

# NEXUS

.75x REDUCER • COMA CORRECTOR

STARIZONA



The Starizona Nexus focal reducer works on most Newtonian telescopes, providing a 0.75x reduction factor and correcting for the off-axis coma that degrades the image quality in an uncorrected Newtonian. The Nexus will turn an f/4 telescope into f/3, for example, giving a wider field of view and reducing exposure times by a factor of 1.8x.

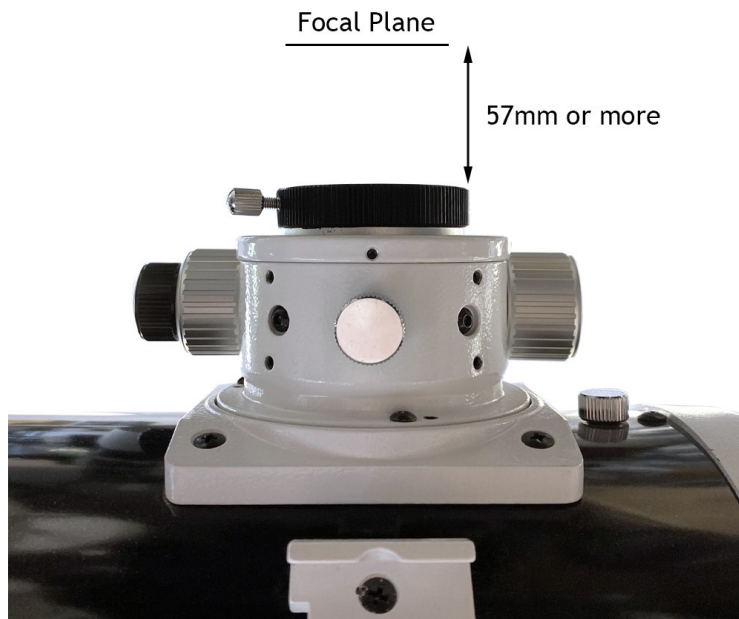
## Will My Telescope Work With the Nexus?

Most Newtonians designed for imaging will work fine with the Nexus (or any other coma corrector). This includes most of the common 6" to 12" f/4 imaging Newtonians. Some slower Newtonians designed for visual use may not have enough inward travel on the focuser to work with a coma corrector and camera.

The Nexus is designed to be parfocal, meaning the focal point of the original telescope is unchanged. The backfocus required from the M48 mounting threads on the Nexus to the camera sensor is 55mm, a standard distance for most correctors and reducers. This means if your camera will reach focus with a backfocus of 55mm without the Nexus, it should reach focus with the Nexus.

A standard DSLR and T-ring has a backfocus of 55mm, so if you have DSLR that will focus without the Nexus, it should also focus with the Nexus. If you have a mirrorless camera or astronomical CMOS or CCD, the backfocus of the camera is probably shorter. You would have to add spacers to the camera to reach 55mm backfocus.

The Nexus has a thin lip that seats against the focuser. Accounting for the lip, the focus point of the telescope needs to be at least 57mm above the top of the racked-in focuser to work. Ideally it will be a bit more to allow for focusing adjustments.



The Nexus is nominally designed with the popular commercial f/4 imaging Newtonians in mind, but it can work optically on any Newtonian that is f/3 or slower.

## Cameras for the Nexus

The Nexus reducer can cover up to a 28mm image circle, so any camera with an APS-format or smaller sensor can potentially work. Due to the limitations of the 2" housing of the Nexus, the vignetting becomes very strong over a full frame sensor, so it is not recommended to use a camera that large.

Any camera with a backfocus of 55mm or less (which includes most DSLRs, mirrorless cameras, and astronomical CMOS and CCD cameras) will work. See below for details on backfocus and camera spacing.

## Using the Nexus

As with almost all focal reducers and field correctors, the backfocus of the Nexus is critical to getting the best performance. The required distance is 55mm, which is a standard used on most reducers and correctors.

The Nexus has standard M48 x 0.75 mounting threads. If you are using a DSLR, you will need an M48 threaded T-ring. For cameras with shorter backfocus distances, you will need to add spacers to put the camera at the correct distance. The popular ZWO cameras, for example, include a 16.5mm and a 21mm spacer that together give the correct 55mm distance and will thread onto the M48 male threads on the Nexus.

The Nexus is housed in a standard 2" barrel and will fit into any 2" focuser, or a larger focuser using a 2" adapter.

The collimation of the optics in a Newtonian is especially critical when using a coma corrector of any kind. Misalignment of the mirrors in the telescope can cause poor image quality. Tilt of the focuser can also be a possible cause of alignment error, so these things should be checked if the performance is not ideal.

## Using Filters with the Nexus

The 2" housing of the Nexus is threaded on the front (telescope side) for standard 2" mounted filters. With a DSLR this is the only way to use a 2" filter, although clip in body filters in the camera will also work.



For mirrorless cameras and astronomical CMOS cameras that take up much less than the required 55mm backfocus, there may be room for filters between the Nexus and camera. A monochrome CMOS, for example, can use a filter wheel. It is also possible to put a filter drawer like the Starizona Filter Slider between the Nexus and camera. This works well for changing filters with both monochrome and color cameras.

## Starizona Nexus Specifications

- **Focal Reduction Factor:** 0.75x
- **Image Circle:** 28mm (APS format)
- **In-Focus Required:** None (parfocal)
- **Backfocus:** 55mm
- **Camera Threads:** M48 x 0.75
- **Filter Threads:** M48 (2" mounted)
- **Barrel Size:** 2"
- **Overall Length:** 3.14" (80mm)
- **Weight:** 0.74 lbs (335g)