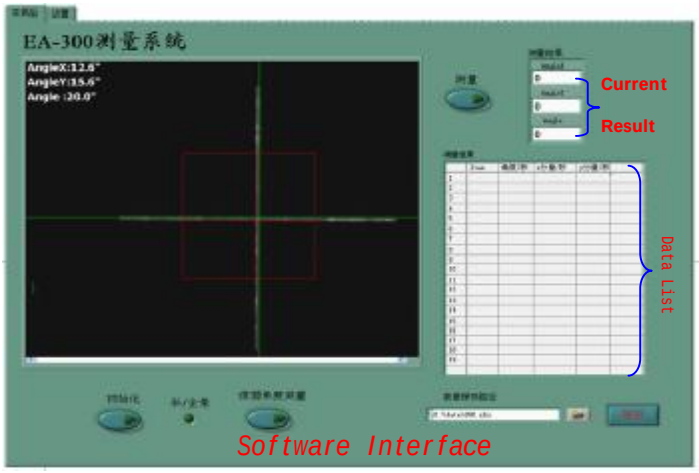
Precision Auto-Collimator EAC Serial

EAC serial, Electronic Autocollimator, is the non-contact precision angle detector, and widely used for optics angle testing, precision assembly and the mechanical topography or straightness of platform(or leveling guide), as well as the vibration steadiness monitoring. As per the accuracy, EAC consist of EAC-200, EAC-300, EAC-400 and EAC-500.

Main Characteristics:

Compact in size & easy/precision in application

- With compact size
- USB contact to PC, can directly plug in/out, easy use
- Sophisticated design, advance images analysis and high-quality assembly technologies, assure the high precision measurement accuracy and repeatability.



Software Interface

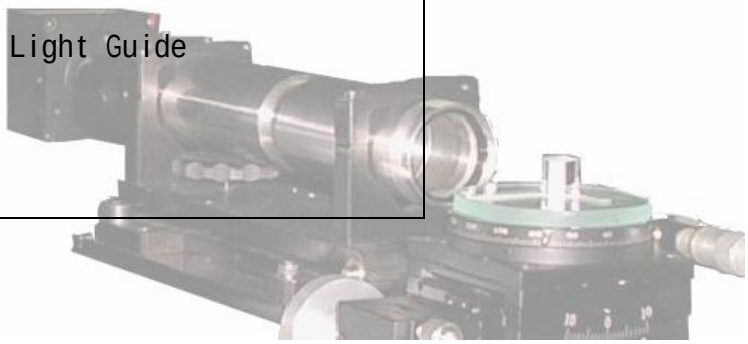
Friendly & powerful software

- Could show in arc/degree or in um
- Could show in Angle deviation X, Y or total angle
- Could report testing result or save data in excel
- Could auto scan to detect the flatness/parallelism of stage movement accuracy or vibration.
- Could allow the self-calibration with the standard angle gauge to assure the testing accuracy.

Part Number & Specifications:

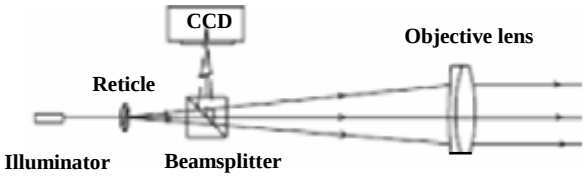
P/N	EAC-200	EAC-300	EAC-500
Diameter(mm)	32	42	55
Field of View	0.95° ×0.76°	0.63° ×0.5°	0.38° ×0.3°
Repeatability	1″	0.8″	0.3″
Accuracy	1.3″	1″	0.5″
Main Parts of Equipment:			

- High power illuminator & Fiber Light Guide
- Industry CCD camera
- Precision adjustable mount
- Testing Software



Principle & Operations:

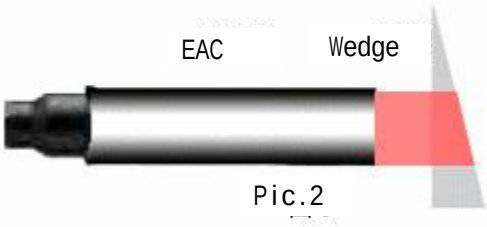
As per the sketch left(Pic.1), the reticle is illuminated and projected to infinity over the objective lens, and reflected images would be conducted to the CCD camera by the beamsplitter. The CCD could measure the reflection deflection, and convert to the angle data. Hereunder are couples of examples for the application:



