

## Doublet type Fluorite FC-100DZ

The fluorite objective lens, which was the target of 38 years ago, is now very easy to handle. It is cheaper than a triplet ED, and you can make a compact and lightweight refracting telescope. The problem is that the chromatic aberration performance is much higher in the current era of digital photography than in the era of film photography. Advanced chromatic aberration correction is required. The drawback of the doublet fluorite objective is that the spherical aberration varies widely with wavelength. In the case of a bright objective lens, especially on the short wavelength side from blue to purple, there is an increase in halo.

To optimize the balance of chromatic aberrations, including spherical aberration, in the visible range, subtle high-order aberration to spherical aberration for each wavelength to reduce the halo on the short wavelength side, it led to an optical design that also improved the streak strength required for high magnification performance. In addition, high-refractive-index glass with good compatibility with partial dispersion is also used for the other ball of Fluorite. We succeeded in reducing the chromatic aberration by combining them. Thereby, the Strehl intensity is 90% or more over the entire visible light region of 460 nm to 670 nm, 97.6% in Strehl ratio with visual intensity, long focus, visual performance over FC-100DL of F9 in aperture ratio of F8. It has been realized.

Also, the blue-purple short-wavelength halo, which is important in digital photography, is also compared to FC-100D. It is reduced to about half. Also, with FC-35 Reducer 0.66X, it becomes an Astro camera covering the full size of 530mm F / 5.3 and if you attach the multi flatner 1.04 X, 820 mm F / 8.2, a flat-field long-focus image can be obtained.

In addition, because FC-100DZ uses a slide hood, it has a more compact appeal. If you store the hood, it will be about 760 mm in length, about 3.8 kg in weight, and it is a 10 cm aperture class refractor. It is unbelievably compact, and it is an easy-carry telescope. Thus, the FC-100DZ is the best product as a refractive telescope that can be used in various applications. It will be a standard model that will be used forever over the next 20 years and 30 years.