



Autocollimators

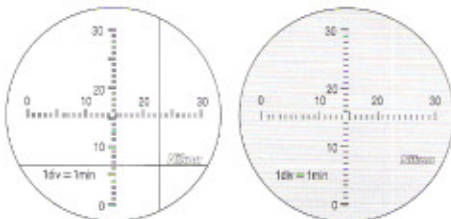


Autocollimators 6B and 6D

Nikon Autocollimators 6B and 6D both employ 70mm aperture lenses to produce clear reflected images. They also feature extremely accurate double line reticles for improved detection. Both give readings of angular displacement to 0.5 second of arc using an easy-to-read large-diameter micrometer drum. Model 6B is a bright viewfield type, while 6D is a dark viewfield type. Model 6D is very effective when measuring with a small plane mirror or a low-reflective plane surface.

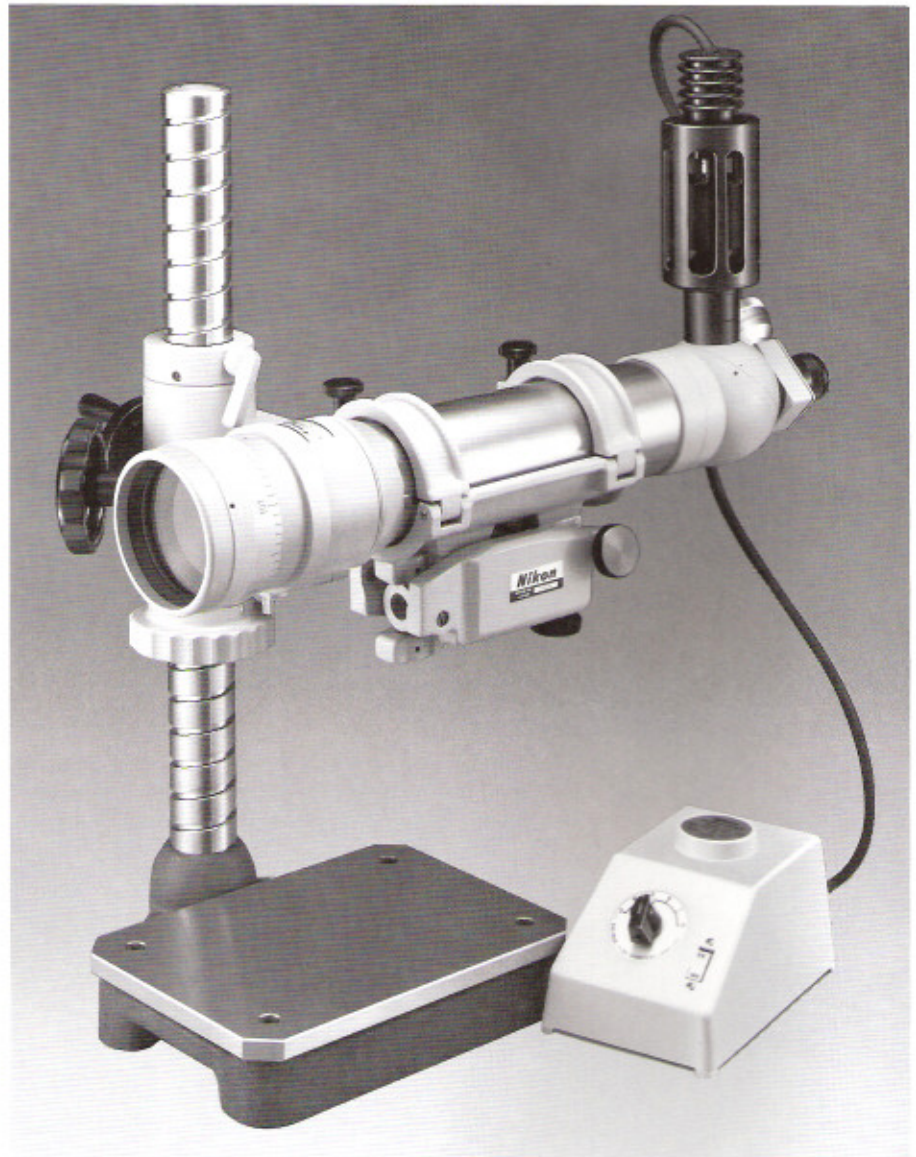
Features

- Accurate measurement possible at any distance between the objective lenses and mirror within maximum measurement distance.
- Efficient measurement because the autocollimator needs only the setting of a target mirror and collects reflected light rays.
- Vertical and horizontal axis values can be measured simultaneously.