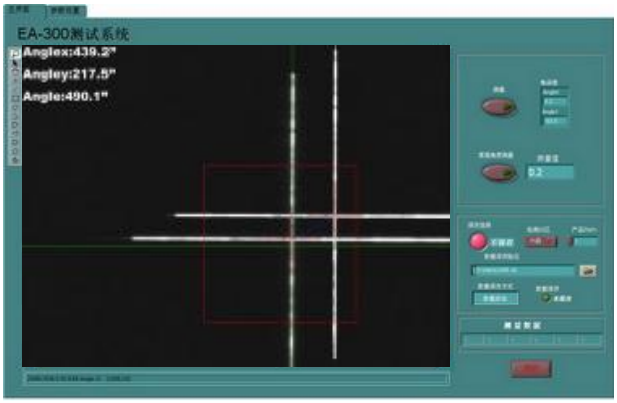
Pic.1

1. Wedge angle/Parallelism measurement

- Place the testing wedge on the sample stage， and adjust the stage until software screen occur the two reticle image(as Pic.3). Meanwhile, angle data would show on the top left corner.
- To measure the parallelism, a mirror is needed for initialization. Then, place the testing sample in between the autocollimator and mirror. Again, you would see the two reticle image and angle data as wedge testing.



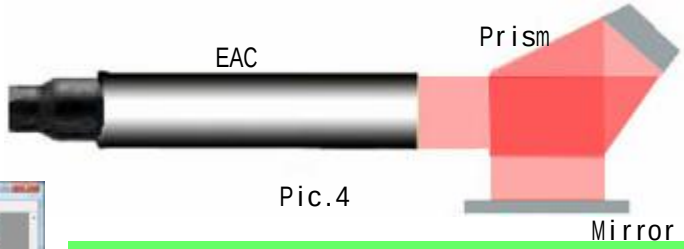
Pic.2



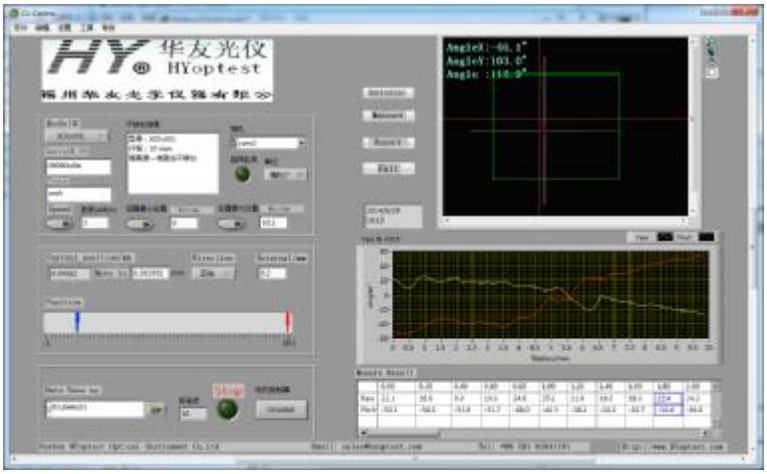
Pic.3

2. Prism 90° deviation angle measurement：

Set a master Penta prism and mirror as picture 4 to initialize the autocollimator, and replace the master prism with testing samples. The reflected reticle image would show on the screen, and the software compare the position displacement and convert to angle data of deviation.



Pic.4



3. Straightness/Flatness/Parallelism testing:

EAC could be used to scan the straightness/ Flatness /Parallelism of mechanical parts (software interface shows as left). Just mounted a mirror on the testing mechanical part and adjusted it until the reflected image was pickup by the CCD. Then, click “Test”, and EAC would scan the parts at set interval and report in mechanical deviation error and show on topography if required.

Fuzhou HYoptest Optical instrument Co.Ltd

Address: Zhongqing-building, #9 East Technology Road, Fuzhou, Fujian, China, 350108
Email: sales@hyoptest.com **Http://www.hyoptest.com**
Tel: +86 13850158295; +86 591 8384 1181; Fax: +86 591 8714 3875