准的ARCA-SWISS规格可以和相应卡槽连接更方便，也可以和VIXEN窄版标准的赤道仪接口相连。无论时拍摄和观测，都有丰富的连接功能。

由于其娇小身材，使得像一般相机镜头一样直接连接相机也不在话下，出门携带取景都极其便利。

FMA180有以下可供参考的使用模式：

·拍摄模式：

1）主镜筒+调焦器+减焦镜+减焦延长管：180mm F4.5 六片式APO平场修正摄星镜头 （推荐拍摄模式，标准装备）

2）主镜筒+调焦器+延长管2+减焦延长管：220mm F5.5 三片式APO镜头

·观测模式：

1）主镜筒 + 调焦器 + 延长管1 + 1.25寸接口 ：可搭配1.25寸天顶镜和目镜组成标准观测模式或者寻星镜模式。

2）主镜筒 + 调焦器 + 延长管1 + 延长管2：可搭配1.25寸目镜组成直视观测模式或者导星镜模式。

拍摄模式:

FMA180镜头

调焦器

减焦镜

减焦延长管

相机接环
（另购）

相机（另购）

调焦器

延长管2

减焦延长管

相机接环
（另购）

相机（另购）

观测模式:

FMA180镜头

调焦器

延长管1

1.25寸接口

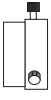
1.25寸天顶镜
（另购）

目镜
（另购）

调焦器

延长管1

延长管2



1.25寸接口

目镜
（另购）

FMA180 特点：

1）多功能APO光学镜筒，可自由变换成六片式 180mm F4.5 APO 天文摄影镜头或者三片式双ED 220MM F5.5 高质量复合消色差 APO观测望远镜镜筒。

