

Askar

80PHQ

■ 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。

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

欢迎使用ASKAR 80PHQ
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推出全新的80PHQ折射式摄星镜。也是PHQ系列中的第二款长焦比摄星镜。

80PHQ折射式摄星镜整体涂层均匀，并采用单侧开合式的抱箍。望远镜后侧是一个3英寸的有齿调焦器。调焦器本身带有双速调节功能，360°旋转器上新增了精确的刻度指示。

80PHQ的光学系统继承了PHQ系列的光学设计，采用前三后一的四片式镜片组合。其中两块是ED玻璃，能够有效减少色差，提高图像的清晰度。值得一提的是，所有PHQ系列均为整体化设计而非简单的三片主镜加像场修正镜，离开了任何一片玻璃均不能单独成像，整体设计的优势是有着更合理的结构布局，更好的周边减光控制，更优异的成像表现。

从直观的外形上看，80PHQ更加小巧。80PHQ全长450mm，标准装重量4.7kg。所以，如果你的赤道仪载重本身较小；或者你厌倦了扛着笨重的长焦比望远镜四处奔波，那么80PHQ作为一台便携式的折射镜是一个非常不错的选择。

在光学设计上，80PHQ的有效口径为80mm，焦距为600mm，焦比为f/7.5。虽然和Askar以往的经典短焦比望远镜相比，80PHQ可以算是长焦比望远镜。但是和市场上常见的f/4和f/5短焦比望远镜或者f/10和f/11长焦比望远镜相比，80PHQ属于中焦比折射望远镜。所以它是一款复合型的望远镜。

传统的长焦比折射镜由于配件接驳困难而无法进行天文拍摄。只能用

于目视行星和月球观测。传统的短焦比折射镜很容易受到球差和色差等问题的干扰，导致最终的成像效果不理想。所以80PHQ作为一台全新设计的中焦比折射镜，后侧配备一个四段式的转接环，方便用户连接各种类型的配件。即使用户需要用到滤镜闸、滤镜轮、OAG、天文相机，都能够轻松连接到80PHQ上。因此非常适合进行天文拍摄。另外，80PHQ独特的镜片设计和强大的自平场功能，能够保证周围星点的质量、最终成像的稳定性，大大减少球差和色差对照片的影响。

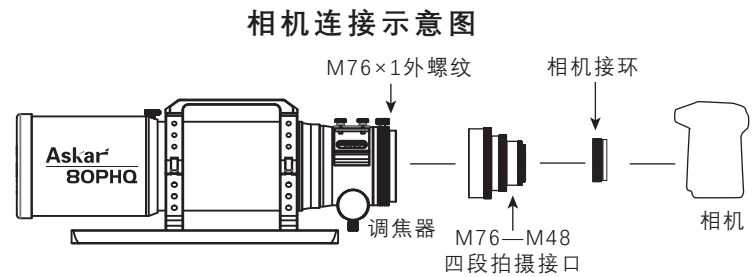
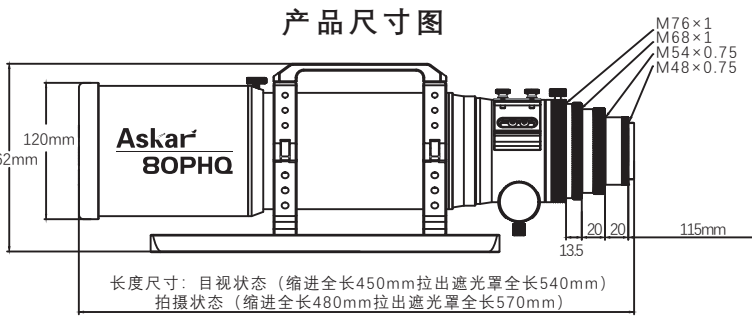
对于新手来说，80PHQ的设计也非常友好。在连接配件时，从M68×1接口的外螺纹底面算起，到焦平面的距离控制在155mm之内。只要不超过这个连接限制，用户不需要计算后截距。很大程度上降低了新手的操作难度。

Askar 80PHQ是一款性价比较高的折射式天文望远镜。它在机械外观和光学系统的设计上都有独特的优势。作为中焦比折射镜，兼具短焦比和长焦比望远镜的特点。又凭借自平场和强大的光学性能，充分保证成像效果的稳定性。

