Dual-Path Eccentricity Tester LensCT-DAF

Dual-Path Eccentricity Tester (P/N: LensCT-DAF) is a high precision, non-contact optic-centration testing equipment with Dual measurement head. Both measurement head could auto-focus and detect the Lens centering for single Lens and Lens module, with the equipped precision air bearing, and especially good for large aperture lens testing and assembly, and for infrared material as well. The friendly software can directly record the data and show the testing result in required way, and make the actual measurement simply and efficiency.

It could also expand the functions to measure the Focal length(including effective focal length, front focal length and back focal length), MTF， Air-Gap and Radius of Curvature, as well and realize one-stop detection of the main optical parameters of lenses and lens module.

Main Characteristics:

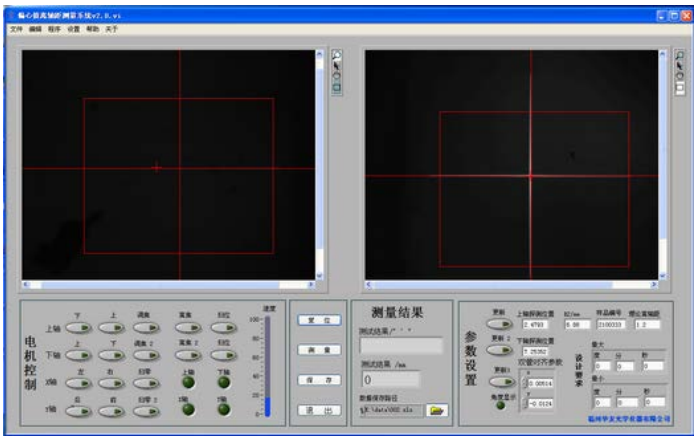
- Both transmision and reflection measurement, good for single lens and lens group;
- Auto-focusing each Lenses of Module to test the tilt and shift;
- Could measure both surface centering of infrared Lens at same time;
- With Software, could show the testing result directly
- Could extend testing functions for One-stop Precision measurement station for Centering, EFL and RoC, MTF, and Air-Gap,etc.

Main Applications:

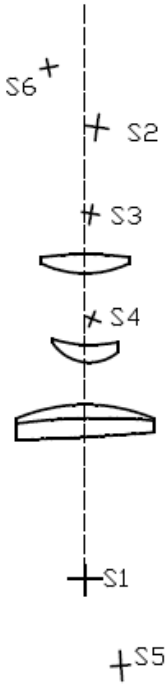
- **High precision online assembly ;**
- **Lens Module testing(Tilt/Shift);**
- **Mechanical Axis Offset testing;**
- **Lenses (Incl. single, Achromatic, or Infrared Lens)Centering testing;**

Software:

The friendly software would make the measurement simple and intuitive. According to the input optical parameters, it can automatically measure the eccentricity of the lenses of the lens group, record the positions of the center points X,Y,Z Y and Z, or simulate the position of the optical axis and the deviation from the mechanical axis, and directly display the measured values.



Operation



According to ISO 10110 the center error is present when the optical and the reference axis of a lens do not coincide, respectively these are different in position or direction. For the single lens, LensCT-DAF uses the fiction wheel to drive the lens rotate along its periphery, both top and lower measurement head could record the rotation track of Up and Lower surface respectively, then calculate the each and total center error. While the precision air bearing is recommended for the Mutli-Lenses group or with large aperture lenses testing, which could drive the lens(or lens group) rotate steadily. During the measurement, you can either manually move up/down the auto-collimator to locate the optic-center(for LensCT-AFM) then click the "test", or directly convey the lenses data from Zemax to software and the equipment would auto-locate each optic-center then test the eccentricity and record the (x,y,z) data, and display in Excel file or in graph(as figure in left).

LensCT-DAF Main Description:		
CCD connection		USB2.0
Resolution		0.1μm
Test accuracy		**0.5um**
Test range	**Diameter**	<Φ250mm
	RoC/EFL	± 3 ~ ± 2000mm
Size (cm)		65x50x195
Weight		~150Kg

Main parts of equipment:

- **Two-Path Auto-collimator（with CCD）**
- **Two-Path Step motors & controller;**
- **Achromatic objective sets;**
- **Precision Air-Bearing;**
- **Illuminator & fiber light guide**
- **4-Axes Precision Mounting plate;**
- **Testing software & PC etc;**