2）配件丰富，可变换成多种玩法，自由度高，无论是作为观测，拍摄，导星，寻星都有其相应连接方法满足爱好者不同需求。

3）小巧轻盈，镜筒重量不到400克，携带方便，灵活运用。

4）镜头拍摄模式下后截距为标准55mm，或者除去延长管可变为83mm后截距，给拍摄者更多接驳其他拍摄附件的自由度。

5）三片式APO主镜采用两片ED玻璃，使得色差控制更加完美，是同类型号中的佼佼者。

FMA180 规格：

口径： 40mm

焦距： 220mm（主镜）
180mm（加减焦镜后）

焦比： F5.5（主镜）
F4.5（加减焦镜后）

物镜类型： 三片式双ED全分离APO（主镜）
六片式支持全副摄星镜筒（含减焦）

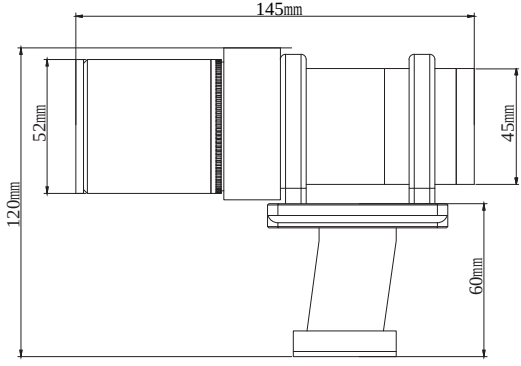
全长： 145mm（含减焦拍摄状态）

本体重量： 395g

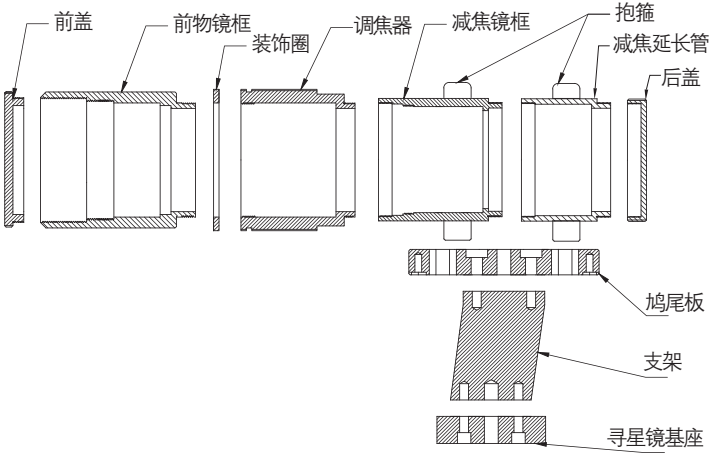
末端接口： M42×0.75（拍摄状态）
1.25英寸插口（观测状态）

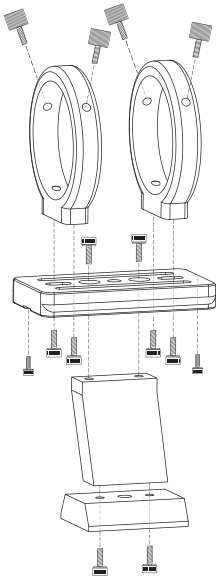
内含： FMA180本体一个，抱箍一对，寻星镜支架一个，延长管两个，1.25寸接口，内六角扳手一个，说明书一份

镜头尺寸图



装配（有调焦器）



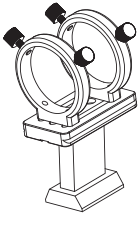


黄铜手拧螺丝

M4×10

M3×4

标准部件包含：



多功能寻星镜架

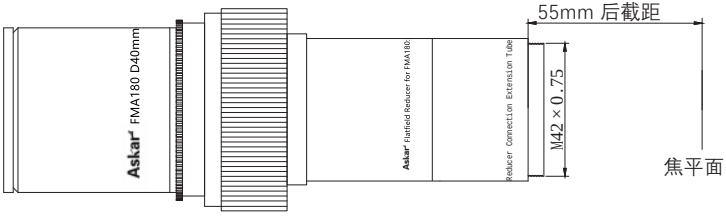
多功能摄星镜本体

延长管2

延长管1

1.25寸接口

FMA180 后截距


55mm 后截距
Askar FMA180 D40mm
Askar Flatfield Reducer for FMA180
Reducer Connection Extension Tube
M42×0.75
焦平面
调焦器

English

Instructions for use

ASKAR FMA180 objective lens features Triplet air-spaced APO design, includes two pieces of ED (extra-low dispersion) glass, providing excellent correction of chromatic aberration, and lays the foundation for high quality astrophotography and observation.

ASKAR FMA180 reducer is Triplet air-spaced designed, combine use with objective lens, providing clear and sharp image, specifically optimized for astrophotography, which is its strong point, you don't have to worry about chromatic aberration that can appear in the image field. Using the f/4.5 reducer makes it capable of capturing clear astrophotos in considerably less time.

Using the special F4.5 full frame reducer, the 40mm aperture, 220mm (f/4.5) focal length ASKAR FMA180 becomes a professional APO refractor with 180mm focal length, both scenery observation and astrophotography, will present good performance.

For traditional astrophotography, it is difficult to achieve a focal length of less than 200MM with commercially available telescopes. The only choice in this range is the ordinary camera lens. However, the camera lens is not optimized for astrophotography, so the result is not satisfactory.

FMA180 makes it new, if you wanted to capture deep-sky

objects, it will get superior optical performance in image like telephoto prime lens.

In addition to photography and observation, FMA180 is also suitable for a high-performance finder/guider of your choice. The overall tube length is 145mm, the small size of FMA180 tips the scales at a mere 395g.

Therefore, the assembled product includes a pair of tube rings and a finderscope bracket, which can be easily attached to the finder base on the market. In addition, the finder bracket can be divided into two parts, among which the dovetail plate can be used alone, and it can be connected to the tripod with standard camera thread and other head. This SWISS standard dovetail can be connected to the corresponding plate slot more conveniently, and it can also attach to the VIXEN narrow equatorial adapter. Hence you can get rich connectivity for both photographic purposes and observation.