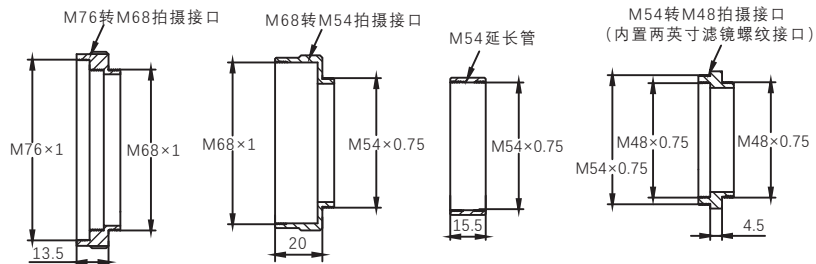
有效口径：80mm
焦距：600mm
焦比：f/7.5
物镜类型：四片式全分离APO（包括两片ED玻璃）
成像圈：44mm
调焦筒缩进状态下后端最长连接长度：

- 拍摄模式：
 - 115mm（从M48×0.75外螺纹算起）
 - 135mm（从M54×0.75外螺纹算起）
 - 155mm（从M68×1外螺纹算起）
 - 168.5mm（从M76×1外螺纹算起）
- 观测模式：
 - 148mm（从2英寸目镜基座算起）

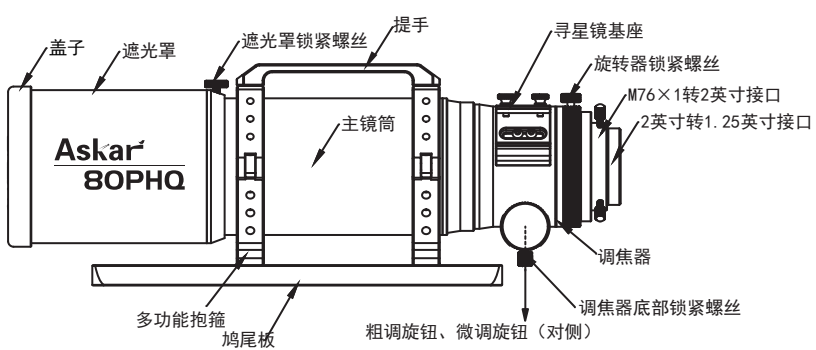
全长：
450mm（含1.25英寸接口缩进状态） 480mm(加拍摄连接管缩进状态)
540mm（含1.25英寸接口伸长状态） 570mm(加拍摄连接管伸长状态)
本体重量：3.9kg
标准装重量：4.7kg
末端接口：M76×1-M68×1
M68×1-M54×0.75
M54×0.75-M54×0.75
M54×0.75-M48×0.75（内置M48×0.75滤镜螺纹）
四段式拍摄连接管末端接口：M48×0.75
标配：80PHQ本体一个，抱箍一对，提手一个，Askar 300mm Vixen窄型鸠尾板一个，四段式拍摄连接管一套，说明书一份