Viewfield diagram (6B)

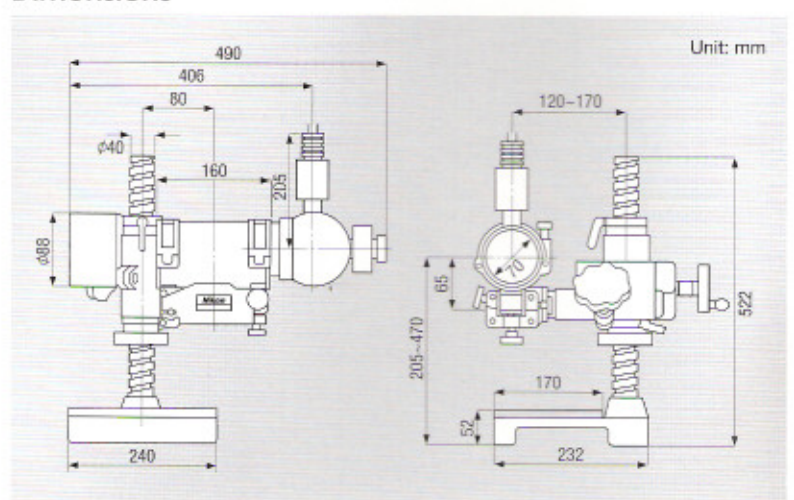
Viewfield diagram (6D)



Specifications

Telescope magnification	38x
Objective	f=700mm; effective aperture: 70mm
Measuring range	30 minutes of arc (both vertical and horizontal axes)
Minimum reading	0.5 second of arc
Readout system	Adjustment in viewfield and reading on micrometer
Measuring accuracy	0.5 second of arc within a range of 5 minutes of arc 1 second of arc within a range of 30 minutes of arc
Viewfield	6B: bright-field, 6D: dark-field
Light source	6V 15W special bulb
Power supply	AC 100V 50/60 Hz
Dimensions of main body	Outer diameter of lens barrel support: 68mm Overall length: approx. 490mm
Weight (including stand)	Approx. 30kg

Dimensions



Accessories

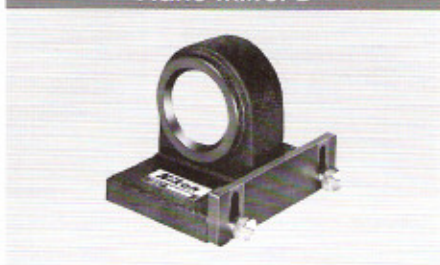
Plane Mirror B



Large extremely accurate reflecting mirror. Since both front and rear surfaces are reflective, the measuring distance can be doubled. A permanent magnet makes it very effective for measuring the squareness and straightness of iron materials.

- Effective aperture of reflecting surface (both sides): 70mm
- Distance between legs of mirror stand: 100mm
- Permanent magnet: removable, provided with on/off knob
- Wooden case provided

Plane Mirror D



General-purpose plane mirror. Base and both sides of the stand serve as guides for measuring straightness and flatness. The mirror can also be removed from the stand and placed on the surface to be measured.

- Effective aperture of reflecting surface: 42mm
- Distance between legs of mirror stand: 100mm
- Wooden case provided

Pentaprism



Turns the optical axis of the autocollimator exactly 90° for use as an optical square to measure the squareness of two surfaces.

- Guaranteed accuracy (optical right angle): 2 seconds of arc
- Dimensions: 65 x 65 x 45mm
- Metal frame and wooden case provided

8-sided Polygon Mirror



Precisely divides 360° into 8 equal parts to check for eccentricity and errors in goniometers and other angle gauges.

- Guaranteed accuracy: 1 second of arc for compensated values
- Outer diameter: 117mm
- Diameter of center hole: 20mm
- Thickness: 46mm
- Wooden case provided

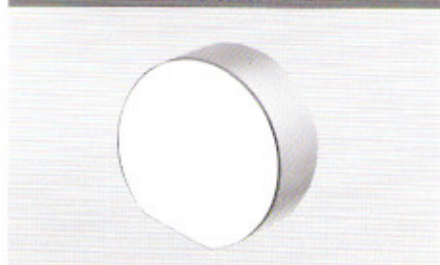
12-sided Polygon Mirror



Accurately divides 360° into 12 equal parts to check for eccentricity and errors in goniometers and other angle gauges.