Its small size could be directly attached to camera like a normal lens, easy to carry away the view time.

FMA180 Features:

1) It features multifunctional APO optical tube, can free transform into sextuplet 180mm F4.5 APO astrophotography lens or triplet dual ED 220MM F5.5 high quality compound apochromatic (APO) observation telescope tube.

2) It includes rich accessories, can be transformed into a variety of play, with a high degree of freedom. Whether it is used for observation, photography, guide scope and

finder scope, there are corresponding connection modes to fill different needs of enthusiasts.

3) Compact and light, the tube weighs less than 400 grams, easy to carry and flexible to use.

4) In photographic mode, the back focus is standard 55mm, or can be changed to 83mm after removing the extension tube, so photographer have more freedom to attach other camera accessories.

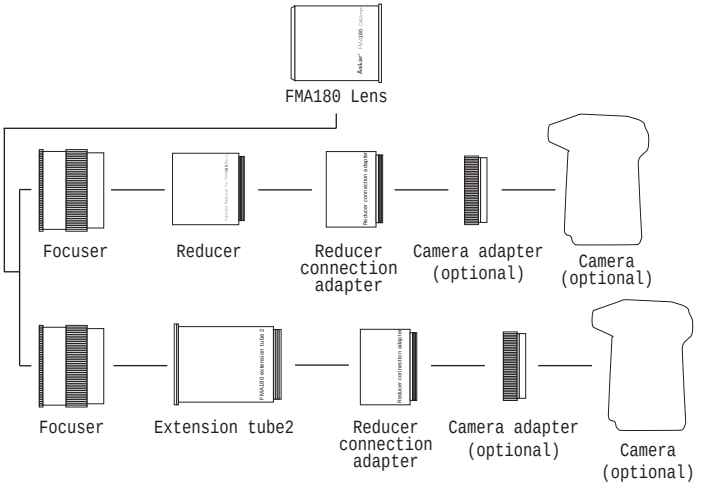
5) The triplet APO objective lens using dual ED glass, providing superior correction of chromatic aberration, which is the best of same models.

Below are FMA180 usage patterns for reference:

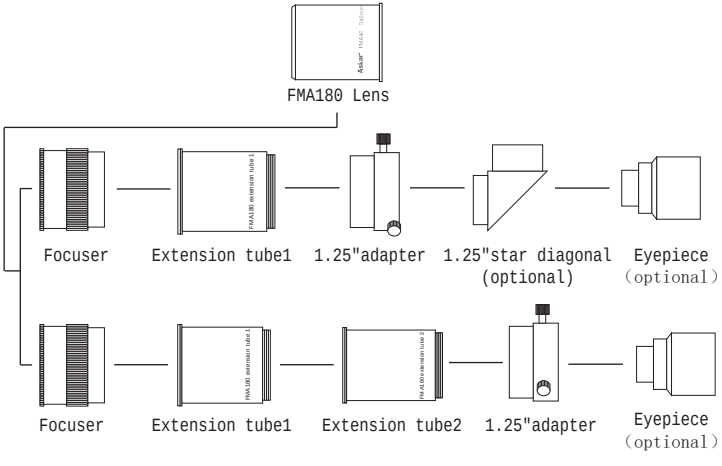
Photographic Mode:
1) Main tube + focuser + reducer + reducer connection adapter: 180mm F4.5 sextuplet APO flat field correction astrograph lens (recommended photographic mode, standard package)
2) Main tube + focuser + extension tube 2 + reducer connection adapter: 220mm F5.5 triplet APO lens

Observation Mode:
1) Main tube + focuser + extension tube 1 + 1.25" adapter: It can be equipped with 1.25" star diagonal and eyepiece for standard observation mode or finderscope mode.
2) Main tube + focuser + extension tube 1 + extension tube 2: It can be equipped with 1.25" eyepiece for visual observation mode or finderscope mode.