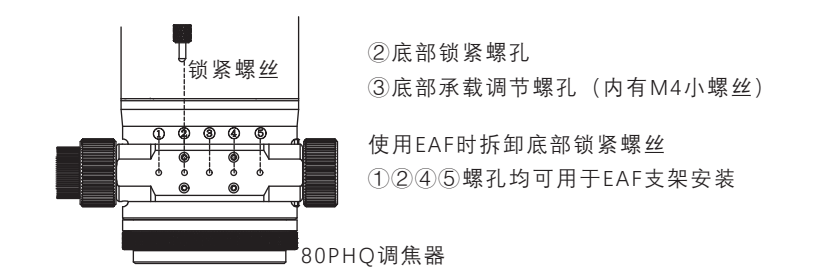
四段式拍摄连接管



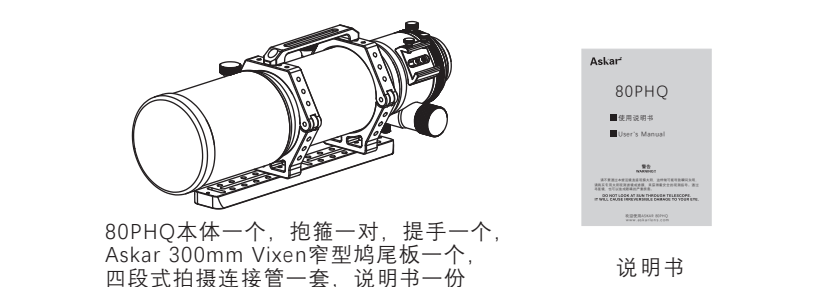
部件图



锁紧螺丝示意图



包装含有



English

Instructions for use

Askar introduces the brand-new 80PHQ refractive astrograph. And it's the second long-focal-ratio astrograph from the PHQ-family.

The overall finish of 80PHQ is evenly painted. A pair of clam-shell-style tube rings tightly hold the OTA. There is a 3" rack-and-pinion rigorous focuser on the rear end of the telescope. It's a smooth focusing unit with dual-speed adjustment. 80PHQ's rotator is marked with precise graduation.

80PHQ inherits the optical design of the PHQ-family, adopting a 3+1 quadruplet lens structure which contains two pieces of ED glass that can effectively reduce chromatic aberration and enhance clarity and sharpness. It's worth mentioning that all astrographs from PHQ-family come with an integrated lens combination rather than simply placing three major lenses and a

corrector together in a line. In another word, the whole optical system cannot solely perform without any piece of these lenses. This structure design leads to a more rational lens arrangement, better vignette control and superior image quality.

At the first glance, Askar 80PHQ is much more compact. 80PHQ is 450mm in length and gross weight 4.7kg. So if your equato-rial mount is not capable of holding heavy telescopes, or if you are quite tired of carrying a bulky long focal-ratio telescope around, then 80PHQ may be a great option.

In terms of the optical design, 80PHQ is 80mm in its aperture diameter and 600mm in focal length. Thus its focal ratio is f/7.5. It's actually a medium focal ratio telescope compared with those f/4 and f/5 short focal ratios or f/10 and f/11 long focal ratios. So 80PHQ is a compact halfway house.

The traditional long-focal-ratio astrographs are used only for observation due to the troublesome accessory connection. And those short-focal-ratio astrographs consistently suffer a lot from chromatic or spherical aberrations. As a great mixture, 80PHQ is equipped with a 4-piece adapter, convenient for users to connect different types of accessories. So it's a great helper in astrophotography. Besides, its special lens deign and powerful flatfield capacity make a crucial contribution to the high-quality imaging results, greatly reducing the impact of spherical and chromatic aberrations.

80PHQ is also a novice-friendly device. Keep in mind that the distance from the base of M68×1 to the focal plane is 155mm, and you can literally attach any accessories within this limit. You don't have to calculate your back focus distance which effectively simplifies the operation.

Askar 80PHQ is a cost-effective refractor. It boasts special and fantastic vantages in both mechanical and optical design.

As an f/7.5 refractor, it can function well by virtue of its flatfield ability and rigorous optical performance.

Aperture size: 80mm
Focal length: 600mm
Focal ratio: f/7.5
Objective lens: Quadruplet air-spaced APO (including two ED glass)
Image circle: 44mm
Maximum accessory connection (with the focuser fully retreated):
1. Imaging mode:

- 115mm（from the base of M48×0.75 male thread）
- 135mm（from the base of M54×0.75 male thread）
- 155mm（from the base of M68×1male thread）
- 168.5mm（from the base of M76×1 male thread）

2. Observing mode:

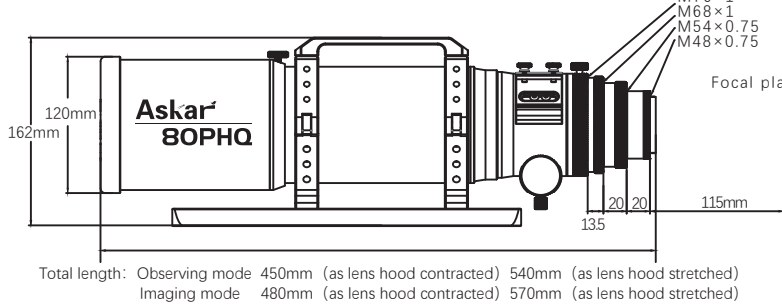
- 148mm（from the end of 2" eyepiece holder）

