

Focometer& Eccentricity Tester–LensFC



LensFC consists of Auto-mode(LensFC-AT) and Manual-mode(LensFC-MT). Both can measure the effective focus Length(EFL) and eccentricity with non-directly contact the tested samples. The sophisticated software can record the data and show directly the testing result in required way, and make the actual measurement simply and efficiency. It would be the good tools to Lens quality before shipping or assembly, as well as the on-line contraction error monitoring for Lens barrel assembly.

Mail Functions:

- ✧ Effective Focus Length Test;
- ✧ Eccentricity Test;

Auto-Focusing mode
LensFC-AT



Manual mode
LensFC-MT



Main Specifications:

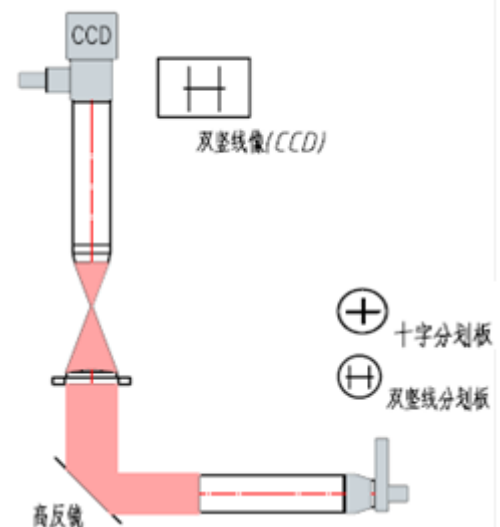
Note: Specs are subject to change without notification

Effective Focus Length(EFL)	LensFC-AT	LensFC-MT
Measurement range (mm)	$\pm 5 \sim \pm 450$ (could extend if needed)	$\pm 5 \sim \pm 450$
Accuracy	0.03% ~ 0.3%	0.1% ~ 0.3%
Memo	Auto Focus	Manual Focus
Eccentricity		
Measurement Range (mm)	-450 ~ +450	-450 ~ +450
Accuracy	0.2 μ m	0.2 μ m

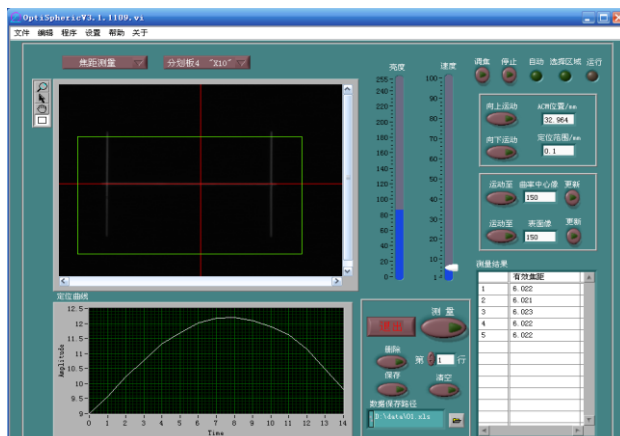


Principle & Operation:

EFL is one of the most important parameters in lens design, it could be comprehensively reflected by the lens material, curvature of surfaces, thickness, etc. And it directly impacts the lens actual application. The EFL is measured by transmission way. The 546nm green light illuminates the double-slot reticle, and projects to detector through the tested lens. The software would measure and show on the EFL data based on the image of detector.



The contration is also an importance for the lens to imaging. According to ISO 10110 the eccentricity is present when the optical and the reference axis of a lens do not coincide, respectively these are different in position or direction. The cross reticle



is used to test the eccentricity, and a parallel light is conducted to the lens, and either pass through (transmission mode) or reflected (reflection mode) by the lens, and generate an image on the detector. The software would trace an image change while the lens is rotated. The eccentricity is calculated based on the circle radius of the rotation image.

The measurement operation is quite simple, just follow the software indication to choose the relay lens and reticles, then adjust the auto-collimator until the software screen show the image, and press measurement and result would shown. A fixture (as right photo) is needed to testing the eccentricity, which includes the V shape chuck, Lens holders, friction wheel, etc. The Friction wheel is run by the precision motor to drive the tested lens rotated automatically, then software record rotation image and show on the eccentricity data either in um or arc-min.