Photographic Mode



Observation Mode



Specification:

Aperture: 40mm

Focal length: 220mm (objective lens)
180mm (plus the reducer)

Focal ratio: F5.5 (objective lens)
F4.5 (plus the reducer)

Objective type: Triplet dual ED air-spaced APO (objective lens)
Sextuplet refractor for full-frame astro photography (with reducer)

Overall length: 145mm (Photographic mode with focal reducer)

Body weight: 395g

Back-end adapter: M42x0.75 (photographic mode)
1.25" adapter (observation mode)

Included: FMA180 6-elements lens body, a pair of tube rings, a Finder Scope bracket, two extension tube, 1.25" adapter, an Allen wrench, a manual

FMA180 Back Focus Diagram

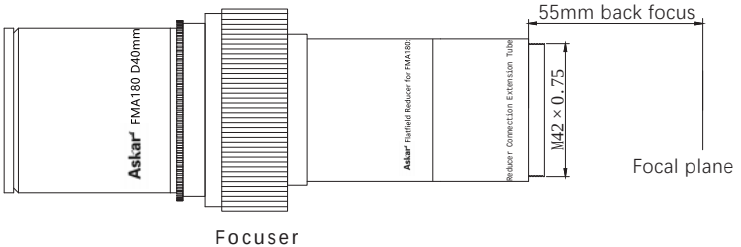
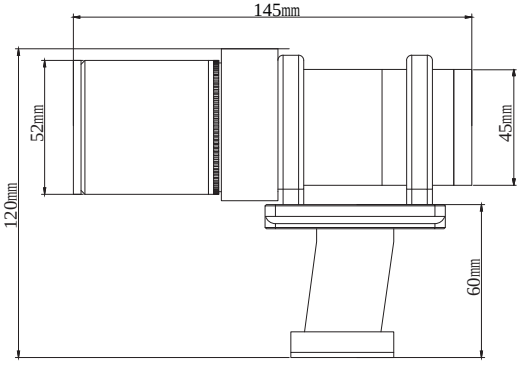
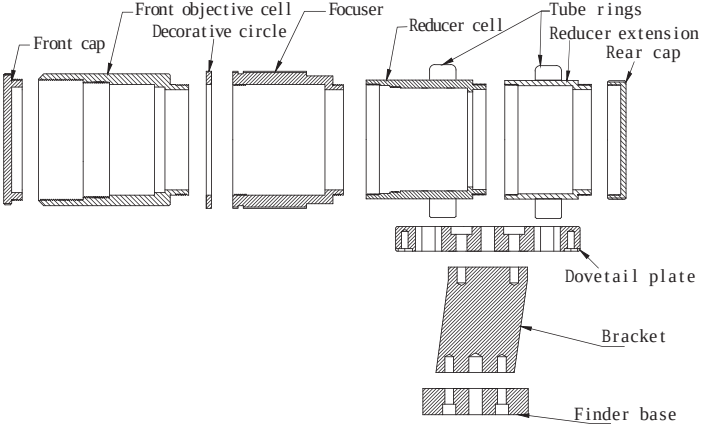
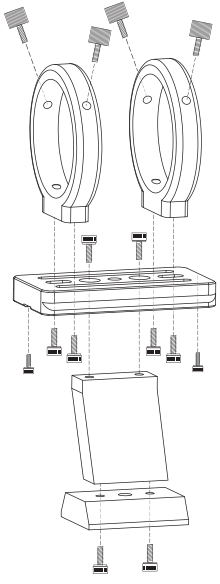


Diagram of lens size



Configuration (includes focuser)



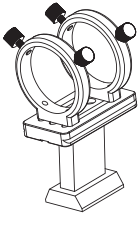


Brass Thumb Screw

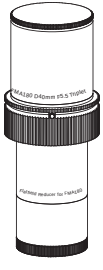
M4×10

M3×4

Package contents:



Multifunction finder bracket



Versatile astrograph

Extension tube 2

Extension tube 1

1.25" adapter