Total length:
450mm（including 1.25" eyepiece holder as dew shield contracted）
540mm（including 1.25" eyepiece holder as dew shield fully stretched）
480mm（including the 4-piece adapter as dew shield contracted）
570mm（including the 4-piece adapter as dew shield fully stretched）

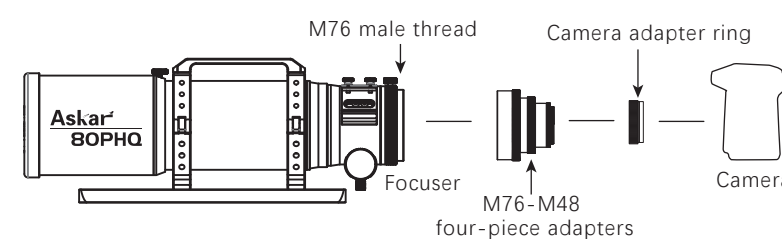
Net weight: 3.9kg
Gross weight: 4.7kg
Rear-end thread type:
M76×1-M68×1
M68×1-M54×0.75
M54×0.75-M54×0.75
M54×0.75-M48×0.75（M48×0.75 filter thread inside）

Standard package items: an 80PHQ OTA, a pair of tube rings, a handle, an Askar 300mm Vixen dovetail plate, a set of 4-piece photo-graphic adapters, a manual

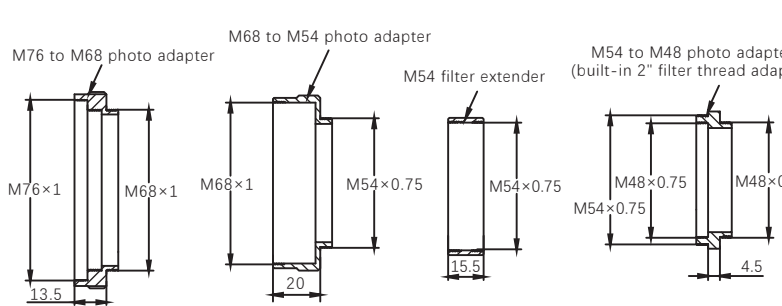
Product Size Diagram



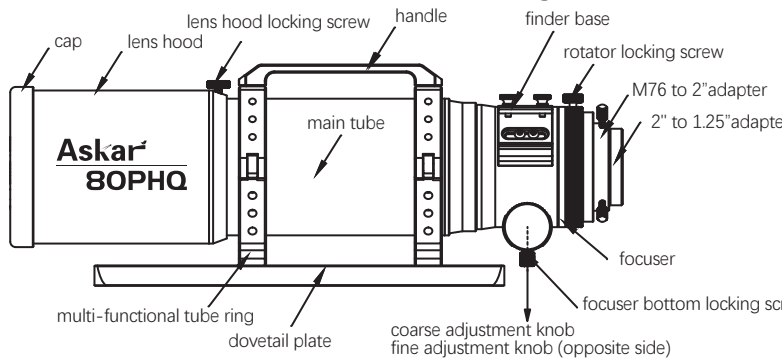
Connection Diagram of Camera



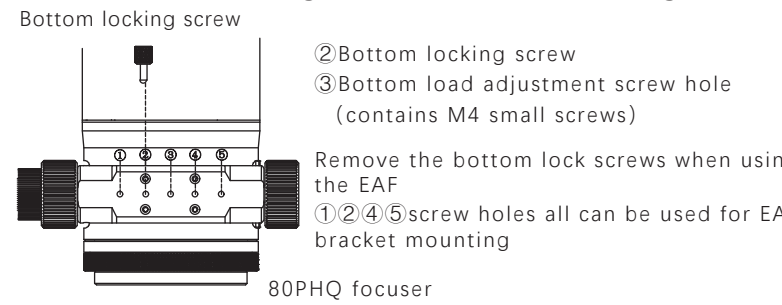
Four-piece Adapters Diagram



Product Parts Diagram



The Locking Screw Position Diagram



Items in 80PHQ Packaging

