

An introduction to eyepieces



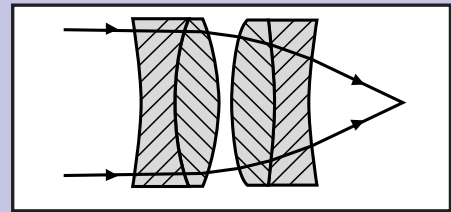
A quality eyepiece is as important to observing as a good primary mirror or objective lens. The telescope's mirror or lens gathers light and forms an image; the eyepiece magnifies the image. Poor optics at either end of the telescope results in poor overall performance.

The eyepiece is mounted in a barrel which slips into the focuser on the telescope. There are three standard barrel diameters: 0.965-inch (24.5mm), 1.25-inch (31.75mm) and 2 inch (50.8mm). The diameters are almost always expressed in inches, so the metric conversions are shown to help those people more used to the European standard.

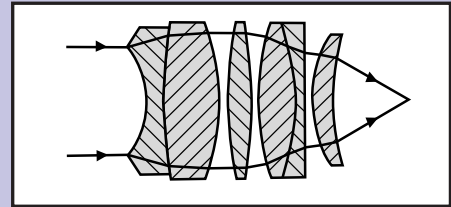
The 0.965-inch diameter eyepiece is found only on the cheapest, toy-like telescopes. There is a very limited range of eyepieces available for such instruments in this size, and while some can be adapted to accept larger diameter eyepieces, we would not recommend buying a telescope of this type at all.

Most telescopes designed for beginners and intermediate users have the standard 1.25-inch focuser while the advanced and top-of-the-range instruments tend to have the 2-inch focuser.

For many years eyepieces were considered the poor relation of the telescope's primary optics, but during the 1980s there was a revolution in eyepiece design that brought their resolution and image quality up to those of the telescope itself. The basic eyepiece design was developed into many variations, but at Telescope House we have found that three basic types of eyepieces serve all our customers' needs. They are Plössl, Super-Wide and Ultra-Wide.

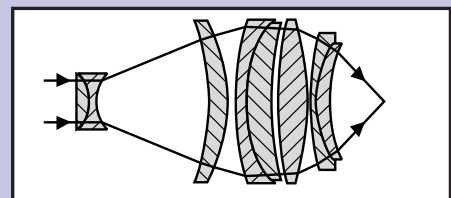


Plössl: One of the most highly regarded and popular eyepiece designs. The Plössl has four elements of two, almost identical, pairs of lenses. It has a wide field of view at about 50 degrees. It offers good contrast and colour correction and produces superb results in focal lengths between 30mm and 15mm with good eye relief and minimal aberration.



Super-Wide:

60 – 70° apparent field



Ultra-Wide:

80–85° apparent field