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F300 Main Body with Single Crosshair with mm Scale Reticle

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General

Range:
1°

Model Number:
F300

Physical & Mechanical Properties

Accuracy (arcsec):
3.5

Diameter (mm):
40.00

Length (mm):
415.00

Optical Properties

Focal Length FL (mm):
300.00 (Main Body) 14.7 (Eyepiece)

Regulatory Compliance

Certificate of Conformance:
View

Product Details

- 4 versions available
- Camera adaptable
- LED Illumination
- 28mm Aperture
- Adjustable holder

Autocollimators are a powerful tool for any optical or precision imaging system. They can be used to align sensors with optics, targets and other components in a system, measuring angular accuracy of moving parts and can also be used to measure internal angles within prisms or other optics.

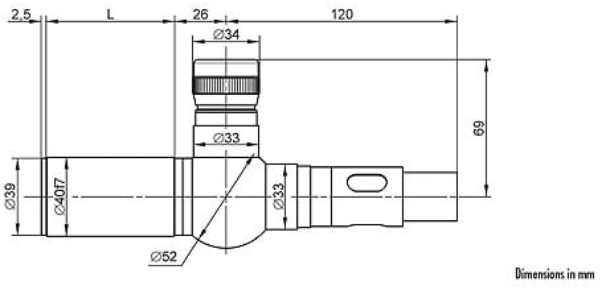
Autocollimation is a sensitive procedure, which can detect small directional or tilt errors. It is a combination of a collimator and a telescope adjusted to infinity, which allows a reticle image to be imaged back onto itself. The reticule is projected as a collimated beam onto a mirror surface, which retroreflects the beam back into the autocollimator. The image of the projected reticle can then be overlayed onto a second reticle to determine the amount of shift from the optical axis. This displacement from the optical axis can then be read and a value for the angular displacement of the mirror (with respect to the autocollimator) can then be calculated using the formula:

Theta = displacement/(2 x focal length of autocollimator)

These autocollimators are available in either 140mm or 300mm focal length versions, both versions are available with a choice of simple double crosshairs or a crosshair and measurement reticle combination. The F140 autocollimator features a measurement range of 2 degrees with an accuracy of 7.5 arc seconds. The F300 features a measurement range of 1 degree and an accuracy of 3.5 arc seconds. They can be easily adapted for use with cameras via a C-mount adapter (Max 2/3" Sensor Format). Illumination is provided by an LED illuminator, which offers the following advantages compared to conventional illumination.

The F140 and F300 can both be mounted in an adjustable holder which offers ±2 degrees of pitch and ±2 degrees of rotation, this holder also features an integrated spirit level for increased alignment accuracy.

Technical Information



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