



Davidson Optronics

A TRIOPTICS COMPANY

Putting Your Future in Focus

Comparison Autocollimator | D-600



Model D-600 Comparison Autocollimators apply a unique principle of autocollimation to compare and measure small angles with extremely high precision. Specifically, the instrument measures the difference in angle between two reflecting surfaces. A beam of collimated light from the instrument is divided to illuminate a reference mirror and a second mirror whose relative angle is to be determined. The patented design employs a unique arrangement of optical tipping plates coupled to a calibrated micrometer dial, where the relative angle is read when the images are aligned.

Differences in angle of the returning beams can be measured with average repeatability of 1/10 arc seconds, either vertically or horizontally. The micrometer dial is graduated in 1/10 arc seconds, with each second numbered. One complete revolution of the dial is equal to 10 arc seconds with a total range of 120 arc seconds.

Of utmost importance to precision is the fact that instrument movement during reading will only move the images in the field of view; it will have absolutely no effect on the reading. This fact eliminates the rigid mounting and extreme handling care demanded by other instruments, where any motion is translated directly into the micrometer reading.

Optional Accessories

- **D-165 High Intensity Light Source (may be required when autocollimating off of low reflectivity surfaces or small mirrors)**
- **D-247 Table Instrument Stand**
- **D-416B 220V 50Hz Power Supply**

- **Measure angular differences between two reflecting surfaces to ± 0.1 arc seconds**
- **Readings are not affected by instrument movement**
- **Extremely simple to check surface plates or machine tool alignment**
- **Measure either vertical or horizontal axis**
- **Certification of accuracy traceable to NIST**

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Specifications	
Sensitivity:	1/10 arc sec
Accuracy:	$\pm 1/2$ arc sec
Focal Length:	20 inch (508 mm)
Aperture Diameter:	2.375 inch (60 mm)
Measuring Range:	120 arc sec
Micrometer Scale:	Graduation 1/10 sec One revolution equals 10 sec
Overall Dimensions: (L x W x H)	23 x 5.375 x 5.125 inch (584 x 137 x130 mm)
Finish:	Ivory enamel
Light Source:	Transformer and rheostat for 115 VAC
Carrying Case:	Hardwood
Instrument Weight:	10 lbs (4.5 kg)
Shipping Weight:	35 lbs (15.9 kg)



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