- Guaranteed accuracy: 1 second of arc for compensated values
- Outer diameter: 117mm
- Diameter of center hole: 20mm
- Thickness: 46mm
- Wooden case provided

Plane Mirror C

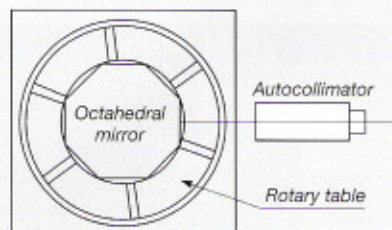


Both sides are perfectly parallel, permitting its use as a reference for non-reflective surface. Also useful for measuring extremely small angles where a smaller mirror is desirable.

- Outer diameter: 30mm
- Thickness: 12mm
- Parallelism: 2 seconds of arc
- Wooden case provided

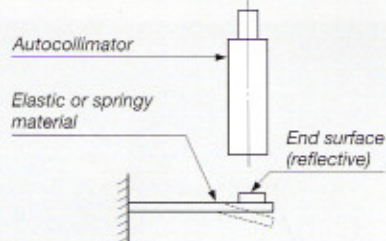
Typical Examples of Use

Check the angular accuracy of rotary tables



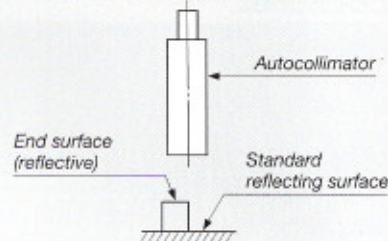
Measure the accuracy of rotary tables or dividing heads using polygon mirrors. The octahedral mirror measures in units of 45°, and the dodecahedral mirror in units of 30°.

Check the deflection of elastic or springy materials



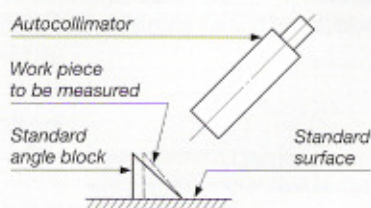
Affix the mirror to the specimen and read the angular deflection using the autocollimator. Small vibrations may also be detected in this manner.

Check the parallelism of end surfaces



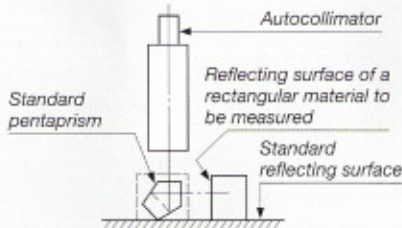
Compare the difference between the crosshair images reflected from the surface of the specimen and from a standard surface.

Check the angle of workpieces



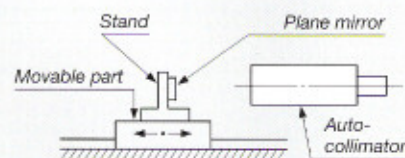
Measure the difference between the crosshair images reflected from the end surface of the work piece and from a standard angle block.

Check the squareness of rectangular pieces



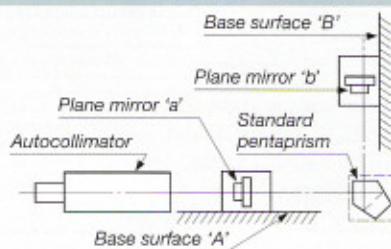
Compare the reading difference between the standard reflecting surface and the surface of the specimen using the Pentaprism.

Check for straightness of movement



Attach a plane mirror, either directly or on a stand, to the moving part and read deviation from the reflection.

Check the squareness of surfaces



Compare the readings taken from plane mirror 'a' on surface 'A' to those from plane mirror 'b' on surface 'B' through the Pentaprism.

Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. December 2006. ©2006 NIKON CORPORATION



WARNING

TO ENSURE CORRECT USAGE, READ THE CORRESPONDING MANUALS CAREFULLY BEFORE USING YOUR EQUIPMENT.



Nikon promotes the use of eco-glass that is free of toxic materials such as lead and arsenic.



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